



Bio-Formats Documentation

Release 5.1.8

The Open Microscopy Environment

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The following documentation is split into four parts. *About Bio-Formats* explains the goal of the software, discusses how it processes metadata, and provides other useful information such as version history and how to report bugs. *User Information* focuses on how to use Bio-Formats as a plugin for ImageJ and Fiji, and also gives details of other software packages which can use Bio-Formats to read and write microscopy formats. *Developer Documentation* covers more indepth information on using Bio-Formats as a Java library and how to interface from non-Java codes. Finally, *Formats* is a guide to all the file formats currently supported by Bio-Formats.

Part I

About Bio-Formats

Bio-Formats is a standalone Java library for reading and writing life sciences image file formats. It is capable of parsing both pixels and metadata for a large number of formats, as well as writing to several formats.

The primary goal of Bio-Formats is to facilitate the exchange of microscopy data between different software packages and organizations. It achieves this by converting proprietary microscopy data into an open standard called the [OME data model](#)¹, particularly into the [OME-TIFF](#)² file format.

We believe the standardization of microscopy metadata to a common structure is of vital importance to the community. You may find LOCI's article on [open source software in science](#)³ of interest.

¹<http://genomebiology.com/2005/6/5/R47>

²<http://www.openmicroscopy.org/site/support/ome-model/ome-tiff>

³<http://loci.wisc.edu/software/oss>

There is a *[guide for reporting bugs here](#)*.

For help relating to opening images in ImageJ or FIJI or when using the command line tools, refer to the *[users documentation](#)*. You can also find tips on common issues with specific formats on the pages linked from the *[supported formats table](#)*.

Please [contact us](#)¹ if you have any questions or problems with Bio-Formats not addressed by referring to the documentation.

Other places where questions are commonly asked and/or bugs are reported include:

- [OME Trac](#)²
- [ome-devel mailing list](#)³ (searchable using google with ‘site:lists.openmicroscopy.org.uk’)
- [ome-users mailing list](#)⁴ (searchable using google with ‘site:lists.openmicroscopy.org.uk’)
- ImageJ mailing list (for ImageJ/Fiji issues) [forum archive](#)⁵ and [mailing list](#)⁶
- [ImageJ developer mailing list](#)⁷
- [Fiji Bugzilla](#) (for ImageJ/Fiji issues)⁸
- [Fiji developer google group](#)⁹
- [Confocal microscopy mailing list](#)¹⁰

¹<http://www.openmicroscopy.org/site/community/mailing-lists>

²<https://trac.openmicroscopy.org/ome>

³<http://lists.openmicroscopy.org.uk/pipermail/ome-devel>

⁴<http://lists.openmicroscopy.org.uk/pipermail/ome-users>

⁵<http://imagej.1557.n6.nabble.com/>

⁶<http://imagej.nih.gov/ij/list.html>

⁷<http://imagej.net/mailman/listinfo/imagej-devel>

⁸<http://fiji.sc/cgi-bin/bugzilla/index.cgi>

⁹<https://groups.google.com/forum/#!forum/fiji-devel>

¹⁰<http://lists.umn.edu/cgi-bin/wa?A0=confocalmicroscopy>

BIO-FORMATS VERSIONS

Bio-Formats is now decoupled from OMERO with its own release schedule rather than being updated whenever a new version of [OMERO](#)¹ is released. We expect this to result in more frequent releases to get fixes out to the community faster.

The version number is three numbers separated by dots e.g. 4.0.0. See the [version history](#) for a list of major changes in each release.

¹<http://www.openmicroscopy.org/site/support/omero5.1/>

WHY JAVA?

From a practical perspective, Bio-Formats is written in Java because it is cross-platform and widely used, with a vast array of libraries for handling common programming tasks. Java is one of the easiest languages from which to deploy cross-platform software. In contrast to C++, which has a large number of complex platform issues to consider, and Python, which leans heavily on C and C++ for many of its components (e.g., NumPy and SciPy), Java code is compiled one time into platform-independent byte code, which can be deployed as is to all supported platforms. And despite this enormous flexibility, Java manages to provide time performance nearly equal to C++, often better in the case of I/O operations (see further discussion on the [comparative speed of Java on the LOCI site](http://loci.wisc.edu/faq/isnt-java-too-slow)¹).

There are also historical reasons associated with the fact that the project grew out of work on the [VisAD Java component library](http://visad.ssec.wisc.edu)². You can read more about the origins of Bio-Formats on the [LOCI Bio-Formats homepage](http://loci.wisc.edu/software/bio-formats)³.

¹<http://loci.wisc.edu/faq/isnt-java-too-slow>

²<http://visad.ssec.wisc.edu>

³<http://loci.wisc.edu/software/bio-formats>

BIO-FORMATS METADATA PROCESSING

Pixels in microscopy are almost always very straightforward, stored on evenly spaced rectangular grids. It is the metadata (details about the acquisition, experiment, user, and other information) that can be complex. Using the OME data model enables applications to support a single metadata format, rather than the multitude of proprietary formats available today.

Every file format has a distinct set of metadata, stored differently. Bio-Formats processes and converts each format's metadata structures into a standard form called the [OME data model](#)¹, according to the [OME-XML](#)² specification. We have defined an open exchange format called [OME-TIFF](#)³ that stores its metadata as OME-XML. Any software package that supports OME-TIFF is also compatible with the dozens of formats listed on the Bio-Formats page, because Bio-Formats can convert your files to OME-TIFF format.

To facilitate support of OME-XML, we have created a [library in Java](#)⁴ for reading and writing [OME-XML](#)⁵ metadata.

There are three types of metadata in Bio-Formats, which we call core metadata, original metadata, and OME metadata.

1. **Core metadata** only includes things necessary to understand the basic structure of the pixels: image resolution; number of focal planes, time points, channels, and other dimensional axes; byte order; dimension order; color arrangement (RGB, indexed color or separate channels); and thumbnail resolution.
2. **Original metadata** is information specific to a particular file format. These fields are key/value pairs in the original format, with no guarantee of cross-format naming consistency or compatibility. Nomenclature often differs between formats, as each vendor is free to use their own terminology.
3. **OME metadata** is information from #1 and #2 converted by Bio-Formats into the OME data model. **Performing this conversion is the primary purpose of Bio-Formats.** Bio-Formats uses its ability to convert proprietary metadata into OME-XML as part of its integration with the OME and OMERO servers—essentially, they are able to populate their databases in a structured way because Bio-Formats sorts the metadata into the proper places. This conversion is nowhere near complete or bug free, but we are constantly working to improve it. We would greatly appreciate any and all input from users concerning missing or improperly converted metadata fields.

4.1 Reporting a bug

4.1.1 Before filing a bug report

If you think you have found a bug in Bio-Formats, the first thing to do is update your version of Bio-Formats to the latest version to check if the problem has already been addressed. The Fiji updater will automatically do this for you, while in ImageJ you can select *Plugins* → *Bio-Formats* → *Update Bio-Formats Plugins*.

You can also download the [latest version of Bio-Formats](#)⁶. If you are not sure which version you need, select the latest build of the Bio-Formats package bundle from the components table.

¹<http://genomebiology.com/2005/6/5/R47>

²<http://www.openmicroscopy.org/site/support/ome-model/ome-xml>

³<http://www.openmicroscopy.org/site/support/ome-model/ome-tiff>

⁴<http://www.openmicroscopy.org/site/support/ome-model/ome-xml/java-library.html>

⁵<http://www.openmicroscopy.org/site/support/ome-model/ome-xml>

⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

4.1.2 Common issues to check

- If your 12, 14 or 16-bit images look all black when you open them, typically the problem is that the pixel values are very, very small relative to the maximum possible pixel value (4095, 16383, and 65535, respectively), so when displayed the pixels are effectively black. In ImageJ/Fiji, this is fixable by checking the “Autoscale” option; with the command line tools, the “-autoscale -fast” options should work.
- If the file is very, very small (4096 bytes) and any exception is generated when reading the file, then make sure it is not a [Mac OS X resource fork](#)⁷. The ‘file’ command should tell you:

```
$ file /path/to/suspicious-file
suspicious-file: AppleDouble encoded Macintosh file
```

- If you get an `OutOfMemory` or `NegativeArraySize` error message when attempting to open an SVS or JPEG-2000 file then the amount of pixel data in a single image plane exceeds the amount of memory allocated to the JVM (Java Virtual Machine) or 2 GB, respectively. For the former, you can increase the amount of memory allocated; in the latter case, you will need to open the image in sections. If you are using Bio-Formats as a library, this means using the `openBytes(int, int, int, int, int)` method in `loci.formats.IFormatReader`. If you are using Bio-Formats within ImageJ, you can use the *Crop on import* option.

Note that JPEG-2000 is a very efficient compression algorithm - thus the size of the file on disk will be substantially smaller than the amount of memory required to store the uncompressed pixel data. It is not uncommon for a JPEG-2000 or SVS file to occupy less than 200 MB on disk, and yet have over 2 GB of uncompressed pixel data.

4.1.3 Sending a bug report

If you can still reproduce the bug after updating to the latest version of Bio-Formats, and your issue does not relate to anything listed above or noted on the relevant file format page, please send a bug report to the [OME Users mailing list](#)⁸. You can upload files to our [QA system](#)⁹ or for large files (>2 GB), we can provide you with an FTP server address if you write to the mailing list.

To ensure that any inquiries you make are resolved promptly, please include the following information:

- **Exact error message.** Copy and paste any error messages into the text of your email. Alternatively, attach a screenshot of the relevant windows.
- **Version information.** Indicate which release of Bio-Formats, which operating system, and which version of Java you are using.
- **Non-working data.** If possible, please send a non-working file. This helps us ensure that the problem is fixed for next release and will not reappear in later releases. Note that any data provided is used for internal testing only; we do not make images publicly available unless given explicit permission to do so.
- **Metadata and screenshots.** If possible, include any additional information about your data. We are especially interested in the expected dimensions (width, height, number of channels, Z slices, and timepoints). Screenshots of the image being successfully opened in other software are also useful.
- **Format details.** If you are requesting support for a new format, we ask that you send as much data as you have regarding this format (sample files, specifications, vendor/manufacture information, etc.). This helps us to better support the format and ensures future versions of the format are also supported.

Please be patient - it may be a few days until you receive a response, but we reply to *every* email inquiry we receive.

4.2 Version history

4.2.1 5.1.8 (2016 February 15)

- **Java bug fixes, including:**
 - **FEI TIFF**

⁷http://en.wikipedia.org/wiki/Resource_fork#The_Macintosh_file_system

⁸<http://lists.openmicroscopy.org.uk/mailman/listinfo/ome-users>

⁹<http://qa.openmicroscopy.org.uk/qa/upload/>

- * fixed stage position parsing and whitespace handling (thanks to Antoine Vandecreme)
- **Pyramid TIFF**
 - * fixed tile reading when a cache (.bfmemo) file is present
- **MicroManager**
 - * updated to parse JSON data from tags 50839 and 51123
 - * fixed to detect *_metadata.txt files in addition to metadata.txt files
 - * fixed to handle datasets with each stack in a single file
- **OME-XML**
 - * updated to make .ome.xml an official extension
- **OME-TIFF**
 - * fixed to ignore invalid BinaryOnly elements
- **TIFF**
 - * fixed caching of BigTIFF files
- **Slidebook**
 - * fixed handling of montages in Slidebook6Reader (thanks to Richard Myers)
- Performance improvement for writing files to disk (thanks to Stephane Dallongeville)
- **Build system**
 - * fixed Maven POMs to reduce calls to artifacts.openmicroscopy.org
 - * fixed bioformats_package.jar to include the loci.formats.tools package
- **Documentation updates, including:**
 - updated format pages to include links to example data
 - clarified description of Qu for MATLAB (thanks to Carnë Draug)
 - added installation instructions for Octave (thanks to Carnë Draug)
- **C++:**
 - Bugfixes to the OME-TIFF writer to correct use of the metadata store with multiple series
 - Ensure file and writer state consistency upon close failure

4.2.2 5.1.7 (2015 December 7)

- **Java bug fixes, including:**
 - Prevent physical pixel sizes from being rounded to 0, for all formats
- **Metamorph**
 - * fixed calculation of Z step size
 - * fixed detection of post-processed dual camera acquisitions (thanks to Mark Kittisopikul)
- **OME-XML**
 - * fixed XML validation when an 'xmlns' value is not present (thanks to Bjoern Thiel)
- **MINC**
 - * fixed endianness of image data
- **Andor/Fluoview TIFF**
 - * fixed calculation of Z step size
- **MATLAB**

- * improved performance by reducing static classpath checks (thanks to Mark Kittisopikul)
- **Gatan**
 - * fixed physical size parsing in non-English locales
- **Automated testing**
 - * fixed handling of non-default physical size and plane position units
- **Documentation updates, including:**
 - updated MapAnnotation example to show linkage of annotations to images
- **C++:**
 - no changes, released to keep version numbers in sync with Bio-Formats Java

4.2.3 5.1.6 (2015 November 16)

- **Java bug fixes, including:**
 - **Updated to use native units for following formats:**
 - * IMOD
 - * Analyze
 - * Unisoku
 - * Olympus CellR (APL)
 - **Metamorph TIFF**
 - * fixed handling of multi-line descriptions
 - * added support for dual camera acquisitions
 - **Zeiss LMS**
 - * fixed exception in type detection
 - **Zeiss CZI**
 - * fixed detection of line scan Airyscan data
 - **Slidebook**
 - * fixed calculation of physical Z size
 - **ImageJ plugins**
 - * fixed handling of non-default units
 - * fixed setting of preferences via macros
 - **Automated testing**
 - * fixed handling of non-default units for physical sizes and timings
- **C++ changes, including:**
 - allow relocatable installation on Windows
 - reduce time required for debug builds
- **Documentation updates, including:**
 - addition of “Multiple Images” column to the supported formats table
 - addition of a MapAnnotation example

4.2.4 5.1.5 (2015 October 12)

- **Java bug fixes, including:**
 - **ImageJ plugins**
 - * fixed use of “Group files...” and “Open files individually” options
 - * fixed placement of ROIs
 - * fixed size of the “About Plugins > Bio-Formats Plugins” window
 - **xsd-fu (code generation)**
 - * removed OMERO-specific logic
 - **Metamorph**
 - * fixed physical Z size calculation
 - **Gatan DM3/DM4**
 - * fixed physical pixel size parsing
 - **BMP**
 - * added support for RLE compression
 - **DICOM**
 - * updated to respect the WINDOW_CENTER tag
 - * fixed image dimensions when multiple sets of width and height values are present
 - **Fluoview and Andor TIFF**
 - * fixed physical Z size calculation
 - **Inspector OBF**
 - * updated to parse OME-XML metadata (thanks to Bjoern Thiel)
- **C++ changes:**
 - TIFF strip/tile row and column calculations corrected to compute the correct row and column count
 - Several compiler warnings removed (false positive warnings in third-party headers disabled, and additional warnings fixed)
 - It is now possible to build with Boost 1.59 and compile with a C++14 compiler
- The source release is now provided in both tar.xz and zip formats
- **Documentation updates, including:**
 - **substantial updates to the format pages**
 - * improved linking of reader/writer classes to each format page
 - * improved supported metadata pages for each format
 - * updated format page formatting for clarity
 - * added developer documentation for adding and modifying format pages

4.2.5 5.1.4 (2015 September 7)

- **Bug fixes, including:**
 - **Command line tools**
 - * fixed display of usage information
 - **Automated testing**
 - * fixed problems with symlinked data on Windows

- * added unit tests for checking physical pixel size creation
- **Cellomics**
 - * fixed reading of sparse plates
- **SlideBook**
 - * fixed a few lingering issues with native library packaging
- **SimplePCI/HCImage TIFF**
 - * fixed bit depth parsing for files from newer versions of HCImage
- **SimplePCI/HCImage .cxd**
 - * fixed image dimensions to allow for extra padding bytes
- **Leica LIF**
 - * improved reading of image descriptions
- **ICS**
 - * fixed to use correct units for timestamps and physical pixel sizes
- **MicroManager**
 - * fixed to use correct units for timestamps
- **Gatan .dm3/.dm4**
 - * fixed problems with reading double-precision metadata values
- **Hamamatsu NDPI**
 - * fixed reading of mask images
- **Leica .lei**
 - * fixed reading of bit depth and endianness for datasets that were modified after acquisition
- **FEI TIFF**
 - * updated to read metadata from files produced by FEI Titan systems
- **QuickTime**
 - * fixed to handle planes with no stored pixels
- **Leica .scn**
 - * fixed reading of files that contain fewer images than expected
- **Zeiss .czi**
 - * fixed channel colors when an alpha value is not recorded
 - * fixed handling of pre-stitched image tiles
- **SDT**
 - * added support for Zip-compressed images
- **Nikon .nd2**
 - * fixed to read image dimensions from new non-XML metadata
- **OME-XML**
 - * fixed writing of integer metadata values
- **Native C++ updates:**
 - completed support for building on Windows
- **Documentation updates, including:**
 - updated instructions for running automated data tests
 - clarified JVM versions currently supported

4.2.6 5.1.3 (2015 July 21)

- **Native C++ updates:**
 - Added cmake superbuid to build core dependencies (zlib, bzip2, png, icu, xerces, boost)
 - Progress on support for Windows
- **Bug fixes, including:**
 - Fixed segfault in the *showinf* tool used with the C++ bindings
 - Allow reading from https URLs
 - **ImageJ**
 - * improved performance of displaying ROIs
 - **Command line tools**
 - * fixed bfconvert to correctly create datasets with multiple files
 - **Metamorph**
 - * improved detection of time series
 - * fixed .nd datasets with variable Z and T counts in each channel
 - * fixed .nd datasets that contain invalid TIFF/STK files
 - * fixed dimensions when the number of planes does not match the recorded Z, C, and T sizes
 - **SlideBook**
 - * improved native library detection (thanks to Richard Myers)
 - **JPEG**
 - * fixed decompression of lossless files with multiple channels (thanks to Aaron Avery)
 - **Inspector OBF**
 - * updated to support version 2 files (thanks to Bjoern Thiel)
 - **Inspector MSR**
 - * improved detection of Z stacks
 - **PerkinElmer Opera Flex**
 - * improved handling of multiple acquisitions of the same plate
 - **Zeiss CZI**
 - * fixed error when opening single-file datasets whose names contained “(” and ”)”
 - **TIFF**
 - * improved speed of reading files with many tiles
 - **AVI**
 - * updated to read frame index (idx1) tables
 - **Nikon ND2**
 - * fixed channel counts for files with more than 3 channels
 - **PNG**
 - * fixed decoding of interlaced images with a width or height that is not a multiple of 8
 - **PSD**
 - * improved reading of compressed images
- **Documentation improvements, including:**
 - updated instructions for writing a new file format reader

- updated usage information for command line tools
- new Javadocs for the *MetadataStore* and *MetadataRetrieve* interfaces

4.2.7 5.1.2 (2015 May 28)

- Added OME-TIFF writing support to the native C++ implementation
- OME-TIFF export: switch to BigTIFF if .ome.tf2, .ome.tf8, or .ome.btf extensions are used
- Improved MATLAB developer documentation
- Added SlideBook reader that uses the SDK from 3I (thanks to Richard Myers and [3I - Intelligent Imaging Innovations](https://www.intelligent-imaging.com)¹⁰)
- Preliminary work to make MATLAB toolbox work with Octave
- **Many bug fixes, including:**
 - **ImageJ**
 - * fixed regression in getPlanePosition* macro extension methods
 - * fixed display of composite color virtual stacks
 - **Nikon ND2**
 - * improved parsing of plane position and timestamp data
 - **TIFF**
 - * reduced memory required to read color lookup tables
 - **Zeiss LSM**
 - * improved parsing of 16-bit color lookup tables
 - **Zeiss CZI**
 - * fixed ordering of original metadata table
 - * fixed reading of large pre-stitched tiled images
 - **AIM**
 - * fixed handling of truncated files
 - **Metamorph/MetaXpress TIFF**
 - * improved UIC1 metadata tag parsing

4.2.8 5.1.1 (2015 April 28)

- Add TIFF writing support to the native C++ implementation
- Fixed remaining functional differences between Windows and Mac/Linux
- Improved performance of ImageJ plugin when working with ROIs
- TIFF export: switch to BigTIFF if .tf2, .tf8, or .btf extensions are used
- **Many bug fixes, including:**
 - fixed upgrade checking to more accurately report when a new version is available
 - **Zeiss CZI**
 - * fixed ordering of multiposition data
 - * improved support for RGB and fused images
 - **Nikon ND2**
 - * improved ordering of multiposition data

¹⁰<https://www.intelligent-imaging.com>

- **Leica LIF**
 - * improved metadata validity checks
 - * improved excitation wavelength detection
- **Metamorph STK/TIFF**
 - * record lens numerical aperture
 - * fixed millisecond values in timestamps
- **Gatan DM3**
 - * correctly detect signed pixel data
- **Imaris HDF**
 - * fix channel count detection
- **ICS export**
 - * fix writing of files larger than 2GB

4.2.9 5.1.0 (2015 April 2)

- Improvements to performance with network file systems
- Improvements to developer documentation
- Initial version of *native C++ implementation*
- Improved support for opening and saving ROI data with ImageJ
- Added support for *CellH5* data (thanks to Christophe Sommer)
- Added support for *Perkin Elmer Nuance* data (thanks to Lee Kamentsky)
- Added support for *Amnis FlowSight* data (thanks to Lee Kamentsky and Sebastien Simard)
- Added support for *Veeco AFM* data
- Added support for *Zeiss .lms* data (not to be confused with .lsm)
- Added support for *I2I* data
- Added support for writing Vaa3D data (thanks to Brian Long)
- Updated to *OME schema 2015-01*¹¹
- Update RandomAccessInputStream and RandomAccessOutputStream to read and write bits
- **Many bug fixes, including:**
 - **Leica SCN**
 - * fix pixel data decompression
 - * fix handling of files with multiple channels
 - * parse magnification and physical pixel size data
 - **Olympus/CellSens .vsi**
 - * more thorough parsing of metadata
 - * improved reading of thumbnails and multi-resolution images
 - **NDPI**
 - * fix reading of files larger than 4GB
 - * parse magnification data
 - **Zeiss CZI**

¹¹<http://www.openmicroscopy.org/site/support/ome-model/schemas/january-2015.html>

- * improve parsing of plane position coordinates
- **Inveon**
 - * fix reading of files larger than 2 GB
- **Nikon ND2**
 - * many improvements to dimension detection
 - * many improvements to metadata parsing accuracy
 - * update original metadata table to include PFS data
- **Gatan DM3**
 - * fix encoding when parsing metadata
 - * fix physical pixel size parsing
- **Metamorph**
 - * fix off-by-one in metadata parsing
 - * fix number parsing to be independent of the system locale
- **JPEG**
 - * parse EXIF data, if present (thanks to Paul Van Schayck)
- **OME-XML/OME-TIFF**
 - * fix handling of missing image data
- **PrairieView**
 - * improved support for version 5.2 data (thanks to Curtis Rueden)
- **DICOM**
 - * fix dimensions for multi-file datasets
 - * fix pixel data decoding for files with multiple images
- **PNG**
 - * reduce memory required to read large images
- **Inspector OBF**
 - * fix support for version 5 data (thanks to Bjoern Thiel)
- **PCORAW**
 - * fix reading of files larger than 4 GB
- **AIM**
 - * fix reading of files larger than 4 GB
- **MRC**
 - * add support for signed 8-bit data
- Fix build errors in MIPAV plugin
- **ImageJ**
 - * fix export from a script/macro
 - * fix windowless export
 - * allow exporting from any open image window
 - * allow the “Group files with similar names” and “Swap dimensions” options to be used from a script/macro
- **bfconvert**
 - * fix writing each channel, Z section, and/or timepoint to a separate file
 - * add options for configuring the tile size to be used when saving images

4.2.10 5.0.8 (2015 February 10)

- No changes - release to keep version numbers in sync with OMERO

4.2.11 5.0.7 (2015 February 5)

- **Several bug fixes, including:**
 - ND filter parsing for DeltaVision
 - Timepoint count and original metadata parsing for Metamorph
 - Build issues when Genshi or Git are missing
 - LZW image decoding

4.2.12 5.0.6 (2014 November 11)

- **Several bug fixes, including:**
 - Pixel sign for DICOM images
 - Image dimensions for Zeiss CZI and Nikon ND2
 - Support for Leica LIF files produced by LAS AF 4.0 and later

4.2.13 5.0.5 (2014 September 23)

- Documentation improvements
- Support for non-spectral Prairie 5.2 datasets

4.2.14 5.0.4 (2014 September 3)

- Fix compile and runtime errors under Java 1.8
- Improvements to Nikon .nd2 metadata parsing
- Added support for PicoQuant .bin files (thanks to Ian Munro)

4.2.15 5.0.3 (2014 August 7)

- Many bug fixes for Nikon .nd2 files
- **Several other bug fixes, including:**
 - LZW image decoding
 - Stage position parsing for Zeiss CZI
 - Exposure time units for ScanR
 - Physical pixel size units for DICOM
 - NDPI and Zeiss LSM files larger than 4GB
 - Z and T dimensions for InCell 6000 plates
 - Export of RGB images in ImageJ
- Improved metadata saving in MATLAB functions

4.2.16 5.0.2 (2014 May 28)

- Many bug fixes for Zeiss .czi files
- **Several other bug fixes, including:**
 - Gatan .dm3 units and step count parsing
 - Inspector .msr 5D image support
 - DICOM reading of nested tags
- Update native-lib-loader version (to 2.0.1)
- Updates and improvements to user documentation

4.2.17 5.0.1 (2014 Apr 7)

- Added image pyramid support for CellSens .vsi data
- **Several bug fixes, including:**
 - Woolz import into OMERO
 - Cellomics file name parsing (thanks to Lee Kamentsky)
 - Olympus FV1000 timestamp support (thanks to Lewis Kraft and Patrick Riley)
 - (A)PNG large image support
 - Zeiss .czi dimension detection for SPIM datasets
- Performance improvements for Becker & Hickl .sdt file reading (thanks to Ian Munro)
- Performance improvements to directory listing over NFS
- Update slf4j and logback versions (to 1.7.6 and 1.1.1 respectively)
- Update jgoodies-forms version (to 1.7.2)

4.2.18 5.0.0 (2014 Feb 25)

- New bundled 'bioformats_package.jar' for ImageJ
- Now uses logback as the slf4j binding by default
- Updated component names, .jar file names, and Maven artifact names
- Fixed support for Becker & Hickl .sdt files with multiple blocks
- Fixed tiling support for TIFF, Hamamatsu .ndpi, JPEG, and Zeiss .czi files
- Improved continuous integration testing
- Updated *command line documentation*

4.2.19 5.0.0-RC1 (2013 Dec 19)

- Updated Maven build system and launched new Artifactory repository (<http://artifacts.openmicroscopy.org>)
- **Added support for:**
 - *Bio-Rad SCN*
 - *Yokogawa CellVoyager* (thanks to Jean-Yves Tinevez)
 - *LaVision Inspector*
 - *PCORAW*
 - *Woolz* (thanks to Bill Hill)
- Added support for populating and parsing ModuloAlong{Z, C, T} annotations for FLIM/SPIM data

- Updated netCDF and slf4j version requirements - netCDF 4.3.19 and slf4j 1.7.2 are now required
- Updated and improved *MATLAB users* and *developers* documentation
- Many bug fixes including for Nikon ND2, Zeiss CZI, and CellWorX formats

4.2.20 5.0.0-beta1 (2013 June 20)

- Updated to 2013-06 OME-XML schema¹²
- Improved the performance in tiled formats
- Added caching of Reader metadata using <http://code.google.com/p/kryo/>
- **Added support for:**
 - *Aperio AFI*
 - *Inveon*
 - *MPI-BPC Inspector*
- **Many bug fixes, including:**
 - Add ZEN 2012/Lightsheet support to Zeiss CZI
 - Improved testing of autogenerated code
 - Moved OME-XML specification into Bio-Formats repository

4.2.21 4.4.10 (2014 Jan 15)

- Bug fixes including CellWorx, Metamorph and Zeiss CZI
- Updates to MATLAB documentation

4.2.22 4.4.9 (2013 Oct 16)

- Many bug fixes including improvements to support for ND2 format
- Java 1.6 is now the minimum supported version; Java 1.5 is no longer supported

4.2.23 4.4.8 (2013 May 2)

- No changes - release to keep version numbers in sync with OMERO

4.2.24 4.4.7 (2013 April 25)

- Many bug fixes to improve support for more than 20 formats
- Improved export to multi-file datasets
- Now uses slf4j for logging rather than using log4j directly, enabling other logging implementations to be used, for example when Bio-Formats is used as a component in other software using a different logging system.

4.2.25 4.4.6 (2013 February 11)

- Many bug fixes
- Further documentation improvements

¹²<http://www.openmicroscopy.org/site/support/ome-model/>

4.2.26 4.4.5 (2012 November 13)

- Restructured and improved documentation
- **Many bug fixes, including:**
 - File grouping in many multi-file formats
 - Maven build fixes
 - ITK plugin fixes

4.2.27 4.4.4 (2012 September 24)

- Many bug fixes

4.2.28 4.4.2 (2012 August 22)

- Security fix for OMERO plugins for ImageJ

4.2.29 4.4.1 (2012 July 20)

- Fix a bug that prevented BigTIFF files from being read
- Fix a bug that prevented PerkinElmer .flex files from importing into OMERO

4.2.30 4.4.0 (2012 July 13)

- Many, many bug fixes
- **Added support for:**
 - .nd2 files from Nikon Elements version 4
 - PerkinElmer Operetta data
 - MJPEG-compressed AVIs
 - MicroManager datasets with multiple positions
 - Zeiss CZI data
 - IMOD data

4.2.31 4.3.3 (2011 October 18)

- **Many bug fixes, including:**
 - Speed improvements to HCImage/SimplePCI and Zeiss ZVI files
 - Reduce memory required by Leica LIF reader
 - More accurately populate metadata for Prairie TIFF datasets
 - Various fixes to improve the security of the OMERO plugin for ImageJ
 - Better dimension detection for Bruker MRI datasets
 - Better thumbnail generation for histology (SVS, NDPI) datasets
 - Fix stage position parsing for Metamorph TIFF datasets
 - Correctly populate the channel name for PerkinElmer Flex files

4.2.32 4.3.2 (2011 September 15)

- **Many bug fixes, including:**
 - Better support for Volocity datasets that contain compressed data
 - More accurate parsing of ICS metadata
 - More accurate parsing of cellSens .vsi files
- **Added support for a few new formats**
 - .inr
 - Canon DNG
 - Hitachi S-4800
 - Kodak .bip
 - JPX
 - Volocity Library Clipping (.acff)
 - Bruker MRI
- Updated Zeiss LSM reader to parse application tags
- Various performance improvements, particularly for reading/writing TIFFs
- Updated OMERO ImageJ plugin to work with OMERO 4.3.x

4.2.33 4.3.1 (2011 July 8)

- **Several bug fixes, including:**
 - Fixes for multi-position DeltaVision files
 - Fixes for MicroManager 1.4 data
 - Fixes for 12 and 14-bit JPEG-2000 data
 - Various fixes for reading Volocity .mvd2 datasets
- Added various options to the 'showinf' and 'bfconvert' command line tools
- Added better tests for OME-XML backwards compatibility
- Added the ability to roughly stitch tiles in a multi-position dataset

4.2.34 4.3.0 (2011 June 14)

- **Many bug fixes, including:**
 - Many fixes for reading and writing sub-images
 - Fixes for stage position parsing in the Zeiss formats
 - File type detection fixes
- Updated JPEG-2000 reading and writing support to be more flexible
- **Added support for 9 new formats:**
 - InCell 3000
 - Trestle
 - Hamamatsu .ndpi
 - Hamamatsu VMS
 - SPIDER
 - Volocity .mvd2

- Olympus SIS TIFF
 - IMAGIC
 - cellSens VSI
- Updated to 2011-06 OME-XML schema
- Minor speed improvements in many formats
- Switched version control system from SVN to Git
- Moved all Trac tickets into the OME Trac: <https://trac.openmicroscopy.org>
- Improvements to testing frameworks
- Added Maven build system as an alternative to the existing Ant build system
- Added pre-compiled C++ bindings to the download page

4.2.35 4.2.2 (2010 December 6)

- **Several bug fixes, notably:**
 - Metadata parsing fixes for Zeiss LSM, Metamorph STK, and FV1000
 - Prevented leaked file handles when exporting to TIFF/OME-TIFF
 - Fixed how BufferedImages are converted to byte arrays
- Proper support for OME-XML XML annotations
- Added support for SCANCO Medical .aim files
- Minor improvements to ImageJ plugins
- Added support for reading JPEG-compressed AVI files

4.2.36 4.2.1 (2010 November 12)

- Many, many bug fixes
- **Added support for 7 new formats:**
 - CellWorX .pnl
 - ECAT7
 - Varian FDF
 - Perkin Elmer Densitometer
 - FEI TIFF
 - Compix/SimplePCI TIFF
 - Nikon Elements TIFF
- Updated Zeiss LSM metadata parsing, with generous assistance from Zeiss, FMI, and MPI-CBG
- Lots of work to ensure that converted OME-XML validates
- Improved file stitching functionality; non-numerical file patterns and limited regular expression-style patterns are now supported

4.2.37 4.2.0 (2010 July 9)

- Fixed many, many bugs in all aspects of Bio-Formats
- Reworked ImageJ plugins to be more user- and developer-friendly
- Added many new unit tests

- Added support for approximately 25 new file formats, primarily in the SPM domain
- Rewrote underlying I/O infrastructure to be thread-safe and based on Java NIO
- Rewrote OME-XML parsing/generation layer; OME-XML 2010-06 is now supported
- Improved support for exporting large images
- Improved support for exporting to multiple files
- Updated logging infrastructure to use slf4j and log4j

4.2.38 4.1.1 (2009 December 3)

- Fixed many bugs in popular file format readers

4.1 (2009 October 21):

- Fixed many bugs in most file format readers
- Significantly improved confocal and HCS metadata parsing
- Improved C++ bindings
- Eliminated references to Java AWT classes in core Bio-Formats packages
- Added support for reading Flex datasets from multiple servers
- Improved OME-XML generation; generated OME-XML is now valid
- Added support for Olympus ScanR data
- Added OSGi information to JARs
- Added support for Amira Mesh files
- Added support for LI-FLIM files
- Added more informative exceptions
- Added support for various types of ICS lifetime data
- Added support for Nikon EZ-C1 TIFFs
- Added support for Maia Scientific MIAS data

4.2.39 4.0.1 (2009 June 1)

- Lots of bug fixes in most format readers and writers
- Added support for Analyze 7.1 files
- Added support for Nifti files
- Added support for Cellomics .c01 files
- Refactored ImageJ plugins
- Bio-Formats, the common package, and the ImageJ plugins now require Java 1.5
- Eliminated native library dependency for reading lossless JPEGs
- Changed license from GPL v3 or later to GPL v2 or later
- Updated Olympus FV1000, Zeiss LSM, Zeiss ZVI and Nikon ND2 readers to parse ROI data
- Added option to ImageJ plugin for displaying ROIs parsed from the chosen dataset
- Fixed BufferedImage construction for signed data and unsigned int data

4.2.40 4.0.0 (2009 March 3)

- Improved OME data model population for Olympus FV1000, Nikon ND2, Metamorph STK, Leica LEI, Leica LIF, InCell 1000 and MicroManager
- Added TestNG tests for format writers
- Added option to ImageJ plugin to specify custom colors when customizing channels
- Added ability to upgrade the ImageJ plugin from within ImageJ
- Fixed bugs in Nikon ND2, Leica LIF, BioRad PIC, TIFF, PSD, and OME-TIFF
- Fixed bugs in Data Browser and Exporter plugins
- Added support for Axon Raw Format (ARF), courtesy of Johannes Schindelin
- Added preliminary support for IPLab-Mac file format

4.2.41 2008 December 29

- Improved metadata support for DeltaVision, Zeiss LSM, MicroManager, and Leica LEI
- Restructured code base/build system to be component-driven
- Added support for JPEG and JPEG-2000 codecs within TIFF, OME-TIFF and OME-XML
- Added support for 16-bit compressed Flex files
- Added support for writing JPEG-2000 files
- Added support for Minolta MRW format
- Added support for the 2008-09 release of OME-XML
- Removed dependency on JMagick
- Re-added caching support to data browser plugin
- Updated loci.formats.Codec API to be more user-friendly
- Expanded loci.formats.MetadataStore API to better represent the OME-XML model
- Improved support for Nikon NEF
- Improved support for TillVision files
- Improved ImageJ import options dialog
- Fixed bugs with Zeiss LSM files larger than 4 GB
- Fixed minor bugs in most readers
- Fixed bugs with exporting from an Image5D window
- Fixed several problems with virtual stacks in ImageJ

4.2.42 2008 August 30

- Fixed bugs in many file format readers
- Fixed several bugs with swapping dimensions
- Added support for Olympus CellR/APL files
- Added support for MINC MRI files
- Added support for Aperio SVS files compressed with JPEG 2000
- Added support for writing OME-XML files
- Added support for writing APNG files
- Added faster LZW codec

- Added drag and drop support to ImageJ shortcut window
- Re-integrated caching into the data browser plugin

4.2.43 2008 July 1

- Fixed bugs in most file format readers
- Fixed bugs in OME and OMERO download functionality
- Fixed bugs in OME server-side import
- Improved metadata storage/retrieval when uploading to and downloading from the OME Perl server
- Improved Bio-Formats ImageJ macro extensions
- Major updates to MetadataStore API
- Updated OME-XML generation to use 2008-02 schema by default
- Addressed time and memory performance issues in many readers
- Changed license from LGPL to GPL
- Added support for the FEI file format
- Added support for uncompressed Hamamatsu Aquacosmos NAF files
- Added support for Animated PNG files
- Added several new options to Bio-Formats ImageJ plugin
- Added support for writing ICS files

4.2.44 2008 April 17

- Fixed bugs in Slidebook, ND2, FV1000 OIB/OIF, Perkin Elmer, TIFF, Prairie, Openlab, Zeiss LSM, MNG, Molecular Dynamics GEL, and OME-TIFF
- Fixed bugs in OME and OMERO download functionality
- Fixed bugs in OME server-side import
- Fixed bugs in Data Browser
- Added support for downloading from OMERO 2.3 servers
- Added configuration plugin
- Updates to MetadataStore API
- Updates to OME-XML generation - 2007-06 schema used by default
- Added support for Li-Cor L2D format
- Major updates to TestNG testing framework
- Added support for writing multi-series OME-TIFF files
- Added support for writing BigTIFF files

4.2.45 2008 Feb 12

- Fixed bugs in QuickTime, SimplePCI and DICOM
- Fixed a bug in channel splitting logic

4.2.46 2008 Feb 8

- Many critical bugfixes in format readers and ImageJ plugins
- **Newly reborn Data Browser for 5D image visualization**
 - some combinations of import options do not work yet

4.2.47 2008 Feb 1

- Fixed bugs in Zeiss LSM, Metamorph STK, FV1000 OIB/OIF, Leica LEI, TIFF, Zeiss ZVI, ICS, Prairie, Openlab LIFF, Gatan, DICOM, QuickTime
- Fixed bug in OME-TIFF writer
- Major changes to MetadataStore API
- Added support for JPEG-compressed TIFF files
- **Added basic support for Aperio SVS files**
 - JPEG2000 compression is still not supported
- Improved “crop on import” functionality
- Improvements to bfconvert and bfview
- Improved OME-XML population for several formats
- Added support for JPEG2000-compressed DICOM files
- EXIF data is now parsed from TIFF files

4.2.48 2007 Dec 28

- Fixed bugs in Leica LEI, Leica TCS, SDT, Leica LIF, Visitech, DICOM, Imaris 5.5 (HDF), and Slidebook readers
- Better parsing of comments in TIFF files exported from ImageJ
- Fixed problem with exporting 48-bit RGB data
- Added logic to read multi-series datasets spread across multiple files
- Improved channel merging in ImageJ - requires ImageJ 1.39l
- Support for hyperstacks and virtual stacks in ImageJ - requires ImageJ 1.39l
- Added API for reading directly from a byte array or InputStream
- Metadata key/value pairs are now stored in ImageJ’s “Info” property
- Improved OMERO download plugin - it is now much faster
- Added “open all series” option to ImageJ importer
- ND2 reader based on Nikon’s SDK now uses our own native bindings
- Fixed metadata saving bug in ImageJ
- Added sub-channel labels to ImageJ windows
- Major updates to 4D Data Browser
- Minor updates to automated testing suite

4.2.49 2007 Dec 1

- Updated OME plugin for ImageJ to support downloading from OMERO
- Fixed bug with floating point TIFFs
- Fixed bugs in Visitech, Zeiss LSM, Imaris 5.5 (HDF)
- Added alternate ND2 reader that uses Nikon's native libraries
- Fixed calibration and series name settings in importer
- Added basic support for InCell 1000 datasets

4.2.50 2007 Nov 21

- Fixed bugs in ND2, Leica LIF, DICOM, Zeiss ZVI, Zeiss LSM, FV1000 OIB, FV1000 OIF, BMP, Evotec Flex, BioRad PIC, Slidebook, TIFF
- Added new ImageJ plugins to slice stacks and do "smart" RGB merging
- **Added "windowless" importer plugin**
 - uses import parameters from IJ_Prefs.txt, without prompting the user
- Improved stack slicing and colorizing logic in importer plugin
- **Added support for DICOM files compressed with lossless JPEG**
 - requires native libraries
- Fixed bugs with signed pixel data
- Added support for Imaris 5.5 (HDF) files
- Added 4 channel merging to importer plugin
- Added API methods for reading subimages
- Major updates to the 4D Data Browser

4.2.51 2007 Oct 17

- Critical OME-TIFF bugfixes
- Fixed bugs in Leica LIF, Zeiss ZVI, TIFF, DICOM, and AVI readers
- Added support for JPEG-compressed ZVI images
- Added support for BigTIFF
- Added importer plugin option to open each plane in a new window
- Added MS Video 1 codec for AVI

4.2.52 2007 Oct 1

- Added support for compressed DICOM images
- Added support for uncompressed LIM files
- Added support for Adobe Photoshop PSD files
- Fixed bugs in DICOM, OME-TIFF, Leica LIF, Zeiss ZVI, Visitech, PerkinElmer and Metamorph
- Improved indexed color support
- Addressed several efficiency issues
- Fixed how multiple series are handled in 4D data browser
- Added option to reorder stacks in importer plugin

- Added option to turn off autoscaling in importer plugin
- Additional metadata convenience methods

4.2.53 2007 Sept 11

- Major improvements to ND2 support; lossless compression now supported
- Support for indexed color images
- Added support for Simple-PCI .cxd files
- Command-line OME-XML validation
- Bugfixes in most readers, especially Zeiss ZVI, Metamorph, PerkinElmer and Leica LEI
- Initial version of Bio-Formats macro extensions for ImageJ

4.2.54 2007 Aug 1

- Added support for latest version of Leica LIF
- Fixed several issues with Leica LIF, Zeiss ZVI
- Better metadata mapping for Zeiss ZVI
- Added OME-TIFF writer
- Added MetadataRetrieve API for retrieving data from a MetadataStore
- Miscellaneous bugfixes

4.2.55 2007 July 16

- Fixed several issues with ImageJ plugins
- Better support for Improvision and Leica TCS TIFF files
- Minor improvements to Leica LIF, ICS, QuickTime and Zeiss ZVI readers
- Added searchable metadata window to ImageJ importer

4.2.56 2007 July 2

- Fixed issues with ND2, Openlab LIFF and Slidebook
- Added support for Visitech XYS
- Added composite stack support to ImageJ importer

4.2.57 2007 June 18

- Fixed issues with ICS, ND2, MicroManager, Leica LEI, and FV1000 OIF
- Added support for large (> 2 GB) ND2 files
- Added support for new version of ND2
- Minor enhancements to ImageJ importer
- Implemented more flexible logging
- Updated automated testing framework to use TestNG
- Added package for caching images produced by Bio-Formats

4.2.58 2007 June 6

- Fixed OME upload/download bugs
- Fixed issues with ND2, EPS, Leica LIF, and OIF
- Added support for Khoros XV
- Minor improvements to the importer

4.2.59 2007 May 24

- Better Slidebook support
- Added support for Quicktime RPZA
- Better Leica LIF metadata parsing
- Added support for BioRad PIC companion files
- Added support for bzip2-compressed files
- Improved ImageJ plugins
- Native support for FITS and PGM

4.2.60 2007 May 2

- Added support for NRRD
- Added support for Evotec Flex (requires LuraWave Java SDK with license code)
- Added support for gzip-compressed files
- Added support for compressed QuickTime headers
- Fixed QuickTime Motion JPEG-B support
- Fixed some memory issues (repeated small array allocations)
- Fixed issues reading large (> 2 GB) files
- Removed “ignore color table” logic, and replaced with Leica-specific solution
- Added status event reporting to readers
- Added API to toggle metadata collection
- Support for multiple dimensions rasterized into channels
- Deprecated reader and writer methods that accept the ‘id’ parameter
- Deprecated IFormatWriter.save in favor of saveImage and saveBytes
- Moved dimension swapping and min/max calculation logic to delegates
- Separate GUI logic into isolated loci.formats.gui package
- Miscellaneous bugfixes and tweaks in most readers and writers
- Many other bugfixes and improvements

4.2.61 2007 Mar 16

- Fixed calibration bugs in importer plugin
- Enhanced metadata support for additional formats
- Fixed LSM bug

4.2.62 2007 Mar 7

- Added support for Micro-Manager file format
- Fixed several bugs – Leica LIF, Leica LEI, ICS, ND2, and others
- Enhanced metadata support for several formats
- Load series preview thumbnails in the background
- Better implementation of `openBytes(String, int, byte[])` for most readers
- Expanded unit testing framework

4.2.63 2007 Feb 28

- Better series preview thumbnails
- Fixed bugs with multi-channel Leica LEI
- Fixed bugs with “ignore color tables” option in ImageJ plugin

4.2.64 2007 Feb 26

- Many bugfixes: Leica LEI, ICS, FV1000 OIB, OME-XML and others
- Better metadata parsing for BioRad PIC files
- Enhanced API for calculating channel minimum and maximum values
- Expanded MetadataStore API to include more semantic types
- Added thumbnails to series chooser in ImageJ plugin
- Fixed plugins that upload and download from an OME server

4.2.65 2007 Feb 7

- Added plugin for downloading images from OME server
- Improved HTTP import functionality
- Added metadata filtering – unreadable metadata is no longer shown
- Better metadata table for multi-series datasets
- Added support for calibration information in Gatan DM3
- Eliminated need to install JAI Image I/O Tools to read ND2 files
- Fixed ZVI bugs: metadata truncation, and other problems
- Fixed bugs in Leica LIF: incorrect calibration, first series labeling
- Fixed memory bug in Zeiss LSM
- Many bugfixes: PerkinElmer, DeltaVision, Leica LEI, LSM, ND2, and others
- `IFormatReader.close(boolean)` method to close files temporarily
- Replaced Compression utility class with extensible Compressor interface
- Improved testing framework to use `.bioformats` configuration files

4.2.66 2007 Jan 5

- Added support for Prairie TIFF
- Fixed bugs in Zeiss LSM, OIB, OIF, and ND2
- Improved API for writing files
- Added feature to read files over HTTP
- Fixed bugs in automated testing framework
- Miscellaneous bugfixes

4.2.67 2006 Dec 22

- Expanded ImageJ plugin to optionally use Image5D or View5D
- Improved support for ND2 and JPEG-2000 files
- Added automated testing framework
- Fixed bugs in Zeiss ZVI reader
- Miscellaneous bugfixes

4.2.68 2006 Nov 30

- Added support for ND2/JPEG-2000
- Added support for MRC
- Added support for MNG
- Improved support for floating-point images
- Fixed problem with 2-channel Leica LIF data
- Minor tweaks and bugfixes in many readers
- Improved file stitching logic
- Allow ImageJ plugin to be called from a macro

4.2.69 2006 Nov 2

- Bugfixes and improvements for Leica LIF, Zeiss LSM, OIF and OIB
- Colorize channels when they are split into separate windows
- Fixed a bug with 4-channel datasets

4.2.70 2006 Oct 31

- Added support for Imaris 5 files
- Added support for RGB ICS images

4.2.71 2006 Oct 30

- Added support for tiled TIFFs
- Fixed bugs in ICS reader
- Fixed importer plugin deadlock on some systems

4.2.72 2006 Oct 27

- Multi-series support for Slidebook
- Added support for Alicona AL3D
- Fixed plane ordering issue with FV1000 OIB
- Enhanced dimension detection in FV1000 OIF
- Added preliminary support for reading NEF images
- Added option to ignore color tables
- Fixed ImageJ GUI problems
- Fixed spatial calibration problem in ImageJ
- Fixed some lingering bugs in Zeiss ZVI support
- Fixed bugs in OME-XML reader
- Tweaked ICS floating-point logic
- Fixed memory leaks in all readers
- Better file stitching logic

4.2.73 2006 Oct 6

- Support for 3i SlideBook format (single series only for now)
- Support for 16-bit RGB palette TIFF
- Fixed bug preventing import of certain Metamorph STK files
- Fixed some bugs in PerkinElmer UltraView support
- Fixed some bugs in Leica LEI support
- Fixed a bug in Zeiss ZVI support
- Fixed bugs in Zeiss LSM support
- Fixed a bug causing slow identification of Leica datasets
- Fixed bugs in the channel merging logic
- Fixed memory leak for OIB format
- Better scaling of 48-bit RGB data to 24-bit RGB
- Fixed duplicate channels bug in “open each channel in a separate window”
- Fixed a bug preventing PICT import into ImageJ
- Better integration with HandleExtraFileTypes
- Better virtual stack support in Data Browser plugin
- Fixed bug in native QuickTime random access
- Keep aspect ratio for computed thumbnails
- Much faster file stitching logic

4.2.74 2006 Sep 27

- PerkinElmer: support for PE UltraView
- Openlab LIFF: support for Openlab v5
- Leica LEI: bugfixes, and support for multiple series
- ZVI, OIB, IPW: more robust handling of these formats (eliminated custom OLE parsing logic in favor of Apache POI)

- OIB: better metadata parsing (but maybe still not perfect?)
- LSM: fixed a bug preventing import of certain LSMs
- Metamorph STK: fixed a bug resulting in duplicate image planes
- User interface: use of system look & feel for file chooser dialog when available
- Better notification when JAR libraries are missing

4.2.75 2006 Sep 6

- Leica LIF: multiple distinct image series within a single file
- Zeiss ZVI: fixes and improvements contributed by Michel Boudinot
- Zeiss LSM: fixed bugs preventing the import of certain LSM files
- TIFF: fixed a bug preventing import of TIFFs created with Bio-Rad software

4.2.76 2006 Mar 31

- First release

Part II

User Information

USING BIO-FORMATS WITH IMAGEJ AND FIJI

The following sections explain the features of Bio-Formats and how to use it within ImageJ and Fiji:

5.1 ImageJ overview

ImageJ¹ is an image processing and analysis application written in Java, widely used in the life sciences fields, with an extensible plugin infrastructure. You can use Bio-Formats as a plugin for ImageJ to read and write images in the formats it supports.

5.1.1 Installation

Download `bioformats_package.jar`² and drop it into your **ImageJ/plugins** folder. Next time you run ImageJ, a new Bio-Formats submenu with several plugins will appear in the Plugins menu, including the Bio-Formats Importer and Bio-Formats Exporter.

5.1.2 Usage

The Bio-Formats Importer plugin can display image stacks in several ways:

- In a standard ImageJ window (including as a hyperstack)
- Using the **LOCI Data Browser**³ plugin (included)
- With Joachim Walter's **Image5D**⁴ plugin (if installed)
- With Rainer Heintzmann's **View5D**⁵ plugin (if installed)

ImageJ v1.37 and later automatically (via `HandleExtraFileTypes`) calls the Bio-Formats logic, if installed, as needed when a file is opened within ImageJ, i.e. when using *File* → *Open* instead of explicitly choosing *Plugins* → *Bio-Formats* → *Bio-Formats Importer* from the menu.

For a more detailed description of each plugin, see the **Bio-Formats page**⁶ of the Fiji wiki.

5.1.3 Upgrading

To upgrade, just overwrite the old **bioformats_package.jar** with the **latest one**⁷.

You may want to download the latest version of ImageJ first, to take advantage of new features and bug-fixes.

As of the 4.0.0 release, you can also upgrade the Bio-Formats plugin directly from ImageJ. Select *Plugins* → *Bio-Formats* → *Update Bio-Formats Plugins* from the ImageJ menu, then select which release you would like to use. You will then need to restart ImageJ to complete the upgrade process.

¹<http://rsb.info.nih.gov/ij/>

²http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/bioformats_package.jar

³<http://loci.wisc.edu/software/data-browser>

⁴<http://developer.imagej.net/plugins/image5d>

⁵<http://www.nanoimaging.de/View5D>

⁶<http://fiji.sc/Bio-Formats>

⁷<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

5.1.4 Macros and plugins

Bio-Formats is fully scriptable in a macro, and callable from a plugin. To use in a macro, use the Macro Recorder to record a call to the Bio-Formats Importer with the desired options. You can also perform more targeted metadata queries using the Bio-Formats macro extensions.

Here are some example ImageJ macros and plugins that use Bio-Formats to get you started:

[basicMetadata.txt](#)⁸ - A macro that uses the Bio-Formats macro extensions to print the chosen file's basic dimensional parameters to the Log.

[planeTimings.txt](#)⁹ - A macro that uses the Bio-Formats macro extensions to print the chosen file's plane timings to the Log.

[recursiveTiffConvert.txt](#)¹⁰ - A macro for recursively converting files to TIFF using Bio-Formats.

[bfOpenAsHyperstack.txt](#)¹¹ - This macro from Wayne Rasband opens a file as a hyperstack using only the Bio-Formats macro extensions (without calling the Bio-Formats Importer plugin).

[zvi2HyperStack.txt](#)¹² - This macro from Sebastien Huart reads in a ZVI file using Bio-Formats, synthesizes the LUT using emission wavelength metadata, and displays the result as a hyperstack.

[dvSplitTimePoints.txt](#)¹³ - This macro from Sebastien Huart splits timepoints/channels on all DV files in a folder.

[batchTiffConvert.txt](#)¹⁴ - This macro converts all files in a directory to TIFF using the Bio-Formats macro extensions.

[Read_Image](#)¹⁵ - A simple plugin that demonstrates how to use Bio-Formats to read files into ImageJ.

[Mass_Importer](#)¹⁶ - A simple plugin that demonstrates how to open all image files in a directory using Bio-Formats, grouping files with similar names to avoiding opening the same dataset more than once.

5.1.5 Usage tips

- “How do I make the options window go away?” is a common question. There are a few ways to do this:
 - To disable the options window only for files in a specific format, select *Plugins > Bio-Formats > Bio-Formats Plugins Configuration*, then pick the format from the list and make sure the “Windowless” option is checked.
 - To avoid the options window entirely, use the *Plugins > Bio-Formats > Bio-Formats Windowless Importer* menu item to import files.
 - Open files by calling the Bio-Formats importer plugin from a macro.
- A common cause of problems having multiple copies of `bioformats_package.jar` in you ImageJ plugins folder, or a copy of `bioformats_package.jar` and a copy of `formats-gpl.jar`. It is often difficult to determine for sure that this is the problem - the only error message that pretty much guarantees it is a `NoSuchMethodException`. If you downloaded the latest version and whatever error message or odd behavior you are seeing has been reported as fixed, it is worth removing all copies of `bioformats_package.jar` (and `loci_tools.jar` or any other Bio-Formats jars) and download a fresh version.

5.2 Fiji overview

Fiji¹⁷ is an image processing package. It can be described as a distribution of *ImageJ* together with Java, Java 3D and a lot of plugins organized into a *coherent menu structure*¹⁸. Fiji compares to ImageJ as Ubuntu compares to Linux.

Fiji works with Bio-Formats out of the box, because it comes bundled with the *Bio-Formats ImageJ plugins*.

⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utils/macros/basicMetadata.txt>

⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utils/macros/planeTimings.txt>

¹⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utils/macros/recursiveTiffConvert.txt>

¹¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utils/macros/bfOpenAsHyperstack.txt>

¹²<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utils/macros/zvi2HyperStack.txt>

¹³<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utils/macros/dvSplitTimePoints.txt>

¹⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utils/macros/batchTiffConvert.txt>

¹⁵https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utils/Read_Image.java

¹⁶https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utils/Mass_Importer.java

¹⁷<http://fiji.sc/>

¹⁸http://fiji.sc/Plugins_Menu

For further details on Bio-Formats in Fiji, see the [Bio-Formats Fiji wiki page](#)¹⁹.

5.2.1 Upgrading

Upgrading Bio-Formats within Fiji is as simple as invoking the “Update Fiji” command from the Help menu. By default, Fiji even automatically checks for updates every time it is launched, so you will always be notified when new versions of Bio-Formats (or any other bundled plugin) are available.

Using Bio-Formats daily builds

Fiji currently shipping with the 5.1.x release versions of Bio-Formats. However, if you have encountered a bug which has been fixed by the Bio-Formats team but not yet released, you can use the Bio-Formats update site to access the daily build as described in the [Fiji documentation](#)²⁰.

Warning: These builds are **not yet released** and should be considered **beta** in quality. In particular, you should **avoid exporting data using the Bio-Formats Exporter** in case you write incompatible files which cannot be read by released versions of Bio-Formats or other OME-compliant tools. We recommend waiting for a fully tested release version of Bio-Formats if possible.

Manual upgrade

Manually updating your Fiji installation should not be necessary but if you need to do so, the steps are detailed below. Note that although we assume you will be upgrading to the latest release version, all previous versions of Bio-Formats are available from <http://downloads.openmicroscopy.org/bio-formats/> so you can revert to an earlier version using this guide if you need to.

1. Fiji must first be fully updated
2. Close Fiji
3. Open the Fiji installation folder (typically named ‘Fiji.app’)
4. Remove bio-formats_plugins.jar from the ‘plugins’ sub-folder
5. Remove all of the .jars from the ‘jars/bio-formats’ sub-folder:
 - jai_imageio.jar
 - formats-gpl.jar
 - formats-common.jar
 - turbojpeg.jar
 - ome-xml.jar
 - formats-bsd.jar
 - ome-poi.jar
 - specification.jar
 - mdbtools-java.jar
 - metakit.jar
 - formats-api.jar
6. Download bio-formats_plugins.jar (from the latest release <http://downloads.openmicroscopy.org/bio-formats/>) and place it in the ‘plugins’ sub-folder
7. Download each of the following (from the latest release <http://downloads.openmicroscopy.org/bio-formats/>) and place them in the ‘jars/bio-formats’ sub-folder:
 - jai_imageio.jar

¹⁹<http://fiji.sc/Bio-Formats>

²⁰http://fiji.sc/Bio-Formats#Daily_builds

- formats-gpl.jar
 - formats-common.jar
 - turbojpeg.jar
 - ome-xml.jar
 - formats-bsd.jar
 - ome-poi.jar
 - specification.jar
 - mdbtools-java.jar
 - metakit.jar
 - formats-api.jar
8. To Check Version of Bio-Formats *Select Help > About Plugins > Bio-Formats Plugins...* Check that the version of Bio-Formats matches the freshly downloaded version.
 9. Start Fiji and open any Image file using *Plugins > Bio-Formats > Bio-Formats Importer*

Note: It is vital to perform all of those steps in order; omitting even one will cause a problem. In particular, make sure that the old files are fully removed; it is not sufficient to add the new files to any sub-directory without removing the old files first.

5.3 Bio-Formats features in ImageJ and Fiji

When you select Bio-Formats under the Plugin menu, you will see the following features:

- The **Bio-Formats Importer** is a plugin for *loading images* into ImageJ or Fiji. It can read over 140 proprietary life sciences formats and standardizes their acquisition metadata into the common *OME data model*. It will also extract and set basic metadata values such as *spatial calibration*²¹ if they are available in the file.
- The **Bio-Formats Exporter** is a plugin for exporting data to disk. It can save to the open *OME-TIFF*²² file format, as well as several movie formats (e.g. QuickTime, AVI) and graphics formats (e.g. PNG, JPEG).
- The **Bio-Formats Remote Importer** is a plugin for importing data from a remote URL. It is likely to be less robust than working with files on disk, so we recommend downloading your data to disk and using the regular Bio-Formats Importer whenever possible.
- The **Bio-Formats Windowless Importer** is a version of the Bio-Formats Importer plugin that runs with the last used settings to avoid any additional dialogs beyond the file chooser. If you always use the same import settings, you may wish to use the windowless importer to save time (Learn more [here](#)).
- The **Bio-Formats Macro Extensions** plugin prints out the set of commands that can be used to create macro extensions. The commands and the instructions for using them are printed to the ImageJ log window.
- The **Stack Slicer** plugin is a helper plugin used by the Bio-Formats Importer. It can also be used to split a stack across channels, focal planes or time points.
- The **Bio-Formats Plugins Configuration** dialog is a useful way to configure the behavior of each file format. The Formats tab lists supported file formats and toggles each format on or off, which is useful if your file is detected as the wrong format. It also toggles whether each format bypasses the importer options dialog through the “Windowless” checkbox. You can also configure any specific option for each format. The Libraries tab provides a list of available helper libraries used by Bio-Formats.
- The **Bio-Formats Plugins Shortcut Window** opens a small window with a quick-launch button for each plugin. Dragging and dropping files onto the shortcut window opens them quickly using the **Bio-Formats Importer** plugin.
- The **Update Bio-Formats Plugins** command will check for updates to the plugins. We recommend you update to the newest Trunk build as soon as you think you may have *discovered a bug*.

²¹<http://fiji.sc/SpatialCalibration>

²²<http://www.openmicroscopy.org/site/support/ome-model/ome-tiff>

5.4 Installing Bio-Formats in ImageJ

Note: Since FIJI is essentially ImageJ with plugins like Bio-Formats already built in, people who install Fiji can skip this section. If you are also using the OMERO plugin for ImageJ, you may find the set-up guide on the new [user help site](#)²³ useful for getting you started with both plugins at the same time.

Once you [download](#)²⁴ and install ImageJ, you can install the Bio-Formats plugin by going to the Bio-Formats [download page](#)²⁵.

For most end-users, we recommend downloading the **bioformats_package.jar** complete bundle.

However, you must decide which version of it you want to install. There are three primary versions of Bio-Formats: the latest builds, the daily builds, and the release versions. Which version you should download depends on your needs:

- The **latest build** is automatically updated every time any change is made to the source code on the main “dev_5_0” branch in Git, Bio-Formats’ software version control system. This build has the latest bug fixes, but it is not well tested and may have also introduced new bugs.
- The **daily build** is a compilation of that day’s changes that occurs daily around midnight. It is not any better tested than the latest build; but if you download it multiple times in a day, you can be sure you will get the same version each time.
- The **release** is thoroughly tested and has documentation to match. The list of supported formats on the Bio-Formats site corresponds to the most recent release. We do not add new formats to the list until a release containing support for that format has been completed. The release is less likely to contain bugs.

The release version is also more useful to programmers because they can link their software to a known, fixed version of Bio-Formats. Bio-Formats’ behavior will not be changing “out from under them” as they continue developing their own programs.

Note: There are currently **two** release version of Bio-Formats as we are maintaining support for the 4.4.x series while only actively developing the new 5.x series. Unless you are using Bio-Formats with the OMERO ImageJ plugin and an OMERO 4.4.x server, we recommend you use Bio-Formats 5. A new 4.4.x version will only be released if a major bug fix is required.

We often **recommend that most people simply use the latest build** for two reasons. First, it may contain bug-fixes or new features you want anyway; secondly, you will have to reproduce any bug you encounter in Bio-Formats against the latest build before submitting a bug report. Rather than using the release until you find a bug that requires you to upgrade and reproduce it, why not just use the latest build to begin with?

Once you decide which version you need, go to the Bio-Formats [download page](#)²⁶ and save the appropriate **bioformats_package.jar** to the Plugins directory within ImageJ.

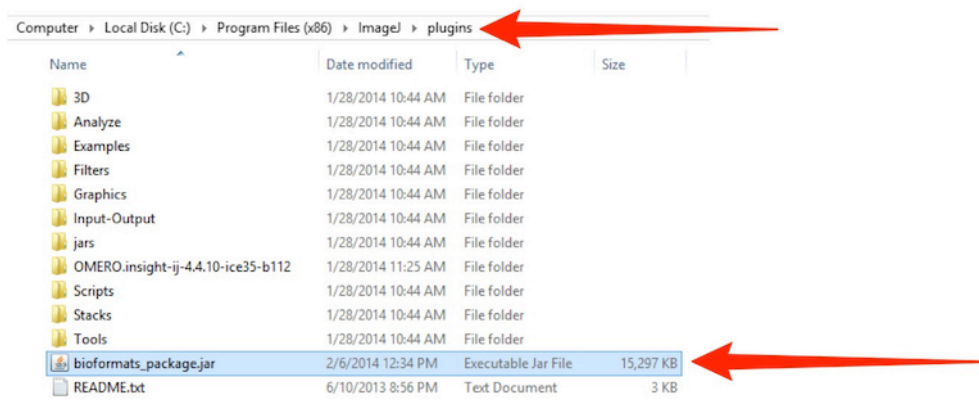


Figure 5.1: Plugin Directory for ImageJ: Where in ImageJ’s file structure you should place the file once you downloaded it.

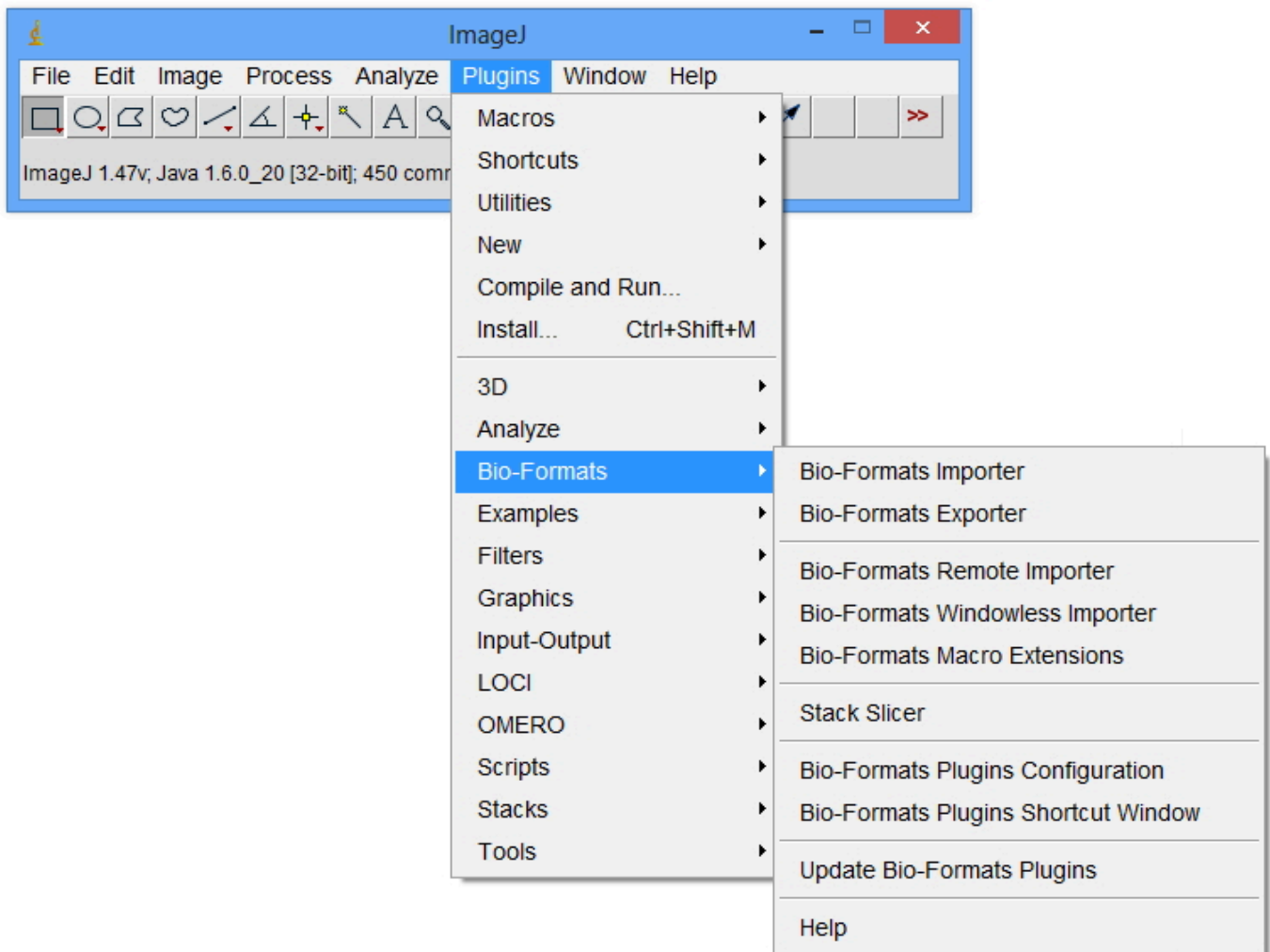
You may have to quit and restart ImageJ. Once you restart it, you will find Bio-Formats in the Bio-Formats option under the Plugins menu:

²³<http://help.openmicroscopy.org/imagej.html>

²⁴<http://rsbweb.nih.gov/ij/download.html>

²⁵<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

²⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>



You are now ready to start using Bio-Formats.

5.5 Using Bio-Formats to load images into ImageJ

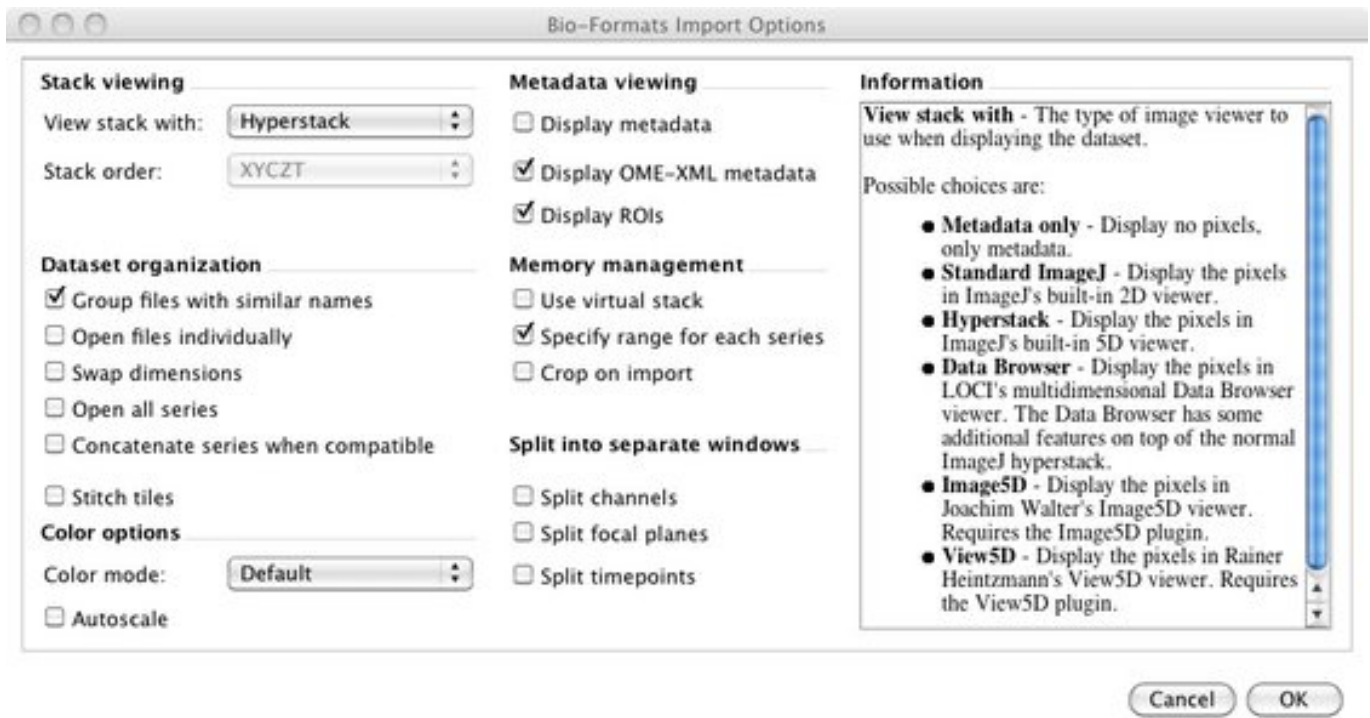
This section will explain how to use Bio-Formats to import files into ImageJ and how to use the settings on the Bio-Formats Import Options screen.

5.5.1 Opening files

There are three ways you can open a file using Bio-Formats:

1. Select the Bio-Formats Importer under the Bio-Formats plugins menu.
2. Drag and drop it onto the Bio-Formats Plugins Shortcut window.
3. Use the Open command in the File menu.

Unless you used the Bio-Formats Plugins Configuration dialog to open the file type windowlessly, you know you used Bio-Formats to open a file when you see a screen like this:



If you used the File > Open command and did not see the Bio-Formats Import Options screen, ImageJ/Fiji probably used another plugin instead of Bio-Formats to open the file. If this happens and you want to open a file using Bio-Formats, use one of the other two methods instead.

5.5.2 Opening files windowlessly

When you open a file with Bio-Formats, the Import Options Screen automatically recalls the settings you last used to open a file with that specific format (e.g. JPG, TIF, LSM, etc.). If you always choose the same options whenever you open files in a specific file format, you can save yourself time by bypassing the Bio-Formats Import Options screen. You can accomplish this two ways:

1. You can select the **Bio-Formats Windowless Importer**, located in the Bio-Formats menu under ImageJ's Plugin menu. When you select this option, Bio-Formats will import the file using the same settings you used the last time you imported a file with the same format.
2. If you invariably use the same settings when you open files in a specific format, you can always bypass the Import Options Screen by changing the settings in the **Bio-Formats Plugins Configuration** option, which is also located in the Bio-Formats menu under ImageJ's Plugin menu.

Once you select this option, select the file format you are interested in from the list on the left side of the screen. Check both the **Enabled** and **Windowless** boxes. Once you do this, whenever you open a file using the **Bio-Formats Windowless Importer**, the **Bio-Formats Importer**, or the drag-and-drop method described in the previous section, the file will always open the same way using the last setting used.

Please note that if you want to change any of the import settings once you enable this windowless option, you will have to go back to the **Bio-Formats Plugins Configuration** screen, unselect the windowless option, open a file using the regular **Bio-Formats Importer**, select your settings, and re-select the windowless option.

5.5.3 Group files with similar names

Note: The functionality described below is also available outside ImageJ, by using a pattern file to tell Bio-Formats how to group the files. See [Grouping files using a pattern file](#) for more information.

One of the most important features of Bio-Formats is to combine multiple files from a data set into one coherent, multi-dimensional image.

To demonstrate how to use the **Group files with similar names** feature, you can use the [dub²⁷](http://loci.wisc.edu/sample-data/dub) data set available under LOCI's [Sample Data²⁸](http://loci.wisc.edu/sample-data) page. You will notice that it is a large dataset: each of the 85 files shows the specimen at 33 optical sections along the z-plane at a specific time.

If you open just one file in ImageJ/Fiji using the **Bio-Formats Importer**, you will get an image incorporating three dimensions (x, y, z). However, if you select **Group files with similar names** from the Bio-Formats Import Options screen, you will be able to create a 4-D image (x, y, z, and t) incorporating the 85 files.

After clicking OK, you will see a screen like this:

This screen allows you to select which files within the 85-file cluster to use to create that 4-D image. Some information will be pre-populated in the fields. Unless you want to change the settings in that field, there is no need to change or delete it. If you click OK at this point, you will load all 85 files.

However, you can specify which files you want to open by adjusting the “axis information”, the file “name contains”, or the “pattern” sections. Even though there are three options, you only need to need to make changes to one of them. Since Bio-Format’s precedence for processing data is from top to bottom, only the uppermost section that you made changes to will be used. If you change multiple boxes, any information you enter into lower boxes will be ignored.

To return to the example involving the dub data set, suppose you want to open the first image and only every fifth image afterwards (i.e. dub01, dub06, dub11 . . . dub81). This would give you 17 images. There are different ways to accomplish this:

You can use the **Axis Settings** only when your files are numbered in sequential order and you want to open only a subset of the files that have similar names. Since the dub data set is numbered sequentially, you can use this feature.

Axis 1 number of images refers to the total number of images you want to open. Since you want to view 17 images, enter 17. **Axis 1 axis first image** specifies which image in the set you want to be the first. Since you want to start with dub01, enter 1 in that box. You also want to view only every fifth image, so enter 5 in the **Axis 1 axis increment** box.

The **File name contains** box should be used if all of the files that you want to open have common text. This is especially useful when the files are not numbered. For example, if you have “Image_Red.tif”, “Image_Green.tif”, and “Image_Blue.tif” you could enter “Image_” in the box to group them all.

To continue the example involving the dub data set, you cannot use the **file name contains** box to open every fifth image. However, if you only wanted to open dub10 through dub19, you could enter “dub1” in the **file name contains** box.

The **pattern** box can be used to do either of the options listed above or much more. This box can accept a single file name like “dub01.pic”. It can also contain a pattern that use “<” and “>” to specify what numbers or text the file names contain.

There are three basic forms to the “< >” blocks:

- Text enumeration - “Image_<Red,Green,Blue>.tif” is the pattern for Image_Red.tif, Image_Green.tif, Image_Blue.tif. (Note that the order you enter the file names is the order in which they will be loaded.)
- Number range - “dub<1-85>.pic” is the pattern for “dub1.pic”, “dub2.pic”, “dub3.pic” . . . “dub85.pic”.

²⁷<http://loci.wisc.edu/sample-data/dub>

²⁸<http://loci.wisc.edu/software/sample-data>

- Number range with step - “dub<1-85:5>.pic” is the pattern for “dub1.pic”, “dub6.pic”, “dub11.pic”, “dub11.pic” . . . “dub85.pic”.

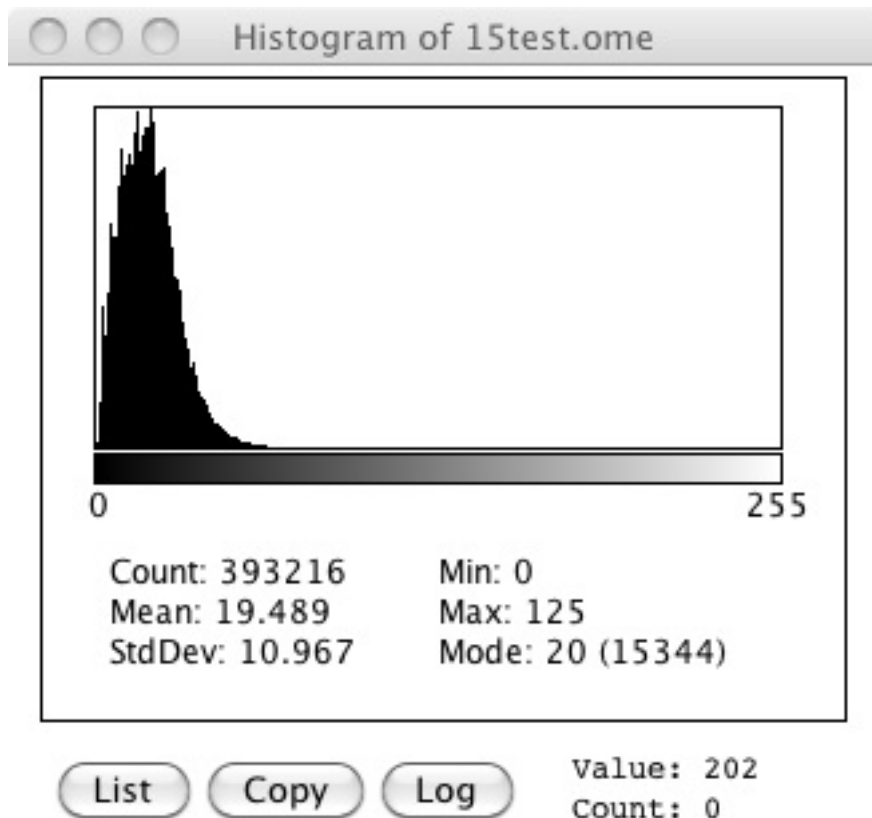
It can also accept a [Java regular expression](#)²⁹.

5.5.4 Autoscale

Autoscale helps increase the brightness and contrast of an image by adjusting the range of light intensity within an image to match the range of possible display values. Note that Autoscale does not change your data. It just changes how it is displayed.

Each pixel in an image has a numerical value ascribed to it to describe its intensity. The bit depth—the number of possible values—depends on the number of bits used in the image. Eight bits, for example, gives 256 values to express intensity where 0 is completely black, 255 is completely white, and 1 through 254 display increasingly lighter shades of grey.

ImageJ can collect the intensity information about each pixel from an image or stack and create a histogram (you can see it by selecting Histogram under the Analyze menu). Here is the histogram of a one particular image:

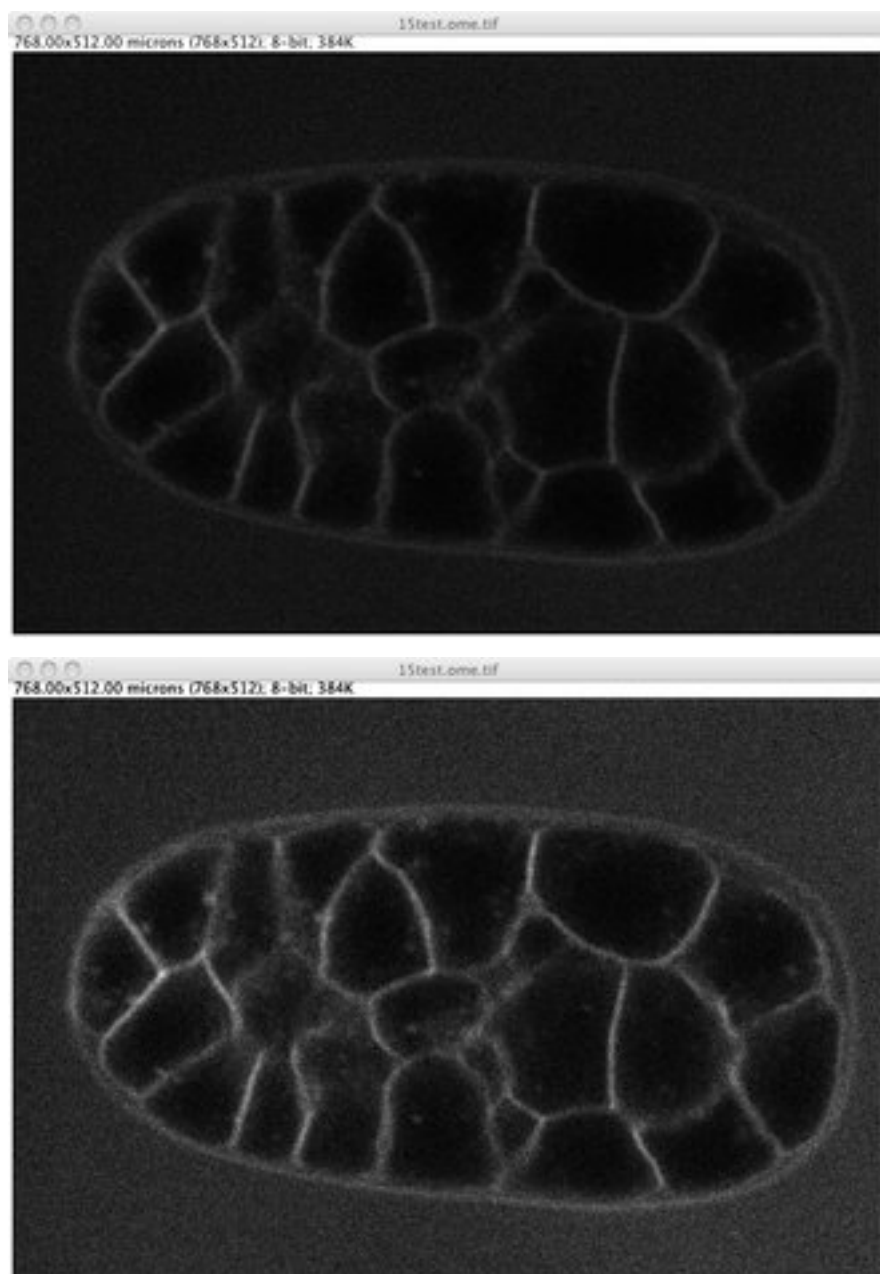


Notice that the histogram heavily skews right. Even though there are 256 possible values, only 0 thorough 125 are being used.

Autoscale adjusts the image so the smallest and largest number in that image or stack’s histogram become the darkest and brightest settings. For this image, pixels with the intensity of 125 will be displayed in pure white. The other values will be adjusted too to help show contrast between values that were too insignificant to see before.

Here is one image Bio-Formats imported with and without using Autoscale:

²⁹<http://download.oracle.com/javase/1.5.0/docs/api/java/util/regex/Pattern.html>

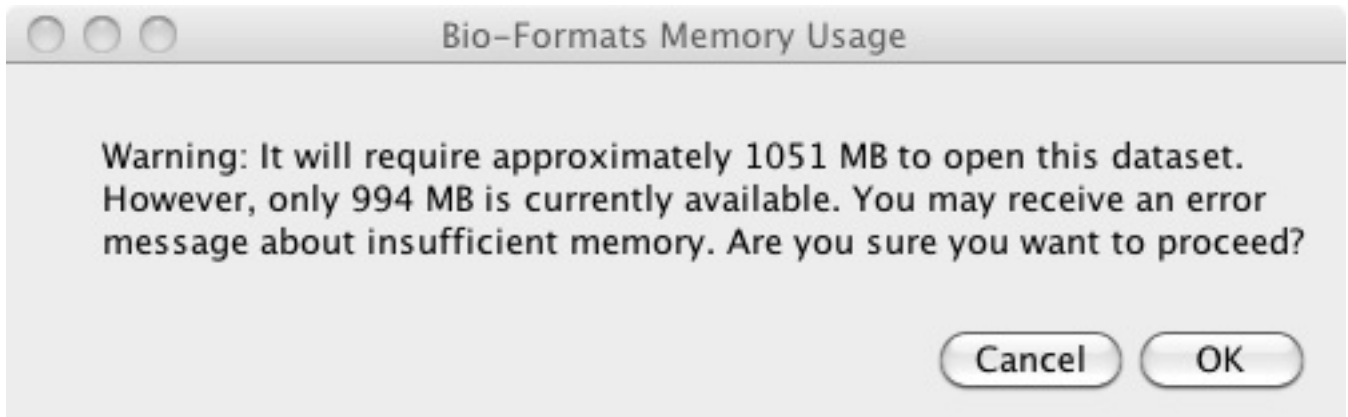


Autoscale readjusts the image based on the highest value in the entire data set. This means if the highest value in your dataset is close to maximum display value, Autoscale's adjusting may be undetectable to the eye.

ImageJ/Fiji also has its own tools for adjusting the image, which are available by selecting Brightness/Contrast, which is under the Adjust option in the Image menu.

5.6 Managing memory in ImageJ/Fiji using Bio-Formats

When dealing with a large stack of images, you may receive a warning like this:



This means the allotted memory is less than what Bio-Formats needs to load all the images. If you have a very large data set, you may have to:

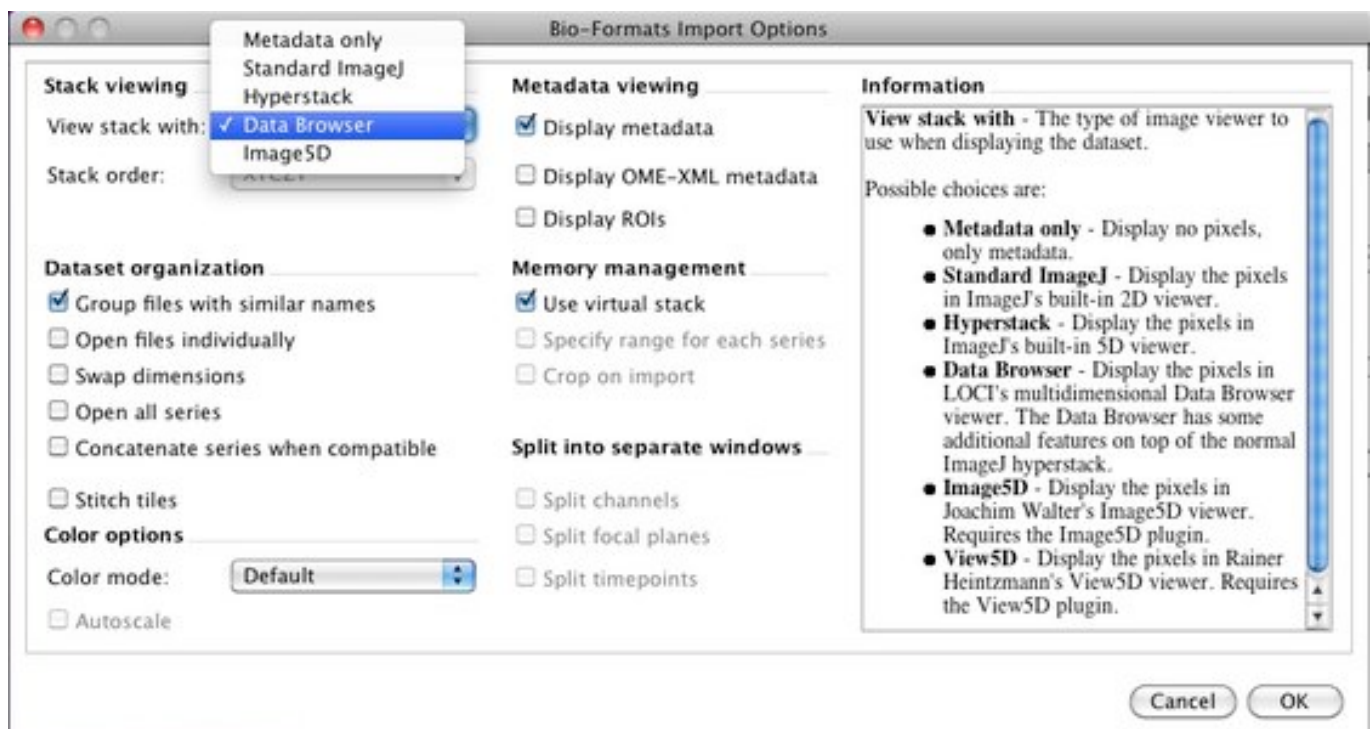
- View your stack with Data Browser
- Crop the view area
- Open only a subset of images
- Use Virtual Stack
- Increase ImageJ/Fiji's memory.

If your files contain JPEG or JPEG-2000 images, you may see this memory warning even if your file size is smaller than the amount of allocated memory. This is because compressed images like JPEG need to be decompressed into memory before being displayed and require more memory than their file size suggests. If you are having this issue, try utilizing one of the memory management tools below.

5.6.1 View your stack with Data Browser

Data Browser is another part of Bio-Formats that enables users to view large 3, 4, or 5-D datasets by caching a subset of all the images available. This enables users to view a stack that is bigger than the computer's memory.

You can select Data Browser as an option for **View stack with**, the leftmost, uppermost option in the **Bio-Formats Import Options** screen.



Note that when you use Data Browser, other features like cropping and specifying range are not available. You can, however, adjust the size of the image cache in the Data Browser after you open the files. You can read more about it on LOCI's [Data Browser page](http://loci.wisc.edu/software/data-browser)³⁰.

5.6.2 Cropping the view area

Crop on Import is useful if your images are very large and you are only interested in one specific section of the stack you are importing. If you select this feature, you will see a screen where you can enter the height and width (in pixels) of the part of image you want to see. Note that these measurements are from the top left corner of the image.

5.6.3 Opening only a subset of images

The **Specify Range for Each Series** option is useful for viewing a portion of a data set where all the plane images are encapsulated into one file (e.g. the Zeiss LSM format). If your file has a large quantity of images, you can specify which channels, Z-planes, and times you want to load.

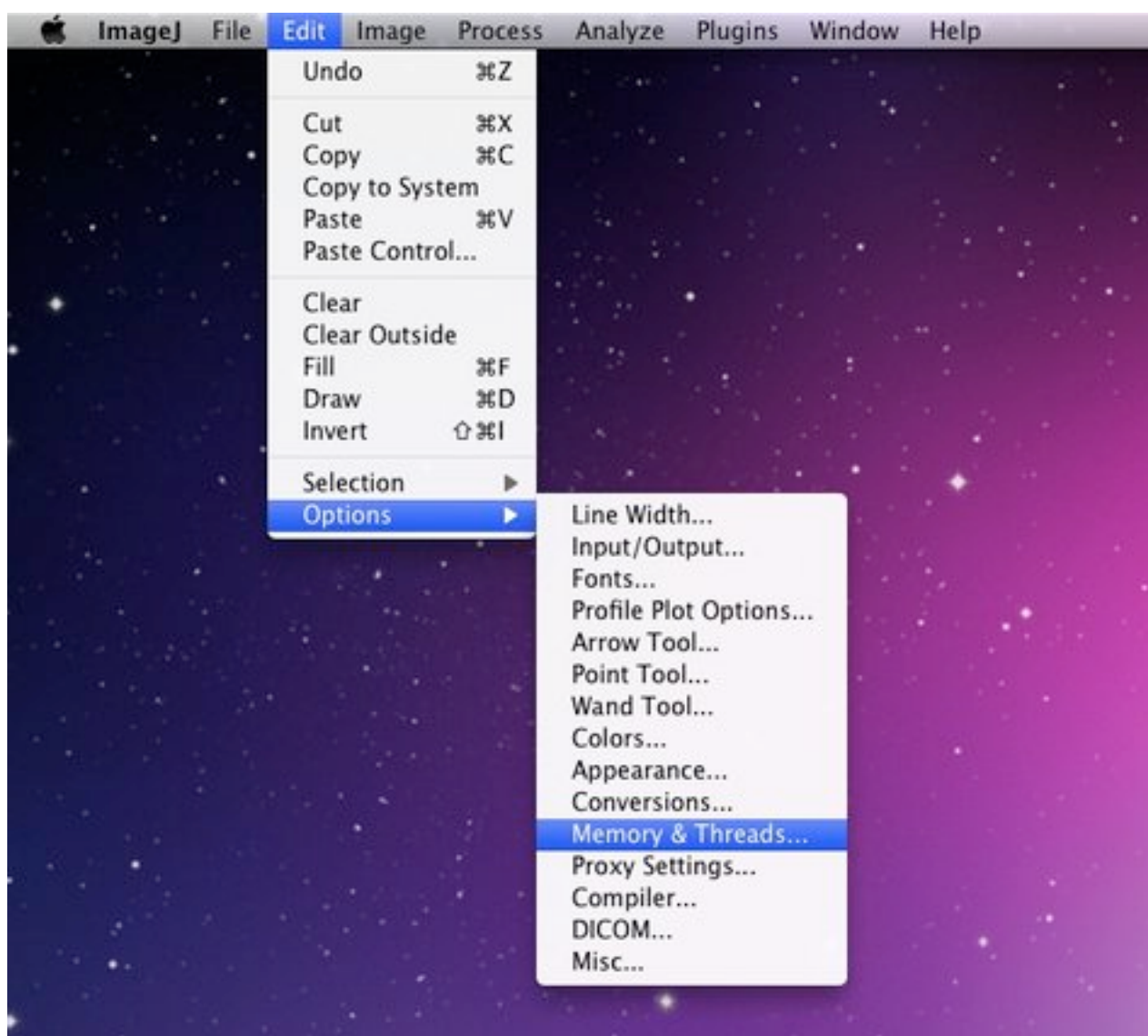
5.6.4 Use Virtual Stack

Virtual Stack conserves memory by not loading specific images until necessary. Note that unlike Data Browser, Virtual Stack does not contain a buffer and may produce choppy animations.

5.6.5 Increasing ImageJ/Fiji's memory

Finally, you can also increase the amount of the computer memory devoted to ImageJ/Fiji by selecting **Memory & Threads** under the **Edit** menu.

³⁰<http://loci.wisc.edu/software/data-browser>



Generally, allocating more than 75% of the computer's total memory will cause ImageJ/Fiji to become slow and unstable.

Please note that unlike the other three features, ImageJ/Fiji itself provides this feature and not Bio-Formats. You can find out more about this feature by looking at ImageJ's [documentation](http://rsbweb.nih.gov/ij/docs/menus/edit.html#options)³¹.

³¹<http://rsbweb.nih.gov/ij/docs/menus/edit.html#options>

COMMAND LINE TOOLS

The Bio-Formats Command line tools (`bftools.zip`) provide a complete package for carrying out a variety of tasks:

6.1 Command line tools introduction

There are several scripts for using Bio-Formats on the command line.

6.1.1 Installation

Download [bftools.zip](#)¹, unzip it into a new folder.

Note: As of Bio-Formats 5.0.0, this zip now contains the bundled jar and you no longer need to download `loci_tools.jar` or the new `bioformats_package.jar` separately.

The zip file contains both Unix scripts and Windows batch files.

6.1.2 Tools available

Currently available tools include:

showinf Prints information about a given image file to the console, and displays the image itself in the Bio-Formats image viewer (see [Displaying images and metadata](#) for more information).

ijview Displays the given image file in ImageJ using the Bio-Formats Importer plugin. See [Display file in ImageJ](#) for details.

bfconvert Converts an image file from one format to another. Bio-Formats must support writing to the output file (see [Converting a file to different format](#) for more information).

formatlist Displays a list of supported file formats in HTML, plaintext or XML. See [List supported file formats](#) for details.

xmlindent A simple XML prettifier similar to **xmllint -format** but more robust in that it attempts to produce output regardless of syntax errors in the XML. See [Format XML data](#) for details.

xmlvalid A command-line XML validation tool, useful for checking an OME-XML document for compliance with the OME-XML schema.

tiffcomment Dumps the comment from the given TIFF file's first IFD entry; useful for examining the OME-XML block in an OME-TIFF file (also see [Editing XML in an OME-TIFF](#)).

domainlist Displays a list of imaging domains and the supported formats associated with each domain. See [List formats by domain](#) for more information.

mkfake Creates a “fake” high-content screen with configurable dimensions. This is useful for testing how HCS metadata is handled, without requiring real image data from an acquired screen. See [Create a high-content screen for testing](#) for more information.

¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/bftools.zip>

Some of these tools also work in combination, for example *Validating XML in an OME-TIFF* uses both **tiffcomment** and **xmlvalid**.

Running any of these commands without any arguments will print usage information to help you. When run with the `-version` argument, **showinf** and **bfconvert** will display the version of Bio-Formats that is being used (version number, build date, and Git commit reference).

6.1.3 Using the tools directly from source

Firstly, obtain a copy of the sources and build them (see *Obtaining and building Bio-Formats*). You can configure the scripts to use your source tree instead of **bioformats_package.jar** in the same directory by following these steps:

1. Point your CLASSPATH to the checked-out directory and the JAR files in the **jar** folder.
 - E.g. on Windows with Java 1.6 or later, if you have checked out the source at `C:\code\bio-formats`, set your CLASSPATH environment variable to the value `C:\code\bio-formats\jar*;C:\code\bio-formats`. You can access the environment variable configuration area by right-clicking on My Computer, choosing Properties, Advanced tab, Environment Variables button.
2. Compile the source with `ant compile`.
3. Set the `BF_DEVEL` environment variable to any value (the variable just needs to be defined).

6.1.4 Version checker

If you run bftools outside of the OMERO environment, you may encounter an issue with the automatic version checker causing a tool to crash when trying to connect to `upgrade.openmicroscopy.org.uk`. The error message will look something like this:

```
Failed to compare version numbers
java.io.IOException: Server returned HTTP response code: 400 for URL:
http://upgrade.openmicroscopy.org.uk?version=4.4.8;os.name=Linux;os.
version=2.6.32-358.6.2.el6.x86_64;os.arch=amd64;java.runtime.version=
1.6.0_24-b24;java.vm.vendor=Sun+Microsystems+Inc.;bioformats.caller=
Bio-Formats+utilities
```

To avoid this issue, call the tool with the `-no-upgrade` parameter.

6.1.5 Profiling

For debugging errors or investigating performance issues, it can be useful to use profiling tools while running Bio-Formats. The command-line tools can invoke the [HPROF²](http://docs.oracle.com/javase/7/docs/technotes/samples/hprof.html) agent library to profile Heap and CPU usage. Setting the `BF_PROFILE` environment variable allows to turn profiling on, e.g.:

```
BF_PROFILE=true showinf -nopix -no-upgrade myfile
```

6.2 Displaying images and metadata

The **showinf** *command line tool* can be used to show the images and metadata contained in a file.

If no options are specified, **showinf** displays a summary of available options.

To simply display images:

```
showinf /path/to/file
```

²<http://docs.oracle.com/javase/7/docs/technotes/samples/hprof.html>

All of the images in the first ‘series’ (or 5 dimensional stack) will be opened and displayed in a simple image viewer. The number of series, image dimensions, and other basic metadata will be printed to the console.

-series SERIES

Displays a different series, for example the second one:

```
showinf -series 1 /path/to/file
```

Note that series numbers begin with 0.

-omexml

Displays the OME-XML metadata for a file on the console:

```
showinf -omexml /path/to/file
```

-nopix

Image reading can be suppressed if only the metadata is needed:

```
showinf -nopix /path/to/file
```

-range START END

A subset of images can also be opened instead of the entire stack, by specifying the start and end plane indices (inclusive):

```
showinf -range 0 0 /path/to/file
```

That opens only the first image in first series in the file.

-crop X, Y, WIDTH, HEIGHT

For very large images, it may also be useful to open a small tile from the image instead of reading everything into memory. To open the upper-left-most 512x512 tile from the images:

```
showinf -crop 0,0,512,512 /path/to/file
```

The parameter to `-crop` is of the format `x,y,width,height`. The (x, y) coordinate (0, 0) is the upper-left corner of the image; `x + width` must be less than or equal to the image width and `y + height` must be less than or equal to the image height.

-no-upgrade

By default, **showinf** will check for a new version of Bio-Formats. This can take several seconds (especially on a slow internet connection); to save time, the update check can be disabled:

```
showinf -no-upgrade /path/to/file
```

-no-valid

Similarly, if OME-XML is displayed then it will automatically be validated. On slow or missing internet connections, this can take some time, and so can be disabled:

```
showinf -novalid /path/to/file
```

-no-core

Most output can be suppressed:

```
showinf -nocore /path/to/file
```

-omexml-only

Displays the OME-XML alone:

```
showinf -omexml-only /path/to/file
```

This is particularly helpful when there are hundreds or thousands of series.

-debug

Enables debugging output if more information is needed:

```
showinf -debug /path/to/file
```

-fast

Displays an image as quickly as possible. This is achieved by converting the raw data into a 8 bit RGB image:

```
showinf -fast /path/to/file
```

Note: Due to the data conversion to a RGB image, using this option results in a loss of precision.

-autoscale

Adjusts the display range to the minimum and maximum pixel values:

```
showinf -autoscale /path/to/file
```

Note: This option automatically sets the *-fast* option and suffers from the same limitations.

-cache

Caches the reader under the same directory as the input file after initialization:

```
showinf -cache /path/to/file
```

-cache-dir DIR

Specifies the base directory under which the reader should be cached:

```
showinf -cache-dir /tmp/cachedir /path/to/file
```

6.3 Converting a file to different format

The **bfconvert** *command line tool* can be used to convert files between *supported formats*.

bfconvert with no options displays a summary of available options.

To convert a file to single output file (e.g. TIFF):

```
bfconvert /path/to/input output.tiff
```

The output file format is determined by the extension of the output file, e.g. .tiff for TIFF files, .ome.tiff for OME-TIFF, .png for PNG.

-series SERIES

All images in the input file are converted by default. To convert only one series:

```
bfconvert -series 0 /path/to/input output-first-series.tiff
```

-timepoint TIMEPOINT

To convert only one timepoint:

```
bfconvert -timepoint 0 /path/to/input output-first-timepoint.tiff
```

-channel CHANNEL

To convert only one channel:

```
bfconvert -channel 0 /path/to/input output-first-channel.tiff
```

-z Z

To convert only one Z section:

```
bfconvert -z 0 /path/to/input output-first-z.tiff
```

-range START END

To convert images between certain indices (inclusive):

```
bfconvert -range 0 2 /path/to/input output-first-3-images.tiff
```

-tilex TILEX, **-tiley** TILEY

All images larger than 4096x4096 will be saved as a set of tiles if the output format supports doing so. The default tile size is determined by the input format, and can be overridden like this:

```
bfconvert -tilex 512 -tiley 512 /path/to/input output-512x512-tiles.tiff
```

-tilex is the width in pixels of each tile; *-tiley* is the height in pixels of each tile. The last row and column of tiles may be slightly smaller if the image width and height are not multiples of the specified tile width and height. Note that specifying *-tilex* and *-tiley* will cause tiles to be written even if the image is smaller than 4096x4096.

Also note that the specified tile size will affect performance. If large amounts of data are being processed, it is a good idea to try converting a single tile with a few different tile sizes using the *-crop* option. This gives an idea of what the most performant size will be.

Images can also be written to multiple files by specifying a pattern string in the output file. For example, to write one series, timepoint, channel, and Z section per file:

```
bfconvert /path/to/input output_series_%s_Z%z_C%c_T%t.tiff
```

%s is the series index, %z is the Z section index, %c is the channel index, and %t is the timepoint index (all indices begin at 0).

For large images in particular, it can also be useful to write each tile to a separate file:

```
bfconvert -tilex 512 -tiley 512 /path/to/input output_tile_%x_%y_%m.jpg
```

%x is the row index of the tile, %y is the column index of the tile, and %m is the overall tile index. As above, all indices begin at 0. Note that if %x or %y is included in the file name pattern, then the other must be included too. The only exception is if %m was also included in the pattern.

-compression COMPRESSION

By default, all images will be written uncompressed. Supported compression modes vary based upon the output format, but when multiple modes are available the compression can be changed using the *-compression* option. For example, to use LZW compression in a TIFF file:

```
bfconvert -compression LZW /path/to/input output-lzw.tiff
```

-overwrite

If the specified output file already exists, **bfconvert** will prompt to overwrite the file. When running **bfconvert** non-interactively, it may be useful to always allow **bfconvert** to overwrite the output file:

```
bfconvert -overwrite /path/to/input /path/to/output
```

-nooverwrite

To always exit without overwriting:

```
bfconvert -nooverwrite /path/to/input /path/to/output
```

-bigtiff

This option forces the writing of a BigTiff file:

```
bfconvert -bigtiff /path/to/input output.ome.tiff
```

New in version 5.1.2: The *-bigtiff* option is not necessary if a BigTiff extension is used for the output file, e.g.:

```
bfconvert /path/to/input output.ome.btf
```

6.4 Validating XML in an OME-TIFF

The XML stored in an OME-TIFF file can be validated using the *command line tools*.

Both the **tiffcomment** and **xmlvalid** commands are used; **tiffcomment** extracts the XML from the file and **xmlvalid** validates the XML and prints any errors to the console.

For example:

```
tiffcomment /path/to/file.ome.tiff | xmlvalid -
```

will perform the extraction and validation all at once.

Typical successful output is:

```
[~/Work/bftools]$ ./xmlvalid sample.ome
Parsing schema path
http://www.openmicroscopy.org/Schemas/OME/2010-06/ome.xsd
Validating sample.ome
No validation errors found.
[~/Work/bftools]$
```

If any errors are found they are reported. When correcting errors it is usually best to work from the top of the file as errors higher up can cause extra errors further down. In this example the output shows 3 errors but there are only 2 mistakes in the file:

```
[~/Work/bftools]$ ./xmlvalid broken.ome
Parsing schema path
http://www.openmicroscopy.org/Schemas/OME/2010-06/ome.xsd
Validating broken.ome
cvc-complex-type.4: Attribute 'SizeY' must appear on element 'Pixels'.
```

```
cvc-enumeration-valid: Value 'Non Zero' is not facet-valid with respect
  to enumeration '[EvenOdd, NonZero]'. It must be a value from the enumeration.
cvc-attribute.3: The value 'Non Zero' of attribute 'FillRule' on element
  'ROI:Shape' is not valid with respect to its type, 'null'.
Error validating document: 3 errors found
[~/Work/bftools]$
```

If the XML is found to have validation errors, the **tiffcomment** command can be used to overwrite the XML in the OME-TIFF file with corrected XML. The XML can be displayed in an editor window:

```
tiffcomment -edit /path/to/file.ome.tiff
```

or the new XML can be read from a file:

```
tiffcomment -set new-comment.xml /path/to/file.ome.tiff
```

6.5 Editing XML in an OME-TIFF

To edit the XML in an OME-TIFF file you can use **tiffcomment**, one of the Bio-Formats tools.

To use the built in editor run:

```
tiffcomment -edit sample.ome.tif
```

To extract or view the XML run:

```
tiffcomment sample.ome.tif
```

To inject replacement XML into a file run:

```
tiffcomment -set 'newmetadata.xml' sample.ome.tif
```

6.6 List formats by domain

Each supported file format has one or more imaging domains associated with it. To print the list of formats associated with each imaging domain:

```
domainlist
```

The command does not accept any arguments. The known image domains are defined by:

- [ASTRONOMY_DOMAIN](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#ASTRONOMY_DOMAIN)³
- [EM_DOMAIN](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#EM_DOMAIN)⁴
- [FLIM_DOMAIN](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#FLIM_DOMAIN)⁵
- [GEL_DOMAIN](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#GEL_DOMAIN)⁶

³http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#ASTRONOMY_DOMAIN

⁴http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#EM_DOMAIN

⁵http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#FLIM_DOMAIN

⁶http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#GEL_DOMAIN

- [GRAPHICS_DOMAIN](#)⁷
- [HCS_DOMAIN](#)⁸
- [HISTOLOGY_DOMAIN](#)⁹
- [LM_DOMAIN](#)¹⁰
- [MEDICAL_DOMAIN](#)¹¹
- [SEM_DOMAIN](#)¹²
- [SPM_DOMAIN](#)¹³
- [UNKNOWN_DOMAIN](#)¹⁴

6.7 List supported file formats

A detailed list of supported formats can be displayed using the **formatlist** command.

The default behavior is to print a plain-text list of formats:

```
formatlist
```

-txt

Prints the list of formats as plain-text:

```
formatlist -txt
```

-html

Prints the list of formats as HTML:

```
formatlist -html
```

-xml

Prints the list of formats as XML:

```
formatlist -xml
```

-help

Displays the usage information:

```
formatlist -help
```

6.8 Display file in ImageJ

Files can be displayed from the command line in ImageJ. The Bio-Formats importer plugin for ImageJ is used to open the file.

The command takes a single argument:

⁷http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#GRAPHICS_DOMAIN

⁸http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#HCS_DOMAIN

⁹http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#HISTOLOGY_DOMAIN

¹⁰http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#LM_DOMAIN

¹¹http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#MEDICAL_DOMAIN

¹²http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#SEM_DOMAIN

¹³http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#SPM_DOMAIN

¹⁴http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#UNKNOWN_DOMAIN

```
ijview /file/to/open
```

If the input file is not specified, ImageJ will show a file chooser window.

The Bio-Formats import options window will then appear, after which the image(s) will be displayed.

If the *BF_DEVEL* environment variable is set, the ImageJ `jar <jars/ij.jar>` must be included in the classpath.

6.9 Format XML data

The **xmlindent** command formats and adds indenting to XML so that it is easier to read. Indenting is currently set to 3 spaces.

If an XML file name is not specified, the XML to indent will be read from standard output. Otherwise, one or more file names can be specified:

```
xmlindent /path/to/xml
xmlindent /path/to/first-xml /path/to/second-xml
```

The formatted XML from each file will be printed in the order in which the files were specified.

By default, extra whitespace may be added to CDATA elements. To preserve the contents of CDATA elements:

```
xmlindent -valid /path/to/xml
```

6.10 Create a high-content screen for testing

The **mkfake** command creates a high-content screen for testing. The image data will be meaningless, but it allows testing of screen, plate, and well metadata without having to find appropriately-sized screens from real acquisitions.

If no arguments are specified, **mkfake** prints usage information.

To create a single screen with default plate dimensions:

```
mkfake default-screen.fake
```

This will create a directory that represents one screen with a single plate containing one well, one field, and one acquisition of the plate (see [PlateAcquisition¹⁵](#)).

-plates PLATES

To change the number of plates in the screen:

```
mkfake -plates 3 three-plates.fake
```

-runs RUNS

To change the number of acquisitions for each plate:

```
mkfake -runs 4 four-plate-acquisitions.fake
```

-rows ROWS

To change the number of rows of wells in each plate:

¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

```
mkfake -rows 8 eight-row-plate.fake
```

-columns COLUMNS

To change the number of columns of wells in each plate:

```
mkfake -columns 12 twelve-column-plate.fake
```

-fields FIELDS

To change the number of fields per well:

```
mkfake -fields 2 two-field-plate.fake
```

It is often most useful to use the arguments together to create a realistic screen, for example:

```
mkfake -rows 16 -columns 24 -plates 2 -fields 3 two-384-well-plates.fake
```

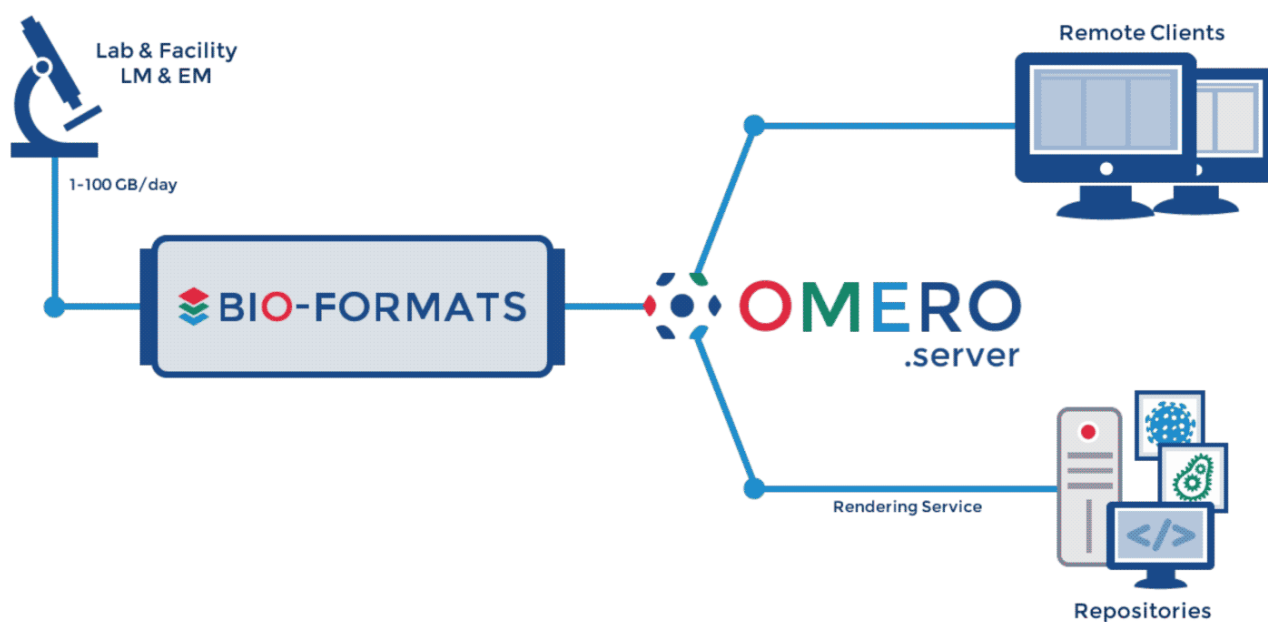
-debug DEBUG

As with other command line tools, debugging output can be enabled if necessary:

```
mkfake -debug debug-screen.fake
```


OMERO

OMERO 5 uses Bio-Formats to read original files from over 140 file formats. Please refer to the [OMERO documentation¹](http://www.openmicroscopy.org/site/support/omero5.1/) for further information.



¹<http://www.openmicroscopy.org/site/support/omero5.1/>

IMAGE SERVER APPLICATIONS

8.1 BISQUE

The **BISQUE**¹ (Bio-Image Semantic Query User Environment) Database, developed at the Center for Bio-Image Informatics at UCSB, was developed for the exchange and exploration of biological images. The Bisque system supports several areas useful for imaging researchers from image capture to image analysis and querying. The bisque system is centered around a database of images and metadata. Search and comparison of datasets by image data and content is supported. Novel semantic analyses are integrated into the system allowing high level semantic queries and comparison of image content.

Bisque integrates with Bio-Formats by calling the *showinf command line tool*.

8.2 OME Server

OME² is a set of software that interacts with a database to manage images, image metadata, image analysis and analysis results. The OME system is capable of leveraging Bio-Formats to import files.

Please note - the OME server is no longer maintained and has now been superseded by the **OMERO server**³. Support for the OME server has been entirely removed in the 5.0.0 version of Bio-Formats; the following instructions can still be used with the 4.4.x versions.

8.2.1 Installation

For **OME Perl v2.6.1**⁴ and later, the command line installer automatically downloads the latest **loci_tools.jar** and places it in the proper location. This location is configurable, but is **/OME/java/loci_tools.jar** by default.

For a list of what was recognized for a particular import into the OME server, go to the Image details page in the web interface, and click the “Image import” link in the upper right hand box.

Bio-Formats is capable of parsing original metadata for supported formats, and standardizes what it can into the OME data model. For the rest, it expresses the metadata in OME terms as key/value pairs using an OriginalMetadata custom semantic type. However, this latter method of metadata representation is of limited utility, as it is not a full conversion into the OME data model.

Bio-Formats is enabled in OME v2.6.1 for all formats except:

- OME-TIFF
- Metamorph HTD
- Deltavision DV
- Metamorph STK
- Bio-Rad PIC
- Zeiss LSM
- TIFF

¹<http://www.bioimage.ucsb.edu/bisque>

²<http://openmicroscopy.org/site/support/legacy/ome-server>

³<http://www.openmicroscopy.org/site/support/omero5.1/>

⁴<http://downloads.openmicroscopy.org/ome/2.6.1/>

- BMP
- DICOM
- OME-XML

The above formats have their own Perl importers that override Bio-Formats, meaning that Bio-Formats is not used to process them by default. However, you can override this behavior (except for Metamorph HTD, which Bio-Formats does not support) by editing an OME database configuration value:

```
% psql ome
```

To see the current file format reader list:

```
ome=# select value from configuration where name='import_formats';
value
-----
['OME::ImportEngine::OMETIFFreader', 'OME::ImportEngine::MetamorphHTDFormat',
'OME::ImportEngine::DVreader', 'OME::ImportEngine::STKreader',
'OME::ImportEngine::BioradReader', 'OME::ImportEngine::LSMreader',
'OME::ImportEngine::TIFFreader', 'OME::ImportEngine::BMPreader',
'OME::ImportEngine::DICOMreader', 'OME::ImportEngine::XMLreader',
'OME::ImportEngine::BioFormats']
(1 row)
```

To remove extraneous readers from the list:

```
ome=# update configuration set value=['\OME::ImportEngine::MetamorphHTDFormat\',
'\OME::ImportEngine::XMLreader\', '\OME::ImportEngine::BioFormats\'] where
name='import_formats';
UPDATE 1
ome=# select value from configuration where name='import_formats';
value
-----
['OME::ImportEngine::MetamorphHTDFormat', 'OME::ImportEngine::XMLreader',
'OME::ImportEngine::BioFormats']
(1 row)
```

To reset things back to how they were:

```
ome=# update configuration set value=['\OME::ImportEngine::OMETIFFreader\',
'\OME::ImportEngine::MetamorphHTDFormat\', '\OME::ImportEngine::DVreader\',
'\OME::ImportEngine::STKreader\', '\OME::ImportEngine::BioradReader\',
'\OME::ImportEngine::LSMreader\', '\OME::ImportEngine::TIFFreader\',
'\OME::ImportEngine::BMPreader\', '\OME::ImportEngine::DICOMreader\',
'\OME::ImportEngine::XMLreader\', '\OME::ImportEngine::BioFormats\'] where
name='import_formats';
```

Lastly, please note that Li-Cor L2D files cannot be imported into an OME server (see [this Trac ticket](#)⁵ for details). Since the OME perl server has been discontinued, we have no plans to fix this limitation.

8.2.2 Upgrading

You can upgrade your OME server installation to take advantage of a [new Bio-Formats release](#)⁶ by overwriting the old **loci_tools.jar** with the new one.

⁵<http://dev.loci.wisc.edu/trac/software/ticket/266>

⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

8.2.3 Source Code

The source code for the Bio-Formats integration with OME server spans three languages, using piped system calls in both directions to communicate, with imported pixels written to OMEIS pixels files. The relevant source files are:

- [OmeisImporter.java](#)⁷ – omebf Java command line tool
- [BioFormats.pm](#)⁸ – Perl module for OME Bio-Formats importer
- [omeis.c](#)⁹ – OMEIS C functions for Bio-Formats (search for “bioformats” case insensitively to find relevant sections)

⁷<http://github.com/openmicroscopy/bioformats/tree/v4.4.10/components/scifio/src/loci/formats/ome/OmeisImporter.java>

⁸<http://downloads.openmicroscopy.org/ome/code/BioFormats.pm>

⁹<http://downloads.openmicroscopy.org/ome/code/omeis.c>

LIBRARIES AND SCRIPTING APPLICATIONS

9.1 FARSIGHT

FARSIGHT¹ is a collection of modules for image analysis created by LOCI's collaborators at the [University of Houston](http://www.uh.edu/)². These open source modules are built on the *ITK* library and thus can take advantage of ITK's support for Bio-Formats to process otherwise unsupported image formats.

The principal FARSIGHT module that benefits from Bio-Formats is the **Nucleus Editor**³, though in principle any FARSIGHT-based code that reads image formats via the standard ITK mechanism will be able to leverage Bio-Formats.

See also:

[FARSIGHT Downloads page](http://www.farsight-toolkit.org/wiki/Special:FarsightDownloads)⁴

[FARSIGHT HowToBuild tutorial](http://www.farsight-toolkit.org/wiki/FARSIGHT_HowToBuild)⁵

9.2 i3dcore

i3dcore⁶, also known as the CBIA 3D image representation library, is a 3D image processing library developed at the [Centre for Biomedical Image Analysis](http://www.cbiamc.org/)⁷. Together with **i3dalgo**⁸ and **i4dcore**⁹, i3dcore forms a continuously developed templated cross-platform C++ suite of libraries for multidimensional image processing and analysis.

i3dcore is capable of reading images with Bio-Formats using **Java for C++**¹⁰ (java4cpp).

See also:

[Download i3dcore](http://www.cbiamc.org/software-development.html)¹¹

[CBIA Software Development](http://www.cbiamc.org/software-development.html)¹²

9.3 ImgLib

ImgLib2¹³ is a multidimensional image processing library. It provides a general mechanism for writing image analysis algorithms, without writing case logic for **bit depth**¹⁴, or worrying about the source of the pixel data (arrays in memory, files on disk, etc.).

¹<http://www.farsight-toolkit.org/>

²<http://www.uh.edu/>

³<http://www.farsight-toolkit.org/wiki/NucleusEditor>

⁴<http://www.farsight-toolkit.org/wiki/Special:FarsightDownloads>

⁵http://www.farsight-toolkit.org/wiki/FARSIGHT_HowToBuild

⁶http://cbia.fi.muni.cz/user_dirs/i3dlib_doc/i3dcore/index.html

⁷<http://cbia.fi.muni.cz/software-development.html>

⁸http://cbia.fi.muni.cz/user_dirs/i3dlib_doc/i3dalgo/index.html

⁹http://cbia.fi.muni.cz/user_dirs/of_doc/libi4d.html

¹⁰<http://java4cpp.kapott.org/>

¹¹http://cbia.fi.muni.cz/user_dirs/i3dlib_doc/i3dcore/index.html#download

¹²<http://cbia.fi.muni.cz/software-development.html>

¹³<http://imglib2.net/>

¹⁴http://en.wikipedia.org/wiki/Color_depth

The [SCIFIO](#)¹⁵ project provides an [ImgOpener](#)¹⁶ utility class for reading data into `ImgLib2` data structures using Bio-Formats.

9.4 ITK

The [Insight Toolkit](#)¹⁷ (ITK) is an open-source, cross-platform system that provides developers with an extensive suite of software tools for image analysis. Developed through extreme programming methodologies, ITK employs leading-edge algorithms for registering and segmenting multidimensional data.

ITK provides an `ImageIO` plug-in structure that works via discovery through a dependency injection scheme. This allows a program built on ITK to load plug-ins for reading and writing different image types without actually linking to the `ImageIO` libraries required for those types. Such encapsulation automatically grants two major boons: firstly, programs can be easily extended just by virtue of using ITK (developers do not have to specifically accommodate or anticipate what plug-ins may be used). Secondly, the architecture provides a distribution method for open source software, like Bio-Formats, which have licenses that might otherwise exclude them from being used with other software suites.

The [SCIFIO ImageIO](#)¹⁸ plugin provides an ITK `imageIO` base that uses Bio-Formats to read and write supported life sciences file formats. This plugin allows any program built on ITK to read any of the image types supported by Bio-Formats.

9.5 Qu for MATLAB

[Qu for MATLAB](#)¹⁹ is a MATLAB toolbox for the visualization and analysis of multi-channel 4-dimensional datasets targeted to the field of biomedical imaging, developed by Aaron Ponti.

- Uses Bio-Formats to read files
- Open source software available under the Mozilla Public License

See also:

[Qu for MATLAB download page](#)²⁰

9.6 Subimager

[Subimager](#)²¹, the SUBprocess IMAGE server, is an HTTP server that uses Bio-Formats as a back-end to serve `.TIF` images. Subimager is designed to be run as a subprocess of `CellProfiler` to provide `CellProfiler` with the capability to read and write a variety of image formats. It can be used as a stand-alone image server. It was developed by the [Broad Institute](#)²² to facilitate integration with their [CellProfiler](#)²³ image analysis application.

¹⁵<http://scif.io/>

¹⁶<https://github.com/scifio/scifio/blob/master/src/main/java/io/scif/img/ImgOpener.java>

¹⁷<http://itk.org/>

¹⁸<https://github.com/scifio/scifio-imageio>

¹⁹http://www.scs2.net/home/index.php?option=com_content&view=article&id=46%3Aqu-for-matlab&catid=34%3Aqu&Itemid=55

²⁰http://www.scs2.net/home/index.php?option=com_content&view=article&id=46%3Aqu-for-matlab&catid=34%3Aqu&Itemid=55&limitstart=3

²¹<https://github.com/CellProfiler/subimager>

²²<http://www.broadinstitute.org/>

²³<http://www.cellprofiler.org/>

NUMERICAL DATA PROCESSING APPLICATIONS

10.1 GNU Octave

GNU Octave¹ is a high-level interpreted language, primarily intended for numerical computations. Being an array programming language, it is naturally suited for image processing and handling of N dimensional datasets. Octave is distributed under the terms of the GNU General Public License.

The Octave language is Matlab compatible so that programs are easily portable. Indeed, the Octave bioformats package is exactly the same as Matlab's, the only difference being the installation steps.

10.1.1 Requirements

The bioformats package requires Octave version 4.0.0 or later with support for java:

```
$ octave
>> OCTAVE_VERSION
ans = 4.0.0
>> octave_config_info ("features").JAVA
ans = 1
```

10.1.2 Installation

1. Download [bioformats_package.jar](#)² and place it somewhere sensible for your system (in Linux, this will probably be `/usr/local/share/java` or `~/.local/share/java` for a system-wide or user installation respectively).
2. Add *bioformats_package.jar* to Octave's *static* javaclasspath (see [Octave's documentation](#)³).
3. Download the Octave package from the [downloads page](#)⁴.
4. Start octave and install the package with:

```
>> pkg install path-to-bioformats-octave-version.tar.gz
```

10.1.3 Usage

Usage instructions are the same as Matlab. The only difference is that you need to explicitly load the package. This is done by running at the Octave prompt:

```
>> pkg load bioformats
```

¹<http://www.octave.org>

²http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/bioformats_package.jar

³https://www.gnu.org/software/octave/doc/interpreter/How-to-make-Java-classes-available_003f.html

⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

10.1.4 Upgrading

To use a newer version of Bio-Formats, repeat the install instructions. Do not follow the Matlab instructions.

10.2 IDL

IDL⁵ (Interactive Data Language) is a popular data visualization and analysis platform used for interactive processing of large amounts of data including images.

IDL possesses the ability to interact with Java applications via its IDL-Java bridge. Karsten Rodenacker has written a script that uses Bio-Formats to read in image files to IDL.

10.2.1 Installation

Download the `ij_read_bio_formats.pro`⁶ script from Karsten Rodenacker's [IDL goodies \(?\)](#)⁷ web site. See the comments at the top of the script for installation instructions and caveats.

10.2.2 Upgrading

To use a newer version of Bio-Formats, overwrite the requisite JAR files with the [newer version](#)⁸ and restart IDL.

10.3 KNIME

KNIME⁹ (Konstanz Information Miner) is a user-friendly and comprehensive open-source data integration, processing, analysis, and exploration platform. KNIME supports image import using Bio-Formats using the [KNIME Image Processing](#)¹⁰ (a.k.a. KNIP) plugin.

10.4 MATLAB

MATLAB¹¹ is a high-level language and interactive environment that facilitates rapid development of algorithms for performing computationally intensive tasks.

Calling Bio-Formats from MATLAB is fairly straightforward, since MATLAB has built-in interoperability with Java. We have created a [set of scripts](#)¹² for reading image files. Note the minimum supported MATLAB version is R2007b (7.5).

10.4.1 Installation

Download the MATLAB toolbox from the Bio-Formats [downloads page](#)¹³. Unzip `bformatlab.zip` and add the unzipped `bformatlab` folder to your MATLAB path.

Note: As of Bio-Formats 5.0.0, this zip now contains the bundled jar and you no longer need to download `loci_tools.jar` or the new `bioformats_package.jar` separately.

⁵<http://www.exelisvis.com/ProductsServices/IDL.aspx>

⁶http://karo03.bplaced.net/karo/IDL/_pro/ij_read_bio_formats.pro

⁷http://karo03.bplaced.net/karo/ro_embed.php?file=IDL/index.html

⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

⁹<http://www.knime.org/>

¹⁰<http://tech.knime.org/community/image-processing>

¹¹<http://www.mathworks.com/products/matlab/>

¹²<https://github.com/openmicroscopy/bioformats/tree/develop/components/formats-gpl/matlab>

¹³<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

10.4.2 Usage

Please see *Using Bio-Formats in MATLAB* for usage instructions. If you intend to extend the existing .m files, please also see the *developer page* for more information on how to use Bio-Formats in general.

10.4.3 Performance

In our tests (MATLAB R14 vs. java 1.6.0_20), the script executes at approximately half the speed of our *showinf command line tool*, due to overhead from copying arrays.

10.4.4 Upgrading

To use a newer version of Bio-Formats, overwrite the content of the `bfmatlab` folder with the *newer version*¹⁴ of the toolbox and restart MATLAB.

10.4.5 Alternative scripts

Several other groups have developed their own MATLAB scripts that use Bio-Formats, including the following:

- <https://github.com/prakatmac/bf-tools/>
- *imread for multiple life science image file formats*¹⁵

10.5 VisAD

The *VisAD*¹⁶ visualization toolkit is a Java component library for interactive and collaborative visualization and analysis of numerical data. VisAD uses Bio-Formats to read many image formats, notably TIFF.

10.5.1 Installation

The **visad.jar** file has Bio-Formats bundled inside, so no further installation is necessary.

10.5.2 Upgrading

It should be possible to use a newer version of Bio-Formats by putting the latest *bioformats_package.jar*¹⁷ or *formats-gpl.jar*¹⁸ before **visad.jar** in the class path. Alternately, you can create a “VisAD Lite” using the `make lite` command from VisAD source, and use the resultant **visad-lite.jar**, which is a stripped down version of VisAD without sample applications or Bio-Formats bundled in.

¹⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

¹⁵<http://www.mathworks.com/matlabcentral/fileexchange/32920-imread-for-multiple-life-science-image-file-formats>

¹⁶<http://www.ssec.wisc.edu/%7Ebillh/visad.html>

¹⁷http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/bioformats_package.jar

¹⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/formats-gpl.jar>

VISUALIZATION AND ANALYSIS APPLICATIONS

11.1 Bitplane Imaris

Imaris¹ is Bitplane's core scientific software module that delivers all the necessary functionality for data visualization, analysis, segmentation and interpretation of 3D and 4D microscopy datasets. Combining speed, precision and ease-of-use, Imaris provides a complete set of features for working with three- and four-dimensional multi-channel images of any size, from a few megabytes to multiple gigabytes in size.

As of [version 7.2](#)², Imaris integrates with [Fiji overview](#), which includes Bio-Formats. See [this page](#)³ for a detailed list of Imaris' features.

11.2 CellProfiler

CellProfiler⁴—developed by the [Broad Institute Imaging Platform](#)⁵—is free open-source software designed to enable biologists without training in computer vision or programming to quantitatively measure phenotypes from thousands of images automatically. CellProfiler uses Bio-Formats to read images from disk, as well as write movies.

11.2.1 Installation

The CellProfiler distribution comes with Bio-Formats included, so no further installation is necessary.

11.2.2 Upgrading

It should be possible to use a newer version of Bio-Formats by replacing the bundled **loci_tools.jar** with a newer version.

- For example, on Mac OS X, Ctrl+click the CellProfiler icon, choose *Show Package Contents*, and replace the following files:

- Contents/Resources/bioformats/loci_tools.jar
- Contents/Resources/lib/python2.5/bioformats/loci_tools.jar

See also:

CellProfiler⁶ Website of the CellProfiler software

Using Bio-Formats in Python Section of the developer documentation describing the Python wrapper for Bio-Formats used by CellProfiler

¹<http://www.bitplane.com/>

²<http://www.bitplane.com/releasenotes.aspx?product=Imaris&version=7.2&patch=0>

³<http://www.bitplane.com/Imaris/Imaris>

⁴<http://www.cellprofiler.org>

⁵<http://www.broadinstitute.org/science/platforms/imaging/imaging-platform>

11.3 Comstat2

Comstat2 is a Java-based computer program for the analysis and treatment of biofilm images in 3D. It is the Master's project of Martin Vorregaard⁷.

Comstat2 uses the *Bio-Formats Importer plugin for ImageJ* to read files in TIFF and Leica LIF formats.

11.4 Endrov

Endrov⁸ (or <http://www.endrov.net>) (EV) is a multi-purpose image analysis program developed by the Thomas Burglin group⁹ at Karolinska Institute¹⁰, Department of Biosciences and Nutrition.

11.4.1 Installation

The EV distribution comes bundled with the core Bio-Formats library (**bio-formats.jar**), so no further installation is necessary.

11.4.2 Upgrading

It should be possible to use a newer version of Bio-Formats by downloading the latest [formats-gpl.jar](#)¹¹ and putting it into the `libs` folder of the EV distribution, overwriting the old file.

You could also include some *optional libraries*, to add support for additional formats, if desired.

11.5 FocalPoint

FocalPoint¹² is an image browser, similar to Windows Explorer¹³ or other file manager¹⁴ application, specifically designed to work with more complex image types. FocalPoint uses Bio-Formats to generate thumbnails for some formats.

11.5.1 Installation

FocalPoint is bundled with Bio-Formats, so no further installation is necessary.

11.5.2 Upgrading

It should be possible to use a newer version of Bio-Formats¹⁵ by overwriting the old **loci_tools.jar** within the FocalPoint distribution. For Mac OS X, you will have to control click the FocalPoint program icon, choose “Show Package Contents” and navigate into Contents/Resources/Java to find the **loci_tools.jar** file.

11.6 Graphic Converter

Graphic Converter¹⁶ is a Mac OS application for opening, editing, and organizing photos. Versions 6.4.1 and later use Bio-Formats to open all file formats supported by Bio-Formats.

⁷<http://www.comstat.dk/>

⁸<https://github.com/mahogny/Endrov>

⁹<http://www.biosci.ki.se/groups/tbu>

¹⁰<http://www.ki.se/>

¹¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/formats-gpl.jar>

¹²<http://www.bioinformatics.bbsrc.ac.uk/projects/focalpoint/>

¹³http://en.wikipedia.org/wiki/Windows_Explorer

¹⁴http://en.wikipedia.org/wiki/File_manager

¹⁵<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

¹⁶<http://www.lemkesoft.com>

11.7 Icy

Icy¹⁷ is an open-source image analysis and visualization software package that combines a user-friendly graphical interface with the ability to write scripts and plugins that can be uploaded to a centralized website. It uses Bio-Formats internally to read images and acquisition metadata, so no further installation is necessary.

11.8 imago

Mayachitra imago¹⁸ is an advanced desktop image management package that enables scientists to easily store, manage, search, and analyze 5D biological images and their analysis results. imago integrates flexible annotation and metadata management with advanced image analysis tools.

imago uses Bio-Formats to read files in some formats, including Bio-Rad PIC, Image-Pro Workspace, Metamorph TIFF, Leica LCS LEI, Olympus FluoView FV1000, Nikon NIS-Elements ND2, and Zeiss LSM.

A free 30-day trial version of imago is available [here](#)¹⁹.

11.9 Iqm

Iqm²⁰ is an image processing application written in Java. It is mainly constructed around the Java JAI library and furthermore it incorporates the functionality of the popular ImageJ image processing software.

Because iqm integrates with ImageJ, it can take advantage of the *Bio-Formats ImageJ plugin* to read image data.

11.10 Macnification

Macnification²¹ is a Mac OS X application for organizing, editing, analyzing and annotating microscopic images, designed for ease of use. It is being developed by **Orbicule**²².

Macnification uses Bio-Formats to read files in some formats, including Gatan DM3, ICS, ImagePro SEQ, ImagePro IPW, Meta-morph STK, OME-TIFF and Zeiss LSM.

See also:

[Free trial download](#)²³

11.11 MIPAV

The **MIPAV**²⁴ (Medical Image Processing, Analysis, and Visualization) application—developed at the **Center for Information Technology**²⁵ at the **National Institutes of Health**²⁶—enables quantitative analysis and visualization of medical images of numerous modalities such as PET, MRI, CT, or microscopy. You can use Bio-Formats as a plugin for MIPAV to read images in the formats it supports.

¹⁷<http://icy.bioimageanalysis.org/>

¹⁸<http://mayachitra.com/imago/index.html>

¹⁹<http://mayachitra.com/imago/download-trial.php>

²⁰<http://code.google.com/p/iqm/>

²¹<http://www.orbicule.com/macnification/>

²²<http://www.orbicule.com>

²³<http://www.orbicule.com/macnification/download>

²⁴<http://mipav.cit.nih.gov/>

²⁵<http://cit.nih.gov/>

²⁶<http://nih.gov/>

11.11.1 Installation

Follow these steps to install the Bio-Formats plugin for MIPAV:

1. Download [bioformats_package.jar](#)²⁷ and drop it into your MIPAV folder.
2. Download the [plugin source code](#)²⁸ into your user mipav/plugins folder.
3. From the command line, compile the plugin with:

```
cd mipav/plugins
javac -cp $MIPAV:$MIPAV/bioformats\_package.jar \\  
    PlugInBioFormatsImporter.java
```

4. where \$MIPAV is the location of your MIPAV installation.
5. Add **bioformats_package.jar** to MIPAV's class path:
 - How to do so depends on your platform.
 - E.g., in Mac OS X, edit the `mipav.app/Contents/Info.plist` file.
6. Run MIPAV and a new “BioFormatsImporter - read image” menu item will appear in the Plugins > File submenu.

See the [readme file](#)²⁹ for more information.

To upgrade, just overwrite the old **bioformats_package.jar** with the [latest one](#)³⁰. You may want to download the latest version of MIPAV first, to take advantage of new features and bug-fixes.

11.12 Vaa3D

[Vaa3D](#)³¹, developed by the [Peng Lab](#)³² at the [HHMI Janelia Farm Research Campus](#)³³, is a handy, fast, and versatile 3D/4D/5D Image Visualization & Analysis System for Bioimages & Surface Objects.

Vaa3D can use Bio-Formats via the [Bio-Formats C++ bindings](#)³⁴ to read images.

11.13 VisBio

[VisBio](#)³⁵ is a biological visualization tool designed for easy visualization and analysis of multidimensional image data. VisBio uses Bio-Formats to import files as the Bio-Formats library originally grew out of our efforts to continually expand the file format support within VisBio.

11.13.1 Installation

VisBio is bundled with Bio-Formats, so no further installation is necessary.

11.13.2 Upgrading

It should be possible to use a [newer version of Bio-Formats](#)³⁶ by overwriting the old **bio-formats.jar** and optional libraries within the VisBio distribution. For Mac OS X, you'll have to control click the VisBio program icon, choose “Show Package Contents” and navigate into Contents/Resources/Java to find the JAR files.

²⁷http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/bioformats_package.jar

²⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/utls/mipav/PlugInBioFormatsImporter.java>

²⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/utls/mipav/readme.txt>

³⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

³¹<http://vaa3d.org>

³²<http://penglab.janelia.org/>

³³<http://www.hhmi.org/janelia/>

³⁴http://www.farsight-toolkit.org/wiki/FARSIGHT_Tutorials/Building_Software/Bio-Formats/Building_C%2B%2B_Bindings

³⁵<http://loci.wisc.edu/software/visbio>

³⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

11.14 XuvTools

XuvTools³⁷ is automated 3D stitching software for biomedical image data. As of release 1.8.0, XuvTools uses Bio-Formats to read image data.

³⁷<http://www.xuvtools.org>

Part III

Developer Documentation

The following sections describe various things that are useful to know when working with Bio-Formats. It is recommended that you obtain the Bio-Formats source by following the directions in the [Source code](#) section. Referring to the [Javadocs](#)³⁸ as you read over these pages should help, as the notes will make more sense when you see the API.

For a complete list of supported formats, see the Bio-Formats [supported formats table](#).

For a few working examples of how to use Bio-Formats, see [these Github pages](#)³⁹.

³⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/>

³⁹<https://github.com/openmicroscopy/bioformats/tree/develop/components/formats-gpl/utis>

INTRODUCTION TO BIO-FORMATS

12.1 Overview for developers

From the rest of the Bio-Formats developer documentation one may piece together a correct and useful understanding of what Bio-Formats does and how it does it. This section gives a high-level tour of these technical details, for those new to working on Bio-Formats itself, making it easier to understand how the information from the other sections fits into the big picture.

12.1.1 Terms and concepts

Bio-Formats can read image data from files for many formats, and can write image data to files for some formats. An image may have many two-dimensional “planes” of pixel intensity values. Each pixel on a plane is identified by its x , y values. Planes within an image may be identified by various dimensions including z (third spatial dimension), c (channel, e.g. wavelength) or t (time). Planes may be divided into tiles, which are rectangular subsections of a plane; this is helpful in handling very large planes. A file (or set of related files) on disk may contain multiple images: each image is identified by a unique *series* number.

An image is more than a set of planes: it also has metadata. Bio-Formats distinguishes *core metadata*, such as the x , y , z , c , t dimensions of the image, from format-specific *original metadata*, e.g. information about the microscope and its settings, which is represented as a dictionary of values indexed by unique keys. Metadata apply to the image data as a whole, or separately to specific series within it.

Bio-Formats is able to translate the above metadata into a further form, *OME metadata*. The translation may be partial or incomplete, but remains very useful for allowing the metadata of images from different file formats to be used and compared in a common format defined by the OME data model.

12.1.2 Implementation

Bio-Formats is primarily a Java project. It can be used from MATLAB, and there are C++ bindings and an ongoing C++ implementation effort. The source code is available for download and sometimes the user community contributes code back into Bio-Formats by opening a pull request on GitHub. Bio-Formats is built from source with Ant or Maven and some of the Bio-Formats source code is generated from other files during the build process. The resulting JARs corresponding to official Bio-Formats releases are available for download.

Readers and writers for different image file formats are implemented in separate Java classes. Readers for related formats may reflect that relationship in the Java class hierarchy. Simple standalone command-line tools are provided with Bio-Formats, but it is more commonly used as a third-party library by other applications. Various examples show how one may use Bio-Formats in different ways in writing a new application that reads or writes image data. A common pattern is to initialize a reader based on the image data’s primary file, then query that reader for the metadata and planes of interest.

The set of readers is easily modified. The [readers.txt](https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-api/src/loci/formats/readers.txt)¹ file lists the readers to try in determining an image file’s format, and there are many useful classes and methods among the Bio-Formats Java code to assist in writing new readers and writers.

¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-api/src/loci/formats/readers.txt>

12.2 Obtaining and building Bio-Formats

12.2.1 Source code

The source code for this Bio-Formats release is available from the [download page](#)². This release and the latest Bio-Formats source code are also available from the Git repository. This may be accessed using the repository path:

```
git@github.com:openmicroscopy/bioformats.git
```

More information about Git and client downloads are available from the [Git project website](#)³. You can also browse the [Bio-Formats source on GitHub](#)⁴

Note: Windows users must set git to use `core.autocrlf=input` to ensure that Bio-Formats uses LF rather than CRLF line endings, otherwise the build will fail (Genshi can't process code templates with CRLF line endings, leading to broken sources being generated). This can be set globally in the registry when installing **msysgit** or by editing `etc/gitconfig` in the git installation directory. Annoyingly, these settings appear to override per-user and per-repository configuration values, requiring these to be set globally.

Lastly, you can browse the [Bio-Formats Javadocs online](#)⁵, or generate them yourself using the “docs” Ant target.

12.2.2 Source code structure

The Bio-Formats code is divided into several projects. Core components are located in subfolders of the [components](#)⁶ folder, with some components further classified into [components/forks](#)⁷ or [components/stubs](#)⁸, depending on the nature of the project. See the [Component overview](#) for more information, including associated build targets for each component.

Each project has a corresponding Maven POM file, which can be used to work with the project in your favorite IDE, or from the command line, once you have cloned the source.

12.2.3 Building from source

Instructions for several popular options follow. In all cases, make sure that the prerequisites are installed before you begin.

If you are interested in working on the Bio-Formats source code itself, you can load it into your favorite IDE, or develop with your favorite text editor.

Prerequisites

In addition to the Bio-Formats source code, the following programs and packages are also required:

- [Python 2](#)⁹, version 2.6 or later (note: not version 3)
- [Genshi](#)¹⁰ 0.5 or later (0.7 recommended)

Note: Genshi may be installed (in order of decreasing preference) with some Linux distributions' package managers, **pip** (`pip install genshi`), by downloading a compatible `.egg` for your system from the [Genshi download page](#)¹¹, or from source. If using a `.egg`, make sure it is added to your `PYTHONPATH` environment variable.

²<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

³<http://git-scm.com/>

⁴<https://github.com/openmicroscopy/bioformats>

⁵<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/>

⁶<https://github.com/openmicroscopy/bioformats/tree/develop/components/>

⁷<https://github.com/openmicroscopy/bioformats/tree/develop/components/forks/>

⁸<https://github.com/openmicroscopy/bioformats/tree/develop/components/stubs/>

⁹<http://python.org>

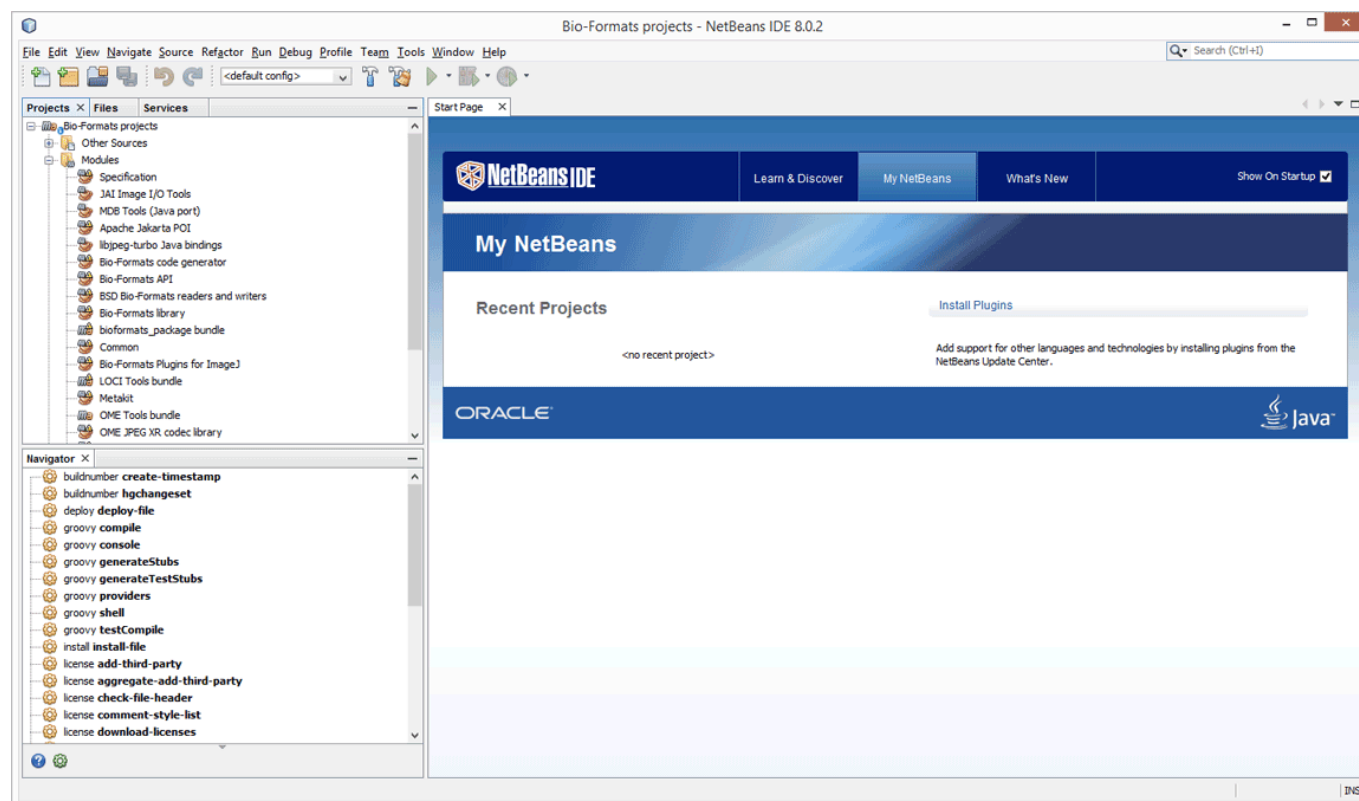
¹⁰<http://genshi.edgewall.org>

¹¹<http://genshi.edgewall.org/wiki/Download>

NetBeans

NetBeans comes with Maven support built in. To import the Bio-Formats source, perform the following steps:

1. Select *File* → *Open Project* from the menu - choose the top-level path to `bioformats.git` and click *Open Project*
2. In the ‘Projects’ tab on the left-hand side, expand the ‘Bio-Formats projects’ entry - you should now have a series of folders including ‘Other Sources’, ‘Modules’ and ‘Dependencies’.
3. Expand the ‘Modules’ folder to give a list of components and then double-click the desired project(s) to work with them.



Alternately, you can clone the source directly from NetBeans into a project by selecting *Team* → *Git* → *Clone Other...* from the menu.

Eclipse

Eclipse uses the “Maven Integration for Eclipse” (m2e) plugin to work with Maven projects. It is more flexible than Eclipse’s built-in project management because m2e transparently converts between project dependencies and JAR dependencies (stored in the Maven repository in `~/ .m2/repository`) on the build path, depending on which projects are currently open.

We recommend using Eclipse 4.3 (Kepler), specifically - “Eclipse IDE for Java developers”. It comes with m2e installed (<http://eclipse.org/downloads/compare.php?release=kepler>).

You can then import the Bio-Formats source by choosing *File* → *Import* → *Existing Maven Projects* from the menu and browsing to the top-level folder of your Bio-Formats working copy. Alternatively, run the Eclipse Maven target with `mvn eclipse:eclipse` to create the Eclipse project files, then use *File* → *Import* → *Existing Projects into Workspace*.

To remove post-import errors, either close the `ome-xml` project or run:

```
ant jars && mvn generate-sources
```

See also:

[ome-devel] Importing source into eclipse¹²

¹²<http://lists.openmicroscopy.org.uk/pipermail/ome-devel/2014-March/002719.html>

Command line

If you prefer developing code with a text editor such as vim or emacs, you can use the Ant or Maven command line tools to compile Bio-Formats. The Bio-Formats source tree provides parallel build systems for both Ant and Maven, so you can use either one to build the code.

For a list of Ant targets, run:

```
ant -p
```

In general, `ant jars` or `ant tools` is the correct command.

When using Maven, Bio-Formats is configured to run the “install” target by default, so all JARs will be copied into your local Maven repository in `~/.m2/repository`. Simply run:

```
mvn
```

With either Ant or Maven, you can use similar commands in any subproject folder to build just that component.

12.2.4 Using Gradle, Maven or Ivy

All released `.jar` artifacts may be obtained through the OME [Artifactory server](http://artifacts.openmicroscopy.org/artifactory)¹³. The “Client Settings” section of the Artifactory main page provides example code snippets for inclusion into your Gradle, Maven or Ivy project, which will enable the use of this repository.

Example snippets for using the Bio-Formats 5.1-SNAPSHOT `formats-gpl` artifact are available for Gradle and for Maven. These may be copied into your project to enable the use of the Bio-Formats library components, and may be adjusted to use different components or different release or development versions of Bio-Formats.

12.3 Component overview

The Bio-Formats code repository is divided up into separate components.

The Ant targets to build each component from the repository root are noted in the component descriptions below. Unless otherwise noted, each component can also be built with Maven by running `mvn` in the component’s subdirectory. The Maven module name for each component (as it is shown in most IDEs) is also noted in parenthesis.

12.3.1 Core components

The most commonly used and actively modified components.

- *formats-common*
- *formats-api*
- *formats-bsd*
- *formats-gpl*
- *specification*
- *ome-xml*

12.3.2 Internal testing components

These components are used heavily during continuous integration testing, but are less relevant for active development work.

- *autogen*
- *test-suite*

¹³<http://artifacts.openmicroscopy.org/artifactory>

12.3.3 Forks of existing projects

- *mdbtools*
- *jai*
- *turbojpeg*
- *poi*

12.3.4 All components

autogen (Bio-Formats code generator)¹⁴:

Ant: jar-autogen

Contains everything needed to automatically generate documentation for supported file formats. *format-pages.txt*¹⁵ should be updated for each new file format reader or writer, but otherwise manual changes should be unnecessary. The following Ant targets are used to regenerate the documentation for all formats:

```
gen-format-pages
gen-meta-support
gen-original-meta-support
```

bio-formats-plugins (Bio-Formats Plugins for ImageJ)¹⁶:

Ant: jar-bio-formats-plugins

Everything pertaining to the Bio-Formats plugins for ImageJ lives in this component. Note that when built, this component produces *bio-formats_plugins.jar* (instead of *bio-formats-plugins.jar*) to be in keeping with ImageJ plugin naming conventions. *bio-formats-tools* (Bio-Formats command line tools)¹⁷:

Ant: jar-bio-formats-tools

The classes that implement the **showinf**, **bfconvert**, and **mkfake** *command line tools* are contained in this component. Note that this is built with the **jar-bio-formats-tools** Ant target, and not the **tools** target (which is the Ant equivalent of *bundles*). *bundles* (bioformats_package bundle, LOCI Tools bundle, OME Tools bundle)¹⁸:

Ant: tools

This is only needed by the Maven build system, and is used to aggregate all of the individual .jar files into *bioformats_package.jar*. There should not be any code here, just build system files. *forks/jai* (JAI Image I/O Tools)¹⁹:

Ant: jar-jai

This is a fork of *JAI ImageIO*²⁰ which adds support for decoding YCbCr JPEG-2000 data. This is primarily needed for reading images from histology/pathology formats in *formats-gpl*. There are no dependencies on other components. *forks/mdbtools* (MDB Tools (Java port))²¹:

Ant: jar-mdbtools

This is a fork of the *mdbtools-java*²² project. There are numerous bug fixes, as well as changes to reduce the memory required for large files. There are no dependencies on other components. *forks/poi* (Apache Jakarta POI)²³:

Ant: jar-ome-poi

¹⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/autogen>

¹⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/autogen/src/format-pages.txt>

¹⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins>

¹⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-tools>

¹⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/bundles>

¹⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/forks/jai>

²⁰<http://java.net/projects/jai-imageio-core>

²¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/forks/mdbtools>

²²<http://mdbtools.cvs.sourceforge.net/viewvc/mdbtools/mdbtools-java>

²³<https://github.com/openmicroscopy/bioformats/blob/develop/components/forks/poi>

This is a fork of [Apache POI](http://poi.apache.org)²⁴, which allows reading of Microsoft OLE document files. We have made substantial changes to support files larger than 2GB and reduce the amount of memory required to open a file. I/O is also handled by classes from *formats-common*, which allows OLE files to be read from memory. *forks/turbojpeg* (libjpeg-turbo Java bindings)²⁵:

Ant: jar-turbojpeg

This is a fork of *libjpeg-turbo*²⁶. There are not any real code changes, but having this as a separate component allows us to package the libjpeg-turbo Java API together with all of the required binaries into a single .jar file using *native-lib-loader*²⁷. There are no dependencies on other components. *formats-api* (Bio-Formats API)²⁸:

Ant: jar-formats-api

This defines all of the high level interfaces and abstract classes for reading and writing files. There are no file format readers or writers actually implemented in this component, but it does contain the majority of the API that defines Bio-Formats. *formats-bsd* and *formats-gpl* implement this API to provide file format readers and writers. *formats-common* and *ome-xml* are both required as part of the interface definitions. *formats-common* (Common)²⁹:

Ant: jar-formats-common

Provides I/O classes that unify reading from files on disk, streams or files in memory, compressed streams, and non-file URLs. The primary entry points are *Location*³⁰, *RandomAccessInputStream*³¹ (for reading), and *RandomAccessOutputStream*³² (for writing).

In addition to I/O, there are several classes to assist in working with XML (*XMLTools*³³), date/timestamps (*DateTools*³⁴), logging configuration (*DebugTools*³⁵), and byte arithmetic (*DataTools*³⁶).

This does not depend on any other components, so can be used anywhere independent of the rest of the Bio-Formats API. *formats-bsd* (BSD Bio-Formats readers and writers)³⁷:

Ant: jar-formats-bsd, jar-formats-bsd-tests

This contains readers and writers for formats which have a publicly available specification, e.g. TIFF. Everything in the component is BSD-licensed. *formats-gpl* (Bio-Formats library)³⁸:

Ant: jar-formats-gpl

The majority of the file format readers and some file format writers are contained in this component. Everything in the component is GPL-licensed (in contrast with *formats-bsd*). Most file formats represented in this component do not have a publicly available specification. *metakit* (Metakit)³⁹:

Ant: jar-metakit

Java implementation of the *Metakit* database specification⁴⁰. This uses classes from *formats-common* and is used by *formats-gpl*, but is otherwise independent of the main Bio-Formats API. *ome-jxr* (OME JPEG XR codec library)⁴¹:

Ant: jar-ome-jxr

Experimental implementation of *JPEG-XR*⁴² in Java. This uses classes from *formats-common*, but is otherwise independent of Bio-Formats. *ome-xml* (OME-XML Java library)⁴³:

Ant: jar-ome-xml

²⁴<http://poi.apache.org>

²⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/forks/turbojpeg>

²⁶<http://libjpeg-turbo.virtualgl.org/>

²⁷<http://github.com/scijava/native-lib-loader>

²⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-api>

²⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-common>

³⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/Location.html>

³¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/RandomAccessInputStream.html>

³²<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/RandomAccessOutputStream.html>

³³<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/xml/XMLTools.html>

³⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/DateTools.html>

³⁵<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/DebugTools.html>

³⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/DataTools.html>

³⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd>

³⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl>

³⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/metakit>

⁴⁰<http://equi4.com/metakit/>

⁴¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/ome-jxr>

⁴²http://en.wikipedia.org/wiki/JPEG_XR

⁴³<https://github.com/openmicroscopy/bioformats/blob/develop/components/ome-xml>

This component contains classes that represent the OME-XML schema. Some classes are committed to the Git repository, but the majority are generated at build time by using *xsd-fu* to parse the *OME-XML schema files*. Classes from this component are used by Bio-Formats to read and write OME-XML, but they can also be used independently. *specification* (Specification)⁴⁴:

Ant: jar-specification

All released and in-progress OME-XML schema files are contained in this component. The specification component is also the location of all XSLT stylesheets for converting between OME-XML schema versions, as well as example OME-XML files in each of the released schema versions. *stubs* (Luratech LuraWave stubs, MIPAV stubs)⁴⁵:

Ant: jar-lwf-stubs, jar-mipav-stubs

This component provides empty classes that mirror third-party dependencies which are required at compile time but cannot be included in the build system (usually due to licensing issues). The build succeeds since required class names are present with the correct method signatures; the end user is then expected to replace the stub .jar files at runtime. *test-suite* (Bio-Formats testing framework)⁴⁶:

Ant: jar-tests

All tests that operate on files from our data repository (i.e. integration tests) are included in this component. These tests are primarily run by the *continuous integration jobs*⁴⁷, and verify that there are no regressions in reading images or metadata. *xsd-fu* (XSD-FU)⁴⁸:

Ant: no target

xsd-fu is a Python framework for turning the schema files in the *specification* component into the classes that represent the OME-XML schema in the *ome-xml* component.

12.4 Reading files

12.4.1 Basic file reading

Bio-Formats provides several methods for retrieving data from files in an arbitrary (supported) format. These methods fall into three categories: raw pixels, core metadata, and format-specific metadata. All methods described here are present and documented in *loci.formats.IFormatReader*⁴⁹. In general, it is recommended that you read files using an instance of *loci.formats.ImageReader*⁵⁰. While it is possible to work with readers for a specific format, ImageReader contains additional logic to automatically detect the format of a file and delegate subsequent calls to the appropriate reader.

Prior to retrieving pixels or metadata, it is necessary to call *setId(java.lang.String)*⁵¹ on the reader instance, passing in the name of the file to read. Some formats allow multiple series (5D image stacks) per file; in this case you may wish to call *setSeries(int)*⁵² to change which series is being read.

Raw pixels are always retrieved one plane at a time. Planes are returned as raw byte arrays, using one of the *openBytes* methods.

Core metadata is the general term for anything that might be needed to work with the planes in a file. A list of core metadata fields is given in the table below together with the appropriate accessor method:

⁴⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/specification>

⁴⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/stubs>

⁴⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/test-suite>

⁴⁷<http://www.openmicroscopy.org/site/support/contributing/ci-bio-formats.html>

⁴⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/xsd-fu>

⁴⁹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html>

⁵⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ImageReader.html>

⁵¹[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatHandler.html#setId\(java.lang.String\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatHandler.html#setId(java.lang.String))

⁵²[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#setSeries\(int\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#setSeries(int))

Core metadata field	API method
image width	<code>getSizeX()</code> ⁶⁶
image height	<code>getSizeY()</code> ⁶⁷
number of series per file	<code>getSeriesCount()</code> ⁶⁸
total number of images per series	<code>getImageCount()</code> ⁶⁹
number of slices in the current series	<code>getSizeZ()</code> ⁷⁰
number of timepoints in the current series	<code>getSizeT()</code> ⁷¹
number of actual channels in the current series	<code>getSizeC()</code> ⁷²
number of channels per image	<code>getRGBChannelCount()</code> ⁷³
the ordering of the images within the current series	<code>getDimensionOrder()</code> ⁷⁴
whether each image is RGB	<code>isRGB()</code> ⁷⁵
whether the pixel bytes are in little-endian order	<code>isLittleEndian()</code> ⁷⁶
whether the channels in an image are interleaved	<code>isInterleaved()</code> ⁷⁷
the type of pixel data in this file	<code>getPixelType()</code> ⁷⁸

All file formats are guaranteed to accurately report core metadata.

Format-specific metadata refers to any other data specified in the file - this includes acquisition and hardware parameters, among other things. This data is stored internally in a **`java.util.Hashtable`**, and can be accessed in one of two ways: individual values can be retrieved by calling `getMetadataValue(java.lang.String)`⁷⁹, which gets the value of the specified key. Note that the keys in this Hashtable are different for each format, hence the name “format-specific metadata”.

See *Bio-Formats metadata processing* for more information on the metadata capabilities that Bio-Formats provides.

See also:

`IFormatReader`⁸⁰ Source code of the `loci.formats.IFormatReader` interface

12.4.2 File reading extras

The previous section described how to read pixels as they are stored in the file. However, the native format is not necessarily convenient, so Bio-Formats provides a few extras to make file reading more flexible.

- The `loci.formats.ReaderWrapper`⁸¹ API that implements `loci.formats.IFormatReader` allows to define “wrapper” readers that take a reader in the constructor, and manipulate the results somehow, for convenience. Using them is similar to the `java.io.InputStream/OutputStream` model: just layer whichever functionality you need by nesting the wrappers.

The table below summarizes a few wrapper readers of interest:

⁵³[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeX\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeX())
⁵⁴[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeY\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeY())
⁵⁵[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSeriesCount\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSeriesCount())
⁵⁶[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getImageCount\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getImageCount())
⁵⁷[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeZ\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeZ())
⁵⁸[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeT\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeT())
⁵⁹[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeC\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeC())
⁶⁰[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getRGBChannelCount\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getRGBChannelCount())
⁶¹[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getDimensionOrder\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getDimensionOrder())
⁶²[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isRGB\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isRGB())
⁶³[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isLittleEndian\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isLittleEndian())
⁶⁴[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isInterleaved\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isInterleaved())
⁶⁵[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getPixelType\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getPixelType())
⁶⁶[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeX\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeX())
⁶⁷[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeY\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeY())
⁶⁸[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSeriesCount\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSeriesCount())
⁶⁹[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getImageCount\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getImageCount())
⁷⁰[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeZ\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeZ())
⁷¹[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeT\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeT())
⁷²[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeC\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSizeC())
⁷³[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getRGBChannelCount\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getRGBChannelCount())
⁷⁴[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getDimensionOrder\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getDimensionOrder())
⁷⁵[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isRGB\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isRGB())
⁷⁶[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isLittleEndian\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isLittleEndian())
⁷⁷[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isInterleaved\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isInterleaved())
⁷⁸[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getPixelType\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getPixelType())
⁷⁹[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getMetadataValue\(java.lang.String\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getMetadataValue(java.lang.String))
⁸¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ReaderWrapper.html>

Wrapper reader	Functionality
<code>loci.formats.BufferedImageReader</code> ⁹⁰	Allows pixel data to be returned as <code>BufferedImage</code> s instead of raw byte arrays
<code>loci.formats.FileStitcher</code> ⁹¹	Uses advanced pattern matching heuristics to group files that belong to the same dataset
<code>loci.formats.ChannelSeparator</code> ⁹²	Makes sure that all planes are grayscale - RGB images are split into 3 separate grayscale images
<code>loci.formats.ChannelMerger</code> ⁹³	Merges grayscale images to RGB if the number of channels is greater than 1
<code>loci.formats.ChannelFiller</code> ⁹⁴	Converts indexed color images to RGB images
<code>loci.formats.MinMaxCalculator</code> ⁹⁵	Provides an API for retrieving the minimum and maximum pixel values for each channel
<code>loci.formats.DimensionSwapper</code> ⁹⁶	Provides an API for changing the dimension order of a file
<code>loci.formats.Memoizer</code> ⁹⁷	Caches the state of the reader into a memoization file

- `loci.formats.ImageTools`⁹⁸ and `loci.formats.gui.AWTImageTools`⁹⁹ provide a number of methods for manipulating `BufferedImage`s and primitive type arrays. In particular, there are methods to split and merge channels in a `BufferedImage`/array, as well as converting to a specific data type (e.g. convert short data to byte data).

12.4.3 Troubleshooting

- Importing multi-file formats (Leica LEI, PerkinElmer, FV1000 OIF, ICS, and Prairie TIFF, to name a few) can fail if any of the files are renamed. There are “best guess” heuristics in these readers, but they are not guaranteed to work in general. So please do not rename files in these formats.
- If you are working on a Macintosh, make sure that the data and resource forks of your image files are stored together. Bio-Formats does not handle separated forks (the native QuickTime reader tries, but usually fails).
- Bio-Formats file readers are not thread-safe. If files are read within a parallelized environment, a new reader must be fully initialized in each parallel session. See *Improving reading performance* about ways to improve file reading performance in multi-threaded mode.

12.5 Writing files

The `loci.formats.IFormatWriter`¹⁰⁰ API is very similar to the reader API, in that files are written one plane at time (rather than all at once).

The file formats which can be written using Bio-Formats are marked in the *supported formats table* with a green tick in the ‘export’ column. These include, but are not limited to:

- TIFF (uncompressed, LZW, JPEG, or JPEG-2000)
- OME-TIFF (uncompressed, LZW, JPEG, or JPEG-2000)
- JPEG
- PNG
- AVI (uncompressed)
- QuickTime (uncompressed is supported natively; additional codecs use QTJava)

⁸²<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/gui/BufferedImageReader.html>

⁸³<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FileStitcher.html>

⁸⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ChannelSeparator.html>

⁸⁵<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ChannelMerger.html>

⁸⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ChannelFiller.html>

⁸⁷<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/MinMaxCalculator.html>

⁸⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/DimensionSwapper.html>

⁸⁹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/Memoizer.html>

⁹⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/gui/BufferedImageReader.html>

⁹¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FileStitcher.html>

⁹²<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ChannelSeparator.html>

⁹³<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ChannelMerger.html>

⁹⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ChannelFiller.html>

⁹⁵<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/MinMaxCalculator.html>

⁹⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/DimensionSwapper.html>

⁹⁷<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/Memoizer.html>

⁹⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ImageTools.html>

⁹⁹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/gui/AWTImageTools.html>

¹⁰⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatWriter.html>

- Encapsulated PostScript (EPS)
- OME-XML (not recommended)

All writers allow the output file to be changed before the last plane has been written. This allows you to write to any number of output files using the same writer and output settings (compression, frames per second, etc.), and is especially useful for formats that do not support multiple images per file.

See also:

IFormatWriter¹⁰¹ Source code of the `loci.formats.IFormatWriter` interface

loci.formats.tools.ImageConverter¹⁰² Source code of the `loci.formats.tools.ImageConverter` class

Further details on exporting raw pixel data to OME-TIFF files Examples of OME-TIFF writing

USING BIO-FORMATS AS A JAVA LIBRARY

13.1 Using Bio-Formats as a Java library

If you wish to make use of Bio-Formats within your own software, you can [download formats-gpl.jar](#)¹ to use it as a library. Just add **formats-gpl.jar** to your CLASSPATH or build path. You will also need **common.jar** for common I/O functions, **ome-xml.jar** for metadata standardization, and **SLF4J**² for logging.

There are also certain packages that if present will be utilized to provide additional functionality. To include one, just place it in the same folder.

Package	Filename	License	Notes
Apache Jakarta POI ¹²	ome-poi.jar ¹³	Apache	OME fork; for OLE-based formats (zvi, oib, ipw, cxd)
MDB Tools ¹⁴	mdbtools-java.jar ¹⁵	LGPL	Java port, OME fork; for Olympus CellR and Zeiss LSM metadata (mdb)
JAI Image I/O Tools ¹⁶	jai_imageio.jar ¹⁷	BSD	Pure Java implementation, OME fork; for JPEG2000-based formats (nd2, jp2)
NetCDF ¹⁸	netcdf-4.3.19.jar ¹⁹	LGPL	Java library; for HDF5-based formats (Imaris 5.5, MINC MRI)
QuickTime for Java ²⁰	QTJava.zip	Commercial	For additional QuickTime codecs

See the list in the [Bio-Formats toplevel build file](#)²¹ for a complete and up-to-date list of all optional libraries, which can all be found in our [Git repository](#)²².

13.1.1 Examples of usage

[MinimumWriter](#)²³ - A command line utility demonstrating the minimum amount of metadata needed to write a file.

[ImageConverter](#)²⁴ - A simple command line tool for converting between formats.

¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/formats-gpl.jar>

²<http://slf4j.org/>

³<http://jakarta.apache.org/poi/>

⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/ome-poi.jar>

⁵<http://sourceforge.net/projects/mdbtools>

⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/mdbtools-java.jar>

⁷<http://java.net/projects/jai-imageio>

⁸http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/jai_imageio.jar

⁹<http://www.unidata.ucar.edu/software/netcdf-java/>

¹⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/netcdf-4.3.19.jar>

¹¹<http://www.apple.com/quicktime/download/standalone.html>

¹²<http://jakarta.apache.org/poi/>

¹³<http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/ome-poi.jar>

¹⁴<http://sourceforge.net/projects/mdbtools>

¹⁵<http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/mdbtools-java.jar>

¹⁶<http://java.net/projects/jai-imageio>

¹⁷http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/jai_imageio.jar

¹⁸<http://www.unidata.ucar.edu/software/netcdf-java/>

¹⁹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/netcdf-4.3.19.jar>

²⁰<http://www.apple.com/quicktime/download/standalone.html>

²¹<https://github.com/openmicroscopy/bioformats/blob/develop/build.xml>

²²<https://github.com/openmicroscopy/bioformats/tree/develop/jar>

²³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/utis/MinimumWriter.java>

²⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-tools/src/loci/formats/tools/ImageConverter.java>

[ImageInfo](#)²⁵ - A more involved command line utility for thoroughly reading an input file, printing some information about it, and displaying the pixels onscreen using the Bio-Formats viewer.

[PrintTimestamps](#)²⁶ - A command line example demonstrating how to extract timestamps from a file.

[Simple_Read](#)²⁷ - A simple ImageJ plugin demonstrating how to use Bio-Formats to read files into ImageJ (see [ImageJ overview](#)).

[Read_Image](#)²⁸ - An ImageJ plugin that uses Bio-Formats to build up an image stack, reading image planes one by one (see [ImageJ overview](#)).

[Mass_Importer](#)²⁹ - A simple plugin for ImageJ that demonstrates how to open all image files in a directory using Bio-Formats, grouping files with similar names to avoiding opening the same dataset more than once (see [ImageJ overview](#)).

13.1.2 A Note on Java Web Start ([bioformats_package.jar](#) vs. [formats-gpl.jar](#))

To use Bio-Formats with your Java Web Start application, we recommend using **formats-gpl.jar** rather than **bioformats_package.jar**—the latter is merely a bundle of **formats-gpl.jar** plus all its optional dependencies.

The **bioformats_package.jar** bundle is intended as a convenience (e.g. to simplify installation as an ImageJ plugin), but is by no means the only solution for developers. We recommend using **formats-gpl.jar** as a separate entity depending on your needs as a developer.

The bundle is quite large because we have added support for several formats that need large helper libraries (e.g. Imaris' HDF-based format). However, these additional libraries are optional; Bio-Formats has been coded using reflection so that it can both compile and run without them.

When deploying a JNLP-based application, using **bioformats_package.jar** directly is not the best approach, since every time Bio-Formats is updated, the server would need to feed another 15+ MB JAR file to the client. Rather, Web Start is a case where you should keep the JARs separate, since JNLP was designed to make management of JAR dependencies trivial for the end user. By keeping **formats-gpl.jar** and the optional dependencies separate, only a <1 MB JAR needs to be updated when **formats-gpl.jar** changes.

As a developer, you have the option of packaging **formats-gpl.jar** with as many or as few optional libraries as you wish, to cut down on file size as needed. You are free to make whatever kind of “stripped down” version you require. You could even build a custom **formats-gpl.jar** that excludes certain classes, if you like.

For an explicit enumeration of all the optional libraries included in **bioformats_package.jar**, see the `package.libraries` variable of the [ant/toplevel.properties](#)³⁰ file of the distribution. You can also read our notes about each in the source distribution's [Ant build.xml](#)³¹ script.

13.2 Exporting files using Bio-Formats

This guide pertains to version 4.2 and later.

13.2.1 Basic conversion

The first thing we need to do is set up a reader:

```
// create a reader that will automatically handle any supported format
IFormatReader reader = new ImageReader();
// tell the reader where to store the metadata from the dataset
MetadataStore metadata;

try {
    ServiceFactory factory = new ServiceFactory();
```

²⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-tools/src/loci/formats/tools/ImageInfo.java>

²⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/utis/PrintTimestamps.java>

²⁷https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utis/Simple_Read.java

²⁸https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utis/Read_Image.java

²⁹https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-plugins/utis/Mass_Importer.java

³⁰<https://github.com/openmicroscopy/bioformats/blob/develop/ant/toplevel.properties>

³¹<https://github.com/openmicroscopy/bioformats/blob/develop/build.xml#L240>

```

    OMEXMLService service = factory.getInstance(OMEXMLService.class);
    metadata = service.createOMEXMLMetadata();
}
catch (DependencyException exc) {
    throw new FormatException("Could not create OME-XML store.", exc);
}
catch (ServiceException exc) {
    throw new FormatException("Could not create OME-XML store.", exc);
}

reader.setMetadataStore(metadata);
// initialize the dataset
reader.setId("/path/to/file");

```

Now, we set up our writer:

```

// create a writer that will automatically handle any supported output format
IFormatWriter writer = new ImageWriter();
// give the writer a MetadataRetrieve object, which encapsulates all of the
// dimension information for the dataset (among many other things)
writer.setMetadataRetrieve(MetadataTools.asRetrieve(reader.getMetadataStore()));
// initialize the writer
writer.setId("/path/to/output/file");

```

Note that the extension of the file name passed to ‘writer.setId(...)’ determines the file format of the exported file.

Now that everything is set up, we can start writing planes:

```

for (int series=0; series<reader.getSeriesCount(); series++) {
    reader.setSeries(series);
    writer.setSeries(series);

    for (int image=0; image<reader.getImageCount(); image++) {
        writer.saveBytes(image, reader.openBytes(image));
    }
}

```

Finally, make sure to close both the reader and the writer. Failure to do so can cause:

- file handle leaks
- memory leaks
- truncated output files

Fortunately, closing the files is very easy:

```

reader.close();
writer.close();

```

13.2.2 Converting large images

The flaw in the previous example is that it requires an image plane to be fully read into memory before it can be saved. In many cases this is fine, but if you are working with very large images (especially > 4 GB) this is problematic. The solution is to break each image plane into a set of reasonably-sized tiles and save each tile separately - thus substantially reducing the amount of memory required for conversion.

For now, we’ll assume that your tile size is 1024 x 1024, though in practice you will likely want to adjust this. Assuming you have an `IFormatReader` and `IFormatWriter` set up as in the previous example, let’s start writing planes:

```

int tileWidth = 1024;
int tileHeight = 1024;

for (int series=0; series<reader.getSeriesCount(); series++) {
    reader.setSeries(series);
    writer.setSeries(series);

    // determine how many tiles are in each image plane
    // for simplicity, we'll assume that the image width and height are
    // multiples of 1024

    int tileRows = reader.getSizeY() / tileHeight;
    int tileColumns = reader.getSizeX() / tileWidth;

    for (int image=0; image<reader.getImageCount(); image++) {
        for (int row=0; row<tileRows; row++) {
            for (int col=0; col<tileColumns; col++) {
                // open a tile - in addition to the image index, we need to specify
                // the (x, y) coordinate of the upper left corner of the tile,
                // along with the width and height of the tile

                int xCoordinate = col * tileWidth;
                int yCoordinate = row * tileHeight;
                byte[] tile =
                    reader.openBytes(image, xCoordinate, yCoordinate, tileWidth, tileHeight);
                writer.saveBytes(
                    image, tile, xCoordinate, yCoordinate, tileWidth, tileHeight);
            }
        }
    }
}

```

As noted, the example assumes that the width and height of the image are multiples of the tile dimensions. Be careful, as this is not always the case; the last column and/or row may be smaller than preceding columns/rows. An exception will be thrown if you attempt to read or write a tile that is not completely contained by the original image plane. Most writers perform best if the tile width is equal to the image width, although specifying any valid width should work.

As before, you need to close the reader and writer.

13.2.3 Converting to multiple files

The recommended method of converting to multiple files is to use a single `IFormatWriter`, like so:

```

// you should have set up a reader as in the first example
ImageWriter writer = new ImageWriter();
writer.setMetadataRetrieve(MetadataTools.asRetrieve(reader.getMetadataStore()));
// replace this with your own filename definitions
// in this example, we're going to write half of the planes to one file
// and half of the planes to another file
String[] outputFiles =
    new String[] {"/path/to/file/1.tiff", "/path/to/file/2.tiff"};
writer.setId(outputFiles[0]);

int planesPerFile = reader.getImageCount() / outputFiles.length;
for (int file=0; file<outputFiles.length; file++) {
    writer.changeOutputFile(outputFiles[file]);
    for (int image=0; image<planesPerFile; image++) {
        int index = file * planesPerFile + image;
        writer.saveBytes(image, reader.openBytes(index));
    }
}

```

```
reader.close();
writer.close();
```

The advantage here is that the relationship between the files is preserved when converting to formats that support multi-file datasets internally (namely OME-TIFF). If you are only converting to graphics formats (e.g. JPEG, AVI, MOV), then you could also use a separate `IFormatWriter` for each file, like this:

```
// again, you should have set up a reader already
String[] outputFiles = new String[] { "/path/to/file/1.avi", "/path/to/file/2.avi" };
int planesPerFile = reader.getImageCount() / outputFiles.length;
for (int file=0; file<outputFiles.length; file++) {
    ImageWriter writer = new ImageWriter();
    writer.setMetadataRetrieve(MetadataTools.asRetrieve(reader.getMetadataStore()));
    writer.setId(outputFiles[file]);
    for (int image=0; image<planesPerFile; image++) {
        int index = file * planesPerFile + image;
        writer.saveBytes(image, reader.openBytes(index));
    }
    writer.close();
}
```

13.2.4 Known issues

List of Trac tickets³²

13.3 Further details on exporting raw pixel data to OME-TIFF files

This document explains how to export pixel data to OME-TIFF using Bio-Formats version 4.2 and later.

The first thing that must happen is we must create the object that stores OME-XML metadata. This is done as follows:

```
ServiceFactory factory = new ServiceFactory();
OMEXMLService service = factory.getInstance(OMEXMLService.class);
IMetadata omexml = service.createOMEXMLMetadata();
```

The ‘omexml’ object can now be used in our code to store OME-XML metadata, and by the file format writer to retrieve OME-XML metadata.

Now that we have somewhere to put metadata, we need to populate as much metadata as we can. The minimum amount of metadata required is:

- endianness of the pixel data
- the order in which dimensions are stored
- the bit depth of the pixel data
- the number of channels
- the number of timepoints
- the number of Z sections
- the width (in pixels) of an image
- the height (in pixels) of an image
- the number of samples per channel (3 for RGB images, 1 otherwise)

³²<https://trac.openmicroscopy.org/ome/query?status=accepted&status=new&status=reopened&keywords=Formats&col=id&col=summary&col=status&col=type&col=priority&col=milestone&col=component&order=priority>

We populate that metadata as follows:

```
omexml.setImageID("Image:0", 0);
omexml.setPixelsID("Pixels:0", 0);

// specify that the pixel data is stored in big-endian order
// replace 'TRUE' with 'FALSE' to specify little-endian order
omexml.setPixelsBinDataBigEndian(Boolean.TRUE, 0, 0);

omexml.setPixelsDimensionOrder(DimensionOrder.XYCZT, 0);
omexml.setPixelsType(PixelType.UINT16, 0);
omexml.setPixelsSizeX(new PositiveInteger(width), 0);
omexml.setPixelsSizeY(new PositiveInteger(height), 0);
omexml.setPixelsSizeZ(new PositiveInteger(zSectionCount), 0);
omexml.setPixelsSizeC(new PositiveInteger(channelCount *
samplesPerChannel), 0);
omexml.setPixelsSizeT(new PositiveInteger(timepointCount), 0);

for (int channel=0; channel<channelCount; channel++) {
    omexml.setChannelID("Channel:0:" + channel, 0, channel);
    omexml.setChannelSamplesPerPixel(new PositiveInteger(samplesPerChannel),
0, channel);
}
```

There is much more metadata that can be stored; please see the Javadoc for `loci.formats.meta.MetadataStore` for a complete list.

Now that we have defined all of the metadata, we need to create a file writer:

```
ImageWriter writer = new ImageWriter();
```

Now we must associate the ‘omexml’ object with the file writer:

```
writer.setMetadataRetrieve(omexml);
```

The writer now knows to retrieve any metadata that it needs from ‘omexml’.

We now tell the writer which file it should write to:

```
writer.setId("output-file.ome.tiff");
```

It is critical that the file name given to the writer ends with “.ome.tiff” or “.ome.tif”, as it is the file name extension that determines which format will be written.

Now that everything is set up, we can save the image data. This is done plane by plane, and we assume that the pixel data is stored in a 2D byte array ‘pixelData’:

```
int sizeC = omexml.getPixelsSizeC(0).getValue();
int sizeZ = omexml.getPixelsSizeZ(0).getValue();
int sizeT = omexml.getPixelsSizeT(0).getValue();
int samplesPerChannel = omexml.getChannelSamplesPerPixel(0).getValue();
sizeC /= samplesPerChannel;

int imageCount = sizeC * sizeZ * sizeT;

for (int image=0; image<imageCount; image++) {
    writer.saveBytes(image, pixelData[image]);
}
}
```

Finally, we must tell the writer that we are finished, so that the output file can be properly closed:


```
writer.close();
```

There should now be a complete OME-TIFF file at whichever path was specified above.

13.4 Converting files from FV1000 OIB/OIF to OME-TIFF

This document explains how to convert a file from FV1000 OIB/OIF to OME-TIFF using Bio-Formats version 4.2 and later.

The first thing that must happen is we must create the object that stores OME-XML metadata. This is done as follows:

```
ServiceFactory factory = new ServiceFactory();
OMEXMLService service = factory.getInstance(OMEXMLService.class);
IMetadata omexml = service.createOMEXMLMetadata();
```

The ‘omexml’ object can now be used by both a file format reader and a file format writer for storing and retrieving OME-XML metadata.

Now that have somewhere to put metadata, we need to create a file reader and writer:

```
ImageReader reader = new ImageReader();
ImageWriter writer = new ImageWriter();
```

Now we must associate the ‘omexml’ object with the file reader and writer:

```
reader.setMetadataStore(omexml);
writer.setMetadataRetrieve(omexml);
```

The reader now knows to store all of the metadata that it parses into ‘omexml’, and the writer knows to retrieve any metadata that it needs from ‘omexml’.

We now tell the reader and writer which files will be read from and written to, respectively:

```
reader.setId("input-file.oib");
writer.setId("output-file.ome.tif");
```

It is critical that the file name given to the writer ends with “.ome.tif” or “.ome.tiff”, as it is the file name extension that determines which format will be written.

Now that everything is set up, we can convert the image data. This is done plane by plane:

```
for (int series=0; series<reader.getSeriesCount(); series++) {
    reader.setSeries(series);
    writer.setSeries(series);

    byte[] plane = new byte[FormatTools.getPlaneSize(reader)];
    for (int image=0; image<reader.getImageCount(); image++) {
        reader.openBytes(image, plane);
        writer.saveBytes(image, plane);
    }
}
```

The body of the outer ‘for’ loop may also be replaced with the following:

```

reader.setSeries(series);
writer.setSeries(series);

for (int image=0; image<reader.getImageCount(); image++) {
    byte[] plane = reader.openBytes(image);
    writer.saveBytes(image, plane);
}

```

But note that this will be a little slower.

Finally, we must tell the reader and writer that we are finished, so that the input and output files can be properly closed:

```

reader.close();
writer.close();

```

There should now be a complete OME-TIFF file at whichever path was specified above.

13.5 Using Bio-Formats in MATLAB

This section assumes that you have installed the MATLAB toolbox as instructed in the [MATLAB user information page](#). Note the minimum supported MATLAB version is R2007b (7.5).

As described in [Using Java Libraries](#)³³, every installation of MATLAB includes a JVM allowing use of the Java API and third-party Java libraries. All the helper functions included in the MATLAB toolbox make use of the Bio-Formats Java API. Please refer to the [Javadocs](#)³⁴ for more information.

13.5.1 Increasing JVM memory settings

The default JVM settings in MATLAB can result in `java.lang.OutOfMemoryError: Java heap space` exceptions when opening large image files using Bio-Formats. Information about the Java heap space usage in MATLAB can be retrieved using:

```
java.lang.Runtime.getRuntime().maxMemory
```

Default JVM settings can be increased by creating a `java.opts` file in the startup directory and overriding the default memory settings. We recommend using `-Xmx512m` in your `java.opts` file. Calling:

```
bfCheckJavaMemory()
```

will also throw a warning if the runtime memory is lower than the recommended value.

If errors of type `java.lang.OutOfMemoryError: PermGen space` are thrown while using Bio-Formats with the Java bundled with MATLAB (Java 6 or 7), you may try to increase the default values of `-XX:MaxPermSize` and `-XX:PermSize` via the `java.opts` file.

See also:

<http://www.mathworks.com/matlabcentral/answers/92813> How do I increase the heap space for the Java VM in MATLAB 6.0 (R12) and later versions?

[ome-users] Release of OMERO & Bio-Formats 5.1.1³⁵

³³http://uk.mathworks.com/help/matlab/matlab_external/product-overview.html

³⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/>

³⁵<http://lists.openmicroscopy.org.uk/mailman/listinfo/ome-users/2015-April/005331.html>

13.5.2 Opening an image file

The first thing to do is initialize a file with the `bfopen`³⁶ function:

```
data = bfopen('/path/to/data/file');
```

This function returns an n -by-4 cell array, where n is the number of series in the dataset. If s is the series index between 1 and n :

- The `data{s, 1}` element is an m -by-2 cell array, where m is the number of planes in the s -th series. If t is the plane index between 1 and m :
 - The `data{s, 1}{t, 1}` element contains the pixel data for the t -th plane in the s -th series.
 - The `data{s, 1}{t, 2}` element contains the label for the t -th plane in the s -th series.
- The `data{s, 2}` element contains original metadata key/value pairs that apply to the s -th series.
- The `data{s, 3}` element contains color lookup tables for each plane in the s -th series.
- The `data{s, 4}` element contains a standardized OME metadata structure, which is the same regardless of the input file format, and contains common metadata values such as physical pixel sizes - see *OME metadata* below for examples.

Accessing planes

Here is an example of how to unwrap specific image planes for easy access:

```
seriesCount = size(data, 1);
series1 = data{1, 1};
series2 = data{2, 1};
series3 = data{3, 1};
metadataList = data{1, 2};
% etc
series1_planeCount = size(series1, 1);
series1_plane1 = series1{1, 1};
series1_label1 = series1{1, 2};
series1_plane2 = series1{2, 1};
series1_label2 = series1{2, 2};
series1_plane3 = series1{3, 1};
series1_label3 = series1{3, 2};
```

Displaying images

If you want to display one of the images, you can do so as follows:

```
series1_colorMaps = data{1, 3};
figure('Name', series1_label1);
if (isempty(series1_colorMaps{1}))
    colormap(gray);
else
    colormap(series1_colorMaps{1}(1, :));
end
imagesc(series1_plane1);
```

This will display the first image of the first series with its associated color map (if present). If you would prefer not to apply the color maps associated with each image, simply comment out the calls to `colormap`.

If you have the image processing toolbox, you could instead use:

³⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/matlab/bfopen.m>

```
imshow(series1_panel, []);
```

You can also create an animated movie (assumes 8-bit unsigned data):

```
v = linspace(0, 1, 256)';
cmap = [v v v];
for p = 1 : size(series1, 1)
    M(p) = im2frame(uint8(series1{p, 1}), cmap);
end
if feature('ShowFigureWindows')
    movie(M);
end
```

Retrieving metadata

There are two kinds of metadata:

- **Original metadata** is a set of key/value pairs specific to the input format of the data. It is stored in the `data{s, 2}` element of the data structure returned by `b fopen`.
- **OME metadata** is a standardized metadata structure, which is the same regardless of input file format. It is stored in the `data{s, 4}` element of the data structure returned by `b fopen`, and contains common metadata values such as physical pixel sizes, instrument settings, and much more. See the [OME Model and Formats³⁷](#) documentation for full details.

Original metadata

To retrieve the metadata value for specific keys:

```
% Query some metadata fields (keys are format-dependent)
metadata = data{1, 2};
subject = metadata.get('Subject');
title = metadata.get('Title');
```

To print out all of the metadata key/value pairs for the first series:

```
metadataKeys = metadata.keySet().iterator();
for i=1:metadata.size()
    key = metadataKeys.nextElement();
    value = metadata.get(key);
    fprintf('%s = %s\n', key, value)
end
```

OME metadata

Conversion of metadata to the OME standard is one of Bio-Formats' primary features. The OME metadata is always stored the same way, regardless of input file format.

To access physical voxel and stack sizes of the data:

```
omeMeta = data{1, 4};
stackSizeX = omeMeta.getPixelsSizeX(0).getValue(); % image width, pixels
stackSizeY = omeMeta.getPixelsSizeY(0).getValue(); % image height, pixels
stackSizeZ = omeMeta.getPixelsSizeZ(0).getValue(); % number of Z slices
```

³⁷<http://www.openmicroscopy.org/site/support/ome-model/>

```

voxelSizeXdefaultValue = omeMeta.getPixelsPhysicalSizeX(0).value(); % returns value in default
voxelSizeXdefaultUnit = omeMeta.getPixelsPhysicalSizeX(0).unit().getSymbol(); % returns the default unit
voxelSizeX = omeMeta.getPixelsPhysicalSizeX(0).value(ome.units.UNITS.MICROM); % in µm
voxelSizeXdoubles = voxelSizeX.doubleValue(); % The numeric value represented
voxelSizeY = omeMeta.getPixelsPhysicalSizeY(0).value(ome.units.UNITS.MICROM); % in µm
voxelSizeYdouble = voxelSizeY.doubleValue(); % The numeric value represented
voxelSizeZ = omeMeta.getPixelsPhysicalSizeZ(0).value(ome.units.UNITS.MICROM); % in µm
voxelSizeZdouble = voxelSizeZ.doubleValue(); % The numeric value represented

```

For more information about the methods to retrieve the metadata, see the [MetadataRetrieve](#)³⁸ Javadoc page.

To convert the OME metadata into a string, use the `dumpXML()` method:

```
omeXML = char(omeMeta.dumpXML());
```

13.5.3 Reading from an image file

The main inconvenience of the `bfopen.m`³⁹ function is that it loads all the content of an image regardless of its size.

To access the file reader without loading all the data, use the low-level `bfGetReader.m`⁴⁰ function:

```
reader = bfGetReader('path/to/data/file');
```

You can then access the OME metadata using the `getMetadataStore()` method:

```
omeMeta = reader.getMetadataStore();
```

Individual planes can be queried using the `bfGetPlane.m`⁴¹ function:

```
series1_plane1 = bfGetPlane(reader, 1);
```

To switch between series in a multi-image file, use the `setSeries(int)`⁴² method. To retrieve a plane given a set of (*z*, *c*, *t*) coordinates, these coordinates must be linearized first using `getIndex(int, int, int)`⁴³

```

% Read plane from series iSeries at Z, C, T coordinates (iZ, iC, iT)
% All indices are expected to be 1-based
reader.setSeries(iSeries - 1);
iPlane = reader.getIndex(iZ - 1, iC - 1, iT - 1) + 1;
I = bfGetPlane(reader, iPlane);

```

13.5.4 Saving files

The basic code for saving a 5D array into an OME-TIFF file is located in the `bfsave.m`⁴⁴ function.

For instance, the following code will save a single image of 64 pixels by 64 pixels with 8 unsigned bits per pixels:

³⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/meta/MetadataRetrieve.html>

³⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/matlab/bfopen.m>

⁴⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/matlab/bfGetReader.m>

⁴¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/matlab/bfGetPlane.m>

⁴²[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#setSeries\(int\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#setSeries(int))

⁴³[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getIndex\(int, int, int\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getIndex(int, int, int))

⁴⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/matlab/bfsave.m>

```
plane = zeros(64, 64, 'uint8');
bfsave(plane, 'single-plane.ome.tiff');
```

And the following code snippet will produce an image of 64 pixels by 64 pixels with 2 channels and 2 timepoints:

```
plane = zeros(64, 64, 1, 2, 2, 'uint8');
bfsave(plane, 'multiple-planes.ome.tiff');
```

By default, `bfsave` will create a minimal OME-XML metadata object containing basic information such as the pixel dimensions, the dimension order and the pixel type. To customize the OME metadata, it is possible to create a metadata object from the input array using `createMinimalOMEXMLMetadata.m`⁴⁵, add custom metadata and pass this object directly to `bfsave`:

```
plane = zeros(64, 64, 1, 2, 2, 'uint8');
metadata = createMinimalOMEXMLMetadata(plane);
pixelSize = ome.units.quantity.Length(java.lang.Double(.05), ome.units.UNITS.MICROM);
metadata.setPixelsPhysicalSizeX(pixelSize, 0);
metadata.setPixelsPhysicalSizeY(pixelSize, 0);
pixelSizeZ = ome.units.quantity.Length(java.lang.Double(.2), ome.units.UNITS.MICROM);
metadata.setPixelsPhysicalSizeZ(pixelSizeZ, 0);
bfsave(plane, 'metadata.ome.tiff', 'metadata', metadata);
```

For more information about the methods to store the metadata, see the `MetadataStore`⁴⁶ Javadoc page.

13.5.5 Improving reading performance

Initializing a Bio-Formats reader can consume substantial time and memory. Most of the initialization time is spent in the `setId(java.lang.String)`⁴⁷ call. Various factors can impact the performance of this step including the file size, the amount of metadata in the image and also the file format itself.

One solution to improve reading performance is to use Bio-Formats memoization functionalities with the `loci.formats.Memoizer`⁴⁸ reader wrapper. By essence, the speedup gained from memoization will only happen after the first initialization of the reader for a particular file.

The simplest way to make use the `Memoizer` functionalities in MATLAB is illustrated by the following example:

```
% Construct an empty Bio-Formats reader
r = bfGetReader();
% Decorate the reader with the Memoizer wrapper
r = loci.formats.Memoizer(r);
% Initialize the reader with an input file
% If the call is longer than a minimal time, the initialized reader will
% be cached in a file under the same directory as the initial file
% name .large_file.bfmemo
r.setId(pathToFile);

% Perform work using the reader

% Close the reader
r.close()

% If the reader has been cached in the call above, re-initializing the
% reader will use the memo file and complete much faster especially for
% large data
r.setId(pathToFile);
```

⁴⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/matlab/createMinimalOMEXMLMetadata.m>

⁴⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/meta/MetadataStore.html>

⁴⁷[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatHandler.html#setId\(java.lang.String\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatHandler.html#setId(java.lang.String))

⁴⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/Memoizer.html>

```
% Perform additional work

% Close the reader
r.close()
```

If the time required to call `setId(java.lang.String)`⁴⁹ method is larger than `DEFAULT_MINIMUM_ELAPSED`⁵⁰ or the minimum value passed in the constructor, the initialized reader will be cached in a memo file under the same folder as the input file. Any subsequent call to `setId()` with a reader decorated by the `Memoizer` on the same input file will load the reader from the memo file instead of performing a full reader initialization.

More constructors are described in the [Memoizer javadocs](#)⁵¹ allowing to control the minimal initialization time required before caching the reader and/or to define a root directory under which the reader should be cached.

As Bio-Formats is not thread-safe, reader memoization offers a new solution to increase reading performance when doing parallel work. For instance, the following example shows how to combine memoization and MATLAB `parfor` to do work on a single file in a parallel loop:

```
% Construct a Bio-Formats reader decorated with the Memoizer wrapper
r = loci.formats.Memoizer(bfGetReader(), 0);
% Initialize the reader with an input file to cache the reader
r.setId(pathToFile);
% Close reader
r.close()

nWorkers = 4;

% Enter parallel loop
parfor i = 1 : nWorkers
    % Initialize a new reader per worker as Bio-Formats is not thread safe
    r2 = javaObject('loci.formats.Memoizer', bfGetReader(), 0);
    % Initialization should use the memo file cached before entering the
    % parallel loop
    r2.setId(pathToFile);

    % Perform work

    % Close the reader
    r2.close()
end
```

13.6 Using Bio-Formats in Python

OME does not currently provide a Python implementation for Bio-Formats.

The [CellProfiler](#) project has implemented a Python wrapper around Bio-Formats used by the CellProfiler software which can be installed using `pip`:

```
pip install python-bioformats
```

See also:

<https://pypi.python.org/pypi/python-bioformats> Source code of the CellProfiler Python wrapper for Bio-Formats

⁴⁹[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/Memoizer.html#setId\(java.lang.String\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/Memoizer.html#setId(java.lang.String))

⁵⁰http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/Memoizer.html#DEFAULT_MINIMUM_ELAPSED

⁵¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/Memoizer.html>

13.7 Interfacing with Bio-Formats from non-Java code

Bio-Formats is written in Java, and is easiest to use with other Java code. However, it is possible to call Bio-Formats from a program written in another language. But how to do so depends on your program's needs.

Technologically, there are two broad categories of solutions: **in-process** approaches, and **inter-process** communication.

For details, see LOCI's article [Interfacing from non-Java code](#)⁵².

Recommended **in-process** solution: *JACE C++ bindings for the Java API*

Recommended **inter-process** solution: *Subimager*

13.7.1 JACE C++ bindings for the Java API

To make Bio-Formats accessible to software written in C++, we have created a Bio-Formats C++ interface. It uses LOCI's [jar2lib](#)⁵³ program to generate a C++ proxy class for each equivalent Bio-Formats Java class. The resulting proxies are then compiled into a library, which represents the actual interface from C++ to Bio-Formats. Using this library in your projects gives you access to the image support of Bio-Formats.

The JACE C++ bindings come with some standalone examples which you can use as a starting point in your own project:

- [showinf](#)⁵⁴
- [minimum_writer](#)⁵⁵

Other projects using the JACE C++ bindings include:

- [WiscScan](#)⁵⁶ which uses the JACE C++ bindings to write [OME-TIFF](#)⁵⁷ files.
- [XuvTools](#) which uses an adapted version of the JACE C++ bindings called [BlitzBioFormats](#)⁵⁸.
- [Video Spot Tracker](#)⁵⁹ which uses the JACE C++ bindings to add Bio-Formats support since version 8.10.

See the [build instructions](#) ([Windows](#), [Mac OS X](#), [Linux](#)) for details on compiling the JACE C++ bindings from source. Once this is done, simply include it in your project as you would any other external library.

13.7.2 Build instructions for C++ bindings

This package provides language bindings for calling into the Bio-Formats Java library from C++ in a cross-platform manner. As of this writing the bindings are functional with GCC on Linux and Mac OS X systems, as well as with Visual C++ 2005 and Visual C++ 2008 on Windows.

Note: The JACE C++ bindings require Java 6 or Java 7 to build and run. They do *not* currently work with Java 8.

Compile-time dependencies

To build the Bio-Formats C++ bindings from source, the following modules are required:

- **Apache Maven**⁶⁰ Maven is a software project management and comprehension tool. Along with Ant, it is one of the supported build systems for the Bio-Formats Java library, and is used to generate the Bio-Formats C++ bindings.
- **CMake**⁶¹ CMake is a cross-platform, open source build system generator, commonly used to build C++ projects in a platform-independent manner. CMake supports GNU make as well as Microsoft Visual Studio, allowing the Bio-Formats C++ bindings to be compiled on Windows, Mac OS X, Linux and potentially other platforms.

⁵²<http://loci.wisc.edu/software/interfacing-non-java-code>

⁵³<http://loci.wisc.edu/software/jar2lib>

⁵⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/cppwrap/showinf.cpp>

⁵⁵https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/cppwrap/minimum_writer.cpp

⁵⁶<http://loci.wisc.edu/software/wiscscan>

⁵⁷<http://www.openmicroscopy.org/site/support/ome-model/ome-tiff>

⁵⁸<http://www.xuvtools.org/devel:libblitzbioformats>

⁵⁹<http://cismm.cs.unc.edu/resources/software-manuals/video-spot-tracker-manual>

- **Boost Thread**⁶² Boost is a project providing open source portable C++ source libraries. It has become a suite of de facto standard libraries for C++. The Bio-Formats C++ bindings require the Boost Thread module in order to handle C++ threads in a platform independent way.
- **Java Development Kit**⁶³ Version 6 or 7 is required; version 8 is not currently supported. At runtime, only the Java Runtime Environment (JRE) is necessary to execute the Bio-Formats code. However, the full J2SE development kit is required at compile time on some platforms (Windows in particular), since it comes bundled with the JVM shared library (jvm.lib) necessary to link with Java.

For information on installing these dependencies, refer to the page for your specific platform: [Windows](#), [Mac OS X](#), [Linux](#).

How to build

The process of building the Bio-Formats C++ bindings is divided into two steps:

1. Generate a C++ project consisting of “proxies” which wrap the Java code. This step utilizes the Maven project management tool, specifically a Maven plugin called cppwrap.
2. Compile this generated C++ project. This step utilizes the cross-platform CMake build system.

For details on executing these build steps, refer to the page for your specific platform: [Windows](#), [Mac OS X](#), [Linux](#).

Build results

If all goes well, the build system will:

1. Generate the Bio-Formats C++ proxy classes;
2. Build the Jace C++ library;
3. Build the Java Tools C++ library;
4. Build the Bio-Formats C++ shared library;
5. Build the showinf and minimum_writer command line tools, for testing the functionality.

Please be patient, as the build may require several minutes to complete.

Afterwards, the `dist/formats-bsd` subdirectory will contain the following files:

1. **libjace.so / libjace.jnilib / jace.dll** : Jace shared library
2. **libformats-bsd.so / libformats-bsd.dylib / formats-bsd.dll** : C++ shared library for BSD-licensed readers and writers
3. **jace-runtime.jar** : Jace Java classes needed at runtime
4. **bioformats_package.jar** : Bio-Formats Java library needed at runtime
5. **libjtools.so / libjtools.jnilib / jtools.dll** : Java Tools shared library
6. **showinf / showinf.exe** : Example command line application
7. **minimum_writer / minimum_writer.exe** : Example command line application

Items 1-4 are necessary and required to deploy Bio-Formats with your C++ application. Item 5 (jtools) is a useful helper library for managing the Java virtual machine from C++, but is not strictly necessary to use Bio-Formats. All other files, including the example programs and various build files generated by CMake, are not needed.

If you prefer, instead of using the `bioformats_package.jar` bundle, you can provide individual JAR files as appropriate for your application. For details, see [using Bio-Formats as a Java library](#).

Please direct any questions to the OME team on the [forums](#)⁶⁴ or [mailing lists](#)⁶⁵.

⁶⁴<http://www.openmicroscopy.org/community/>

⁶⁵<http://lists.openmicroscopy.org.uk/mailman/listinfo/>

13.7.3 Building C++ bindings in Windows

Compile-time dependencies – Windows

Windows users will need to visit the appropriate web sites and download and install the relevant binaries for all the dependencies.

To configure the tools, you will need to edit or create several environment variables on your system. Access them by clicking the “Environment Variables” button from Control Panel, System, Advanced tab. Use semicolons to separate multiple directories in the PATH variable.

Compile-time dependencies – Windows – Maven

Download [Maven](#)⁶⁶.

Unpack the Maven archive into your Program Files, then add the folder’s bin subdirectory to your PATH environment variable; e.g.:

```
C:\Program Files\apache-maven-3.0.4\bin
```

Once set, new Command Prompts will recognize “mvn” as a valid command.

Compile-time dependencies – Windows – CMake

Download and run the [CMake installer](#)⁶⁷.

During installation, select the “Add CMake to the system PATH for all users” option to ensure that Bio-Formats build system can find your CMake executable.

Once installed, new Command Prompts will recognize “cmake” and “cmake-gui” as valid commands.

Compile-time dependencies – Windows – Boost

Download [Boost](#)⁶⁸.

You can either build and install from source using the instructions in the Boost documentation, or follow the link under ‘Other downloads’ to the prebuilt binaries for several Visual Studio versions.

Compile-time dependencies – Windows – Java Development Kit

Download and install the [JDK](#)⁶⁹.

After the installation is complete, create a new environment variable called JAVA_HOME pointing to your Java installation; e.g.:

```
C:\Program Files\Java\jdk1.6.0_25
```

Setting JAVA_HOME is the easiest way to ensure that Maven can locate Java.

You will also need to append your JDK’s client or server VM folder to the PATH; e.g.:

```
%JAVA_HOME%\jre\bin\client
```

This step ensures that a directory containing jvm.dll is present in the PATH. If you do not perform this step, you will receive a runtime error when attempting to initialize a JVM from native code.

Optionally, you can add the bin subdirectory to the PATH; e.g.:

```
%JAVA_HOME%\bin
```

Once set, new Command Prompts will recognize (e.g.) “javac” as a valid command.

⁶⁶<http://maven.apache.org/>

⁶⁷<http://cmake.org/>

⁶⁸<http://www.boost.org/users/download/>

⁶⁹<http://www.oracle.com/technetwork/java/javase/downloads/>

Compile-time dependencies – Windows – Visual C++

In addition to the other prerequisites, you will also need a working copy of Visual C++. We have tested compilation with Visual C++ 2005 Professional and Visual C++ 2008 Express; other versions may or may not work.

You can download [Visual C++ Express for free](#)⁷⁰.

You must launch the environment at least once before you will be able to compile the Bio-Formats C++ bindings.

How to build - Windows

Run Command Prompt and change to your Bio-Formats working copy. Then run:

```
# generate the Bio-Formats C++ bindings
cd components\formats-bsd
mvn -DskipTests package dependency:copy-dependencies cppwrap:wrap

# build the Bio-Formats C++ bindings
cd target\cppwrap
mkdir build
cd build
cmake-gui ..
```

The CMake GUI will open. Click the Configure button, and a dialog will appear. Select your installed version of Visual Studio, and click Finish.

When configuring, you can use the J2L_WIN_BUILD_DEBUG flag to indicate if this will be a Debug or Release build. If the flag is checked it will build as Debug, unchecked will build as Release.

Once configuration is complete, click Configure again, repeating as necessary until the Generate button becomes available. Then click Generate. Once generation is complete, close the CMake window.

Back at the Command Prompt, type:

```
start jace.sln
```

The solution will then open in Visual Studio. Select Release or Debug as appropriate from the drop-down menu. Press F7 to compile (or select Build Solution from the Build menu).

13.7.4 Building C++ bindings in Mac OS X

Compile-time dependencies – Mac OS X

To install dependencies on Mac OS X, we advise using [Homebrew](#)⁷¹:

```
brew install maven cmake boost
```

Unless otherwise configured, this will install binaries into /usr/local/.

How to build – Mac OS X

The following commands will generate and build the Bio-Formats C++ bindings:

```
# generate the C++ bindings
cd components/formats-bsd
mvn -DskipTests package dependency:copy-dependencies cppwrap:wrap
```

⁷⁰<http://www.microsoft.com/express/>

⁷¹<https://github.com/mxcl/homebrew/>

```
# compile the C++ bindings
cd target/cppwrap
mkdir build
cd build
cmake ..
make
```

13.7.5 Building C++ bindings in Linux

Compile-time dependencies – Linux

The following directions are specific to Ubuntu Linux. Other Linux distributions may have similar packages available; check your package manager.

To install dependencies on Ubuntu Linux, execute:

```
# install code generation prerequisites
sudo aptitude install maven2

# install build prerequisites
sudo aptitude install build-essential cmake libboost-thread-dev

# install Java Development Kit
sudo aptitude install sun-java6-jdk
sudo update-alternatives --config java
```

Then select Sun's Java implementation as the system default.

It may be possible to use a different Java compiler (i.e., omit the sun-java6-jdk package and update-alternatives step), but we have only tested the compilation process with Sun's Java compiler.

How to build – Linux

The following commands will generate and build the Bio-Formats C++ bindings:

```
# generate the Bio-Formats C++ bindings
cd components/formats-bsd
mvn -DskipTests package dependency:copy-dependencies cppwrap:wrap

# build the Bio-Formats C++ bindings
cd target/cppwrap
mkdir build
cd build
cmake ..
make
```

USING BIO-FORMATS AS A NATIVE C++ LIBRARY

14.1 C++ overview

A completely native Bio-Formats C++ interface is now available. Unlike the JACE bindings, this does not wrap the Java implementation. Readers and writers are provided for TIFF and OME-TIFF. All other readers and writers from the Java implementation are currently unavailable; the intention is that support for these will be added over time.

Note: The C++ implementation is functional in Bio-Formats version 5.1. However, API stability will not be guaranteed until version 5.2 since it may be necessary to refactor certain parts of the API for optimal usability, robustness and performance. Applications built against version 5.1 of the API may require updating to work with version 5.2, if they make use of any part of the API which is changed incompatibly.

14.1.1 Prebuilt packages

MacOS X Homebrew

Run:

```
brew tap homebrew/science
brew install bioformats-cpp [--without-docs] [--with-qt5]
```

--without-docs

Do not build the HTML version of this manual (built by default).

--with-qt5

Build the Qt5 OpenGL viewer widget library `ome-qtwidgets` and `bf-test view image viewer` (not built by default).

14.1.2 Prerequisites

In order to build the C++ library and its documentation, a number of packages are required to be installed. Note that the minimum version is the minimum version we regularly test with; older versions may work but are not supported. Some packages are required only for building Bio-Formats (*BF [super]build*). A subset of these are required for building client applications making use of Bio-Formats (*Client build*). For end-user deployment (*Deploy*), the library packages rather than the development packages should be preferred; in some cases such as for Boost and Qt5, these are split up into a separate package for each library.

Bio-Formats may be built in two ways. The first is “standalone” (*BF build*) and requires the prerequisites to be installed in advance, for example using your operating system’s package manager. The second is using a “super-build” (*BF superbuild*) which builds the prerequisites in addition to Bio-Formats, and is useful on systems where the prerequisites are unavailable, for example on Windows which lacks a package manager or on older systems such as CentOS 6 where the versions available through a package manager are too old. Note that the super-build cannot provide *all* prerequisites; some will still need installing before building, shown in the table below. Also note that the super-build may link against some system libraries when building packages such as `libtiff`, where the build system for the package will optionally use certain system libraries if available; this may result in a build which will not work on other systems unless these libraries are also installed. In the future, these dependencies will also be provided by the super-build.

Package	Version		When required			
	Recommended	Minimum	BF build	BF superbuild	Client build	Deploy
Boost	1.54	1.48	•		•	•
HDF5	1.8.x	1.8.x	◦		◦	◦
PNG	1.2	1.2	•		•	•
TIFF	4.0.3	3.9.5	•		•	•
Xerces-C	3.0	3.0	•		•	•
GLM	0.9.6	0.9.5	*	*	*	
Qt5	5.2	5.0	*	*	*	*
CMake	3.0	2.8.12	•	•		
Python	2.7	2.6	•	•		
Python Genshi	0.7	0.6	•	•		
Git	2.1.x	1.7.x	◦	◦		
GTest	1.7	1.5	◦	◦		
Doxygen	1.8	1.6	†	†		
Graphviz	2.x	1.8.10	†	†		
Python Sphinx	1.2.x	1.1.x	‡§	‡§		
TeX (XeLaTeX)	TeXLive 2014	TeXLive 2012	§	§		

- Required for Bio-Formats build; headers may be needed for client build; libraries and any data files required for deployment
- Optional for Bio-Formats build; if used for the Bio-Formats build, headers may be required for client build and libraries and any data files required for deployment
- * Optional, needed to build the OpenGL image viewer and client applications
- † Optional, needed to build the API reference
- ‡ Optional, needed to build the manual pages
- § Optional, needed to build the manual (HTML and PDF)

Quick start

Install the following packages to build Bio-Formats C++. A subset of these packages (or their dependencies) may be used for deployment, where the development package headers and tools for building documentation etc. are not required. Run the appropriate command below for your platform to install the build dependencies:

BSD Ports `pkg install devel/boost-all devel/cmake science/hdf5 graphics/png lang/python textproc/py-genshi graphics/tiff textproc/xerces-c3 devel/git devel/googletest math/glm devel/qt5 graphics/graphviz devel/apache-ant java/openjdk7 textproc/py-sphinx print/texlive-full`

Debian/Ubuntu `apt-get install build-essential libboost-all-dev cmake libhdf5-dev libpng12-dev python python-genshi libtiff5-dev libxerces-c-dev git libgtest-dev libglm-dev qt5-default libqt5-opengl5-dev libqt5-svg5-dev graphviz ant ant-contrib ant-optional openjdk-7-jdk openjdk-7-jre python-sphinx texlive-full`

Partial quick starts

Homebrew and RedHat/CentOS do not provide packages for everything that is needed. The commands listed will install *most* of the dependencies, but further dependencies will need to be installed as described in various sections below.

Homebrew `brew install boost cmake hdf5 libpng python libtiff xerces-c git glm qt5 graphviz ant`

RedHat/CentOS `yum install libhdf5-devel libpng-devel python python-genshi libtiff-devel xerces-c-devel git gtest-devel graphviz java-1.7.0-openjdk` See the *Boost* section for installing a newer version of Boost.

Basic toolchain

A functional compiler, assembler and linker are required to build C++ code.

If possible, install the following packages:

System	Package
BSD Ports	N/A*
Debian/Ubuntu	build-essential
Homebrew	N/A†
RedHat/CentOS	N/A‡
Windows	N/A§

* Available by default

† Install **Xcode**

‡ Run `yum groupinstall "Development Tools"`

§ Install Visual Studio or [Visual Studio Express](#)¹

Boost

If possible, install one of the following packages:

System	Package
BSD Ports	devel/boost-all
Debian/Ubuntu	libboost-all-dev
Homebrew	boost
RedHat/CentOS	boost-devel

1.48 or later needed for Boost.Geometry; 1.54 or later needed for Boost.Geometry spatial indexes. RHEL/CentOS 6 users might want to look at the [Boost 1.48 SCL](#)² or build a more recent Boost release.

CMake

If possible, install the following packages:

System	Package
BSD Ports	devel/cmake
Debian/Ubuntu	cmake
Homebrew	cmake
RedHat/CentOS	cmake

- [Website](#)³

- [Download](#)⁴

HDF5

If possible, install the following packages:

System	Package
BSD Ports	science/hdf5
Debian/Ubuntu	libhdf5-dev
Homebrew	hdf5
RedHat/CentOS	libhdf5-devel

PNG

If possible, install the following packages:

¹<http://www.visualstudio.com/downloads/download-visual-studio-vs#d-express-windows-desktop>

²<https://www.softwarecollections.org/en/scls/denisarnaud/boost148/>

³<http://cmake.org/>

⁴<http://cmake.org/cmake/resources/software.html>

System	Package
BSD Ports	graphics/png
Debian/Ubuntu	libpng12-dev
Homebrew	libpng
RedHat/CentOS	libpng-devel

Python

If possible, install the following packages:

System	Package
BSD Ports	lang/python
Debian/Ubuntu	python
Homebrew	python
RedHat/CentOS	python

- [Website](#)⁵
- [Download](#)⁶
- [Extra packages for Windows](#)⁷

For Python on Windows, either download separate installers for each package, or install `setuptools` and `pip` for Python, then `pip install` needed packages; ensure downloaded packages are 64-bit if using 64-bit Python.

Python Genshi

If possible, install the following packages:

System	Package
BSD Ports	textproc/py-genshi
Debian/Ubuntu	python-genshi
Homebrew	N/A
RedHat/CentOS	python-genshi

Use `pip install genshi` if a packaged version is not available.

TIFF

If possible, install the following packages:

System	Package
BSD Ports	graphics/tiff
Debian/Ubuntu	libtiff5-dev*
Homebrew	libtiff
RedHat/CentOS	libtiff-devel

* `libtiff4-dev` with older releases

4.0.2 and earlier do not have `TIFFField` accessor functions.

Xerces-C

If possible, install the following packages:

System	Package
BSD Ports	textproc/xerces-c3
Debian/Ubuntu	libxerces-c-dev
Homebrew	xerces-c
RedHat/CentOS	xerces-c-devel

⁵<https://www.python.org/>

⁶<https://www.python.org/download/releases/2.7.8/>

⁷<http://www.lfd.uci.edu/~gothke/pythonlibs/>

Git

If possible, install the following packages:

System	Package
BSD Ports	devel/git
Debian/Ubuntu	git
Homebrew	git
RedHat/CentOS	git

- [Website](#)⁸
- [Download](#)⁹

Google Test (gtest)

If possible, install the following packages:

System	Package
BSD Ports	devel/googletest
Debian/Ubuntu	libgtest-dev
Homebrew	N/A*
RedHat/CentOS	gtest-devel

* [gtest is not available in homebrew](#)¹⁰

An embedded copy of GTest is provided; it is only necessary to use a system-provided or self-built copy of GTest if the embedded copy is not functional on a specific system.

If using an external GTest, make sure that `GTEST_ROOT` is set in the environment, or that `-DGTEST_ROOT=/path/to/gtest` is passed to **cmake** and that this points to the location where the **gtest** library was installed. If the library is located on the default library search path, this is not necessary.

- [Website](#)¹¹
- [Zip download](#)¹²
- [SVN tag](#)¹³

GLM

If possible, install the following packages:

System	Package
BSD Ports	math/glm
Debian/Ubuntu	libglm-dev
Homebrew	glm
RedHat/CentOS	N/A

Note: Older versions will allow compilation but use degrees rather than radians, which will lead to unexpected results.

- [Website](#)¹⁴
- [Download](#)¹⁵

⁸<http://www.git-scm.com/>

⁹<http://www.git-scm.com/downloads>

¹⁰<http://answers.ros.org/question/42335/mac-os-x-install-error-no-available-formula-for-gtest/>

¹¹<https://code.google.com/p/googletest/>

¹²<https://code.google.com/p/googletest/downloads/detail?name=gtest-1.7.0.zip>

¹³<http://googletest.googlecode.com/svn/tags/release-1.7.0>

¹⁴<http://glm.g-truc.net/0.9.6/index.html>

¹⁵<http://sourceforge.net/projects/ogl-math/files/>

Qt5

If possible, install the following packages:

System	Package
BSD Ports	devel/qt5
Debian/Ubuntu	qt5-default libqt5-opengl5-dev libqt5-svg5-dev
Homebrew	qt5*
RedHat/CentOS	N/A

* Add `/usr/local/opt/qt5/bin` to `PATH`

- [Website](#)¹⁶
- [Download](#)¹⁷

Doxygen

System	Package
BSD Ports	devel/doxygen
Debian/Ubuntu	doxygen
Homebrew	doxygen
RedHat/CentOS	doxygen

- [Website](#)¹⁸
- [Download](#)¹⁹

Graphviz

If possible, install the following packages:

System	Package
BSD Ports	graphics/graphviz
Debian/Ubuntu	graphviz
Homebrew	graphviz
RedHat/CentOS	graphviz

- [Website](#)²⁰
- [Download \(for Windows\)](#)²¹

Apache Ant

If possible, install one of the following packages:

System	Package
BSD Ports	devel/apache-ant
Debian/Ubuntu	ant ant-contrib ant-optional
Homebrew	ant
RedHat/CentOS	N/A

- [Website](#)²²
- [Download](#)²³

¹⁶<http://www.qt.io/>

¹⁷<http://www.qt.io/download/>

¹⁸<http://www.stack.nl/~dimitri/doxygen/>

¹⁹<http://www.stack.nl/~dimitri/doxygen/download.html>

²⁰<http://graphviz.org/>

²¹http://graphviz.org/Download_windows.php

²²<http://ant.apache.org/>

²³<http://ant.apache.org/bindownload.cgi>

Java

If possible, install one of the following packages:

System	Package
BSD Ports	java/openjdk7
Debian/Ubuntu	openjdk-7-jdk openjdk-7-jre
Homebrew	N/A
RedHat/CentOS	java-1.7.0-openjdk

- [Download](#)²⁴

Python Sphinx

If possible, install the following packages:

System	Package
BSD Ports	textproc/py-sphinx
Debian/Ubuntu	python-sphinx
Homebrew	N/A (use pip)
RedHat/CentOS	N/A (use pip)

Use `pip install sphinx` if a packaged version is not available.

TeX

If possible, install the following packages:

System	Package
BSD Ports	print/texlive-full
Debian/Ubuntu	texlive-full
Homebrew	N/A*
RedHat/CentOS	N/A†

* Install TeXLive or MacTeX

† Provides an obsolete version; install TeXLive

- [TeXLive website \(for Unix\)](#)²⁵
- [TeXLive quick install \(for Unix\)](#)²⁶
- [MacTeX website \(for MacOS X\)](#)²⁷
- [MacTeX download \(for MacOS X\)](#)²⁸
- [MikTeX website \(for Windows\)](#)²⁹
- [MikTeX download \(for Windows\)](#)³⁰

Local font configuration may be required to make the TeX Gyre fonts available:

- Linux and FreeBSD: Use the provided **fontconfig** template or create your own
- MacOS X: Add to system using **FontBook**
- Windows: May need adding to the system fonts if not found automatically

²⁴<http://www.oracle.com/technetwork/java/javase/downloads/jdk7-downloads-1880260.html>

²⁵<https://www.tug.org/texlive/>

²⁶<https://www.tug.org/texlive/quickinstall.html>

²⁷<https://tug.org/mactex/>

²⁸<http://mirror.ctan.org/systems/mac/mactex/MacTeX.pkg>

²⁹<http://www.miktex.org/>

³⁰<http://www.miktex.org/download>

14.1.3 Sources

Download the Bio-Formats source code or the CMake superbld source code, depending upon which type of build is required, as described above. The [downloads page](#)³¹ provides links to the source releases for both, as well as links to their git repositories. If you wish to build a specific release of Bio-Formats, the source release is appropriate, but if you wish to build the latest development work, or make changes to the sources, the git repository will be more useful.

14.1.4 Build environment

General

Custom configuration is needed primarily on Windows, where the needed tools may not be on the search path by default. There are several possible approaches here:

- Add to the system environment (globally)
- Add to the user environment (affects a single user)
- Set in a batch file and run this to set up the environment on demand (local to the command shell)

The first will affect all programs running on the system and so may cause problems, particularly if multiple configurations or tool versions are to be used. The last offers the greatest flexibility and safety, and can be sourced automatically when starting a shell if a console replacement such as **ConsoleZ** is used.

- Activate a python virtualenv if needed
- Ensure that needed tools are on the user PATH (e.g. **ant**, **cmake**, **doxygen**, **dot**, **git**, **python**, **java**, **sphinx**, **xelatex**)
- Set CMAKE_PREFIX_PATH if some libraries and tools are not on the default search path. Not all tools need to be on the default path; some will be discovered automatically by **cmake**

Homebrew

If qt5 and glm are installed, for building the Qt image viewer, ensure that `/usr/local/opt/qt5/bin` is on the PATH to allow Qt to be autodetected by **cmake**.

14.1.5 Source tree layout

Source tree layout:

```
cpp
-- cmake
-- ext
-- lib
|   -- ome
|       -- bioformats
|           -- detail
|               -- in
|               -- out
|               -- tiff
|       -- common
|           -- endian
|           -- xml
|               -- dom
|       -- compat
|       -- internal
|       -- qtwidgets
|       -- test
|       -- xml
-- libexec
|   -- info
```

³¹<http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/>

```
|  -- view
-- share
-- test
```

Top-level directories inside `cpp`:

cmake CMake build infrastructure

ext External third-party code

lib Bio-Formats library headers and sources

libexec Bio-Formats internal binaries (not direct public API)

share Bio-Formats architecture-independent data files

test Bio-Formats unit tests

Components in `lib` and `test`:

bioformats Bio-Formats reader and writer interfaces and implementations

common Common functionality used by all other components

compat Compatibility workarounds

internal Private implementation details

qtwidgets Qt5 widgets for image rendering with OpenGL

test Unit test common functions

xml OME XML model and metadata

14.1.6 Configuring

Bio-Formats uses **cmake**, a generic cross-platform build system which generates build files for a large number of common build systems and IDEs. For example, on BSD, Linux and MacOS X, Unix **make** `Makefile` files may be created. On Windows, Visual Studio **msbuild** `.sln` solution files and `.vcxproj` project may be created. However, Eclipse, Sublime Text or several other IDEs or alternative build systems may be used instead, if desired.

Start by creating a temporary build directory. This directory may be in any location inside or outside the Bio-Formats source tree. However, the source directory cannot be used as the build directory. (This fills the source tree full of autogenerated files.)

Run **cmake** from the temporary build directory:

```
% mkdir build
% cd build
% cmake /path/to/bioformats
```

Run `cmake -LH` to see the configurable project options; use `-LAH` to see advanced options. The following basic options are supported:

cxxstd-autodetect=(ON|OFF) Enable or disable (default) C++ compiler standard autodetection. If enabled, the compiler will be put into C++11 mode if available, otherwise falling back to C++03 or C++98. If disabled, the default compiler standard mode is used, and it is the responsibility of the user to add the appropriate compiler options to build using the required standard. This is useful if autodetection fails or a compiler is buggy in certain modes (e.g. GCC 4.4 or 4.6 require `-std=gnu++98` or else `stdarg` support is broken).

doxygen=(ON|OFF) Enable doxygen documentation. These will be enabled by default if doxygen is found.

embedded-gtest=(ON|OFF) Enable the use of an embedded copy of the Google Test (gtest) library. This is off by default but will be enabled automatically if a system copy is not found. This may be enabled explicitly to override the autodetection.

extended-tests=(ON|OFF) Some of the unit tests are comprehensive and run many thousands of tests. These are enabled by default, but by setting to OFF a representative subset of the tests will be run instead to save time.

extra-warnings=(ON|OFF) Enable or disable additional compiler warnings in addition to the default set. These are disabled by default since they trigger a large number of false positives, particularly in third-party libraries outside our control.

fatal-warnings=(ON|OFF) Make compiler warnings into fatal errors. This is disabled by default.

relocatable-install=(ON|OFF) Make the installed libraries, programs and datafiles relocatable; this means that they may be moved from their installation prefix to another location without breaking them. If OFF, the installation prefix is assumed to contain the libraries and datafiles. If ON, no assumptions are made, and a slower fallback is used to introspect the location. In all cases the location may be set in the environment to override the compiled-in defaults. This is OFF by default for a regular build, and ON by default for a superbuild.

sphinx=(ON|OFF) Build manual pages and HTML documentation with Sphinx. Enabled by default if Sphinx is autodetected.

sphinx-pdf=(ON|OFF) Build PDF documentation with Sphinx. Enabled by default if Sphinx and XeLaTeX are autodetected.

test=(ON|OFF) Enable unit tests. Tests are enabled by default.

For example, to disable tests, run `cmake -Dtest=OFF`. Options will typically be enabled by default if the prerequisites are available.

The installation prefix may be set at this point using `-DCMAKE_INSTALL_PREFIX=prefix`. The build system and compiler to use may also be specified. Please see the **cmake** documentation for further details of all configurable options, and run `cmake --help` to list the available generators for your platform.

If using the superbuild:

source-cache=directory Specify a directory in which to store downloaded source files; this is useful if you need to repeat the build since the source files will not need downloading again.

bioformats-superbuild_USE_SYSTEM_\${package}=(ON|OFF) Disable the building of particular components, in order to use the system version of these components. By default, building of all components is enabled. *\${package}* is the component name. Look in the `packages` directory for a full list of components.

C++11

C++11 features such as `std::shared_ptr` are used when using a C++11 or C++14 compiler, or when `-Dcxxstd-autodetect=ON` is used and the compiler can be put into a C++11 or C++14 compatibility mode. When using an older compatibility mode such as C++98, the Boost equivalents of C++11 library features will be used as fallbacks to provide the same functionality. In both cases these types are imported into the `ome::compat` namespace, for example as `ome::compat::shared_ptr`, and the types in this namespace should be used for portability when using any part of the API which use types from this namespace.

Linux and MacOS X

The default generator is `Unix Makefiles`, and the standard `CXX`, `CXXFLAGS` and `LDFLAGS` environment variables may be set to explicitly specify the compiler, compiler flags and linker flags, respectively. These may be useful for adding additional `-I` and `-L` include and library search paths, for example.

If you wish to use an IDE such as Eclipse or KDevelop, an alternative generator may be used.

Windows

On Windows, the generator will require specifying by hand, and this will configure the version of Visual Studio (or other compiler) to use. For example, `-G "Visual Studio 11 Win64"` will configure for generating Visual Studio 2012 64-bit build files for use with the Visual C++ compiler.

Note: There is no need to use the Visual Studio command shell when running **cmake**.

14.1.7 Building

For all platforms and generators, it should usually be possible to build using:

```
% cmake --build
```

which will invoke the platform- and generator-specific build as appropriate.

To build the API reference documentation, run:

```
% cmake --build . --target doc
```

Linux and MacOS X

If using Unix Makefiles, simply run:

```
% make
```

with any additional options required, for example `-j` to enable parallel building, or `VERBOSE=1` to show the details of every command being executed.

To build the API reference documentation, run:

```
% make doc
```

If using an IDE, open the generated project file and proceed using the IDE to build the project.

Windows

If using Visual Studio, the generated project files may be opened using the IDE and then built within the IDE. Alternatively, the project files may be built directly using the **msbuild** command-line tool inside a Visual Studio command prompt (or an appropriately configured command prompt which has run **VCVARSALL.BAT** or equivalent to configure the environment).

14.1.8 Testing

For all platforms and generators, it should usually be possible to run all tests using **ctest**. Run:

```
% ctest
```

or to run verbosely:

```
% ctest -V
```

Additional flags allow specification of the build configuration to use, logging, parallel building and other options. Please see the **ctest** documentation for further details.

Individual test programs may be run by hand if required.

Linux and MacOS X

To run all tests, run:

```
% cmake --build . --target test
```

or verbosely:

```
% cmake --build . --target test -- ARGS=-V
```

If using Unix Makefiles, simply run:

```
% make test
```

or verbosely:

```
% make test ARGS=-V
```

Windows

To run all tests, run:

```
> msbuild RUN_TESTS.vcproj
```

14.1.9 Installation

Linux and MacOS X

To install the headers and libraries directly on the system into the configured prefix:

```
% cmake --build . --target install
```

Alternatively, to install into a staging directory:

```
% cmake --build . --target install -- DESTDIR=/path/to/staging/directory install
```

If using Unix Makefiles, simply run:

```
% make install
```

Alternatively, to install into a staging directory:

```
% make DESTDIR=/path/to/staging/directory install
```

Windows

When using Visual Studio, there should be an `INSTALL.vcxproj` project which may be run using **msbuild**, for example:

```
> msbuild INSTALL.vcxproj /p:platform=x64
```

Installation layout

A typical installation layout:


```

$CMAKE_INSTALL_PREFIX
-- bin
-- include
|   -- ome
|       -- bioformats
|       -- common
|       -- compat
|       -- xml
-- lib
-- libexec
-- share
    -- icons
    -- man
    -- xml

```

14.1.10 Using the library

The [Doxygen API reference](#)³² is used to document all aspects of the Bio-Formats API.

14.2 C++ conversion details

The C++ codebase has been primarily a conversion of the original Java codebase, with some additional helper functions and classes added where needed. The intention is that the basic interfaces and classes should be identical between the two languages unless this is prevented by fundamental differences between the languages.

This section is intended to be useful for

- Users of the existing Java interface, who wish to understand the differences between the two implementations
- Developers who wish to work on the C++ interface

In addition to documenting the specific language and class compatibility issues, this section also documents the idioms in use in the C++ code which might not be immediately clear by looking at the API reference, and which may not be familiar to Java developers.

14.2.1 C++ and Java type incompatibility

While C++ and Java have some basic syntactical similarities, there are several basic differences in their type systems.

Java types

Java has primitive types and classes.

```

int i;
double d;

```

- No unsigned primitive integer types

```

Pixels pixels = new Pixels();

```

- All classes are derived from root `Object`
- Objects are by reference only
- Objects and arrays are always allocated with `new`

³²<http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/annotated.html>

- Destruction is non-deterministic
- All passing is by value (primitives and object references)

```
Pixels[] array = new Pixels[5];
```

- Arrays have an intrinsic size.
- Arrays are safe to index out of bounds (an exception is thrown).

C++ types

C++ has primitive types, structures and classes.

```
int16_t i1;
uint32_t i2;
double d;
```

- Primitive integer types may be signed or unsigned.
- Integer types are of defined size.

```
// Allocate on the stack, or as a struct or class member:
Pixels      pixels;

// Allocate on the heap
Pixels      *pixelsptr1 = new Pixels();

// Pointer to existing instance
const Pixels *pixelsptr2 = &pixels;

// Reference to existing instance
Pixels&      pixelsref(pixels);
```

- Classes have no common root
- All types may be instances, pointers or references
- Object construction may be on the stack, on the heap using `new` or in place using placement `new`.
- Pointers and references may refer to `const` type
- Pointers may be `const`
- References are implicitly `const` (similar to `final`)
- Destruction is deterministic
- `new` **should never be used** in modern C++ code (see below)

```
Pixels array[5];
```

- Arrays “decay” to bare pointers
- Arrays are not safe to index out of bounds
- Size information lost at runtime
- **Never use arrays** outside static initializers

Simplified type names

`typedef` is used to create an alias for an existing type.

```
typedef std::vector<std::string> string_list;
string_list l;
string_list::const_iterator i = l.begin();
// NOT std::vector<std::string>::const_iterator

typedef std::vector<Pixels> plist;
plist pl(6);
plist::size_type idx = 2;
// size_type NOT unsigned int or uint32_t
pl.at(idx) = ...;
```

Used in standard container types e.g. `size_type`, `value_type` and in classes and class templates in Bio-Formats. Consistency is needed for generic programming—use the standard type names to enable interoperability with standard algorithms.

14.2.2 Exception handling

Java

`throws` details which exceptions are thrown by a method. Java exceptions are also “checked”, requiring the caller to catch and handle all exceptions which might be thrown, aside from `RuntimeException` and its subclasses.

C++

C++ has exception specifications like Java, however they are useless aside from `nothrow`. This is because if an exception is thrown which does not match the specification, it will abort the program with a `bad_exception` which makes them unusable in practice.

Exceptions can be thrown at any point with the exception that they should **never be thrown in a destructor**. It is not necessary or typical to check exceptions except where needed. All code must be exception-safe given that an exception could be thrown at any point; the design considerations for exception safety are covered below.

14.2.3 Interfaces

Java supports single-inheritance, plus interfaces. C++ supports true multiple-inheritance, which is rather more flexible, at the expense of being rather more complicated and dangerous. However, the Java single-inheritance-plus-interfaces model can be implemented in C++ using a subset of the facilities provided by multiple inheritance. Rather than being enforced by the language, it is a set of idioms. These must be rigorously followed or else things will fail horribly!

C++ interfaces are classes with:

- No instance variables
- Pure virtual methods
- `protected` default constructor
- `public` virtual destructor
- Deleted copy constructor and assignment operator

C++ classes implementing interfaces:

- Use `public` inheritance for parent class
- Use `virtual public` inheritance for implemented interfaces
- Have a `virtual` destructor

When compiled with optimization enabled, the interface classes should have zero storage overhead. If implementing classes do not use `virtual public` inheritance, compilation will fail as soon as a second class in the inheritance hierarchy also implements the interface.

14.2.4 Reference handling and memory management

Pointer problems

Plain (or “dumb”) C++ pointers can be dangerous if used incorrectly. The Bio-Formats API make a point of never using them unless absolutely necessary. For automatic objects allocated on the stack, allocation and deallocation is automatic and safe:

```
{
    Image i(filename);
    i.read_plane();

    // Object destroyed when i goes out of scope
}
```

In this case, the object’s destructor was run and the memory freed automatically.

Looking at the case where a pointer is used to reference manually-allocated memory on the heap:

```
{
    Image *i = new Image(filename);

    i->read_plane();

    // Memory not freed when pointer i goes out of scope
}
```

In this case `new` was not paired with the corresponding `delete`, resulting in a *memory leak*. This is the code with the “leak” fixed:

```
{
    Image *i = new Image(filename);

    i->read_plane(); // throws exception; memory leaked

    delete i; // never called
}
```

`new` and `delete` are now paired, but the code is not exception-safe. If an exception is thrown, memory will still be leaked. Manual memory management requires correct clean up for every exit point in the function, including both all `return` statements and thrown exceptions. Here, we handle this correctly:

```
{
    Image *i = new Image(filename);

    try {
        i->read_plane(); // throws exception
    } catch (const std::runtime_error& e) {
        delete i; // clean up
        throw; // rethrow
    }

    delete i; // never called for exceptions
}
```

However, this does not scale. This is painful and error prone when scaled to an entire codebase. Even within this simple function, there is only a single variable with a single exception and single return to deal with. Imagine the combinatorial explosion when there are several variables with different lifetimes and scopes, multiple return points and several exceptions to handle—this is easy to get wrong, so a more robust approach is needed.

Use of `new` is not in the general case safe or sensible. The Bio-Formats API **never** passes pointers allocated with `new`, nor requires any manual memory management. Instead, “smart” pointers are used throughout to manage memory safely and automatically.

`ome::compat::shared_ptr` as a “smart” pointer

The unsafe example above, has been rewritten to use `ome::compat::shared_ptr`:

```
// Start of block
{
    ome::compat::shared_ptr<Image> i(ome::compat::make_shared<Image>(filename));

    i->read_plane(); // throws exception

    // Memory freed when i's destructor is
    // run at exit of block scope
}
```

Rather than managing the memory by hand, responsibility for this is delegated to a “smart” pointer, `ome::compat::shared_ptr`. The memory is freed by the `ome::compat::shared_ptr` destructor which is run at the end of the block scope, on explicit return, or when cleaned up by exception stack unwinding.

Note: `ome::compat::shared_ptr` is either a `std::shared_ptr` or a `boost::shared_ptr`, depending upon whether C++11 features are available or not, respectively.

- `shared_ptr` object lifetime manages the resource
- `new` replaced with `ome::compat::make_shared`
- May be used as class members; lifetime is tied to class instance
- Clean up for all exit points is automatic and safe
- Allows ownership transfer and sharing
- Allows reference without ownership using `weak_ptr`
- `weak_ptr` references the object but does not prevent it being freed when the last `shared_ptr` reference is lost; this is useful for cycle breaking and is used by the OME XML model objects for references

Resource Acquisition Is Initialization

Resource Acquisition Is Initialization (RAII) is a programming idiom used throughout modern C++ libraries and applications, including the Standard Library,

- A class is a proxy for a resource
- The resource is acquired when object is initialised
- The resource is released when object is destroyed
- Any resource may be managed (e.g. memory, files, locks, mutexes)
- The C++ language and runtime guarantees make resource management deterministic and reliable
- Safe for use in any scope
- Exception safe
- Used throughout modern C++ libraries and applications

Because this relies implicitly upon the deterministic object destruction guarantees made by the C++ language, this is not used widely in Java APIs which often require manual management of resources such as open files. Used carefully, RAII will prevent resource leaks and result in robust, safe code.

The `FormatReader` API is currently not using RAII due to the use of the `FormatHandler::setId()` interface.

C++ reference variants

```
// ----- Non-constant ----- Constant -----
// -----
// Pointer
Image *i;           const Image *i;
Image * const i;    const Image * const i;

// Reference
Image& i;           const Image& i;

// Shared pointer
ome::compat::shared_ptr<Image> i;    ome::compat::shared_ptr<const Image> i;
const ome::compat::shared_ptr<Image> i;  const ome::compat::shared_ptr<const Image> i;

// Shared pointer reference
ome::compat::shared_ptr<Image>& i;    ome::compat::shared_ptr<const Image>& i;
const ome::compat::shared_ptr<Image>& i;  const ome::compat::shared_ptr<const Image>& i;

// Weak pointer
ome::compat::weak_ptr<Image> i;       ome::compat::weak_ptr<const Image> i;
const ome::compat::weak_ptr<Image> i;  const ome::compat::weak_ptr<const Image> i;

// Weak pointer reference
ome::compat::weak_ptr<Image>& i;       ome::compat::weak_ptr<const Image>& i;
const ome::compat::weak_ptr<Image>& i;  const ome::compat::weak_ptr<const Image>& i;
```

Java has one reference type. Here, we have **22**. Clearly, not all of these will typically be used. Below, a subset of these are shown for use for particular purposes.

Class member types:

```
Image i;           // Concrete instance
ome::compat::shared_ptr<Image> i;  // Reference
ome::compat::weak_ptr<Image> i;    // Weak reference
```

Wherever possible, a concrete instance should be preferred. This is not possible for polymorphic types, where a reference is required. In this situation, an `ome::compat::shared_ptr` is preferred if the class owns the member and/or needs control over its lifetime. If the class does not have ownership then an `ome::compat::weak_ptr` will allow safe access to the object if it still exists. In circumstances where manual lifetime management is required, e.g. for performance, and the member is guaranteed to exist for the duration of the object's lifetime, a plain pointer or reference may be used. A pointer will be used if it is possible for it to be `null`, or it may be reassigned more than once, or if is assigned after initial construction. If properly using RAII, using references should be possible and preferred over bare pointers in all cases.

Argument types:

```
// Ownership retained
void read_plane(const Image& image);
// Ownership shared or transferred
void read_plane(const ome::compat::shared_ptr<Image>& image);
```

Passing primitive types by value is acceptable. However, passing a struct or class by value will implicitly copy the object into the callee's stack frame, which may be expensive (and requires a copy constructor which will not be guaranteed or even possible for polymorphic types). Passing by reference avoids the need for any copying, and passing by `const` reference

will prevent the callee from modifying the object, also making it clear that there is no transfer of ownership. Passing using an `ome::compat::shared_ptr` is possible but not recommended—the copy will involve reference counting overhead which can kill multi-threaded performance since it requires synchronization between all threads; use a `const` reference to an `ome::compat::shared_ptr` to avoid the overhead. If ownership should be transferred or shared with the callee, use a non-`const` reference.

To be absolutely clear, plain pointers are never used and are not acceptable for ownership transfer. A plain reference also makes it clear there is no ownership transfer.

Return types:

```
Image get_image(); // Ownership transferred
Image& get_image(); // Ownership retained
ome::compat::shared_ptr<Image> get_image(); // Ownership shared/trans
ome::compat::shared_ptr<Image>& get_image(); // Ownership shared
```

If the callee does not retain a copy of the original object, it can't pass by reference since it can't guarantee the object remaining in scope after it returns, hence it must create a temporary value and pass by value. If the callee does retain a copy, it has the option of passing by reference. Passing by reference is preferred when possible. Passing by value implies ownership transfer. Passing by reference implies ownership retention. Passing an `ome::compat::shared_ptr` by value or reference implies sharing ownership since the caller can retain a reference; if passing by value ownership *may* be transferred since this implies the callee is not retaining a reference to it (but this is not guaranteed).

Again, to be absolutely clear, plain pointers are never used and are not acceptable for ownership transfer. A plain reference also makes it clear there is no ownership transfer.

- Safety: References cannot be `null`
- Storing polymorphic types requires use of a `shared_ptr`
- Referencing polymorphic types *may* require use of a `shared_ptr`
- Safety: To avoid cyclic dependencies, use `weak_ptr`
- Safety: To allow object destruction while maintaining a safe reference, use `weak_ptr`
- `weak_ptr` is not directly usable
- `weak_ptr` is convertible back to `shared_ptr` for use *if the object is still in existence*
- C++11 *move semantics* (`&&`) improve the performance of ownership transfer

14.2.5 Containers

Safe array passing

C++ arrays are not safe to pass in or out of functions since the size is not known unless passed separately.

```
class Image
{
    // Unsafe; size unknown
    uint8_t[] getLUT();
    void setLUT(uint8_t[]& lut);
};
```

C++ arrays “decay” to “bare” pointers, and pointers have no associated size information.

`ome::compat::array` is a safe alternative. This is either a C++11 `std::array` or `boost::array` with older compilers.

```
class Image
{
    typedef ome::compat::array<uint8_t, 256> LUT;
```

```
// Safe; size defined
const LUT& getLUT() const;
void setLUT(const LUT&);
};
```

`ome::compat::array` is a array-like object (a class which behaves like an array). Its type and size are defined in the template, and it may be passed around like any other object. Its `array::at()` method provides strict bounds checking, while its index `array::operator[]()` provides unchecked access.

14.2.6 Storing and passing unrelated types

Types with a common base

```
std::vector<ome::compat::shared_ptr<Base> > v;
v.push_back(ome::compat::make_shared<Derived>());
```

This can store any type derived from `Base`. An `ome::compat::shared_ptr` is **essential**. Without it, bare pointers to the base would be stored, and memory would be leaked when elements are removed from the container (unless externally managed [generally unsafe]). The same applies to passing polymorphic types.

Java containers can be problematic:

- Java can store root `Object` in containers
- Java can pass and return root `Object` in methods.
- This is not possible in C++: there is no root object.
- An alternative approach is needed.

Arbitrary types

`boost::any` may be used to store any type:

```
std::vector<boost::any> v;
v.push_back(Anything);
```

- Assign and store any type
- Type erasure (similar to Java generics)
- Use for containers of arbitrary types
- Flexible, but need to cast to each type used to extract
- Code will not be able to handle all possible types meaningfully

This is the most flexible solution, but in order to get a value back out, requires casting it to its specific type. This can mean a situation could arise where values are stored of types which cannot be handled since it is not possible to write the code to handle every single possibility ahead of time. However, if the open-ended flexibility is needed, this is available.

A fixed set of types

`boost::variant` may be used to store a limited set of different types: This avoids the `boost::any` problem of not being able to handle all possible types, since the scope is limited to a set of allowed types, and a `static_visitor` can ensure that all types are supported by the code at compile time.


```
typedef boost::variant<int, std::string> variants;
std::vector<variants> v;
v.push_back(43);
v.push_back("ATTO 647N");
```

- Store a set of discriminated types
- “External polymorphism” via `static_visitor`
- Used to store original metadata
- Used to store nD pixel data of different pixel types

This is not an alternative to a common root object. Instead, this is a discriminated union, which can store one of a defined set of “variant” types. A static visitor pattern may be used to generate code to operate on all of the supported types. The variant type may be used as a class member, passed by value, passed by reference or stored in a container like any other type. Due to the way it is implemented to store values, it does not necessarily need wrapping in an `ome::compat::shared_ptr` since it can behave as a value type (depending upon the context).

Java uses polymorphism to store and pass the root `Object` around. The `boost::variant` and `boost::any` approaches use templates to (internally) create a common base and manage the stored objects. However, the end user does not need to deal with this complexity directly—the use of the types is quite transparent.

Variant example: MetadataMap

This example demonstrates the use of variants with a simple expansion for two different categories of type (scalars and vectors of scalars).

The `MetadataMap` class stores key-value pairs, where the value can be either a string, Boolean, or several integer and floating point types, or vectors of any of these types. When converting the data to other forms, it is necessary to flatten the vector types to a set of separate key-value pairs with the key having a numbered suffix, one for each element in the vector.

```
{
    MetadataMap map;
    MetadataMap flat_map (map.flatten());
}
```

A flattened map is created using the following method:

```
MetadataMap MetadataMap::flatten() const {
    MetadataMap newmap;

    for (MetadataMap::const_iterator i = oldmap.begin();
         i != oldmap.end(); ++i) {
        MetadataMapFlattenVisitor v(newmap, i->first);
        boost::apply_visitor(v, i->second);
    }

    return newmap;
}
```

The `MetadataMapFlattenVisitor` is implemented thusly:

```
// Flatten MetadataMap vector values
struct MetadataMapFlattenVisitor : public boost::static_visitor<> {
    MetadataMap& map; // Map of flattened elements
    const MetadataMap::key_type& key; // Current key

    MetadataMapFlattenVisitor
        (MetadataMap& map,
```

```

    const MetadataMap::key_type& key):
map(map), key(key) {}

// Output a scalar value of arbitrary type.
template <typename T>
void operator() (const T& v) const {
    map.set(key, v);
}

// Output a vector value of arbitrary type.
template <typename T>
void operator() (const std::vector<T>& c) const {
    typename std::vector<T>::size_type idx = 1;
    for (typename std::vector<T>::const_iterator i = c.begin();
         i != c.end(); ++i, ++idx) {
        std::ostringstream os;
        os << key << " #" << idx;
        map.set(os.str(), *i);
    }
}
};

```

The `MetadataMapFlattenVisitor` is derived from `boost::static_visitor`, and its templated operator method is specialized and expanded once for each type supported by the variant type used by the map. In the above example, two separate overloaded operators are provided, one for scalar values which is a simple copy, and one for vector values which splits the elements into separate keys in the new map. The important part is the call to `apply_visitor()`, which takes as arguments the visitor object and the variant to apply it to.

This could be done with a large set of conditionals using `boost::get<T>(value)` for each supported type. The benefit of the `boost::static_visitor` approach is that it ensures that all the types are supported *at compile time*, and in effect results in the same code. If any types are not supported, the code will fail to compile.

Variant example: VariantPixelBuffer equality comparison

This example demonstrates the use of variants with a combinatorial expansion of types.

The `VariantPixelBuffer` class can contain `PixelBuffer` classes of various pixel types. Comparing for equality is only performed if the pixel types of the two objects are the same:

```

{
    VariantPixelBuffer a, b;
    if (a == b) {
        // Buffers are the same.
    }
}

```

This is implemented using an overloaded equality operator:

```

bool VariantPixelBuffer::operator ==
(const VariantPixelBuffer& rhs) const
{
    return boost::apply_visitor(PBCompareVisitor(),
                                buffer, rhs.buffer);
}

```

As before, this is implemented in terms of a `boost::static_visitor`, but note that this time it is specialized for `bool`, meaning that the return type of `apply_visitor()` will also be `bool`, and the operator methods must also return this type.

```

struct PBCompareVisitor : public boost::static_visitor<bool> {
    template <typename T, typename U>
    bool operator() (const T& /* lhs */,
                    const U& /* rhs */) const {
        return false;
    }

    template <typename T>
    bool operator() (const T& lhs,
                    const T& rhs) const {
        return lhs && rhs && (*lhs == *rhs);
    }
};

```

Unlike the last example, the operator methods now have two arguments, both of which are variant types, and the `apply_visitor()` call is passed two variant objects in addition to the visitor object. This causes the templates to be expanded for all pairwise combinations of the possible types. When the types are not equal, the first templated operator is called, which always returns false. When the types are equal the second operator is called; this checks both operands are not null and then performs an equality comparison using the buffer contents. Given that all the operators are inline, we would hope that a good compiler would cause all the false cases to be optimized out after expansion.

Variant example: VariantPixelBuffer SFINAE

This example demonstrates the use of variants with SFINAE.

C++ has a concept known as Substitution Failure Is Not An Error (SFINAE), which refers to it not being an error for a candidate template to fail argument substitution during overload resolution. While this is in and of itself a fairly obscure language detail, it enables overloading of a method not just on type, but different categories of type, for example integer and floating point types, signed and unsigned integer types, simple and complex types, or combinations of all of these. This is particularly useful when writing algorithms to process pixel data.

Use of SFINAE has been made accessible through the creation of `boost::enable_if` (`std::enable_if` in C++11), and *type traits* (type category checking classes such as `is_integer`). The following code is an example of how one might write a visitor for adapting an algorithm to separate integer, floating point, complex floating point and bitmask cases.

```

struct TypeCategoryVisitor : public boost::static_visitor<>
{
    typedef ::ome::bioformats::PixelProperties< ::ome::xml::model::enums::PixelType::BIT>::std_type bit_type;

    TypeCategoryVisitor()
    {}

    // Integer pixel types
    template <typename T>
    typename boost::enable_if_c<
        boost::is_integral<T>::value, void
    >::type
    operator() (ome::compat::shared_ptr< ::ome::bioformats::PixelBuffer<T> >& buf)
    {
        // Integer algorithm.
    }

    // Floating point pixel types
    template <typename T>
    typename boost::enable_if_c<
        boost::is_floating_point<T>::value, void
    >::type
    operator() (ome::compat::shared_ptr< ::ome::bioformats::PixelBuffer<T> >& buf)
    {
        // Floating point algorithm.
    }
};

```

```

// Complex floating point pixel types
template <typename T>
typename boost::enable_if_c<
    boost::is_complex<T>::value, void
>::type
operator() (ome::compat::shared_ptr< ::ome::bioformats::PixelBuffer<T> >& buf)
{
    // Complex floating point algorithm.
}

// BIT/bool pixel type. Note this is a simple overload since it is
// a simple type, not a category of different types.
void
operator() (ome::compat::shared_ptr< ::ome::bioformats::PixelBuffer<bit_type> >& buf)
{
    // Boolean algorithm.
}
};

```

This visitor may be used with `apply_visitor()` in a similar manner to the previously demonstrated visitors.

`enable_if` has two parameters, the first being a conditional, the second being the return type (in this example, all the methods return `void`). If the conditional is true, then the type expands to the return type and the template is successfully substituted. If the conditional is false (types do not match), then the substitution fails and the template will not be used. Note that the conditional is itself a type, which can be confusing, since all this logic is driven by conditional template expansion.

Normal templates are specialized for a type. This approach allows specialization for different *categories* of type. Without this approach it would be necessary to write separate overloads for each individual type (each integer type, each floating point type, each complex type, etc.), even when the logic would be identical for e.g. the different integer types. This approach therefore removes the need for unnecessary code duplication, and the type traits checks make each type category explicit to the reader.

14.3 Tutorial

14.3.1 Metadata

Bio-Formats supports several different classes of metadata, from very basic information about the image dimensions and pixel type to detailed information about the acquisition hardware and experimental parameters. From simplest to most complex, these are:

Core metadata Basic information describing an individual 5D image (series), including dimension sizes, dimension order and pixel type

Original metadata Key-value pairs describing metadata from the original file format for the image. Two forms exist: global metadata for an entire dataset (image collection) and series metadata for an individual 5D image

Metadata store A container for all image metadata providing interfaces to get and set individual metadata values. This is a superset of the core and original metadata content (it can represent all values contained within the core and original metadata). It is an alternative representation of the OME-XML data model objects, and is used by the Bio-Formats reader and writer interfaces.

OME-XML data model objects The abstract OME-XML data model is realized as a collection of *model objects*. Classes are generated from the elements of the OME-XML data model schema, and a tree of the model objects acts as a representation of the OME data model which may be modified and manipulated. The model objects may be created from an OME-XML text document, and vice versa.

For the simplest cases of reading and writing image data, the core metadata interface will likely be sufficient. If specific individual parameters from the original file format are needed, then original metadata may also be useful. For more advanced processing and rendering, the metadata store should be the next source of information, for example to get information about the image scale, stage position, instrument setup including light sources, light paths, detectors etc., and access to plate/well information, regions of interest etc. Direct access to the OME-XML data model objects is an alternative to the metadata store, but is more difficult to use; certain modifications to the data model may only be made via direct access to the model objects, otherwise the higher-level metadata store interface should be preferred.

The header file `ome/bioformats/MetadataTools.h`³³ provides several convenience functions to work with and manipulate the various forms of metadata, including conversion of Core metadata to and from a metadata store.

Core metadata

Core metadata is accessible through the getter methods in the `FormatReader` interface. These operate on the *current* series, set using the `setSeries()` method. The `CoreMetadata` objects are also accessible directly using the `getCoreMetadataList` method. The `FormatReader` interface should be preferred; the objects themselves are more of an implementation detail at present.

```
void
readMetadata(const FormatReader& reader,
             std::ostream&      stream)
{
    // Get total number of images (series)
    dimension_size_type ic = reader.getSeriesCount();
    stream << "Image count: " << ic << '\n';

    // Loop over images
    for (dimension_size_type i = 0 ; i < ic; ++i)
    {
        // Change the current series to this index
        reader.setSeries(i);

        // Print image dimensions (for this image index)
        stream << "Dimensions for Image " << i << ':'
            << "\n\tX = " << reader.getSizeX()
            << "\n\tY = " << reader.getSizeY()
            << "\n\tZ = " << reader.getSizeZ()
            << "\n\tT = " << reader.getSizeT()
            << "\n\tC = " << reader.getSizeC()
            << "\n\tEffectiveC = " << reader.getEffectiveSizeC();
        for (dimension_size_type channel = 0;
             channel < reader.getEffectiveSizeC();
             ++channel)
        {
            stream << "\n\tChannel " << channel << ':'
                << "\n\t\tRGB = " << (reader.isRGB(channel) ? "true" : "false")
                << "\n\t\tRGBC = " << reader.getRGBChannelCount(channel);
        }
        stream << '\n';

        // Get total number of planes (for this image index)
        dimension_size_type pc = reader.getImageCount();
        stream << "\tPlane count: " << pc << '\n';

        // Loop over planes (for this image index)
        for (dimension_size_type p = 0 ; p < pc; ++p)
        {
            // Print plane position (for this image index and plane
            // index)
            ome::compat::array<dimension_size_type, 3> coords =
                reader.getZCTCoords(p);
            stream << "\tPosition of Plane " << p << ':'
                << "\n\t\tTheZ = " << coords[0]
                << "\n\t\tTheT = " << coords[2]
                << "\n\t\tTheC = " << coords[1]
                << '\n';
        }
    }
}
```

³³http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/MetadataTools_8h_source.html

If implementing a reader, it is fairly typical to set the basic image metadata in `CoreMetadata` objects, and then use the `fillMetadata()` function in `ome/bioformats/MetadataTools.h`³⁴ to fill the reader's metadata store with this information, before filling the metadata store with additional (non-core) metadata as required. When writing an image, a metadata store is required in order to provide the writer with all the metadata needed to write an image. If the metadata store was not already obtained from a reader, `fillMetadata()` may also be used in this situation to create a suitable metadata store:

```
shared_ptr< ::ome::xml::meta::OMEXMLMetadata>
createMetadata()
{
    // OME-XML metadata store.
    shared_ptr< ::ome::xml::meta::OMEXMLMetadata> meta(make_shared< ::ome::xml::meta::OMEXMLMetadata>())

    // Create simple CoreMetadata and use this to set up the OME-XML
    // metadata. This is purely for convenience in this example; a
    // real writer would typically set up the OME-XML metadata from an
    // existing MetadataRetrieve instance or by hand.
    std::vector<shared_ptr<CoreMetadata> > seriesList;
    shared_ptr<CoreMetadata> core(make_shared<CoreMetadata>());
    core->sizeX = 512U;
    core->sizeY = 512U;
    core->sizeC.clear(); // defaults to 1 channel with 1 subchannel; clear this
    core->sizeC.push_back(3U); // replace with single RGB channel
    core->pixelType = ome::xml::model::enums::PixelType::UINT16;
    core->interleaved = false;
    core->bitsPerPixel = 12U;
    core->dimensionOrder = DimensionOrder::XYZTC;
    seriesList.push_back(core);
    seriesList.push_back(core); // add two identical series

    fillMetadata(*meta, seriesList);

    return meta;
}
```

Full example source: `metadata-formatreader.cpp`, `metadata-formatreader.cpp`

See also:

- `CoreMetadata`³⁵
- `FormatReader`³⁶

Original metadata

Original metadata is stored in two forms: in a `MetadataMap` which is accessible through the `FormatReader` interface, which offers access to individual keys and the whole map for both global and series metadata. It is also accessible using the metadata store; original metadata is stored as an `XMLAnnotation`. The following example demonstrates access to the global and series metadata using the `FormatReader` interface to get access to the maps:

```
void
readOriginalMetadata(const FormatReader& reader,
                    std::ostream& stream)
{
    // Get total number of images (series)
    dimension_size_type ic = reader.getSeriesCount();
    stream << "Image count: " << ic << '\n';

    // Get global metadata
    const MetadataMap& global = reader.getGlobalMetadata();
```

³⁴http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/MetadataTools_8h_source.html

³⁵http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1CoreMetadata.html

³⁶http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1FormatReader.html

```

// Print global metadata
stream << "Global metadata:\n" << global << '\n';

// Loop over images
for (dimension_size_type i = 0 ; i < ic; ++i)
{
    // Change the current series to this index
    reader.setSeries(i);

    // Print series metadata
    const MetadataMap& series = reader.getSeriesMetadata();

    // Print image dimensions (for this image index)
    stream << "Metadata for Image " << i << ":\n"
        << series
        << '\n';
}
}

```

It would also be possible to use `getMetadataValue()` and `getSeriesMetadataValue()` to obtain values for individual keys. Note that the `MetadataMap` values can be scalar values or lists of scalar values; call the `flatten()` method to split the lists into separate key-value pairs with a numbered suffix.

Full example source: `metadata-formatreader.cpp`

See also:

- `MetadataMap`³⁷
- `FormatReader`³⁸
- `OriginalMetadataAnnotation`³⁹

Metadata store

Access to metadata is provided via the `MetadataStore` and `MetadataRetrieve` interfaces. These provide setters and getters, respectively, to store and retrieve metadata to and from an underlying abstract metadata store. The primary store is the `OMEXMLMetadata` which stores the metadata in OME-XML data model objects (see below), and implements both interfaces. However, other storage classes are available, and may be used to filter the stored metadata, combine different stores, or do nothing at all. Additional storage backends could also be implemented, for example to allow metadata retrieval from a relational database, or JSON/YAML.

When using `OMEXMLMetadata` the convenience function `createOMEXMLMetadata()` is the recommended method for creating a new instance and then filling it with the content from an OME-XML document. This is overloaded to allow the OME-XML to be obtained from various sources. For example, from a file:

```

// Create metadata directly from file
shared_ptr<meta::OMEXMLMetadata> filemeta(createOMEXMLMetadata(filename));

```

Alternatively from a DOM tree:

```

// XML platform (required by Xerces)
xml::Platform xmlplat;
// XML DOM tree containing parsed file content
xml::dom::Document inputdoc(ome::xml::createDocument(filename));
// Create metadata from DOM document
shared_ptr<meta::OMEXMLMetadata> dommeta(createOMEXMLMetadata(inputdoc));

```

³⁷http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1MetadataMap.html

³⁸http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1FormatReader.html

³⁹http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1xml_1_1model_1_1OriginalMetadataAnnotation.html

The convenience function `getOMEXML()` may be used to reverse the process, i.e. obtain an OME-XML document from the store. Note the use of `convert()`. Only the `OMEXMLMetadata` class can dump an OME-XML document, therefore if the source of the data is another class implementing the `MetadataRetrieve` interface, the stored data will need to be copied into an `OMEXMLMetadata` instance first.

```
meta::OMEXMLMetadata *omexmlmeta = dynamic_cast<meta::OMEXMLMetadata *>(&meta);
shared_ptr<meta::OMEXMLMetadata> convertmeta;
if (!omexmlmeta)
{
    convertmeta = make_shared<meta::OMEXMLMetadata>();
    meta::convert(meta, *convertmeta);
    omexmlmeta = &*convertmeta;
}
// Get OME-XML text from metadata store (and validate it)
std::string omexml(getOMEXML(*omexmlmeta, true));
```

Conceptually, the metadata store contains lists of objects, accessed by index (insertion order). In the example below, `getImageCount()` method is used to find the number of images. This is then used to safely loop through each of the available images. Each of the `getPixelsSizeA()` methods takes the image index as its only argument. Internally, this is used to find the Image model object for the specified index, and then call the `getSizeA()` method on that object and return the result. Since objects can contain other objects, some accessor methods require the use of more than one index. For example, an Image object can contain multiple Plane objects. Similar to the above example, there is a `getPlaneCount()` method, however since it is contained by an Image it has an additional image index argument to get the plane count for the specified image. Likewise its accessors such as `getPlaneTheZ()` take two arguments, the image index and the plane index. Internally, these indices will be used to find the Image, then the Plane, and then call `getTheZ()`. When using the `MetadataRetrieve` interface with an `OMEXMLMetadata` store, the methods are simply a shorthand for navigating through the tree of model objects.

```
void
queryMetadata(const meta::MetadataRetrieve& meta,
              const std::string&          state,
              std::ostream&               stream)
{
    // Get total number of images (series)
    index_type ic = meta.getImageCount();
    stream << "Image count: " << ic << '\n';

    // Loop over images
    for (index_type i = 0 ; i < ic; ++i)
    {
        // Print image dimensions (for this image index)
        stream << "Dimensions for Image " << i << ' ' << state << ':'
            << "\n\tX = " << meta.getPixelsSizeX(i)
            << "\n\tY = " << meta.getPixelsSizeY(i)
            << "\n\tZ = " << meta.getPixelsSizeZ(i)
            << "\n\tT = " << meta.getPixelsSizeT(i)
            << "\n\tC = " << meta.getPixelsSizeC(i)
            << '\n';

        // Get total number of planes (for this image index)
        index_type pc = meta.getPlaneCount(i);
        stream << "\tPlane count: " << pc << '\n';

        // Loop over planes (for this image index)
        for (index_type p = 0 ; p < pc; ++p)
        {
            // Print plane position (for this image index and plane
            // index)
            stream << "\tPosition of Plane " << p << ':'
                << "\n\t\tTheZ = " << meta.getPlaneTheZ(i, p)
                << "\n\t\tTheT = " << meta.getPlaneTheT(i, p)
                << "\n\t\tTheC = " << meta.getPlaneTheC(i, p)
                << '\n';
        }
    }
}
```



```

    }
}

```

The methods for storing data using the `MetadataStore` interface are similar. The set methods use the same indices as the get methods, with the value to set as an additional initial argument. The following example demonstrates how to update dimension sizes for images in the store:

```

void
updateMetadata (meta::Metadata& meta)
{
    // Get total number of images (series)
    index_type ic = meta.getImageCount();

    // Loop over images
    for (index_type i = 0 ; i < ic; ++i)
    {
        // Change image dimensions (for this image index)
        meta.setPixelsSizeX(12, i);
        meta.setPixelsSizeY(24, i);
        meta.setPixelsSizeZ(6, i);
        meta.setPixelsSizeT(30, i);
        meta.setPixelsSizeC(4, i);
    }
}

```

When adding new objects to the store, as opposed to updating existing ones, some additional considerations apply. A new object is added to the store if the object corresponding to an index does not exist and the index is the current object count (i.e. one past the end of the last valid index). Note that for data model objects with a `setID()` method, this method alone will trigger insertion and must be called first, before any other methods which modify the object. The following example demonstrates the addition of a new `Image` to the store, plus contained `Plane` objects.

```

void
addMetadata (meta::Metadata& meta)
{
    // Get total number of images (series)
    index_type i = meta.getImageCount();

    // Size of Z, T and C dimensions
    index_type nz = 3;
    index_type nt = 1;
    index_type nc = 4;

    // Create new image; the image index is the same as the image
    // count, i.e. one past the end of the current limit; createID
    // creates a unique identifier for the image
    meta.setImageID(createID("Image", i), i);
    // Set Pixels identifier using createID and the same image index
    meta.setPixelsID(createID("Pixels", i), i);
    // Now set the dimension order, pixel type and dimension sizes for
    // this image, using the same image index
    meta.setPixelsDimensionOrder(model::enums::DimensionOrder::XYZTC, i);
    meta.setPixelsType(model::enums::PixelType::UINT8, i);
    meta.setPixelsSizeX(256, i);
    meta.setPixelsSizeY(256, i);
    meta.setPixelsSizeZ(nz, i);
    meta.setPixelsSizeT(nt, i);
    meta.setPixelsSizeC(nc, i);

    // Plane count
    index_type pc = nz * nc * nt;
}

```

```

// Loop over planes
for(index_type p = 0; p < pc; ++p)
{
    // Get the Z, T and C coordinate for this plane index
    array<dimension_size_type, 3> coord =
        getZCTCoords("XYZTC", nz, nc, nt, pc, p);

    // Set the plane position using the image index and plane
    // index to reference the correct plane
    meta.setPlaneTheZ(coord[0], i, p);
    meta.setPlaneTheT(coord[2], i, p);
    meta.setPlaneTheC(coord[1], i, p);
}

// Add MetadataOnly to Pixels since this is an example without
// TiffData or BinData
meta::OMEXMLMetadata *omexmlmeta = dynamic_cast<meta::OMEXMLMetadata *>(&meta);
if (omexmlmeta)
    addMetadataOnly(*omexmlmeta, i);
}

```

Full example source: `metadata-io.cpp`

See also:

- Metadata classes⁴⁰
- createID⁴¹
- createOMEXMLMetadata⁴²
- getOMEXML⁴³

OME-XML data model objects

The data model objects are not typically used directly, but are created, modified and queried using the Metadata interfaces (above), so in practice these examples should not be needed.

To create a tree of OME-XML data model objects from OME-XML text:

```

// XML DOM tree containing parsed file content
xml::dom::Document inputdoc(ome::xml::createDocument(filename));
// OME Model (needed only during parsing to track model object references)
model::detail::OMEModel model;
// OME Model root object
shared_ptr<model::OME> modelroot(make_shared<model::OME>());
// Fill OME model object tree from XML DOM tree
modelroot->update(inputdoc.getDocumentElement(), model);

```

In this example, the OME-XML text is read from a file into a DOM tree. This could have been read directly from a string or stream if the source was not a file. The DOM tree is then processed using the OME root object's `update()` method, which uses the data from the DOM tree elements to create a tree of corresponding model objects contained by the root object.

To reverse the process, taking a tree of OME-XML model objects and converting them back of OME-XML text:

```

// Schema version to use
const std::string schema("http://www.openmicroscopy.org/Schemas/OME/2013-06");

```

⁴⁰http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/namespaceome_1_1xml_1_1meta.html

⁴¹http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/namespaceome_1_1bioformats.html#ab3bf80ec03bcf20b199ce2761d48fe01

⁴²http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/namespaceome_1_1bioformats.html#ae61f12958973765e8328348874a85731

⁴³http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/namespaceome_1_1bioformats.html#a32e5424991ce09b857ddc0d5be37c4f1

```
// XML DOM tree (initially containing an empty OME root element)
xml::dom::Document outputdoc(xml::dom::createEmptyDocument(schema, "OME"));
// Fill output DOM document from OME-XML model
modelroot->asXMLElement(outputdoc);
// Dump DOM tree as text to stream
xml::dom::writeDocument(outputdoc, stream);
```

Here, the OME root object's `asXMLElement()` method is used to copy the data from the OME root object and its children into an XML DOM tree. The DOM tree is then converted to text for output.

Full example source: `model-io.cpp`

See also:

- OME model classes⁴⁴
- OME⁴⁵

14.3.2 Pixel data

The Bio-Formats Java implementation stores and passes pixel values in a raw `byte` array. Due to limitations with C++ array passing, this was not possible for the C++ implementation. While a vector or other container could have been used, several problems remain. The type and endianness of the data in the raw bytes is not known, and the dimension ordering and dimension extents are also unknown, which imposes a significant burden on the programmer to correctly process the data. The C++ implementation provides two types to solve these problems.

The `PixelBuffer` class is a container of pixel data. It is a template class, templated on the pixel type in use. The class contains the order of the dimensions, and the size of each dimension, making it possible to process pixel data without need for externally-provided metadata to describe its structure. This class may be used to contain and process pixel data of a specific pixel type. Internally, the pixel data is contained within a `boost::multi_array` as a 9D hyper-volume, though its usage in this release of Bio-Formats is limited to 5D. The class can either contain its own memory allocation for pixel data, or it can reference memory allocated or mapped externally, allowing use with memory-mapped data, for example.

In many situations, it is desirable to work with arbitrary pixel types, or at least the set of pixel types defined in the OME data model in its `PixelType` enumeration. The `VariantPixelBuffer` fulfills this need, using `boost::variant` to allow it to contain a `PixelBuffer` specialized for any of the pixel types in the OME data model. This is used to allow transfer and processing of any supported pixel type, for example by the `FormatReader` class' `getLookupTable()` and `openBytes()` methods, and the corresponding `FormatWriter` class' `setLookupTable()` and `saveBytes()` methods.

An additional problem with supporting many different pixel types is that each operation upon the pixel data, for example for display or analysis, may require implementing separately for each pixel type. This imposes a significant testing and maintenance burden. `VariantPixelBuffer` solves this problem through use of `boost::apply_visitor()` and `boost::static_visitor`, which allow algorithms to be defined in a template and compiled for each pixel type. They also allow algorithms to be specialized for different classes of pixel type, for example signed vs. unsigned, integer vs. floating point, or simple vs. complex, or special-cased per type e.g. for bitmasks. When `boost::apply_visitor()` is called with a specified algorithm and `VariantPixelBuffer` object, it will select the matching algorithm for the pixel type contained within the buffer, and then invoke it on the buffer. This permits the programmer to support arbitrary pixel types without creating a maintenance nightmare, and without unnecessary code duplication.

The 9D pixel buffer makes a distinction between the logical dimension order (used by the API) and the storage order (the layout of the pixel data in memory). The logical order is defined by the values in the `Dimensions`⁴⁶ enum. The storage order is specified by the programmer when creating a pixel buffer.

The following example shows creation of a pixel buffer with a defined size, and `default storage order`⁴⁷:

```
// Language type for FLOAT pixel data
typedef PixelProperties<PixelType::FLOAT>::std_type float_pixel_type;
// Create PixelBuffer for floating point data
```

⁴⁴http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/namespacement_1_1xml_1_1model.html

⁴⁵http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1xml_1_1model_1_1OME.html

⁴⁶http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/namespacement_1_1bioformats.html#ad9ebb405a4815c189fa788325f68a91a

⁴⁷http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1PixelBufferBase.html#a419ad49f2ea90937a57b81a74b56380b

```
// X=512 Y=512 Z=16 T=1 C=3 S/z/t/c=1
PixelBuffer<float_pixel_type> buffer
    (boost::extents[512][512][16][1][3][1][1][1][1], PixelType::FLOAT);
```

The storage order may be set explicitly. The order may be created by hand, or with a [helper function](#)⁴⁸. While the helper function is limited to supporting the ordering defined by the data model, specifying the order by hand allows additional flexibility. Manual ordering may be used to allow the indexing for individual dimensions to run backward rather than forward, which is useful if the Y-axis requires inverting, for example. The following example shows creation of two pixel buffers with defined storage order using the helper function:

```
// Language type for UINT16 pixel data
typedef PixelProperties<PixelType::UINT16>::std_type uint16_pixel_type;
// Storage order is XYCTZzt; subchannels are not interleaved
// ("planar") after XY; lowercase letters are unused Modulo
// dimensions
PixelBufferBase::storage_order_type order1
    (PixelBufferBase::make_storage_order(DimensionOrder::XYCTZ, false));
// Create PixelBuffer for unsigned 16-bit data with specified
// storage order
// X=512 Y=512 Z=16 T=1 C=3 S/z/t/c=1
PixelBuffer<uint16_pixel_type> buffer1
    (boost::extents[512][512][16][1][3][1][1][1][1],
     PixelType::UINT16,
     ome::bioformats::ENDIAN_NATIVE,
     order1);

// Language type for INT8 pixel data
typedef PixelProperties<PixelType::INT8>::std_type int8_pixel_type;
// Storage order is SXYZCTzt; subchannels are interleaved
// ("chunky") before XY; lowercase letters are unused Modulo
// dimensions
PixelBufferBase::storage_order_type order2
    (PixelBufferBase::make_storage_order(DimensionOrder::XYZCT, true));
// Create PixelBuffer for signed 8-bit RGB data with specified storage
// order
// X=1024 Y=1024 Z=1 T=1 C=1 S=3 z/t/c=1
PixelBuffer<int8_pixel_type> buffer2
    (boost::extents[1024][1024][1][1][1][3][1][1][1],
     PixelType::INT8,
     ome::bioformats::ENDIAN_NATIVE,
     order2);
```

Note that the logical order of the dimension extents is unchanged.

In practice, it is unlikely that you will need to create any `PixelBuffer` objects directly. The `FormatReader` and `FormatWriter` interfaces use `VariantPixelBuffer` objects, and in the case of the reader interface the `getLookupTable()` and `openBytes()` methods can be passed a default-constructed `VariantPixelBuffer` and it will be set up automatically, changing the image dimensions, dimension order and pixel type to match the data being fetched, if the size, order and type do not match. For example, to read all pixel data in an image using `openBytes()`:

```
void
readPixelData(const FormatReader& reader,
              std::ostream& stream)
{
    // Get total number of images (series)
    dimension_size_type ic = reader.getSeriesCount();
    stream << "Image count: " << ic << '\n';

    // Loop over images
```

⁴⁸http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1PixelBufferBase.html#ac7e922610bf561f311d13c3d7fcaeb69

```

for (dimension_size_type i = 0 ; i < ic; ++i)
{
    // Change the current series to this index
    reader.setSeries(i);

    // Get total number of planes (for this image index)
    dimension_size_type pc = reader.getImageCount();
    stream << "\tPlane count: " << pc << '\n';

    // Pixel buffer
    VariantPixelBuffer buf;

    // Loop over planes (for this image index)
    for (dimension_size_type p = 0 ; p < pc; ++p)
    {
        // Read the entire plane into the pixel buffer.
        reader.openBytes(p, buf);

        // If this wasn't an example, we would do something
        // exciting with the pixel data here.
        stream << "Pixel data for Image " << i
            << " Plane " << p << " contains "
            << buf.num_elements() << " pixels\n";
    }
}

```

To perform the reverse process, writing pixel data with `saveBytes()`:

```

void
writePixelData(FormatWriter& writer,
               std::ostream& stream)
{
    // Total number of images (series)
    dimension_size_type ic = writer.getMetadataRetrieve()->getImageCount();
    stream << "Image count: " << ic << '\n';

    // Loop over images
    for (dimension_size_type i = 0 ; i < ic; ++i)
    {
        // Change the current series to this index
        writer.setSeries(i);

        // Total number of planes.
        dimension_size_type pc = 1U;
        pc *= writer.getMetadataRetrieve()->getPixelsSizeZ(i);
        pc *= writer.getMetadataRetrieve()->getPixelsSizeT(i);
        pc *= writer.getMetadataRetrieve()->getChannelCount(i);
        stream << "\tPlane count: " << pc << '\n';

        // Loop over planes (for this image index)
        for (dimension_size_type p = 0 ; p < pc; ++p)
        {
            // Pixel buffer; size 512 × 512 with 3 subchannels of type
            // uint16_t. It uses the native endianness and has a
            // storage order of XYZTC without interleaving
            // (subchannels are planar).
            shared_ptr<PixelBuffer<PixelProperties<PixelType::UINT16>::std_type> >
                buffer(make_shared<PixelBuffer<PixelProperties<PixelType::UINT16>::std_type> >
                    (boost::extents[512][512][1][1][1][3][1][1][1],
                     PixelType::UINT16, ome::bioformats::ENDIAN_NATIVE,
                     PixelBufferBase::make_storage_order(DimensionOrder::XYZTC, false)));

```

```

// Fill each subchannel with a different intensity ramp in
// the 12-bit range. In a real program, the pixel data
// would typically be obtained from data acquisition or
// another image.
for (dimension_size_type x = 0; x < 512; ++x)
    for (dimension_size_type y = 0; y < 512; ++y)
    {
        PixelBufferBase::indices_type idx;
        std::fill(idx.begin(), idx.end(), 0);
        idx[DIM_SPATIAL_X] = x;
        idx[DIM_SPATIAL_Y] = y;

        idx[DIM_SUBCHANNEL] = 0;
        buffer->at(idx) = (static_cast<float>(x) / 512.0f) * 4096.0f;
        idx[DIM_SUBCHANNEL] = 1;
        buffer->at(idx) = (static_cast<float>(y) / 512.0f) * 4096.0f;
        idx[DIM_SUBCHANNEL] = 2;
        buffer->at(idx) = (static_cast<float>(x+y) / 1024.0f) * 4096.0f;
    }

VariantPixelBuffer vbuffer(buffer);
stream << "PixelBuffer PixelType is " << buffer->pixelType() << '\n';
stream << "VariantPixelBuffer PixelType is " << vbuffer.pixelType() << '\n';
stream << std::flush;

// Write the the entire pixel buffer to the plane.
writer.saveBytes(p, vbuffer);

stream << "Wrote " << buffer->num_elements() << ' ' << buffer->pixelType() << " pixels\n";
    }
}
}

```

Both buffer classes provide access to the pixel data so that it may be accessed, manipulated and passed elsewhere. The `PixelBuffer` class provides an `at` method. This allows access to individual pixel values using a 9D coordinate:

```

// Set all pixel values for Z=2 and C=1 to 0.5
// 9D index, default values to zero if unused
PixelBuffer<float_pixel_type>::indices_type idx;
// Set Z and C indices
idx[ome::bioformats::DIM_SPATIAL_Z] = 2;
idx[ome::bioformats::DIM_CHANNEL] = 1;
idx[ome::bioformats::DIM_TEMPORAL_T] =
    idx[ome::bioformats::DIM_SUBCHANNEL] =
    idx[ome::bioformats::DIM_MODULO_Z] =
    idx[ome::bioformats::DIM_MODULO_T] =
    idx[ome::bioformats::DIM_MODULO_C] = 0;

for (uint16_t x = 0; x < 512; ++x)
{
    idx[ome::bioformats::DIM_SPATIAL_X] = x;
    for (uint16_t y = 0; y < 512; ++y)
    {
        idx[ome::bioformats::DIM_SPATIAL_Y] = y;
        buffer.at(idx) = 0.5f;
    }
}

```

Conceptually, this is the same as using an index for a normal 1D array, but extended to use an array of nine indices for each of the nine dimensions, in the logical storage order. The `VariantPixelBuffer` does not provide an `at` method for efficiency reasons. Instead, visitors should be used for the processing of bulk pixel data. For example, this is one way the minimum and maximum pixel values could be obtained:

```

// Visitor to compute min and max pixel value for pixel buffer of
// any pixel type
// The static_visitor specialization is the required return type of
// the operator() methods and boost::apply_visitor()
struct MinMaxVisitor : public boost::static_visitor<std::pair<double, double> >
{
    // The min and max values will be returned in a pair. double is
    // used since it can contain the value for any pixel type
    typedef std::pair<double, double> result_type;

    // Get min and max for any non-complex pixel type
    template<typename T>
    result_type
    operator() (const T& v)
    {
        typedef typename T::element_type::value_type value_type;

        value_type *min = std::min_element(v->data(),
                                           v->data() + v->num_elements());
        value_type *max = std::max_element(v->data(),
                                           v->data() + v->num_elements());

        return result_type(static_cast<double>(*min),
                          static_cast<double>(*max));
    }

    // Less than comparison for real part of complex numbers
    template <typename T>
    static bool
    complex_real_less(const T& lhs, const T& rhs)
    {
        return std::real(lhs) < std::real(rhs);
    }

    // Greater than comparison for real part of complex numbers
    template <typename T>
    static bool
    complex_real_greater(const T& lhs, const T& rhs)
    {
        return std::real(lhs) > std::real(rhs);
    }

    // Get min and max for complex pixel types (COMPLEX and
    // DOUBLECOMPLEX)
    // This is the same as for simple pixel types, except for the
    // addition of custom comparison functions and conversion of the
    // result to the real part.
    template <typename T>
    typename boost::enable_if_c<
        boost::is_complex<T>::value, result_type
    >::type
    operator() (const ome::compat::shared_ptr<PixelBuffer<T> >& v)
    {
        typedef T value_type;

        value_type *min = std::min_element(v->data(),
                                           v->data() + v->num_elements(),
                                           complex_real_less<T>);
        value_type *max = std::max_element(v->data(),
                                           v->data() + v->num_elements(),
                                           complex_real_greater<T>);

        return result_type(static_cast<double>(std::real(*min)),
                          static_cast<double>(std::real(*max)));
    }

```

```

    }
};

void
applyVariant()
{
    // Make variant buffer (int32, 16x16 single plane)
    VariantPixelBuffer variant(boost::extents[16][16][1][1][1][1][1][1][1][1],
                               PixelType::INT32);

    // Get buffer size
    VariantPixelBuffer::size_type size = variant.num_elements();
    // Create sample random-ish data
    std::vector<int32_t> vec;
    for (VariantPixelBuffer::size_type i = 0; i < size; ++i)
    {
        int32_t val = static_cast<int32_t>(i + 42);
        vec.push_back(val);
    }
    std::random_shuffle(vec.begin(), vec.end());
    // Assign sample data to buffer.
    variant.assign(vec.begin(), vec.end());

    // Create and apply visitor
    MinMaxVisitor visitor;
    MinMaxVisitor::result_type result = boost::apply_visitor(visitor, variant.vbuffer());

    std::cout << "Min is " << result.first
               << ", max is " << result.second << '\n';
}

```

This example demonstrates several features:

- The visitor operators can return values to the caller (for more complex algorithms, the visitor class could use member variables and additional methods)
- The operator is expanded once for each pixel type
- The operators can be special-cased for individual pixel types; here we use the [SFINAE rule](#)⁴⁹ to implement a specialization for an entire category of pixel types (complex numbers), but standard function overloading and templates will also work for more common cases
- Pixel data can be assigned to the buffer with a single `assign()` call.

The Bio-Formats source uses pixel buffer visitors for several purposes, for example to load pixel data into OpenGL textures, which automatically handles pixel format conversion and repacking of pixel data as needed.

While the pixel buffers may appear complex, they do permit the Bio-Formats library to support all pixel types with relative ease, and it will allow your applications to also handle multiple pixel types by writing your own visitors. Assignment of one buffer to another will also repack the pixel data if they use different storage ordering (i.e. the logical ordering is used for the copy), which can be useful if you need the pixel data in a defined ordering.

If all you want is access to the raw data, as in the Java API, you are not required to use the above features. Simply use the `data()` method on the buffer to get a pointer to the raw data. Note that you will need to multiply the buffer size obtained with `num_elements()` by the size of the pixel type (use `bytesPerPixel()` or `sizeof()` on the buffer `value_type`).

Alternatively, it is also possible to access the underlying `boost::multi_array` using the `array()` method, if you need access to functionality not wrapped by `PixelBuffer`.

Full example source: `pixeldata.cpp`

See also:

- [PixelType](#)⁵⁰

⁴⁹<http://en.cppreference.com/w/cpp/language/sfinae>

⁵⁰http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1xml_1_1model_1_1enums_1_1PixelType.html

- `PixelBuffer`⁵¹
- `VariantPixelBuffer`⁵²
- `FormatReader::getLookupTable`⁵³
- `FormatReader::openBytes`⁵⁴
- `FormatWriter::setLookupTable`⁵⁵
- `FormatWriter::saveBytes`⁵⁶

14.3.3 Reading images

Image reading is performed using the `FormatReader` interface. This is an abstract reader interface implemented by file-format-specific reader classes. Examples of readers include `TIFFReader`, which implements reading of Baseline TIFF (optionally with additional ImageJ metadata), and `OMETIFFReader` which implements reading of OME-TIFF (TIFF with OME-XML metadata).

Using a reader involves these steps:

1. Create a reader instance.
2. Set options to control reader behavior.
3. Call `setId()` to specify the image file to read.
4. Retrieve desired metadata and pixel data.
5. Close the reader.

These steps are illustrated in this example:

```
// Create TIFF reader
shared_ptr<FormatReader> reader(make_shared<TIFFReader>());

// Set reader options before opening a file
reader->setMetadataFiltered(false);
reader->setGroupFiles(true);

// Open the file
reader->setId(filename);

// Display series core metadata
readMetadata(*reader, std::cout);

// Display global and series original metadata
readOriginalMetadata(*reader, std::cout);

// Read pixel data
readPixelData(*reader, std::cout);

// Explicitly close reader
reader->close();
```

Here we create a reader to read TIFF files, set two options (metadata filtering and file grouping), and then call `setId()`. At this point the reader has been set up and initialized, and we can then read metadata and pixel data, which we covered in the preceding sections. You might like to combine this example with the `MinMaxVisitor` example to make it display the minimum and maximum values for each plane in an image; if you try running the example with TIFF images of different pixel types, it will transparently adapt to any supported pixel type.

Note: Reader option-setting methods may only be called *before* `setId()`. Reader state changing and querying methods such

⁵¹http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1PixelBuffer.html

⁵²http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1VariantPixelBuffer.html

⁵³http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1FormatReader.html#a9b69e3612f0ad4c945d1c0f111242cc2

⁵⁴http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1FormatReader.html#a5bfa86b4b68b03b63d76bb050cbe7101

⁵⁵http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1FormatWriter.html#a00ae3dc46c205e64f782c7b6f47bd5ab

⁵⁶http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1FormatWriter.html#ad1e8b427214f7cfd19ce2251d38e24f5

as `setSeries()` and `getSeries()`, metadata retrieval and pixel data retrieval methods may only be called *after* `setId()`. If these constraints are violated, a `FormatException` will be thrown.

Full example source: `metadata-formatreader.cpp`

See also:

- [FormatReader](#)⁵⁷
- [TIFFReader](#)⁵⁸
- [OMETIFFReader](#)⁵⁹

14.3.4 Writing images

Image writing is performed using the `FormatWriter` interface. This is an abstract writer interface implemented by file-format-specific writer classes. Examples of writers include `MinimalTIFFWriter`, which implements writing of Baseline TIFF and `OMETIFFWriter` which implements writing of OME-TIFF (TIFF with OME-XML metadata).

Using a writer involves these steps:

1. Create a writer instance.
2. Set metadata store to use.
3. Set options to control writer behavior.
4. Call `setId()` to specify the image file to write.
5. Store pixel data for each plane of each image in the specified dimension order.
6. Close the writer.

These steps are illustrated in this example:

```
// Create metadata for the file to be written.
shared_ptr< ::ome::xml::meta::MetadataRetrieve> meta(createMetadata());

// Create TIFF writer
shared_ptr<FormatWriter> writer(make_shared<OMETIFFWriter>());

// Set writer options before opening a file
writer->setMetadataRetrieve(meta);
writer->setInterleaved(false);

// Open the file
writer->setId(filename);

// Write pixel data
writePixelData(*writer, std::cout);

// Explicitly close writer
writer->close();
```

Here we create a writer to write OME-TIFF files, set the metadata store using metadata we create, then set a writer option (sample interleaving), and then call `setId()`. At this point the writer has been set up and initialized, and we can then write the pixel data, which we covered in the preceding sections. Finally we call `close()` to flush all data.

Note: Metadata store setting and writer option-setting methods may only be called *before* `setId()`. Writer state changing and querying methods such as `setSeries()` and `getSeries()`, and pixel data storage methods may only be called *after* `setId()`. If these constraints are violated, a `FormatException` will be thrown.

⁵⁷http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1FormatReader.html

⁵⁸http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1in_1_1TIFFReader.html

⁵⁹http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1in_1_1OMETIFFReader.html

Note: `close()` should be called explicitly to catch any errors. While this will be called by the destructor, the destructor can't throw exceptions and any errors will be silently ignored.

Full example source: `metadata-formatwriter.cpp`

See also:

- [FormatWriter](#)⁶⁰
- [TIFFWriter](#)⁶¹
- [OMETIFFWriter](#)⁶²

14.4 Environment

The Bio-Formats libraries and programs are configured and built to use a set of search paths for different components. It should not be necessary to override these defaults. The **bf** command will be able to autodetect the installation directory configure paths on most platforms, and the Bio-Formats libraries are also able to determine the paths on most platforms so long as the library search path is configured correctly. However, the following environment variables may be used to override the defaults if this proves necessary:

14.4.1 Installation root

BIOFORMATS_HOME

The root of the installation (if applicable). Setting this will allow the installation to be used in a location other than the one configured. It will also default all the following variables unless they are explicitly overridden individually. This is not useful if an absolute installation path has been configured (e.g. if using `/usr/local`).

14.4.2 Basic paths

These may be shared with other packages if configured to do so (e.g. if using `/usr/local`). See [GNUInstallDirs](#)⁶³ for more details. Not all of these paths are currently used, but may be used in the future.

BIOFORMATS_BINDIR Programs invocable directly by an end user (on the default `PATH`)

BIOFORMATS_SBINDIR Programs invocable directly by an end user or admin (not on the default `PATH`)

BIOFORMATS_SYSLIBEXECDIR Programs not typically invoked directly (called internally by the Bio-Formats tools and libraries as needed)

BIOFORMATS_SYSCONFDIR Configuration files

BIOFORMATS_SHAREDSTATEDIR Shared state

BIOFORMATS_LOCALSTATEDIR Local state

BIOFORMATS_LIBDIR Libraries

BIOFORMATS_INCLUDEDIR C and C++ include files

BIOFORMATS_OLDINCLUDEDIR C and C++ include files (system)

BIOFORMATS_DATAROOTDIR Read-only architecture-independent data (root)

BIOFORMATS_SYSDATADIR Read-only architecture-independent data

BIOFORMATS_INFODIR GNU Info documentation files

BIOFORMATS_LOCALEDIR Locale data

BIOFORMATS_MANDIR Manual pages

⁶⁰http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1FormatWriter.html

⁶¹http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1out_1_1MinimalTIFFWriter.html

⁶²http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1out_1_1OMETIFFWriter.html

⁶³<http://www.cmake.org/cmake/help/v3.0/module/GNUInstallDirs.html>

BIOFORMATS_DOCDIR Documentation files

14.4.3 Bio-Formats package-specific paths

These are used only by Bio-Formats and are not shared with other packages. They are all subdirectories under the basic paths, above.

BIOFORMATS_DATADIR Bio-Formats data files

BIOFORMATS_ICONDIR Bio-Formats icons

BIOFORMATS_LIBEXECDIR Bio-Formats program executables

BIOFORMATS_SCHEMADIR Bio-Formats OME-XML model schemas

BIOFORMATS_TRANSFORMDIR Bio-Formats OME-XML model transforms

14.5 OME-XML Schema

The Bio-Formats C++ implementation currently uses schema version 2013-06⁶⁴ of the OME-XML data model. The `model`⁶⁵ and `metadata`⁶⁶ interfaces and classes are generated from this schema and will read and write OME-XML and OME-TIFF files using this version of the schema. See the *Tutorial* section for further details of these interfaces.

The implementation will be updated to use a newer version of the OME-XML schema in a future release.

14.6 bf-test

14.6.1 Synopsis

bf-test command [*options*]

14.6.2 Description

bf-test is a front end for running the Bio-Formats (C++) command-line tools.

This takes care of setting up the environment to ensure that all needed libraries, programs and data files are made available. It is of course possible to run the tools directly if desired.

14.6.3 Options

-h, --help
Show this manual page.

-u, --usage
Show usage information.

-V, --version
Print version information.

14.6.4 Commands

Commonly-used commands are:

info (or showinf) Display and validate image metadata

view (or glview) View image pixel data

⁶⁴<http://www.openmicroscopy.org/site/support/ome-model/schemas/june-2013.html>

⁶⁵http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/namespaceome_1_1xml_1_1model.html

⁶⁶http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/namespaceome_1_1xml_1_1meta.html

14.6.5 See also

Environment, *bf-test info*, *bf-test view*.

14.7 bf-test info

14.7.1 Synopsis

bf-test info [*options*] *file*

14.7.2 Description

bf-test info displays the metadata for an image file, including the *core* and *original* metadata, and can optionally display and validate the *OME-XML* metadata.

Note: Viewing is currently restricted to the first series of an OME-TIFF file using the 2013-06 schema. Future releases will extend this to multiple series, all schema versions and additional file formats.

14.7.3 Options

- h, --help**
Show this manual page.
- u, --usage**
Show usage summary.
- V, --version**
Print version information.
- debug**
Show debug output.
- q, --quiet**
Show less output.
- v, --verbose**
Show more output.
- format=reader**
Use the specified format reader (UNIMPLEMENTED).
- flat**
Flatten subresolutions.
- no-flat** (default)
Do not flatten subresolutions.
- merge**
Combine separate channels into an RGB image (UNIMPLEMENTED).
- no-merge**
Do not combine separate channels into an RGB image (UNIMPLEMENTED) (default).
- group**
Group files in multi-file datasets into a single dataset.
- no-group**
files in multi-file datasets are not into a single dataset (default).
- stitch**
Group files with similar names (UNIMPLEMENTED).

--no-stitch
Do not group files with similar names (UNIMPLEMENTED) (default).

--separate
Separate an RGB image into separate channels (UNIMPLEMENTED).

--no-separate
Do not separate an RGB image into separate channels (UNIMPLEMENTED) (default).

series=n
Use the specified series (UNIMPLEMENTED).

resolution=n
Use the specified sub-resolution (only if not flattened with `--flat`) (UNIMPLEMENTED).

--input-order=XY [ZTC]
Override the dimension input order (UNIMPLEMENTED).

--output-order=XY [ZTC]
Override the dimension output order (UNIMPLEMENTED).

--core
Display core metadata (default).

--no-core
Do not display core metadata.

--orig
Display original format-specific global and series metadata (default).

--no-orig
Do not display original format-specific global and series metadata.

--filter
Filter original format-specific global and series metadata.

--no-filter
Do not filter original format-specific global and series metadata (default).

--omexml
Display OME-XML metadata.

--no-omexml
Do not display OME-XML metadata (default).

--validate
Validate OME-XML metadata (default). Note this will only have an effect if `--omexml` is used.

--no-validate
Do not validate OME-XML metadata.

--sa
Display structured annotations (default) (UNIMPLEMENTED).

--no-sa
Do not display structured annotations.

--used
Display used files (default).

--no-used
Do not display used files.

14.8 bf-test view

14.8.1 Synopsis

bf-test view [*options*] *file*

14.8.2 Description

bf-test view renders the pixel data of an image file using OpenGL.

Open an image using *File* → *Open*.

Note: Viewing is currently restricted to the first series of an OME-TIFF file using the 2013-06 schema. Future releases will extend this to multiple series, all schema versions and additional file formats.

Note: The viewer currently supports viewing of multi-dimensional greyscale planes; RGB images are not yet supported. This will be rectified in a future update.

14.8.3 Navigation

The Navigation dock allows navigation between the constituent planes of an image. The Plane slider allows the absolute plane number to be changed, while individual Z, T, C sliders permit the Z slice, timepoint or channel to be changed, respectively. These sliders will only be available for images using these dimensions. Additional ModuloZ, ModuloT and ModuloC sliders may be present for images with Modulo annotations, for example with certain FLIM datasets.

14.8.4 Rendering

The Rendering dock allows the rendering settings to be adjusted. This is currently limited to Min and Max sliders to specify the lower and upper bounds of the display range for linear contrast adjustment. This range is used to render with a HiLo lookup table.

Note: The rendering settings will be improved in a future update to allow alternate lookup tables and per-channel rendering settings.

14.8.5 2D Camera

The view may be zoomed, panned and rotated. Select the desired operation using *View* → *Zoom*, *View* → *Pan* or *View* → *Rotate*, or use the corresponding toolbar icon.

zoom Press and hold the first mouse button anywhere in the image view, then drag up or down to zoom out or zoom in, respectively.

pam Press and hold the first mouse button anywhere in the image view, then drag to move the image.

rotate Press and hold the first mouse button anywhere in the image view, then drag up or down to rotate the image counterclockwise or clockwise, respectively.

14.8.6 Environment

BIOFORMATS_OPENGL_DEBUG If set (to any value), create an OpenGL debugging context and verbosely log all OpenGL activity

CONTRIBUTING TO BIO-FORMATS

15.1 Testing code changes

15.1.1 Automated tests

The [Bio-Formats testing framework](#)¹ component contains most of the infrastructure to run automated tests against the data repository.

After checking out source code and building all the JAR files (see *Obtaining and building Bio-Formats*), switch to the `test-suite` component and run the tests using the **ant** `test-automated` target:

```
$ cd components/test-suite
$ ant -Dtestng.directory=$DATA/metamorph test-automated
```

where `$DATA` is the path to the full data repository.

Multiple options can be passed to the **ant** `test-automated` target by setting the `testng.{option}` option via the command line. Useful options are described below.

testng.directory Mandatory option. Specifies the root of the data directory to be tested:

```
$ ant -Dtestng.directory=$DATA/metamorph test-automated
```

On Windows, the arguments to the test command must be quoted:

```
> ant "-Dtestng.directory=$DATA\metamorph" test-automated
```

testng.configDirectory Specifies the root of the directory containing the configuration files. This directory must have the same hierarchy as the one specified by `testng.directory` and contain `.bioformats` configuration files:

```
$ ant -Dtestng.directory=/path/to/data -Dtestng.configDirectory=/path/to/config test-automated
```

If no configuration directory is passed, the assumption is that it is the same as the data directory.

testng.configSuffix Specifies an optional suffix for the configuration files:

```
$ ant -Dtestng.directory=/path/to/data -Dtestng.configSuffix=win test-automated
```

testng.memory Specifies the amount of memory to be allocated to the JVM:

```
$ ant -Dtestng.directory=$DATA -Dtestng.memory=4g test-automated
```

¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/test-suite>

Default: 512m.

testng.threadCount Specifies the number of threads to use for testing:

```
$ ant -Dtestng.directory=$DATA -Dtestng.threadCount=4 test-automated
```

Default: 1.

You should now see output similar to this:

Buildfile: build.xml

```
init-title:
  [echo] ===== bio-formats-testing-framework =====
...
test-automated:
  [testng] 17:05:28,713 |-INFO in ch.qos.logback.classic.LoggerContext[default] - Could NOT find resource
  [testng] 17:05:28,713 |-INFO in ch.qos.logback.classic.LoggerContext[default] - Could NOT find resource
  [testng] 17:05:28,713 |-INFO in ch.qos.logback.classic.LoggerContext[default] - Could NOT find resource
  [testng] 17:05:28,713 |-INFO in ch.qos.logback.classic.LoggerContext[default] - Found resource [logb
  [testng] 17:05:28,835 |-INFO in ch.qos.logback.core.joran.action.AppenderAction - About to instantia
  [testng] 17:05:28,837 |-INFO in ch.qos.logback.core.joran.action.AppenderAction - Naming appender as
  [testng] 17:05:28,876 |-INFO in ch.qos.logback.core.joran.action.AppenderAction - About to instantia
  [testng] 17:05:28,878 |-INFO in ch.qos.logback.core.joran.action.AppenderAction - Naming appender as
  [testng] 17:05:28,891 |-INFO in ch.qos.logback.classic.joran.action.LoggerAction - Setting level of
  [testng] 17:05:28,891 |-INFO in ch.qos.logback.classic.joran.action.RootLoggerAction - Setting level
  [testng] 17:05:28,891 |-INFO in ch.qos.logback.core.joran.action.AppenderRefAction - Attaching appen
  [testng] 17:05:28,892 |-INFO in ch.qos.logback.core.joran.action.AppenderRefAction - Attaching appen
  [testng] 17:05:28,892 |-INFO in ch.qos.logback.classic.joran.action.ConfigurationAction - End of confi
  [testng] 17:05:28,894 |-INFO in ch.qos.logback.classic.joran.JoranConfigurator@706a04ae - Registering
  [testng] [2015-08-18 17:05:28,904] [main] testng.directory = /ome/data_repo/test_per_commit/
  [testng] 17:05:28,908 |-INFO in ch.qos.logback.core.joran.action.AppenderAction - About to instantia
  [testng] 17:05:28,909 |-INFO in ch.qos.logback.core.joran.action.AppenderAction - Naming appender as
  [testng] 17:05:28,955 |-INFO in loci.tests.testng.TimestampedLogFileAppender[logfile-main] - File pro
  [testng] [2015-08-18 17:05:28,963] [main] testng.multiplier = 1.0
  [testng] [2015-08-18 17:05:28,964] [main] testng.in-memory = false
  [testng] [2015-08-18 17:05:28,964] [main] user.language = en
  [testng] [2015-08-18 17:05:28,964] [main] user.country = US
  [testng] [2015-08-18 17:05:28,964] [main] Maximum heap size = 455 MB
  [testng] Scanning for files...
  [testng] [2015-08-18 17:05:32,258] [main] -----
  [testng] [2015-08-18 17:05:32,258] [main] Total files: 480
  [testng] [2015-08-18 17:05:32,258] [main] Scan time: 3.293 s (6 ms/file)
  [testng] [2015-08-18 17:05:32,258] [main] -----
  [testng] Building list of tests...
```

and then eventually:

```
[testng] =====
[testng] Bio-Formats software test suite
[testng] Total tests run: 19110, Failures: 0, Skips: 0
[testng] =====
[testng]
```

BUILD SUCCESSFUL

Total time: 16 minutes 42 seconds

In most cases, test failures should be logged in the main console output as:

```
[testng] [2015-08-18 17:13:13,625] [pool-1-thread-1]      SizeZ: FAILED (Series 0 (expected 2, actual 1))
```

To identify the file, look for the initialization line preceding the test failures under the same thread:

```
[testng] [2015-08-18 17:13:12,376] [pool-1-thread-1] Initializing /ome/data_repo/test_per_commit/ome-ti
```

The console output is also recorded under `components/test-suite/target` as `bio-formats-software-test-main- $\$$ DATE.log` where “ $\$$ DATE” is the date on which the tests started in “yyyy-MM-dd_hh-mm-ss” format. The detailed report of each thread is recorded under `bio-formats-software-pool- $\$$ POOL-thread- $\$$ THREAD-main- $\$$ DATE.log`

Configuration files can be generated for files or directories using the **ant** `gen-config` target. This generation target supports the same options as **ant** `test-automated`:

```
$ ant -Dtestng.directory=/path/to/data -Dtestng.configDirectory=/path/to/config -Dtestng.memory=4g -Dtest
```

15.1.2 MATLAB tests

Tests for the Bio-Formats MATLAB toolbox are written using the xunit framework and are located under `components/formats-gpl/test/matlab`².

To run these tests, you will need to download or clone `matlab-xunit`³, a xUnit framework with JUnit-compatible XML output. Then add this package together with the Bio-Formats MATLAB to your MATLAB path:

```
% Add the matlab-xunit toolbox to the MATLAB path
addpath('/path/to/matlab-xunit');
% Add the Bio-Formats MATLAB source to the MATLAB path
% For developers working against the source code
addpath('/path/to/bioformats/components/formats-gpl/matlab');
addpath('/path/to/bioformats/artifacts');
% For developers working against a built artifact, e.g. a release
% addpath('/path/to/bfmatlab');
```

You can run all the MATLAB tests using **runxunit**:

```
cd /path/to/bioformats/components/formats-gpl/test/matlab
runxunit
```

Individual test classes can be run by passing the name of the class:

```
cd /path/to/bioformats/components/formats-gpl/test/matlab
runxunit TestBfsave
```

Individual test methods can be run by passing the name of the class and the name of the method:

```
cd /path/to/bioformats/components/formats-gpl/test/matlab
runxunit TestBfsave:testLZW
```

Finally to output the test results under XML format, you can use the `-xmlfile` option:

```
cd /path/to/bioformats/components/formats-gpl/test/matlab
runxunit -xmlfile test-output.xml
```

²<https://github.com/openmicroscopy/bioformats/tree/develop/components/formats-gpl/test/matlab>

³<https://github.com/pssexton/matlab-xunit>

15.2 Generating test images

Sometimes it is nice to have a file of a specific size or pixel type for testing. To generate a file (that contains gradient images):

```
touch "my-special-test-file&pixelType=uint8&sizeX=8192&sizeY=8192.fake"
```

Whatever is before the & is the image name; remaining key value pairs should be pretty self-explanatory. Just replace the values with whatever you need for testing.

Additionally, you can put such values in a separate .ini file:

```
touch my-special-test-file.fake
echo "pixelType=uint8" >> my-special-test-file.fake.ini
echo "sizeX=8192" >> my-special-test-file.fake.ini
echo "sizeY=8192" >> my-special-test-file.fake.ini
```

In fact, just the .fake.ini file alone suffices:

```
echo "pixelType=uint8" >> my-special-test-file.fake
echo "sizeX=8192" >> my-special-test-file.fake
echo "sizeY=8192" >> my-special-test-file.fake
```

If you include a “[GlobalMetadata]” section to the ini file, then all the included values will be accessible from the global metadata map:

```
echo "[GlobalMetadata]" >> my-special-test-file.fake.ini
echo "my.key=some.value" >> my-special-test-file.fake.ini
```

There are a few other keys that can be added as well:

Key	Value
thumbSizeX	number of pixels wide, for the thumbnail
thumbSizeY	number of pixels tall, for the thumbnail
physicalSizeX	real width of the pixels, supports units defaulting to microns
physicalSizeY	real height of the pixels, supports units defaulting to microns
physicalSizeZ	real depth of the pixels, supports units defaulting to microns
sizeZ	number of Z sections
sizeC	number of channels
sizeT	number of timepoints
bitsPerPixel	number of valid bits (<= number of bits implied by pixel type)
acquisitionDate	timestamp formatted as “yyyy-MM-dd_HH-mm-ss”
rgb	number of channels that are merged together
dimOrder	dimension order (e.g. XYZCT)
little	whether or not the pixel data should be little-endian
interleaved	whether or not merged channels are interleaved
indexed	whether or not a color lookup table is present
falseColor	whether or not the color lookup table is just for making the image look pretty
series	number of series (Images)
lutLength	number of entries in the color lookup table
exposureTime	time of exposure, supports units defaulting to seconds
plates	number of plates to generate
plateAcqs	number of plate runs
plateRows	number of rows per plate
plateCols	number of rows per plate
fields	number of fields per well
annLong, annDouble, annMap, annComment, annBool, annTime, annTag, annTerm, annXml	number of annotations of the given type to generate

You can often work with the .fake file directly, but in some cases support for those files is disabled and so you will need to convert the file to something else. Make sure that you have Bio-Formats built and the JARs in your CLASSPATH (individual JARs or just `bioformats_package.jar`):

```
bfconvert test&pixelType=uint8&sizeX=8192&sizeY=8192.fake test.tiff
```

If you do not have the command line tools installed, substitute `loci.formats.tools.ImageConverter`⁴ for `bfconvert`.

15.3 Writing a new file format reader

This document is a brief guide to writing new Bio-Formats file format readers.

All format readers should extend either `loci.formats.FormatReader`⁵ or an existing reader⁶.

15.3.1 Methods to override

- `isSingleFile(java.lang.String)`⁷ Whether or not the named file is expected to be the only file in the dataset. This only needs to be overridden for formats whose datasets can contain more than one file.
- `isThisType(loci.common.RandomAccessInputStream)`⁸ Check the first few bytes of a file to determine if the file can be read by this reader. You can assume that index 0 in the stream corresponds to the index 0 in the file. Return true if the file can be read; false if not (or if there is no way of checking).

⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-tools/src/loci/formats/tools/ImageConverter.java>

⁵<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html>

⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/in/package-summary.html>

⁷[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isSingleFile\(java.lang.String\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isSingleFile(java.lang.String))

⁸[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isThisType\(loci.common.RandomAccessInputStream\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isThisType(loci.common.RandomAccessInputStream))

- `fileGroupOption(java.lang.String)`⁹ Returns an indication of whether or not the files in a multi-file dataset can be handled individually. The return value should be one of the following:
 - `FormatTools.MUST_GROUP`¹⁰: the files cannot be handled separately
 - `FormatTools.CAN_GROUP`¹¹: the files may be handled separately or as a single unit
 - `FormatTools.CANNOT_GROUP`¹²: the files must be handled separately

This method only needs to be overridden for formats whose datasets can contain more than one file.

- `getSeriesUsedFiles(boolean)`¹³ You only need to override this if your format uses multiple files in a single dataset. This method should return a list of all files associated with the given file name and the current series (i.e. every file needed to display the current series). If the `noPixels` flag is set, then none of the files returned should contain pixel data. For an example of how this works, see `loci.formats.in.PerkinElmerReader`¹⁴. It is recommended that the first line of this method be `FormatTools.assertId(currentId, true, 1)` - this ensures that the file name is non-null.
- `openBytes(int, byte[], int, int, int, int)`¹⁵ Returns a byte array containing the pixel data for a subimage specified image from the given file. The dimensions of the subimage (upper left X coordinate, upper left Y coordinate, width, and height) are specified in the final four int parameters. This should throw a `FormatException`¹⁶ if the image number is invalid (less than 0 or \geq the number of images). The ordering of the array returned by `openBytes` should correspond to the values returned by `isLittleEndian`¹⁷ and `isInterleaved`¹⁸. Also, the length of the byte array should be [image width * image height * bytes per pixel]. Extra bytes will generally be truncated. It is recommended that the first line of this method be `FormatTools.checkPlaneParameters(this, no, buf.length, x, y, w, h)` - this ensures that all of the parameters are valid.
- `initFile(java.lang.String)`¹⁹ The majority of the file parsing logic should be placed in this method. The idea is to call this method once (and only once!) when the file is first opened. Generally, you will want to start by calling `super.initFile(String)`. You will also need to set up the stream for reading the file, as well as initializing any dimension information and metadata. Most of this logic is up to you; however, you should populate the `core`²⁰ variable (see `loci.formats.CoreMetadata`²¹).

Note that each variable is initialized to 0 or null when `super.initFile(String)` is called. Also, `super.initFile(String)` constructs a `Hashtable` called `metadata`²² where you should store any relevant metadata.

The most common way to set up the OME-XML metadata for the reader is to initialize the `MetadataStore` using the `makeFilterMetadata()`²³ method and populate the `Pixels` elements of the metadata store from the `core` variable using the `MetadataTools.populatePixels(MetadataStore, FormatReader)`²⁴ method:

```
# Initialize the OME-XML metadata from the core variable
MetadataStore store = makeFilterMetadata();
MetadataTools.populatePixels(store, this);
```

If the reader includes metadata at the plane level, you can initialize the `Plane` elements under the `Pixels` using `MetadataTools.populatePixels(MetadataStore, FormatReader, doPlane)`²⁵:

⁹[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#fileGroupOption\(java.lang.String\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#fileGroupOption(java.lang.String))

¹⁰http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#MUST_GROUP

¹¹http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#CAN_GROUP

¹²http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#CANNOT_GROUP

¹³[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSeriesUsedFiles\(boolean\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#getSeriesUsedFiles(boolean))

¹⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PerkinElmerReader.java>

¹⁵[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#openBytes\(int, byte\[\], int, int, int, int\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#openBytes(int, byte[], int, int, int, int))

¹⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatException.html>

¹⁷[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isLittleEndian\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isLittleEndian())

¹⁸[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isInterleaved\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#isInterleaved())

¹⁹[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#initFile\(java.lang.String\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#initFile(java.lang.String))

²⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#core>

²¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/CoreMetadata.html>

²²<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#metadata>

²³[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#makeFilterMetadata\(\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#makeFilterMetadata())

²⁴[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/MetadataTools.html#populatePixels\(loci.formats.meta.MetadataStore, loci.formats.IFormatReader\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/MetadataTools.html#populatePixels(loci.formats.meta.MetadataStore, loci.formats.IFormatReader))

²⁵[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/MetadataTools.html#populatePixels\(loci.formats.meta.MetadataStore, loci.formats.IFormatReader, boolean\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/MetadataTools.html#populatePixels(loci.formats.meta.MetadataStore, loci.formats.IFormatReader, boolean))

```
MetadataTools.populatePixels(store, this, true);
```

Once the metadata store has been initialized with the core properties, additional metadata can be added to it using the setter methods. Note that for each of the model components, the `setObjectID()` method should be called before any of the `setObjectProperty()` methods, e.g.:

```
# Add an oil immersion objective with achromat
String objectiveID = MetadataTools.createLSID("Objective", 0, 0);
store.setObjectiveID(objectiveID, 0, 0);
store.setObjectiveImmersion(getImmersion("Oil"), 0, 0);
```

- `close(boolean)`²⁶ Cleans up any resources used by the reader. Global variables should be reset to their initial state, and any open files or delegate readers should be closed.

Note that if the new format is a variant of a format currently supported by Bio-Formats, it is more efficient to make the new reader a subclass of the existing reader (rather than subclassing `loci.formats.FormatReader`²⁷). In this case, it is usually sufficient to override `initFile(java.lang.String)`²⁸ and `isThisType(byte[])`²⁹.

Every reader also has an instance of `loci.formats.CoreMetadata`³⁰. All readers should populate the fields in `CoreMetadata`, which are essential to reading image planes.

If you read from a file using something other than `loci.common.RandomAccessInputStream`³¹ or `loci.common.Location`³², you *must* use the file name returned by `Location.getMappedId(String)`, not the file name passed to the reader. Thus, a stub for `initFile(String)` might look like this:

```
protected void initFile(String id) throws FormatException, IOException {
    super.initFile(id);

    RandomAccessInputStream in = new RandomAccessInputStream(id);
    // alternatively,
    //FileInputStream in = new FileInputStream(Location.getMappedId(id));

    // read basic file structure and metadata from stream
}
```

For more details, see `loci.common.Location.mapId(java.lang.String, java.lang.String)`³³ and `loci.common.Location.getMappedId(java.lang.String)`³⁴.

15.3.2 Variables to populate

There are a number of global variables defined in `loci.formats.FormatReader`³⁵ that should be populated in the constructor of any implemented reader.

These variables are:

- `suffixNecessary`³⁶ Indicates whether or not a file name suffix is required; true by default
- `suffixSufficient`³⁷ Indicates whether or not a specific file name suffix guarantees that this reader can open a particular file; true by default

²⁶[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#close\(boolean\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/IFormatReader.html#close(boolean))

²⁷<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html>

²⁸[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#initFile\(java.lang.String\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#initFile(java.lang.String))

²⁹[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#isThisType\(byte\[\]\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#isThisType(byte[]))

³⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/CoreMetadata.html>

³¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/RandomAccessInputStream.html>

³²<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/Location.html>

³³[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/Location.html#mapId\(java.lang.String, java.lang.String\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/Location.html#mapId(java.lang.String, java.lang.String))

³⁴[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/Location.html#getMappedId\(java.lang.String\)](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/Location.html#getMappedId(java.lang.String))

³⁵<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html>

³⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#suffixNecessary>

³⁷<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#suffixSufficient>

- `hasCompanionFiles`³⁸ Indicates whether or not there is at least one file in a dataset of this format that contains only metadata (no images); false by default
- `datasetDescription`³⁹ A brief description of the layout of files in datasets of this format; only necessary for multi-file datasets
- `domains`⁴⁰ An array of imaging domains for which this format is used. Domains are defined in `loci.formats.FormatTools`⁴¹.

15.3.3 Other useful things

- `loci.common.RandomAccessInputStream`⁴² is a hybrid `RandomAccessFile/InputStream` class that is generally more efficient than either `RandomAccessFile` or `InputStream`, and implements the `DataInput` interface. It is recommended that you use this for reading files.
- `loci.common.Location`⁴³ provides an API similar to `java.io.File`, and supports File-like operations on URLs. It is highly recommended that you use this instead of `File`. See the [Javadocs](#)⁴⁴ for additional information.
- `loci.common.DataTools`⁴⁵ provides a number of methods for converting bytes to shorts, ints, longs, etc. It also supports reading most primitive types directly from a `RandomAccessInputStream` (or other `DataInput` implementation).
- `loci.formats.ImageTools`⁴⁶ provides several methods for manipulating primitive type arrays that represent images. Consult the source or Javadocs for more information.
- If your reader relies on third-party code which may not be available to all users, it is strongly suggested that you make a corresponding service class that interfaces with the third-party code. Please see [Bio-Formats service and dependency infrastructure](#) for a description of the service infrastructure, as well as the `loci.formats.services` package⁴⁷.
- Several common image compression types are supported through subclasses of `loci.formats.codec.BaseCodec`⁴⁸. These include JPEG, LZW, LZO, Base64, ZIP and RLE (PackBits).
- If you wish to convert a file's metadata to OME-XML (strongly encouraged), please see [Bio-Formats metadata processing](#) for further information.
- Once you have written your file format reader, add a line to the `readers.txt`⁴⁹ file with the fully qualified name of the reader, followed by a '#' and the file extensions associated with the file format. Note that `loci.formats.ImageReader`⁵⁰, the master file format reader, tries to identify which format reader to use according to the order given in `readers.txt`⁵¹, so be sure to place your reader in an appropriate position within the list.
- The easiest way to test your new reader is by calling "java loci.formats.tools.ImageInfo <file name>". If all goes well, you should see all of the metadata and dimension information, along with a window showing the images in the file. `loci.formats.ImageReader`⁵² can take additional parameters; a brief listing is provided below for reference, but it is recommended that you take a look at the contents of `loci.formats.tools.ImageInfo`⁵³ to see exactly what each one does.

³⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#hasCompanionFiles>

³⁹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#datasetDescription>

⁴⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#domains>

⁴¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html>

⁴²<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/RandomAccessInputStream.html>

⁴³<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/Location.html>

⁴⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/>

⁴⁵<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/DataTools.html>

⁴⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ImageTools.html>

⁴⁷<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/services/package-summary.html>

⁴⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/codec/BaseCodec.html>

⁴⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-api/src/loci/formats/readers.txt>

⁵⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ImageReader.html>

⁵¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-api/src/loci/formats/readers.txt>

⁵²<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ImageReader.html>

⁵³<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-tools/src/loci/formats/tools/ImageInfo.java>

Argument	Action
-version	print the library version and exit
file	the image file to read
-nopix	read metadata only, not pixels
-nocore	do not output core metadata
-nometa	do not parse format-specific metadata table
-nofilter	do not filter metadata fields
-thumbs	read thumbnails instead of normal pixels
-minmax	compute min/max statistics
-merge	combine separate channels into RGB image
-nogroup	force multi-file datasets to be read as individual files
-stitch	stitch files with similar names
-separate	split RGB image into separate channels
-expand	expand indexed color to RGB
-omexml	populate OME-XML metadata
-normalize	normalize floating point images*
-fast	paint RGB images as quickly as possible*
-debug	turn on debugging output
-range	specify range of planes to read (inclusive)
-series	specify which image series to read
-swap	override the default input dimension order
-shuffle	override the default output dimension order
-map	specify file on disk to which name should be mapped
-preload	pre-read entire file into a buffer; significantly reduces the time required to read the images, but requires more memory
-crop	crop images before displaying; argument is 'x,y,w,h'
-autoscale	used in combination with '-fast' to automatically adjust brightness and contrast
-novalid	do not perform validation of OME-XML
-omexml-only	only output the generated OME-XML
-format	read file with a particular reader (e.g., ZeissZVI)

* = may result in loss of precision

- If you wish to test using TestNG, [loci.tests.testng.FormatReaderTest](https://github.com/loci/formats/blob/master/src/test/java/loci/testng/FormatReaderTest.java)⁵⁴ provides several basic tests that work with all Bio-Formats readers. See the FormatReaderTest source code for additional information.
- For more details, please look at the source code and [Javadocs](#)⁵⁵. Studying existing readers is probably the best way to get a feel for the API; we would recommend first looking at [loci.formats.in.ImarisReader](#)⁵⁶ (this is the most straightforward one). [loci.formats.in.LIFReader](#)⁵⁷ and [InCellReader](#)⁵⁸ are also good references that show off some of the nicer features of Bio-Formats.

If you have questions about Bio-Formats, please contact [the OME team](#)⁵⁹.

15.4 Adding format/reader documentation pages

Most documentation pages for the supported formats and readers are auto-generated. These pages should not be modified directly. This page explains how to amend/extend this part of the Bio-Formats documentation.

The [Bio-Formats testing framework](#)⁶⁰ component contains most of the infrastructure to run automated tests against the data repository.

⁵⁴[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/tests/testng/FormatReaderTest.html](https://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/tests/testng/FormatReaderTest.html)

⁵⁵[http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/](https://downloads.openmicroscopy.org/latest/bio-formats5.1/api/)

⁵⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImarisReader.java>

⁵⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LIFReader.java>

⁵⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/InCellReader.java>

⁵⁹<http://www.openmicroscopy.org/site/community>

⁶⁰<https://github.com/openmicroscopy/bioformats/tree/develop/components/autogen>

15.4.1 Formats

After checking out source code and building all the JAR files (see *Obtaining and building Bio-Formats*), the supported formats pages can be generated using the **ant** `gen-format-pages` target under the `autogen` component:

```
$ ant -f components/autogen/build.xml gen-format-pages
```

This target will read the metadata for each format stored under `format-pages.txt`⁶¹ and generate a reStructuredText file for each format stored under `formats/<formatname>.txt` as well as an index page for all supported formats using Velocity⁶².

The `format-pages.txt` is an INI file where each section corresponds to a particular format given by the section header. Multiple key/values should be defined for each section:

pagename The name of the output reStructuredText file. If unspecified, the section header will be used to generate the filename.

extensions The list of extensions supported for the format

owner The owner of the file format

developer The developer of the file format

bsd A *yes/no* flag specifying whether the format readers/writers are under the BSD license

versions A comma-separated list of all versions supported for this format

weHave A bullet-point list describing the supporting material we have for this format including specification and sample datasets

weWant A bullet-point list describing the supporting material we would like to have for this format

pixelRating, metadataRating, opennessRating, presenceRating, utilityRating See *Ratings legend and definitions*. Available choices are: *Poor, Fair, Good, Very Good, Outstanding*

reader A string or a comma-separated list of all readers for this format

notes Additional relevant information e.g. that we cannot distribute specification documents to third parties

15.4.2 Dataset structure table

After checking out source code and building all the JAR files (see *Obtaining and building Bio-Formats*), the summary table listing the extensions for each reader can be generated using the **ant** `gen-structure-table` target under the `autogen` component:

```
$ ant -f components/autogen/build.xml gen-structure-table
```

This target will loop through all Bio-Formats readers (BSD and GPL), read their extensions and descriptions and create a reStructuredText file with a table summary of all file extensions.

15.4.3 Readers

After checking out source code and building all the JAR files (see *Obtaining and building Bio-Formats*), the metadata pages for each reader can be generated using the **ant** `gen-meta-support` target under the `autogen` component:

```
$ ant -f components/autogen/build.xml gen-meta-support
```

This target will loop through all Bio-Formats readers (BSD and GPL), parse their metadata support and create an intermediate `meta-support.txt` file. In a second step, this `meta-support.txt` file is converted into one reStructuredText page for each reader stored under `metadata/<reader>.txt` as well as a metadata summary reStructuredText file using Velocity⁶³.

⁶¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/autogen/src/format-pages.txt>

⁶²<http://velocity.apache.org/>

⁶³<http://velocity.apache.org/>

15.5 Bio-Formats service and dependency infrastructure

15.5.1 Description

The Bio-Formats service infrastructure is an interface driven pattern for dealing with external and internal dependencies. The design goal was mainly to avoid the cumbersome usage of `ReflectedUniverse` where possible and to clearly define both service dependency and interface between components. This is generally referred to as [dependency injection](#)⁶⁴, [dependency inversion](#)⁶⁵ or [component based design](#)⁶⁶.

It was decided, at this point, to forgo the usage of potentially more powerful but also more complicated solutions such as:

- Spring (<http://spring.io>)
- Guice (<http://code.google.com/p/google-guice/>)
- ...

The Wikipedia page for [dependency injection](#)⁶⁷ contains many other implementations in many languages.

An added benefit is the potential code reuse possibilities as a result of decoupling of dependency and usage in Bio-Formats readers. Implementations of the initial Bio-Formats services were completed as part of `BioFormatsCleanup` and tickets [#463](#)⁶⁸ and [#464](#)⁶⁹.

15.5.2 Writing a service

- **Interface** – The basic form of a service is an interface which inherits from `loci.common.services.Service`⁷⁰. Here is a very basic example using the (now removed) `OMENotesService`

```
public interface OMENotesService extends Service {

    /**
     * Creates a new OME Notes instance.
     * @param filename Path to the file to create a Notes instance for.
     */
    public void newNotes(String filename);

}
```

- **Implementation** – This service then has an implementation, which is usually located in the Bio-Formats component or package which imports classes from an external, dynamic or other dependency. Again looking at the `OMENotesService`:

```
public class OMENotesServiceImpl extends AbstractService
    implements OMENotesService {

    /**
     * Default constructor.
     */
    public OMENotesServiceImpl() {
        checkClassDependency(Notes.class);
    }

    /* (non-Javadoc)
     * @see loci.formats.dependency.OMENotesService#newNotes()
     */
    public void newNotes(String filename) {
        new Notes(null, filename);
    }

}
```

⁶⁴http://en.wikipedia.org/wiki/Dependency_injection

⁶⁵http://en.wikipedia.org/wiki/Dependency_inversion_principle

⁶⁶http://en.wikipedia.org/wiki/Component-based_software_engineering

⁶⁷http://en.wikipedia.org/wiki/Dependency_injection

⁶⁸<https://trac.openmicroscopy.org/ome/ticket/463>

⁶⁹<https://trac.openmicroscopy.org/ome/ticket/464>

⁷⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/services/Service.html>

```
}
```

```
}
```

- **Style**

- Extension of `AbstractService` to enable uniform runtime dependency checking is recommended. Java does not check class dependencies until classes are first instantiated so if you do not do this, you may end up with `ClassNotFoundException` or the like exceptions being emitted from your service methods. This is to be **strongly** discouraged. If a service has unresolvable classes on its CLASSPATH instantiation should fail, not service method invocation.
- Service methods should not burden the implementer with numerous checked exceptions. Also external dependency exception instances should not be allowed to directly leak from a service interface. Please wrap these using a `ServiceException`.
- By convention both the interface and implementation are expected to be in a package named `loci.*.services`. This is not a hard requirement but should be followed where possible.

- **Registration** – A service’s interface and implementation must finally be *registered* with the `loci.common.services.ServiceFactory`⁷¹ via the `services.properties` file. Following the `OMENotesService` again, here is an example registration:

```
...
# OME notes service (implementation in legacy ome-notes component)
loci.common.services.OMENotesService=loci.ome.notes.services.OMENotesServiceImpl
...
```

See also:

`loci.common.services.Service`⁷². Source code for `loci.common.services.Service` interface

`loci.common.services.ServiceFactory`⁷³ Source code for `loci.common.services.Service` interface

15.5.3 Using a service

```
OMENotesService service = null;
try {
    ServiceFactory factory = new ServiceFactory();
    service = factory.getInstance(OMENotesService.class);
}
catch (DependencyException de) {
    LOGGER.info("", de);
}
...
```

15.6 Code generation with xsd-fu

xsd-fu is a Python application designed to digest OME XML schema and produce an object-oriented Java infrastructure to ease work with an XML DOM tree. It is usually run automatically when building from source (see *Building from source*) and so running it by hand should not be needed. **xsd-fu** is primarily used to generate the OME-XML model objects, enums and enum handlers, plus the `MetadataStore` and `MetadataRetrieve` interfaces and implementations.

15.6.1 Available options

-d, --dry-run

Run all source generation processing, but don’t write output files. In combination with `--print-depends` or `--`

⁷¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/services/ServiceFactory.html>

print-generated, this option may be used to dynamically introspect command dependencies and output to create build rules on the fly for e.g. **cmake**.

--debug

Enable xsd-fu debugging messages and template debugging. The code templates contain diagnostic messages to debug the template processing, which are normally suppressed in the code output; enabling debugging will add these diagnostic messages to the generated code.

-l language, --language=language

Generate code for the specified language. Currently supported options are *C++* and *Java*.

--metadata-package=package

Package or namespace for the metadata store and retrieve classes.

--ome-xml-metadata-package

Package or namespace for the OME-XML metadata classes.

--ome-xml-model-package=package

Package or namespace for the OME-XML model classes.

--ome-xml-model-enums-package=package

Package or namespace for the OME-XML model enum classes.

--ome-xml-model-enum-handlers-package=package

Package or namespace for the OME-XML model enum handler classes.

-o dir, --output-directory=dir

Output generated code into the specified directory. The directory will be created if it does not already exist. Note that the directory is the root of the source tree; generated classes will be placed into the appropriate module-specific locations under this root.

--print-depends

Print a list of the files required during template processing, including schema files, templates and custom template fragments. Particularly useful with *--dry-run* to introspect command dependencies.

--print-generated

Print a list of the files generated during template processing. Particularly useful with *--dry-run* to determine what a given command would generate.

-q, --quiet

Do not print names of generated files.

-t path, --template-path=path

Path to search for Genshi template files. Defaults to the language-specific template directory in *components/xsd-fu*.

-n, --xsd-namespace

XML schema namespace to use. Defaults to *xsd:*.

-v, --verbose

Print names of generated files as they are processed.

15.6.2 Available commands

- doc_gen
- metadata
- omero_metadata
- omero_model
- omexml_metadata
- omexml_metadata_all
- omexml_model
- omexml_model_all
- omexml_model_enums

- `omexml_model_enum_handlers`
- `omexml_model_enum_includeall`
- `tab_gen`

15.6.3 Running the code generator

Run `xsd-fu` script with no arguments to examine the syntax:

```
./components/xsd-fu/xsd-fu
Error: Missing subcommand
```

```
xsd-fu: Generate classes from an OME-XML schema definition
Usage: ./components/xsd-fu/xsd-fu command [options...] -o output_dir schema_files...
```

Options:

<code>-d, --dry-run</code>	Do not create output files
<code>--debug</code>	Enable <code>xsd-fu</code> and template debugging
<code>-l, --language=lang</code>	Generated language
<code>--metadata-package=pkg</code>	Metadata package
<code>--ome-xml-metadata-package=pkg</code>	OME-XML metadata class package
<code>--ome-xml-model-package=pkg</code>	OME-XML model package
<code>--ome-xml-model-enums-package=pkg</code>	OME-XML model enum package
<code>--ome-xml-model-enum-handlers-package=pkg</code>	OME-XML model enum handler package
<code>-o, --output-directory=dir</code>	Generated output directory
<code>-q, --quiet</code>	Do not output file names
<code>-t, --template-path=path</code>	Genshi template path
<code>-v, --verbose</code>	Output generated file names
<code>-n, --xsd-namespace</code>	XML schema namespace

Available subcommands:

```
debug
doc_gen
omexml_model_enum_handlers
omexml_model_enums
omexml_model
metadata
omero_metadata
omero_model
omexml_metadata
tab_gen
```

Default XSD namespace: `"xsd:"`

Default Java OME-XML package: `"ome.xml.model"`

Default Java OME-XML enum package: `"ome.xml.model.enums"`

Default Java OME-XML enum handler package: `"ome.xml.model.enums.handlers"`

Default Java metadata package: `"loci.formats.meta"`

Default Java OME-XML metadata package: `"loci.formats.ome"`

Default C++ OME-XML package: `"ome::xml::model"`

Default C++ OME-XML enum package: `"ome::xml::model::enums"`

Default C++ metadata package: `"ome::xml::meta"`

Default C++ OME-XML metadata package: `"ome::xml::meta"`

Examples:

```
./components/xsd-fu/xsd-fu -l Java -n 'xsd:' --ome-xml-model-package=ome.xml.model -o omexml /path/to/output
./components/xsd-fu/xsd-fu -l C++ -n 'xsd:' --ome-xml-model-package=ome::xml::model -o omexml /path/to/output
```

Report bugs to OME Devel <ome-devel@lists.openmicroscopy.org.uk>

Note: It should not be necessary to run it by hand for a normal Bio-Formats build. **xsd-fu** is run automatically as part of the

main Bio-Formats build from version 5.0 when building the *ome-xml* and *scifio* components. It is still useful to run by hand when debugging, or using non-standard targets.

15.6.4 Generating the OME-XML Java model and metadata classes

The following sections outline how to generate parts of the OME-XML Java interfaces and implementations for the object model and metadata store, which are composed of:

- OME model objects
- enumerations for OME model properties
- enumeration handlers for regular expression matching of enumeration strings
- Metadata store and Metadata retrieve interfaces for all OME model properties
- various implementations of Metadata store and/or Metadata retrieve interfaces

All of the above can be generated by this Ant command:

```
$ cd components/ome-xml
$ ant generate-source
```

Run:

```
$ ant generate-source -v
```

to see the command-line options used.

15.6.5 Working with Enumerations and Enumeration Handlers

XsdFu code generates enumeration regular expressions using a flexible [configuration file](#)⁷⁴.

Each enumeration has a key-value listing of regular expression to exact enumeration value matches. For example:

```
[Correction]
".*Pl.*Apo.*" = "PlanApo"
".*Pl.*Flu.*" = "PlanFluor"
"^\\s*Vio.*Corr.*" = "VioletCorrected"
".*S.*Flu.*" = "SuperFluor"
".*Neo.*flu.*" = "Neofluar"
".*Flu.*tar.*" = "Fluotar"
".*Fluo.*" = "Fluor"
".*Flua.*" = "Fluar"
"^\\s*Apo.*" = "Apo"
```

15.6.6 Generate OMERO model specification files

Run **xsd-fu** with the `omero_model` subcommand.

15.6.7 Special thanks

A special thanks goes out to [Dave Kuhlman](#)⁷⁵ for his fabulous work on [generateDS](#)⁷⁶ which **xsd-fu** makes heavy use of internally.

⁷⁴https://github.com/openmicroscopy/bioformats/blob/develop/components/xsd-fu/cfg/enum_handler.cfg

⁷⁵<http://www.davekuhlman.org/>

⁷⁶<http://www.davekuhlman.org/generateDS.html>

15.7 Scripts for performing development tasks

The `tools` directory contains several scripts which are useful for building and performing routine updates to the code base.

15.7.1 `bump_maven_version.py`

This updates the Maven POM version numbers for all `pom.xml` files that set *groupId* to *ome*. The script takes a single argument, which is the new version. For example, to update the POM versions prior to release:

```
./tools/bump_maven_version.py 5.1.0
```

and to switch back to snapshot versions immediately after release:

```
./tools/bump_maven_version.py 5.1.1-SNAPSHOT
```

15.7.2 `test-build`

This is the script used by Travis to test each commit. It compiles and runs tests on each of the components in the Bio-Formats repository according to the arguments specified. Valid arguments are:

- *clean*: cleans the Maven build directories
- *maven*: builds all Java components using Maven and runs unit tests
- *cpp*: builds the native C++ code alone
- *cppwrap*: builds the auto-generated C++ bindings for the Java API
- *sphinx*: builds the Sphinx documentation alone
- *ant*: builds all Java components using Ant and runs unit tests
- *all*: equivalent of *clean maven cppwrap sphinx ant*

15.7.3 `update_copyright`

This updates the end year in the copyright blocks of all source code files. The command takes no arguments, and sets the end year to be the current year. As *update_copyright* is a Bash script, it is not intended to be run on Windows.

See [open Trac tickets for Bio-Formats⁷⁷](https://trac.openmicroscopy.org/ome/report/44) for information on work currently planned or in progress.

For more general guidance about how to contribute to OME projects, see the [Contributing developers documentation⁷⁸](http://www.openmicroscopy.org/site/support/contributing/index.html).

⁷⁷<https://trac.openmicroscopy.org/ome/report/44>

⁷⁸<http://www.openmicroscopy.org/site/support/contributing/index.html>

Part IV

Formats

Bio-Formats supports over 140 different file formats. The *Dataset Structure Table* explains the file extension you should choose to open/import a dataset in any of these formats, while the *Supported Formats* table lists all of the formats and gives an indication of how well they are supported and whether Bio-Formats can write, as well as read, each format. The *Summary of supported metadata fields* table shows an overview of the *OME data model* fields populated for each format.

We are always looking for examples of files to help us provide better support for different formats. If you would like to help, you can upload files using our [QA system uploader](http://qa.openmicroscopy.org.uk/qa/upload/)⁷⁹. If you have any questions, or would prefer not to use QA, please email the [ome-users mailing list](mailto:ome-users@openmicroscopy.org)⁸⁰. If your format is already supported, please refer to the ‘we would like to have’ section on the individual page for that format, to see if your dataset would be useful to us.

⁷⁹<http://qa.openmicroscopy.org.uk/qa/upload/>

⁸⁰<http://www.openmicroscopy.org/site/community/mailing-lists>

DATASET STRUCTURE TABLE

This table shows the extension of the file that you should choose if you want to open/import a dataset in a particular format.

Format name	File to choose	Structure of files
AIM	.aim	Single file
ARF	.arf	Single file
Adobe Photoshop	.psd	Single file
Adobe Photoshop TIFF	.tif, .tiff	Single file
Alicona AL3D	.al3d	Single file
Amersham Biosciences GEL	.gel	Single file
Amira	.am, .amiramesh, .grey, .hx, .labels	Single file
Analyze 7.5	.img, .hdr	One .img file and one similarly-named .hdr file
Andor SIF	.sif	Single file
Animated PNG	.png	Single file
Aperio AFI	.afi	One .afi file and several similarly-named .svs files
Aperio SVS	.svs	Single file
Audio Video Interleave	.avi	Single file
BD Pathway	.exp, .tif	Multiple files (.exp, .dye, .ltp, ...) plus one or more directories containing .tif and .bmp files
Bio-Rad GEL	.lsc	Single file
Bio-Rad PIC	.pic, .xml, .raw	One or more .pic files and an optional lse.xml file
Bio-Rad SCN	.scn	Single file
Bitplane Imaris	.ims	Single file
Bitplane Imaris 3 (TIFF)	.ims	Single file
Bitplane Imaris 5.5 (HDF)	.ims	Single file
Bruker	(no extension)	One 'fid' and one 'acqp' plus several other metadata files and a 'pdata' directory
Burleigh	.img	Single file
Canon RAW	.cr2, .crw, .jpg, .thm, .wav	Single file
CellH5 (HDF)	.ch5	Single file
CellSens VSI	.vsi, .ets	One .vsi file and an optional directory with a similar name that contains at least one subdirectory with .ets files
CellVoyager	.tif, .xml	Directory with 2 master files 'MeasurementResult.xml' and 'MeasurementResult.ome.xml', used to stitch together several TIF files.
CellWorx	.pnl, .htd, .log	One .htd file plus one or more .pnl or .tif files and optionally one or more .log files
Cellomics C01	.c01, .dib	One or more .c01 files
Compix Simple-PCI	.cxd	Single file
DICOM	.dic, .dcm, .dicom, .jp2, .j2ki, .j2kr, .raw, .ima	One or more .dcm or .dicom files
DNG	.cr2, .crw, .jpg, .thm, .wav, .tif, .tiff	Single file

Continued on next page

Table 16.1 – continued from previous page

Format name	File to choose	Structure of files
Deltavision	.dv, .r3d, .r3d_d3d, .dv.log, .r3d.log	One .dv, .r3d, or .d3d file and up to two optional .log files
ECAT7	.v	Single file
Encapsulated PostScript	.eps, .epsi, .ps	Single file
Evotec Flex	.flex, .mea, .res	One directory containing one or more .flex files, and an optional directory containing an .mea and .res file. The .mea and .res files may also be in the same directory as the .flex file(s).
FEI TIFF	.tif, .tiff	Single file
FEI/Philips	.img	Single file
Flexible Image Transport System	.fits, .fts	Single file
FlowSight	.cif	Single file
Fuji LAS 3000	.img, .inf	Single file
Gatan DM2	.dm2	Single file
Gatan Digital Micrograph	.dm3, .dm4	Single file
Graphics Interchange Format	.gif	Single file
Hamamatsu Aquacosmos	.naf	Single file
Hamamatsu HIS	.his	Single file
Hamamatsu NDPI	.ndpi	Single file
Hamamatsu NDPIS	.ndpis	One .ndpis file and at least one .ndpi file
Hamamatsu VMS	.vms	One .vms file plus several .jpg files
Hitachi	.txt	One .txt file plus one similarly-named .tif, .bmp, or .jpg file
I2I	.i2i	Single file
IMAGIC	.hed, .img	One .hed file plus one similarly-named .img file
IMOD	.mod	Single file
INR	.inr	Single file
IPLab	.ipl	Single file
IVision	.ipm	Single file
Imacon	.fff	Single file
Image Cytometry Standard	.ics, .ids	One .ics and possibly one .ids with a similar name
Image-Pro Sequence	.seq	Single file
Image-Pro Workspace	.ipw	Single file
Improvision TIFF	.tif, .tiff	Single file
InCell 1000/2000	.xdce, .xml, .tiff, .tif, .xlog	One .xdce file with at least one .tif/.tiff or .im file
InCell 3000	.frm	Single file
Inveon	.hdr	One .hdr file plus one similarly-named file
JEOL	.dat, .img, .par	A single .dat file or an .img file with a similarly-named .par file
JPEG	.jpg, .jpeg, .jpe	Single file
JPEG-2000	.jp2, .j2k, .jpf	Single file
JPX Instruments	.jpk	Single file
JPX	.jpx	Single file
Khoros XV	.xv	Single file
Kodak Molecular Imaging	.bip	Single file
LEO	.sxm, .tif, .tiff	Single file
LI-FLIM	.fli	Single file
Laboratory Imaging	.lim	Single file
Lavision Inspector	.msr	Single file
Leica	.lei, .tif, .tiff, .raw	One .lei file with at least one .tif/.tiff file and an optional .txt file
Leica Image File Format	.lif	Single file
Leica SCN	.scn	Single file

Continued on next page

Table 16.1 – continued from previous page

Format name	File to choose	Structure of files
Leica TCS TIFF	.tif, .tiff, .xml	Single file
Li-Cor L2D	.l2d, .scn, .tif	One .l2d file with one or more directories containing .tif/.tiff files
MIAS	.tif, .tiff, .txt	One directory per plate containing one directory per well, each with one or more .tif/.tiff files
MINC MRI	.mnc	Single file
Medical Research Council	.mrc, .st, .ali, .map, .rec	Single file
Metamorph STK	.stk, .nd, .tif, .tiff	One or more .stk or .tif/.tiff files plus an optional .nd file
Metamorph TIFF	.tif, .tiff	One or more .tif/.tiff files
Micro-Manager	.tif, .tiff, .txt, .xml	A file ending in 'metadata.txt' plus one or more .tif files
Minolta MRW	.mrw	Single file
Molecular Imaging	.stp	Single file
Multiple-image Network Graphics	.mng	Single file
NiFTI	.nii, .img, .hdr	A single .nii file or one .img file and a similarly-named .hdr file
NOAA-HRD Gridded Data Format	(no extension)	Single file
NRRD	.nrrd, .nhdr	A single .nrrd file or one .nhdr file and one other file containing the pixels
Nikon Elements TIFF	.tif, .tiff	Single file
Nikon ND2	.nd2	Single file
Nikon NEF	.nef, .tif, .tiff	Single file
Nikon TIFF	.tif, .tiff	Single file
OBF	.obf, .msr	OBF file
OME-TIFF	.ome.tif, .ome.tiff, .companion.ome	One or more .ome.tif files
OME-XML	.ome, .ome.xml	Single file
Olympus APL	.apl, .tnb, .mtb, .tif	One .apl file, one .mtb file, one .tnb file, and a directory containing one or more .tif files
Olympus FV1000	.oib, .oif, .pty, .lut	Single .oib file or one .oif file and a similarly-named directory containing .tif/.tiff files
Olympus Fluoview/ABD TIFF	.tif, .tiff	One or more .tif/.tiff files, and an optional .txt file
Olympus SIS TIFF	.tif, .tiff	Single file
Olympus ScanR	.dat, .xml, .tif	One .xml file, one 'data' directory containing .tif/.tiff files, and optionally two .dat files
Olympus Slidebook	.sld, .spl	Single file
Openlab LIFF	.liff	Single file
Openlab RAW	.raw	Single file
Oxford Instruments	.top	Single file
PCO-RAW	.pcoraw, .rec	A single .pcoraw file with a similarly-named .rec file
PCX	.pcx	Single file
PICT	.pict, .pct	Single file
POV-Ray	.df3	Single file
Perkin Elmer Densitometer	.hdr, .img	One .hdr file and a similarly-named .img file
Perkin-Elmer Nuance IM3	.im3	Single file
PerkinElmer	.ano, .cfg, .csv, .htm, .rec, .tim, .zpo, .tif	One .htm file, several other metadata files (.tim, .ano, .csv, ...) and either .tif files or .2, .3, .4, etc. files
PerkinElmer Operetta	.tif, .tiff, .xml	Directory with XML file and one .tif/.tiff file per plane
PicoQuant Bin	.bin	Single file
Portable Any Map	.pbm, .pgm, .ppm	Single file
Prairie TIFF	.tif, .tiff, .cfg, .env, .xml	One .xml file, one .cfg file, and one or more .tif/.tiff files
Pyramid TIFF	.tif, .tiff	Single file

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Table 16.1 – continued from previous page

Format name	File to choose	Structure of files
Quesant AFM	.afm	Single file
QuickTime	.mov	Single file
RHK Technologies	.sm2, .sm3	Single file
SBIG	(no extension)	Single file
SM Camera	(no extension)	Single file
SPCImage Data	.sdt	Single file
SPIDER	.spi	Single file
Seiko	.xqd, .xqf	Single file
SimplePCI TIFF	.tif, .tiff	Single file
Simulated data	.fake	Single file
SlideBook 6 SLD (native)	.sld	Single file
Slidebook TIFF	.tif, .tiff	Single file
Tagged Image File Format	.tif, .tiff, .tf2, .tf8, .btf	Single file
Text	.txt, .csv	Single file
TillVision	.vws, .pst, .inf	One .vws file and possibly one similarly-named directory
TopoMetrix	.tfr, .ffr, .zfr, .zfp, .2fl	Single file
Trestle	.tif	One .tif file plus several other similarly-named files (e.g. <i>FocalPlane</i> -, .sld, .slx, .ROI)
Truevision Targa	.tga	Single file
UBM	.pr3	Single file
Unisoku STM	.hdr, .dat	One .HDR file plus one similarly-named .DAT file
VG SAM	.dti	Single file
Varian FDF	.fdf	Single file
Veeco	.hdf	Single file
Visitech XYS	.xys, .html	One .html file plus one or more .xys files
Volocity Library	.mvd2, .aisf, .aiix, .dat, .atsf	One .mvd2 file plus a ‘Data’ directory
Volocity Library Clipping	.acff	Single file
WA Technology TOP	.wat	Single file
Windows Bitmap	.bmp	Single file
Woolz	.wlz	Single file
Zeiss AxioVision TIFF	.tif, .xml	Single file
Zeiss CZI	.dzi	Single file
Zeiss LMS	.lms	Single file
Zeiss Laser-Scanning Microscopy	.lsm, .mdb	One or more .lsm files; if multiple .lsm files are present, an .mdb file should also be present
Zeiss Vision Image (ZVI)	.zvi	Single file
Zip	.zip	Single file

16.1 Flex Support

OMERO.importer supports importing analyzed Flex files from an Opera system.

Basic configuration is done via the `importer.ini`. Once the user has run the Importer once, this file will be in the following location:

- `C:\Documents and Settings\<username>\omero\importer.ini`

The user will need to modify or add the `[FlexReaderServerMaps]` section of the INI file as follows:

```
...
[FlexReaderServerMaps]
CIA-1 = \\hostname1\mount;\\archivehost1\mount
CIA-2 = \\hostname2\mount;\\archivehost2\mount
```

where the *key* of the INI file line is the value of the “Host” tag in the .mea measurement XML file (here: `<Host name="CIA-1">`) and the value is a semicolon-separated list of *escaped* UNC path names to the Opera workstations where the Flex files reside.

Once this resolution has been encoded in the configuration file **and** you have restarted the importer, you will be able to select the .mea measurement XML file from the Importer user interface as the import target.

SUPPORTED FORMATS

Ratings legend and definitions

Format	Extensions	Pixels	Metadata	Openness	Presence	Utility	Export	BSD	Multiple Images
<i>3i SlideBook</i>	.sld	▲	▼	▼	▲	▼	✖	✖	✓
<i>Andor Bio-Imaging Division (ABD) TIFF</i>	.tif	▲	▲	■	▼	■	✖	✖	✓
<i>AIM</i>	.aim	■	▲	▼	▼	▼	✖	✖	✖
<i>Alicona 3D</i>	.al3d	▲	▲	▲	▼	■	✖	✖	✖
<i>Amersham Bio-sciences Gel</i>	.gel	▲	▲	■	▼	▼	✖	✖	✖
<i>Amira Mesh</i>	.am, .ami- ramesh, .grey, .hx, .labels	▲	■	▼	▼	▼	✖	✖	✖
<i>Amnis FlowSight</i>	.cif	■	▼	■	▼	▼	✖	✓	✓
<i>Analyze 7.5</i>	.img, .hdr	▲	■	▲	■	▼	✖	✖	✖
<i>Animated PNG</i>	.png	▲	▲	▲	■	▼	✓	✓	✖
<i>Aperio AFI</i>	.afi, .svs	▲	▲	▲	■	■	✖	✖	✓
<i>Aperio SVS TIFF</i>	.svs	▲	▲	▲	■	■	✖	✖	✓
<i>Applied Precision CellWorX</i>	.htd, .pnl	▲	■	■	▼	▼	✖	✖	✓
<i>AVI (Audio Video Interleave)</i>	.avi	■	▲	▼	▲	▼	✓	✓	✖
<i>Axon Raw Format</i>	.arf	▲	▼	▲	▼	▼	✖	✖	✖
<i>BD Pathway</i>	.exp, .tif	▲	▲	■	▼	■	✖	✖	✓
<i>Becker & Hickl SPCImage</i>	.sdt	▲	▲	■	▼	▼	✖	✖	✓
<i>Bio-Rad Gel</i>	.lsc	■	▼	▼	▼	▼	✖	✖	✖
<i>Bio-Rad PIC</i>	.pic, .raw, .xml	▲	▲	▲	▲	▲	✖	✖	✖
<i>Bio-Rad SCN</i>	.scn	▲	▼	▼	▼	▼	✖	✖	✖
<i>Bitplane Imaris</i>	.ims	▲	▲	▲	▼	▼	✖	✖	✓
<i>Bruker MRI</i>		■	▲	▼	■	▼	✖	✖	✓
<i>Burleigh</i>	.img	■	▼	▼	▼	▼	✖	✖	✖

Continued on next page

Table 17.1 – continued from previous page

Format	Extensions	Pixels	Metadata	Openness	Presence	Utility	Export	BSD	Multiple Images
<i>Canon DNG</i>	.cr2, .crw								
<i>CellH5</i>	.ch5								
<i>Cellomics</i>	.c01, .dib								
<i>cellSens VSI</i>	.vsi								
<i>CellVoyager</i>	.xml, .tif								
<i>DeltaVision</i>	.dv, .r3d								
<i>DICOM</i>	.dcm, .dicom								
<i>ECAT7</i>	.v								
<i>EPS (Encapsulated PostScript)</i>	.eps, .epsi, .ps								
<i>Evotec/PerkinElmer Opera Flex</i>	.flex, .mea, .res								
<i>FEI</i>	.img								
<i>FEI TIFF</i>	.tiff								
<i>FITS (Flexible Image Transport System)</i>	.fits								
<i>Gatan Digital Micrograph</i>	.dm3, .dm4								
<i>Gatan Digital Micrograph 2</i>	.dm2								
<i>GIF (Graphics Interchange Format)</i>	.gif								
<i>Hamamatsu Aqua-cosmos NAF</i>	.naf								
<i>Hamamatsu HIS</i>	.his								
<i>Hamamatsu ndpi</i>	.ndpi, .ndpis								
<i>Hamamatsu VMS</i>	.vms								
<i>Hitachi S-4800</i>	.txt, .tif, .bmp, .jpg								
<i>I2I</i>	.i2i								
<i>ICS (Image Cytometry Standard)</i>	.ics, .ids								
<i>Imacon</i>	.fff								
<i>ImagePro Sequence</i>	.seq								
<i>ImagePro Workspace</i>	.ipw								
<i>IMAGIC</i>	.hed, .img								
<i>IMOD</i>	.mod								
<i>Improvision Openlab LIFF</i>	.liff								
<i>Improvision Openlab Raw</i>	.raw								

Continued on next page

Table 17.1 – continued from previous page

Format	Extensions	Pixels	Metadata	Openness	Presence	Utility	Export	BSD	Multiple Images
<i>Improvision TIFF</i>	.tif	▲	▲	▲	▼	▲	✗	✗	✗
<i>Inspector OBF</i>	.obf, .msr	▲	▲	▲	▼	▼	✗	✓	✓
<i>InCell 1000/2000</i>	.xdce, .tif	▲	▲	▲	▼	▲	✗	✗	✓
<i>InCell 3000</i>	.frm	▲	▼	▼	▼	▼	✗	✗	✗
<i>INR</i>	.inr	▲	▲	▼	▼	▼	✗	✗	✗
<i>Inveon</i>	.hdr	▲	▲	▲	▼	▼	✗	✗	✓
<i>IPLab</i>	.ipl	▲	▲	▲	▼	▼	✗	✗	✗
<i>IVision</i>	.ipm	▲	▲	▲	▼	▼	✗	✗	✗
<i>JEOL</i>	.dat, .img, .par	▲	▼	▼	▼	▼	✗	✗	✗
<i>JPEG</i>	.jpg	▲	▼	▲	▲	▼	✓	✓	✗
<i>JPEG 2000</i>	.jp2	▲	▼	▲	▲	▼	✓	✓	✓
<i>JPk</i>	.jpk	▲	▼	▼	▼	▼	✗	✗	✓
<i>JPX</i>	.jpx	▲	▲	▲	▲	▼	✗	✗	✓
<i>Khoros VIFF (Visualization Image File Format) Bitmap</i>	.xv	▲	▼	▼	▼	▼	✗	✗	✗
<i>Kodak BIP</i>	.bip	▲	▲	▼	▼	▼	✗	✗	✗
<i>Lambert Instruments FLIM</i>	.fli	▲	▲	▲	▼	▲	✗	✗	✓
<i>LaVision Inspector</i>	.msr	▼	▼	▼	▼	▼	✗	✗	✓
<i>Leica LCS LEI</i>	.lei, .tif	▲	▲	▲	▲	▲	✗	✗	✓
<i>Leica LAS AF LIF (Leica Image File Format)</i>	.lif	▲	▲	▲	▲	▲	✗	✗	✓
<i>Leica SCN</i>	.scn	▲	▲	▲	▼	▲	✗	✗	✓
<i>LEO</i>	.sxm	▲	▼	▲	▼	▼	✗	✗	✗
<i>Li-Cor L2D</i>	.l2d, .tif, .scn	▲	▼	▲	▲	▲	✗	✗	✓
<i>LIM (Laboratory Imaging/Nikon)</i>	.lim	▲	▼	▼	▼	▼	✗	✗	✗
<i>MetaMorph 7.5 TIFF</i>	.tiff	▲	▲	▲	▼	▲	✗	✗	✓
<i>MetaMorph Stack (STK)</i>	.stk, .nd	▲	▲	▲	▲	▲	✗	✗	✗
<i>MIAS (Maia Scientific)</i>	.tif	▲	▼	▼	▼	▼	✗	✗	✓
<i>Micro-Manager</i>	.tif, .txt, .xml	▲	▲	▲	▼	▲	✗	✓	✓
<i>MINC MRI</i>	.mnc	▲	▲	▲	▲	▼	✗	✗	✗
<i>Minolta MRW</i>	.mrw	▲	▲	▼	▼	▼	✗	✗	✗
<i>MNG (Multiple-image Network Graphics)</i>	.mng	▲	▲	▲	▼	▼	✗	✓	✓
<i>Molecular Imaging</i>	.stp	▲	▼	▼	▼	▼	✗	✗	✗

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Table 17.1 – continued from previous page

Format	Extensions	Pixels	Metadata	Openness	Presence	Utility	Export	BSD	Multiple Images
<i>MRC (Medical Research Council)</i>	.mrc	▲	▲	▲	▲	▲	✗	✗	✗
<i>NEF (Nikon Electronic Format)</i>	.nef, .tif	▲	▲	▼	▼	▼	✗	✗	✗
<i>NIfTI</i>	.img, .hdr	▲	▲	▲	▲	▼	✗	✗	✗
<i>Nikon Elements TIFF</i>	.tiff	▲	▲	▼	▼	▼	✗	✗	✗
<i>Nikon EZ-C1 TIFF</i>	.tiff	▲	▲	▲	▼	▼	✗	✗	✗
<i>Nikon NIS-Elements ND2</i>	.nd2	▲	▲	▼	▲	▲	✗	✗	✓
<i>NRRD (Nearly Raw Raster Data)</i>	.nrrd, .nhdr, .raw, .txt	▲	▲	▲	▼	▲	✗	✓	✗
<i>Olympus CellR/APL</i>	.apl, .mtb, .tnb, .tif, .obsep	▲	▼	▼	▼	▼	✗	✗	✓
<i>Olympus FluoView FV1000</i>	.oib, .oif	▲	▲	▲	▲	▲	✗	✗	✓
<i>Olympus FluoView TIFF</i>	.tif	▲	▲	▲	▲	▲	✗	✗	✓
<i>Olympus ScanR</i>	.xml, .dat, .tif	▲	▲	▲	▼	▼	✗	✗	✓
<i>Olympus SIS TIFF</i>	.tiff	▲	▲	▲	▼	▲	✗	✗	✗
<i>OME-TIFF</i>	.ome.tiff ¹	▲	▲	▲	▼	▲	✓	✓	✓
<i>OME-XML</i>	.ome, .ome.xml ²	▲	▲	▲	▼	▲	✓	✓	✓
<i>Oxford Instruments</i>	.top	▲	▼	▼	▼	▼	✗	✗	✗
<i>PCORAW</i>	.pcoraw, .rec	▲	▲	▲	▼	▲	✗	✗	✗
<i>PCX (PC Paintbrush)</i>	.pcx	▲	▼	▼	▼	▼	✗	✓	✗
<i>Perkin Elmer Densitometer</i>	.pds	▲	▲	▲	▼	▼	✗	✗	✗
<i>PerkinElmer Nuance</i>	.im3	▲	▼	▼	▼	▼	✗	✓	✓
<i>PerkinElmer Operetta</i>	.tiff, .xml	▲	▲	▲	▼	▲	✗	✗	✓
<i>PerkinElmer Ultra-View</i>	.tif, .2, .3, .4, etc.	▲	▲	▼	▼	▼	✗	✗	✗
<i>Portable Any Map</i>	.pbm, .pgm, .ppm	▲	▲	▲	▲	▼	✗	✓	✗
<i>Adobe Photoshop PSD</i>	.psd	▲	▲	▲	▲	▼	✗	✗	✗
<i>Photoshop TIFF</i>	.tif, .tiff	▲	▲	▲	▲	▲	✗	✗	✓
<i>PicoQuant Bin</i>	.bin	▲	▼	▼	▼	▼	✗	✗	✗

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¹<http://www.openmicroscopy.org/site/support/ome-model/ome-tiff/index.html>
²<http://www.openmicroscopy.org/site/support/ome-model/ome-xml/index.html>

Table 17.1 – continued from previous page

Format	Extensions	Pixels	Metadata	Openness	Presence	Utility	Export	BSD	Multiple Images
<i>PICT (Macintosh Picture)</i>	.pict	▲	▼	▼	▲	▼	✗	✓	✗
<i>PNG (Portable Network Graphics)</i>	.png	▲	▲	▲	▲	▼	✓	✓	✗
<i>Prairie Technologies TIFF</i>	.tif, .xml, .cfg	▲	▲	▲	▼	▲	✗	✗	✓
<i>Quesant</i>	.afm	▲	▼	▼	▼	▼	✗	✗	✗
<i>QuickTime Movie</i>	.mov	▲	▲	▼	▲	▼	✓	✓	✗
<i>RHK</i>	.sm2, .sm3	▲	▼	▼	▼	▼	✗	✗	✗
<i>SBIG</i>		▲	▲	▲	▼	▼	✗	✗	✗
<i>Seiko</i>	.xqd, .xqf	▲	▼	▼	▼	▼	✗	✗	✗
<i>SimplePCI & HCIImage</i>	.cxd	▲	▲	▲	▼	▼	✗	✗	✗
<i>SimplePCI & HCIImage TIFF</i>	.tiff	▲	▲	▲	▼	▲	✗	✗	✗
<i>SM Camera</i>		▲	▼	▼	▼	▼	✗	✗	✗
<i>SPIDER</i>	.spi, .stk	▲	▲	▲	▲	▲	✗	✗	✗
<i>Targa</i>	.tga	▲	▲	▲	▲	▼	✗	✗	✗
<i>Text</i>	.txt	▲	▼	▼	▼	▼	✗	✓	✗
<i>TIFF (Tagged Image File Format)</i>	.tif	▲	▲	▲	▲	▼	✓	✓	✓
<i>TillPhotonics TillVision</i>	.vws	▲	▼	▼	▼	▼	✗	✗	✓
<i>Topometrix</i>	.tfr, .ffr, .zfr, .zfp, .2fl	▲	▼	▼	▼	▼	✗	✗	✗
<i>Trestle</i>	.tif, .sld, .jpg	▲	▲	▲	▼	▼	✗	✗	✓
<i>UBM</i>	.pr3	▲	▼	▼	▼	▼	✗	✗	✗
<i>Unisoku</i>	.dat, .hdr	▲	▼	▼	▼	▼	✗	✗	✗
<i>Varian FDF</i>	.fdf	▲	▼	▼	▼	▼	✗	✗	✗
<i>Veeco AFM</i>	.hdf	▲	▼	▲	▼	▲	✗	✗	✗
<i>VG SAM</i>	.dti	▲	▼	▼	▼	▼	✗	✗	✗
<i>VisiTech XYS</i>	.xys, .html	▲	▲	▼	▼	▲	✗	✗	✓
<i>Volocity</i>	.mvd2	▲	▲	▼	▼	▼	✗	✗	✓
<i>Volocity Library Clipping</i>	.acff	▲	▲	▼	▼	▼	✗	✗	✗
<i>WA-TOP</i>	.wat	▲	▼	▼	▼	▼	✗	✗	✗
<i>Windows Bitmap</i>	.bmp	▲	▲	▼	▲	▼	✗	✓	✗
<i>Woolz</i>	.wlz	▲	▼	▲	▼	▼	✓	✗	✗
<i>Zeiss Axio CSM</i>	.lms	▲	▼	▼	▼	▼	✗	✗	✗
<i>Zeiss AxioVision TIFF</i>	.xml, .tiff	▲	▲	▲	▼	▼	✗	✗	✓

Continued on next page

Table 17.1 – continued from previous page

Format	Extensions	Pixels	Metadata	Openness	Presence	Utility	Export	BSD	Multiple Images
<i>Zeiss AxioVision ZVI (Zeiss Vision Image)</i>	.zvi								
<i>Zeiss CZI</i>	.dzi ³								
<i>Zeiss LSM (Laser Scanning Microscope) 510/710</i>	.lsm, .mdb								

Bio-Formats currently supports **142** formats

Ratings legend and definitions

	Outstanding
	Very good
	Good
	Fair
	Poor

Pixels Our estimation of Bio-Formats' ability to reliably extract complete and accurate pixel values from files in that format. The better this score, the more confident we are that Bio-Formats will successfully read your file without displaying an error message or displaying an erroneous image.

Metadata Our certainty in the thoroughness and correctness of Bio-Formats' metadata extraction and conversion from files of that format into standard OME-XML. The better this score, the more confident we are that all meaningful metadata will be parsed and populated as OME-XML.

Openness This is not a direct expression of Bio-Formats' performance, but rather indicates the level of cooperation the format's controlling interest has demonstrated toward the scientific community with respect to the format. The better this score, the more tools (specification documents, source code, sample files, etc.) have been made available.

Presence This is also not directly related to Bio-Formats, but instead represents our understanding of the format's popularity, and is also as a measure of compatibility between applications. The better this score, the more common the format and the more software packages include support for it.

Utility Our opinion of the format's suitability for storing metadata-rich microscopy image data. The better this score, the wider the variety of information that can be effectively stored in the format.

Export This indicates whether Bio-Formats is capable of writing the format (Bio-Formats can read every format on this list).

BSD This indicates whether format is BSD-licensed. By default, format readers and writers are GPL-licensed.

Multiple Images This indicates whether the format can store multiple Images (in OME-XML terminology) or series (in Bio-Formats API terminology).

17.1 3i SlideBook

Extensions: .sld

Developer: [Intelligent Imaging Innovations](http://www.intelligent-imaging.com/)⁴

Owner: [Intelligent Imaging Innovations](http://www.intelligent-imaging.com/)⁵

Support

³<http://www.zeiss.com/czi>

⁴<http://www.intelligent-imaging.com/>

⁵<http://www.intelligent-imaging.com/>

BSD-licensed: ❌

Export: ❌

Officially Supported Versions: 4.1, 4.2, 5.0, 5.5, 6.0

Readers:

- SlidebookReader ([Source Code](#)⁶, *Supported Metadata Fields*)
- SlideBook6Reader ([Source Code](#)⁷, *Supported Metadata Fields*)

We currently have:

- Numerous SlideBook datasets

We would like to have:

- A SlideBook specification document
- More SlideBook datasets (preferably acquired with the most recent SlideBook software)

Ratings

Pixels: ▲

Metadata: ▼

Openness: ▼

Presence: ▲

Utility: ▼

Additional Information

We strongly encourage users to export their .sld files to OME-TIFF using the SlideBook software. Bio-Formats is not likely to support the full range of metadata that is included in .sld files, and so exporting to OME-TIFF from SlideBook is the best way to ensure that all metadata is preserved. Free software from 3I can export the files to OME-TIFF post-acquisition, see <https://www.slidebook.com/reader.php>.

As of Bioformats 5.1.2 the native binary file SlideBook6Reader.dll of the proper architecture (x32 or x64) must be in the java binary path for this reader to work. This file is available from [3i Support](#)⁸ and is currently only available for Windows systems.

See also:

[Slidebook software overview](#)⁹

17.2 Andor Bio-Imaging Division (ABD) TIFF

Extensions: .tif

Developer: Andor Bioimaging Department

Owner: [Andor Technology](#)¹⁰

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: FluoviewReader ([Source Code](#)¹¹, *Supported Metadata Fields*)

We currently have:

⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SlidebookReader.java>

⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SlideBook6Reader.java>

⁸support@intelligent-imaging.com

⁹<https://www.slidebook.com>

¹⁰<http://www.andor.com/>

¹¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/FluoviewReader.java>

- an ABD-TIFF specification document (from 2005 November, in PDF)
- a few ABD-TIFF datasets

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

With a few minor exceptions, the ABD-TIFF format is identical to the Fluoview TIFF format.

17.3 AIM

Extensions: .aim

Developer: [SCANCO Medical AG](#)¹²

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: AIMReader ([Source Code](#)¹³, *Supported Metadata Fields*)

We currently have:

- one .aim file

We would like to have:

- an .aim specification document
- more .aim files

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

¹²<http://www.scanco.ch>

¹³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/AIMReader.java>

17.4 Alicona 3D

Extensions: .al3d

Owner: [Alicona Imaging](#)¹⁴

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions: 1.0

Reader: AliconaReader ([Source Code](#)¹⁵, *Supported Metadata Fields*)

We currently have:

- an [AL3D specification document](#)¹⁶ (v1.0, from 2003, in PDF)
- a few AL3D datasets

We would like to have:

- more AL3D datasets (Z series, T series, 16-bit)

Ratings

Pixels: ▲

Metadata: ▲

Openness: ▲

Presence: ▼

Utility: □

Additional Information

Known deficiencies:

- Support for 16-bit AL3D images is present, but has never been tested.
- Texture data is currently ignored.

17.5 Amersham Biosciences Gel

Extensions: .gel

Developer: Molecular Dynamics

Owner: [GE Healthcare Life Sciences](#)¹⁷

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: GelReader ([Source Code](#)¹⁸, *Supported Metadata Fields*)

We currently have:

- a GEL specification document (Revision 2, from 2001 Mar 15, in PDF)

¹⁴<http://www.alicon.com/>

¹⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/AliconaReader.java>

¹⁶<http://www.alicon.com/home/fileadmin/alicon.com/downloads/AL3DFormat.pdf>


¹⁷<http://www.gelifesciences.com/>


¹⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/GelReader.java>


- a few GEL datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

See also:

[GEL Technical Overview](#)¹⁹

17.6 Amira Mesh

Extensions: .am, .amiramesh, .grey, .hx, .labels

Developer: [Visage Imaging](#)²⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: AmiraReader ([Source Code](#)²¹, *Supported Metadata Fields*)


We currently have:

- a few Amira Mesh datasets

We would like to have:


- more Amira Mesh datasets


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.7 Amnis FlowSight

Extensions: .cif

Owner: [Amnis](#)²²


¹⁹<http://www.awaresystems.be/imaging/tiff/tifftags/docs/gel.html>

²⁰<http://www.amiravis.com/>

²¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/AmiraReader.java>

²²<http://www.amnis.com/>

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: FlowSightReader ([Source Code](#)²³, *Supported Metadata Fields*)

We currently have:


- a few sample datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.8 Analyze 7.5

Extensions: .img, .hdr

Developer: [Mayo Foundation Biomedical Imaging Resource](#)²⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: AnalyzeReader ([Source Code](#)²⁵, *Supported Metadata Fields*)

We currently have:

- [an Analyze 7.5 specification document](#)²⁶
- several Analyze 7.5 datasets

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

²³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/FlowSightReader.java>

²⁴<http://www.mayo.edu/bir>

²⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/AnalyzeReader.java>


²⁶<http://web.archive.org/web/20070927191351/http://www.mayo.edu/bir/PDF/ANALYZE75.pdf>

17.9 Animated PNG

Extensions: .png

Developer: [The Animated PNG Project](#)²⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: APNGReader ([Source Code](#)²⁸, *Supported Metadata Fields*)

Writer: APNGWriter ([Source Code](#)²⁹)

Freely Available Software:


- [Firefox 3+](#)³⁰
- [Opera 9.5+](#)³¹
- [KSquirrel](#)³²

We currently have:

- [a specification document](#)³³
- several APNG files

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.10 Aperio AFI

Extensions: .afi, .svs

Owner: [Aperio](#)³⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: AFIREader ([Source Code](#)³⁵, *Supported Metadata Fields*)

We currently have:

²⁷<http://www.animatedpng.com/>

²⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/APNGReader.java>

²⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/APNGWriter.java>

³⁰<http://www.mozilla.com/firefox>

³¹<http://www.opera.com/download>

³²<http://ksquirrel.sourceforge.net/download.php>

³³http://wiki.mozilla.org/APNG_Specification


³⁴<http://www.aperio.com/>

³⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/AFIREader.java>


- several AFI datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

See also:


[Aperio ImageScope](#)³⁶

17.11 Aperio SVS TIFF

Extensions: .svs

Owner: [Aperio](#)³⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 8.0, 8.2, 9.0


Reader: SVSReader ([Source Code](#)³⁸, *Supported Metadata Fields*)

We currently have:

- many SVS datasets
- [public sample images](#)³⁹
- an SVS specification document
- the ability to generate additional SVS datasets

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

See also:

³⁶<http://www.leicabiosystems.com/index.php?id=8991>

³⁷<http://www.aperio.com/>

³⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SVSReader.java>

³⁹<http://downloads.openmicroscopy.org/images/SVS/>

Aperio ImageScope⁴⁰

17.12 Applied Precision CellWorX

Extensions: .htd, .pnl

Developer: [Applied Precision](#)⁴¹

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: CellWorXReader ([Source Code](#)⁴², *Supported Metadata Fields*)

We currently have:

- a few CellWorX datasets

We would like to have:

- a CellWorX specification document
- more CellWorX datasets

Ratings

Pixels: ▲

Metadata: ■

Openness: ■

Presence: ▼

Utility: ▼

17.13 AVI (Audio Video Interleave)

Extensions: .avi

Developer: [Microsoft](#)⁴³

Support

BSD-licensed: ✔

Export: ✔

Officially Supported Versions:

Reader: AVIReader ([Source Code](#)⁴⁴, *Supported Metadata Fields*)

Writer: AVIWriter ([Source Code](#)⁴⁵)

Freely Available Software:

- [AVI Reader plugin for ImageJ](#)⁴⁶

⁴⁰<http://www.leicabiosystems.com/index.php?id=8991>

⁴¹<http://www.api.com>

⁴²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/CellWorXReader.java>

⁴³<http://www.microsoft.com/>

⁴⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/AVIReader.java>

⁴⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/AVIWriter.java>

⁴⁶<http://rsb.info.nih.gov/ij/plugins/avi-reader.html>

- [AVI Writer plugin for ImageJ](#)⁴⁷


We currently have:

- several AVI datasets

We would like to have:


- more AVI datasets, including:
 - files with audio tracks and/or multiple video tracks
 - files compressed with a common unsupported codec
 - 2+ GB files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

- Bio-Formats can save image stacks as AVI (uncompressed).
- The following codecs are supported for reading:
 - Microsoft Run-Length Encoding (MSRLE)
 - Microsoft Video (MSV1)
 - Raw (uncompressed)
 - JPEG

See also:


[AVI RIFF File Reference](#)⁴⁸ [AVI on Wikipedia](#)⁴⁹

17.14 Axon Raw Format

Extensions: .arf

Owner: INDEC BioSystems⁵⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: ARFReader ([Source Code](#)⁵¹, [Supported Metadata Fields](#))

We currently have:

- one ARF dataset
- a [specification document](#)⁵²

⁴⁷<http://rsb.info.nih.gov/ij/plugins/avi.html>

⁴⁸<http://msdn2.microsoft.com/en-us/library/ms779636.aspx>

⁴⁹http://en.wikipedia.org/wiki/Audio_Video_Interleave

⁵⁰<http://www.indecbiosystems.com/>


⁵¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ARFReader.java>


⁵²http://www.indecbiosystems.com/imagingworkbench/ApplicationNotes/IWAppNote11-ARF_File_Format.pdf


We would like to have:


- more ARF datasets


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.15 BD Pathway

Extensions: .exp, .tif

Owner: [BD Biosciences](#)⁵³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: BDReader ([Source Code](#)⁵⁴, *Supported Metadata Fields*)


We currently have:

- a few BD Pathway datasets

We would like to have:

- more BD Pathway datasets


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.16 Becker & Hickl SPCImage

Extensions: .sdt

Owner: [Becker-Hickl](#)⁵⁵

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

⁵³<http://www.bdbiosciences.com>

⁵⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BDReader.java>

⁵⁵<http://www.becker-hickl.de/>


Reader: SDTReader ([Source Code](#)⁵⁶, [Supported Metadata Fields](#))

We currently have:

- an SDT specification document (from 2008 April, in PDF)
- an SDT specification document (from 2006 June, in PDF)
- Becker & Hickl's [SPCImage](#)⁵⁷ software
- a large number of SDT datasets
- the ability to produce new datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information


Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

17.17 Bio-Rad Gel

Extensions: .lsc

Owner: [Bio-Rad](#)⁵⁸

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: BioRadGelReader ([Source Code](#)⁵⁹, [Supported Metadata Fields](#))


We currently have:

- software that can read Bio-Rad Gel files
- several Bio-Rad Gel files


We would like to have:


- a Bio-Rad Gel specification
- more Bio-Rad Gel files

Ratings

Pixels: 

Metadata: 

Openness: 


Presence: 

⁵⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SDTReader.java>

⁵⁷<http://www.becker-hickl.de/software/tcspc/softwaretcspcspecial.htm>

⁵⁸<http://www.bio-rad.com>

⁵⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BioRadGelReader.java>

Utility: 


17.18 Bio-Rad PIC

Extensions: .pic, .raw, .xml

Developer: Bio-Rad

Owner: [Carl Zeiss, Inc.](#)⁶⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: BioRadReader ([Source Code](#)⁶¹, [Supported Metadata Fields](#))

Freely Available Software:


- [Bio-Rad PIC reader plugin for ImageJ](#)⁶²

We currently have:

- a PIC specification document (v4.5, in PDF)
- an older PIC specification document (v4.2, from 1996 December 16, in DOC)
- a large number of PIC datasets
- the ability to produce new datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

- Commercial applications that support this format include:
 - [Bitplane Imaris](#)⁶³
 - [SVI Huygens](#)⁶⁴

17.19 Bio-Rad SCN

Extensions: .scn

Developer: Bio-Rad

⁶⁰<http://www.zeiss.com/>

⁶¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BioRadReader.java>


⁶²<http://rsb.info.nih.gov/ij/plugins/biorad.html>

⁶³<http://www.bitplane.com/>

⁶⁴<http://svi.nl/>

Owner: [Bio-Rad](#)⁶⁵

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: BioRadSCNReader ([Source Code](#)⁶⁶, *Supported Metadata Fields*)

We currently have:

- a few Bio-Rad .scn files


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.20 Bitplane Imaris

Extensions: .ims

Owner: [Bitplane](#)⁶⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 2.7, 3.0, 5.5

Readers:

- ImarisHDFReader ([Source Code](#)⁶⁸, *Supported Metadata Fields*)
- ImarisTiffReader ([Source Code](#)⁶⁹, *Supported Metadata Fields*)
- ImarisReader ([Source Code](#)⁷⁰, *Supported Metadata Fields*)

We currently have:

- an [Imaris \(RAW\) specification document](#)⁷¹ (from no later than 1997 November 11, in HTML)
- an [Imaris 5.5 \(HDF\) specification document](#)⁷²
- Bitplane's bfFileReaderImaris3N code (from no later than 2005, in C++)
- several older Imaris (RAW) datasets
- one Imaris 3 (TIFF) dataset
- several Imaris 5.5 (HDF) datasets

⁶⁵<http://www.bio-rad.com>

⁶⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BioRadSCNReader.java>

⁶⁷<http://www.bitplane.com/>

⁶⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImarisHDFReader.java>

⁶⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImarisTiffReader.java>

⁷⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImarisReader.java>

⁷¹<http://flash.bitplane.com/wda/interfaces/public/faqs/faqsview.cfm?inCat=0&inQuestionID=104>

⁷²<http://open.bitplane.com/Default.aspx?tabid=268>

We would like to have:

- an Imaris 3 (TIFF) specification document
- more Imaris 3 (TIFF) datasets

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

Additional Information

- **There are three distinct Imaris formats:**
 1. the old binary format (introduced in Imaris version 2.7)
 2. Imaris 3, a TIFF variant (introduced in Imaris version 3.0)
 3. Imaris 5.5, an HDF variant (introduced in Imaris version 5.5)

17.21 Bruker MRI

Developer: [Bruker](#)⁷³

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: BrukerReader ([Source Code](#)⁷⁴, *Supported Metadata Fields*)

Freely Available Software:

- [Bruker plugin for ImageJ](#)⁷⁵

We currently have:

- a few Bruker MRI datasets

We would like to have:

- an official specification document

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

⁷³<http://www.bruker.com/>

⁷⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BrukerReader.java>


⁷⁵<http://rsbweb.nih.gov/ij/plugins/bruker.html>


17.22 Burleigh

Extensions: .img

Owner: Burleigh Instruments

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: BurleighReader ([Source Code](#)⁷⁶, *Supported Metadata Fields*)


We currently have:

- Pascal code that can read Burleigh files (from ImageSXM)
- a few Burleigh files


We would like to have:


- a Burleigh file format specification
- more Burleigh files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 


17.23 Canon DNG

Extensions: .cr2, .crw

Developer: [Canon](#)⁷⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: DNGReader ([Source Code](#)⁷⁸, *Supported Metadata Fields*)

Freely Available Software:

- [IrfanView](#)⁷⁹

We currently have:

- a few example datasets

We would like to have:





- an official specification document

⁷⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BurleighReader.java>

⁷⁷<http://canon.com>

⁷⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/DNGReader.java>

⁷⁹<http://www.irfanview.com/>

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.24 CellH5

Extensions: .ch5

Developer: [CellH5](#)⁸⁰**Support**BSD-licensed: Export: 

Officially Supported Versions:

Reader: CellH5Reader ([Source Code](#)⁸¹, *Supported Metadata Fields*)Writer: CellH5Writer ([Source Code](#)⁸²)



Freely Available Software:

- [CellH5](#)⁸³

We currently have:

- a few CellH5 datasets

We would like to have:

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.25 Cellomics

Extensions: .c01, .dib

Developer: [Thermo Fisher Scientific](#)⁸⁴**Support**BSD-licensed: Export: ⁸⁰<http://cellh5.org/>⁸¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/CellH5Reader.java>⁸²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/out/CellH5Writer.java>⁸³<http://cellh5.org/>⁸⁴<http://www.thermofisher.com/>

Officially Supported Versions:

Reader: CellomicsReader ([Source Code](#)⁸⁵, *Supported Metadata Fields*)

We currently have:

- a few Cellomics .c01 datasets
- [public .dib sample images](#)⁸⁶

We would like to have:

- a Cellomics .c01 specification document
- more Cellomics .c01 datasets

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

17.26 cellSens VSI

Extensions: .vsi

Developer: [Olympus](#)⁸⁷

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: CellSensReader ([Source Code](#)⁸⁸, *Supported Metadata Fields*)

We currently have:

- a few example datasets

We would like to have:

- an official specification document

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

⁸⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/CellomicsReader.java>

⁸⁶<http://downloads.openmicroscopy.org/images/HCS/BBBC/>

⁸⁷<http://www.olympus.com/>

⁸⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/CellSensReader.java>

17.27 CellVoyager

Extensions: .xml, .tif

Owner: Yokogawa⁸⁹

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: CellVoyagerReader ([Source Code](#)⁹⁰, *Supported Metadata Fields*)

We currently have:

- a few example datasets

We would like to have:

Ratings

Pixels: ▲

Metadata: ■

Openness: ■

Presence: ▼

Utility: ■

17.28 DeltaVision

Extensions: .dv, .r3d

Owner: GE Healthcare (formerly Applied Precision)⁹¹

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: DeltavisionReader ([Source Code](#)⁹², *Supported Metadata Fields*)

Freely Available Software:

- [DeltaVision Opener plugin for ImageJ](#)⁹³

We currently have:

- a DV specification document (v2.10 or newer, in HTML)
- numerous DV datasets
- [public sample images](#)⁹⁴

⁸⁹<http://www.yokogawa.com/>

⁹⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/CellVoyagerReader.java>

⁹¹<http://www.gelifesciences.com/webapp/wcs/stores/servlet/catalog/en/GELifeSciences-UK/brands/deltavision/>


⁹²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/DeltavisionReader.java>

⁹³<http://rsb.info.nih.gov/ij/plugins/track/delta.html>


⁹⁴<http://downloads.openmicroscopy.org/images/DV/>


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.


- The Deltavision format is based on the Medical Research Council (MRC) file format.
- Commercial applications that support DeltaVision include:
 - Bitplane Imaris⁹⁵
 - SVI Huygens⁹⁶
 - Image-Pro Plus⁹⁷

17.29 DICOM

Extensions: .dcm, .dicom

Developer: [National Electrical Manufacturers Association](#)⁹⁸

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: DicomReader ([Source Code](#)⁹⁹, *Supported Metadata Fields*)

Freely Available Software:

- OsiriX Medical Imaging Software¹⁰⁰
- ezDICOM¹⁰¹
- Wikipedia's list of freeware health software¹⁰²

Sample Datasets:

- MRI Chest from FreeVol-3D web site¹⁰³
- Medical Image Samples from Sebastien Barre's Medical Imaging page¹⁰⁴
- DICOM sample image sets from OsiriX web site¹⁰⁵

We currently have:

⁹⁵<http://www.bitplane.com/>

⁹⁶<http://svi.nl/>

⁹⁷<http://www.mediacy.com/>

⁹⁸<http://www.nema.org/>

⁹⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/DicomReader.java>

¹⁰⁰<http://www.osirix-viewer.com/>

¹⁰¹<http://www.sph.sc.edu/comd/rorden/ezdicom.html>

¹⁰²http://en.wikipedia.org/wiki/List_of_freeware_health_software

¹⁰³http://members.tripod.com/%7Eclunis_immensus/free3d/hk-40.zip

¹⁰⁴<http://www.barre.nom.fr/medical/samples/>

¹⁰⁵<http://osirix-viewer.com/datasets/>

- [DICOM specification documents](#)¹⁰⁶ (PS 3 - 2007, from 2006 December 28, in DOC and PDF)
- numerous DICOM datasets

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

Additional Information

- DICOM stands for “Digital Imaging and Communication in Medicine”.
- Bio-Formats supports both compressed and uncompressed DICOM files.

If you have a problematic DICOM file which you cannot send us for privacy reasons, please send us the exact error message and be aware that it may take several attempts to fix the problem blind.

See also:

[DICOM homepage](#)¹⁰⁷

17.30 ECAT7

Extensions: .v

Developer: [Siemens](#)¹⁰⁸

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: Ecat7Reader ([Source Code](#)¹⁰⁹, *Supported Metadata Fields*)

We currently have:

- a few ECAT7 files

We would like to have:

- an ECAT7 specification document
- more ECAT7 files

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

¹⁰⁶<http://medical.nema.org/dicom/2007/>

¹⁰⁷<http://medical.nema.org/>

¹⁰⁸<http://www.siemens.com>


¹⁰⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/Ecat7Reader.java>

17.31 EPS (Encapsulated PostScript)

Extensions: .eps, .epsi, .ps

Developer: Adobe¹¹⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: EPSReader (Source Code¹¹¹, *Supported Metadata Fields*)

Writer: EPSWriter (Source Code¹¹²)

Freely Available Software:


- EPS Writer plugin for ImageJ¹¹³

We currently have:


- a few EPS datasets
- the ability to produce new datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information


- Bio-Formats can save individual planes as EPS.
- Certain types of compressed EPS files are not supported.

17.32 Evotec/PerkinElmer Opera Flex

Extensions: .flex, .mea, .res

Developer: Evotec Technologies, now PerkinElmer¹¹⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: FlexReader (Source Code¹¹⁵, *Supported Metadata Fields*)

We currently have:

¹¹⁰<http://www.adobe.com/>

¹¹¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/EPSReader.java>

¹¹²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/EPSWriter.java>

¹¹³<http://rsb.info.nih.gov/ij/plugins/eps-writer.html>

¹¹⁴<http://www.perkinelmer.com/>


¹¹⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/FlexReader.java>


- many Flex datasets


We would like to have:


- a freely redistributable LuraWave LWF decoder


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

The LuraWave LWF decoder library (i.e. lwf_jsdk2.6.jar) with license code is required to decode wavelet-compressed Flex files.

See also:

[LuraTech](#) (developers of the proprietary LuraWave LWF compression used for Flex image planes)¹¹⁶

17.33 FEI

Extensions: .img

Developer: [FEI](#)¹¹⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: FEIReader ([Source Code](#)¹¹⁸, *Supported Metadata Fields*)


We currently have:

- a few FEI files

We would like to have:


- a specification document
- more FEI files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

¹¹⁶<http://www.luratech.com/>

¹¹⁷<http://www.fei.com/>

¹¹⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/FEIReader.java>

17.34 FEI TIFF

Extensions: .tiff

Developer: [FEI](#)¹¹⁹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: FEITiffReader ([Source Code](#)¹²⁰, *Supported Metadata Fields*)

We currently have:

- a few FEI TIFF datasets

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 


17.35 FITS (Flexible Image Transport System)

Extensions: .fits

Developer: [National Radio Astronomy Observatory](#)¹²¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: FitsReader ([Source Code](#)¹²², *Supported Metadata Fields*)

We currently have:

- a [FITS specification document](#)¹²³ (NOST 100-2.0, from 1999 March 29, in HTML)
- several FITS datasets

We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 

¹¹⁹<http://www.fei.com>


¹²⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/FEITiffReader.java>

¹²¹<http://www.nrao.edu/>

¹²²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/FitsReader.java>

¹²³http://archive.stsci.edu/fits/fits_standard/

Presence: 

Utility: 

Additional Information

See also:

[MAST:FITS homepage](#)¹²⁴ [FITS Support Office](#)¹²⁵

17.36 Gatan Digital Micrograph

Extensions: .dm3, .dm4

Owner: [Gatan](#)¹²⁶

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 3, 4

Reader: GatanReader ([Source Code](#)¹²⁷, *Supported Metadata Fields*)

Freely Available Software:

- [DM3 Reader plugin for ImageJ](#)¹²⁸
- [EMAN](#)¹²⁹


We currently have:

- Gatan's ImageReader2003 code (from 2003, in C++)
- numerous DM3 datasets

We would like to have:

- a DM3 specification document


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Commercial applications that support .dm3 files include [Datasqueeze](#)¹³⁰.

¹²⁴<http://archive.stsci.edu/fits/>

¹²⁵<http://fits.gsfc.nasa.gov/>

¹²⁶<http://www.gatan.com/>

¹²⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/GatanReader.java>

¹²⁸http://rsb.info.nih.gov/ij/plugins/DM3_Reader.html

¹²⁹<http://blake.bcm.edu/EMAN/>


¹³⁰<http://www.datasqueezesoftware.com/>

17.37 Gatan Digital Micrograph 2

Extensions: .dm2

Developer: [Gatan](#)¹³¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 2

Reader: GatanDM2Reader ([Source Code](#)¹³², *Supported Metadata Fields*)


We currently have:

- Pascal code that can read DM2 files (from ImageSXM)
- a few DM2 files


We would like to have:


- an official DM2 specification document
- more DM2 files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 


17.38 GIF (Graphics Interchange Format)

Extensions: .gif

Developer: [CompuServe](#)¹³³

Owner: [Unisys](#)¹³⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: GIFReader ([Source Code](#)¹³⁵, *Supported Metadata Fields*)

Freely Available Software:

- Animated GIF Reader plugin for ImageJ¹³⁶
- GIF Stack Writer plugin for ImageJ¹³⁷

We currently have:

¹³¹<http://www.gatan.com>

¹³²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/GatanDM2Reader.java>

¹³³<http://www.compuserve.com/>

¹³⁴<http://www.unisys.com/>

¹³⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/GIFReader.java>


¹³⁶<http://rsb.info.nih.gov/ij/plugins/agr.html>

¹³⁷<http://rsb.info.nih.gov/ij/plugins/gif-stack-writer.html>

- a GIF specification document¹³⁸ (Version 89a, from 1990, in HTML)
- numerous GIF datasets
- the ability to produce new datasets

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.39 Hamamatsu Aquacosmos NAF

Extensions: .naf

Developer: [Hamamatsu](#)¹³⁹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: NAFReader ([Source Code](#)¹⁴⁰, *Supported Metadata Fields*)

We currently have:

- a few NAF files


We would like to have:


- a specification document
- more NAF files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.40 Hamamatsu HIS

Extensions: .his

Owner: [Hamamatsu](#)¹⁴¹


Support


¹³⁸<http://tronche.com/computer-graphics/gif/>

¹³⁹<http://www.hamamatsu.com/>

¹⁴⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NAFReader.java>

¹⁴¹<http://www.hamamatsu.com>

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: HISReader ([Source Code](#)¹⁴², *Supported Metadata Fields*)


We currently have:


- Pascal code that can read HIS files (from ImageSXM)
- several HIS files


We would like to have:


- an HIS specification
- more HIS files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.41 Hamamatsu ndpi

Extensions: .ndpi, .ndpis

Developer: [Hamamatsu](#)¹⁴³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Readers:

- NDPIReader ([Source Code](#)¹⁴⁴, *Supported Metadata Fields*)
- NDPIReader ([Source Code](#)¹⁴⁵, *Supported Metadata Fields*)

Freely Available Software:

- [NDP.view](#)¹⁴⁶

Sample Datasets:

- [OpenSlide](#)¹⁴⁷

We currently have:

- many example datasets

We would like to have:

- an official specification document

¹⁴²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/HISReader.java>






¹⁴³<http://www.hamamatsu.com>

¹⁴⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NDPIReader.java>

¹⁴⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NDPIReader.java>


¹⁴⁶http://www.olympusamerica.com/seg_section/seg_vm_downloads.asp

¹⁴⁷<http://openslide.cs.cmu.edu/download/openslide-testdata/Hamamatsu/>

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.42 Hamamatsu VMS

Extensions: .vms

Developer: [Hamamatsu](#)¹⁴⁸**Support**BSD-licensed: Export: 

Officially Supported Versions:

Reader: HamamatsuVMSReader ([Source Code](#)¹⁴⁹, *Supported Metadata Fields*)

Sample Datasets:




- [OpenSlide](#)¹⁵⁰

We currently have:

- a few example datasets
- [developer documentation from the OpenSlide project](#)¹⁵¹

We would like to have:

- an official specification document
- more example datasets

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.43 Hitachi S-4800

Extensions: .txt, .tif, .bmp, .jpg

Developer: [Hitachi](#)¹⁵²**Support**¹⁴⁸<http://www.hamamatsu.com>¹⁴⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/HamamatsuVMSReader.java>¹⁵⁰<http://openslide.cs.cmu.edu/download/openslide-testdata/Hamamatsu-vms/>¹⁵¹<http://openslide.org/Hamamatsu%20format/>¹⁵²http://www.hitachi-hta.com/sites/default/files/technotes/Hitachi_4800_STEM.pdf

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: HitachiReader ([Source Code](#)¹⁵³, *Supported Metadata Fields*)

We currently have:

- several Hitachi S-4800 datasets

We would like to have:

Ratings

Pixels: ▲

Metadata: ▲

Openness: ▲

Presence: ▼

Utility: ▼

17.44 I2I

Extensions: .i2i

Developer: Biomedical Imaging Group, UMass Medical School¹⁵⁴

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: I2IReader ([Source Code](#)¹⁵⁵, *Supported Metadata Fields*)

We currently have:

- several example datasets
- a specification document
- an ImageJ plugin that can read I2I data

We would like to have:

Ratings

Pixels: ▲

Metadata: ■

Openness: ▲

Presence: ▼

Utility: ▼

¹⁵³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/HitachiReader.java>

¹⁵⁴<http://invitro.umassmed.edu/>

¹⁵⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/I2IReader.java>

17.45 ICS (Image Cytometry Standard)

Extensions: .ics, .ids

Developer: P. Dean et al.

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 1.0, 2.0

Reader: ICSReader ([Source Code](#)¹⁵⁶, *Supported Metadata Fields*)

Writer: ICSWriter ([Source Code](#)¹⁵⁷)

Freely Available Software:

- [Libics](#) (ICS reference library)¹⁵⁸
- [ICS Opener](#) plugin for ImageJ¹⁵⁹
- [IrfanView](#)¹⁶⁰

We currently have:

- numerous ICS datasets

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

- ICS version 1.0 datasets have two files - an .ics file that contains all of the metadata in plain-text format, and an .ids file that contains all of the pixel data.
- ICS version 2.0 datasets are a single .ics file that contains both pixels and metadata.

Commercial applications that can support ICS include:

- [Bitplane Imaris](#)¹⁶¹
- [SVI Huygens](#)¹⁶²

17.46 Imacon

Extensions: .fff

Owner: [Hasselblad](#)¹⁶³

Support

¹⁵⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/ICSReader.java>

¹⁵⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/ICSWriter.java>

¹⁵⁸<http://libics.sourceforge.net/>

¹⁵⁹http://valelab.ucsf.edu/%7Enstuurman/IJplugins/Ics_Opener.html

¹⁶⁰<http://www.irfanview.com/>

¹⁶¹<http://www.bitplane.com/>

¹⁶²<http://svi.nl/>

¹⁶³<http://www.hasselbladusa.com/>

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: ImaconReader ([Source Code](#)¹⁶⁴, *Supported Metadata Fields*)

We currently have:

- one Imacon file

We would like to have:

- more Imacon files

Ratings

Pixels: 📉

Metadata: 🟡

Openness: 🟡

Presence: 📉

Utility: 🟡

17.47 ImagePro Sequence

Extensions: .seq

Owner: [Media Cybernetics](#)¹⁶⁵

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: SEQReader ([Source Code](#)¹⁶⁶, *Supported Metadata Fields*)

We currently have:

- the [Image-Pro Plus](#)¹⁶⁷ software
- a few SEQ datasets
- the ability to produce more datasets

We would like to have:

- an official SEQ specification document

Ratings

Pixels: 📈

Metadata: 📈

Openness: 🟡

Presence: 🟡

Utility: 🟡

¹⁶⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImaconReader.java>

¹⁶⁵<http://www.mediacy.com/>

¹⁶⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SEQReader.java>

¹⁶⁷<http://www.mediacy.com/index.aspx?page=IPP>

17.48 ImagePro Workspace

Extensions: .ipw

Owner: [Media Cybernetics](#)¹⁶⁸

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: IPWReader ([Source Code](#)¹⁶⁹, [Supported Metadata Fields](#))

We currently have:

- the [Image-Pro Plus](#)¹⁷⁰ software
- a few IPW datasets
- the ability to produce more datasets

We would like to have:

- an official IPW specification document
- more IPW datasets:
 - multiple datasets in one file
 - 2+ GB files

Ratings

Pixels: ▲

Metadata: ▲

Openness: ▼

Presence: ▼

Utility: ▼

Additional Information

Bio-Formats uses a modified version of the [Apache Jakarta POI](#)¹⁷¹ library to read IPW files.

17.49 IMAGIC

Extensions: .hed, .img

Developer: [Image Science](#)¹⁷²

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: ImagicReader ([Source Code](#)¹⁷³, [Supported Metadata Fields](#))

¹⁶⁸<http://www.mediacy.com/>

¹⁶⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/IPWReader.java>

¹⁷⁰<http://www.mediacy.com/index.aspx?page=IPP>

¹⁷¹<http://jakarta.apache.org/poi/>

¹⁷²<http://www.imagescience.de>

¹⁷³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImagicReader.java>

Freely Available Software:

- [em2em](http://www.imagescience.de/em2em.html)¹⁷⁴

We currently have:

- one example dataset
- official file format documentation

We would like to have:

- more example datasets


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

See also:

[IMAGIC specification](http://www.imagescience.de/em2em.html)¹⁷⁵

17.50 IMOD

Extensions: .mod

Developer: [Boulder Laboratory for 3-Dimensional Electron Microscopy of Cells](http://www.boulderlab.com/)¹⁷⁶

Owner: [Boulder Laboratory for 3-Dimensional Electron Microscopy of Cells](http://www.boulderlab.com/)¹⁷⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: IMODReader ([Source Code](https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/IMODReader.java)¹⁷⁸, *Supported Metadata Fields*)

Freely Available Software:

- [IMOD](http://bio3d.colorado.edu/imod/)¹⁷⁹

We currently have:

- a few sample datasets
- [official documentation](http://bio3d.colorado.edu/imod/doc/binspec.html)¹⁸⁰

We would like to have:

Ratings

Pixels: 

Metadata: 

¹⁷⁴<http://www.imagescience.de/em2em.html>

¹⁷⁵<http://www.imagescience.de/em2em.html>




¹⁷⁶<http://bio3d.colorado.edu>

¹⁷⁷<http://bio3d.colorado.edu>

¹⁷⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/IMODReader.java>

¹⁷⁹<http://bio3d.colorado.edu/imod/>

¹⁸⁰<http://bio3d.colorado.edu/imod/doc/binspec.html>


Openness: Presence: Utility: 

17.51 Improvition Openlab LIFF

Extensions: .liff

Developer: [Improvition](#)¹⁸¹Owner: [PerkinElmer](#)¹⁸²

Support

BSD-licensed: Export: 

Officially Supported Versions: 2.0, 5.0

Reader: OpenlabReader ([Source Code](#)¹⁸³, *Supported Metadata Fields*)


We currently have:

- an Openlab specification document (from 2000 February 8, in DOC)
- Improvition's XLIFFFileImporter code for reading Openlab LIFF v5 files (from 2006, in C++)
- several Openlab datasets

We would like to have:

- more Openlab datasets (preferably with 32-bit integer data)

Ratings

Pixels: Metadata: Openness: Presence: Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

See also:

[Openlab software review](#)¹⁸⁴

17.52 Improvition Openlab Raw

Extensions: .raw

Developer: [Improvition](#)¹⁸⁵Owner: [PerkinElmer](#)¹⁸⁶

¹⁸¹<http://www.improvition.com/>

¹⁸²<http://www.perkinelmer.com/>

¹⁸³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/OpenlabReader.java>

¹⁸⁴<http://www.improvition.com/products/openlab/>

¹⁸⁵<http://www.improvition.com/>

¹⁸⁶<http://www.perkinelmer.com/>

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: OpenlabRawReader ([Source Code](#)¹⁸⁷, [Supported Metadata Fields](#))

We currently have:

- an [Openlab Raw specification document](#)¹⁸⁸ (from 2004 November 09, in HTML)
- a few Openlab Raw datasets

We would like to have:

Ratings

Pixels: 🟢

Metadata: 🟡

Openness: 🟡

Presence: 🔴

Utility: 🟠

Additional Information**See also:**

[Openlab software review](#)¹⁸⁹

17.53 Improvision TIFF

Extensions: .tif

Developer: [Improvision](#)¹⁹⁰

Owner: [PerkinElmer](#)¹⁹¹

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: ImprovisionTiffReader ([Source Code](#)¹⁹², [Supported Metadata Fields](#))

We currently have:

- an Improvision TIFF specification document
- a few Improvision TIFF datasets

We would like to have:

Ratings

Pixels: 🟡

Metadata: 🟢

¹⁸⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/OpenlabRawReader.java>


¹⁸⁸http://cellularimaging.perkinelmer.com/support/technical_notes/detail.php?id=344


¹⁸⁹<http://www.improvision.com/products/openlab/>


¹⁹⁰<http://www.improvision.com/>

¹⁹¹<http://www.perkinelmer.com/>

¹⁹²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImprovisionTiffReader.java>

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

See also:

[Openlab software overview](#)¹⁹³


17.54 Inspector OBF

Extensions: .obf, .msr

Developer: [Department of NanoBiophotonics, MPI-BPC](#)¹⁹⁴

Owner: [MPI-BPC](#)¹⁹⁵

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: OBFReader ([Source Code](#)¹⁹⁶, *Supported Metadata Fields*)

We currently have:


- a few .msr datasets
- a [specification document](#)¹⁹⁷

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 


17.55 InCell 1000/2000

Extensions: .xdce, .tif

Developer: [GE](#)¹⁹⁸

Support

BSD-licensed: 

Export: 

¹⁹³<http://www.improvision.com/products/openlab/>

¹⁹⁴<https://inspector.mpibpc.mpg.de/index.html>

¹⁹⁵<http://www.mpibpc.mpg.de/>

¹⁹⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/OBFReader.java>

¹⁹⁷<https://inspector.mpibpc.mpg.de/documentation/fileformat.html>

¹⁹⁸<http://gelifesciences.com/>

Officially Supported Versions:

Reader: InCellReader ([Source Code](#)¹⁹⁹, *Supported Metadata Fields*)


We currently have:

- a few InCell 1000 datasets
- [public InCell 2000 sample images](#)²⁰⁰

We would like to have:


- an InCell 1000 specification document
- more InCell 1000 datasets

Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.56 InCell 3000

Extensions: .frm

Developer: [GE](#)²⁰¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: InCell3000Reader ([Source Code](#)²⁰², *Supported Metadata Fields*)

Sample Datasets:

- [Broad Bioimage Benchmark Collection](#)²⁰³


We currently have:

- a few example datasets


We would like to have:


- an official specification document


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

¹⁹⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/InCellReader.java>

²⁰⁰<http://downloads.openmicroscopy.org/images/HCS/INCELL2000/>

²⁰¹<http://gelifesciences.com/>

²⁰²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/InCell3000Reader.java>

²⁰³<http://www.broadinstitute.org/bbbc/BBBC013/>

17.57 INR

Extensions: .inr

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: INRReader ([Source Code](#)²⁰⁴, *Supported Metadata Fields*)

We currently have:

- several sample .inr datasets

We would like to have:

Ratings

Pixels: ▲

Metadata: ◼

Openness: ▼

Presence: ▼

Utility: ▼

17.58 Inveon

Extensions: .hdr

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: InveonReader ([Source Code](#)²⁰⁵, *Supported Metadata Fields*)

We currently have:

a few Inveon datasets

We would like to have:

Ratings

Pixels: ▲

Metadata: ▲

Openness: ◼

Presence: ▼

Utility: ▼

²⁰⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/INRReader.java>

²⁰⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/InveonReader.java>


17.59 IPLab

Extensions: .ipl

Developer: Scanalytics

Owner: was BD Biosystems²⁰⁶, now BioVision Technologies²⁰⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: IPLabReader (Source Code²⁰⁸, *Supported Metadata Fields*)

Freely Available Software:

- IPLab Reader plugin for ImageJ²⁰⁹


We currently have:

- an IPLab specification document (v3.6.5, from 2004 December 1, in PDF)
- several IPLab datasets


We would like to have:


- more IPLab datasets (preferably with 32-bit integer or floating point data)


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

Commercial applications that support IPLab include:

- Bitplane Imaris²¹⁰
- SVI Huygens²¹¹

See also:

IPLab software review²¹²

17.60 IVision

Extensions: .ipm

Owner: BioVision Technologies²¹³

²⁰⁶<http://www.bdbiosciences.com/>

²⁰⁷<http://www.biovis.com/iplab.htm>

²⁰⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/IPLabReader.java>

²⁰⁹<http://rsb.info.nih.gov/ij/plugins/iplab-reader.html>

²¹⁰<http://www.bitplane.com/>

²¹¹<http://svi.nl/>

²¹²<http://www.biovis.com/iplab.htm>

²¹³<http://biovis.com/>

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: IvisionReader ([Source Code](#)²¹⁴, *Supported Metadata Fields*)

We currently have:

- a few iVision-Mac datasets
- a specification document

We would like to have:

- more iVision-Mac datasets

Ratings

Pixels: ▲

Metadata: ■

Openness: ▲

Presence: ▼

Utility: ▼

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

iVision-Mac was formerly called IPLab for Macintosh.

17.61 JEOL

Extensions: .dat, .img, .par

Owner: [JEOL](#)²¹⁵

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: JEOLReader ([Source Code](#)²¹⁶, *Supported Metadata Fields*)

We currently have:

- Pascal code that reads JEOL files (from ImageSXM)
- a few JEOL files






We would like to have:

- an official specification document
- more JEOL files

²¹⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/IvisionReader.java>


²¹⁵<http://www.jeol.com>

²¹⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/JEOLReader.java>

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.62 JPEG

Extensions: .jpg

Developer: [Independent JPEG Group](#)²¹⁷**Support**BSD-licensed: Export: 



Officially Supported Versions:

Reader: [JPEGReader](#) ([Source Code](#)²¹⁸, *Supported Metadata Fields*)Writer: [JPEGWriter](#) ([Source Code](#)²¹⁹)

We currently have:

- a [JPEG specification document](#)²²⁰ (v1.04, from 1992 September 1, in PDF)
- numerous JPEG datasets
- the ability to produce more datasets

We would like to have:

RatingsPixels: Metadata: Openness: Presence: Utility: **Additional Information**

Bio-Formats can save individual planes as JPEG. Bio-Formats uses the [Java Image I/O](#)²²¹ API to read and write JPEG files. JPEG stands for “Joint Photographic Experts Group”.


See also:[JPEG homepage](#)²²²²¹⁷<http://www.iijg.org/>²¹⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/JPEGReader.java>²¹⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/JPEGWriter.java>²²⁰<http://www.w3.org/Graphics/JPEG/jfif3.pdf>²²¹<http://docs.oracle.com/javase/6/docs/technotes/guides/imageio/>²²²<http://www.jpeg.org/jpeg/index.html>

17.63 JPEG 2000

Extensions: .jp2

Developer: [Independent JPEG Group](#)²²³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: JPEG2000Reader ([Source Code](#)²²⁴, *Supported Metadata Fields*)

Writer: JPEG2000Writer ([Source Code](#)²²⁵)

Freely Available Software:


- [JJ2000](#) (JPEG 2000 library for Java)²²⁶


We currently have:


- a JPEG 2000 specification document (free draft from 2000, no longer available online)
- a few .jp2 files


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information


Bio-Formats uses the [JAI Image I/O Tools](#)²²⁷ library to read JP2 files. JPEG stands for “Joint Photographic Experts Group”.

17.64 JPK

Extensions: .jpk

Developer: [JPK Instruments](#)²²⁸

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: JPKReader ([Source Code](#)²²⁹, *Supported Metadata Fields*)

We currently have:

- Pascal code that can read JPK files (from ImageSXM)

²²³<http://www.ijg.org/>

²²⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/JPEG2000Reader.java>

²²⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/JPEG2000Writer.java>

²²⁶<http://code.google.com/p/jj2000/>

²²⁷<https://java.net/projects/jai-imageio>

²²⁸<http://www.jpk.com>


²²⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/JPKReader.java>

- a few JPK files


We would like to have:

- an official specification document
- more JPK files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.65 JPX

Extensions: .jpx

Developer: [JPEG Committee](#)²³⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: JPXReader ([Source Code](#)²³¹, *Supported Metadata Fields*)

We currently have:

- a few .jpx files

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.66 Khoros VIFF (Visualization Image File Format) Bitmap

Extensions: .xv

Developer: [Khoral](#)²³²

Owner: [AccuSoft](#)²³³

Support

BSD-licensed: 

²³⁰<http://www.jpeg.org/jpeg2000/>

²³¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/JPXReader.java>

²³²<http://www.khoral.com/company/>

²³³<http://www.accusoft.com/company/>

Export: 

Officially Supported Versions:

Reader: KhorosReader ([Source Code](#)²³⁴, *Supported Metadata Fields*)

Sample Datasets:

- [VIFF Images](#)²³⁵

We currently have:

- several VIFF datasets


We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.67 Kodak BIP

Extensions: .bip

Developer: [Kodak/Carestream](#)²³⁶

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: KodakReader ([Source Code](#)²³⁷, *Supported Metadata Fields*)


We currently have:

- a few .bip datasets

We would like to have:

- an official specification document

Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

See also:

²³⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/KhorosReader.java>

²³⁵<http://netghost.narod.ru/gff/sample/images/viff/index.htm>

²³⁶<http://carestream.com>

²³⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/KodakReader.java>


Information on Image Station systems²³⁸

17.68 Lambert Instruments FLIM

Extensions: .fli

Developer: [Lambert Instruments](http://www.lambert-instruments.com)²³⁹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: LiFlimReader ([Source Code](#)²⁴⁰, *Supported Metadata Fields*)

We currently have:


- an LI-FLIM specification document
- several example LI-FLIM datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information


Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

17.69 LaVision Inspector

Extensions: .msr

Developer: [LaVision BioTec](http://www.lavisionbiotec.com)²⁴¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: InspectorReader ([Source Code](#)²⁴², *Supported Metadata Fields*)

We currently have:

- a few .msr files

²³⁸<http://carestream.com/PublicContent.aspx?langType=1033&id=448953>

²³⁹<http://www.lambert-instruments.com>


²⁴⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LiFlimReader.java>

²⁴¹<http://www.lavisionbiotec.com/>

²⁴²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/InspectorReader.java>

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.70 Leica LCS LEI

Extensions: .lei, .tif

Developer: [Leica Microsystems CMS GmbH](http://www.leica-microsystems.com/)²⁴³

Owner: [Leica](http://www.leica.com/)²⁴⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: [LeicaReader](#) ([Source Code](#)²⁴⁵, *Supported Metadata Fields*)

Freely Available Software:


- [Leica LCS Lite](#)²⁴⁶

We currently have:

- an LEI specification document (beta 2.000, from no later than 2004 February 17, in PDF)
- many LEI datasets

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

LCS stands for “Leica Confocal Software”. LEI presumably stands for “Leica Experimental Information”.

Commercial applications that support LEI include:

- [Bitplane Imaris](#)²⁴⁷
- [SVI Huygens](#)²⁴⁸

²⁴³<http://www.leica-microsystems.com/>

²⁴⁴<http://www.leica.com/>

²⁴⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LeicaReader.java>

²⁴⁶<ftp://ftp.llt.de/softlib/LCSLite/LCSLite2611537.exe>

²⁴⁷<http://www.bitplane.com/>

²⁴⁸<http://svi.nl/>

- Image-Pro Plus²⁴⁹


17.71 Leica LAS AF LIF (Leica Image File Format)

Extensions: .lif

Developer: Leica Microsystems CMS GmbH²⁵⁰

Owner: Leica²⁵¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 1.0, 2.0

Reader: LIFReader (Source Code²⁵², *Supported Metadata Fields*)

Freely Available Software:


- Leica LAS AF Lite²⁵³ (links at bottom of page)

We currently have:

- a LIF specification document (version 2, from no later than 2007 July 26, in PDF)
- a LIF specification document (version 1, from no later than 2006 April 3, in PDF)
- numerous LIF datasets

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

LAS stands for “Leica Application Suite”. AF stands for “Advanced Fluorescence”.

Commercial applications that support LIF include:

- Bitplane Imaris²⁵⁴
- SVI Huygens²⁵⁵
- Amira²⁵⁶

²⁴⁹<http://www.mediacy.com/>

²⁵⁰<http://www.leica-microsystems.com/>

²⁵¹<http://www.leica.com/>

²⁵²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LIFReader.java>

²⁵³<http://www.leica-microsystems.com/products/microscope-software/software-for-life-science-research/las-x/>

²⁵⁴<http://www.bitplane.com/>

²⁵⁵<http://svi.nl/>


²⁵⁶<http://www.amira.com/>


17.72 Leica SCN

Extensions: .scn

Developer: [Leica Microsystems](#)²⁵⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 2012-03-10

Reader: LeicaSCNReader ([Source Code](#)²⁵⁸, *Supported Metadata Fields*)

We currently have:

- a few sample datasets

We would like to have:


- an official specification document
- sample datasets that cannot be opened


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.73 LEO

Extensions: .sxn

Owner: [Zeiss](#)²⁵⁹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: LEORReader ([Source Code](#)²⁶⁰, *Supported Metadata Fields*)

We currently have:

- Pascal code that can read LEO files (from ImageSXM)
- a few LEO files

We would like to have:






- an official specification document
- more LEO files

²⁵⁷<http://www.leica-microsystems.com/>

²⁵⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LeicaSCNReader.java>


²⁵⁹<http://www.zeiss.de>

²⁶⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LEORReader.java>

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.74 Li-Cor L2D

Extensions: .l2d, .tif, .scn

Owner: [LiCor Biosciences](#)²⁶¹**Support**BSD-licensed: Export: 

Officially Supported Versions:



Reader: L2DReader ([Source Code](#)²⁶², *Supported Metadata Fields*)

We currently have:

- a few L2D datasets

We would like to have:

- an official specification document
- more L2D datasets

RatingsPixels: Metadata: Openness: Presence: Utility: **Additional Information**

L2D datasets cannot be imported into OME using server-side import. They can, however, be imported from ImageJ, or using the omeul utility.

17.75 LIM (Laboratory Imaging/Nikon)

Extensions: .lim

Owner: [Laboratory Imaging](#)²⁶³**Support**BSD-licensed: Export: ²⁶¹<http://www.licor.com/>²⁶²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/L2DReader.java>²⁶³<http://www.lim.cz/>

Officially Supported Versions:

Reader: LIMReader ([Source Code](#)²⁶⁴, *Supported Metadata Fields*)


We currently have:


- several LIM files
- the ability to produce more LIM files


We would like to have:


- an official specification document


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Bio-Formats only supports uncompressed LIM files.

Commercial applications that support LIM include:


- NIS Elements²⁶⁵


17.76 MetaMorph 7.5 TIFF

Extensions: .tiff

Owner: [Molecular Devices](#)²⁶⁶

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: MetaMorphTiffReader ([Source Code](#)²⁶⁷, *Supported Metadata Fields*)

We currently have:


- a few MetaMorph 7.5 TIFF datasets

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

²⁶⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LIMReader.java>

²⁶⁵<http://www.nis-elements.com/>

²⁶⁶<http://www.moleculardevices.com/>

²⁶⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MetaMorphTiffReader.java>

17.77 MetaMorph Stack (STK)

Extensions: .stk, .nd

Owner: [Molecular Devices](#)²⁶⁸

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: MetamorphReader ([Source Code](#)²⁶⁹, [Supported Metadata Fields](#))

We currently have:

- an STK specification document (from 2006 November 21, in DOC)
- an older STK specification document (from 2005 March 25, in DOC)
- an ND specification document (from 2002 January 24, in PDF)
- a large number of datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

Commercial applications that support STK include:

- Bitplane Imaris²⁷⁰
- SVI Huygens²⁷¹
- DIMIN²⁷²

See also:

[Metamorph imaging system overview](#)²⁷³

17.78 MIAS (Maia Scientific)

Extensions: .tif

Developer: [Maia Scientific](#)²⁷⁴

Support

BSD-licensed: 

²⁶⁸<http://www.moleculardevices.com/>

²⁶⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MetamorphReader.java>

²⁷⁰<http://www.bitplane.com/>

²⁷¹<http://svi.nl/>

²⁷²<http://dimin.net/>

²⁷³<http://www.metamorph.com/>

²⁷⁴<http://www.selectscience.net/supplier/maia-scientific/?compID=6088>

Export: 

Officially Supported Versions:


Reader: MIASReader ([Source Code](#)²⁷⁵, *Supported Metadata Fields*)


We currently have:


- several MIAS datasets


We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.79 Micro-Manager

Extensions: .tif, .txt, .xml

Developer: [Vale Lab](#)²⁷⁶

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: MicromanagerReader ([Source Code](#)²⁷⁷, *Supported Metadata Fields*)

Freely Available Software:


- [Micro-Manager](#)²⁷⁸


We currently have:


- many Micro-manager datasets
- [public sample images](#)²⁷⁹

We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

- Bio-Formats will recognize a `*metadata.txt` file as part of a Micro-Manager fileset if pointed at it and will load the fileset including the companion TIFF files.

²⁷⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MIASReader.java>

²⁷⁶<http://valelab.ucsf.edu/>

²⁷⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/MicromanagerReader.java>

²⁷⁸<http://micro-manager.org/>

²⁷⁹<http://downloads.openmicroscopy.org/images/Micro-Manager/>

- If pointed at a companion `.ome.tif` file, Bio-Formats will recognize an OME-TIFF format instead. This means it may load the fileset if there are multiple `.ome.tif` but it will not include `*metadata.txt` in this fileset and therefore the extended Micro-Manager metadata will be skipped.

17.80 MINC MRI

Extensions: `.mnc`

Developer: [McGill University](#)²⁸⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: MINCReader ([Source Code](#)²⁸¹, [Supported Metadata Fields](#))

Freely Available Software:


- [MINC](#)²⁸²

We currently have:


- a few MINC files

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.81 Minolta MRW

Extensions: `.mrw`

Developer: [Minolta](#)²⁸³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: MRWReader ([Source Code](#)²⁸⁴, [Supported Metadata Fields](#))

Freely Available Software:

- [dcraw](#)²⁸⁵

We currently have:

²⁸⁰<http://www.bic.mni.mcgill.ca/ServicesSoftware/MINC>

²⁸¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MINCReader.java>

²⁸²<http://www.bic.mni.mcgill.ca/ServicesSoftware/MINC>

²⁸³<http://www.konicaminolta.com/>

²⁸⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MRWReader.java>

²⁸⁵<http://www.cybercom.net/%7Edcoffin/dcraw/>

- several .mrw files

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

17.82 MNG (Multiple-image Network Graphics)

Extensions: .mng

Developer: [MNG Development Group](#)²⁸⁶

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: MNGReader ([Source Code](#)²⁸⁷, *Supported Metadata Fields*)

Freely Available Software:

- [libmng](#) (MNG reference library)²⁸⁸

Sample Datasets:

- [MNG sample files](#)²⁸⁹

We currently have:

- the [libmng-testsuites](#)²⁹⁰ package (from 2003 March 05, in C)
- a large number of MNG datasets

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

Additional Information

See also:

[MNG homepage](#)²⁹¹ [MNG specification](#)²⁹²

²⁸⁶<http://www.libpng.org/pub/mng/mngnews.html>

²⁸⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/MNGReader.java>

²⁸⁸<http://sourceforge.net/projects/libmng/>

²⁸⁹<http://sourceforge.net/projects/libmng/files/libmng-testsuites/MNGsuite-1.0/MNGsuite.zip/download>

²⁹⁰<http://downloads.sourceforge.net/libmng/MNGsuite-20030305.zip>

²⁹¹<http://www.libpng.org/pub/mng/>

²⁹²<http://www.libpng.org/pub/mng/spec>

17.83 Molecular Imaging

Extensions: .stp

Owner: Molecular Imaging Corp, San Diego CA (closed)

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: MolecularImagingReader ([Source Code](#)²⁹³, *Supported Metadata Fields*)


We currently have:

- Pascal code that reads Molecular Imaging files (from ImageSXM)
- a few Molecular Imaging files


We would like to have:


- an official specification document
- more Molecular Imaging files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.84 MRC (Medical Research Council)

Extensions: .mrc

Developer: [MRC Laboratory of Molecular Biology](#)²⁹⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: MRCReader ([Source Code](#)²⁹⁵, *Supported Metadata Fields*)

Sample Datasets:

- [golgi.mrc](#)²⁹⁶

We currently have:

- an [MRC specification document](#)²⁹⁷ (in TXT)
- a few MRC datasets

²⁹³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MolecularImagingReader.java>

²⁹⁴<http://www2.mrc-lmb.cam.ac.uk/>


²⁹⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MRCReader.java>


²⁹⁶http://bio3d.colorado.edu/imod/files/imod_data.tar.gz


²⁹⁷http://bio3d.colorado.edu/imod/doc/mrc_format.txt


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Commercial applications that support MRC include:

- [Bitplane Imaris](#)²⁹⁸

See also:


[MRC on Wikipedia](#)²⁹⁹

17.85 NEF (Nikon Electronic Format)

Extensions: .nef, .tif

Developer: [Nikon](#)³⁰⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: NikonReader ([Source Code](#)³⁰¹, *Supported Metadata Fields*)

Sample Datasets:


- [neffile1.zip](#)³⁰²
- [Sample NEF images](#)³⁰³

We currently have:

- a NEF specification document (v0.1, from 2003, in PDF)
- several NEF datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

²⁹⁸<http://www.bitplane.com/>

²⁹⁹http://en.wikipedia.org/wiki/MRC_%28file_format%29

³⁰⁰<http://www.nikon.com/>

³⁰¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NikonReader.java>

³⁰²http://www.outbackphoto.com/workshop/NEF_conversion/neffile1.zip

³⁰³http://www.nikondigital.org/articles/library/nikon_d2x_first_impressions.htm

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

See also:


[NEF Conversion](#)³⁰⁴

17.86 NIfTI

Extensions: .img, .hdr

Developer: [National Institutes of Health](#)³⁰⁵

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: NiftiReader ([Source Code](#)³⁰⁶, [Supported Metadata Fields](#))

Sample Datasets:


- [Official test data](#)³⁰⁷

We currently have:


- [NIfTI specification documents](#)³⁰⁸
- several NIfTI datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.87 Nikon Elements TIFF

Extensions: .tiff

Developer: [Nikon](#)³⁰⁹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: NikonElementsTiffReader ([Source Code](#)³¹⁰, [Supported Metadata Fields](#))

We currently have:

³⁰⁴http://www.outbackphoto.com/workshop/NEF_conversion/nefconversion.html

³⁰⁵<http://www.nih.gov/>

³⁰⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NiftiReader.java>

³⁰⁷<http://afni.nimh.nih.gov/pub/dist/data/>

³⁰⁸http://afni.nimh.nih.gov/pub/dist/doc/nifti/nifti_revised.html

³⁰⁹<http://www.nikon.com>


³¹⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NikonElementsTiffReader.java>

- a few Nikon Elements TIFF files


We would like to have:


- more Nikon Elements TIFF files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.88 Nikon EZ-C1 TIFF

Extensions: .tiff

Developer: [Nikon](#)³¹¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: NikonTiffReader ([Source Code](#)³¹², *Supported Metadata Fields*)

We currently have:

- a few Nikon EZ-C1 TIFF files

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.89 Nikon NIS-Elements ND2

Extensions: .nd2

Developer: [Nikon USA](#)³¹³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

³¹¹<http://www.nikon.com/>

³¹²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NikonTiffReader.java>

³¹³<http://www.nikonusa.com/>

Readers:

- NativeND2Reader (Source Code³¹⁴, *Supported Metadata Fields*)
- LegacyND2Reader (Source Code³¹⁵, *Supported Metadata Fields*)

Freely Available Software:

- NIS-Elements Viewer from Nikon³¹⁶

We currently have:

- many ND2 datasets

We would like to have:

- an official specification document

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

Additional Information

There are two distinct versions of ND2: an old version, which uses JPEG-2000 compression, and a new version which is either uncompressed or Zip-compressed. We are not aware of the version number or release date for either format.

Bio-Formats uses the JAI Image I/O Tools³¹⁷ library to read ND2 files compressed with JPEG-2000.

There is also an ND2 reader that uses Nikon's native libraries. To use it, you must be using Windows and have Nikon's ND2 reader plugin for ImageJ³¹⁸ installed. Additionally, you will need to download LegacyND2Reader.dll³¹⁹ and place it in your ImageJ plugin folder.

17.90 NRRD (Nearly Raw Raster Data)

Extensions: .nrrd, .nhdr, .raw, .txt

Developer: Teem developers³²⁰

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: NRRDReader (Source Code³²¹, *Supported Metadata Fields*)

Freely Available Software:

- nrrd (NRRD reference library)³²²

Sample Datasets:

³¹⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NativeND2Reader.java>

³¹⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LegacyND2Reader.java>

³¹⁶<http://www.nikoninstruments.com/Products/Software/NIS-Elements-Advanced-Research/NIS-Elements-Viewer>

³¹⁷<http://java.net/projects/jai-imageio>

³¹⁸<http://rsb.info.nih.gov/ij/plugins/nd2-reader.html>

³¹⁹<https://github.com/openmicroscopy/bioformats/blob/develop/lib/LegacyND2Reader.dll?raw=true>

³²⁰<http://teem.sourceforge.net/>

³²¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/NRRDReader.java>

³²²<http://teem.sourceforge.net/nrrd/>

- Diffusion tensor MRI datasets³²³

We currently have:

- an [nrrd specification document](#)³²⁴ (v1.9, from 2005 December 24, in HTML)
- a few nrrd datasets

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

17.91 Olympus CellR/APL

Extensions: .apl, .mtb, .tnb, .tif, .obsep

Owner: [Olympus](#)³²⁵

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: APLReader ([Source Code](#)³²⁶, *Supported Metadata Fields*)

We currently have:

- a few CellR datasets

We would like to have:

- more Cellr datasets
- an official specification document

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

³²³<http://www.sci.utah.edu/%7Egk/DTI-data/>

³²⁴<http://teem.sourceforge.net/nrrd/format.html>

³²⁵<http://www.olympus.com/>


³²⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/APLReader.java>

17.92 Olympus FluoView FV1000

Extensions: .oib, .oif

Owner: [Olympus](#)³²⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 1.0, 2.0

Reader: FV1000Reader ([Source Code](#)³²⁸, [Supported Metadata Fields](#))

Freely Available Software:

- [FV-Viewer from Olympus](#)³²⁹


We currently have:

- an OIF specification document (v2.0.0.0, from 2008, in PDF)
- an FV1000 specification document (v1.0.0.0, from 2004 June 22, in PDF)
- older FV1000 specification documents (draft, in DOC and XLS)
- many FV1000 datasets

We would like to have:


- more OIB datasets (especially 2+ GB files)
- more FV1000 version 2 datasets


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

Bio-Formats uses a modified version of the [Apache Jakarta POI](#)³³⁰ library to read OIB files. OIF stands for “Original Imaging Format”. OIB stands for “Olympus Image Binary”. OIF is a multi-file format that includes an .oif file and a directory of .tif, .roi, .pty, .lut, and .bmp files. OIB is a single file format.

Commercial applications that support this format include:

- [Bitplane Imaris](#)³³¹
- [SVI Huygens](#)³³²

See also:

[Olympus FluoView Resource Center](#)³³³

³²⁷<http://www.olympus.com/>

³²⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/FV1000Reader.java>

³²⁹http://www.olympus.co.uk/microscopy/22_FluoView_FV1000_Confocal_Microscope.htm

³³⁰<http://jakarta.apache.org/poi/>

³³¹<http://www.bitplane.com/>

³³²<http://svi.nl/>

³³³<http://www.olympusfluoview.com>

17.93 Olympus FluoView TIFF

Extensions: .tif

Owner: [Olympus](#)³³⁴

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: FluoviewReader ([Source Code](#)³³⁵, *Supported Metadata Fields*)

Freely Available Software:


- [DIMIN](#)³³⁶

We currently have:

- a FluoView specification document (from 2002 November 14, in DOC)
- Olympus' FluoView Image File Reference Suite (from 2002 March 1, in DOC)
- several FluoView datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

Commercial applications that support this format include:

- [Bitplane Imaris](#)³³⁷
- [SVI Huygens](#)³³⁸

17.94 Olympus ScanR

Extensions: .xml, .dat, .tif

Developer: [Olympus](#)³³⁹

Owner: [Olympus](#)³⁴⁰

Support

BSD-licensed: ✖

Export: ✖

³³⁴<http://www.olympus.com/>

³³⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/FluoviewReader.java>

³³⁶<http://www.dimin.net/>

³³⁷<http://www.bitplane.com/>

³³⁸<http://svi.nl/>

³³⁹<http://www.olympus.com/>

³⁴⁰<http://www.olympus.com/>

Officially Supported Versions:

Reader: ScanrReader ([Source Code](#)³⁴¹, *Supported Metadata Fields*)

We currently have:

- several ScanR datasets

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

17.95 Olympus SIS TIFF

Extensions: .tiff

Developer: [Olympus](#)³⁴²

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: SISReader ([Source Code](#)³⁴³, *Supported Metadata Fields*)

We currently have:

- a few example SIS TIFF files

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

17.96 OME-TIFF

Extensions: .ome.tiff³⁴⁴

Developer: [Open Microscopy Environment](#)³⁴⁵

Support


³⁴¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ScanrReader.java>

³⁴²<http://www.olympus-sis.com/>

³⁴³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SISReader.java>

³⁴⁴<http://www.openmicroscopy.org/site/support/ome-model/ome-tiff/index.html>

³⁴⁵<http://www.openmicroscopy.org/>

BSD-licensed: 

Export: 

Officially Supported Versions: 2003FC, 2007-06, 2008-02, 2008-09, 2009-09, 2010-04, 2010-06, 2011-06, 2012-06, 2013-06, 2015-01

Reader: OMETiffReader ([Source Code](#)³⁴⁶, *Supported Metadata Fields*)

Writer: OMETiffWriter ([Source Code](#)³⁴⁷)

We currently have:

- an OME-TIFF specification document³⁴⁸
- many OME-TIFF datasets
- public sample images³⁴⁹
- the ability to produce additional datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Bio-Formats can save image stacks as OME-TIFF.

Commercial applications that support OME-TIFF include:

- Bitplane Imaris³⁵⁰
- SVI Huygens³⁵¹

See also:


[OME-TIFF technical overview](#)³⁵²

17.97 OME-XML

Extensions: .ome, .ome.xml³⁵³

Developer: [Open Microscopy Environment](#)³⁵⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 2003FC, 2007-06, 2008-02, 2008-09, 2009-09, 2010-04, 2010-06, 2011-06, 2012-06, 2013-06, 2015-01

³⁴⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/OMETiffReader.java>

³⁴⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/OMETiffWriter.java>

³⁴⁸<http://www.openmicroscopy.org/site/support/ome-model/ome-tiff/specification.html>

³⁴⁹<http://downloads.openmicroscopy.org/images/OME-TIFF/>

³⁵⁰<http://www.bitplane.com/>

³⁵¹<http://svi.nl/>

³⁵²<http://www.openmicroscopy.org/site/support/ome-model/ome-tiff/index.html>

³⁵³<http://www.openmicroscopy.org/site/support/ome-model/ome-xml/index.html>

³⁵⁴<http://www.openmicroscopy.org/>

Reader: OMEXMLReader ([Source Code](#)³⁵⁵, *Supported Metadata Fields*)


Writer: OMEXMLWriter ([Source Code](#)³⁵⁶)

We currently have:


- [OME-XML specification documents](#)³⁵⁷
- many OME-XML datasets
- [public sample images](#)³⁵⁸
- the ability to produce more datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Bio-Formats uses the [OME-XML Java library](#)³⁵⁹ to read OME-XML files.

Commercial applications that support OME-XML include:

- [Bitplane Imaris](#)³⁶⁰
- [SVI Huygens](#)³⁶¹

17.98 Oxford Instruments

Extensions: .top

Owner: [Oxford Instruments](#)³⁶²

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: OxfordInstrumentsReader ([Source Code](#)³⁶³, *Supported Metadata Fields*)

We currently have:

- Pascal code that can read Oxford Instruments files (from ImageSXM)
- a few Oxford Instruments files

We would like to have:

- an official specification document
- more Oxford Instruments files

³⁵⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/OMEXMLReader.java>

³⁵⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/OMEXMLWriter.java>

³⁵⁷<http://www.openmicroscopy.org/Schemas/>

³⁵⁸<http://downloads.openmicroscopy.org/images/OME-XML/>






³⁵⁹<http://www.openmicroscopy.org/site/support/ome-model/ome-xml/java-library.html>

³⁶⁰<http://www.bitplane.com/>

³⁶¹<http://svi.nl/>


³⁶²<http://www.oxinst.com>

³⁶³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/OxfordInstrumentsReader.java>

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.99 PCORAW

Extensions: .pcoraw, .rec

Developer: PCO³⁶⁴**Support**BSD-licensed: Export: 




Officially Supported Versions:

Reader: PCORAWReader ([Source Code](#)³⁶⁵, *Supported Metadata Fields*)

We currently have:

- a few example datasets


We would like to have:

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.100 PCX (PC Paintbrush)

Extensions: .pcx

Developer: ZSoft Corporation

SupportBSD-licensed: Export: 

Officially Supported Versions:

Reader: PCXReader ([Source Code](#)³⁶⁶, *Supported Metadata Fields*)

We currently have:


- several .pcx files


³⁶⁴<http://www.pco.de/>³⁶⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PCORAWReader.java>³⁶⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/PCXReader.java>


- the ability to generate additional .pcx files


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information


Commercial applications that support PCX include [Zeiss LSM Image Browser](#)³⁶⁷.

17.101 Perkin Elmer Densitometer

Extensions: .pds

Developer: [Perkin Elmer](#)³⁶⁸

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: PDSReader ([Source Code](#)³⁶⁹, *Supported Metadata Fields*)

We currently have:

- a few PDS datasets

We would like to have:

- an official specification document
- more PDS datasets


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.102 PerkinElmer Nuance

Extensions: .im3

Developer: [PerkinElmer](#)³⁷⁰


Support

³⁶⁷http://www.zeiss.com/microscopy/en_de/downloads/lsm-5-series.html

³⁶⁸<http://www.perkinelmer.com>

³⁶⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PDSReader.java>

³⁷⁰<http://www.perkinelmer.com/>

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: IM3Reader ([Source Code](#)³⁷¹, *Supported Metadata Fields*)

We currently have:


- a few sample datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.103 PerkinElmer Operetta

Extensions: .tiff, .xml

Developer: [PerkinElmer](#)³⁷²

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: OperettaReader ([Source Code](#)³⁷³, *Supported Metadata Fields*)


We currently have:

- a few sample datasets
- [public sample images](#)³⁷⁴

We would like to have:

- an official specification document
- more sample datasets


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

³⁷¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/IM3Reader.java>

³⁷²<http://www.perkinelmer.com/>

³⁷³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/OperettaReader.java>


³⁷⁴<http://downloads.openmicroscopy.org/images/HCS/Operetta/>

17.104 PerkinElmer UltraView

Extensions: .tif, .2, .3, .4, etc.

Owner: [PerkinElmer](#)³⁷⁵

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: PerkinElmerReader ([Source Code](#)³⁷⁶, *Supported Metadata Fields*)

We currently have:

- several UltraView datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Other associated extensions include: .tim, .zpo, .csv, .htm, .cfg, .ano, .rec

Commercial applications that support this format include:

- [Bitplane Imaris](#)³⁷⁷
- [Image-Pro Plus](#)³⁷⁸

See also:


[PerkinElmer UltraView system overview](#)³⁷⁹

17.105 Portable Any Map

Extensions: .pbm, .pgm, .ppm

Developer: Netpbm developers

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: PGMReader ([Source Code](#)³⁸⁰, *Supported Metadata Fields*)

Freely Available Software:

³⁷⁵<http://www.perkinelmer.com/>

³⁷⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PerkinElmerReader.java>

³⁷⁷<http://www.bitplane.com/>

³⁷⁸<http://www.mediacy.com/>

³⁷⁹<http://www.perkinelmer.com/pages/020/cellularimaging/products/ultraviewvoxsysteoverview.xhtml>

³⁸⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/PGMReader.java>


- Netpbm graphics filter³⁸¹


We currently have:


- a PGM specification document³⁸² (from 2003 October 3, in HTML)
- a few PBM, PPM and PGM files

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.106 Adobe Photoshop PSD

Extensions: .psd

Developer: Adobe³⁸³

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 1.0

Reader: PSDReader ([Source Code](#)³⁸⁴, *Supported Metadata Fields*)

We currently have:

- a PSD specification document (v3.0.4, 16 July 1995)
- a few PSD files


We would like to have:

- more PSD files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

³⁸¹<http://netpbm.sourceforge.net/>

³⁸²<http://netpbm.sourceforge.net/doc/pgm.html>

³⁸³<http://www.adobe.com/>

³⁸⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PSDReader.java>

17.107 Photoshop TIFF

Extensions: .tif, .tiff

Developer: [Adobe](#)³⁸⁵

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: PhotoshopTiffReader ([Source Code](#)³⁸⁶, *Supported Metadata Fields*)

We currently have:


- a Photoshop TIFF specification document
- a few Photoshop TIFF files


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.108 PicoQuant Bin

Extensions: .bin

Developer: [PicoQuant](#)³⁸⁷

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: PQBinReader ([Source Code](#)³⁸⁸, *Supported Metadata Fields*)

Freely Available Software:


- [SymphoTime64](#)³⁸⁹

We currently have:

- a few example datasets

We would like to have:

Ratings

Pixels: 

Metadata: 




³⁸⁵<http://www.adobe.com>

³⁸⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PhotoshopTiffReader.java>

³⁸⁷<http://www.picoquant.com/>

³⁸⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PQBinReader.java>

³⁸⁹<http://www.picoquant.com/products/category/software/symphotime-64-fluorescence-lifetime-imaging-and-correlation-software>


Openness: Presence: Utility: 

17.109 PICT (Macintosh Picture)

Extensions: .pict

Developer: [Apple Computer](#)³⁹⁰

Support

BSD-licensed: Export: 

Officially Supported Versions:


Reader: PictReader ([Source Code](#)³⁹¹, [Supported Metadata Fields](#))

We currently have:

- many PICT datasets

We would like to have:

Ratings

Pixels: Metadata: Openness: Presence: Utility: 

Additional Information

[QuickTime for Java](#)³⁹² is required for reading vector files and some compressed files.

See also:


[PICT technical overview](#)³⁹³ [Another PICT technical overview](#)³⁹⁴

17.110 PNG (Portable Network Graphics)

Extensions: .png

Developer: [PNG Development Group](#)³⁹⁵

Support

BSD-licensed: Export: 

Officially Supported Versions:

Reader: APNGReader ([Source Code](#)³⁹⁶, [Supported Metadata Fields](#))³⁹⁰<http://www.apple.com>³⁹¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/PictReader.java>³⁹²<http://www.apple.com/quicktime/download/standalone.html>³⁹³<http://www.faqs.org/faqs/graphics/fileformats-faq/part3/section-107.html>³⁹⁴<http://www.prepressure.com/formats/pict/fileformat.htm>³⁹⁵<http://www.libpng.org/pub/png/pngnews.html>³⁹⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/APNGReader.java>

Writer: APNGWriter ([Source Code](#)³⁹⁷)

Freely Available Software:


- PNG Writer plugin for ImageJ³⁹⁸

We currently have:


- a PNG specification document³⁹⁹ (W3C/ISO/IEC version, from 2003 November 10, in HTML)
- several PNG datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Bio-Formats uses the Java Image I/O⁴⁰⁰ API to read and write PNG files.

See also:


[PNG technical overview](#)⁴⁰¹

17.111 Prairie Technologies TIFF

Extensions: .tif, .xml, .cfg

Developer: [Prairie Technologies](#)⁴⁰²

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: PrairieReader ([Source Code](#)⁴⁰³, *Supported Metadata Fields*)

We currently have:

- many Prairie datasets


We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

³⁹⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/APNGWriter.java>

³⁹⁸<http://rsb.info.nih.gov/ij/plugins/png-writer.html>


³⁹⁹<http://www.libpng.org/pub/png/spec/iso/>

⁴⁰⁰<http://docs.oracle.com/javase/6/docs/technotes/guides/imageio/>

⁴⁰¹<http://www.libpng.org/pub/png/>

⁴⁰²<http://www.prairie-technologies.com/>

⁴⁰³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PrairieReader.java>

Utility: 


17.112 Quesant

Extensions: .afm

Developer: Quesant Instrument Corporation

Owner: [KLA-Tencor Corporation](#)⁴⁰⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: QuesantReader ([Source Code](#)⁴⁰⁵, *Supported Metadata Fields*)


We currently have:

- Pascal code that can read Quesant files (from ImageSXM)
- several Quesant files


We would like to have:


- an official specification document
- more Quesant files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.113 QuickTime Movie

Extensions: .mov

Owner: [Apple Computer](#)⁴⁰⁶

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: NativeQTReader ([Source Code](#)⁴⁰⁷, *Supported Metadata Fields*)

Writer: QTWriter ([Source Code](#)⁴⁰⁸)

Freely Available Software:

⁴⁰⁴<http://www.kla-tencor.com/surface-profilometry-and-metrology.html>

⁴⁰⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/QuesantReader.java>

⁴⁰⁶<http://www.apple.com/>

⁴⁰⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/NativeQTReader.java>

⁴⁰⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/QTWriter.java>

- QuickTime Player⁴⁰⁹


We currently have:

- a QuickTime specification document⁴¹⁰ (from 2001 March 1, in HTML)
- several QuickTime datasets
- the ability to produce more datasets

We would like to have:

- more QuickTime datasets, including:
 - files compressed with a common, unsupported codec
 - files with audio tracks and/or multiple video tracks


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Bio-Formats has two modes of operation for QuickTime:

- QTJava mode requires QuickTime⁴¹¹ to be installed (32-bit JVM only, not supported with 64-bit).
- Native mode works on systems with no QuickTime (e.g. Linux).

Bio-Formats can save image stacks as QuickTime movies. The following table shows supported codecs:

Codec	Description	Native	QTJava
raw	Full Frames (Uncompressed)	read & write	read & write
iraw	Intel YUV Uncompressed	read only	read & write
rle	Animation (run length encoded RGB)	read only	read & write
jpeg	Still Image JPEG DIB	read only	read only
rpza	Apple Video 16 bit “road pizza”	read only (partial)	read only
mjpb	Motion JPEG codec	read only	read only
cvid	Cinepak	•	read & write
svq1	Sorenson Video	•	read & write
svq3	Sorenson Video 3	•	read & write
mp4v	MPEG-4	•	read & write
h263	H.263	•	read & write

See also:

[QuickTime software overview](#)⁴¹²

⁴⁰⁹<http://www.apple.com/quicktime/download/>

⁴¹⁰<http://developer.apple.com/documentation/Quicktime/QTFF/>

⁴¹¹<http://www.apple.com/quicktime/download/>

⁴¹²<http://www.apple.com/quicktime/>

17.114 RHK

Extensions: .sm2, .sm3

Owner: [RHK Technologies](#)⁴¹³

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: RHKReader ([Source Code](#)⁴¹⁴, *Supported Metadata Fields*)


We currently have:

- Pascal code that can read RHK files (from ImageSXM)
- a few RHK files


We would like to have:


- an official specification document
- more RHK files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.115 SBIG

Owner: [Santa Barbara Instrument Group \(SBIG\)](#)⁴¹⁵

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: SBIGReader ([Source Code](#)⁴¹⁶, *Supported Metadata Fields*)

We currently have:

- an [official SBIG specification document](#)⁴¹⁷
- a few SBIG files

We would like to have:

- more SBIG files





⁴¹³<http://www.rhk-tech.com>

⁴¹⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/RHKReader.java>

⁴¹⁵<http://www.sbig.com>

⁴¹⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SBIGReader.java>

⁴¹⁷<http://sbig.impulse.net/pdffiles/file.format.pdf>

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.116 Seiko

Extensions: .xqd, .xqf

Owner: [Seiko](#)⁴¹⁸**Support**BSD-licensed: Export: 

Officially Supported Versions:





Reader: SeikoReader ([Source Code](#)⁴¹⁹, *Supported Metadata Fields*)

We currently have:

- Pascal code that can read Seiko files (from ImageSXM)
- a few Seiko files

We would like to have:

- an official specification document
- more Seiko files

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.117 SimplePCI & HcImage

Extensions: .cxd

Developer: [Compix](#)⁴²⁰**Support**BSD-licensed: Export: 

Officially Supported Versions:

⁴¹⁸<http://www.seiko.co.jp/en/index.php>⁴¹⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SeikoReader.java>⁴²⁰<http://hcimage.com>

Reader: PCIRReader ([Source Code](#)⁴²¹, *Supported Metadata Fields*)

We currently have:

- several SimplePCI files

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

Additional Information

Bio-Formats uses a modified version of the [Apache Jakarta POI library](#)⁴²² to read CXD files.

See also:

[SimplePCI software overview](#)⁴²³

17.118 SimplePCI & HCLImage TIFF

Extensions: .tiff

Developer: [Hamamatsu](#)⁴²⁴

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: SimplePCITiffReader ([Source Code](#)⁴²⁵, *Supported Metadata Fields*)

We currently have:

- a few SimplePCI TIFF datasets

We would like to have:

- more SimplePCI TIFF datasets

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

⁴²¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PCIRReader.java>

⁴²²<http://jakarta.apache.org/poi/>

⁴²³<http://hcimage.com/simple-pci-legacy/>

⁴²⁴<http://hcimage.com/simple-pci-legacy/>

⁴²⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SimplePCITiffReader.java>

17.119 SM Camera

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: SMCameraReader ([Source Code](#)⁴²⁶, *Supported Metadata Fields*)

We currently have:

- Pascal code that can read SM-Camera files (from ImageSXM)
- a few SM-Camera files


We would like to have:


- an official specification document
- more SM-Camera files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.120 SPIDER

Extensions: .spi, .stk

Developer: [Wadsworth Center](#)⁴²⁷

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: SpiderReader ([Source Code](#)⁴²⁸, *Supported Metadata Fields*)

Freely Available Software:


- [SPIDER](#)⁴²⁹

We currently have:

- a few example datasets
- [official file format documentation](#)⁴³⁰

We would like to have:

Ratings

Pixels: 

⁴²⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SMCameraReader.java>


⁴²⁷http://spider.wadsworth.org/spider_doc/spider/docs/spider.html


⁴²⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SpiderReader.java>


⁴²⁹http://spider.wadsworth.org/spider_doc/spider/docs/spider.html

⁴³⁰http://spider.wadsworth.org/spider_doc/spider/docs/image_doc.html

Metadata: 

Openness: 

Presence: 


Utility: 

17.121 Targa

Extensions: .tga

Developer: Truevision⁴³¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: TargaReader ([Source Code](#)⁴³², *Supported Metadata Fields*)

We currently have:

- a Targa specification document
- a few Targa files


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 


Presence: 

Utility: 

17.122 Text

Extensions: .txt

Support

BSD-licensed: 

Export: 


Officially Supported Versions:

Reader: TextReader ([Source Code](#)⁴³³, *Supported Metadata Fields*)

We currently have:

We would like to have:


Ratings

Pixels: 

⁴³¹<http://www.truevision.com>

⁴³²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/TargaReader.java>

⁴³³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/TextReader.java>

Metadata: 
 Openness: 
 Presence: 
 Utility: 

Additional Information

Reads tabular pixel data produced by a variety of software.


17.123 TIFF (Tagged Image File Format)

Extensions: .tif

Developer: Aldus and Microsoft

Owner: Adobe⁴³⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: TiffReader (Source Code⁴³⁵, *Supported Metadata Fields*)

Writer: TiffWriter (Source Code⁴³⁶)

Sample Datasets:


- LZW TIFF data gallery⁴³⁷
- Big TIFF⁴³⁸

We currently have:


- a TIFF specification document⁴³⁹ (v6.0, from 1992 June 3, in PDF)
- many TIFF datasets
- a few BigTIFF datasets

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Bio-Formats can also read BigTIFF files (TIFF files larger than 4 GB). Bio-Formats can save image stacks as TIFF or BigTIFF.

See also:

⁴³⁴<http://www.adobe.com>

⁴³⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/TiffReader.java>

⁴³⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/TiffWriter.java>

⁴³⁷http://marlin.life.utsa.edu/Data_Gallery.html

⁴³⁸<http://www.awaresystems.be/imaging/tiff/bigtiff.html#samples>

⁴³⁹<http://partners.adobe.com/asn/developer/PDFS/TN/TIFF6.pdf>

TIFF technical overview⁴⁴⁰ BigTIFF technical overview⁴⁴¹

17.124 TillPhotonics TillVision

Extensions: .vws

Developer: TILL Photonics⁴⁴²

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: TillVisionReader ([Source Code](#)⁴⁴³, [Supported Metadata Fields](#))


We currently have:

- several TillVision datasets


We would like to have:


- an official specification document


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.125 Topometrix

Extensions: .tfr, .ffr, .zfr, .zfp, .2fl

Owner: TopoMetrix (now Veeco)⁴⁴⁴

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: TopometrixReader ([Source Code](#)⁴⁴⁵, [Supported Metadata Fields](#))

We currently have:

- Pascal code that reads Topometrix files (from ImageSXM)
- a few Topometrix files

We would like to have:

- an official specification document

⁴⁴⁰<http://www.awaresystems.be/imaging/tiff/faq.html#q3>

⁴⁴¹<http://www.awaresystems.be/imaging/tiff/bigtiff.html>

⁴⁴²<http://www.till-photonics.com/>

⁴⁴³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/TillVisionReader.java>

⁴⁴⁴<http://www.veeco.com/>


⁴⁴⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/TopometrixReader.java>


- more Topometrix files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.126 Trestle

Extensions: .tif, .sld, .jpg

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: TrestleReader ([Source Code](#)⁴⁴⁶, *Supported Metadata Fields*)

Sample Datasets:


- [OpenSlide](#)⁴⁴⁷

We currently have:


- a few example datasets
- [developer documentation from the OpenSlide project](#)⁴⁴⁸

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 


Presence: 

Utility: 

17.127 UBM

Extensions: .pr3

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: UBMReader ([Source Code](#)⁴⁴⁹, *Supported Metadata Fields*)

⁴⁴⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/TrestleReader.java>

⁴⁴⁷<http://openslide.cs.cmu.edu/download/openslide-testdata/Trestle/>

⁴⁴⁸<http://openslide.org/Trestle%20format/>

⁴⁴⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/UBMReader.java>


We currently have:

- Pascal code that can read UBM files (from ImageSXM)
- one UBM file


We would like to have:


- an official specification document
- more UBM files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.128 Unisoku

Extensions: .dat, .hdr

Owner: [Unisoku](http://www.unisoku.com)⁴⁵⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: UnisokuReader ([Source Code](#)⁴⁵¹, *Supported Metadata Fields*)


We currently have:

- Pascal code that can read Unisoku files (from ImageSXM)
- a few Unisoku files

We would like to have:

- an official specification document
- more Unisoku files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

⁴⁵⁰<http://www.unisoku.com>

⁴⁵¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/UnisokuReader.java>

17.129 Varian FDF

Extensions: .fdf

Developer: [Varian, Inc.](#)⁴⁵²

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: VarianFDFReader ([Source Code](#)⁴⁵³, *Supported Metadata Fields*)


We currently have:

- a few Varian FDF datasets


We would like to have:


- an official specification document
- more Varian FDF datasets


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.130 Veeco AFM

Extensions: .hdf

Developer: [Veeco](#)⁴⁵⁴

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:


Reader: VeecoReader ([Source Code](#)⁴⁵⁵, *Supported Metadata Fields*)

We currently have:

- a few sample datasets

We would like to have:

Ratings

Pixels: 

Metadata: 


Openness: 


⁴⁵²<http://www.varianinc.com>

⁴⁵³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/VarianFDFReader.java>

⁴⁵⁴<http://www.veeco.com>

⁴⁵⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/VeecoReader.java>


Presence: 

Utility: 

17.131 VG SAM

Extensions: .dti

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: VGSAMReader ([Source Code](#)⁴⁵⁶, *Supported Metadata Fields*)


We currently have:

- a few VG-SAM files

We would like to have:


- an official specification document
- more VG-SAM files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.132 VisiTech XYs

Extensions: .xys, .html

Developer: [VisiTech International](#)⁴⁵⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: VisitechReader ([Source Code](#)⁴⁵⁸, *Supported Metadata Fields*)

We currently have:

- several VisiTech datasets





We would like to have:

- an official specification document

⁴⁵⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/VGSAMReader.java>

⁴⁵⁷<http://www.visitech.co.uk/>

⁴⁵⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/VisitechReader.java>

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.133 Volocity

Extensions: .mvd2

Developer: [PerkinElmer](#)⁴⁵⁹**Support**BSD-licensed: Export: 

Officially Supported Versions:

Reader: VolocityReader ([Source Code](#)⁴⁶⁰, *Supported Metadata Fields*)

Sample Datasets:




- [PerkinElmer Downloads](#)⁴⁶¹

We currently have:

- many example Volocity datasets

We would like to have:

- an official specification document
- any Volocity datasets that do not open correctly

RatingsPixels: Metadata: Openness: Presence: Utility: **Additional Information**.mvd2 files are [Metakit database files](#)⁴⁶².

17.134 Volocity Library Clipping

Extensions: .acff

Developer: [PerkinElmer](#)⁴⁶³**Support**⁴⁵⁹<http://www.perkinelmer.com/pages/020/cellularimaging/products/volocity.xhtml>⁴⁶⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/VolocityReader.java>⁴⁶¹<http://cellularimaging.perkinelmer.com/downloads/>⁴⁶²<http://equi4.com/metakit/>⁴⁶³<http://www.perkinelmer.com/pages/020/cellularimaging/products/volocity.xhtml>

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: VolocityClippingReader ([Source Code](#)⁴⁶⁴, *Supported Metadata Fields*)


We currently have:

- several Volocity library clipping datasets


We would like to have:


- any datasets that do not open correctly
- an official specification document


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

RGB .acff files are not yet supported. See [#6413](#)⁴⁶⁵.

17.135 WA-TOP


Extensions: .wat

Developer: WA Technology

Owner: [Oxford Instruments](#)⁴⁶⁶

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: WATOPReader ([Source Code](#)⁴⁶⁷, *Supported Metadata Fields*)

We currently have:

- Pascal code that can read WA-TOP files (from ImageSXM)
- a few WA-TOP files

We would like to have:

- an official specification document
- more WA-TOP files

Ratings

Pixels: 




Metadata: 

⁴⁶⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/VolocityClippingReader.java>

⁴⁶⁵<https://trac.openmicroscopy.org/ome/ticket/6413>

⁴⁶⁶<http://www.oxinst.com>

⁴⁶⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/WATOPReader.java>


Openness: Presence: Utility: 

17.136 Windows Bitmap

Extensions: .bmp

Developer: Microsoft and IBM

Support

BSD-licensed: Export: 

Officially Supported Versions:

Reader: BMPReader ([Source Code](#)⁴⁶⁸, *Supported Metadata Fields*)

Freely Available Software:



- [BMP Writer plugin for ImageJ](#)⁴⁶⁹

We currently have:

- many BMP datasets

We would like to have:

Ratings

Pixels: Metadata: Openness: Presence: Utility: 

Additional Information

Compressed BMP files are currently not supported.

See also:

[Technical Overview](#)⁴⁷⁰

17.137 Woolz

Extensions: .wlz

Developer: [MRC Human Genetics Unit](#)⁴⁷¹

Support

BSD-licensed: Export: 

Officially Supported Versions:

⁴⁶⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/BMPReader.java>

⁴⁶⁹<http://rsb.info.nih.gov/ij/plugins/bmp-writer.html>

⁴⁷⁰<http://www.faqs.org/faqs/graphics/fileformats-faq/part3/section-18.html>

⁴⁷¹http://www.emouseatlas.org/emap/analysis_tools_resources/software/woolz.html

Reader: WlzReader ([Source Code](#)⁴⁷², *Supported Metadata Fields*)

Writer: WlzWriter ([Source Code](#)⁴⁷³)

Freely Available Software:

- [Woolz](#)⁴⁷⁴

We currently have:

- a few Woolz datasets

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

17.138 Zeiss Axio CSM

Extensions: .lms

Developer: [Carl Zeiss Microscopy GmbH](#)⁴⁷⁵

Owner: [Carl Zeiss Microscopy GmbH](#)⁴⁷⁶

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: ZeissLMSReader ([Source Code](#)⁴⁷⁷, *Supported Metadata Fields*)

We currently have:

- one example dataset

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

Additional Information

This should not be confused with the more common Zeiss LSM format, which has a similar extension. As far as we know, the Axio CSM 700 system is the only one which saves files in the .lms format.

⁴⁷²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/WlzReader.java>

⁴⁷³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/out/WlzWriter.java>

⁴⁷⁴http://www.emouseatlas.org/emap/analysis_tools_resources/software/woolz.html

⁴⁷⁵<http://www.zeiss.com/microscopy/>

⁴⁷⁶<http://www.zeiss.com/microscopy/>

⁴⁷⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ZeissLMSReader.java>


17.139 Zeiss AxioVision TIFF

Extensions: .xml, .tiff

Developer: Carl Zeiss Microscopy GmbH⁴⁷⁸

Owner: Carl Zeiss Microscopy GmbH⁴⁷⁹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: ZeissTIFFReader (Source Code⁴⁸⁰, *Supported Metadata Fields*)

Freely Available Software:

- Zeiss ZEN Lite⁴⁸¹


We currently have:

- many example datasets

We would like to have:


- an official specification document


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 


17.140 Zeiss AxioVision ZVI (Zeiss Vision Image)

Extensions: .zvi

Developer: Carl Zeiss Microscopy GmbH (AxioVision)⁴⁸²

Owner: Carl Zeiss Microscopy GmbH⁴⁸³

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 1.0, 2.0

Reader: ZeissZVIReader (Source Code⁴⁸⁴, *Supported Metadata Fields*)

Freely Available Software:

- Zeiss Axiovision LE⁴⁸⁵

⁴⁷⁸<http://www.zeiss.com/microscopy/>

⁴⁷⁹<http://www.zeiss.com/microscopy/>

⁴⁸⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ZeissTIFFReader.java>

⁴⁸¹http://www.zeiss.com/microscopy/en_de/products/microscope-software/zen-lite.html

⁴⁸²http://www.zeiss.com/microscopy/en_de/products/microscope-software/axiovision-for-biology.html

⁴⁸³<http://www.zeiss.com/microscopy/>

⁴⁸⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ZeissZVIReader.java>


⁴⁸⁵http://www.zeiss.com/microscopy/en_de/downloads/axiovision.html

We currently have:

- a ZVI specification document (v2.0.5, from 2010 August, in PDF)
- an older ZVI specification document (v2.0.2, from 2006 August 23, in PDF)
- an older ZVI specification document (v2.0.1, from 2005 April 21, in PDF)
- an older ZVI specification document (v1.0.26.01.01, from 2001 January 29, in DOC)
- Zeiss' ZvImageReader code (v1.0, from 2001 January 25, in C++)
- many ZVI datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

Bio-Formats uses a modified version of the [Apache Jakarta POI library](http://jakarta.apache.org/poi/)⁴⁸⁶ to read ZVI files. ImageJ/FIJI will use the ZVI reader plugin in preference to Bio-Formats if both are installed. If you have a problem which is solved by opening the file using the Bio-Formats Importer plugin, you can just remove the ZVI_Reader.class from the plugins folder.

Commercial applications that support ZVI include [Bitplane Imaris](http://www.bitplane.com/)⁴⁸⁷.

See also:


[Axiovision software overview](http://www.zeiss.com/microscopy/en_de/products/microscope-software/axiovision-for-biology.html)⁴⁸⁸

17.141 Zeiss CZI

Extensions: .czi⁴⁸⁹

Developer: [Carl Zeiss Microscopy GmbH](http://www.zeiss.com/microscopy/en_de/products/microscope-software/axiovision-for-biology.html)⁴⁹⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: ZeissCZIReader (Source Code⁴⁹¹, *Supported Metadata Fields*)

Freely Available Software:

- [Zeiss ZEN](http://www.zeiss.com/microscopy/en_de/products/microscope-software/zen.html)⁴⁹²

We currently have:

- many example datasets

⁴⁸⁶<http://jakarta.apache.org/poi/>

⁴⁸⁷<http://www.bitplane.com/>

⁴⁸⁸http://www.zeiss.com/microscopy/en_de/products/microscope-software/axiovision-for-biology.html

⁴⁸⁹<http://www.zeiss.com/czi>

⁴⁹⁰<http://www.zeiss.com/czi>


⁴⁹¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ZeissCZIReader.java>


⁴⁹²http://www.zeiss.com/microscopy/en_de/products/microscope-software/zen.html


- official specification documents


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

Bio-Formats does not support CZI files generated using JPEG-XR compression.

17.142 Zeiss LSM (Laser Scanning Microscope) 510/710

Extensions: .lsm, .mdb

Owner: [Carl Zeiss Microscopy GmbH](#)⁴⁹³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: ZeissLSMReader ([Source Code](#)⁴⁹⁴, *Supported Metadata Fields*)

Freely Available Software:

- [Zeiss LSM Image Browser](#)⁴⁹⁵
- [LSM Toolbox plugin for ImageJ](#)⁴⁹⁶
- [LSM Reader plugin for ImageJ](#)⁴⁹⁷
- [DIMIN](#)⁴⁹⁸

We currently have:


- LSM specification v3.2, from 2003 March 12, in PDF
- LSM specification v5.5, from 2009 November 23, in PDF
- LSM specification v6.0, from 2010 September 28, in PDF
- many LSM datasets

We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 

⁴⁹³<http://www.zeiss.com/microscopy/>

⁴⁹⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ZeissLSMReader.java>


⁴⁹⁵http://www.zeiss.com/microscopy/en_de/downloads/lsm-5-series.html

⁴⁹⁶<http://imagejdocu.tudor.lu/Members/ppirrotte/lsmtoolbox>

⁴⁹⁷<http://rsb.info.nih.gov/ij/plugins/lsm-reader.html>

⁴⁹⁸<http://www.dimin.net/>

Presence: 

Utility: 

Additional Information

Please note that while we have specification documents for this format, we are not able to distribute them to third parties.

Bio-Formats uses the [MDB Tools Java port](#)⁴⁹⁹

Commercial applications that support this format include:

- [SVI Huygens](#)⁵⁰⁰
- [Bitplane Imaris](#)⁵⁰¹
- [Amira](#)⁵⁰²
- [Image-Pro Plus](#)⁵⁰³

⁴⁹⁹<http://mdbtools.sourceforge.net/>

⁵⁰⁰<http://www2.svi.nl/>

⁵⁰¹<http://www.bitplane.com/>

⁵⁰²<http://www.amira.com/>

⁵⁰³<http://www.mediacy.com/>

SUMMARY OF SUPPORTED METADATA FIELDS

18.1 Format readers

Reader	Supported	Unsupported	Partial	Unknown/Missing
<i>AFIReader</i>	30	0	0	445
<i>AIMReader</i>	22	0	0	453
<i>APLReader</i>	21	0	0	454
<i>APNGReader</i>	19	0	0	456
<i>ARFReader</i>	19	0	0	456
<i>AVIReader</i>	19	0	0	456
<i>AliconaReader</i>	33	0	0	442
<i>AmiraReader</i>	22	0	0	453
<i>AnalyzeReader</i>	24	0	0	451
<i>BDReader</i>	57	0	0	418
<i>BIFormatReader</i>	19	0	0	456
<i>BMPReader</i>	21	0	0	454
<i>BaseTiffReader</i>	28	0	0	447
<i>BaseZeissReader</i>	83	0	0	392
<i>BioRadGelReader</i>	21	0	0	454
<i>BioRadReader</i>	40	0	0	435
<i>BioRadSCNReader</i>	29	0	0	446
<i>BrukerReader</i>	23	0	0	452
<i>BurleighReader</i>	22	0	0	453
<i>CanonRawReader</i>	19	0	0	456
<i>CellH5Reader</i>	41	0	0	434
<i>CellSensReader</i>	46	0	0	429
<i>CellVoyagerReader</i>	34	0	0	441
<i>CellWorxReader</i>	45	0	0	430
<i>CellomicsReader</i>	31	0	0	444
<i>DNGReader</i>	19	0	0	456
<i>DeltavisionReader</i>	52	0	0	423
<i>DicomReader</i>	23	0	0	452
<i>EPSReader</i>	19	0	0	456
<i>Ecat7Reader</i>	23	0	0	452
<i>FEIReader</i>	19	0	0	456
<i>FEITiffReader</i>	39	0	0	436
<i>FV1000Reader</i>	113	0	0	362
<i>FakeReader</i>	49	0	0	426
<i>FilePatternReader</i>	19	0	0	456
<i>FitsReader</i>	19	0	0	456
<i>FlexReader</i>	69	0	0	406
<i>FlowSightReader</i>	20	0	0	455
<i>FluoviewReader</i>	49	0	0	426
<i>FujiReader</i>	23	0	0	452
<i>GIFReader</i>	19	0	0	456
Continued on next page				

Table 18.1 – continued from previous page

Reader	Supported	Unsupported	Partial	Unknown/Missing
<i>GatanDM2Reader</i>	30	0	0	445
<i>GatanReader</i>	36	0	0	439
<i>GelReader</i>	21	0	0	454
<i>HISReader</i>	27	0	0	448
<i>HRDGDFReader</i>	21	0	0	454
<i>HamamatsuVMSReader</i>	26	0	0	449
<i>HitachiReader</i>	31	0	0	444
<i>I2IReader</i>	19	0	0	456
<i>ICSReader</i>	72	0	0	403
<i>IM3Reader</i>	19	0	0	456
<i>IMODReader</i>	44	0	0	431
<i>INRReader</i>	22	0	0	453
<i>IPLabReader</i>	31	0	0	444
<i>IPWReader</i>	20	0	0	455
<i>ImaconReader</i>	23	0	0	452
<i>ImageIOReader</i>	19	0	0	456
<i>ImagicReader</i>	22	0	0	453
<i>ImarisHDFReader</i>	23	0	0	452
<i>ImarisReader</i>	32	0	0	443
<i>ImarisTiffReader</i>	23	0	0	452
<i>ImprovisionTiffReader</i>	25	0	0	450
<i>InspectorReader</i>	19	0	0	456
<i>InCell3000Reader</i>	19	0	0	456
<i>InCellReader</i>	67	0	0	408
<i>InveonReader</i>	30	0	0	445
<i>IvisionReader</i>	34	0	0	441
<i>JEOLReader</i>	19	0	0	456
<i>JPEG2000Reader</i>	19	0	0	456
<i>JPEGReader</i>	19	0	0	456
<i>JPKReader</i>	19	0	0	456
<i>JPXReader</i>	19	0	0	456
<i>KhorosReader</i>	19	0	0	456
<i>KodakReader</i>	26	0	0	449
<i>L2DReader</i>	29	0	0	446
<i>LEOReader</i>	27	0	0	448
<i>LIFReader</i>	85	0	0	390
<i>LIMReader</i>	19	0	0	456
<i>LegacyND2Reader</i>	19	0	0	456
<i>LegacyQTReader</i>	19	0	0	456
<i>LeicaReader</i>	56	0	0	419
<i>LeicaSCNReader</i>	33	0	0	442
<i>LiFlinReader</i>	25	0	0	450
<i>MIASReader</i>	64	0	0	411
<i>MINCReader</i>	23	0	0	452
<i>MNGReader</i>	19	0	0	456
<i>MRCReader</i>	22	0	0	453
<i>MRWReader</i>	19	0	0	456
<i>MetamorphReader</i>	46	0	0	429
<i>MetamorphTiffReader</i>	38	0	0	437
<i>MicromanagerReader</i>	41	0	0	434
<i>MinimalTiffReader</i>	19	0	0	456
<i>MolecularImagingReader</i>	21	0	0	454
<i>NAFReader</i>	19	0	0	456
<i>ND2Reader</i>	19	0	0	456
<i>NDPIReader</i>	28	0	0	447

Continued on next page

Table 18.1 – continued from previous page

Reader	Supported	Unsupported	Partial	Unknown/Missing
<i>NDPISReader</i>	19	0	0	456
<i>NRRDReader</i>	22	0	0	453
<i>NativeND2Reader</i>	52	0	0	423
<i>NativeQTReader</i>	19	0	0	456
<i>NiftiReader</i>	24	0	0	451
<i>NikonElementsTiffReader</i>	50	0	0	425
<i>NikonReader</i>	19	0	0	456
<i>NikonTiffReader</i>	47	0	0	428
<i>OBFReader</i>	19	0	0	456
<i>OMETiffReader</i>	19	0	0	456
<i>OMEXMLReader</i>	19	0	0	456
<i>OpenlabRawReader</i>	19	0	0	456
<i>OpenlabReader</i>	32	0	0	443
<i>OperettaReader</i>	43	0	0	432
<i>OxfordInstrumentsReader</i>	22	0	0	453
<i>PCIRReader</i>	29	0	0	446
<i>PCORAWReader</i>	26	0	0	449
<i>PCXReader</i>	19	0	0	456
<i>PDSReader</i>	23	0	0	452
<i>PGMReader</i>	19	0	0	456
<i>PQBinReader</i>	21	0	0	454
<i>PSDReader</i>	19	0	0	456
<i>PerkinElmerReader</i>	30	0	0	445
<i>PhotoshopTiffReader</i>	19	0	0	456
<i>PictReader</i>	19	0	0	456
<i>PovrayReader</i>	19	0	0	456
<i>PrairieReader</i>	46	0	0	429
<i>PyramidTiffReader</i>	19	0	0	456
<i>QTReader</i>	19	0	0	456
<i>QuesantReader</i>	22	0	0	453
<i>RHKReader</i>	22	0	0	453
<i>SBIGReader</i>	22	0	0	453
<i>SDTReader</i>	19	0	0	456
<i>SEQReader</i>	19	0	0	456
<i>SIFReader</i>	20	0	0	455
<i>SISReader</i>	33	0	0	442
<i>SMCameraReader</i>	19	0	0	456
<i>SVSReader</i>	29	0	0	446
<i>ScanrReader</i>	43	0	0	432
<i>ScreenReader</i>	34	0	0	441
<i>SeikoReader</i>	22	0	0	453
<i>SimplePCITiffReader</i>	33	0	0	442
<i>SlideBook6Reader</i>	37	0	0	438
<i>SlidebookReader</i>	34	0	0	441
<i>SlidebookTiffReader</i>	30	0	0	445
<i>SpiderReader</i>	21	0	0	454
<i>TCSReader</i>	22	0	0	453
<i>TargaReader</i>	20	0	0	455
<i>TextReader</i>	19	0	0	456
<i>TiffDelegateReader</i>	19	0	0	456
<i>TiffJAIRReader</i>	19	0	0	456
<i>TiffReader</i>	22	0	0	453
<i>TileJPEGReader</i>	19	0	0	456
<i>TillVisionReader</i>	22	0	0	453
<i>TopometrixReader</i>	22	0	0	453

Continued on next page

Table 18.1 – continued from previous page

Reader	Supported	Unsupported	Partial	Unknown/Missing
<i>TrestleReader</i>	26	0	0	449
<i>UBMReader</i>	19	0	0	456
<i>UnisokuReader</i>	22	0	0	453
<i>VGSAMReader</i>	19	0	0	456
<i>VarianFDFReader</i>	25	0	0	450
<i>VeecoReader</i>	19	0	0	456
<i>VisitechReader</i>	19	0	0	456
<i>VolocityClippingReader</i>	19	0	0	456
<i>VolocityReader</i>	38	0	0	437
<i>WATOPReader</i>	22	0	0	453
<i>WlzReader</i>	26	0	0	449
<i>ZeissCZIReader</i>	158	0	0	317
<i>ZeissLMSReader</i>	23	0	0	452
<i>ZeissLSMReader</i>	101	0	0	374
<i>ZeissTIFFReader</i>	19	0	0	456
<i>ZeissZVIReader</i>	19	0	0	456
<i>ZipReader</i>	19	0	0	456

18.2 Metadata fields

Field	Supported	Unsupported	Partial	Unknown/Missing
Arc - ID ¹	0	0	0	168
Arc - LotNumber ²	1	0	0	167
Arc - Manufacturer ³	1	0	0	167
Arc - Model ⁴	1	0	0	167
Arc - Power ⁵	1	0	0	167
Arc - SerialNumber ⁶	1	0	0	167
Arc - Type ⁷	0	0	0	168
BooleanAnnotation - AnnotationRef ⁸	0	0	0	168
BooleanAnnotation - Description ⁹	0	0	0	168
BooleanAnnotation - ID ¹⁰	1	0	0	167
BooleanAnnotation - Namespace ¹¹	1	0	0	167
BooleanAnnotation - Value ¹²	1	0	0	167
Channel - AcquisitionMode ¹³	4	0	0	164
Channel - AnnotationRef ¹⁴	0	0	0	168

Continued on next page

¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Arc_Type

⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID

⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Description

¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID

¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace

¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#BooleanAnnotation_Value

¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Channel - Color ¹⁵	8	0	0	160
Channel - Contrast-Method ¹⁶	0	0	0	168
Channel - Emission-Wavelength ¹⁷	18	0	0	150
Channel - Excitation-Wavelength ¹⁸	17	0	0	151
Channel - FilterSetRef ¹⁹	1	0	0	167
Channel - Fluor ²⁰	1	0	0	167
Channel - ID ²¹	168	0	0	0
Channel - IlluminationType ²²	3	0	0	165
Channel - Light-SourceSettingsAttenuation ²³	1	0	0	167
Channel - Light-SourceSettingsID ²⁴	5	0	0	163
Channel - Light-SourceSettingsWavelength ²⁵	2	0	0	166
Channel - NDFilter ²⁶	2	0	0	166
Channel - Name ²⁷	34	0	0	134
Channel - Pinhole-Size ²⁸	10	0	0	158
Channel - Pockel-CellSetting ²⁹	0	0	0	168
Channel - Samples-PerPixel ³⁰	168	0	0	0
CommentAnnotation - AnnotationRef ³¹	0	0	0	168
CommentAnnotation - Description ³²	0	0	0	168
CommentAnnotation - ID ³³	1	0	0	167
CommentAnnotation - Namespace ³⁴	1	0	0	167
CommentAnnotation - Value ³⁵	1	0	0	167

Continued on next page

¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ContrastMethod¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSetRef_ID²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Fluor²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_IlluminationType²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Attenuation²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Wavelength²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_NDFilter²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PockelCellSetting³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Description³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#CommentAnnotation_Value

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Dataset - Annotation-Ref ³⁶	0	0	0	168
Dataset - Description ³⁷	0	0	0	168
Dataset - ExperimenterGroupRef ³⁸	0	0	0	168
Dataset - ExperimenterRef ³⁹	0	0	0	168
Dataset - ID ⁴⁰	0	0	0	168
Dataset - ImageRef ⁴¹	0	0	0	168
Dataset - Name ⁴²	0	0	0	168
Detector - AmplificationGain ⁴³	2	0	0	166
Detector - Gain ⁴⁴	6	0	0	162
Detector - ID ⁴⁵	35	0	0	133
Detector - LotNumber ⁴⁶	1	0	0	167
Detector - Manufacturer ⁴⁷	5	0	0	163
Detector - Model ⁴⁸	14	0	0	154
Detector - Offset ⁴⁹	6	0	0	162
Detector - Serial-Number ⁵⁰	4	0	0	164
Detector - Type ⁵¹	28	0	0	140
Detector - Voltage ⁵²	2	0	0	166
Detector - Zoom ⁵³	4	0	0	164
DetectorSettings - Binning ⁵⁴	18	0	0	150
DetectorSettings - Gain ⁵⁵	20	0	0	148
DetectorSettings - ID ⁵⁶	33	0	0	135
DetectorSettings - Offset ⁵⁷	9	0	0	159
DetectorSettings - ReadOutRate ⁵⁸	5	0	0	163
Continued on next page				

³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dataset_Description³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterGroupRef_ID³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dataset_ID⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dataset_Name⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_AmplificationGain⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Voltage⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
DetectorSettings - Voltage ⁵⁹	6	0	0	162
Dichroic - ID ⁶⁰	6	0	0	162
Dichroic - LotNumber ⁶¹	1	0	0	167
Dichroic - Manufacturer ⁶²	1	0	0	167
Dichroic - Model ⁶³	6	0	0	162
Dichroic - Serial-Number ⁶⁴	1	0	0	167
DoubleAnnotation - AnnotationRef ⁶⁵	0	0	0	168
DoubleAnnotation - Description ⁶⁶	0	0	0	168
DoubleAnnotation - ID ⁶⁷	1	0	0	167
DoubleAnnotation - Namespace ⁶⁸	1	0	0	167
DoubleAnnotation - Value ⁶⁹	1	0	0	167
Ellipse - FillColor ⁷⁰	0	0	0	168
Ellipse - FillRule ⁷¹	0	0	0	168
Ellipse - FontFamily ⁷²	0	0	0	168
Ellipse - FontSize ⁷³	2	0	0	166
Ellipse - FontStyle ⁷⁴	0	0	0	168
Ellipse - ID ⁷⁵	5	0	0	163
Ellipse - LineCap ⁷⁶	0	0	0	168
Ellipse - Locked ⁷⁷	0	0	0	168
Ellipse - RadiusX ⁷⁸	5	0	0	163
Ellipse - RadiusY ⁷⁹	5	0	0	163
Ellipse - StrokeColor ⁸⁰	0	0	0	168
Ellipse - StrokeDashArray ⁸¹	0	0	0	168

Continued on next page

⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Description⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#DoubleAnnotation_Value⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillColor⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillRule⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontFamily⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontStyle⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_LineCap⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Locked⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Ellipse - StrokeWidth ⁸²	2	0	0	166
Ellipse - Text ⁸³	3	0	0	165
Ellipse - TheC ⁸⁴	0	0	0	168
Ellipse - TheT ⁸⁵	2	0	0	166
Ellipse - TheZ ⁸⁶	2	0	0	166
Ellipse - Transform ⁸⁷	2	0	0	166
Ellipse - Visible ⁸⁸	0	0	0	168
Ellipse - X ⁸⁹	5	0	0	163
Ellipse - Y ⁹⁰	5	0	0	163
Experiment - Description ⁹¹	1	0	0	167
Experiment - ExperimenterRef ⁹²	0	0	0	168
Experiment - ID ⁹³	5	0	0	163
Experiment - Type ⁹⁴	5	0	0	163
Experimenter - AnnotationRef ⁹⁵	0	0	0	168
Experimenter - Email ⁹⁶	2	0	0	166
Experimenter - First-Name ⁹⁷	5	0	0	163
Experimenter - ID ⁹⁸	11	0	0	157
Experimenter - Institution ⁹⁹	4	0	0	164
Experimenter - Last-Name ¹⁰⁰	9	0	0	159
Experimenter - MiddleName ¹⁰¹	1	0	0	167
Experimenter - User-Name ¹⁰²	3	0	0	165
ExperimenterGroup - AnnotationRef ¹⁰³	0	0	0	168
ExperimenterGroup - Description ¹⁰⁴	0	0	0	168
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⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Visible⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Description⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Email⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_MiddleName¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterGroup_Description

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
ExperimenterGroup - ExperimenterRef ¹⁰⁵	0	0	0	168
ExperimenterGroup - ID ¹⁰⁶	0	0	0	168
ExperimenterGroup - Leader ¹⁰⁷	0	0	0	168
ExperimenterGroup - Name ¹⁰⁸	0	0	0	168
Filament - ID ¹⁰⁹	0	0	0	168
Filament - LotNum- ber ¹¹⁰	1	0	0	167
Filament - Manufac- turer ¹¹¹	1	0	0	167
Filament - Model ¹¹²	1	0	0	167
Filament - Power ¹¹³	1	0	0	167
Filament - Serial- Number ¹¹⁴	1	0	0	167
Filament - Type ¹¹⁵	0	0	0	168
FileAnnotation - An- notationRef ¹¹⁶	0	0	0	168
FileAnnotation - De- scription ¹¹⁷	0	0	0	168
FileAnnotation - ID ¹¹⁸	0	0	0	168
FileAnnotation - Namespace ¹¹⁹	0	0	0	168
Filter - Filter- Wheel ¹²⁰	2	0	0	166
Filter - ID ¹²¹	8	0	0	160
Filter - LotNum- ber ¹²²	1	0	0	167
Filter - Manufac- turer ¹²³	1	0	0	167
Filter - Model ¹²⁴	8	0	0	160
Filter - SerialNum- ber ¹²⁵	1	0	0	167
Filter - Type ¹²⁶	2	0	0	166
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¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterGroup_ID¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Leader_ID¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterGroup_Name¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filament_Type¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Description¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_FilterWheel¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_Type

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
FilterSet - DichroicRef ¹²⁷	2	0	0	166
FilterSet - Emission-FilterRef ¹²⁸	2	0	0	166
FilterSet - ExcitationFilterRef ¹²⁹	2	0	0	166
FilterSet - ID ¹³⁰	2	0	0	166
FilterSet - LotNumber ¹³¹	1	0	0	167
FilterSet - Manufacturer ¹³²	1	0	0	167
FilterSet - Model ¹³³	2	0	0	166
FilterSet - Serial-Number ¹³⁴	1	0	0	167
Image - Acquisition-Date ¹³⁵	168	0	0	0
Image - Annotation-Ref ¹³⁶	1	0	0	167
Image - Description ¹³⁷	45	0	0	123
Image - ExperimentRef ¹³⁸	2	0	0	166
Image - ExperimenterGroupRef ¹³⁹	0	0	0	168
Image - ExperimenterRef ¹⁴⁰	6	0	0	162
Image - ID ¹⁴¹	168	0	0	0
Image - InstrumentRef ¹⁴²	46	0	0	122
Image - Microbeam-ManipulationRef ¹⁴³	0	0	0	168
Image - Name ¹⁴⁴	168	0	0	0
Image - ROIRef ¹⁴⁵	12	0	0	156
ImagingEnvironment - AirPressure ¹⁴⁶	1	0	0	167
ImagingEnvironment - CO2Percent ¹⁴⁷	1	0	0	167

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¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSet_ID¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimentRef_ID¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterGroupRef_ID¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#MicrobeamManipulationRef_ID¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_AirPressure¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_CO2Percent

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
ImagingEnvironment - Humidity ¹⁴⁸	1	0	0	167
ImagingEnvironment - Temperature ¹⁴⁹	10	0	0	158
Instrument - ID ¹⁵⁰	52	0	0	116
Label - FillColor ¹⁵¹	0	0	0	168
Label - FillRule ¹⁵²	0	0	0	168
Label - FontFamily ¹⁵³	0	0	0	168
Label - FontSize ¹⁵⁴	2	0	0	166
Label - FontStyle ¹⁵⁵	0	0	0	168
Label - ID ¹⁵⁶	3	0	0	165
Label - LineCap ¹⁵⁷	0	0	0	168
Label - Locked ¹⁵⁸	0	0	0	168
Label - StrokeColor ¹⁵⁹	0	0	0	168
Label - StrokeDashArray ¹⁶⁰	0	0	0	168
Label - StrokeWidth ¹⁶¹	2	0	0	166
Label - Text ¹⁶²	3	0	0	165
Label - TheC ¹⁶³	0	0	0	168
Label - TheT ¹⁶⁴	0	0	0	168
Label - TheZ ¹⁶⁵	0	0	0	168
Label - Transform ¹⁶⁶	0	0	0	168
Label - Visible ¹⁶⁷	0	0	0	168
Label - X ¹⁶⁸	3	0	0	165
Label - Y ¹⁶⁹	3	0	0	165
Laser - Frequency-Multiplication ¹⁷⁰	0	0	0	168
Laser - ID ¹⁷¹	9	0	0	159
Laser - Laser-Medium ¹⁷²	8	0	0	160
Laser - LotNumber ¹⁷³	1	0	0	167

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- ¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Humidity
- ¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature
- ¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillColor
- ¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillRule
- ¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontFamily
- ¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize
- ¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontStyle
- ¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_LineCap
- ¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Locked
- ¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor
- ¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray
- ¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth
- ¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text
- ¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC
- ¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT
- ¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ
- ¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform
- ¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Visible
- ¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_X
- ¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_Y
- ¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_FrequencyMultiplication
- ¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID
- ¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium
- ¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Laser - Manufacturer ¹⁷⁴	2	0	0	166
Laser - Model ¹⁷⁵	4	0	0	164
Laser - PockelCell ¹⁷⁶	0	0	0	168
Laser - Power ¹⁷⁷	3	0	0	165
Laser - Pulse ¹⁷⁸	0	0	0	168
Laser - Pump ¹⁷⁹	0	0	0	168
Laser - Repetition-Rate ¹⁸⁰	1	0	0	167
Laser - SerialNumber ¹⁸¹	1	0	0	167
Laser - Tuneable ¹⁸²	0	0	0	168
Laser - Type ¹⁸³	8	0	0	160
Laser - Wavelength ¹⁸⁴	7	0	0	161
LightEmittingDiode - ID ¹⁸⁵	0	0	0	168
LightEmittingDiode - LotNumber ¹⁸⁶	1	0	0	167
LightEmittingDiode - Manufacturer ¹⁸⁷	1	0	0	167
LightEmittingDiode - Model ¹⁸⁸	1	0	0	167
LightEmittingDiode - Power ¹⁸⁹	1	0	0	167
LightEmittingDiode - SerialNumber ¹⁹⁰	1	0	0	167
LightPath - DichroicRef ¹⁹¹	3	0	0	165
LightPath - EmissionFilterRef ¹⁹²	5	0	0	163
LightPath - ExcitationFilterRef ¹⁹³	1	0	0	167
Line - FillColor ¹⁹⁴	0	0	0	168
Line - FillRule ¹⁹⁵	0	0	0	168
Line - FontFamily ¹⁹⁶	0	0	0	168
Continued on next page				

¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_PockelCell¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Pulse¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pump_ID¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_RepetitionRate¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Tuneable¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillColor¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillRule¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontFamily

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Line - FontSize ¹⁹⁷	2	0	0	166
Line - FontStyle ¹⁹⁸	0	0	0	168
Line - ID ¹⁹⁹	5	0	0	163
Line - LineCap ²⁰⁰	0	0	0	168
Line - Locked ²⁰¹	0	0	0	168
Line - MarkerEnd ²⁰²	0	0	0	168
Line - MarkerStart ²⁰³	0	0	0	168
Line - StrokeColor ²⁰⁴	0	0	0	168
Line - StrokeDashArray ²⁰⁵	0	0	0	168
Line - StrokeWidth ²⁰⁶	2	0	0	166
Line - Text ²⁰⁷	2	0	0	166
Line - TheC ²⁰⁸	0	0	0	168
Line - TheT ²⁰⁹	1	0	0	167
Line - TheZ ²¹⁰	1	0	0	167
Line - Transform ²¹¹	1	0	0	167
Line - Visible ²¹²	0	0	0	168
Line - X1 ²¹³	5	0	0	163
Line - X2 ²¹⁴	5	0	0	163
Line - Y1 ²¹⁵	5	0	0	163
Line - Y2 ²¹⁶	5	0	0	163
ListAnnotation - AnnotationRef ²¹⁷	0	0	0	168
ListAnnotation - Description ²¹⁸	0	0	0	168
ListAnnotation - ID ²¹⁹	0	0	0	168
ListAnnotation - Namespace ²²⁰	0	0	0	168
LongAnnotation - AnnotationRef ²²¹	0	0	0	168
LongAnnotation - Description ²²²	0	0	0	168

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¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize
¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontStyle
¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_LineCap
²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Locked
²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_MarkerEnd
²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_MarkerStart
²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor
²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray
²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth
²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text
²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC
²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT
²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ
²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform
²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Visible
²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1
²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2
²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1
²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2
²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID
²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Description
²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID
²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace
²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID
²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Description

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
LongAnnotation - ID ²²³	1	0	0	167
LongAnnotation - Namespace ²²⁴	1	0	0	167
LongAnnotation - Value ²²⁵	1	0	0	167
Mask - FillColor ²²⁶	1	0	0	167
Mask - FillRule ²²⁷	0	0	0	168
Mask - FontFamily ²²⁸	0	0	0	168
Mask - FontSize ²²⁹	0	0	0	168
Mask - Height ²³⁰	2	0	0	166
Mask - ID ²³¹	2	0	0	166
Mask - LineCap ²³²	0	0	0	168
Mask - Locked ²³³	0	0	0	168
Mask - StrokeColor ²³⁴	1	0	0	167
Mask - StrokeDashArray ²³⁵	0	0	0	168
Mask - StrokeWidth ²³⁶	0	0	0	168
Mask - Text ²³⁷	0	0	0	168
Mask - TheC ²³⁸	0	0	0	168
Mask - TheT ²³⁹	0	0	0	168
Mask - TheZ ²⁴⁰	0	0	0	168
Mask - Transform ²⁴¹	0	0	0	168
Mask - Visible ²⁴²	0	0	0	168
Mask - Width ²⁴³	2	0	0	166
Mask - X ²⁴⁴	2	0	0	166
Mask - Y ²⁴⁵	2	0	0	166
MicrobeamManipulation - ExperimenterRef ²⁴⁶	0	0	0	168
MicrobeamManipulation - ID ²⁴⁷	0	0	0	168

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²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#LongAnnotation_Value²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillColor²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillRule²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontFamily²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Height²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_LineCap²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Locked²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Visible²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Width²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_X²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Y²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#MicrobeamManipulation_ID

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
MicrobeamManipulation - ROIRef ²⁴⁸	0	0	0	168
MicrobeamManipulation - Type ²⁴⁹	0	0	0	168
MicrobeamManipulationLightSourceSettings - Attenuation ²⁵⁰	0	0	0	168
MicrobeamManipulationLightSourceSettings - ID ²⁵¹	0	0	0	168
MicrobeamManipulationLightSourceSettings - Wavelength ²⁵²	0	0	0	168
Microscope - Lot-Number ²⁵³	1	0	0	167
Microscope - Manufacturer ²⁵⁴	2	0	0	166
Microscope - Model ²⁵⁵	12	0	0	156
Microscope - Serial-Number ²⁵⁶	4	0	0	164
Microscope - Type ²⁵⁷	3	0	0	165
Objective - CalibratedMagnification ²⁵⁸	9	0	0	159
Objective - Correction ²⁵⁹	26	0	0	142
Objective - ID ²⁶⁰	38	0	0	130
Objective - Immersion ²⁶¹	27	0	0	141
Objective - Iris ²⁶²	2	0	0	166
Objective - LensNA ²⁶³	21	0	0	147
Objective - LotNumber ²⁶⁴	1	0	0	167
Objective - Manufacturer ²⁶⁵	5	0	0	163
Objective - Model ²⁶⁶	14	0	0	154
Objective - Nominal-Magnification ²⁶⁷	29	0	0	139
Objective - Serial-Number ²⁶⁸	3	0	0	165
Continued on next page				

²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#MicrobeamManipulation_Type²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Attenuation²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Wavelength²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Microscope_Type²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Iris²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Objective - WorkingDistance ²⁶⁹	10	0	0	158
ObjectiveSettings - CorrectionCollar ²⁷⁰	1	0	0	167
ObjectiveSettings - ID ²⁷¹	33	0	0	135
ObjectiveSettings - Medium ²⁷²	1	0	0	167
ObjectiveSettings - RefractiveIndex ²⁷³	8	0	0	160
Pixels - Annotation-Ref ²⁷⁴	0	0	0	168
Pixels - BigEndian ²⁷⁵	168	0	0	0
Pixels - DimensionOrder ²⁷⁶	168	0	0	0
Pixels - ID ²⁷⁷	168	0	0	0
Pixels - Interleaved ²⁷⁸	168	0	0	0
Pixels - Physical-SizeX ²⁷⁹	88	0	0	80
Pixels - Physical-SizeY ²⁸⁰	88	0	0	80
Pixels - Physical-SizeZ ²⁸¹	44	0	0	124
Pixels - Significant-Bits ²⁸²	168	0	0	0
Pixels - SizeC ²⁸³	168	0	0	0
Pixels - SizeT ²⁸⁴	168	0	0	0
Pixels - SizeX ²⁸⁵	168	0	0	0
Pixels - SizeY ²⁸⁶	168	0	0	0
Pixels - SizeZ ²⁸⁷	168	0	0	0
Pixels - TimeIncrement ²⁸⁸	16	0	0	152
Pixels - Type ²⁸⁹	168	0	0	0
Plane - Annotation-Ref ²⁹⁰	0	0	0	168
Plane - DeltaT ²⁹¹	25	0	0	143
Continued on next page				

²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_CorrectionCollar²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_Medium²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Plane - Exposure-Time ²⁹²	32	0	0	136
Plane - HashSHA1 ²⁹³	0	0	0	168
Plane - PositionX ²⁹⁴	30	0	0	138
Plane - PositionY ²⁹⁵	30	0	0	138
Plane - PositionZ ²⁹⁶	23	0	0	145
Plane - TheC ²⁹⁷	168	0	0	0
Plane - TheT ²⁹⁸	168	0	0	0
Plane - TheZ ²⁹⁹	168	0	0	0
Plate - Annotation-Ref ³⁰⁰	0	0	0	168
Plate - ColumnNamingConvention ³⁰¹	8	0	0	160
Plate - Columns ³⁰²	4	0	0	164
Plate - Description ³⁰³	2	0	0	166
Plate - ExternalIdentifier ³⁰⁴	3	0	0	165
Plate - ID ³⁰⁵	11	0	0	157
Plate - Name ³⁰⁶	10	0	0	158
Plate - RowNamingConvention ³⁰⁷	8	0	0	160
Plate - Rows ³⁰⁸	4	0	0	164
Plate - Status ³⁰⁹	0	0	0	168
Plate - WellOriginX ³¹⁰	1	0	0	167
Plate - WellOriginY ³¹¹	1	0	0	167
PlateAcquisition - AnnotationRef ³¹²	0	0	0	168
PlateAcquisition - Description ³¹³	0	0	0	168
PlateAcquisition - EndTime ³¹⁴	2	0	0	166
PlateAcquisition - ID ³¹⁵	8	0	0	160

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²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_HashSHA1²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Description³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ExternalIdentifier³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Status³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_WellOriginX³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_WellOriginY³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_Description³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_EndTime³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
PlateAcquisition - MaximumFieldCount ³¹⁶	8	0	0	160
PlateAcquisition - Name ³¹⁷	0	0	0	168
PlateAcquisition - StartTime ³¹⁸	3	0	0	165
PlateAcquisition - WellSampleRef ³¹⁹	7	0	0	161
Point - FillColor ³²⁰	0	0	0	168
Point - FillRule ³²¹	0	0	0	168
Point - FontFamily ³²²	0	0	0	168
Point - FontSize ³²³	1	0	0	167
Point - FontStyle ³²⁴	0	0	0	168
Point - ID ³²⁵	3	0	0	165
Point - LineCap ³²⁶	0	0	0	168
Point - Locked ³²⁷	0	0	0	168
Point - Stroke-Color ³²⁸	1	0	0	167
Point - StrokeDashArray ³²⁹	1	0	0	167
Point - StrokeWidth ³³⁰	2	0	0	166
Point - Text ³³¹	1	0	0	167
Point - TheC ³³²	0	0	0	168
Point - TheT ³³³	1	0	0	167
Point - TheZ ³³⁴	2	0	0	166
Point - Transform ³³⁵	0	0	0	168
Point - Visible ³³⁶	0	0	0	168
Point - X ³³⁷	3	0	0	165
Point - Y ³³⁸	3	0	0	165
Polygon - Fill-Color ³³⁹	0	0	0	168
Polygon - FillRule ³⁴⁰	0	0	0	168

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³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_Name

³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_StartTime

³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillColor

³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillRule

³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontFamily

³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontStyle

³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_LineCap

³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Locked

³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray

³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC

³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Visible

³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_X

³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_Y

³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillColor

³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillRule

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Polygon - FontFamily ³⁴¹	0	0	0	168
Polygon - FontSize ³⁴²	2	0	0	166
Polygon - FontStyle ³⁴³	0	0	0	168
Polygon - ID ³⁴⁴	7	0	0	161
Polygon - LineCap ³⁴⁵	0	0	0	168
Polygon - Locked ³⁴⁶	0	0	0	168
Polygon - Points ³⁴⁷	7	0	0	161
Polygon - StrokeColor ³⁴⁸	1	0	0	167
Polygon - StrokeDashArray ³⁴⁹	1	0	0	167
Polygon - StrokeWidth ³⁵⁰	3	0	0	165
Polygon - Text ³⁵¹	2	0	0	166
Polygon - TheC ³⁵²	0	0	0	168
Polygon - TheT ³⁵³	1	0	0	167
Polygon - TheZ ³⁵⁴	2	0	0	166
Polygon - Transform ³⁵⁵	1	0	0	167
Polygon - Visible ³⁵⁶	0	0	0	168
Polyline - FillColor ³⁵⁷	0	0	0	168
Polyline - FillRule ³⁵⁸	0	0	0	168
Polyline - FontFamily ³⁵⁹	0	0	0	168
Polyline - FontSize ³⁶⁰	2	0	0	166
Polyline - FontStyle ³⁶¹	0	0	0	168
Polyline - ID ³⁶²	5	0	0	163
Polyline - LineCap ³⁶³	0	0	0	168
Polyline - Locked ³⁶⁴	0	0	0	168

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³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontFamily³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontStyle³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_LineCap³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Locked³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Visible³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillColor³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillRule³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontFamily³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontStyle³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_LineCap³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Locked

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Polyline - MarkerEnd ³⁶⁵	0	0	0	168
Polyline - MarkerStart ³⁶⁶	0	0	0	168
Polyline - Points ³⁶⁷	5	0	0	163
Polyline - StrokeColor ³⁶⁸	1	0	0	167
Polyline - StrokeDashArray ³⁶⁹	1	0	0	167
Polyline - StrokeWidth ³⁷⁰	3	0	0	165
Polyline - Text ³⁷¹	2	0	0	166
Polyline - TheC ³⁷²	0	0	0	168
Polyline - TheT ³⁷³	1	0	0	167
Polyline - TheZ ³⁷⁴	2	0	0	166
Polyline - Transform ³⁷⁵	1	0	0	167
Polyline - Visible ³⁷⁶	0	0	0	168
Project - AnnotationRef ³⁷⁷	0	0	0	168
Project - DatasetRef ³⁷⁸	0	0	0	168
Project - Description ³⁷⁹	0	0	0	168
Project - ExperimenterGroupRef ³⁸⁰	0	0	0	168
Project - ExperimenterRef ³⁸¹	0	0	0	168
Project - ID ³⁸²	0	0	0	168
Project - Name ³⁸³	0	0	0	168
ROI - AnnotationRef ³⁸⁴	0	0	0	168
ROI - Description ³⁸⁵	1	0	0	167
ROI - ID ³⁸⁶	12	0	0	156
ROI - Name ³⁸⁷	4	0	0	164
ROI - Namespace ³⁸⁸	0	0	0	168
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³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_MarkerEnd

³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_MarkerStart

³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray

³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC

³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Visible

³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID

³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DatasetRef_ID

³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Project_Description

³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterGroupRef_ID

³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Project_ID

³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Project_Name

³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID

³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Description

³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name

³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Namespace

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Reagent - AnnotationRef ³⁸⁹	0	0	0	168
Reagent - Description ³⁹⁰	0	0	0	168
Reagent - ID ³⁹¹	0	0	0	168
Reagent - Name ³⁹²	0	0	0	168
Reagent - ReagentIdentifier ³⁹³	0	0	0	168
Rectangle - FillColor ³⁹⁴	0	0	0	168
Rectangle - FillRule ³⁹⁵	0	0	0	168
Rectangle - FontFamily ³⁹⁶	0	0	0	168
Rectangle - FontSize ³⁹⁷	2	0	0	166
Rectangle - FontStyle ³⁹⁸	0	0	0	168
Rectangle - Height ³⁹⁹	8	0	0	160
Rectangle - ID ⁴⁰⁰	8	0	0	160
Rectangle - LineCap ⁴⁰¹	0	0	0	168
Rectangle - Locked ⁴⁰²	0	0	0	168
Rectangle - StrokeColor ⁴⁰³	1	0	0	167
Rectangle - StrokeDashArray ⁴⁰⁴	0	0	0	168
Rectangle - StrokeWidth ⁴⁰⁵	2	0	0	166
Rectangle - Text ⁴⁰⁶	3	0	0	165
Rectangle - TheC ⁴⁰⁷	1	0	0	167
Rectangle - TheT ⁴⁰⁸	2	0	0	166
Rectangle - TheZ ⁴⁰⁹	2	0	0	166
Rectangle - Transform ⁴¹⁰	1	0	0	167
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³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Reagent_Description³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Reagent_ID³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Reagent_Name³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Reagent_ReagentIdentifier³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillColor³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillRule³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontFamily³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontStyle³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_LineCap⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Locked⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Rectangle - Visible ⁴¹¹	0	0	0	168
Rectangle - Width ⁴¹²	8	0	0	160
Rectangle - X ⁴¹³	8	0	0	160
Rectangle - Y ⁴¹⁴	8	0	0	160
Screen - Annotation-Ref ⁴¹⁵	0	0	0	168
Screen - Description ⁴¹⁶	0	0	0	168
Screen - ID ⁴¹⁷	1	0	0	167
Screen - Name ⁴¹⁸	1	0	0	167
Screen - PlateRef ⁴¹⁹	1	0	0	167
Screen - ProtocolDescription ⁴²⁰	0	0	0	168
Screen - ProtocolIdentifier ⁴²¹	0	0	0	168
Screen - ReagentSetDescription ⁴²²	0	0	0	168
Screen - ReagentSetIdentifier ⁴²³	0	0	0	168
Screen - Type ⁴²⁴	0	0	0	168
StageLabel - Name ⁴²⁵	3	0	0	165
StageLabel - X ⁴²⁶	2	0	0	166
StageLabel - Y ⁴²⁷	2	0	0	166
StageLabel - Z ⁴²⁸	3	0	0	165
TagAnnotation - AnnotationRef ⁴²⁹	0	0	0	168
TagAnnotation - Description ⁴³⁰	0	0	0	168
TagAnnotation - ID ⁴³¹	1	0	0	167
TagAnnotation - Namespace ⁴³²	1	0	0	167
TagAnnotation - Value ⁴³³	1	0	0	167
Continued on next page				

⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Visible⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_Description⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_ID⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_Name⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_Screen_PlateRef_ID⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_ProtocolDescription⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_ProtocolIdentifier⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_ReagentSetDescription⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_ReagentSetIdentifier⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_Type⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Name⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_X⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Y⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Z⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Description⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#TagAnnotation_Value

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
TermAnnotation - AnnotationRef ⁴³⁴	0	0	0	168
TermAnnotation - Description ⁴³⁵	0	0	0	168
TermAnnotation - ID ⁴³⁶	1	0	0	167
TermAnnotation - Namespace ⁴³⁷	1	0	0	167
TermAnnotation - Value ⁴³⁸	1	0	0	167
TiffData - FirstC ⁴³⁹	0	0	0	168
TiffData - FirstT ⁴⁴⁰	0	0	0	168
TiffData - FirstZ ⁴⁴¹	0	0	0	168
TiffData - IFD ⁴⁴²	0	0	0	168
TiffData - PlaneCount ⁴⁴³	0	0	0	168
TimestampAnnotation - AnnotationRef ⁴⁴⁴	0	0	0	168
TimestampAnnotation - Description ⁴⁴⁵	0	0	0	168
TimestampAnnotation - ID ⁴⁴⁶	1	0	0	167
TimestampAnnotation - Namespace ⁴⁴⁷	1	0	0	167
TimestampAnnotation - Value ⁴⁴⁸	1	0	0	167
TransmittanceRange - CutIn ⁴⁴⁹	5	0	0	163
TransmittanceRange - CutInTolerance ⁴⁵⁰	1	0	0	167
TransmittanceRange - CutOut ⁴⁵¹	5	0	0	163
TransmittanceRange - CutOutTolerance ⁴⁵²	1	0	0	167
TransmittanceRange - Transmittance ⁴⁵³	1	0	0	167
UUID - FileName ⁴⁵⁴	0	0	0	168
UUID - Value ⁴⁵⁵	0	0	0	168
Continued on next page				

⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Description⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#TermAnnotation_Value⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TiffData_FirstC⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TiffData_FirstT⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TiffData_FirstZ⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TiffData_IFD⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TiffData_PlaneCount⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Description⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#TimestampAnnotation_Value⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutInTolerance⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOutTolerance⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_Transmittance⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TiffData_TiffData_UUID_FileName⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#UniversallyUniqueIdentifier

Table 18.2 – continued from previous page

Field	Supported	Unsupported	Partial	Unknown/Missing
Well - Annotation-Ref ⁴⁵⁶	0	0	0	168
Well - Color ⁴⁵⁷	0	0	0	168
Well - Column ⁴⁵⁸	12	0	0	156
Well - ExternalDescription ⁴⁵⁹	0	0	0	168
Well - ExternalIdentifier ⁴⁶⁰	1	0	0	167
Well - ID ⁴⁶¹	12	0	0	156
Well - ReagentRef ⁴⁶²	0	0	0	168
Well - Row ⁴⁶³	12	0	0	156
Well - Type ⁴⁶⁴	0	0	0	168
WellSample - AnnotationRef ⁴⁶⁵	0	0	0	168
WellSample - ID ⁴⁶⁶	12	0	0	156
WellSample - ImageRef ⁴⁶⁷	11	0	0	157
WellSample - Index ⁴⁶⁸	12	0	0	156
WellSample - PositionX ⁴⁶⁹	5	0	0	163
WellSample - PositionY ⁴⁷⁰	5	0	0	163
WellSample - Timepoint ⁴⁷¹	0	0	0	168
XMLAnnotation - AnnotationRef ⁴⁷²	0	0	0	168
XMLAnnotation - ID ⁴⁷³	1	0	0	167
XMLAnnotation - Namespace ⁴⁷⁴	1	0	0	167
XMLAnnotation - Value ⁴⁷⁵	1	0	0	167

18.2.1 AFIRReader

This page lists supported metadata fields for the Bio-Formats Aperio AFI format reader.

These fields are from the [OME data model](#)⁴⁷⁶. Bio-Formats standardizes each format's original metadata to and from the OME

⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID

⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Color

⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ExternalDescription

⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ExternalIdentifier

⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#ReagentRef_ID

⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Type

⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID

⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Timepoint

⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID

⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID

⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace

⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#XMLAnnotation_Value

⁴⁷⁶<http://www.openmicroscopy.org/site/support/ome-model/>

data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 30 of them (6%).
- Of those, Bio-Formats fully or partially converts 30 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Aperio AFI format reader:

- Channel : EmissionWavelength⁴⁷⁷
- Channel : ExcitationWavelength⁴⁷⁸
- Channel : ID⁴⁷⁹
- Channel : Name⁴⁸⁰
- Channel : SamplesPerPixel⁴⁸¹
- Image : AcquisitionDate⁴⁸²
- Image : ID⁴⁸³
- Image : InstrumentRef⁴⁸⁴
- Image : Name⁴⁸⁵
- Instrument : ID⁴⁸⁶
- Objective : ID⁴⁸⁷
- Objective : NominalMagnification⁴⁸⁸
- ObjectiveSettings : ID⁴⁸⁹
- Pixels : BigEndian⁴⁹⁰
- Pixels : DimensionOrder⁴⁹¹
- Pixels : ID⁴⁹²
- Pixels : Interleaved⁴⁹³
- Pixels : PhysicalSizeX⁴⁹⁴
- Pixels : PhysicalSizeY⁴⁹⁵
- Pixels : SignificantBits⁴⁹⁶
- Pixels : SizeC⁴⁹⁷

⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁴⁹⁸
- Pixels : SizeX⁴⁹⁹
- Pixels : SizeY⁵⁰⁰
- Pixels : SizeZ⁵⁰¹
- Pixels : Type⁵⁰²
- Plane : ExposureTime⁵⁰³
- Plane : TheC⁵⁰⁴
- Plane : TheT⁵⁰⁵
- Plane : TheZ⁵⁰⁶

Total supported: 30

Total unknown or missing: 445

18.2.2 AIMReader

This page lists supported metadata fields for the Bio-Formats AIM format reader.

These fields are from the [OME data model](#)⁵⁰⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats AIM format reader:

- Channel : ID⁵⁰⁸
- Channel : SamplesPerPixel⁵⁰⁹
- Image : AcquisitionDate⁵¹⁰
- Image : ID⁵¹¹
- Image : Name⁵¹²
- Pixels : BigEndian⁵¹³
- Pixels : DimensionOrder⁵¹⁴
- Pixels : ID⁵¹⁵

⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁰⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁵¹⁶
- Pixels : PhysicalSizeX⁵¹⁷
- Pixels : PhysicalSizeY⁵¹⁸
- Pixels : PhysicalSizeZ⁵¹⁹
- Pixels : SignificantBits⁵²⁰
- Pixels : SizeC⁵²¹
- Pixels : SizeT⁵²²
- Pixels : SizeX⁵²³
- Pixels : SizeY⁵²⁴
- Pixels : SizeZ⁵²⁵
- Pixels : Type⁵²⁶
- Plane : TheC⁵²⁷
- Plane : TheT⁵²⁸
- Plane : TheZ⁵²⁹

Total supported: 22

Total unknown or missing: 453

18.2.3 APLReader

This page lists supported metadata fields for the Bio-Formats Olympus APL format reader.

These fields are from the [OME data model](#)⁵³⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus APL format reader:

- Channel : ID⁵³¹
- Channel : SamplesPerPixel⁵³²
- Image : AcquisitionDate⁵³³

⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵³⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁵³⁴
- Image : Name⁵³⁵
- Pixels : BigEndian⁵³⁶
- Pixels : DimensionOrder⁵³⁷
- Pixels : ID⁵³⁸
- Pixels : Interleaved⁵³⁹
- Pixels : PhysicalSizeX⁵⁴⁰
- Pixels : PhysicalSizeY⁵⁴¹
- Pixels : SignificantBits⁵⁴²
- Pixels : SizeC⁵⁴³
- Pixels : SizeT⁵⁴⁴
- Pixels : SizeX⁵⁴⁵
- Pixels : SizeY⁵⁴⁶
- Pixels : SizeZ⁵⁴⁷
- Pixels : Type⁵⁴⁸
- Plane : TheC⁵⁴⁹
- Plane : TheT⁵⁵⁰
- Plane : TheZ⁵⁵¹

Total supported: 21

Total unknown or missing: 454

18.2.4 APNGReader

This page lists supported metadata fields for the Bio-Formats Animated PNG format reader.

These fields are from the [OME data model](#)⁵⁵². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁵²<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Animated PNG format reader:

- Channel : ID⁵⁵³
- Channel : SamplesPerPixel⁵⁵⁴
- Image : AcquisitionDate⁵⁵⁵
- Image : ID⁵⁵⁶
- Image : Name⁵⁵⁷
- Pixels : BigEndian⁵⁵⁸
- Pixels : DimensionOrder⁵⁵⁹
- Pixels : ID⁵⁶⁰
- Pixels : Interleaved⁵⁶¹
- Pixels : SignificantBits⁵⁶²
- Pixels : SizeC⁵⁶³
- Pixels : SizeT⁵⁶⁴
- Pixels : SizeX⁵⁶⁵
- Pixels : SizeY⁵⁶⁶
- Pixels : SizeZ⁵⁶⁷
- Pixels : Type⁵⁶⁸
- Plane : TheC⁵⁶⁹
- Plane : TheT⁵⁷⁰
- Plane : TheZ⁵⁷¹

Total supported: 19

Total unknown or missing: 456

18.2.5 ARFReader

This page lists supported metadata fields for the Bio-Formats ARF format reader.

These fields are from the [OME data model](#)⁵⁷². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁷²<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats ARF format reader:

- Channel : ID⁵⁷³
- Channel : SamplesPerPixel⁵⁷⁴
- Image : AcquisitionDate⁵⁷⁵
- Image : ID⁵⁷⁶
- Image : Name⁵⁷⁷
- Pixels : BigEndian⁵⁷⁸
- Pixels : DimensionOrder⁵⁷⁹
- Pixels : ID⁵⁸⁰
- Pixels : Interleaved⁵⁸¹
- Pixels : SignificantBits⁵⁸²
- Pixels : SizeC⁵⁸³
- Pixels : SizeT⁵⁸⁴
- Pixels : SizeX⁵⁸⁵
- Pixels : SizeY⁵⁸⁶
- Pixels : SizeZ⁵⁸⁷
- Pixels : Type⁵⁸⁸
- Plane : TheC⁵⁸⁹
- Plane : TheT⁵⁹⁰
- Plane : TheZ⁵⁹¹

Total supported: 19

Total unknown or missing: 456

⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.6 AVIReader

This page lists supported metadata fields for the Bio-Formats Audio Video Interleave format reader.

These fields are from the [OME data model](#)⁵⁹². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Audio Video Interleave format reader:

- Channel : ID⁵⁹³
- Channel : SamplesPerPixel⁵⁹⁴
- Image : AcquisitionDate⁵⁹⁵
- Image : ID⁵⁹⁶
- Image : Name⁵⁹⁷
- Pixels : BigEndian⁵⁹⁸
- Pixels : DimensionOrder⁵⁹⁹
- Pixels : ID⁶⁰⁰
- Pixels : Interleaved⁶⁰¹
- Pixels : SignificantBits⁶⁰²
- Pixels : SizeC⁶⁰³
- Pixels : SizeT⁶⁰⁴
- Pixels : SizeX⁶⁰⁵
- Pixels : SizeY⁶⁰⁶
- Pixels : SizeZ⁶⁰⁷
- Pixels : Type⁶⁰⁸
- Plane : TheC⁶⁰⁹
- Plane : TheT⁶¹⁰

⁵⁹²<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁶¹¹

Total supported: 19

Total unknown or missing: 456

18.2.7 AliconaReader

This page lists supported metadata fields for the Bio-Formats Alicona AL3D format reader.

These fields are from the [OME data model](#)⁶¹². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 33 of them (6%).
- Of those, Bio-Formats fully or partially converts 33 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Alicona AL3D format reader:

- Channel : ID⁶¹³
- Channel : SamplesPerPixel⁶¹⁴
- Detector : ID⁶¹⁵
- Detector : Type⁶¹⁶
- DetectorSettings : ID⁶¹⁷
- DetectorSettings : Voltage⁶¹⁸
- Image : AcquisitionDate⁶¹⁹
- Image : ID⁶²⁰
- Image : InstrumentRef⁶²¹
- Image : Name⁶²²
- Instrument : ID⁶²³
- Objective : CalibratedMagnification⁶²⁴
- Objective : Correction⁶²⁵
- Objective : ID⁶²⁶
- Objective : Immersion⁶²⁷
- Objective : WorkingDistance⁶²⁸

⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶¹²<http://www.openmicroscopy.org/site/support/ome-model/>

⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

- ObjectiveSettings : ID⁶²⁹
- Pixels : BigEndian⁶³⁰
- Pixels : DimensionOrder⁶³¹
- Pixels : ID⁶³²
- Pixels : Interleaved⁶³³
- Pixels : PhysicalSizeX⁶³⁴
- Pixels : PhysicalSizeY⁶³⁵
- Pixels : SignificantBits⁶³⁶
- Pixels : SizeC⁶³⁷
- Pixels : SizeT⁶³⁸
- Pixels : SizeX⁶³⁹
- Pixels : SizeY⁶⁴⁰
- Pixels : SizeZ⁶⁴¹
- Pixels : Type⁶⁴²
- Plane : TheC⁶⁴³
- Plane : TheT⁶⁴⁴
- Plane : TheZ⁶⁴⁵

Total supported: 33

Total unknown or missing: 442

18.2.8 AmiraReader

This page lists supported metadata fields for the Bio-Formats Amira format reader.

These fields are from the [OME data model](#)⁶⁴⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁴⁶<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Amira format reader:

- Channel : ID⁶⁴⁷
- Channel : SamplesPerPixel⁶⁴⁸
- Image : AcquisitionDate⁶⁴⁹
- Image : ID⁶⁵⁰
- Image : Name⁶⁵¹
- Pixels : BigEndian⁶⁵²
- Pixels : DimensionOrder⁶⁵³
- Pixels : ID⁶⁵⁴
- Pixels : Interleaved⁶⁵⁵
- Pixels : PhysicalSizeX⁶⁵⁶
- Pixels : PhysicalSizeY⁶⁵⁷
- Pixels : PhysicalSizeZ⁶⁵⁸
- Pixels : SignificantBits⁶⁵⁹
- Pixels : SizeC⁶⁶⁰
- Pixels : SizeT⁶⁶¹
- Pixels : SizeX⁶⁶²
- Pixels : SizeY⁶⁶³
- Pixels : SizeZ⁶⁶⁴
- Pixels : Type⁶⁶⁵
- Plane : TheC⁶⁶⁶
- Plane : TheT⁶⁶⁷
- Plane : TheZ⁶⁶⁸

Total supported: 22

Total unknown or missing: 453

⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.9 AnalyzeReader

This page lists supported metadata fields for the Bio-Formats Analyze 7.5 format reader.

These fields are from the [OME data model](#)⁶⁶⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 24 of them (5%).
- Of those, Bio-Formats fully or partially converts 24 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Analyze 7.5 format reader:

- Channel : ID⁶⁷⁰
- Channel : SamplesPerPixel⁶⁷¹
- Image : AcquisitionDate⁶⁷²
- Image : Description⁶⁷³
- Image : ID⁶⁷⁴
- Image : Name⁶⁷⁵
- Pixels : BigEndian⁶⁷⁶
- Pixels : DimensionOrder⁶⁷⁷
- Pixels : ID⁶⁷⁸
- Pixels : Interleaved⁶⁷⁹
- Pixels : PhysicalSizeX⁶⁸⁰
- Pixels : PhysicalSizeY⁶⁸¹
- Pixels : PhysicalSizeZ⁶⁸²
- Pixels : SignificantBits⁶⁸³
- Pixels : SizeC⁶⁸⁴
- Pixels : SizeT⁶⁸⁵
- Pixels : SizeX⁶⁸⁶
- Pixels : SizeY⁶⁸⁷

⁶⁶⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁶⁸⁸
- Pixels : TimeIncrement⁶⁸⁹
- Pixels : Type⁶⁹⁰
- Plane : TheC⁶⁹¹
- Plane : TheT⁶⁹²
- Plane : TheZ⁶⁹³

Total supported: 24

Total unknown or missing: 451

18.2.10 BDReader

This page lists supported metadata fields for the Bio-Formats BD Pathway format reader.

These fields are from the [OME data model](#)⁶⁹⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 57 of them (12%).
- Of those, Bio-Formats fully or partially converts 57 (100%).

Supported fields

These fields are fully supported by the Bio-Formats BD Pathway format reader:

- Channel : EmissionWavelength⁶⁹⁵
- Channel : ExcitationWavelength⁶⁹⁶
- Channel : ID⁶⁹⁷
- Channel : Name⁶⁹⁸
- Channel : SamplesPerPixel⁶⁹⁹
- Detector : ID⁷⁰⁰
- DetectorSettings : Binning⁷⁰¹
- DetectorSettings : Gain⁷⁰²
- DetectorSettings : ID⁷⁰³
- DetectorSettings : Offset⁷⁰⁴
- Image : AcquisitionDate⁷⁰⁵

⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁹⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁷⁰⁶
- Image : InstrumentRef⁷⁰⁷
- Image : Name⁷⁰⁸
- Image : ROIRef⁷⁰⁹
- Instrument : ID⁷¹⁰
- Objective : ID⁷¹¹
- Objective : LensNA⁷¹²
- Objective : Manufacturer⁷¹³
- Objective : NominalMagnification⁷¹⁴
- ObjectiveSettings : ID⁷¹⁵
- Pixels : BigEndian⁷¹⁶
- Pixels : DimensionOrder⁷¹⁷
- Pixels : ID⁷¹⁸
- Pixels : Interleaved⁷¹⁹
- Pixels : SignificantBits⁷²⁰
- Pixels : SizeC⁷²¹
- Pixels : SizeT⁷²²
- Pixels : SizeX⁷²³
- Pixels : SizeY⁷²⁴
- Pixels : SizeZ⁷²⁵
- Pixels : Type⁷²⁶
- Plane : DeltaT⁷²⁷
- Plane : ExposureTime⁷²⁸
- Plane : TheC⁷²⁹
- Plane : TheT⁷³⁰
- Plane : TheZ⁷³¹

⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

- Plate : ColumnNamingConvention⁷³²
- Plate : Description⁷³³
- Plate : ID⁷³⁴
- Plate : Name⁷³⁵
- Plate : RowNamingConvention⁷³⁶
- PlateAcquisition : ID⁷³⁷
- PlateAcquisition : MaximumFieldCount⁷³⁸
- PlateAcquisition : WellSampleRef⁷³⁹
- ROI : ID⁷⁴⁰
- Rectangle : Height⁷⁴¹
- Rectangle : ID⁷⁴²
- Rectangle : Width⁷⁴³
- Rectangle : X⁷⁴⁴
- Rectangle : Y⁷⁴⁵
- Well : Column⁷⁴⁶
- Well : ID⁷⁴⁷
- Well : Row⁷⁴⁸
- WellSample : ID⁷⁴⁹
- WellSample : ImageRef⁷⁵⁰
- WellSample : Index⁷⁵¹

Total supported: 57

Total unknown or missing: 418

18.2.11 BIFormatReader

This page lists supported metadata fields for the Bio-Formats BIFormatReader.

These fields are from the [OME data model](#)⁷⁵². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Description

⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁷⁵²<http://www.openmicroscopy.org/site/support/ome-model/>

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats BIFormatReader:

- Channel : ID⁷⁵³
- Channel : SamplesPerPixel⁷⁵⁴
- Image : AcquisitionDate⁷⁵⁵
- Image : ID⁷⁵⁶
- Image : Name⁷⁵⁷
- Pixels : BigEndian⁷⁵⁸
- Pixels : DimensionOrder⁷⁵⁹
- Pixels : ID⁷⁶⁰
- Pixels : Interleaved⁷⁶¹
- Pixels : SignificantBits⁷⁶²
- Pixels : SizeC⁷⁶³
- Pixels : SizeT⁷⁶⁴
- Pixels : SizeX⁷⁶⁵
- Pixels : SizeY⁷⁶⁶
- Pixels : SizeZ⁷⁶⁷
- Pixels : Type⁷⁶⁸
- Plane : TheC⁷⁶⁹
- Plane : TheT⁷⁷⁰
- Plane : TheZ⁷⁷¹

Total supported: 19

Total unknown or missing: 456

⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.12 BMPReader

This page lists supported metadata fields for the Bio-Formats Windows Bitmap format reader.

These fields are from the [OME data model](#)⁷⁷². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Windows Bitmap format reader:

- Channel : ID⁷⁷³
- Channel : SamplesPerPixel⁷⁷⁴
- Image : AcquisitionDate⁷⁷⁵
- Image : ID⁷⁷⁶
- Image : Name⁷⁷⁷
- Pixels : BigEndian⁷⁷⁸
- Pixels : DimensionOrder⁷⁷⁹
- Pixels : ID⁷⁸⁰
- Pixels : Interleaved⁷⁸¹
- Pixels : PhysicalSizeX⁷⁸²
- Pixels : PhysicalSizeY⁷⁸³
- Pixels : SignificantBits⁷⁸⁴
- Pixels : SizeC⁷⁸⁵
- Pixels : SizeT⁷⁸⁶
- Pixels : SizeX⁷⁸⁷
- Pixels : SizeY⁷⁸⁸
- Pixels : SizeZ⁷⁸⁹
- Pixels : Type⁷⁹⁰

⁷⁷²<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁷⁹¹
- Plane : TheT⁷⁹²
- Plane : TheZ⁷⁹³

Total supported: 21

Total unknown or missing: 454

18.2.13 BaseTiffReader

This page lists supported metadata fields for the Bio-Formats BaseTiffReader.

These fields are from the [OME data model](#)⁷⁹⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 28 of them (5%).
- Of those, Bio-Formats fully or partially converts 28 (100%).

Supported fields

These fields are fully supported by the Bio-Formats BaseTiffReader:

- Channel : ID⁷⁹⁵
- Channel : SamplesPerPixel⁷⁹⁶
- Experimenter : Email⁷⁹⁷
- Experimenter : FirstName⁷⁹⁸
- Experimenter : ID⁷⁹⁹
- Experimenter : LastName⁸⁰⁰
- Image : AcquisitionDate⁸⁰¹
- Image : Description⁸⁰²
- Image : ID⁸⁰³
- Image : Name⁸⁰⁴
- Pixels : BigEndian⁸⁰⁵
- Pixels : DimensionOrder⁸⁰⁶
- Pixels : ID⁸⁰⁷
- Pixels : Interleaved⁸⁰⁸

⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁹⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Email

⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : PhysicalSizeX⁸⁰⁹
- Pixels : PhysicalSizeY⁸¹⁰
- Pixels : PhysicalSizeZ⁸¹¹
- Pixels : SignificantBits⁸¹²
- Pixels : SizeC⁸¹³
- Pixels : SizeT⁸¹⁴
- Pixels : SizeX⁸¹⁵
- Pixels : SizeY⁸¹⁶
- Pixels : SizeZ⁸¹⁷
- Pixels : Type⁸¹⁸
- Plane : ExposureTime⁸¹⁹
- Plane : TheC⁸²⁰
- Plane : TheT⁸²¹
- Plane : TheZ⁸²²

Total supported: 28

Total unknown or missing: 447

18.2.14 BaseZeissReader

This page lists supported metadata fields for the Bio-Formats BaseZeissReader.

These fields are from the [OME data model](#)⁸²³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 83 of them (17%).
- Of those, Bio-Formats fully or partially converts 83 (100%).

Supported fields

These fields are fully supported by the Bio-Formats BaseZeissReader:

- Channel : EmissionWavelength⁸²⁴
- Channel : ExcitationWavelength⁸²⁵
- Channel : ID⁸²⁶

⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸²³<http://www.openmicroscopy.org/site/support/ome-model/>

⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : Name⁸²⁷
- Channel : SamplesPerPixel⁸²⁸
- Detector : ID⁸²⁹
- Detector : Type⁸³⁰
- DetectorSettings : Gain⁸³¹
- DetectorSettings : ID⁸³²
- DetectorSettings : Offset⁸³³
- Ellipse : ID⁸³⁴
- Ellipse : RadiusX⁸³⁵
- Ellipse : RadiusY⁸³⁶
- Ellipse : Text⁸³⁷
- Ellipse : X⁸³⁸
- Ellipse : Y⁸³⁹
- Experimenter : FirstName⁸⁴⁰
- Experimenter : ID⁸⁴¹
- Experimenter : Institution⁸⁴²
- Experimenter : LastName⁸⁴³
- Image : AcquisitionDate⁸⁴⁴
- Image : Description⁸⁴⁵
- Image : ID⁸⁴⁶
- Image : InstrumentRef⁸⁴⁷
- Image : Name⁸⁴⁸
- Image : ROIRef⁸⁴⁹
- Instrument : ID⁸⁵⁰
- Label : ID⁸⁵¹
- Label : Text⁸⁵²

⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution

⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

- Label : X⁸⁵³
- Label : Y⁸⁵⁴
- Line : ID⁸⁵⁵
- Line : Text⁸⁵⁶
- Line : X1⁸⁵⁷
- Line : X2⁸⁵⁸
- Line : Y1⁸⁵⁹
- Line : Y2⁸⁶⁰
- Objective : Correction⁸⁶¹
- Objective : ID⁸⁶²
- Objective : Immersion⁸⁶³
- Objective : LensNA⁸⁶⁴
- Objective : NominalMagnification⁸⁶⁵
- Objective : WorkingDistance⁸⁶⁶
- ObjectiveSettings : ID⁸⁶⁷
- Pixels : BigEndian⁸⁶⁸
- Pixels : DimensionOrder⁸⁶⁹
- Pixels : ID⁸⁷⁰
- Pixels : Interleaved⁸⁷¹
- Pixels : PhysicalSizeX⁸⁷²
- Pixels : PhysicalSizeY⁸⁷³
- Pixels : PhysicalSizeZ⁸⁷⁴
- Pixels : SignificantBits⁸⁷⁵
- Pixels : SizeC⁸⁷⁶
- Pixels : SizeT⁸⁷⁷
- Pixels : SizeX⁸⁷⁸

⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_X

⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_Y

⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁸⁷⁹
- Pixels : SizeZ⁸⁸⁰
- Pixels : Type⁸⁸¹
- Plane : DeltaT⁸⁸²
- Plane : ExposureTime⁸⁸³
- Plane : PositionX⁸⁸⁴
- Plane : PositionY⁸⁸⁵
- Plane : TheC⁸⁸⁶
- Plane : TheT⁸⁸⁷
- Plane : TheZ⁸⁸⁸
- Point : ID⁸⁸⁹
- Point : Text⁸⁹⁰
- Point : X⁸⁹¹
- Point : Y⁸⁹²
- Polygon : ID⁸⁹³
- Polygon : Points⁸⁹⁴
- Polygon : Text⁸⁹⁵
- Polyline : ID⁸⁹⁶
- Polyline : Points⁸⁹⁷
- Polyline : Text⁸⁹⁸
- ROI : ID⁸⁹⁹
- ROI : Name⁹⁰⁰
- Rectangle : Height⁹⁰¹
- Rectangle : ID⁹⁰²
- Rectangle : Text⁹⁰³
- Rectangle : Width⁹⁰⁴

⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_X

⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_Y

⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name

⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

- Rectangle : X⁹⁰⁵
- Rectangle : Y⁹⁰⁶

Total supported: 83

Total unknown or missing: 392

18.2.15 BioRadGelReader

This page lists supported metadata fields for the Bio-Formats Bio-Rad GEL format reader.

These fields are from the [OME data model](#)⁹⁰⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Bio-Rad GEL format reader:

- Channel : ID⁹⁰⁸
- Channel : SamplesPerPixel⁹⁰⁹
- Image : AcquisitionDate⁹¹⁰
- Image : ID⁹¹¹
- Image : Name⁹¹²
- Pixels : BigEndian⁹¹³
- Pixels : DimensionOrder⁹¹⁴
- Pixels : ID⁹¹⁵
- Pixels : Interleaved⁹¹⁶
- Pixels : PhysicalSizeX⁹¹⁷
- Pixels : PhysicalSizeY⁹¹⁸
- Pixels : SignificantBits⁹¹⁹
- Pixels : SizeC⁹²⁰
- Pixels : SizeT⁹²¹
- Pixels : SizeX⁹²²

⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁹⁰⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁹²³
- Pixels : SizeZ⁹²⁴
- Pixels : Type⁹²⁵
- Plane : TheC⁹²⁶
- Plane : TheT⁹²⁷
- Plane : TheZ⁹²⁸

Total supported: 21

Total unknown or missing: 454

18.2.16 BioRadReader

This page lists supported metadata fields for the Bio-Formats Bio-Rad PIC format reader.

These fields are from the [OME data model](#)⁹²⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 40 of them (8%).
- Of those, Bio-Formats fully or partially converts 40 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Bio-Rad PIC format reader:

- Channel : ID⁹³⁰
- Channel : SamplesPerPixel⁹³¹
- Detector : Gain⁹³²
- Detector : ID⁹³³
- Detector : Offset⁹³⁴
- Detector : Type⁹³⁵
- DetectorSettings : Gain⁹³⁶
- DetectorSettings : ID⁹³⁷
- DetectorSettings : Offset⁹³⁸
- Experiment : ID⁹³⁹
- Experiment : Type⁹⁴⁰

⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹²⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

- Image : AcquisitionDate⁹⁴¹
- Image : ID⁹⁴²
- Image : InstrumentRef⁹⁴³
- Image : Name⁹⁴⁴
- Instrument : ID⁹⁴⁵
- Objective : Correction⁹⁴⁶
- Objective : ID⁹⁴⁷
- Objective : Immersion⁹⁴⁸
- Objective : LensNA⁹⁴⁹
- Objective : Model⁹⁵⁰
- Objective : NominalMagnification⁹⁵¹
- ObjectiveSettings : ID⁹⁵²
- Pixels : BigEndian⁹⁵³
- Pixels : DimensionOrder⁹⁵⁴
- Pixels : ID⁹⁵⁵
- Pixels : Interleaved⁹⁵⁶
- Pixels : PhysicalSizeX⁹⁵⁷
- Pixels : PhysicalSizeY⁹⁵⁸
- Pixels : PhysicalSizeZ⁹⁵⁹
- Pixels : SignificantBits⁹⁶⁰
- Pixels : SizeC⁹⁶¹
- Pixels : SizeT⁹⁶²
- Pixels : SizeX⁹⁶³
- Pixels : SizeY⁹⁶⁴
- Pixels : SizeZ⁹⁶⁵
- Pixels : Type⁹⁶⁶

⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁹⁶⁷
- Plane : TheT⁹⁶⁸
- Plane : TheZ⁹⁶⁹

Total supported: 40

Total unknown or missing: 435

18.2.17 BioRadSCNReader

This page lists supported metadata fields for the Bio-Formats Bio-Rad SCN format reader.

These fields are from the [OME data model](#)⁹⁷⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 29 of them (6%).
- Of those, Bio-Formats fully or partially converts 29 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Bio-Rad SCN format reader:

- Channel : ID⁹⁷¹
- Channel : SamplesPerPixel⁹⁷²
- Detector : ID⁹⁷³
- DetectorSettings : Binning⁹⁷⁴
- DetectorSettings : Gain⁹⁷⁵
- DetectorSettings : ID⁹⁷⁶
- Image : AcquisitionDate⁹⁷⁷
- Image : ID⁹⁷⁸
- Image : Name⁹⁷⁹
- Instrument : ID⁹⁸⁰
- Microscope : Model⁹⁸¹
- Microscope : SerialNumber⁹⁸²
- Pixels : BigEndian⁹⁸³
- Pixels : DimensionOrder⁹⁸⁴

⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁷⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID⁹⁸⁵
- Pixels : Interleaved⁹⁸⁶
- Pixels : PhysicalSizeX⁹⁸⁷
- Pixels : PhysicalSizeY⁹⁸⁸
- Pixels : SignificantBits⁹⁸⁹
- Pixels : SizeC⁹⁹⁰
- Pixels : SizeT⁹⁹¹
- Pixels : SizeX⁹⁹²
- Pixels : SizeY⁹⁹³
- Pixels : SizeZ⁹⁹⁴
- Pixels : Type⁹⁹⁵
- Plane : ExposureTime⁹⁹⁶
- Plane : TheC⁹⁹⁷
- Plane : TheT⁹⁹⁸
- Plane : TheZ⁹⁹⁹

Total supported: 29

Total unknown or missing: 446

18.2.18 BrukerReader

This page lists supported metadata fields for the Bio-Formats Bruker format reader.

These fields are from the [OME data model](#)¹⁰⁰⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Bruker format reader:

- Channel : ID¹⁰⁰¹
- Channel : SamplesPerPixel¹⁰⁰²

⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁰⁰⁰<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Experimenter : ID¹⁰⁰³
- Experimenter : Institution¹⁰⁰⁴
- Experimenter : LastName¹⁰⁰⁵
- Image : AcquisitionDate¹⁰⁰⁶
- Image : ExperimenterRef¹⁰⁰⁷
- Image : ID¹⁰⁰⁸
- Image : Name¹⁰⁰⁹
- Pixels : BigEndian¹⁰¹⁰
- Pixels : DimensionOrder¹⁰¹¹
- Pixels : ID¹⁰¹²
- Pixels : Interleaved¹⁰¹³
- Pixels : SignificantBits¹⁰¹⁴
- Pixels : SizeC¹⁰¹⁵
- Pixels : SizeT¹⁰¹⁶
- Pixels : SizeX¹⁰¹⁷
- Pixels : SizeY¹⁰¹⁸
- Pixels : SizeZ¹⁰¹⁹
- Pixels : Type¹⁰²⁰
- Plane : TheC¹⁰²¹
- Plane : TheT¹⁰²²
- Plane : TheZ¹⁰²³

Total supported: 23

Total unknown or missing: 452

18.2.19 BurleighReader

This page lists supported metadata fields for the Bio-Formats Burleigh format reader.

These fields are from the [OME data model](#)¹⁰²⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

- ¹⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID
- ¹⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution
- ¹⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName
- ¹⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ¹⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID
- ¹⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ¹⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ¹⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ¹⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ¹⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ¹⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ¹⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ¹⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ¹⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ¹⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ¹⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ¹⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ¹⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ¹⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ¹⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ¹⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ¹⁰²⁴<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Burleigh format reader:

- Channel : ID¹⁰²⁵
- Channel : SamplesPerPixel¹⁰²⁶
- Image : AcquisitionDate¹⁰²⁷
- Image : ID¹⁰²⁸
- Image : Name¹⁰²⁹
- Pixels : BigEndian¹⁰³⁰
- Pixels : DimensionOrder¹⁰³¹
- Pixels : ID¹⁰³²
- Pixels : Interleaved¹⁰³³
- Pixels : PhysicalSizeX¹⁰³⁴
- Pixels : PhysicalSizeY¹⁰³⁵
- Pixels : PhysicalSizeZ¹⁰³⁶
- Pixels : SignificantBits¹⁰³⁷
- Pixels : SizeC¹⁰³⁸
- Pixels : SizeT¹⁰³⁹
- Pixels : SizeX¹⁰⁴⁰
- Pixels : SizeY¹⁰⁴¹
- Pixels : SizeZ¹⁰⁴²
- Pixels : Type¹⁰⁴³
- Plane : TheC¹⁰⁴⁴
- Plane : TheT¹⁰⁴⁵
- Plane : TheZ¹⁰⁴⁶

¹⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

¹⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Total supported: 22

Total unknown or missing: 453

18.2.20 CanonRawReader

This page lists supported metadata fields for the Bio-Formats Canon RAW format reader.

These fields are from the [OME data model](#)¹⁰⁴⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Canon RAW format reader:

- Channel : ID¹⁰⁴⁸
- Channel : SamplesPerPixel¹⁰⁴⁹
- Image : AcquisitionDate¹⁰⁵⁰
- Image : ID¹⁰⁵¹
- Image : Name¹⁰⁵²
- Pixels : BigEndian¹⁰⁵³
- Pixels : DimensionOrder¹⁰⁵⁴
- Pixels : ID¹⁰⁵⁵
- Pixels : Interleaved¹⁰⁵⁶
- Pixels : SignificantBits¹⁰⁵⁷
- Pixels : SizeC¹⁰⁵⁸
- Pixels : SizeT¹⁰⁵⁹
- Pixels : SizeX¹⁰⁶⁰
- Pixels : SizeY¹⁰⁶¹
- Pixels : SizeZ¹⁰⁶²
- Pixels : Type¹⁰⁶³
- Plane : TheC¹⁰⁶⁴

¹⁰⁴⁷<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT¹⁰⁶⁵
- Plane : TheZ¹⁰⁶⁶

Total supported: 19

Total unknown or missing: 456

18.2.21 CellH5Reader

This page lists supported metadata fields for the Bio-Formats CellH5 (HDF) format reader.

These fields are from the [OME data model](#)¹⁰⁶⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 41 of them (8%).
- Of those, Bio-Formats fully or partially converts 41 (100%).

Supported fields

These fields are fully supported by the Bio-Formats CellH5 (HDF) format reader:

- Channel : ID¹⁰⁶⁸
- Channel : SamplesPerPixel¹⁰⁶⁹
- Image : AcquisitionDate¹⁰⁷⁰
- Image : ID¹⁰⁷¹
- Image : Name¹⁰⁷²
- Image : ROIRef¹⁰⁷³
- Pixels : BigEndian¹⁰⁷⁴
- Pixels : DimensionOrder¹⁰⁷⁵
- Pixels : ID¹⁰⁷⁶
- Pixels : Interleaved¹⁰⁷⁷
- Pixels : SignificantBits¹⁰⁷⁸
- Pixels : SizeC¹⁰⁷⁹
- Pixels : SizeT¹⁰⁸⁰
- Pixels : SizeX¹⁰⁸¹
- Pixels : SizeY¹⁰⁸²

¹⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁰⁶⁷<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

¹⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ¹⁰⁸³
- Pixels : Type¹⁰⁸⁴
- Plane : TheC¹⁰⁸⁵
- Plane : TheT¹⁰⁸⁶
- Plane : TheZ¹⁰⁸⁷
- Plate : ID¹⁰⁸⁸
- Plate : Name¹⁰⁸⁹
- ROI : ID¹⁰⁹⁰
- ROI : Name¹⁰⁹¹
- Rectangle : Height¹⁰⁹²
- Rectangle : ID¹⁰⁹³
- Rectangle : StrokeColor¹⁰⁹⁴
- Rectangle : Text¹⁰⁹⁵
- Rectangle : TheC¹⁰⁹⁶
- Rectangle : TheT¹⁰⁹⁷
- Rectangle : TheZ¹⁰⁹⁸
- Rectangle : Width¹⁰⁹⁹
- Rectangle : X¹¹⁰⁰
- Rectangle : Y¹¹⁰¹
- Well : Column¹¹⁰²
- Well : ExternalIdentifier¹¹⁰³
- Well : ID¹¹⁰⁴
- Well : Row¹¹⁰⁵
- WellSample : ID¹¹⁰⁶
- WellSample : ImageRef¹¹⁰⁷
- WellSample : Index¹¹⁰⁸

¹⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

¹⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

¹⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

¹⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name

¹⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

¹⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

¹⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

¹⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

¹⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC

¹⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

¹⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

¹⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

¹¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

¹¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

¹¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

¹¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ExternalIdentifier

¹¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

¹¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

¹¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

¹¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

¹¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

Total supported: 41

Total unknown or missing: 434

18.2.22 CellSensReader

This page lists supported metadata fields for the Bio-Formats CellSens VSI format reader.

These fields are from the [OME data model](#)¹¹⁰⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 46 of them (9%).
- Of those, Bio-Formats fully or partially converts 46 (100%).

Supported fields

These fields are fully supported by the Bio-Formats CellSens VSI format reader:

- Channel : EmissionWavelength¹¹¹⁰
- Channel : ID¹¹¹¹
- Channel : Name¹¹¹²
- Channel : SamplesPerPixel¹¹¹³
- Detector : Gain¹¹¹⁴
- Detector : ID¹¹¹⁵
- Detector : Manufacturer¹¹¹⁶
- Detector : Model¹¹¹⁷
- Detector : Offset¹¹¹⁸
- Detector : SerialNumber¹¹¹⁹
- Detector : Type¹¹²⁰
- DetectorSettings : Binning¹¹²¹
- DetectorSettings : Gain¹¹²²
- DetectorSettings : ID¹¹²³
- DetectorSettings : Offset¹¹²⁴
- Image : AcquisitionDate¹¹²⁵
- Image : ID¹¹²⁶

¹¹⁰⁹<http://www.openmicroscopy.org/site/support/ome-model/>

¹¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

¹¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

¹¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

¹¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

¹¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

¹¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

¹¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

¹¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

¹¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

¹¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

¹¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

¹¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

¹¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : InstrumentRef¹¹²⁷
- Image : Name¹¹²⁸
- Instrument : ID¹¹²⁹
- Objective : ID¹¹³⁰
- Objective : LensNA¹¹³¹
- Objective : Model¹¹³²
- Objective : NominalMagnification¹¹³³
- Objective : WorkingDistance¹¹³⁴
- ObjectiveSettings : ID¹¹³⁵
- ObjectiveSettings : RefractiveIndex¹¹³⁶
- Pixels : BigEndian¹¹³⁷
- Pixels : DimensionOrder¹¹³⁸
- Pixels : ID¹¹³⁹
- Pixels : Interleaved¹¹⁴⁰
- Pixels : PhysicalSizeX¹¹⁴¹
- Pixels : PhysicalSizeY¹¹⁴²
- Pixels : SignificantBits¹¹⁴³
- Pixels : SizeC¹¹⁴⁴
- Pixels : SizeT¹¹⁴⁵
- Pixels : SizeX¹¹⁴⁶
- Pixels : SizeY¹¹⁴⁷
- Pixels : SizeZ¹¹⁴⁸
- Pixels : Type¹¹⁴⁹
- Plane : ExposureTime¹¹⁵⁰
- Plane : PositionX¹¹⁵¹
- Plane : PositionY¹¹⁵²

¹¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

¹¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

¹¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

¹¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

¹¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

¹¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

¹¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

¹¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

¹¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

¹¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

¹¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

- Plane : TheC¹¹⁵³
- Plane : TheT¹¹⁵⁴
- Plane : TheZ¹¹⁵⁵

Total supported: 46

Total unknown or missing: 429

18.2.23 CellVoyagerReader

This page lists supported metadata fields for the Bio-Formats CellVoyager format reader.

These fields are from the [OME data model](#)¹¹⁵⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 34 of them (7%).
- Of those, Bio-Formats fully or partially converts 34 (100%).

Supported fields

These fields are fully supported by the Bio-Formats CellVoyager format reader:

- Channel : ID¹¹⁵⁷
- Channel : Name¹¹⁵⁸
- Channel : PinholeSize¹¹⁵⁹
- Channel : SamplesPerPixel¹¹⁶⁰
- Image : AcquisitionDate¹¹⁶¹
- Image : ID¹¹⁶²
- Image : Name¹¹⁶³
- Pixels : BigEndian¹¹⁶⁴
- Pixels : DimensionOrder¹¹⁶⁵
- Pixels : ID¹¹⁶⁶
- Pixels : Interleaved¹¹⁶⁷
- Pixels : SignificantBits¹¹⁶⁸
- Pixels : SizeC¹¹⁶⁹
- Pixels : SizeT¹¹⁷⁰

¹¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹¹⁵⁶<http://www.openmicroscopy.org/site/support/ome-model/>

¹¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

¹¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

¹¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX¹¹⁷¹
- Pixels : SizeY¹¹⁷²
- Pixels : SizeZ¹¹⁷³
- Pixels : Type¹¹⁷⁴
- Plane : TheC¹¹⁷⁵
- Plane : TheT¹¹⁷⁶
- Plane : TheZ¹¹⁷⁷
- Plate : Columns¹¹⁷⁸
- Plate : Rows¹¹⁷⁹
- PlateAcquisition : EndTime¹¹⁸⁰
- PlateAcquisition : ID¹¹⁸¹
- PlateAcquisition : MaximumFieldCount¹¹⁸²
- PlateAcquisition : StartTime¹¹⁸³
- Well : Column¹¹⁸⁴
- Well : ID¹¹⁸⁵
- Well : Row¹¹⁸⁶
- WellSample : ID¹¹⁸⁷
- WellSample : Index¹¹⁸⁸
- WellSample : PositionX¹¹⁸⁹
- WellSample : PositionY¹¹⁹⁰

Total supported: 34

Total unknown or missing: 441

18.2.24 CellWorxReader

This page lists supported metadata fields for the Bio-Formats CellWorx format reader.

These fields are from the [OME data model](#)¹¹⁹¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

¹¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

¹¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

¹¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_EndTime

¹¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

¹¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

¹¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_StartTime

¹¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

¹¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

¹¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

¹¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

¹¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

¹¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

¹¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

¹¹⁹¹<http://www.openmicroscopy.org/site/support/ome-model/>

- The file format itself supports 45 of them (9%).
- Of those, Bio-Formats fully or partially converts 45 (100%).

Supported fields

These fields are fully supported by the Bio-Formats CellWorx format reader:

- Channel : EmissionWavelength¹¹⁹²
- Channel : ExcitationWavelength¹¹⁹³
- Channel : ID¹¹⁹⁴
- Channel : Name¹¹⁹⁵
- Channel : SamplesPerPixel¹¹⁹⁶
- Detector : ID¹¹⁹⁷
- DetectorSettings : Gain¹¹⁹⁸
- DetectorSettings : ID¹¹⁹⁹
- Image : AcquisitionDate¹²⁰⁰
- Image : ID¹²⁰¹
- Image : InstrumentRef¹²⁰²
- Image : Name¹²⁰³
- Instrument : ID¹²⁰⁴
- Microscope : SerialNumber¹²⁰⁵
- Pixels : BigEndian¹²⁰⁶
- Pixels : DimensionOrder¹²⁰⁷
- Pixels : ID¹²⁰⁸
- Pixels : Interleaved¹²⁰⁹
- Pixels : PhysicalSizeX¹²¹⁰
- Pixels : PhysicalSizeY¹²¹¹
- Pixels : SignificantBits¹²¹²
- Pixels : SizeC¹²¹³
- Pixels : SizeT¹²¹⁴

¹¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

¹¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

¹¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

¹¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

¹¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

¹¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

¹²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

¹²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

¹²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

¹²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX¹²¹⁵
- Pixels : SizeY¹²¹⁶
- Pixels : SizeZ¹²¹⁷
- Pixels : Type¹²¹⁸
- Plane : TheC¹²¹⁹
- Plane : TheT¹²²⁰
- Plane : TheZ¹²²¹
- Plate : ID¹²²²
- Plate : Name¹²²³
- PlateAcquisition : EndTime¹²²⁴
- PlateAcquisition : ID¹²²⁵
- PlateAcquisition : MaximumFieldCount¹²²⁶
- PlateAcquisition : StartTime¹²²⁷
- PlateAcquisition : WellSampleRef¹²²⁸
- Well : Column¹²²⁹
- Well : ID¹²³⁰
- Well : Row¹²³¹
- WellSample : ID¹²³²
- WellSample : ImageRef¹²³³
- WellSample : Index¹²³⁴
- WellSample : PositionX¹²³⁵
- WellSample : PositionY¹²³⁶

Total supported: 45

Total unknown or missing: 430

18.2.25 CellomicsReader

This page lists supported metadata fields for the Bio-Formats Cellomics C01 format reader.

These fields are from the [OME data model](#)¹²³⁷. Bio-Formats standardizes each format's original metadata to and from the OME

¹²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

¹²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

¹²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_EndTime

¹²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

¹²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

¹²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_StartTime

¹²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

¹²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

¹²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

¹²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

¹²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

¹²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

¹²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

¹²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

¹²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

¹²³⁷<http://www.openmicroscopy.org/site/support/ome-model/>

data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 31 of them (6%).
- Of those, Bio-Formats fully or partially converts 31 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Cellomics C01 format reader:

- Channel : ID¹²³⁸
- Channel : SamplesPerPixel¹²³⁹
- Image : AcquisitionDate¹²⁴⁰
- Image : ID¹²⁴¹
- Image : Name¹²⁴²
- Pixels : BigEndian¹²⁴³
- Pixels : DimensionOrder¹²⁴⁴
- Pixels : ID¹²⁴⁵
- Pixels : Interleaved¹²⁴⁶
- Pixels : PhysicalSizeX¹²⁴⁷
- Pixels : PhysicalSizeY¹²⁴⁸
- Pixels : SignificantBits¹²⁴⁹
- Pixels : SizeC¹²⁵⁰
- Pixels : SizeT¹²⁵¹
- Pixels : SizeX¹²⁵²
- Pixels : SizeY¹²⁵³
- Pixels : SizeZ¹²⁵⁴
- Pixels : Type¹²⁵⁵
- Plane : TheC¹²⁵⁶
- Plane : TheT¹²⁵⁷
- Plane : TheZ¹²⁵⁸

¹²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

- Plate : ColumnNamingConvention¹²⁵⁹
- Plate : ID¹²⁶⁰
- Plate : Name¹²⁶¹
- Plate : RowNamingConvention¹²⁶²
- Well : Column¹²⁶³
- Well : ID¹²⁶⁴
- Well : Row¹²⁶⁵
- WellSample : ID¹²⁶⁶
- WellSample : ImageRef¹²⁶⁷
- WellSample : Index¹²⁶⁸

Total supported: 31

Total unknown or missing: 444

18.2.26 DNGReader

This page lists supported metadata fields for the Bio-Formats DNG format reader.

These fields are from the [OME data model](#)¹²⁶⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats DNG format reader:

- Channel : ID¹²⁷⁰
- Channel : SamplesPerPixel¹²⁷¹
- Image : AcquisitionDate¹²⁷²
- Image : ID¹²⁷³
- Image : Name¹²⁷⁴
- Pixels : BigEndian¹²⁷⁵
- Pixels : DimensionOrder¹²⁷⁶

¹²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

¹²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

¹²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

¹²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

¹²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

¹²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

¹²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

¹²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

¹²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

¹²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

¹²⁶⁹<http://www.openmicroscopy.org/site/support/ome-model/>

¹²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID¹²⁷⁷
- Pixels : Interleaved¹²⁷⁸
- Pixels : SignificantBits¹²⁷⁹
- Pixels : SizeC¹²⁸⁰
- Pixels : SizeT¹²⁸¹
- Pixels : SizeX¹²⁸²
- Pixels : SizeY¹²⁸³
- Pixels : SizeZ¹²⁸⁴
- Pixels : Type¹²⁸⁵
- Plane : TheC¹²⁸⁶
- Plane : TheT¹²⁸⁷
- Plane : TheZ¹²⁸⁸

Total supported: 19

Total unknown or missing: 456

18.2.27 DeltavisionReader

This page lists supported metadata fields for the Bio-Formats Deltavision format reader.

These fields are from the [OME data model](#)¹²⁸⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 52 of them (10%).
- Of those, Bio-Formats fully or partially converts 52 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Deltavision format reader:

- Channel : EmissionWavelength¹²⁹⁰
- Channel : ExcitationWavelength¹²⁹¹
- Channel : ID¹²⁹²
- Channel : NDFilter¹²⁹³
- Channel : Name¹²⁹⁴

¹²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹²⁸⁹<http://www.openmicroscopy.org/site/support/ome-model/>

¹²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

¹²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

¹²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_NDFilter

¹²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

- Channel : SamplesPerPixel¹²⁹⁵
- Detector : ID¹²⁹⁶
- Detector : Model¹²⁹⁷
- Detector : Type¹²⁹⁸
- DetectorSettings : Binning¹²⁹⁹
- DetectorSettings : Gain¹³⁰⁰
- DetectorSettings : ID¹³⁰¹
- DetectorSettings : ReadOutRate¹³⁰²
- Image : AcquisitionDate¹³⁰³
- Image : Description¹³⁰⁴
- Image : ID¹³⁰⁵
- Image : InstrumentRef¹³⁰⁶
- Image : Name¹³⁰⁷
- ImagingEnvironment : Temperature¹³⁰⁸
- Instrument : ID¹³⁰⁹
- Objective : CalibratedMagnification¹³¹⁰
- Objective : Correction¹³¹¹
- Objective : ID¹³¹²
- Objective : Immersion¹³¹³
- Objective : LensNA¹³¹⁴
- Objective : Manufacturer¹³¹⁵
- Objective : Model¹³¹⁶
- Objective : NominalMagnification¹³¹⁷
- Objective : WorkingDistance¹³¹⁸
- ObjectiveSettings : ID¹³¹⁹
- Pixels : BigEndian¹³²⁰

¹²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

¹²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

¹²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

¹³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

¹³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

¹³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

¹³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

¹³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

¹³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

¹³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

¹³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

¹³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

¹³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

¹³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

¹³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

¹³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

¹³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

¹³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

¹³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

¹³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder¹³²¹
- Pixels : ID¹³²²
- Pixels : Interleaved¹³²³
- Pixels : PhysicalSizeX¹³²⁴
- Pixels : PhysicalSizeY¹³²⁵
- Pixels : PhysicalSizeZ¹³²⁶
- Pixels : SignificantBits¹³²⁷
- Pixels : SizeC¹³²⁸
- Pixels : SizeT¹³²⁹
- Pixels : SizeX¹³³⁰
- Pixels : SizeY¹³³¹
- Pixels : SizeZ¹³³²
- Pixels : Type¹³³³
- Plane : DeltaT¹³³⁴
- Plane : ExposureTime¹³³⁵
- Plane : PositionX¹³³⁶
- Plane : PositionY¹³³⁷
- Plane : PositionZ¹³³⁸
- Plane : TheC¹³³⁹
- Plane : TheT¹³⁴⁰
- Plane : TheZ¹³⁴¹

Total supported: 52

Total unknown or missing: 423

18.2.28 DicomReader

This page lists supported metadata fields for the Bio-Formats DICOM format reader.

These fields are from the [OME data model](#)¹³⁴². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

¹³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

¹³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

¹³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

¹³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

¹³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

¹³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

¹³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹³⁴²<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats DICOM format reader:

- Channel : ID¹³⁴³
- Channel : SamplesPerPixel¹³⁴⁴
- Image : AcquisitionDate¹³⁴⁵
- Image : Description¹³⁴⁶
- Image : ID¹³⁴⁷
- Image : Name¹³⁴⁸
- Pixels : BigEndian¹³⁴⁹
- Pixels : DimensionOrder¹³⁵⁰
- Pixels : ID¹³⁵¹
- Pixels : Interleaved¹³⁵²
- Pixels : PhysicalSizeX¹³⁵³
- Pixels : PhysicalSizeY¹³⁵⁴
- Pixels : PhysicalSizeZ¹³⁵⁵
- Pixels : SignificantBits¹³⁵⁶
- Pixels : SizeC¹³⁵⁷
- Pixels : SizeT¹³⁵⁸
- Pixels : SizeX¹³⁵⁹
- Pixels : SizeY¹³⁶⁰
- Pixels : SizeZ¹³⁶¹
- Pixels : Type¹³⁶²
- Plane : TheC¹³⁶³
- Plane : TheT¹³⁶⁴

¹³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

¹³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

¹³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ¹³⁶⁵

Total supported: 23

Total unknown or missing: 452

18.2.29 EPSReader

This page lists supported metadata fields for the Bio-Formats Encapsulated PostScript format reader.

These fields are from the [OME data model](#)¹³⁶⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Encapsulated PostScript format reader:

- Channel : ID¹³⁶⁷
- Channel : SamplesPerPixel¹³⁶⁸
- Image : AcquisitionDate¹³⁶⁹
- Image : ID¹³⁷⁰
- Image : Name¹³⁷¹
- Pixels : BigEndian¹³⁷²
- Pixels : DimensionOrder¹³⁷³
- Pixels : ID¹³⁷⁴
- Pixels : Interleaved¹³⁷⁵
- Pixels : SignificantBits¹³⁷⁶
- Pixels : SizeC¹³⁷⁷
- Pixels : SizeT¹³⁷⁸
- Pixels : SizeX¹³⁷⁹
- Pixels : SizeY¹³⁸⁰
- Pixels : SizeZ¹³⁸¹
- Pixels : Type¹³⁸²

¹³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹³⁶⁶<http://www.openmicroscopy.org/site/support/ome-model/>

¹³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC¹³⁸³
- Plane : TheT¹³⁸⁴
- Plane : TheZ¹³⁸⁵

Total supported: 19

Total unknown or missing: 456

18.2.30 Ecat7Reader

This page lists supported metadata fields for the Bio-Formats ECAT7 format reader.

These fields are from the [OME data model](#)¹³⁸⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats ECAT7 format reader:

- Channel : ID¹³⁸⁷
- Channel : SamplesPerPixel¹³⁸⁸
- Image : AcquisitionDate¹³⁸⁹
- Image : Description¹³⁹⁰
- Image : ID¹³⁹¹
- Image : Name¹³⁹²
- Pixels : BigEndian¹³⁹³
- Pixels : DimensionOrder¹³⁹⁴
- Pixels : ID¹³⁹⁵
- Pixels : Interleaved¹³⁹⁶
- Pixels : PhysicalSizeX¹³⁹⁷
- Pixels : PhysicalSizeY¹³⁹⁸
- Pixels : PhysicalSizeZ¹³⁹⁹
- Pixels : SignificantBits¹⁴⁰⁰

¹³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹³⁸⁶<http://www.openmicroscopy.org/site/support/ome-model/>

¹³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

¹³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

¹⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC¹⁴⁰¹
- Pixels : SizeT¹⁴⁰²
- Pixels : SizeX¹⁴⁰³
- Pixels : SizeY¹⁴⁰⁴
- Pixels : SizeZ¹⁴⁰⁵
- Pixels : Type¹⁴⁰⁶
- Plane : TheC¹⁴⁰⁷
- Plane : TheT¹⁴⁰⁸
- Plane : TheZ¹⁴⁰⁹

Total supported: 23

Total unknown or missing: 452

18.2.31 FEIReader

This page lists supported metadata fields for the Bio-Formats FEI/Philips format reader.

These fields are from the [OME data model](#)¹⁴¹⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats FEI/Philips format reader:

- Channel : ID¹⁴¹¹
- Channel : SamplesPerPixel¹⁴¹²
- Image : AcquisitionDate¹⁴¹³
- Image : ID¹⁴¹⁴
- Image : Name¹⁴¹⁵
- Pixels : BigEndian¹⁴¹⁶
- Pixels : DimensionOrder¹⁴¹⁷
- Pixels : ID¹⁴¹⁸

¹⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁴¹⁰<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved¹⁴¹⁹
- Pixels : SignificantBits¹⁴²⁰
- Pixels : SizeC¹⁴²¹
- Pixels : SizeT¹⁴²²
- Pixels : SizeX¹⁴²³
- Pixels : SizeY¹⁴²⁴
- Pixels : SizeZ¹⁴²⁵
- Pixels : Type¹⁴²⁶
- Plane : TheC¹⁴²⁷
- Plane : TheT¹⁴²⁸
- Plane : TheZ¹⁴²⁹

Total supported: 19

Total unknown or missing: 456

18.2.32 FEITiffReader

This page lists supported metadata fields for the Bio-Formats FEI TIFF format reader.

These fields are from the [OME data model](#)¹⁴³⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 39 of them (8%).
- Of those, Bio-Formats fully or partially converts 39 (100%).

Supported fields

These fields are fully supported by the Bio-Formats FEI TIFF format reader:

- Channel : ID¹⁴³¹
- Channel : SamplesPerPixel¹⁴³²
- Detector : ID¹⁴³³
- Detector : Model¹⁴³⁴
- Detector : Type¹⁴³⁵
- Experimenter : ID¹⁴³⁶

¹⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁴³⁰<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

¹⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

¹⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

- Experimenter : LastName¹⁴³⁷
- Image : AcquisitionDate¹⁴³⁸
- Image : Description¹⁴³⁹
- Image : ID¹⁴⁴⁰
- Image : InstrumentRef¹⁴⁴¹
- Image : Name¹⁴⁴²
- Instrument : ID¹⁴⁴³
- Microscope : Model¹⁴⁴⁴
- Objective : Correction¹⁴⁴⁵
- Objective : ID¹⁴⁴⁶
- Objective : Immersion¹⁴⁴⁷
- Objective : NominalMagnification¹⁴⁴⁸
- Pixels : BigEndian¹⁴⁴⁹
- Pixels : DimensionOrder¹⁴⁵⁰
- Pixels : ID¹⁴⁵¹
- Pixels : Interleaved¹⁴⁵²
- Pixels : PhysicalSizeX¹⁴⁵³
- Pixels : PhysicalSizeY¹⁴⁵⁴
- Pixels : SignificantBits¹⁴⁵⁵
- Pixels : SizeC¹⁴⁵⁶
- Pixels : SizeT¹⁴⁵⁷
- Pixels : SizeX¹⁴⁵⁸
- Pixels : SizeY¹⁴⁵⁹
- Pixels : SizeZ¹⁴⁶⁰
- Pixels : TimeIncrement¹⁴⁶¹
- Pixels : Type¹⁴⁶²

¹⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

¹⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

¹⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

¹⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

¹⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

¹⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

¹⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

¹⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

¹⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

¹⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC¹⁴⁶³
- Plane : TheT¹⁴⁶⁴
- Plane : TheZ¹⁴⁶⁵
- StageLabel : Name¹⁴⁶⁶
- StageLabel : X¹⁴⁶⁷
- StageLabel : Y¹⁴⁶⁸
- StageLabel : Z¹⁴⁶⁹

Total supported: 39

Total unknown or missing: 436

18.2.33 FV1000Reader

This page lists supported metadata fields for the Bio-Formats Olympus FV1000 format reader.

These fields are from the [OME data model](#)¹⁴⁷⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 113 of them (23%).
- Of those, Bio-Formats fully or partially converts 113 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus FV1000 format reader:

- Channel : EmissionWavelength¹⁴⁷¹
- Channel : ExcitationWavelength¹⁴⁷²
- Channel : ID¹⁴⁷³
- Channel : IlluminationType¹⁴⁷⁴
- Channel : LightSourceSettingsID¹⁴⁷⁵
- Channel : LightSourceSettingsWavelength¹⁴⁷⁶
- Channel : Name¹⁴⁷⁷
- Channel : SamplesPerPixel¹⁴⁷⁸
- Detector : Gain¹⁴⁷⁹
- Detector : ID¹⁴⁸⁰

¹⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Name

¹⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_X

¹⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Y

¹⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Z

¹⁴⁷⁰<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

¹⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

¹⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_IlluminationType

¹⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

¹⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Wavelength

¹⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

¹⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

¹⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

- Detector : Type¹⁴⁸¹
- Detector : Voltage¹⁴⁸²
- DetectorSettings : ID¹⁴⁸³
- Dichroic : ID¹⁴⁸⁴
- Dichroic : Model¹⁴⁸⁵
- Ellipse : FontSize¹⁴⁸⁶
- Ellipse : ID¹⁴⁸⁷
- Ellipse : RadiusX¹⁴⁸⁸
- Ellipse : RadiusY¹⁴⁸⁹
- Ellipse : StrokeWidth¹⁴⁹⁰
- Ellipse : TheT¹⁴⁹¹
- Ellipse : TheZ¹⁴⁹²
- Ellipse : Transform¹⁴⁹³
- Ellipse : X¹⁴⁹⁴
- Ellipse : Y¹⁴⁹⁵
- Filter : ID¹⁴⁹⁶
- Filter : Model¹⁴⁹⁷
- Image : AcquisitionDate¹⁴⁹⁸
- Image : ID¹⁴⁹⁹
- Image : InstrumentRef¹⁵⁰⁰
- Image : Name¹⁵⁰¹
- Image : ROIRef¹⁵⁰²
- Instrument : ID¹⁵⁰³
- Laser : ID¹⁵⁰⁴
- Laser : LaserMedium¹⁵⁰⁵
- Laser : Type¹⁵⁰⁶

¹⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

¹⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Voltage

¹⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

¹⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

¹⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

¹⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

¹⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

¹⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

¹⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

¹⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

¹⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

¹⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

¹⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

¹⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

¹⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

¹⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

¹⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

¹⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

¹⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

¹⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

¹⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

- Laser : Wavelength¹⁵⁰⁷
- LightPath : DichroicRef¹⁵⁰⁸
- LightPath : EmissionFilterRef¹⁵⁰⁹
- Line : FontSize¹⁵¹⁰
- Line : ID¹⁵¹¹
- Line : StrokeWidth¹⁵¹²
- Line : TheT¹⁵¹³
- Line : TheZ¹⁵¹⁴
- Line : Transform¹⁵¹⁵
- Line : X1¹⁵¹⁶
- Line : X2¹⁵¹⁷
- Line : Y1¹⁵¹⁸
- Line : Y2¹⁵¹⁹
- Objective : Correction¹⁵²⁰
- Objective : ID¹⁵²¹
- Objective : Immersion¹⁵²²
- Objective : LensNA¹⁵²³
- Objective : Model¹⁵²⁴
- Objective : NominalMagnification¹⁵²⁵
- Objective : WorkingDistance¹⁵²⁶
- ObjectiveSettings : ID¹⁵²⁷
- Pixels : BigEndian¹⁵²⁸
- Pixels : DimensionOrder¹⁵²⁹
- Pixels : ID¹⁵³⁰
- Pixels : Interleaved¹⁵³¹
- Pixels : PhysicalSizeX¹⁵³²

¹⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

¹⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

¹⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

¹⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

¹⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

¹⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

¹⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

¹⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

¹⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

¹⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

¹⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

¹⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

¹⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

¹⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

¹⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

¹⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

¹⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

¹⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

¹⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

¹⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

¹⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY¹⁵³³
- Pixels : PhysicalSizeZ¹⁵³⁴
- Pixels : SignificantBits¹⁵³⁵
- Pixels : SizeC¹⁵³⁶
- Pixels : SizeT¹⁵³⁷
- Pixels : SizeX¹⁵³⁸
- Pixels : SizeY¹⁵³⁹
- Pixels : SizeZ¹⁵⁴⁰
- Pixels : TimeIncrement¹⁵⁴¹
- Pixels : Type¹⁵⁴²
- Plane : DeltaT¹⁵⁴³
- Plane : PositionX¹⁵⁴⁴
- Plane : PositionY¹⁵⁴⁵
- Plane : PositionZ¹⁵⁴⁶
- Plane : TheC¹⁵⁴⁷
- Plane : TheT¹⁵⁴⁸
- Plane : TheZ¹⁵⁴⁹
- Point : FontSize¹⁵⁵⁰
- Point : ID¹⁵⁵¹
- Point : StrokeWidth¹⁵⁵²
- Point : TheT¹⁵⁵³
- Point : TheZ¹⁵⁵⁴
- Point : X¹⁵⁵⁵
- Point : Y¹⁵⁵⁶
- Polygon : FontSize¹⁵⁵⁷
- Polygon : ID¹⁵⁵⁸

- ¹⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ¹⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ¹⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ¹⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ¹⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ¹⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ¹⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ¹⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ¹⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement
- ¹⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ¹⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT
- ¹⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
- ¹⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
- ¹⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ
- ¹⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ¹⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ¹⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ¹⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize
- ¹⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ¹⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth
- ¹⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT
- ¹⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ
- ¹⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_X
- ¹⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_Y
- ¹⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize
- ¹⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

- Polygon : Points¹⁵⁵⁹
- Polygon : StrokeWidth¹⁵⁶⁰
- Polygon : TheT¹⁵⁶¹
- Polygon : TheZ¹⁵⁶²
- Polygon : Transform¹⁵⁶³
- Polyline : FontSize¹⁵⁶⁴
- Polyline : ID¹⁵⁶⁵
- Polyline : Points¹⁵⁶⁶
- Polyline : StrokeWidth¹⁵⁶⁷
- Polyline : TheT¹⁵⁶⁸
- Polyline : TheZ¹⁵⁶⁹
- Polyline : Transform¹⁵⁷⁰
- ROI : ID¹⁵⁷¹
- Rectangle : FontSize¹⁵⁷²
- Rectangle : Height¹⁵⁷³
- Rectangle : ID¹⁵⁷⁴
- Rectangle : StrokeWidth¹⁵⁷⁵
- Rectangle : TheT¹⁵⁷⁶
- Rectangle : TheZ¹⁵⁷⁷
- Rectangle : Transform¹⁵⁷⁸
- Rectangle : Width¹⁵⁷⁹
- Rectangle : X¹⁵⁸⁰
- Rectangle : Y¹⁵⁸¹
- TransmittanceRange : CutIn¹⁵⁸²
- TransmittanceRange : CutOut¹⁵⁸³

Total supported: 113

Total unknown or missing: 362

¹⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

¹⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

¹⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

¹⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

¹⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

¹⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

¹⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

¹⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

¹⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

¹⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

¹⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

¹⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

¹⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

¹⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

¹⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

¹⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

¹⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

¹⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

¹⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

¹⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

¹⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

¹⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

¹⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

¹⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

¹⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

18.2.34 FakeReader

This page lists supported metadata fields for the Bio-Formats Simulated data format reader.

These fields are from the [OME data model](#)¹⁵⁸⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 49 of them (10%).
- Of those, Bio-Formats fully or partially converts 49 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Simulated data format reader:

- BooleanAnnotation : ID¹⁵⁸⁵
- BooleanAnnotation : Namespace¹⁵⁸⁶
- BooleanAnnotation : Value¹⁵⁸⁷
- Channel : Color¹⁵⁸⁸
- Channel : ID¹⁵⁸⁹
- Channel : SamplesPerPixel¹⁵⁹⁰
- CommentAnnotation : ID¹⁵⁹¹
- CommentAnnotation : Namespace¹⁵⁹²
- CommentAnnotation : Value¹⁵⁹³
- DoubleAnnotation : ID¹⁵⁹⁴
- DoubleAnnotation : Namespace¹⁵⁹⁵
- DoubleAnnotation : Value¹⁵⁹⁶
- Image : AcquisitionDate¹⁵⁹⁷
- Image : AnnotationRef¹⁵⁹⁸
- Image : ID¹⁵⁹⁹
- Image : Name¹⁶⁰⁰
- LongAnnotation : ID¹⁶⁰¹
- LongAnnotation : Namespace¹⁶⁰²
- LongAnnotation : Value¹⁶⁰³

¹⁵⁸⁴<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID

¹⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace

¹⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#BooleanAnnotation_Value

¹⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

¹⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID

¹⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace

¹⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#CommentAnnotation_Value

¹⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID

¹⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace

¹⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#DoubleAnnotation_Value

¹⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID

¹⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID

¹⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace

¹⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#LongAnnotation_Value

- Pixels : BigEndian¹⁶⁰⁴
- Pixels : DimensionOrder¹⁶⁰⁵
- Pixels : ID¹⁶⁰⁶
- Pixels : Interleaved¹⁶⁰⁷
- Pixels : PhysicalSizeX¹⁶⁰⁸
- Pixels : PhysicalSizeY¹⁶⁰⁹
- Pixels : PhysicalSizeZ¹⁶¹⁰
- Pixels : SignificantBits¹⁶¹¹
- Pixels : SizeC¹⁶¹²
- Pixels : SizeT¹⁶¹³
- Pixels : SizeX¹⁶¹⁴
- Pixels : SizeY¹⁶¹⁵
- Pixels : SizeZ¹⁶¹⁶
- Pixels : Type¹⁶¹⁷
- Plane : ExposureTime¹⁶¹⁸
- Plane : TheC¹⁶¹⁹
- Plane : TheT¹⁶²⁰
- Plane : TheZ¹⁶²¹
- TagAnnotation : ID¹⁶²²
- TagAnnotation : Namespace¹⁶²³
- TagAnnotation : Value¹⁶²⁴
- TermAnnotation : ID¹⁶²⁵
- TermAnnotation : Namespace¹⁶²⁶
- TermAnnotation : Value¹⁶²⁷
- TimestampAnnotation : ID¹⁶²⁸
- TimestampAnnotation : Namespace¹⁶²⁹

¹⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

¹⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

¹⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID

¹⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace

¹⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#TagAnnotation_Value

¹⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID

¹⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace

¹⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#TermAnnotation_Value

¹⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID

¹⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace

- `TimestampAnnotation : Value`¹⁶³⁰
- `XMLAnnotation : ID`¹⁶³¹
- `XMLAnnotation : Namespace`¹⁶³²
- `XMLAnnotation : Value`¹⁶³³

Total supported: 49

Total unknown or missing: 426

18.2.35 FilePatternReader

This page lists supported metadata fields for the Bio-Formats File pattern format reader.

These fields are from the [OME data model](#)¹⁶³⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats File pattern format reader:

- `Channel : ID`¹⁶³⁵
- `Channel : SamplesPerPixel`¹⁶³⁶
- `Image : AcquisitionDate`¹⁶³⁷
- `Image : ID`¹⁶³⁸
- `Image : Name`¹⁶³⁹
- `Pixels : BigEndian`¹⁶⁴⁰
- `Pixels : DimensionOrder`¹⁶⁴¹
- `Pixels : ID`¹⁶⁴²
- `Pixels : Interleaved`¹⁶⁴³
- `Pixels : SignificantBits`¹⁶⁴⁴
- `Pixels : SizeC`¹⁶⁴⁵
- `Pixels : SizeT`¹⁶⁴⁶
- `Pixels : SizeX`¹⁶⁴⁷

¹⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#TimestampAnnotation_Value

¹⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID

¹⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace

¹⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#XMLAnnotation_Value

¹⁶³⁴<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY¹⁶⁴⁸
- Pixels : SizeZ¹⁶⁴⁹
- Pixels : Type¹⁶⁵⁰
- Plane : TheC¹⁶⁵¹
- Plane : TheT¹⁶⁵²
- Plane : TheZ¹⁶⁵³

Total supported: 19

Total unknown or missing: 456

18.2.36 FitsReader

This page lists supported metadata fields for the Bio-Formats Flexible Image Transport System format reader.

These fields are from the [OME data model](#)¹⁶⁵⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Flexible Image Transport System format reader:

- Channel : ID¹⁶⁵⁵
- Channel : SamplesPerPixel¹⁶⁵⁶
- Image : AcquisitionDate¹⁶⁵⁷
- Image : ID¹⁶⁵⁸
- Image : Name¹⁶⁵⁹
- Pixels : BigEndian¹⁶⁶⁰
- Pixels : DimensionOrder¹⁶⁶¹
- Pixels : ID¹⁶⁶²
- Pixels : Interleaved¹⁶⁶³
- Pixels : SignificantBits¹⁶⁶⁴
- Pixels : SizeC¹⁶⁶⁵

¹⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁶⁵⁴<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT¹⁶⁶⁶
- Pixels : SizeX¹⁶⁶⁷
- Pixels : SizeY¹⁶⁶⁸
- Pixels : SizeZ¹⁶⁶⁹
- Pixels : Type¹⁶⁷⁰
- Plane : TheC¹⁶⁷¹
- Plane : TheT¹⁶⁷²
- Plane : TheZ¹⁶⁷³

Total supported: 19

Total unknown or missing: 456

18.2.37 FlexReader

This page lists supported metadata fields for the Bio-Formats Evotec Flex format reader.

These fields are from the [OME data model](#)¹⁶⁷⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 69 of them (14%).
- Of those, Bio-Formats fully or partially converts 69 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Evotec Flex format reader:

- Channel : ID¹⁶⁷⁵
- Channel : LightSourceSettingsID¹⁶⁷⁶
- Channel : Name¹⁶⁷⁷
- Channel : SamplesPerPixel¹⁶⁷⁸
- Detector : ID¹⁶⁷⁹
- Detector : Type¹⁶⁸⁰
- DetectorSettings : Binning¹⁶⁸¹
- DetectorSettings : ID¹⁶⁸²
- Dichroic : ID¹⁶⁸³

¹⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁶⁷⁴<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

¹⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

¹⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

¹⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

¹⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

¹⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

¹⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

- Dichroic : Model¹⁶⁸⁴
- Filter : FilterWheel¹⁶⁸⁵
- Filter : ID¹⁶⁸⁶
- Filter : Model¹⁶⁸⁷
- Image : AcquisitionDate¹⁶⁸⁸
- Image : ID¹⁶⁸⁹
- Image : InstrumentRef¹⁶⁹⁰
- Image : Name¹⁶⁹¹
- Instrument : ID¹⁶⁹²
- Laser : ID¹⁶⁹³
- Laser : LaserMedium¹⁶⁹⁴
- Laser : Type¹⁶⁹⁵
- Laser : Wavelength¹⁶⁹⁶
- LightPath : DichroicRef¹⁶⁹⁷
- LightPath : EmissionFilterRef¹⁶⁹⁸
- LightPath : ExcitationFilterRef¹⁶⁹⁹
- Objective : CalibratedMagnification¹⁷⁰⁰
- Objective : Correction¹⁷⁰¹
- Objective : ID¹⁷⁰²
- Objective : Immersion¹⁷⁰³
- Objective : LensNA¹⁷⁰⁴
- ObjectiveSettings : ID¹⁷⁰⁵
- Pixels : BigEndian¹⁷⁰⁶
- Pixels : DimensionOrder¹⁷⁰⁷
- Pixels : ID¹⁷⁰⁸
- Pixels : Interleaved¹⁷⁰⁹

¹⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_FilterWheel

¹⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

¹⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

¹⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

¹⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

¹⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

¹⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

¹⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

¹⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

¹⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

¹⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

¹⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

¹⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

¹⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

¹⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

¹⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

¹⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

¹⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : PhysicalSizeX¹⁷¹⁰
- Pixels : PhysicalSizeY¹⁷¹¹
- Pixels : SignificantBits¹⁷¹²
- Pixels : SizeC¹⁷¹³
- Pixels : SizeT¹⁷¹⁴
- Pixels : SizeX¹⁷¹⁵
- Pixels : SizeY¹⁷¹⁶
- Pixels : SizeZ¹⁷¹⁷
- Pixels : Type¹⁷¹⁸
- Plane : DeltaT¹⁷¹⁹
- Plane : ExposureTime¹⁷²⁰
- Plane : PositionX¹⁷²¹
- Plane : PositionY¹⁷²²
- Plane : PositionZ¹⁷²³
- Plane : TheC¹⁷²⁴
- Plane : TheT¹⁷²⁵
- Plane : TheZ¹⁷²⁶
- Plate : ColumnNamingConvention¹⁷²⁷
- Plate : ExternalIdentifier¹⁷²⁸
- Plate : ID¹⁷²⁹
- Plate : Name¹⁷³⁰
- Plate : RowNamingConvention¹⁷³¹
- PlateAcquisition : ID¹⁷³²
- PlateAcquisition : MaximumFieldCount¹⁷³³
- PlateAcquisition : StartTime¹⁷³⁴
- PlateAcquisition : WellSampleRef¹⁷³⁵

¹⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

¹⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

¹⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

¹⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

¹⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

¹⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

¹⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ExternalIdentifier

¹⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

¹⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

¹⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

¹⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

¹⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

¹⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_StartTime

¹⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

- Well : Column¹⁷³⁶
- Well : ID¹⁷³⁷
- Well : Row¹⁷³⁸
- WellSample : ID¹⁷³⁹
- WellSample : ImageRef¹⁷⁴⁰
- WellSample : Index¹⁷⁴¹
- WellSample : PositionX¹⁷⁴²
- WellSample : PositionY¹⁷⁴³

Total supported: 69

Total unknown or missing: 406

18.2.38 FlowSightReader

This page lists supported metadata fields for the Bio-Formats FlowSight format reader.

These fields are from the [OME data model](#)¹⁷⁴⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 20 of them (4%).
- Of those, Bio-Formats fully or partially converts 20 (100%).

Supported fields

These fields are fully supported by the Bio-Formats FlowSight format reader:

- Channel : ID¹⁷⁴⁵
- Channel : Name¹⁷⁴⁶
- Channel : SamplesPerPixel¹⁷⁴⁷
- Image : AcquisitionDate¹⁷⁴⁸
- Image : ID¹⁷⁴⁹
- Image : Name¹⁷⁵⁰
- Pixels : BigEndian¹⁷⁵¹
- Pixels : DimensionOrder¹⁷⁵²
- Pixels : ID¹⁷⁵³

¹⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

¹⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

¹⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

¹⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

¹⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

¹⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

¹⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

¹⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

¹⁷⁴⁴<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

¹⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved¹⁷⁵⁴
- Pixels : SignificantBits¹⁷⁵⁵
- Pixels : SizeC¹⁷⁵⁶
- Pixels : SizeT¹⁷⁵⁷
- Pixels : SizeX¹⁷⁵⁸
- Pixels : SizeY¹⁷⁵⁹
- Pixels : SizeZ¹⁷⁶⁰
- Pixels : Type¹⁷⁶¹
- Plane : TheC¹⁷⁶²
- Plane : TheT¹⁷⁶³
- Plane : TheZ¹⁷⁶⁴

Total supported: 20

Total unknown or missing: 455

18.2.39 FluoviewReader

This page lists supported metadata fields for the Bio-Formats Olympus Fluoview/ABD TIFF format reader.

These fields are from the [OME data model](#)¹⁷⁶⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 49 of them (10%).
- Of those, Bio-Formats fully or partially converts 49 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus Fluoview/ABD TIFF format reader:

- Channel : ID¹⁷⁶⁶
- Channel : Name¹⁷⁶⁷
- Channel : SamplesPerPixel¹⁷⁶⁸
- Detector : ID¹⁷⁶⁹
- Detector : Manufacturer¹⁷⁷⁰
- Detector : Model¹⁷⁷¹

¹⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁷⁶⁵<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

¹⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

¹⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

¹⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

- Detector : Type¹⁷⁷²
- DetectorSettings : Gain¹⁷⁷³
- DetectorSettings : ID¹⁷⁷⁴
- DetectorSettings : Offset¹⁷⁷⁵
- DetectorSettings : ReadOutRate¹⁷⁷⁶
- DetectorSettings : Voltage¹⁷⁷⁷
- Image : AcquisitionDate¹⁷⁷⁸
- Image : Description¹⁷⁷⁹
- Image : ID¹⁷⁸⁰
- Image : InstrumentRef¹⁷⁸¹
- Image : Name¹⁷⁸²
- ImagingEnvironment : Temperature¹⁷⁸³
- Instrument : ID¹⁷⁸⁴
- Objective : CalibratedMagnification¹⁷⁸⁵
- Objective : Correction¹⁷⁸⁶
- Objective : ID¹⁷⁸⁷
- Objective : Immersion¹⁷⁸⁸
- Objective : LensNA¹⁷⁸⁹
- Objective : Model¹⁷⁹⁰
- ObjectiveSettings : ID¹⁷⁹¹
- Pixels : BigEndian¹⁷⁹²
- Pixels : DimensionOrder¹⁷⁹³
- Pixels : ID¹⁷⁹⁴
- Pixels : Interleaved¹⁷⁹⁵
- Pixels : PhysicalSizeX¹⁷⁹⁶
- Pixels : PhysicalSizeY¹⁷⁹⁷

¹⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

¹⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

¹⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

¹⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

¹⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

¹⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

¹⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

¹⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

¹⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

¹⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

¹⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

¹⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

¹⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

¹⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

¹⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

¹⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

¹⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

¹⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

- Pixels : PhysicalSizeZ¹⁷⁹⁸
- Pixels : SignificantBits¹⁷⁹⁹
- Pixels : SizeC¹⁸⁰⁰
- Pixels : SizeT¹⁸⁰¹
- Pixels : SizeX¹⁸⁰²
- Pixels : SizeY¹⁸⁰³
- Pixels : SizeZ¹⁸⁰⁴
- Pixels : TimeIncrement¹⁸⁰⁵
- Pixels : Type¹⁸⁰⁶
- Plane : DeltaT¹⁸⁰⁷
- Plane : ExposureTime¹⁸⁰⁸
- Plane : PositionX¹⁸⁰⁹
- Plane : PositionY¹⁸¹⁰
- Plane : PositionZ¹⁸¹¹
- Plane : TheC¹⁸¹²
- Plane : TheT¹⁸¹³
- Plane : TheZ¹⁸¹⁴

Total supported: 49

Total unknown or missing: 426

18.2.40 FujiReader

This page lists supported metadata fields for the Bio-Formats Fuji LAS 3000 format reader.

These fields are from the [OME data model](#)¹⁸¹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

¹⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

¹⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

¹⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

¹⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

¹⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

¹⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

¹⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

¹⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁸¹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Fuji LAS 3000 format reader:

- Channel : ID¹⁸¹⁶
- Channel : SamplesPerPixel¹⁸¹⁷
- Image : AcquisitionDate¹⁸¹⁸
- Image : ID¹⁸¹⁹
- Image : Name¹⁸²⁰
- Instrument : ID¹⁸²¹
- Microscope : Model¹⁸²²
- Pixels : BigEndian¹⁸²³
- Pixels : DimensionOrder¹⁸²⁴
- Pixels : ID¹⁸²⁵
- Pixels : Interleaved¹⁸²⁶
- Pixels : PhysicalSizeX¹⁸²⁷
- Pixels : PhysicalSizeY¹⁸²⁸
- Pixels : SignificantBits¹⁸²⁹
- Pixels : SizeC¹⁸³⁰
- Pixels : SizeT¹⁸³¹
- Pixels : SizeX¹⁸³²
- Pixels : SizeY¹⁸³³
- Pixels : SizeZ¹⁸³⁴
- Pixels : Type¹⁸³⁵
- Plane : TheC¹⁸³⁶
- Plane : TheT¹⁸³⁷
- Plane : TheZ¹⁸³⁸

Total supported: 23

Total unknown or missing: 452

- ¹⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ¹⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ¹⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ¹⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ¹⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ¹⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ¹⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model
- ¹⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ¹⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ¹⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ¹⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ¹⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ¹⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ¹⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ¹⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ¹⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ¹⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ¹⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ¹⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ¹⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ¹⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ¹⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ¹⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.41 GIFReader

This page lists supported metadata fields for the Bio-Formats Graphics Interchange Format format reader.

These fields are from the [OME data model](#)¹⁸³⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Graphics Interchange Format format reader:

- Channel : ID¹⁸⁴⁰
- Channel : SamplesPerPixel¹⁸⁴¹
- Image : AcquisitionDate¹⁸⁴²
- Image : ID¹⁸⁴³
- Image : Name¹⁸⁴⁴
- Pixels : BigEndian¹⁸⁴⁵
- Pixels : DimensionOrder¹⁸⁴⁶
- Pixels : ID¹⁸⁴⁷
- Pixels : Interleaved¹⁸⁴⁸
- Pixels : SignificantBits¹⁸⁴⁹
- Pixels : SizeC¹⁸⁵⁰
- Pixels : SizeT¹⁸⁵¹
- Pixels : SizeX¹⁸⁵²
- Pixels : SizeY¹⁸⁵³
- Pixels : SizeZ¹⁸⁵⁴
- Pixels : Type¹⁸⁵⁵
- Plane : TheC¹⁸⁵⁶
- Plane : TheT¹⁸⁵⁷

¹⁸³⁹<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ¹⁸⁵⁸

Total supported: 19

Total unknown or missing: 456

18.2.42 GatanDM2Reader

This page lists supported metadata fields for the Bio-Formats Gatan DM2 format reader.

These fields are from the [OME data model](#)¹⁸⁵⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 30 of them (6%).
- Of those, Bio-Formats fully or partially converts 30 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Gatan DM2 format reader:

- Channel : ID¹⁸⁶⁰
- Channel : SamplesPerPixel¹⁸⁶¹
- Detector : ID¹⁸⁶²
- DetectorSettings : Binning¹⁸⁶³
- DetectorSettings : ID¹⁸⁶⁴
- Experimenter : FirstName¹⁸⁶⁵
- Experimenter : ID¹⁸⁶⁶
- Experimenter : LastName¹⁸⁶⁷
- Image : AcquisitionDate¹⁸⁶⁸
- Image : ExperimenterRef¹⁸⁶⁹
- Image : ID¹⁸⁷⁰
- Image : InstrumentRef¹⁸⁷¹
- Image : Name¹⁸⁷²
- Instrument : ID¹⁸⁷³
- Pixels : BigEndian¹⁸⁷⁴
- Pixels : DimensionOrder¹⁸⁷⁵

¹⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁸⁵⁹<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

¹⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

¹⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

¹⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

¹⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

¹⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

¹⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

¹⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

¹⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

¹⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID¹⁸⁷⁶
- Pixels : Interleaved¹⁸⁷⁷
- Pixels : PhysicalSizeX¹⁸⁷⁸
- Pixels : PhysicalSizeY¹⁸⁷⁹
- Pixels : SignificantBits¹⁸⁸⁰
- Pixels : SizeC¹⁸⁸¹
- Pixels : SizeT¹⁸⁸²
- Pixels : SizeX¹⁸⁸³
- Pixels : SizeY¹⁸⁸⁴
- Pixels : SizeZ¹⁸⁸⁵
- Pixels : Type¹⁸⁸⁶
- Plane : TheC¹⁸⁸⁷
- Plane : TheT¹⁸⁸⁸
- Plane : TheZ¹⁸⁸⁹

Total supported: 30

Total unknown or missing: 445

18.2.43 GatanReader

This page lists supported metadata fields for the Bio-Formats Gatan Digital Micrograph format reader.

These fields are from the [OME data model](#)¹⁸⁹⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 36 of them (7%).
- Of those, Bio-Formats fully or partially converts 36 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Gatan Digital Micrograph format reader:

- Channel : AcquisitionMode¹⁸⁹¹
- Channel : ID¹⁸⁹²
- Channel : SamplesPerPixel¹⁸⁹³

¹⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁸⁹⁰<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

¹⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Detector : ID¹⁸⁹⁴
- DetectorSettings : ID¹⁸⁹⁵
- DetectorSettings : Voltage¹⁸⁹⁶
- Image : AcquisitionDate¹⁸⁹⁷
- Image : ID¹⁸⁹⁸
- Image : Name¹⁸⁹⁹
- Instrument : ID¹⁹⁰⁰
- Objective : Correction¹⁹⁰¹
- Objective : ID¹⁹⁰²
- Objective : Immersion¹⁹⁰³
- Objective : NominalMagnification¹⁹⁰⁴
- ObjectiveSettings : ID¹⁹⁰⁵
- Pixels : BigEndian¹⁹⁰⁶
- Pixels : DimensionOrder¹⁹⁰⁷
- Pixels : ID¹⁹⁰⁸
- Pixels : Interleaved¹⁹⁰⁹
- Pixels : PhysicalSizeX¹⁹¹⁰
- Pixels : PhysicalSizeY¹⁹¹¹
- Pixels : PhysicalSizeZ¹⁹¹²
- Pixels : SignificantBits¹⁹¹³
- Pixels : SizeC¹⁹¹⁴
- Pixels : SizeT¹⁹¹⁵
- Pixels : SizeX¹⁹¹⁶
- Pixels : SizeY¹⁹¹⁷
- Pixels : SizeZ¹⁹¹⁸
- Pixels : Type¹⁹¹⁹

¹⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

¹⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

¹⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

¹⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

¹⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

¹⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

¹⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

¹⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

¹⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

¹⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

¹⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

¹⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : ExposureTime¹⁹²⁰
- Plane : PositionX¹⁹²¹
- Plane : PositionY¹⁹²²
- Plane : PositionZ¹⁹²³
- Plane : TheC¹⁹²⁴
- Plane : TheT¹⁹²⁵
- Plane : TheZ¹⁹²⁶

Total supported: 36

Total unknown or missing: 439

18.2.44 GelReader

This page lists supported metadata fields for the Bio-Formats Amersham Biosciences GEL format reader.

These fields are from the [OME data model](#)¹⁹²⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Amersham Biosciences GEL format reader:

- Channel : ID¹⁹²⁸
- Channel : SamplesPerPixel¹⁹²⁹
- Image : AcquisitionDate¹⁹³⁰
- Image : ID¹⁹³¹
- Image : Name¹⁹³²
- Pixels : BigEndian¹⁹³³
- Pixels : DimensionOrder¹⁹³⁴
- Pixels : ID¹⁹³⁵
- Pixels : Interleaved¹⁹³⁶
- Pixels : PhysicalSizeX¹⁹³⁷

¹⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

¹⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

¹⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

¹⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

¹⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁹²⁷<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

¹⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

¹⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

¹⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

¹⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

¹⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

¹⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

¹⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY¹⁹³⁸
- Pixels : SignificantBits¹⁹³⁹
- Pixels : SizeC¹⁹⁴⁰
- Pixels : SizeT¹⁹⁴¹
- Pixels : SizeX¹⁹⁴²
- Pixels : SizeY¹⁹⁴³
- Pixels : SizeZ¹⁹⁴⁴
- Pixels : Type¹⁹⁴⁵
- Plane : TheC¹⁹⁴⁶
- Plane : TheT¹⁹⁴⁷
- Plane : TheZ¹⁹⁴⁸

Total supported: 21

Total unknown or missing: 454

18.2.45 HISReader

This page lists supported metadata fields for the Bio-Formats Hamamatsu HIS format reader.

These fields are from the [OME data model](#)¹⁹⁴⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 27 of them (5%).
- Of those, Bio-Formats fully or partially converts 27 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Hamamatsu HIS format reader:

- Channel : ID¹⁹⁵⁰
- Channel : SamplesPerPixel¹⁹⁵¹
- Detector : ID¹⁹⁵²
- Detector : Offset¹⁹⁵³
- Detector : Type¹⁹⁵⁴
- DetectorSettings : Binning¹⁹⁵⁵

¹⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

¹⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

¹⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

¹⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

¹⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

¹⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

¹⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

¹⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

¹⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

¹⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

¹⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

¹⁹⁴⁹<http://www.openmicroscopy.org/site/support/ome-model/>

¹⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

¹⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

¹⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

¹⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

¹⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

¹⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

- DetectorSettings : ID¹⁹⁵⁶
- Image : AcquisitionDate¹⁹⁵⁷
- Image : ID¹⁹⁵⁸
- Image : InstrumentRef¹⁹⁵⁹
- Image : Name¹⁹⁶⁰
- Instrument : ID¹⁹⁶¹
- Pixels : BigEndian¹⁹⁶²
- Pixels : DimensionOrder¹⁹⁶³
- Pixels : ID¹⁹⁶⁴
- Pixels : Interleaved¹⁹⁶⁵
- Pixels : SignificantBits¹⁹⁶⁶
- Pixels : SizeC¹⁹⁶⁷
- Pixels : SizeT¹⁹⁶⁸
- Pixels : SizeX¹⁹⁶⁹
- Pixels : SizeY¹⁹⁷⁰
- Pixels : SizeZ¹⁹⁷¹
- Pixels : Type¹⁹⁷²
- Plane : ExposureTime¹⁹⁷³
- Plane : TheC¹⁹⁷⁴
- Plane : TheT¹⁹⁷⁵
- Plane : TheZ¹⁹⁷⁶

Total supported: 27

Total unknown or missing: 448

18.2.46 HRDGDFReader

This page lists supported metadata fields for the Bio-Formats NOAA-HRD Gridded Data Format format reader.

These fields are from the [OME data model](#)¹⁹⁷⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

- ¹⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID
- ¹⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ¹⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ¹⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID
- ¹⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ¹⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ¹⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ¹⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ¹⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ¹⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ¹⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ¹⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ¹⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ¹⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ¹⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ¹⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ¹⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ¹⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime
- ¹⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ¹⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ¹⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ¹⁹⁷⁷<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats NOAA-HRD Gridded Data Format format reader:

- Channel : ID¹⁹⁷⁸
- Channel : SamplesPerPixel¹⁹⁷⁹
- Image : AcquisitionDate¹⁹⁸⁰
- Image : ID¹⁹⁸¹
- Image : Name¹⁹⁸²
- Pixels : BigEndian¹⁹⁸³
- Pixels : DimensionOrder¹⁹⁸⁴
- Pixels : ID¹⁹⁸⁵
- Pixels : Interleaved¹⁹⁸⁶
- Pixels : PhysicalSizeX¹⁹⁸⁷
- Pixels : PhysicalSizeY¹⁹⁸⁸
- Pixels : SignificantBits¹⁹⁸⁹
- Pixels : SizeC¹⁹⁹⁰
- Pixels : SizeT¹⁹⁹¹
- Pixels : SizeX¹⁹⁹²
- Pixels : SizeY¹⁹⁹³
- Pixels : SizeZ¹⁹⁹⁴
- Pixels : Type¹⁹⁹⁵
- Plane : TheC¹⁹⁹⁶
- Plane : TheT¹⁹⁹⁷
- Plane : TheZ¹⁹⁹⁸

Total supported: 21

Total unknown or missing: 454

¹⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
¹⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
¹⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
¹⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
¹⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
¹⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
¹⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
¹⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
¹⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
¹⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
¹⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
¹⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
¹⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
¹⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
¹⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
¹⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
¹⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
¹⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
¹⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
¹⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
¹⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.47 HamamatsuVMSReader

This page lists supported metadata fields for the Bio-Formats Hamamatsu VMS format reader.

These fields are from the [OME data model](#)¹⁹⁹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 26 of them (5%).
- Of those, Bio-Formats fully or partially converts 26 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Hamamatsu VMS format reader:

- Channel : ID²⁰⁰⁰
- Channel : SamplesPerPixel²⁰⁰¹
- Image : AcquisitionDate²⁰⁰²
- Image : ID²⁰⁰³
- Image : InstrumentRef²⁰⁰⁴
- Image : Name²⁰⁰⁵
- Instrument : ID²⁰⁰⁶
- Objective : ID²⁰⁰⁷
- Objective : NominalMagnification²⁰⁰⁸
- ObjectiveSettings : ID²⁰⁰⁹
- Pixels : BigEndian²⁰¹⁰
- Pixels : DimensionOrder²⁰¹¹
- Pixels : ID²⁰¹²
- Pixels : Interleaved²⁰¹³
- Pixels : PhysicalSizeX²⁰¹⁴
- Pixels : PhysicalSizeY²⁰¹⁵
- Pixels : SignificantBits²⁰¹⁶
- Pixels : SizeC²⁰¹⁷

¹⁹⁹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

²⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

²⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

²⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

²⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

²⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

²⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT²⁰¹⁸
- Pixels : SizeX²⁰¹⁹
- Pixels : SizeY²⁰²⁰
- Pixels : SizeZ²⁰²¹
- Pixels : Type²⁰²²
- Plane : TheC²⁰²³
- Plane : TheT²⁰²⁴
- Plane : TheZ²⁰²⁵

Total supported: 26

Total unknown or missing: 449

18.2.48 HitachiReader

This page lists supported metadata fields for the Bio-Formats Hitachi format reader.

These fields are from the [OME data model](#)²⁰²⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 31 of them (6%).
- Of those, Bio-Formats fully or partially converts 31 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Hitachi format reader:

- Channel : ID²⁰²⁷
- Channel : SamplesPerPixel²⁰²⁸
- Image : AcquisitionDate²⁰²⁹
- Image : ID²⁰³⁰
- Image : InstrumentRef²⁰³¹
- Image : Name²⁰³²
- Instrument : ID²⁰³³
- Microscope : Model²⁰³⁴
- Microscope : SerialNumber²⁰³⁵

²⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁰²⁶<http://www.openmicroscopy.org/site/support/ome-model/>

²⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

²⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

²⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

- Objective : ID²⁰³⁶
- Objective : WorkingDistance²⁰³⁷
- ObjectiveSettings : ID²⁰³⁸
- Pixels : BigEndian²⁰³⁹
- Pixels : DimensionOrder²⁰⁴⁰
- Pixels : ID²⁰⁴¹
- Pixels : Interleaved²⁰⁴²
- Pixels : PhysicalSizeX²⁰⁴³
- Pixels : PhysicalSizeY²⁰⁴⁴
- Pixels : SignificantBits²⁰⁴⁵
- Pixels : SizeC²⁰⁴⁶
- Pixels : SizeT²⁰⁴⁷
- Pixels : SizeX²⁰⁴⁸
- Pixels : SizeY²⁰⁴⁹
- Pixels : SizeZ²⁰⁵⁰
- Pixels : Type²⁰⁵¹
- Plane : PositionX²⁰⁵²
- Plane : PositionY²⁰⁵³
- Plane : PositionZ²⁰⁵⁴
- Plane : TheC²⁰⁵⁵
- Plane : TheT²⁰⁵⁶
- Plane : TheZ²⁰⁵⁷

Total supported: 31

Total unknown or missing: 444

18.2.49 I2IReader

This page lists supported metadata fields for the Bio-Formats I2I format reader.

These fields are from the [OME data model](#)²⁰⁵⁸. Bio-Formats standardizes each format's original metadata to and from the OME

²⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

²⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

²⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

²⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

²⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

²⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

²⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁰⁵⁸<http://www.openmicroscopy.org/site/support/ome-model/>

data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats I2I format reader:

- Channel : ID²⁰⁵⁹
- Channel : SamplesPerPixel²⁰⁶⁰
- Image : AcquisitionDate²⁰⁶¹
- Image : ID²⁰⁶²
- Image : Name²⁰⁶³
- Pixels : BigEndian²⁰⁶⁴
- Pixels : DimensionOrder²⁰⁶⁵
- Pixels : ID²⁰⁶⁶
- Pixels : Interleaved²⁰⁶⁷
- Pixels : SignificantBits²⁰⁶⁸
- Pixels : SizeC²⁰⁶⁹
- Pixels : SizeT²⁰⁷⁰
- Pixels : SizeX²⁰⁷¹
- Pixels : SizeY²⁰⁷²
- Pixels : SizeZ²⁰⁷³
- Pixels : Type²⁰⁷⁴
- Plane : TheC²⁰⁷⁵
- Plane : TheT²⁰⁷⁶
- Plane : TheZ²⁰⁷⁷

Total supported: 19

Total unknown or missing: 456

²⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.50 ICSReader

This page lists supported metadata fields for the Bio-Formats Image Cytometry Standard format reader.

These fields are from the [OME data model](#)²⁰⁷⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 72 of them (15%).
- Of those, Bio-Formats fully or partially converts 72 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Image Cytometry Standard format reader:

- Channel : EmissionWavelength²⁰⁷⁹
- Channel : ExcitationWavelength²⁰⁸⁰
- Channel : ID²⁰⁸¹
- Channel : Name²⁰⁸²
- Channel : PinholeSize²⁰⁸³
- Channel : SamplesPerPixel²⁰⁸⁴
- Detector : ID²⁰⁸⁵
- Detector : Manufacturer²⁰⁸⁶
- Detector : Model²⁰⁸⁷
- Detector : Type²⁰⁸⁸
- DetectorSettings : Gain²⁰⁸⁹
- DetectorSettings : ID²⁰⁹⁰
- Dichroic : ID²⁰⁹¹
- Dichroic : Model²⁰⁹²
- Experiment : ID²⁰⁹³
- Experiment : Type²⁰⁹⁴
- Experimenter : ID²⁰⁹⁵
- Experimenter : LastName²⁰⁹⁶

²⁰⁷⁸<http://www.openmicroscopy.org/site/support/ome-model/>

²⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

²⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

²⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

²⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

²⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

²⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

²⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

²⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

²⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

²⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

²⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

²⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

²⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

²⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

- Filter : ID²⁰⁹⁷
- Filter : Model²⁰⁹⁸
- FilterSet : DichroicRef²⁰⁹⁹
- FilterSet : EmissionFilterRef²¹⁰⁰
- FilterSet : ExcitationFilterRef²¹⁰¹
- FilterSet : ID²¹⁰²
- FilterSet : Model²¹⁰³
- Image : AcquisitionDate²¹⁰⁴
- Image : Description²¹⁰⁵
- Image : ID²¹⁰⁶
- Image : InstrumentRef²¹⁰⁷
- Image : Name²¹⁰⁸
- Instrument : ID²¹⁰⁹
- Laser : ID²¹¹⁰
- Laser : LaserMedium²¹¹¹
- Laser : Manufacturer²¹¹²
- Laser : Model²¹¹³
- Laser : Power²¹¹⁴
- Laser : RepetitionRate²¹¹⁵
- Laser : Type²¹¹⁶
- Laser : Wavelength²¹¹⁷
- Microscope : Manufacturer²¹¹⁸
- Microscope : Model²¹¹⁹
- Objective : CalibratedMagnification²¹²⁰
- Objective : Correction²¹²¹
- Objective : ID²¹²²

²⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

²⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

²¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

²¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

²¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSet_ID

²¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

²¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

²¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

²¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

²¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

²¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

²¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

²¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_RepetitionRate

²¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

²¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

²¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

²¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

²¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

²¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

- Objective : Immersion²¹²³
- Objective : LensNA²¹²⁴
- Objective : Model²¹²⁵
- Objective : WorkingDistance²¹²⁶
- ObjectiveSettings : ID²¹²⁷
- Pixels : BigEndian²¹²⁸
- Pixels : DimensionOrder²¹²⁹
- Pixels : ID²¹³⁰
- Pixels : Interleaved²¹³¹
- Pixels : PhysicalSizeX²¹³²
- Pixels : PhysicalSizeY²¹³³
- Pixels : PhysicalSizeZ²¹³⁴
- Pixels : SignificantBits²¹³⁵
- Pixels : SizeC²¹³⁶
- Pixels : SizeT²¹³⁷
- Pixels : SizeX²¹³⁸
- Pixels : SizeY²¹³⁹
- Pixels : SizeZ²¹⁴⁰
- Pixels : TimeIncrement²¹⁴¹
- Pixels : Type²¹⁴²
- Plane : DeltaT²¹⁴³
- Plane : ExposureTime²¹⁴⁴
- Plane : PositionX²¹⁴⁵
- Plane : PositionY²¹⁴⁶
- Plane : PositionZ²¹⁴⁷
- Plane : TheC²¹⁴⁸

²¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

²¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

²¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

²¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

²¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

²¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

²¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

²¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

²¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

²¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

²¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

²¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT²¹⁴⁹
- Plane : TheZ²¹⁵⁰

Total supported: 72

Total unknown or missing: 403

18.2.51 IM3Reader

This page lists supported metadata fields for the Bio-Formats Perkin-Elmer Nuance IM3 format reader.

These fields are from the [OME data model](#)²¹⁵¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Perkin-Elmer Nuance IM3 format reader:

- Channel : ID²¹⁵²
- Channel : SamplesPerPixel²¹⁵³
- Image : AcquisitionDate²¹⁵⁴
- Image : ID²¹⁵⁵
- Image : Name²¹⁵⁶
- Pixels : BigEndian²¹⁵⁷
- Pixels : DimensionOrder²¹⁵⁸
- Pixels : ID²¹⁵⁹
- Pixels : Interleaved²¹⁶⁰
- Pixels : SignificantBits²¹⁶¹
- Pixels : SizeC²¹⁶²
- Pixels : SizeT²¹⁶³
- Pixels : SizeX²¹⁶⁴
- Pixels : SizeY²¹⁶⁵
- Pixels : SizeZ²¹⁶⁶

²¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²¹⁵¹<http://www.openmicroscopy.org/site/support/ome-model/>

²¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type²¹⁶⁷
- Plane : TheC²¹⁶⁸
- Plane : TheT²¹⁶⁹
- Plane : TheZ²¹⁷⁰

Total supported: 19

Total unknown or missing: 456

18.2.52 IMODReader

This page lists supported metadata fields for the Bio-Formats IMOD format reader.

These fields are from the [OME data model](#)²¹⁷¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 44 of them (9%).
- Of those, Bio-Formats fully or partially converts 44 (100%).

Supported fields

These fields are fully supported by the Bio-Formats IMOD format reader:

- Channel : ID²¹⁷²
- Channel : SamplesPerPixel²¹⁷³
- Image : AcquisitionDate²¹⁷⁴
- Image : ID²¹⁷⁵
- Image : Name²¹⁷⁶
- Image : ROIRef²¹⁷⁷
- Pixels : BigEndian²¹⁷⁸
- Pixels : DimensionOrder²¹⁷⁹
- Pixels : ID²¹⁸⁰
- Pixels : Interleaved²¹⁸¹
- Pixels : PhysicalSizeX²¹⁸²
- Pixels : PhysicalSizeY²¹⁸³
- Pixels : PhysicalSizeZ²¹⁸⁴

²¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²¹⁷¹<http://www.openmicroscopy.org/site/support/ome-model/>

²¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

²¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

- Pixels : SignificantBits²¹⁸⁵
- Pixels : SizeC²¹⁸⁶
- Pixels : SizeT²¹⁸⁷
- Pixels : SizeX²¹⁸⁸
- Pixels : SizeY²¹⁸⁹
- Pixels : SizeZ²¹⁹⁰
- Pixels : Type²¹⁹¹
- Plane : TheC²¹⁹²
- Plane : TheT²¹⁹³
- Plane : TheZ²¹⁹⁴
- Point : ID²¹⁹⁵
- Point : StrokeColor²¹⁹⁶
- Point : StrokeDashArray²¹⁹⁷
- Point : StrokeWidth²¹⁹⁸
- Point : TheZ²¹⁹⁹
- Point : X²²⁰⁰
- Point : Y²²⁰¹
- Polygon : ID²²⁰²
- Polygon : Points²²⁰³
- Polygon : StrokeColor²²⁰⁴
- Polygon : StrokeDashArray²²⁰⁵
- Polygon : StrokeWidth²²⁰⁶
- Polygon : TheZ²²⁰⁷
- Polyline : ID²²⁰⁸
- Polyline : Points²²⁰⁹
- Polyline : StrokeColor²²¹⁰

²¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

²¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

²¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray

²¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

²¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

²²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_X

²²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_Y

²²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

²²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

²²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

²²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray

²²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

²²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

²²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

²²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

²²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

- Polyline : StrokeDashArray²²¹¹
- Polyline : StrokeWidth²²¹²
- Polyline : TheZ²²¹³
- ROI : ID²²¹⁴
- ROI : Name²²¹⁵

Total supported: 44

Total unknown or missing: 431

18.2.53 INRReader

This page lists supported metadata fields for the Bio-Formats INR format reader.

These fields are from the [OME data model](#)²²¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats INR format reader:

- Channel : ID²²¹⁷
- Channel : SamplesPerPixel²²¹⁸
- Image : AcquisitionDate²²¹⁹
- Image : ID²²²⁰
- Image : Name²²²¹
- Pixels : BigEndian²²²²
- Pixels : DimensionOrder²²²³
- Pixels : ID²²²⁴
- Pixels : Interleaved²²²⁵
- Pixels : PhysicalSizeX²²²⁶
- Pixels : PhysicalSizeY²²²⁷
- Pixels : PhysicalSizeZ²²²⁸

²²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray

²²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

²²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

²²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

²²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name

²²¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

²²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

- Pixels : SignificantBits²²²⁹
- Pixels : SizeC²²³⁰
- Pixels : SizeT²²³¹
- Pixels : SizeX²²³²
- Pixels : SizeY²²³³
- Pixels : SizeZ²²³⁴
- Pixels : Type²²³⁵
- Plane : TheC²²³⁶
- Plane : TheT²²³⁷
- Plane : TheZ²²³⁸

Total supported: 22

Total unknown or missing: 453

18.2.54 IPLabReader

This page lists supported metadata fields for the Bio-Formats IPLab format reader.

These fields are from the [OME data model](#)²²³⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 31 of them (6%).
- Of those, Bio-Formats fully or partially converts 31 (100%).

Supported fields

These fields are fully supported by the Bio-Formats IPLab format reader:

- Channel : ID²²⁴⁰
- Channel : SamplesPerPixel²²⁴¹
- Image : AcquisitionDate²²⁴²
- Image : Description²²⁴³
- Image : ID²²⁴⁴
- Image : Name²²⁴⁵
- Image : ROIRef²²⁴⁶

²²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²²³⁹<http://www.openmicroscopy.org/site/support/ome-model/>

²²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

²²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

- Pixels : BigEndian²²⁴⁷
- Pixels : DimensionOrder²²⁴⁸
- Pixels : ID²²⁴⁹
- Pixels : Interleaved²²⁵⁰
- Pixels : PhysicalSizeX²²⁵¹
- Pixels : PhysicalSizeY²²⁵²
- Pixels : SignificantBits²²⁵³
- Pixels : SizeC²²⁵⁴
- Pixels : SizeT²²⁵⁵
- Pixels : SizeX²²⁵⁶
- Pixels : SizeY²²⁵⁷
- Pixels : SizeZ²²⁵⁸
- Pixels : TimeIncrement²²⁵⁹
- Pixels : Type²²⁶⁰
- Plane : DeltaT²²⁶¹
- Plane : TheC²²⁶²
- Plane : TheT²²⁶³
- Plane : TheZ²²⁶⁴
- ROI : ID²²⁶⁵
- Rectangle : Height²²⁶⁶
- Rectangle : ID²²⁶⁷
- Rectangle : Width²²⁶⁸
- Rectangle : X²²⁶⁹
- Rectangle : Y²²⁷⁰

Total supported: 31

Total unknown or missing: 444

- ²²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ²²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ²²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ²²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ²²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ²²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ²²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ²²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ²²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ²²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ²²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ²²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ²²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement
- ²²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ²²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT
- ²²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ²²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ²²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ²²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID
- ²²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height
- ²²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ²²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width
- ²²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X
- ²²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

18.2.55 IPWReader

This page lists supported metadata fields for the Bio-Formats Image-Pro Workspace format reader.

These fields are from the [OME data model](#)²²⁷¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 20 of them (4%).
- Of those, Bio-Formats fully or partially converts 20 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Image-Pro Workspace format reader:

- Channel : ID²²⁷²
- Channel : SamplesPerPixel²²⁷³
- Image : AcquisitionDate²²⁷⁴
- Image : Description²²⁷⁵
- Image : ID²²⁷⁶
- Image : Name²²⁷⁷
- Pixels : BigEndian²²⁷⁸
- Pixels : DimensionOrder²²⁷⁹
- Pixels : ID²²⁸⁰
- Pixels : Interleaved²²⁸¹
- Pixels : SignificantBits²²⁸²
- Pixels : SizeC²²⁸³
- Pixels : SizeT²²⁸⁴
- Pixels : SizeX²²⁸⁵
- Pixels : SizeY²²⁸⁶
- Pixels : SizeZ²²⁸⁷
- Pixels : Type²²⁸⁸
- Plane : TheC²²⁸⁹

²²⁷¹<http://www.openmicroscopy.org/site/support/ome-model/>

²²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

²²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT²²⁹⁰
- Plane : TheZ²²⁹¹

Total supported: 20

Total unknown or missing: 455

18.2.56 ImaconReader

This page lists supported metadata fields for the Bio-Formats Imacon format reader.

These fields are from the [OME data model](#)²²⁹². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Imacon format reader:

- Channel : ID²²⁹³
- Channel : SamplesPerPixel²²⁹⁴
- Experimenter : FirstName²²⁹⁵
- Experimenter : ID²²⁹⁶
- Experimenter : LastName²²⁹⁷
- Image : AcquisitionDate²²⁹⁸
- Image : ExperimenterRef²²⁹⁹
- Image : ID²³⁰⁰
- Image : Name²³⁰¹
- Pixels : BigEndian²³⁰²
- Pixels : DimensionOrder²³⁰³
- Pixels : ID²³⁰⁴
- Pixels : Interleaved²³⁰⁵
- Pixels : SignificantBits²³⁰⁶
- Pixels : SizeC²³⁰⁷

²²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²²⁹²<http://www.openmicroscopy.org/site/support/ome-model/>

²²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

²²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

²²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

²²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

²³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT²³⁰⁸
- Pixels : SizeX²³⁰⁹
- Pixels : SizeY²³¹⁰
- Pixels : SizeZ²³¹¹
- Pixels : Type²³¹²
- Plane : TheC²³¹³
- Plane : TheT²³¹⁴
- Plane : TheZ²³¹⁵

Total supported: 23

Total unknown or missing: 452

18.2.57 ImageIOReader

This page lists supported metadata fields for the Bio-Formats ImageIOReader.

These fields are from the [OME data model](#)²³¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats ImageIOReader:

- Channel : ID²³¹⁷
- Channel : SamplesPerPixel²³¹⁸
- Image : AcquisitionDate²³¹⁹
- Image : ID²³²⁰
- Image : Name²³²¹
- Pixels : BigEndian²³²²
- Pixels : DimensionOrder²³²³
- Pixels : ID²³²⁴
- Pixels : Interleaved²³²⁵

²³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²³¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

²³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : SignificantBits²³²⁶
- Pixels : SizeC²³²⁷
- Pixels : SizeT²³²⁸
- Pixels : SizeX²³²⁹
- Pixels : SizeY²³³⁰
- Pixels : SizeZ²³³¹
- Pixels : Type²³³²
- Plane : TheC²³³³
- Plane : TheT²³³⁴
- Plane : TheZ²³³⁵

Total supported: 19

Total unknown or missing: 456

18.2.58 ImagicReader

This page lists supported metadata fields for the Bio-Formats IMAGIC format reader.

These fields are from the [OME data model](#)²³³⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats IMAGIC format reader:

- Channel : ID²³³⁷
- Channel : SamplesPerPixel²³³⁸
- Image : AcquisitionDate²³³⁹
- Image : ID²³⁴⁰
- Image : Name²³⁴¹
- Pixels : BigEndian²³⁴²
- Pixels : DimensionOrder²³⁴³

²³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²³³⁶<http://www.openmicroscopy.org/site/support/ome-model/>

²³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID²³⁴⁴
- Pixels : Interleaved²³⁴⁵
- Pixels : PhysicalSizeX²³⁴⁶
- Pixels : PhysicalSizeY²³⁴⁷
- Pixels : PhysicalSizeZ²³⁴⁸
- Pixels : SignificantBits²³⁴⁹
- Pixels : SizeC²³⁵⁰
- Pixels : SizeT²³⁵¹
- Pixels : SizeX²³⁵²
- Pixels : SizeY²³⁵³
- Pixels : SizeZ²³⁵⁴
- Pixels : Type²³⁵⁵
- Plane : TheC²³⁵⁶
- Plane : TheT²³⁵⁷
- Plane : TheZ²³⁵⁸

Total supported: 22

Total unknown or missing: 453

18.2.59 ImarisHDFReader

This page lists supported metadata fields for the Bio-Formats Bitplane Imaris 5.5 (HDF) format reader.

These fields are from the [OME data model](#)²³⁵⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Bitplane Imaris 5.5 (HDF) format reader:

- Channel : Color²³⁶⁰
- Channel : ID²³⁶¹

²³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

²³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²³⁵⁹<http://www.openmicroscopy.org/site/support/ome-model/>

²³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

²³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : SamplesPerPixel²³⁶²
- Image : AcquisitionDate²³⁶³
- Image : ID²³⁶⁴
- Image : Name²³⁶⁵
- Pixels : BigEndian²³⁶⁶
- Pixels : DimensionOrder²³⁶⁷
- Pixels : ID²³⁶⁸
- Pixels : Interleaved²³⁶⁹
- Pixels : PhysicalSizeX²³⁷⁰
- Pixels : PhysicalSizeY²³⁷¹
- Pixels : PhysicalSizeZ²³⁷²
- Pixels : SignificantBits²³⁷³
- Pixels : SizeC²³⁷⁴
- Pixels : SizeT²³⁷⁵
- Pixels : SizeX²³⁷⁶
- Pixels : SizeY²³⁷⁷
- Pixels : SizeZ²³⁷⁸
- Pixels : Type²³⁷⁹
- Plane : TheC²³⁸⁰
- Plane : TheT²³⁸¹
- Plane : TheZ²³⁸²

Total supported: 23

Total unknown or missing: 452

18.2.60 ImarisReader

This page lists supported metadata fields for the Bio-Formats Bitplane Imaris format reader.

These fields are from the [OME data model](#)²³⁸³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

²³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

²³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²³⁸³<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 32 of them (6%).
- Of those, Bio-Formats fully or partially converts 32 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Bitplane Imaris format reader:

- Channel : ID²³⁸⁴
- Channel : PinholeSize²³⁸⁵
- Channel : SamplesPerPixel²³⁸⁶
- Detector : ID²³⁸⁷
- Detector : Type²³⁸⁸
- DetectorSettings : Gain²³⁸⁹
- DetectorSettings : ID²³⁹⁰
- DetectorSettings : Offset²³⁹¹
- Image : AcquisitionDate²³⁹²
- Image : Description²³⁹³
- Image : ID²³⁹⁴
- Image : InstrumentRef²³⁹⁵
- Image : Name²³⁹⁶
- Instrument : ID²³⁹⁷
- Pixels : BigEndian²³⁹⁸
- Pixels : DimensionOrder²³⁹⁹
- Pixels : ID²⁴⁰⁰
- Pixels : Interleaved²⁴⁰¹
- Pixels : PhysicalSizeX²⁴⁰²
- Pixels : PhysicalSizeY²⁴⁰³
- Pixels : PhysicalSizeZ²⁴⁰⁴
- Pixels : SignificantBits²⁴⁰⁵

²³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

²³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

²³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

²³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

²³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

²³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

²³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

²³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

²³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

²³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

²⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC²⁴⁰⁶
- Pixels : SizeT²⁴⁰⁷
- Pixels : SizeX²⁴⁰⁸
- Pixels : SizeY²⁴⁰⁹
- Pixels : SizeZ²⁴¹⁰
- Pixels : TimeIncrement²⁴¹¹
- Pixels : Type²⁴¹²
- Plane : TheC²⁴¹³
- Plane : TheT²⁴¹⁴
- Plane : TheZ²⁴¹⁵

Total supported: 32

Total unknown or missing: 443

18.2.61 ImarisTiffReader

This page lists supported metadata fields for the Bio-Formats Bitplane Imaris 3 (TIFF) format reader.

These fields are from the [OME data model](#)²⁴¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Bitplane Imaris 3 (TIFF) format reader:

- Channel : EmissionWavelength²⁴¹⁷
- Channel : ExcitationWavelength²⁴¹⁸
- Channel : ID²⁴¹⁹
- Channel : Name²⁴²⁰
- Channel : SamplesPerPixel²⁴²¹
- Image : AcquisitionDate²⁴²²
- Image : Description²⁴²³

²⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

²⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁴¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

²⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

²⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

²⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

²⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

- Image : ID²⁴²⁴
- Image : Name²⁴²⁵
- Pixels : BigEndian²⁴²⁶
- Pixels : DimensionOrder²⁴²⁷
- Pixels : ID²⁴²⁸
- Pixels : Interleaved²⁴²⁹
- Pixels : SignificantBits²⁴³⁰
- Pixels : SizeC²⁴³¹
- Pixels : SizeT²⁴³²
- Pixels : SizeX²⁴³³
- Pixels : SizeY²⁴³⁴
- Pixels : SizeZ²⁴³⁵
- Pixels : Type²⁴³⁶
- Plane : TheC²⁴³⁷
- Plane : TheT²⁴³⁸
- Plane : TheZ²⁴³⁹

Total supported: 23

Total unknown or missing: 452

18.2.62 ImprovionTiffReader

This page lists supported metadata fields for the Bio-Formats Improvion TIFF format reader.

These fields are from the [OME data model](#)²⁴⁴⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 25 of them (5%).
- Of those, Bio-Formats fully or partially converts 25 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Improvion TIFF format reader:

- Channel : ID²⁴⁴¹

²⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁴⁴⁰<http://www.openmicroscopy.org/site/support/ome-model/>

²⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : Name²⁴⁴²
- Channel : SamplesPerPixel²⁴⁴³
- Image : AcquisitionDate²⁴⁴⁴
- Image : Description²⁴⁴⁵
- Image : ID²⁴⁴⁶
- Image : Name²⁴⁴⁷
- Pixels : BigEndian²⁴⁴⁸
- Pixels : DimensionOrder²⁴⁴⁹
- Pixels : ID²⁴⁵⁰
- Pixels : Interleaved²⁴⁵¹
- Pixels : PhysicalSizeX²⁴⁵²
- Pixels : PhysicalSizeY²⁴⁵³
- Pixels : PhysicalSizeZ²⁴⁵⁴
- Pixels : SignificantBits²⁴⁵⁵
- Pixels : SizeC²⁴⁵⁶
- Pixels : SizeT²⁴⁵⁷
- Pixels : SizeX²⁴⁵⁸
- Pixels : SizeY²⁴⁵⁹
- Pixels : SizeZ²⁴⁶⁰
- Pixels : TimeIncrement²⁴⁶¹
- Pixels : Type²⁴⁶²
- Plane : TheC²⁴⁶³
- Plane : TheT²⁴⁶⁴
- Plane : TheZ²⁴⁶⁵

Total supported: 25

Total unknown or missing: 450

- ²⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name
- ²⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ²⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ²⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
- ²⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ²⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ²⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ²⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ²⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ²⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ²⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ²⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ²⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ²⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ²⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ²⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ²⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ²⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ²⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ²⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement
- ²⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ²⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ²⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ²⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.63 InspectorReader

This page lists supported metadata fields for the Bio-Formats Lavisoin Inspector format reader.

These fields are from the [OME data model](#)²⁴⁶⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Lavisoin Inspector format reader:

- Channel : ID²⁴⁶⁷
- Channel : SamplesPerPixel²⁴⁶⁸
- Image : AcquisitionDate²⁴⁶⁹
- Image : ID²⁴⁷⁰
- Image : Name²⁴⁷¹
- Pixels : BigEndian²⁴⁷²
- Pixels : DimensionOrder²⁴⁷³
- Pixels : ID²⁴⁷⁴
- Pixels : Interleaved²⁴⁷⁵
- Pixels : SignificantBits²⁴⁷⁶
- Pixels : SizeC²⁴⁷⁷
- Pixels : SizeT²⁴⁷⁸
- Pixels : SizeX²⁴⁷⁹
- Pixels : SizeY²⁴⁸⁰
- Pixels : SizeZ²⁴⁸¹
- Pixels : Type²⁴⁸²
- Plane : TheC²⁴⁸³
- Plane : TheT²⁴⁸⁴

²⁴⁶⁶<http://www.openmicroscopy.org/site/support/ome-model/>

²⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ²⁴⁸⁵

Total supported: 19

Total unknown or missing: 456

18.2.64 InCell3000Reader

This page lists supported metadata fields for the Bio-Formats InCell 3000 format reader.

These fields are from the [OME data model](#)²⁴⁸⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats InCell 3000 format reader:

- Channel : ID²⁴⁸⁷
- Channel : SamplesPerPixel²⁴⁸⁸
- Image : AcquisitionDate²⁴⁸⁹
- Image : ID²⁴⁹⁰
- Image : Name²⁴⁹¹
- Pixels : BigEndian²⁴⁹²
- Pixels : DimensionOrder²⁴⁹³
- Pixels : ID²⁴⁹⁴
- Pixels : Interleaved²⁴⁹⁵
- Pixels : SignificantBits²⁴⁹⁶
- Pixels : SizeC²⁴⁹⁷
- Pixels : SizeT²⁴⁹⁸
- Pixels : SizeX²⁴⁹⁹
- Pixels : SizeY²⁵⁰⁰
- Pixels : SizeZ²⁵⁰¹
- Pixels : Type²⁵⁰²

²⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁴⁸⁶<http://www.openmicroscopy.org/site/support/ome-model/>

²⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC²⁵⁰³
- Plane : TheT²⁵⁰⁴
- Plane : TheZ²⁵⁰⁵

Total supported: 19

Total unknown or missing: 456

18.2.65 InCellReader

This page lists supported metadata fields for the Bio-Formats InCell 1000/2000 format reader.

These fields are from the [OME data model](#)²⁵⁰⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 67 of them (14%).
- Of those, Bio-Formats fully or partially converts 67 (100%).

Supported fields

These fields are fully supported by the Bio-Formats InCell 1000/2000 format reader:

- Channel : EmissionWavelength²⁵⁰⁷
- Channel : ExcitationWavelength²⁵⁰⁸
- Channel : ID²⁵⁰⁹
- Channel : Name²⁵¹⁰
- Channel : SamplesPerPixel²⁵¹¹
- Detector : ID²⁵¹²
- Detector : Model²⁵¹³
- Detector : Type²⁵¹⁴
- DetectorSettings : Binning²⁵¹⁵
- DetectorSettings : Gain²⁵¹⁶
- DetectorSettings : ID²⁵¹⁷
- Experiment : ID²⁵¹⁸
- Experiment : Type²⁵¹⁹
- Image : AcquisitionDate²⁵²⁰

²⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁵⁰⁶<http://www.openmicroscopy.org/site/support/ome-model/>

²⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

²⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

²⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

²⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

²⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

²⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

²⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

²⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

²⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

²⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

²⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : Description²⁵²¹
- Image : ExperimentRef²⁵²²
- Image : ID²⁵²³
- Image : InstrumentRef²⁵²⁴
- Image : Name²⁵²⁵
- ImagingEnvironment : Temperature²⁵²⁶
- Instrument : ID²⁵²⁷
- Objective : Correction²⁵²⁸
- Objective : ID²⁵²⁹
- Objective : Immersion²⁵³⁰
- Objective : LensNA²⁵³¹
- Objective : Manufacturer²⁵³²
- Objective : NominalMagnification²⁵³³
- ObjectiveSettings : ID²⁵³⁴
- ObjectiveSettings : RefractiveIndex²⁵³⁵
- Pixels : BigEndian²⁵³⁶
- Pixels : DimensionOrder²⁵³⁷
- Pixels : ID²⁵³⁸
- Pixels : Interleaved²⁵³⁹
- Pixels : PhysicalSizeX²⁵⁴⁰
- Pixels : PhysicalSizeY²⁵⁴¹
- Pixels : SignificantBits²⁵⁴²
- Pixels : SizeC²⁵⁴³
- Pixels : SizeT²⁵⁴⁴
- Pixels : SizeX²⁵⁴⁵
- Pixels : SizeY²⁵⁴⁶

²⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

²⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimentRef_ID

²⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

²⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

²⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

²⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

²⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

²⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

²⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

²⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

²⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

²⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

²⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

²⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ²⁵⁴⁷
- Pixels : Type²⁵⁴⁸
- Plane : DeltaT²⁵⁴⁹
- Plane : ExposureTime²⁵⁵⁰
- Plane : PositionX²⁵⁵¹
- Plane : PositionY²⁵⁵²
- Plane : PositionZ²⁵⁵³
- Plane : TheC²⁵⁵⁴
- Plane : TheT²⁵⁵⁵
- Plane : TheZ²⁵⁵⁶
- Plate : ColumnNamingConvention²⁵⁵⁷
- Plate : ID²⁵⁵⁸
- Plate : Name²⁵⁵⁹
- Plate : RowNamingConvention²⁵⁶⁰
- Plate : WellOriginX²⁵⁶¹
- Plate : WellOriginY²⁵⁶²
- PlateAcquisition : ID²⁵⁶³
- PlateAcquisition : MaximumFieldCount²⁵⁶⁴
- PlateAcquisition : WellSampleRef²⁵⁶⁵
- Well : Column²⁵⁶⁶
- Well : ID²⁵⁶⁷
- Well : Row²⁵⁶⁸
- WellSample : ID²⁵⁶⁹
- WellSample : ImageRef²⁵⁷⁰
- WellSample : Index²⁵⁷¹
- WellSample : PositionX²⁵⁷²

²⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

²⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

²⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

²⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

²⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

²⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

²⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

²⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

²⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

²⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_WellOriginX

²⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_WellOriginY

²⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

²⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

²⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

²⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

²⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

²⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

²⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

²⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

²⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

²⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

- WellSample : PositionY²⁵⁷³

Total supported: 67

Total unknown or missing: 408

18.2.66 InveonReader

This page lists supported metadata fields for the Bio-Formats Inveon format reader.

These fields are from the [OME data model](#)²⁵⁷⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 30 of them (6%).
- Of those, Bio-Formats fully or partially converts 30 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Inveon format reader:

- Channel : ID²⁵⁷⁵
- Channel : SamplesPerPixel²⁵⁷⁶
- Experimenter : ID²⁵⁷⁷
- Experimenter : Institution²⁵⁷⁸
- Experimenter : UserName²⁵⁷⁹
- Image : AcquisitionDate²⁵⁸⁰
- Image : Description²⁵⁸¹
- Image : ExperimenterRef²⁵⁸²
- Image : ID²⁵⁸³
- Image : InstrumentRef²⁵⁸⁴
- Image : Name²⁵⁸⁵
- Instrument : ID²⁵⁸⁶
- Microscope : Model²⁵⁸⁷
- Pixels : BigEndian²⁵⁸⁸
- Pixels : DimensionOrder²⁵⁸⁹
- Pixels : ID²⁵⁹⁰

²⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

²⁵⁷⁴<http://www.openmicroscopy.org/site/support/ome-model/>

²⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

²⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution

²⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName

²⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

²⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

²⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

²⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

²⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved²⁵⁹¹
- Pixels : PhysicalSizeX²⁵⁹²
- Pixels : PhysicalSizeY²⁵⁹³
- Pixels : PhysicalSizeZ²⁵⁹⁴
- Pixels : SignificantBits²⁵⁹⁵
- Pixels : SizeC²⁵⁹⁶
- Pixels : SizeT²⁵⁹⁷
- Pixels : SizeX²⁵⁹⁸
- Pixels : SizeY²⁵⁹⁹
- Pixels : SizeZ²⁶⁰⁰
- Pixels : Type²⁶⁰¹
- Plane : TheC²⁶⁰²
- Plane : TheT²⁶⁰³
- Plane : TheZ²⁶⁰⁴

Total supported: 30

Total unknown or missing: 445

18.2.67 IvisionReader

This page lists supported metadata fields for the Bio-Formats IVison format reader.

These fields are from the [OME data model](#)²⁶⁰⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 34 of them (7%).
- Of those, Bio-Formats fully or partially converts 34 (100%).

Supported fields

These fields are fully supported by the Bio-Formats IVison format reader:

- Channel : ID²⁶⁰⁶
- Channel : SamplesPerPixel²⁶⁰⁷
- Detector : ID²⁶⁰⁸

²⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

²⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁶⁰⁵<http://www.openmicroscopy.org/site/support/ome-model/>

²⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

- Detector : Type²⁶⁰⁹
- DetectorSettings : Binning²⁶¹⁰
- DetectorSettings : Gain²⁶¹¹
- DetectorSettings : ID²⁶¹²
- Image : AcquisitionDate²⁶¹³
- Image : ID²⁶¹⁴
- Image : InstrumentRef²⁶¹⁵
- Image : Name²⁶¹⁶
- Instrument : ID²⁶¹⁷
- Objective : Correction²⁶¹⁸
- Objective : ID²⁶¹⁹
- Objective : Immersion²⁶²⁰
- Objective : LensNA²⁶²¹
- Objective : NominalMagnification²⁶²²
- ObjectiveSettings : ID²⁶²³
- ObjectiveSettings : RefractiveIndex²⁶²⁴
- Pixels : BigEndian²⁶²⁵
- Pixels : DimensionOrder²⁶²⁶
- Pixels : ID²⁶²⁷
- Pixels : Interleaved²⁶²⁸
- Pixels : SignificantBits²⁶²⁹
- Pixels : SizeC²⁶³⁰
- Pixels : SizeT²⁶³¹
- Pixels : SizeX²⁶³²
- Pixels : SizeY²⁶³³
- Pixels : SizeZ²⁶³⁴

²⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

²⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

²⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

²⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

²⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

²⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

²⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

²⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

²⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

²⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

²⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

²⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

²⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

²⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : TimeIncrement²⁶³⁵
- Pixels : Type²⁶³⁶
- Plane : TheC²⁶³⁷
- Plane : TheT²⁶³⁸
- Plane : TheZ²⁶³⁹

Total supported: 34

Total unknown or missing: 441

18.2.68 JEOLReader

This page lists supported metadata fields for the Bio-Formats JEOL format reader.

These fields are from the [OME data model](#)²⁶⁴⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats JEOL format reader:

- Channel : ID²⁶⁴¹
- Channel : SamplesPerPixel²⁶⁴²
- Image : AcquisitionDate²⁶⁴³
- Image : ID²⁶⁴⁴
- Image : Name²⁶⁴⁵
- Pixels : BigEndian²⁶⁴⁶
- Pixels : DimensionOrder²⁶⁴⁷
- Pixels : ID²⁶⁴⁸
- Pixels : Interleaved²⁶⁴⁹
- Pixels : SignificantBits²⁶⁵⁰
- Pixels : SizeC²⁶⁵¹
- Pixels : SizeT²⁶⁵²

²⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

²⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁶⁴⁰<http://www.openmicroscopy.org/site/support/ome-model/>

²⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX²⁶⁵³
- Pixels : SizeY²⁶⁵⁴
- Pixels : SizeZ²⁶⁵⁵
- Pixels : Type²⁶⁵⁶
- Plane : TheC²⁶⁵⁷
- Plane : TheT²⁶⁵⁸
- Plane : TheZ²⁶⁵⁹

Total supported: 19

Total unknown or missing: 456

18.2.69 JPEG2000Reader

This page lists supported metadata fields for the Bio-Formats JPEG-2000 format reader.

These fields are from the [OME data model](#)²⁶⁶⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats JPEG-2000 format reader:

- Channel : ID²⁶⁶¹
- Channel : SamplesPerPixel²⁶⁶²
- Image : AcquisitionDate²⁶⁶³
- Image : ID²⁶⁶⁴
- Image : Name²⁶⁶⁵
- Pixels : BigEndian²⁶⁶⁶
- Pixels : DimensionOrder²⁶⁶⁷
- Pixels : ID²⁶⁶⁸
- Pixels : Interleaved²⁶⁶⁹
- Pixels : SignificantBits²⁶⁷⁰

²⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁶⁶⁰<http://www.openmicroscopy.org/site/support/ome-model/>

²⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC²⁶⁷¹
- Pixels : SizeT²⁶⁷²
- Pixels : SizeX²⁶⁷³
- Pixels : SizeY²⁶⁷⁴
- Pixels : SizeZ²⁶⁷⁵
- Pixels : Type²⁶⁷⁶
- Plane : TheC²⁶⁷⁷
- Plane : TheT²⁶⁷⁸
- Plane : TheZ²⁶⁷⁹

Total supported: 19

Total unknown or missing: 456

18.2.70 JPEGReader

This page lists supported metadata fields for the Bio-Formats JPEG format reader.

These fields are from the [OME data model](#)²⁶⁸⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats JPEG format reader:

- Channel : ID²⁶⁸¹
- Channel : SamplesPerPixel²⁶⁸²
- Image : AcquisitionDate²⁶⁸³
- Image : ID²⁶⁸⁴
- Image : Name²⁶⁸⁵
- Pixels : BigEndian²⁶⁸⁶
- Pixels : DimensionOrder²⁶⁸⁷
- Pixels : ID²⁶⁸⁸

²⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁶⁸⁰<http://www.openmicroscopy.org/site/support/ome-model/>

²⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved²⁶⁸⁹
- Pixels : SignificantBits²⁶⁹⁰
- Pixels : SizeC²⁶⁹¹
- Pixels : SizeT²⁶⁹²
- Pixels : SizeX²⁶⁹³
- Pixels : SizeY²⁶⁹⁴
- Pixels : SizeZ²⁶⁹⁵
- Pixels : Type²⁶⁹⁶
- Plane : TheC²⁶⁹⁷
- Plane : TheT²⁶⁹⁸
- Plane : TheZ²⁶⁹⁹

Total supported: 19

Total unknown or missing: 456

18.2.71 JPKReader

This page lists supported metadata fields for the Bio-Formats JPK Instruments format reader.

These fields are from the [OME data model](#)²⁷⁰⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats JPK Instruments format reader:

- Channel : ID²⁷⁰¹
- Channel : SamplesPerPixel²⁷⁰²
- Image : AcquisitionDate²⁷⁰³
- Image : ID²⁷⁰⁴
- Image : Name²⁷⁰⁵
- Pixels : BigEndian²⁷⁰⁶

²⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁷⁰⁰<http://www.openmicroscopy.org/site/support/ome-model/>

²⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder²⁷⁰⁷
- Pixels : ID²⁷⁰⁸
- Pixels : Interleaved²⁷⁰⁹
- Pixels : SignificantBits²⁷¹⁰
- Pixels : SizeC²⁷¹¹
- Pixels : SizeT²⁷¹²
- Pixels : SizeX²⁷¹³
- Pixels : SizeY²⁷¹⁴
- Pixels : SizeZ²⁷¹⁵
- Pixels : Type²⁷¹⁶
- Plane : TheC²⁷¹⁷
- Plane : TheT²⁷¹⁸
- Plane : TheZ²⁷¹⁹

Total supported: 19

Total unknown or missing: 456

18.2.72 JPXReader

This page lists supported metadata fields for the Bio-Formats JPX format reader.

These fields are from the [OME data model](#)²⁷²⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats JPX format reader:

- Channel : ID²⁷²¹
- Channel : SamplesPerPixel²⁷²²
- Image : AcquisitionDate²⁷²³
- Image : ID²⁷²⁴

²⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁷²⁰<http://www.openmicroscopy.org/site/support/ome-model/>

²⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name²⁷²⁵
- Pixels : BigEndian²⁷²⁶
- Pixels : DimensionOrder²⁷²⁷
- Pixels : ID²⁷²⁸
- Pixels : Interleaved²⁷²⁹
- Pixels : SignificantBits²⁷³⁰
- Pixels : SizeC²⁷³¹
- Pixels : SizeT²⁷³²
- Pixels : SizeX²⁷³³
- Pixels : SizeY²⁷³⁴
- Pixels : SizeZ²⁷³⁵
- Pixels : Type²⁷³⁶
- Plane : TheC²⁷³⁷
- Plane : TheT²⁷³⁸
- Plane : TheZ²⁷³⁹

Total supported: 19

Total unknown or missing: 456

18.2.73 KhorosReader

This page lists supported metadata fields for the Bio-Formats Khoros XV format reader.

These fields are from the [OME data model](#)²⁷⁴⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Khoros XV format reader:

- Channel : ID²⁷⁴¹
- Channel : SamplesPerPixel²⁷⁴²

²⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁷⁴⁰<http://www.openmicroscopy.org/site/support/ome-model/>

²⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate²⁷⁴³
- Image : ID²⁷⁴⁴
- Image : Name²⁷⁴⁵
- Pixels : BigEndian²⁷⁴⁶
- Pixels : DimensionOrder²⁷⁴⁷
- Pixels : ID²⁷⁴⁸
- Pixels : Interleaved²⁷⁴⁹
- Pixels : SignificantBits²⁷⁵⁰
- Pixels : SizeC²⁷⁵¹
- Pixels : SizeT²⁷⁵²
- Pixels : SizeX²⁷⁵³
- Pixels : SizeY²⁷⁵⁴
- Pixels : SizeZ²⁷⁵⁵
- Pixels : Type²⁷⁵⁶
- Plane : TheC²⁷⁵⁷
- Plane : TheT²⁷⁵⁸
- Plane : TheZ²⁷⁵⁹

Total supported: 19

Total unknown or missing: 456

18.2.74 KodakReader

This page lists supported metadata fields for the Bio-Formats Kodak Molecular Imaging format reader.

These fields are from the [OME data model](#)²⁷⁶⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 26 of them (5%).
- Of those, Bio-Formats fully or partially converts 26 (100%).

²⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁷⁶⁰<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Kodak Molecular Imaging format reader:

- Channel : ID²⁷⁶¹
- Channel : SamplesPerPixel²⁷⁶²
- Image : AcquisitionDate²⁷⁶³
- Image : ID²⁷⁶⁴
- Image : InstrumentRef²⁷⁶⁵
- Image : Name²⁷⁶⁶
- ImagingEnvironment : Temperature²⁷⁶⁷
- Instrument : ID²⁷⁶⁸
- Microscope : Model²⁷⁶⁹
- Pixels : BigEndian²⁷⁷⁰
- Pixels : DimensionOrder²⁷⁷¹
- Pixels : ID²⁷⁷²
- Pixels : Interleaved²⁷⁷³
- Pixels : PhysicalSizeX²⁷⁷⁴
- Pixels : PhysicalSizeY²⁷⁷⁵
- Pixels : SignificantBits²⁷⁷⁶
- Pixels : SizeC²⁷⁷⁷
- Pixels : SizeT²⁷⁷⁸
- Pixels : SizeX²⁷⁷⁹
- Pixels : SizeY²⁷⁸⁰
- Pixels : SizeZ²⁷⁸¹
- Pixels : Type²⁷⁸²
- Plane : ExposureTime²⁷⁸³
- Plane : TheC²⁷⁸⁴

²⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

²⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

²⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

²⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

²⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT²⁷⁸⁵
- Plane : TheZ²⁷⁸⁶

Total supported: 26

Total unknown or missing: 449

18.2.75 L2DReader

This page lists supported metadata fields for the Bio-Formats Li-Cor L2D format reader.

These fields are from the [OME data model](#)²⁷⁸⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 29 of them (6%).
- Of those, Bio-Formats fully or partially converts 29 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Li-Cor L2D format reader:

- Channel : ID²⁷⁸⁸
- Channel : LightSourceSettingsID²⁷⁸⁹
- Channel : SamplesPerPixel²⁷⁹⁰
- Image : AcquisitionDate²⁷⁹¹
- Image : Description²⁷⁹²
- Image : ID²⁷⁹³
- Image : InstrumentRef²⁷⁹⁴
- Image : Name²⁷⁹⁵
- Instrument : ID²⁷⁹⁶
- Laser : ID²⁷⁹⁷
- Laser : LaserMedium²⁷⁹⁸
- Laser : Type²⁷⁹⁹
- Laser : Wavelength²⁸⁰⁰
- Microscope : Model²⁸⁰¹
- Microscope : Type²⁸⁰²

²⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁷⁸⁷<http://www.openmicroscopy.org/site/support/ome-model/>

²⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

²⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

²⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

²⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

²⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

²⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

²⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

²⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

²⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Microscope_Type

- Pixels : BigEndian²⁸⁰³
- Pixels : DimensionOrder²⁸⁰⁴
- Pixels : ID²⁸⁰⁵
- Pixels : Interleaved²⁸⁰⁶
- Pixels : SignificantBits²⁸⁰⁷
- Pixels : SizeC²⁸⁰⁸
- Pixels : SizeT²⁸⁰⁹
- Pixels : SizeX²⁸¹⁰
- Pixels : SizeY²⁸¹¹
- Pixels : SizeZ²⁸¹²
- Pixels : Type²⁸¹³
- Plane : TheC²⁸¹⁴
- Plane : TheT²⁸¹⁵
- Plane : TheZ²⁸¹⁶

Total supported: 29

Total unknown or missing: 446

18.2.76 LEOReader

This page lists supported metadata fields for the Bio-Formats LEO format reader.

These fields are from the [OME data model](#)²⁸¹⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 27 of them (5%).
- Of those, Bio-Formats fully or partially converts 27 (100%).

Supported fields

These fields are fully supported by the Bio-Formats LEO format reader:

- Channel : ID²⁸¹⁸
- Channel : SamplesPerPixel²⁸¹⁹
- Image : AcquisitionDate²⁸²⁰

²⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁸¹⁷<http://www.openmicroscopy.org/site/support/ome-model/>

²⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID²⁸²¹
- Image : InstrumentRef²⁸²²
- Image : Name²⁸²³
- Instrument : ID²⁸²⁴
- Objective : Correction²⁸²⁵
- Objective : ID²⁸²⁶
- Objective : Immersion²⁸²⁷
- Objective : WorkingDistance²⁸²⁸
- Pixels : BigEndian²⁸²⁹
- Pixels : DimensionOrder²⁸³⁰
- Pixels : ID²⁸³¹
- Pixels : Interleaved²⁸³²
- Pixels : PhysicalSizeX²⁸³³
- Pixels : PhysicalSizeY²⁸³⁴
- Pixels : SignificantBits²⁸³⁵
- Pixels : SizeC²⁸³⁶
- Pixels : SizeT²⁸³⁷
- Pixels : SizeX²⁸³⁸
- Pixels : SizeY²⁸³⁹
- Pixels : SizeZ²⁸⁴⁰
- Pixels : Type²⁸⁴¹
- Plane : TheC²⁸⁴²
- Plane : TheT²⁸⁴³
- Plane : TheZ²⁸⁴⁴

Total supported: 27

Total unknown or missing: 448

- ²⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ²⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID
- ²⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ²⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ²⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction
- ²⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
- ²⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion
- ²⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance
- ²⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ²⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ²⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ²⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ²⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ²⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ²⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ²⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ²⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ²⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ²⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ²⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ²⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ²⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ²⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ²⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.77 LIFReader

This page lists supported metadata fields for the Bio-Formats Leica Image File Format format reader.

These fields are from the [OME data model](#)²⁸⁴⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 85 of them (17%).
- Of those, Bio-Formats fully or partially converts 85 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Leica Image File Format format reader:

- Channel : Color²⁸⁴⁶
- Channel : ExcitationWavelength²⁸⁴⁷
- Channel : ID²⁸⁴⁸
- Channel : LightSourceSettingsAttenuation²⁸⁴⁹
- Channel : LightSourceSettingsID²⁸⁵⁰
- Channel : Name²⁸⁵¹
- Channel : PinholeSize²⁸⁵²
- Channel : SamplesPerPixel²⁸⁵³
- Detector : ID²⁸⁵⁴
- Detector : Model²⁸⁵⁵
- Detector : Offset²⁸⁵⁶
- Detector : Type²⁸⁵⁷
- Detector : Zoom²⁸⁵⁸
- DetectorSettings : Gain²⁸⁵⁹
- DetectorSettings : ID²⁸⁶⁰
- DetectorSettings : Offset²⁸⁶¹
- Filter : ID²⁸⁶²
- Filter : Model²⁸⁶³
- Image : AcquisitionDate²⁸⁶⁴

²⁸⁴⁵<http://www.openmicroscopy.org/site/support/ome-model/>

²⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

²⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

²⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Attenuation

²⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

²⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

²⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

²⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

²⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

²⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

²⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

²⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

²⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

²⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

²⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

²⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : Description²⁸⁶⁵
- Image : ID²⁸⁶⁶
- Image : InstrumentRef²⁸⁶⁷
- Image : Name²⁸⁶⁸
- Image : ROIRef²⁸⁶⁹
- Instrument : ID²⁸⁷⁰
- Label : FontSize²⁸⁷¹
- Label : ID²⁸⁷²
- Label : StrokeWidth²⁸⁷³
- Label : Text²⁸⁷⁴
- Label : X²⁸⁷⁵
- Label : Y²⁸⁷⁶
- Laser : ID²⁸⁷⁷
- Laser : LaserMedium²⁸⁷⁸
- Laser : Type²⁸⁷⁹
- Laser : Wavelength²⁸⁸⁰
- LightPath : EmissionFilterRef²⁸⁸¹
- Line : ID²⁸⁸²
- Line : X1²⁸⁸³
- Line : X2²⁸⁸⁴
- Line : Y1²⁸⁸⁵
- Line : Y2²⁸⁸⁶
- Microscope : Model²⁸⁸⁷
- Microscope : Type²⁸⁸⁸
- Objective : Correction²⁸⁸⁹
- Objective : ID²⁸⁹⁰

²⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

²⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

²⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

²⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

²⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

²⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

²⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

²⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

²⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_X

²⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_Y

²⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

²⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

²⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

²⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

²⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

²⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

²⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

²⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

²⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

²⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

²⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Microscope_Type

²⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

²⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

- Objective : Immersion²⁸⁹¹
- Objective : LensNA²⁸⁹²
- Objective : Model²⁸⁹³
- Objective : NominalMagnification²⁸⁹⁴
- Objective : SerialNumber²⁸⁹⁵
- ObjectiveSettings : ID²⁸⁹⁶
- ObjectiveSettings : RefractiveIndex²⁸⁹⁷
- Pixels : BigEndian²⁸⁹⁸
- Pixels : DimensionOrder²⁸⁹⁹
- Pixels : ID²⁹⁰⁰
- Pixels : Interleaved²⁹⁰¹
- Pixels : PhysicalSizeX²⁹⁰²
- Pixels : PhysicalSizeY²⁹⁰³
- Pixels : PhysicalSizeZ²⁹⁰⁴
- Pixels : SignificantBits²⁹⁰⁵
- Pixels : SizeC²⁹⁰⁶
- Pixels : SizeT²⁹⁰⁷
- Pixels : SizeX²⁹⁰⁸
- Pixels : SizeY²⁹⁰⁹
- Pixels : SizeZ²⁹¹⁰
- Pixels : TimeIncrement²⁹¹¹
- Pixels : Type²⁹¹²
- Plane : DeltaT²⁹¹³
- Plane : ExposureTime²⁹¹⁴
- Plane : PositionX²⁹¹⁵
- Plane : PositionY²⁹¹⁶

²⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

²⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

²⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

²⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

²⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

²⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

²⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

²⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

²⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

²⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

²⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

²⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

²⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

²⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

²⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

- Plane : PositionZ²⁹¹⁷
- Plane : TheC²⁹¹⁸
- Plane : TheT²⁹¹⁹
- Plane : TheZ²⁹²⁰
- Polygon : ID²⁹²¹
- Polygon : Points²⁹²²
- ROI : ID²⁹²³
- Rectangle : Height²⁹²⁴
- Rectangle : ID²⁹²⁵
- Rectangle : Width²⁹²⁶
- Rectangle : X²⁹²⁷
- Rectangle : Y²⁹²⁸
- TransmittanceRange : CutIn²⁹²⁹
- TransmittanceRange : CutOut²⁹³⁰

Total supported: 85

Total unknown or missing: 390

18.2.78 LIMReader

This page lists supported metadata fields for the Bio-Formats Laboratory Imaging format reader.

These fields are from the [OME data model](#)²⁹³¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Laboratory Imaging format reader:

- Channel : ID²⁹³²
- Channel : SamplesPerPixel²⁹³³
- Image : AcquisitionDate²⁹³⁴

²⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

²⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

²⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

²⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

²⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

²⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

²⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

²⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

²⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

²⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

²⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

²⁹³¹<http://www.openmicroscopy.org/site/support/ome-model/>

²⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID²⁹³⁵
- Image : Name²⁹³⁶
- Pixels : BigEndian²⁹³⁷
- Pixels : DimensionOrder²⁹³⁸
- Pixels : ID²⁹³⁹
- Pixels : Interleaved²⁹⁴⁰
- Pixels : SignificantBits²⁹⁴¹
- Pixels : SizeC²⁹⁴²
- Pixels : SizeT²⁹⁴³
- Pixels : SizeX²⁹⁴⁴
- Pixels : SizeY²⁹⁴⁵
- Pixels : SizeZ²⁹⁴⁶
- Pixels : Type²⁹⁴⁷
- Plane : TheC²⁹⁴⁸
- Plane : TheT²⁹⁴⁹
- Plane : TheZ²⁹⁵⁰

Total supported: 19

Total unknown or missing: 456

18.2.79 LegacyND2Reader

This page lists supported metadata fields for the Bio-Formats Nikon ND2 (Legacy) format reader.

These fields are from the [OME data model](#)²⁹⁵¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Nikon ND2 (Legacy) format reader:

- Channel : ID²⁹⁵²

²⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁹⁵¹<http://www.openmicroscopy.org/site/support/ome-model/>

²⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : SamplesPerPixel²⁹⁵³
- Image : AcquisitionDate²⁹⁵⁴
- Image : ID²⁹⁵⁵
- Image : Name²⁹⁵⁶
- Pixels : BigEndian²⁹⁵⁷
- Pixels : DimensionOrder²⁹⁵⁸
- Pixels : ID²⁹⁵⁹
- Pixels : Interleaved²⁹⁶⁰
- Pixels : SignificantBits²⁹⁶¹
- Pixels : SizeC²⁹⁶²
- Pixels : SizeT²⁹⁶³
- Pixels : SizeX²⁹⁶⁴
- Pixels : SizeY²⁹⁶⁵
- Pixels : SizeZ²⁹⁶⁶
- Pixels : Type²⁹⁶⁷
- Plane : TheC²⁹⁶⁸
- Plane : TheT²⁹⁶⁹
- Plane : TheZ²⁹⁷⁰

Total supported: 19

Total unknown or missing: 456

18.2.80 LegacyQTReader

This page lists supported metadata fields for the Bio-Formats QuickTime format reader.

These fields are from the [OME data model](#)²⁹⁷¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

²⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

²⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

²⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

²⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

²⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

²⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

²⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

²⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

²⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

²⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

²⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

²⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

²⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

²⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

²⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

²⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

²⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

²⁹⁷¹<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats QuickTime format reader:

- Channel : ID²⁹⁷²
- Channel : SamplesPerPixel²⁹⁷³
- Image : AcquisitionDate²⁹⁷⁴
- Image : ID²⁹⁷⁵
- Image : Name²⁹⁷⁶
- Pixels : BigEndian²⁹⁷⁷
- Pixels : DimensionOrder²⁹⁷⁸
- Pixels : ID²⁹⁷⁹
- Pixels : Interleaved²⁹⁸⁰
- Pixels : SignificantBits²⁹⁸¹
- Pixels : SizeC²⁹⁸²
- Pixels : SizeT²⁹⁸³
- Pixels : SizeX²⁹⁸⁴
- Pixels : SizeY²⁹⁸⁵
- Pixels : SizeZ²⁹⁸⁶
- Pixels : Type²⁹⁸⁷
- Plane : TheC²⁹⁸⁸
- Plane : TheT²⁹⁸⁹
- Plane : TheZ²⁹⁹⁰

Total supported: 19

Total unknown or missing: 456

18.2.81 LeicaReader

This page lists supported metadata fields for the Bio-Formats Leica format reader.

These fields are from the [OME data model](#)²⁹⁹¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

²⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
²⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
²⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
²⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
²⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
²⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
²⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
²⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
²⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
²⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
²⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
²⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
²⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
²⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
²⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
²⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
²⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
²⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
²⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
²⁹⁹¹<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 56 of them (11%).
- Of those, Bio-Formats fully or partially converts 56 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Leica format reader:

- Channel : Color²⁹⁹²
- Channel : EmissionWavelength²⁹⁹³
- Channel : ExcitationWavelength²⁹⁹⁴
- Channel : ID²⁹⁹⁵
- Channel : Name²⁹⁹⁶
- Channel : PinholeSize²⁹⁹⁷
- Channel : SamplesPerPixel²⁹⁹⁸
- Detector : ID²⁹⁹⁹
- Detector : Offset³⁰⁰⁰
- Detector : Type³⁰⁰¹
- Detector : Voltage³⁰⁰²
- DetectorSettings : ID³⁰⁰³
- Filter : ID³⁰⁰⁴
- Filter : Model³⁰⁰⁵
- Image : AcquisitionDate³⁰⁰⁶
- Image : Description³⁰⁰⁷
- Image : ID³⁰⁰⁸
- Image : InstrumentRef³⁰⁰⁹
- Image : Name³⁰¹⁰
- Instrument : ID³⁰¹¹
- LightPath : EmissionFilterRef³⁰¹²
- Objective : Correction³⁰¹³

²⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

²⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

²⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

²⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

²⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

²⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

²⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

²⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

³⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Voltage

³⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

³⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

³⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

³⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

- Objective : ID³⁰¹⁴
- Objective : Immersion³⁰¹⁵
- Objective : LensNA³⁰¹⁶
- Objective : Model³⁰¹⁷
- Objective : NominalMagnification³⁰¹⁸
- Objective : SerialNumber³⁰¹⁹
- ObjectiveSettings : ID³⁰²⁰
- ObjectiveSettings : RefractiveIndex³⁰²¹
- Pixels : BigEndian³⁰²²
- Pixels : DimensionOrder³⁰²³
- Pixels : ID³⁰²⁴
- Pixels : Interleaved³⁰²⁵
- Pixels : PhysicalSizeX³⁰²⁶
- Pixels : PhysicalSizeY³⁰²⁷
- Pixels : PhysicalSizeZ³⁰²⁸
- Pixels : SignificantBits³⁰²⁹
- Pixels : SizeC³⁰³⁰
- Pixels : SizeT³⁰³¹
- Pixels : SizeX³⁰³²
- Pixels : SizeY³⁰³³
- Pixels : SizeZ³⁰³⁴
- Pixels : TimeIncrement³⁰³⁵
- Pixels : Type³⁰³⁶
- Plane : DeltaT³⁰³⁷
- Plane : ExposureTime³⁰³⁸
- Plane : PositionX³⁰³⁹

³⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

³⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

³⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

³⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

³⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

³⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

³⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

³⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

³⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

³⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

³⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

- Plane : PositionY³⁰⁴⁰
- Plane : TheC³⁰⁴¹
- Plane : TheT³⁰⁴²
- Plane : TheZ³⁰⁴³
- StageLabel : Name³⁰⁴⁴
- StageLabel : Z³⁰⁴⁵
- TransmittanceRange : CutIn³⁰⁴⁶
- TransmittanceRange : CutOut³⁰⁴⁷

Total supported: 56

Total unknown or missing: 419

18.2.82 LeicaSCNReader

This page lists supported metadata fields for the Bio-Formats Leica SCN format reader.

These fields are from the [OME data model](#)³⁰⁴⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 33 of them (6%).
- Of those, Bio-Formats fully or partially converts 33 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Leica SCN format reader:

- Channel : ID³⁰⁴⁹
- Channel : IlluminationType³⁰⁵⁰
- Channel : SamplesPerPixel³⁰⁵¹
- Image : AcquisitionDate³⁰⁵²
- Image : Description³⁰⁵³
- Image : ID³⁰⁵⁴
- Image : InstrumentRef³⁰⁵⁵
- Image : Name³⁰⁵⁶
- Instrument : ID³⁰⁵⁷

³⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

³⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Name

³⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Z

³⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

³⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

³⁰⁴⁸<http://www.openmicroscopy.org/site/support/ome-model/>

³⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_IlluminationType

³⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

- Objective : CalibratedMagnification³⁰⁵⁸
- Objective : ID³⁰⁵⁹
- Objective : LensNA³⁰⁶⁰
- Objective : NominalMagnification³⁰⁶¹
- ObjectiveSettings : ID³⁰⁶²
- Pixels : BigEndian³⁰⁶³
- Pixels : DimensionOrder³⁰⁶⁴
- Pixels : ID³⁰⁶⁵
- Pixels : Interleaved³⁰⁶⁶
- Pixels : PhysicalSizeX³⁰⁶⁷
- Pixels : PhysicalSizeY³⁰⁶⁸
- Pixels : PhysicalSizeZ³⁰⁶⁹
- Pixels : SignificantBits³⁰⁷⁰
- Pixels : SizeC³⁰⁷¹
- Pixels : SizeT³⁰⁷²
- Pixels : SizeX³⁰⁷³
- Pixels : SizeY³⁰⁷⁴
- Pixels : SizeZ³⁰⁷⁵
- Pixels : Type³⁰⁷⁶
- Plane : PositionX³⁰⁷⁷
- Plane : PositionY³⁰⁷⁸
- Plane : TheC³⁰⁷⁹
- Plane : TheT³⁰⁸⁰
- Plane : TheZ³⁰⁸¹

Total supported: 33

Total unknown or missing: 442

- ³⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification
- ³⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
- ³⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA
- ³⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification
- ³⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
- ³⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ³⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ³⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ³⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ³⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ³⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ³⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ³⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ³⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ³⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ³⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ³⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ³⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ³⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ³⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
- ³⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
- ³⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ³⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ³⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.83 LiFlimReader

This page lists supported metadata fields for the Bio-Formats LI-FLIM format reader.

These fields are from the [OME data model](#)³⁰⁸². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 25 of them (5%).
- Of those, Bio-Formats fully or partially converts 25 (100%).

Supported fields

These fields are fully supported by the Bio-Formats LI-FLIM format reader:

- Channel : ID³⁰⁸³
- Channel : SamplesPerPixel³⁰⁸⁴
- Image : AcquisitionDate³⁰⁸⁵
- Image : ID³⁰⁸⁶
- Image : Name³⁰⁸⁷
- Image : ROIRef³⁰⁸⁸
- Pixels : BigEndian³⁰⁸⁹
- Pixels : DimensionOrder³⁰⁹⁰
- Pixels : ID³⁰⁹¹
- Pixels : Interleaved³⁰⁹²
- Pixels : SignificantBits³⁰⁹³
- Pixels : SizeC³⁰⁹⁴
- Pixels : SizeT³⁰⁹⁵
- Pixels : SizeX³⁰⁹⁶
- Pixels : SizeY³⁰⁹⁷
- Pixels : SizeZ³⁰⁹⁸
- Pixels : Type³⁰⁹⁹
- Plane : DeltaT³¹⁰⁰
- Plane : ExposureTime³¹⁰¹

³⁰⁸²<http://www.openmicroscopy.org/site/support/ome-model/>

³⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

³⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

³¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

- Plane : TheC³¹⁰²
- Plane : TheT³¹⁰³
- Plane : TheZ³¹⁰⁴
- Polygon : ID³¹⁰⁵
- Polygon : Points³¹⁰⁶
- ROI : ID³¹⁰⁷

Total supported: 25

Total unknown or missing: 450

18.2.84 MIASReader

This page lists supported metadata fields for the Bio-Formats MIAS format reader.

These fields are from the [OME data model](#)³¹⁰⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 64 of them (13%).
- Of those, Bio-Formats fully or partially converts 64 (100%).

Supported fields

These fields are fully supported by the Bio-Formats MIAS format reader:

- Channel : Color³¹⁰⁹
- Channel : ID³¹¹⁰
- Channel : Name³¹¹¹
- Channel : SamplesPerPixel³¹¹²
- Ellipse : ID³¹¹³
- Ellipse : RadiusX³¹¹⁴
- Ellipse : RadiusY³¹¹⁵
- Ellipse : Text³¹¹⁶
- Ellipse : TheT³¹¹⁷
- Ellipse : TheZ³¹¹⁸
- Ellipse : X³¹¹⁹

³¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

³¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

³¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

³¹⁰⁸<http://www.openmicroscopy.org/site/support/ome-model/>

³¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

³¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

³¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

³¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

³¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

³¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

³¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

³¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

³¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

- Ellipse : Y³¹²⁰
- Experiment : Description³¹²¹
- Experiment : ID³¹²²
- Experiment : Type³¹²³
- Image : AcquisitionDate³¹²⁴
- Image : ExperimentRef³¹²⁵
- Image : ID³¹²⁶
- Image : InstrumentRef³¹²⁷
- Image : Name³¹²⁸
- Image : ROIRef³¹²⁹
- Instrument : ID³¹³⁰
- Mask : FillColor³¹³¹
- Mask : Height³¹³²
- Mask : ID³¹³³
- Mask : StrokeColor³¹³⁴
- Mask : Width³¹³⁵
- Mask : X³¹³⁶
- Mask : Y³¹³⁷
- Objective : ID³¹³⁸
- Objective : Model³¹³⁹
- Objective : NominalMagnification³¹⁴⁰
- Pixels : BigEndian³¹⁴¹
- Pixels : DimensionOrder³¹⁴²
- Pixels : ID³¹⁴³
- Pixels : Interleaved³¹⁴⁴
- Pixels : PhysicalSizeX³¹⁴⁵

³¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

³¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Description

³¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

³¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

³¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimentRef_ID

³¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

³¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillColor

³¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Height

³¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

³¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

³¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Width

³¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_X

³¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Y

³¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

³¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

³¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY³¹⁴⁶
- Pixels : SignificantBits³¹⁴⁷
- Pixels : SizeC³¹⁴⁸
- Pixels : SizeT³¹⁴⁹
- Pixels : SizeX³¹⁵⁰
- Pixels : SizeY³¹⁵¹
- Pixels : SizeZ³¹⁵²
- Pixels : Type³¹⁵³
- Plane : ExposureTime³¹⁵⁴
- Plane : TheC³¹⁵⁵
- Plane : TheT³¹⁵⁶
- Plane : TheZ³¹⁵⁷
- Plate : ColumnNamingConvention³¹⁵⁸
- Plate : ExternalIdentifier³¹⁵⁹
- Plate : ID³¹⁶⁰
- Plate : Name³¹⁶¹
- Plate : RowNamingConvention³¹⁶²
- PlateAcquisition : ID³¹⁶³
- PlateAcquisition : MaximumFieldCount³¹⁶⁴
- PlateAcquisition : WellSampleRef³¹⁶⁵
- ROI : ID³¹⁶⁶
- Well : Column³¹⁶⁷
- Well : ID³¹⁶⁸
- Well : Row³¹⁶⁹
- WellSample : ID³¹⁷⁰
- WellSample : ImageRef³¹⁷¹

³¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

³¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

³¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ExternalIdentifier

³¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

³¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

³¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

³¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

³¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

³¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

³¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

³¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

³¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

³¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

³¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

³¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

- WellSample : Index³¹⁷²

Total supported: 64

Total unknown or missing: 411

18.2.85 MINCReader

This page lists supported metadata fields for the Bio-Formats MINC MRI format reader.

These fields are from the [OME data model](#)³¹⁷³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats MINC MRI format reader:

- Channel : ID³¹⁷⁴
- Channel : SamplesPerPixel³¹⁷⁵
- Image : AcquisitionDate³¹⁷⁶
- Image : Description³¹⁷⁷
- Image : ID³¹⁷⁸
- Image : Name³¹⁷⁹
- Pixels : BigEndian³¹⁸⁰
- Pixels : DimensionOrder³¹⁸¹
- Pixels : ID³¹⁸²
- Pixels : Interleaved³¹⁸³
- Pixels : PhysicalSizeX³¹⁸⁴
- Pixels : PhysicalSizeY³¹⁸⁵
- Pixels : PhysicalSizeZ³¹⁸⁶
- Pixels : SignificantBits³¹⁸⁷
- Pixels : SizeC³¹⁸⁸
- Pixels : SizeT³¹⁸⁹

³¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

³¹⁷³<http://www.openmicroscopy.org/site/support/ome-model/>

³¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX³¹⁹⁰
- Pixels : SizeY³¹⁹¹
- Pixels : SizeZ³¹⁹²
- Pixels : Type³¹⁹³
- Plane : TheC³¹⁹⁴
- Plane : TheT³¹⁹⁵
- Plane : TheZ³¹⁹⁶

Total supported: 23

Total unknown or missing: 452

18.2.86 MNGReader

This page lists supported metadata fields for the Bio-Formats Multiple-image Network Graphics format reader.

These fields are from the [OME data model](#)³¹⁹⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Multiple-image Network Graphics format reader:

- Channel : ID³¹⁹⁸
- Channel : SamplesPerPixel³¹⁹⁹
- Image : AcquisitionDate³²⁰⁰
- Image : ID³²⁰¹
- Image : Name³²⁰²
- Pixels : BigEndian³²⁰³
- Pixels : DimensionOrder³²⁰⁴
- Pixels : ID³²⁰⁵
- Pixels : Interleaved³²⁰⁶
- Pixels : SignificantBits³²⁰⁷

³¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³¹⁹⁷<http://www.openmicroscopy.org/site/support/ome-model/>

³¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC³²⁰⁸
- Pixels : SizeT³²⁰⁹
- Pixels : SizeX³²¹⁰
- Pixels : SizeY³²¹¹
- Pixels : SizeZ³²¹²
- Pixels : Type³²¹³
- Plane : TheC³²¹⁴
- Plane : TheT³²¹⁵
- Plane : TheZ³²¹⁶

Total supported: 19

Total unknown or missing: 456

18.2.87 MRCReader

This page lists supported metadata fields for the Bio-Formats Medical Research Council format reader.

These fields are from the [OME data model](#)³²¹⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Medical Research Council format reader:

- Channel : ID³²¹⁸
- Channel : SamplesPerPixel³²¹⁹
- Image : AcquisitionDate³²²⁰
- Image : ID³²²¹
- Image : Name³²²²
- Pixels : BigEndian³²²³
- Pixels : DimensionOrder³²²⁴
- Pixels : ID³²²⁵

³²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³²¹⁷<http://www.openmicroscopy.org/site/support/ome-model/>

³²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved³²²⁶
- Pixels : PhysicalSizeX³²²⁷
- Pixels : PhysicalSizeY³²²⁸
- Pixels : PhysicalSizeZ³²²⁹
- Pixels : SignificantBits³²³⁰
- Pixels : SizeC³²³¹
- Pixels : SizeT³²³²
- Pixels : SizeX³²³³
- Pixels : SizeY³²³⁴
- Pixels : SizeZ³²³⁵
- Pixels : Type³²³⁶
- Plane : TheC³²³⁷
- Plane : TheT³²³⁸
- Plane : TheZ³²³⁹

Total supported: 22

Total unknown or missing: 453

18.2.88 MRWReader

This page lists supported metadata fields for the Bio-Formats Minolta MRW format reader.

These fields are from the [OME data model](#)³²⁴⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Minolta MRW format reader:

- Channel : ID³²⁴¹
- Channel : SamplesPerPixel³²⁴²
- Image : AcquisitionDate³²⁴³

³²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³²⁴⁰<http://www.openmicroscopy.org/site/support/ome-model/>

³²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID³²⁴⁴
- Image : Name³²⁴⁵
- Pixels : BigEndian³²⁴⁶
- Pixels : DimensionOrder³²⁴⁷
- Pixels : ID³²⁴⁸
- Pixels : Interleaved³²⁴⁹
- Pixels : SignificantBits³²⁵⁰
- Pixels : SizeC³²⁵¹
- Pixels : SizeT³²⁵²
- Pixels : SizeX³²⁵³
- Pixels : SizeY³²⁵⁴
- Pixels : SizeZ³²⁵⁵
- Pixels : Type³²⁵⁶
- Plane : TheC³²⁵⁷
- Plane : TheT³²⁵⁸
- Plane : TheZ³²⁵⁹

Total supported: 19

Total unknown or missing: 456

18.2.89 MetamorphReader

This page lists supported metadata fields for the Bio-Formats Metamorph STK format reader.

These fields are from the [OME data model](#)³²⁶⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 46 of them (9%).
- Of those, Bio-Formats fully or partially converts 46 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Metamorph STK format reader:

- Channel : ID³²⁶¹

³²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³²⁶⁰<http://www.openmicroscopy.org/site/support/ome-model/>

³²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : LightSourceSettingsID³²⁶²
- Channel : LightSourceSettingsWavelength³²⁶³
- Channel : Name³²⁶⁴
- Channel : SamplesPerPixel³²⁶⁵
- Detector : ID³²⁶⁶
- Detector : Type³²⁶⁷
- DetectorSettings : Binning³²⁶⁸
- DetectorSettings : Gain³²⁶⁹
- DetectorSettings : ID³²⁷⁰
- DetectorSettings : ReadOutRate³²⁷¹
- Image : AcquisitionDate³²⁷²
- Image : Description³²⁷³
- Image : ID³²⁷⁴
- Image : InstrumentRef³²⁷⁵
- Image : Name³²⁷⁶
- ImagingEnvironment : Temperature³²⁷⁷
- Instrument : ID³²⁷⁸
- Laser : ID³²⁷⁹
- Laser : LaserMedium³²⁸⁰
- Laser : Type³²⁸¹
- Objective : ID³²⁸²
- Objective : LensNA³²⁸³
- ObjectiveSettings : ID³²⁸⁴
- Pixels : BigEndian³²⁸⁵
- Pixels : DimensionOrder³²⁸⁶
- Pixels : ID³²⁸⁷

³²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

³²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Wavelength

³²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

³²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

³²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

³²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

³²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

³²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

³²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

³²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

³²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

³²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

³²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

³²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

³²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved³²⁸⁸
- Pixels : PhysicalSizeX³²⁸⁹
- Pixels : PhysicalSizeY³²⁹⁰
- Pixels : PhysicalSizeZ³²⁹¹
- Pixels : SignificantBits³²⁹²
- Pixels : SizeC³²⁹³
- Pixels : SizeT³²⁹⁴
- Pixels : SizeX³²⁹⁵
- Pixels : SizeY³²⁹⁶
- Pixels : SizeZ³²⁹⁷
- Pixels : Type³²⁹⁸
- Plane : DeltaT³²⁹⁹
- Plane : ExposureTime³³⁰⁰
- Plane : PositionX³³⁰¹
- Plane : PositionY³³⁰²
- Plane : PositionZ³³⁰³
- Plane : TheC³³⁰⁴
- Plane : TheT³³⁰⁵
- Plane : TheZ³³⁰⁶

Total supported: 46

Total unknown or missing: 429

18.2.90 MetamorphTiffReader

This page lists supported metadata fields for the Bio-Formats Metamorph TIFF format reader.

These fields are from the [OME data model](#)³³⁰⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 38 of them (8%).
- Of those, Bio-Formats fully or partially converts 38 (100%).

³²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

³³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

³³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

³³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

³³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

³³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³³⁰⁷<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Metamorph TIFF format reader:

- Channel : ID³³⁰⁸
- Channel : Name³³⁰⁹
- Channel : SamplesPerPixel³³¹⁰
- Image : AcquisitionDate³³¹¹
- Image : Description³³¹²
- Image : ID³³¹³
- Image : Name³³¹⁴
- ImagingEnvironment : Temperature³³¹⁵
- Pixels : BigEndian³³¹⁶
- Pixels : DimensionOrder³³¹⁷
- Pixels : ID³³¹⁸
- Pixels : Interleaved³³¹⁹
- Pixels : PhysicalSizeX³³²⁰
- Pixels : PhysicalSizeY³³²¹
- Pixels : PhysicalSizeZ³³²²
- Pixels : SignificantBits³³²³
- Pixels : SizeC³³²⁴
- Pixels : SizeT³³²⁵
- Pixels : SizeX³³²⁶
- Pixels : SizeY³³²⁷
- Pixels : SizeZ³³²⁸
- Pixels : Type³³²⁹
- Plane : DeltaT³³³⁰
- Plane : ExposureTime³³³¹

³³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

³³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

³³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

³³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

- Plane : PositionX³³³²
- Plane : PositionY³³³³
- Plane : TheC³³³⁴
- Plane : TheT³³³⁵
- Plane : TheZ³³³⁶
- Plate : ColumnNamingConvention³³³⁷
- Plate : ID³³³⁸
- Plate : RowNamingConvention³³³⁹
- Well : Column³³⁴⁰
- Well : ID³³⁴¹
- Well : Row³³⁴²
- WellSample : ID³³⁴³
- WellSample : ImageRef³³⁴⁴
- WellSample : Index³³⁴⁵

Total supported: 38

Total unknown or missing: 437

18.2.91 MicromanagerReader

This page lists supported metadata fields for the Bio-Formats Micro-Manager format reader.

These fields are from the [OME data model](#)³³⁴⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 41 of them (8%).
- Of those, Bio-Formats fully or partially converts 41 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Micro-Manager format reader:

- Channel : ID³³⁴⁷
- Channel : Name³³⁴⁸
- Channel : SamplesPerPixel³³⁴⁹

³³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

³³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

³³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

³³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

³³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

³³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

³³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

³³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

³³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

³³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

³³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

³³⁴⁶<http://www.openmicroscopy.org/site/support/ome-model/>

³³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

³³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Detector : ID³³⁵⁰
- Detector : Manufacturer³³⁵¹
- Detector : Model³³⁵²
- Detector : SerialNumber³³⁵³
- Detector : Type³³⁵⁴
- DetectorSettings : Binning³³⁵⁵
- DetectorSettings : Gain³³⁵⁶
- DetectorSettings : ID³³⁵⁷
- DetectorSettings : Voltage³³⁵⁸
- Image : AcquisitionDate³³⁵⁹
- Image : Description³³⁶⁰
- Image : ID³³⁶¹
- Image : InstrumentRef³³⁶²
- Image : Name³³⁶³
- ImagingEnvironment : Temperature³³⁶⁴
- Instrument : ID³³⁶⁵
- Pixels : BigEndian³³⁶⁶
- Pixels : DimensionOrder³³⁶⁷
- Pixels : ID³³⁶⁸
- Pixels : Interleaved³³⁶⁹
- Pixels : PhysicalSizeX³³⁷⁰
- Pixels : PhysicalSizeY³³⁷¹
- Pixels : PhysicalSizeZ³³⁷²
- Pixels : SignificantBits³³⁷³
- Pixels : SizeC³³⁷⁴
- Pixels : SizeT³³⁷⁵

³³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

³³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

³³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

³³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

³³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

³³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

³³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

³³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX³³⁷⁶
- Pixels : SizeY³³⁷⁷
- Pixels : SizeZ³³⁷⁸
- Pixels : Type³³⁷⁹
- Plane : DeltaT³³⁸⁰
- Plane : ExposureTime³³⁸¹
- Plane : PositionX³³⁸²
- Plane : PositionY³³⁸³
- Plane : PositionZ³³⁸⁴
- Plane : TheC³³⁸⁵
- Plane : TheT³³⁸⁶
- Plane : TheZ³³⁸⁷

Total supported: 41

Total unknown or missing: 434

18.2.92 MinimalTiffReader

This page lists supported metadata fields for the Bio-Formats Minimal TIFF format reader.

These fields are from the [OME data model](#)³³⁸⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Minimal TIFF format reader:

- Channel : ID³³⁸⁹
- Channel : SamplesPerPixel³³⁹⁰
- Image : AcquisitionDate³³⁹¹
- Image : ID³³⁹²
- Image : Name³³⁹³

³³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

³³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

³³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

³³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

³³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

³³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³³⁸⁸<http://www.openmicroscopy.org/site/support/ome-model/>

³³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Pixels : BigEndian³³⁹⁴
- Pixels : DimensionOrder³³⁹⁵
- Pixels : ID³³⁹⁶
- Pixels : Interleaved³³⁹⁷
- Pixels : SignificantBits³³⁹⁸
- Pixels : SizeC³³⁹⁹
- Pixels : SizeT³⁴⁰⁰
- Pixels : SizeX³⁴⁰¹
- Pixels : SizeY³⁴⁰²
- Pixels : SizeZ³⁴⁰³
- Pixels : Type³⁴⁰⁴
- Plane : TheC³⁴⁰⁵
- Plane : TheT³⁴⁰⁶
- Plane : TheZ³⁴⁰⁷

Total supported: 19

Total unknown or missing: 456

18.2.93 MolecularImagingReader

This page lists supported metadata fields for the Bio-Formats Molecular Imaging format reader.

These fields are from the [OME data model](#)³⁴⁰⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Molecular Imaging format reader:

- Channel : ID³⁴⁰⁹
- Channel : SamplesPerPixel³⁴¹⁰
- Image : AcquisitionDate³⁴¹¹

³³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁴⁰⁸<http://www.openmicroscopy.org/site/support/ome-model/>

³⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID³⁴¹²
- Image : Name³⁴¹³
- Pixels : BigEndian³⁴¹⁴
- Pixels : DimensionOrder³⁴¹⁵
- Pixels : ID³⁴¹⁶
- Pixels : Interleaved³⁴¹⁷
- Pixels : PhysicalSizeX³⁴¹⁸
- Pixels : PhysicalSizeY³⁴¹⁹
- Pixels : SignificantBits³⁴²⁰
- Pixels : SizeC³⁴²¹
- Pixels : SizeT³⁴²²
- Pixels : SizeX³⁴²³
- Pixels : SizeY³⁴²⁴
- Pixels : SizeZ³⁴²⁵
- Pixels : Type³⁴²⁶
- Plane : TheC³⁴²⁷
- Plane : TheT³⁴²⁸
- Plane : TheZ³⁴²⁹

Total supported: 21

Total unknown or missing: 454

18.2.94 NAFReader

This page lists supported metadata fields for the Bio-Formats Hamamatsu Aquacosmos format reader.

These fields are from the [OME data model](#)³⁴³⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

³⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁴³⁰<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Hamamatsu Aquacosmos format reader:

- Channel : ID³⁴³¹
- Channel : SamplesPerPixel³⁴³²
- Image : AcquisitionDate³⁴³³
- Image : ID³⁴³⁴
- Image : Name³⁴³⁵
- Pixels : BigEndian³⁴³⁶
- Pixels : DimensionOrder³⁴³⁷
- Pixels : ID³⁴³⁸
- Pixels : Interleaved³⁴³⁹
- Pixels : SignificantBits³⁴⁴⁰
- Pixels : SizeC³⁴⁴¹
- Pixels : SizeT³⁴⁴²
- Pixels : SizeX³⁴⁴³
- Pixels : SizeY³⁴⁴⁴
- Pixels : SizeZ³⁴⁴⁵
- Pixels : Type³⁴⁴⁶
- Plane : TheC³⁴⁴⁷
- Plane : TheT³⁴⁴⁸
- Plane : TheZ³⁴⁴⁹

Total supported: 19

Total unknown or missing: 456

18.2.95 ND2Reader

This page lists supported metadata fields for the Bio-Formats Nikon ND2 format reader.

These fields are from the [OME data model](#)³⁴⁵⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

³⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
³⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
³⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
³⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
³⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
³⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
³⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
³⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
³⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
³⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
³⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
³⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
³⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
³⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
³⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
³⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
³⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
³⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
³⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
³⁴⁵⁰<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Nikon ND2 format reader:

- Channel : ID³⁴⁵¹
- Channel : SamplesPerPixel³⁴⁵²
- Image : AcquisitionDate³⁴⁵³
- Image : ID³⁴⁵⁴
- Image : Name³⁴⁵⁵
- Pixels : BigEndian³⁴⁵⁶
- Pixels : DimensionOrder³⁴⁵⁷
- Pixels : ID³⁴⁵⁸
- Pixels : Interleaved³⁴⁵⁹
- Pixels : SignificantBits³⁴⁶⁰
- Pixels : SizeC³⁴⁶¹
- Pixels : SizeT³⁴⁶²
- Pixels : SizeX³⁴⁶³
- Pixels : SizeY³⁴⁶⁴
- Pixels : SizeZ³⁴⁶⁵
- Pixels : Type³⁴⁶⁶
- Plane : TheC³⁴⁶⁷
- Plane : TheT³⁴⁶⁸
- Plane : TheZ³⁴⁶⁹

Total supported: 19

Total unknown or missing: 456

³⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
³⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
³⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
³⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
³⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
³⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
³⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
³⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
³⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
³⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
³⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
³⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
³⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
³⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
³⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
³⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
³⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
³⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
³⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.96 NDPIReader

This page lists supported metadata fields for the Bio-Formats Hamamatsu NDPI format reader.

These fields are from the [OME data model](#)³⁴⁷⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 28 of them (5%).
- Of those, Bio-Formats fully or partially converts 28 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Hamamatsu NDPI format reader:

- Channel : ID³⁴⁷¹
- Channel : SamplesPerPixel³⁴⁷²
- Image : AcquisitionDate³⁴⁷³
- Image : Description³⁴⁷⁴
- Image : ID³⁴⁷⁵
- Image : InstrumentRef³⁴⁷⁶
- Image : Name³⁴⁷⁷
- Instrument : ID³⁴⁷⁸
- Microscope : Model³⁴⁷⁹
- Objective : ID³⁴⁸⁰
- Objective : NominalMagnification³⁴⁸¹
- ObjectiveSettings : ID³⁴⁸²
- Pixels : BigEndian³⁴⁸³
- Pixels : DimensionOrder³⁴⁸⁴
- Pixels : ID³⁴⁸⁵
- Pixels : Interleaved³⁴⁸⁶
- Pixels : PhysicalSizeX³⁴⁸⁷
- Pixels : PhysicalSizeY³⁴⁸⁸
- Pixels : SignificantBits³⁴⁸⁹

³⁴⁷⁰<http://www.openmicroscopy.org/site/support/ome-model/>

³⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

³⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

³⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

³⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC³⁴⁹⁰
- Pixels : SizeT³⁴⁹¹
- Pixels : SizeX³⁴⁹²
- Pixels : SizeY³⁴⁹³
- Pixels : SizeZ³⁴⁹⁴
- Pixels : Type³⁴⁹⁵
- Plane : TheC³⁴⁹⁶
- Plane : TheT³⁴⁹⁷
- Plane : TheZ³⁴⁹⁸

Total supported: 28

Total unknown or missing: 447

18.2.97 NDPISReader

This page lists supported metadata fields for the Bio-Formats Hamamatsu NDPIS format reader.

These fields are from the [OME data model](#)³⁴⁹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Hamamatsu NDPIS format reader:

- Channel : ID³⁵⁰⁰
- Channel : SamplesPerPixel³⁵⁰¹
- Image : AcquisitionDate³⁵⁰²
- Image : ID³⁵⁰³
- Image : Name³⁵⁰⁴
- Pixels : BigEndian³⁵⁰⁵
- Pixels : DimensionOrder³⁵⁰⁶
- Pixels : ID³⁵⁰⁷

³⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁴⁹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

³⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved³⁵⁰⁸
- Pixels : SignificantBits³⁵⁰⁹
- Pixels : SizeC³⁵¹⁰
- Pixels : SizeT³⁵¹¹
- Pixels : SizeX³⁵¹²
- Pixels : SizeY³⁵¹³
- Pixels : SizeZ³⁵¹⁴
- Pixels : Type³⁵¹⁵
- Plane : TheC³⁵¹⁶
- Plane : TheT³⁵¹⁷
- Plane : TheZ³⁵¹⁸

Total supported: 19

Total unknown or missing: 456

18.2.98 NRRDReader

This page lists supported metadata fields for the Bio-Formats NRRD format reader.

These fields are from the [OME data model](#)³⁵¹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats NRRD format reader:

- Channel : ID³⁵²⁰
- Channel : SamplesPerPixel³⁵²¹
- Image : AcquisitionDate³⁵²²
- Image : ID³⁵²³
- Image : Name³⁵²⁴
- Pixels : BigEndian³⁵²⁵

³⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁵¹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

³⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder³⁵²⁶
- Pixels : ID³⁵²⁷
- Pixels : Interleaved³⁵²⁸
- Pixels : PhysicalSizeX³⁵²⁹
- Pixels : PhysicalSizeY³⁵³⁰
- Pixels : PhysicalSizeZ³⁵³¹
- Pixels : SignificantBits³⁵³²
- Pixels : SizeC³⁵³³
- Pixels : SizeT³⁵³⁴
- Pixels : SizeX³⁵³⁵
- Pixels : SizeY³⁵³⁶
- Pixels : SizeZ³⁵³⁷
- Pixels : Type³⁵³⁸
- Plane : TheC³⁵³⁹
- Plane : TheT³⁵⁴⁰
- Plane : TheZ³⁵⁴¹

Total supported: 22

Total unknown or missing: 453

18.2.99 NativeND2Reader

This page lists supported metadata fields for the Bio-Formats Nikon ND2 format reader.

These fields are from the [OME data model](#)³⁵⁴². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 52 of them (10%).
- Of those, Bio-Formats fully or partially converts 52 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Nikon ND2 format reader:

- Channel : AcquisitionMode³⁵⁴³

³⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁵⁴²<http://www.openmicroscopy.org/site/support/ome-model/>

³⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

- Channel : Color³⁵⁴⁴
- Channel : EmissionWavelength³⁵⁴⁵
- Channel : ExcitationWavelength³⁵⁴⁶
- Channel : ID³⁵⁴⁷
- Channel : Name³⁵⁴⁸
- Channel : PinholeSize³⁵⁴⁹
- Channel : SamplesPerPixel³⁵⁵⁰
- Detector : ID³⁵⁵¹
- Detector : Model³⁵⁵²
- Detector : Type³⁵⁵³
- DetectorSettings : Binning³⁵⁵⁴
- DetectorSettings : Gain³⁵⁵⁵
- DetectorSettings : ID³⁵⁵⁶
- DetectorSettings : ReadOutRate³⁵⁵⁷
- DetectorSettings : Voltage³⁵⁵⁸
- Image : AcquisitionDate³⁵⁵⁹
- Image : ID³⁵⁶⁰
- Image : InstrumentRef³⁵⁶¹
- Image : Name³⁵⁶²
- ImagingEnvironment : Temperature³⁵⁶³
- Instrument : ID³⁵⁶⁴
- Objective : CalibratedMagnification³⁵⁶⁵
- Objective : Correction³⁵⁶⁶
- Objective : ID³⁵⁶⁷
- Objective : Immersion³⁵⁶⁸
- Objective : LensNA³⁵⁶⁹

³⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

³⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

³⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

³⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

³⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

³⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

³⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

³⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

³⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

³⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

³⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

³⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

³⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

³⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

³⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

³⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

- Objective : Model³⁵⁷⁰
- ObjectiveSettings : ID³⁵⁷¹
- ObjectiveSettings : RefractiveIndex³⁵⁷²
- Pixels : BigEndian³⁵⁷³
- Pixels : DimensionOrder³⁵⁷⁴
- Pixels : ID³⁵⁷⁵
- Pixels : Interleaved³⁵⁷⁶
- Pixels : PhysicalSizeX³⁵⁷⁷
- Pixels : PhysicalSizeY³⁵⁷⁸
- Pixels : PhysicalSizeZ³⁵⁷⁹
- Pixels : SignificantBits³⁵⁸⁰
- Pixels : SizeC³⁵⁸¹
- Pixels : SizeT³⁵⁸²
- Pixels : SizeX³⁵⁸³
- Pixels : SizeY³⁵⁸⁴
- Pixels : SizeZ³⁵⁸⁵
- Pixels : Type³⁵⁸⁶
- Plane : DeltaT³⁵⁸⁷
- Plane : ExposureTime³⁵⁸⁸
- Plane : PositionX³⁵⁸⁹
- Plane : PositionY³⁵⁹⁰
- Plane : PositionZ³⁵⁹¹
- Plane : TheC³⁵⁹²
- Plane : TheT³⁵⁹³
- Plane : TheZ³⁵⁹⁴

Total supported: 52

Total unknown or missing: 423

- ³⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model
- ³⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
- ³⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex
- ³⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ³⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ³⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ³⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ³⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ³⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ³⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ³⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ³⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ³⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ³⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ³⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ³⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ³⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ³⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT
- ³⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime
- ³⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
- ³⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
- ³⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ
- ³⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ³⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ³⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.100 NativeQTReader

This page lists supported metadata fields for the Bio-Formats QuickTime format reader.

These fields are from the [OME data model](#)³⁵⁹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats QuickTime format reader:

- Channel : ID³⁵⁹⁶
- Channel : SamplesPerPixel³⁵⁹⁷
- Image : AcquisitionDate³⁵⁹⁸
- Image : ID³⁵⁹⁹
- Image : Name³⁶⁰⁰
- Pixels : BigEndian³⁶⁰¹
- Pixels : DimensionOrder³⁶⁰²
- Pixels : ID³⁶⁰³
- Pixels : Interleaved³⁶⁰⁴
- Pixels : SignificantBits³⁶⁰⁵
- Pixels : SizeC³⁶⁰⁶
- Pixels : SizeT³⁶⁰⁷
- Pixels : SizeX³⁶⁰⁸
- Pixels : SizeY³⁶⁰⁹
- Pixels : SizeZ³⁶¹⁰
- Pixels : Type³⁶¹¹
- Plane : TheC³⁶¹²
- Plane : TheT³⁶¹³

³⁵⁹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

³⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ³⁶¹⁴

Total supported: 19

Total unknown or missing: 456

18.2.101 NiftiReader

This page lists supported metadata fields for the Bio-Formats NIfTI format reader.

These fields are from the [OME data model](#)³⁶¹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 24 of them (5%).
- Of those, Bio-Formats fully or partially converts 24 (100%).

Supported fields

These fields are fully supported by the Bio-Formats NIfTI format reader:

- Channel : ID³⁶¹⁶
- Channel : SamplesPerPixel³⁶¹⁷
- Image : AcquisitionDate³⁶¹⁸
- Image : Description³⁶¹⁹
- Image : ID³⁶²⁰
- Image : Name³⁶²¹
- Pixels : BigEndian³⁶²²
- Pixels : DimensionOrder³⁶²³
- Pixels : ID³⁶²⁴
- Pixels : Interleaved³⁶²⁵
- Pixels : PhysicalSizeX³⁶²⁶
- Pixels : PhysicalSizeY³⁶²⁷
- Pixels : PhysicalSizeZ³⁶²⁸
- Pixels : SignificantBits³⁶²⁹
- Pixels : SizeC³⁶³⁰
- Pixels : SizeT³⁶³¹

³⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁶¹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

³⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX³⁶³²
- Pixels : SizeY³⁶³³
- Pixels : SizeZ³⁶³⁴
- Pixels : TimeIncrement³⁶³⁵
- Pixels : Type³⁶³⁶
- Plane : TheC³⁶³⁷
- Plane : TheT³⁶³⁸
- Plane : TheZ³⁶³⁹

Total supported: 24

Total unknown or missing: 451

18.2.102 NikonElementsTiffReader

This page lists supported metadata fields for the Bio-Formats Nikon Elements TIFF format reader.

These fields are from the [OME data model](#)³⁶⁴⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 50 of them (10%).
- Of those, Bio-Formats fully or partially converts 50 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Nikon Elements TIFF format reader:

- Channel : AcquisitionMode³⁶⁴¹
- Channel : EmissionWavelength³⁶⁴²
- Channel : ExcitationWavelength³⁶⁴³
- Channel : ID³⁶⁴⁴
- Channel : Name³⁶⁴⁵
- Channel : PinholeSize³⁶⁴⁶
- Channel : SamplesPerPixel³⁶⁴⁷
- Detector : ID³⁶⁴⁸
- Detector : Model³⁶⁴⁹

³⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

³⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁶⁴⁰<http://www.openmicroscopy.org/site/support/ome-model/>

³⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

³⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

³⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

³⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

³⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

³⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

- Detector : Type³⁶⁵⁰
- DetectorSettings : Binning³⁶⁵¹
- DetectorSettings : Gain³⁶⁵²
- DetectorSettings : ID³⁶⁵³
- DetectorSettings : ReadOutRate³⁶⁵⁴
- DetectorSettings : Voltage³⁶⁵⁵
- Image : AcquisitionDate³⁶⁵⁶
- Image : ID³⁶⁵⁷
- Image : InstrumentRef³⁶⁵⁸
- Image : Name³⁶⁵⁹
- ImagingEnvironment : Temperature³⁶⁶⁰
- Instrument : ID³⁶⁶¹
- Objective : CalibratedMagnification³⁶⁶²
- Objective : Correction³⁶⁶³
- Objective : ID³⁶⁶⁴
- Objective : Immersion³⁶⁶⁵
- Objective : LensNA³⁶⁶⁶
- Objective : Model³⁶⁶⁷
- ObjectiveSettings : ID³⁶⁶⁸
- ObjectiveSettings : RefractiveIndex³⁶⁶⁹
- Pixels : BigEndian³⁶⁷⁰
- Pixels : DimensionOrder³⁶⁷¹
- Pixels : ID³⁶⁷²
- Pixels : Interleaved³⁶⁷³
- Pixels : PhysicalSizeX³⁶⁷⁴
- Pixels : PhysicalSizeY³⁶⁷⁵

³⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

³⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

³⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

³⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

³⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

³⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

³⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

³⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

³⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

³⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

³⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

³⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

³⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

³⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

- Pixels : PhysicalSizeZ³⁶⁷⁶
- Pixels : SignificantBits³⁶⁷⁷
- Pixels : SizeC³⁶⁷⁸
- Pixels : SizeT³⁶⁷⁹
- Pixels : SizeX³⁶⁸⁰
- Pixels : SizeY³⁶⁸¹
- Pixels : SizeZ³⁶⁸²
- Pixels : Type³⁶⁸³
- Plane : ExposureTime³⁶⁸⁴
- Plane : PositionX³⁶⁸⁵
- Plane : PositionY³⁶⁸⁶
- Plane : PositionZ³⁶⁸⁷
- Plane : TheC³⁶⁸⁸
- Plane : TheT³⁶⁸⁹
- Plane : TheZ³⁶⁹⁰

Total supported: 50

Total unknown or missing: 425

18.2.103 NikonReader

This page lists supported metadata fields for the Bio-Formats Nikon NEF format reader.

These fields are from the [OME data model](#)³⁶⁹¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Nikon NEF format reader:

- Channel : ID³⁶⁹²
- Channel : SamplesPerPixel³⁶⁹³

³⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

³⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

³⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

³⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

³⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁶⁹¹<http://www.openmicroscopy.org/site/support/ome-model/>

³⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate³⁶⁹⁴
- Image : ID³⁶⁹⁵
- Image : Name³⁶⁹⁶
- Pixels : BigEndian³⁶⁹⁷
- Pixels : DimensionOrder³⁶⁹⁸
- Pixels : ID³⁶⁹⁹
- Pixels : Interleaved³⁷⁰⁰
- Pixels : SignificantBits³⁷⁰¹
- Pixels : SizeC³⁷⁰²
- Pixels : SizeT³⁷⁰³
- Pixels : SizeX³⁷⁰⁴
- Pixels : SizeY³⁷⁰⁵
- Pixels : SizeZ³⁷⁰⁶
- Pixels : Type³⁷⁰⁷
- Plane : TheC³⁷⁰⁸
- Plane : TheT³⁷⁰⁹
- Plane : TheZ³⁷¹⁰

Total supported: 19

Total unknown or missing: 456

18.2.104 NikonTiffReader

This page lists supported metadata fields for the Bio-Formats Nikon TIFF format reader.

These fields are from the [OME data model](#)³⁷¹¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 47 of them (9%).
- Of those, Bio-Formats fully or partially converts 47 (100%).

³⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁷¹¹<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Nikon TIFF format reader:

- Channel : EmissionWavelength³⁷¹²
- Channel : ExcitationWavelength³⁷¹³
- Channel : ID³⁷¹⁴
- Channel : PinholeSize³⁷¹⁵
- Channel : SamplesPerPixel³⁷¹⁶
- Detector : Gain³⁷¹⁷
- Detector : ID³⁷¹⁸
- Detector : Type³⁷¹⁹
- Dichroic : ID³⁷²⁰
- Dichroic : Model³⁷²¹
- Filter : ID³⁷²²
- Filter : Model³⁷²³
- Image : AcquisitionDate³⁷²⁴
- Image : Description³⁷²⁵
- Image : ID³⁷²⁶
- Image : InstrumentRef³⁷²⁷
- Image : Name³⁷²⁸
- Instrument : ID³⁷²⁹
- Laser : ID³⁷³⁰
- Laser : LaserMedium³⁷³¹
- Laser : Model³⁷³²
- Laser : Type³⁷³³
- Laser : Wavelength³⁷³⁴
- Objective : Correction³⁷³⁵

³⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

³⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

³⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

³⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

³⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

³⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

³⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

³⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

³⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

³⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

³⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

- Objective : ID³⁷³⁶
- Objective : Immersion³⁷³⁷
- Objective : LensNA³⁷³⁸
- Objective : NominalMagnification³⁷³⁹
- Objective : WorkingDistance³⁷⁴⁰
- ObjectiveSettings : ID³⁷⁴¹
- Pixels : BigEndian³⁷⁴²
- Pixels : DimensionOrder³⁷⁴³
- Pixels : ID³⁷⁴⁴
- Pixels : Interleaved³⁷⁴⁵
- Pixels : PhysicalSizeX³⁷⁴⁶
- Pixels : PhysicalSizeY³⁷⁴⁷
- Pixels : PhysicalSizeZ³⁷⁴⁸
- Pixels : SignificantBits³⁷⁴⁹
- Pixels : SizeC³⁷⁵⁰
- Pixels : SizeT³⁷⁵¹
- Pixels : SizeX³⁷⁵²
- Pixels : SizeY³⁷⁵³
- Pixels : SizeZ³⁷⁵⁴
- Pixels : Type³⁷⁵⁵
- Plane : TheC³⁷⁵⁶
- Plane : TheT³⁷⁵⁷
- Plane : TheZ³⁷⁵⁸

Total supported: 47

Total unknown or missing: 428

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- ³⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
 - ³⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion
 - ³⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA
 - ³⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification
 - ³⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance
 - ³⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
 - ³⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
 - ³⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
 - ³⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
 - ³⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
 - ³⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
 - ³⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
 - ³⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
 - ³⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
 - ³⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
 - ³⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
 - ³⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
 - ³⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
 - ³⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
 - ³⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
 - ³⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
 - ³⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
 - ³⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.105 OBFReader

This page lists supported metadata fields for the Bio-Formats OBF format reader.

These fields are from the [OME data model](#)³⁷⁵⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats OBF format reader:

- Channel : ID³⁷⁶⁰
- Channel : SamplesPerPixel³⁷⁶¹
- Image : AcquisitionDate³⁷⁶²
- Image : ID³⁷⁶³
- Image : Name³⁷⁶⁴
- Pixels : BigEndian³⁷⁶⁵
- Pixels : DimensionOrder³⁷⁶⁶
- Pixels : ID³⁷⁶⁷
- Pixels : Interleaved³⁷⁶⁸
- Pixels : SignificantBits³⁷⁶⁹
- Pixels : SizeC³⁷⁷⁰
- Pixels : SizeT³⁷⁷¹
- Pixels : SizeX³⁷⁷²
- Pixels : SizeY³⁷⁷³
- Pixels : SizeZ³⁷⁷⁴
- Pixels : Type³⁷⁷⁵
- Plane : TheC³⁷⁷⁶
- Plane : TheT³⁷⁷⁷

³⁷⁵⁹<http://www.openmicroscopy.org/site/support/ome-model/>

³⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ³⁷⁷⁸

Total supported: 19

Total unknown or missing: 456

18.2.106 OMETiffReader

This page lists supported metadata fields for the Bio-Formats OME-TIFF format reader.

These fields are from the [OME data model](#)³⁷⁷⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats OME-TIFF format reader:

- Channel : ID³⁷⁸⁰
- Channel : SamplesPerPixel³⁷⁸¹
- Image : AcquisitionDate³⁷⁸²
- Image : ID³⁷⁸³
- Image : Name³⁷⁸⁴
- Pixels : BigEndian³⁷⁸⁵
- Pixels : DimensionOrder³⁷⁸⁶
- Pixels : ID³⁷⁸⁷
- Pixels : Interleaved³⁷⁸⁸
- Pixels : SignificantBits³⁷⁸⁹
- Pixels : SizeC³⁷⁹⁰
- Pixels : SizeT³⁷⁹¹
- Pixels : SizeX³⁷⁹²
- Pixels : SizeY³⁷⁹³
- Pixels : SizeZ³⁷⁹⁴
- Pixels : Type³⁷⁹⁵

³⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁷⁷⁹<http://www.openmicroscopy.org/site/support/ome-model/>

³⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC³⁷⁹⁶
- Plane : TheT³⁷⁹⁷
- Plane : TheZ³⁷⁹⁸

Total supported: 19

Total unknown or missing: 456

18.2.107 OMEXMLReader

This page lists supported metadata fields for the Bio-Formats OME-XML format reader.

These fields are from the [OME data model](#)³⁷⁹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats OME-XML format reader:

- Channel : ID³⁸⁰⁰
- Channel : SamplesPerPixel³⁸⁰¹
- Image : AcquisitionDate³⁸⁰²
- Image : ID³⁸⁰³
- Image : Name³⁸⁰⁴
- Pixels : BigEndian³⁸⁰⁵
- Pixels : DimensionOrder³⁸⁰⁶
- Pixels : ID³⁸⁰⁷
- Pixels : Interleaved³⁸⁰⁸
- Pixels : SignificantBits³⁸⁰⁹
- Pixels : SizeC³⁸¹⁰
- Pixels : SizeT³⁸¹¹
- Pixels : SizeX³⁸¹²
- Pixels : SizeY³⁸¹³

³⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁷⁹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

³⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ³⁸¹⁴
- Pixels : Type³⁸¹⁵
- Plane : TheC³⁸¹⁶
- Plane : TheT³⁸¹⁷
- Plane : TheZ³⁸¹⁸

Total supported: 19

Total unknown or missing: 456

18.2.108 OpenlabRawReader

This page lists supported metadata fields for the Bio-Formats Openlab RAW format reader.

These fields are from the [OME data model](#)³⁸¹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Openlab RAW format reader:

- Channel : ID³⁸²⁰
- Channel : SamplesPerPixel³⁸²¹
- Image : AcquisitionDate³⁸²²
- Image : ID³⁸²³
- Image : Name³⁸²⁴
- Pixels : BigEndian³⁸²⁵
- Pixels : DimensionOrder³⁸²⁶
- Pixels : ID³⁸²⁷
- Pixels : Interleaved³⁸²⁸
- Pixels : SignificantBits³⁸²⁹
- Pixels : SizeC³⁸³⁰
- Pixels : SizeT³⁸³¹

³⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁸¹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

³⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX³⁸³²
- Pixels : SizeY³⁸³³
- Pixels : SizeZ³⁸³⁴
- Pixels : Type³⁸³⁵
- Plane : TheC³⁸³⁶
- Plane : TheT³⁸³⁷
- Plane : TheZ³⁸³⁸

Total supported: 19

Total unknown or missing: 456

18.2.109 OpenlabReader

This page lists supported metadata fields for the Bio-Formats Openlab LIFF format reader.

These fields are from the [OME data model](#)³⁸³⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 32 of them (6%).
- Of those, Bio-Formats fully or partially converts 32 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Openlab LIFF format reader:

- Channel : ID³⁸⁴⁰
- Channel : Name³⁸⁴¹
- Channel : SamplesPerPixel³⁸⁴²
- Detector : ID³⁸⁴³
- Detector : Type³⁸⁴⁴
- DetectorSettings : Gain³⁸⁴⁵
- DetectorSettings : ID³⁸⁴⁶
- DetectorSettings : Offset³⁸⁴⁷
- Image : AcquisitionDate³⁸⁴⁸
- Image : ID³⁸⁴⁹

³⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁸³⁹<http://www.openmicroscopy.org/site/support/ome-model/>

³⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

³⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

³⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

³⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

³⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : InstrumentRef³⁸⁵⁰
- Image : Name³⁸⁵¹
- Instrument : ID³⁸⁵²
- Pixels : BigEndian³⁸⁵³
- Pixels : DimensionOrder³⁸⁵⁴
- Pixels : ID³⁸⁵⁵
- Pixels : Interleaved³⁸⁵⁶
- Pixels : PhysicalSizeX³⁸⁵⁷
- Pixels : PhysicalSizeY³⁸⁵⁸
- Pixels : SignificantBits³⁸⁵⁹
- Pixels : SizeC³⁸⁶⁰
- Pixels : SizeT³⁸⁶¹
- Pixels : SizeX³⁸⁶²
- Pixels : SizeY³⁸⁶³
- Pixels : SizeZ³⁸⁶⁴
- Pixels : Type³⁸⁶⁵
- Plane : PositionX³⁸⁶⁶
- Plane : PositionY³⁸⁶⁷
- Plane : PositionZ³⁸⁶⁸
- Plane : TheC³⁸⁶⁹
- Plane : TheT³⁸⁷⁰
- Plane : TheZ³⁸⁷¹

Total supported: 32

Total unknown or missing: 443

18.2.110 OperettaReader

This page lists supported metadata fields for the Bio-Formats PerkinElmer Operetta format reader.

- ³⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID
- ³⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ³⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ³⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ³⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ³⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ³⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ³⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ³⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ³⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ³⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ³⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ³⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ³⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ³⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ³⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ³⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
- ³⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
- ³⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ
- ³⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ³⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ³⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](http://www.openmicroscopy.org/site/support/ome-model/)³⁸⁷². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 43 of them (9%).
- Of those, Bio-Formats fully or partially converts 43 (100%).

Supported fields

These fields are fully supported by the Bio-Formats PerkinElmer Operetta format reader:

- Channel : ID³⁸⁷³
- Channel : Name³⁸⁷⁴
- Channel : SamplesPerPixel³⁸⁷⁵
- Experimenter : ID³⁸⁷⁶
- Experimenter : LastName³⁸⁷⁷
- Image : AcquisitionDate³⁸⁷⁸
- Image : ExperimenterRef³⁸⁷⁹
- Image : ID³⁸⁸⁰
- Image : Name³⁸⁸¹
- Pixels : BigEndian³⁸⁸²
- Pixels : DimensionOrder³⁸⁸³
- Pixels : ID³⁸⁸⁴
- Pixels : Interleaved³⁸⁸⁵
- Pixels : PhysicalSizeX³⁸⁸⁶
- Pixels : PhysicalSizeY³⁸⁸⁷
- Pixels : SignificantBits³⁸⁸⁸
- Pixels : SizeC³⁸⁸⁹
- Pixels : SizeT³⁸⁹⁰
- Pixels : SizeX³⁸⁹¹
- Pixels : SizeY³⁸⁹²

³⁸⁷²<http://www.openmicroscopy.org/site/support/ome-model/>

³⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

³⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

³⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

³⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

³⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ³⁸⁹³
- Pixels : Type³⁸⁹⁴
- Plane : PositionX³⁸⁹⁵
- Plane : PositionY³⁸⁹⁶
- Plane : PositionZ³⁸⁹⁷
- Plane : TheC³⁸⁹⁸
- Plane : TheT³⁸⁹⁹
- Plane : TheZ³⁹⁰⁰
- Plate : Columns³⁹⁰¹
- Plate : Description³⁹⁰²
- Plate : ExternalIdentifier³⁹⁰³
- Plate : ID³⁹⁰⁴
- Plate : Name³⁹⁰⁵
- Plate : Rows³⁹⁰⁶
- PlateAcquisition : ID³⁹⁰⁷
- PlateAcquisition : MaximumFieldCount³⁹⁰⁸
- PlateAcquisition : WellSampleRef³⁹⁰⁹
- Well : Column³⁹¹⁰
- Well : ID³⁹¹¹
- Well : Row³⁹¹²
- WellSample : ID³⁹¹³
- WellSample : ImageRef³⁹¹⁴
- WellSample : Index³⁹¹⁵

Total supported: 43

Total unknown or missing: 432

³⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

³⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

³⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

³⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

³⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Description

³⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ExternalIdentifier

³⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

³⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

³⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

³⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

³⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

³⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

³⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

³⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

³⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

³⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

³⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

³⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

18.2.111 OxfordInstrumentsReader

This page lists supported metadata fields for the Bio-Formats Oxford Instruments format reader.

These fields are from the [OME data model](#)³⁹¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Oxford Instruments format reader:

- Channel : ID³⁹¹⁷
- Channel : SamplesPerPixel³⁹¹⁸
- Image : AcquisitionDate³⁹¹⁹
- Image : Description³⁹²⁰
- Image : ID³⁹²¹
- Image : Name³⁹²²
- Pixels : BigEndian³⁹²³
- Pixels : DimensionOrder³⁹²⁴
- Pixels : ID³⁹²⁵
- Pixels : Interleaved³⁹²⁶
- Pixels : PhysicalSizeX³⁹²⁷
- Pixels : PhysicalSizeY³⁹²⁸
- Pixels : SignificantBits³⁹²⁹
- Pixels : SizeC³⁹³⁰
- Pixels : SizeT³⁹³¹
- Pixels : SizeX³⁹³²
- Pixels : SizeY³⁹³³
- Pixels : SizeZ³⁹³⁴
- Pixels : Type³⁹³⁵

³⁹¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

³⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC³⁹³⁶
- Plane : TheT³⁹³⁷
- Plane : TheZ³⁹³⁸

Total supported: 22

Total unknown or missing: 453

18.2.112 PCIRReader

This page lists supported metadata fields for the Bio-Formats Compix Simple-PCI format reader.

These fields are from the [OME data model](#)³⁹³⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 29 of them (6%).
- Of those, Bio-Formats fully or partially converts 29 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Compix Simple-PCI format reader:

- Channel : ID³⁹⁴⁰
- Channel : SamplesPerPixel³⁹⁴¹
- Detector : ID³⁹⁴²
- Detector : Type³⁹⁴³
- DetectorSettings : Binning³⁹⁴⁴
- DetectorSettings : ID³⁹⁴⁵
- Image : AcquisitionDate³⁹⁴⁶
- Image : ID³⁹⁴⁷
- Image : InstrumentRef³⁹⁴⁸
- Image : Name³⁹⁴⁹
- Instrument : ID³⁹⁵⁰
- Pixels : BigEndian³⁹⁵¹
- Pixels : DimensionOrder³⁹⁵²
- Pixels : ID³⁹⁵³

³⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁹³⁹<http://www.openmicroscopy.org/site/support/ome-model/>

³⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

³⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

³⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved³⁹⁵⁴
- Pixels : PhysicalSizeX³⁹⁵⁵
- Pixels : PhysicalSizeY³⁹⁵⁶
- Pixels : SignificantBits³⁹⁵⁷
- Pixels : SizeC³⁹⁵⁸
- Pixels : SizeT³⁹⁵⁹
- Pixels : SizeX³⁹⁶⁰
- Pixels : SizeY³⁹⁶¹
- Pixels : SizeZ³⁹⁶²
- Pixels : TimeIncrement³⁹⁶³
- Pixels : Type³⁹⁶⁴
- Plane : DeltaT³⁹⁶⁵
- Plane : TheC³⁹⁶⁶
- Plane : TheT³⁹⁶⁷
- Plane : TheZ³⁹⁶⁸

Total supported: 29

Total unknown or missing: 446

18.2.113 PCORAWReader

This page lists supported metadata fields for the Bio-Formats PCO-RAW format reader.

These fields are from the [OME data model](#)³⁹⁶⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 26 of them (5%).
- Of those, Bio-Formats fully or partially converts 26 (100%).

Supported fields

These fields are fully supported by the Bio-Formats PCO-RAW format reader:

- Channel : ID³⁹⁷⁰
- Channel : SamplesPerPixel³⁹⁷¹

³⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

³⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

³⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁹⁶⁹<http://www.openmicroscopy.org/site/support/ome-model/>

³⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Detector : ID³⁹⁷²
- Detector : SerialNumber³⁹⁷³
- DetectorSettings : Binning³⁹⁷⁴
- DetectorSettings : ID³⁹⁷⁵
- Image : AcquisitionDate³⁹⁷⁶
- Image : Description³⁹⁷⁷
- Image : ID³⁹⁷⁸
- Image : Name³⁹⁷⁹
- Instrument : ID³⁹⁸⁰
- Pixels : BigEndian³⁹⁸¹
- Pixels : DimensionOrder³⁹⁸²
- Pixels : ID³⁹⁸³
- Pixels : Interleaved³⁹⁸⁴
- Pixels : SignificantBits³⁹⁸⁵
- Pixels : SizeC³⁹⁸⁶
- Pixels : SizeT³⁹⁸⁷
- Pixels : SizeX³⁹⁸⁸
- Pixels : SizeY³⁹⁸⁹
- Pixels : SizeZ³⁹⁹⁰
- Pixels : Type³⁹⁹¹
- Plane : ExposureTime³⁹⁹²
- Plane : TheC³⁹⁹³
- Plane : TheT³⁹⁹⁴
- Plane : TheZ³⁹⁹⁵

Total supported: 26

Total unknown or missing: 449

- ³⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID
- ³⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber
- ³⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning
- ³⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID
- ³⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ³⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
- ³⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ³⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ³⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ³⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ³⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ³⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ³⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ³⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ³⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ³⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ³⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ³⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ³⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ³⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ³⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime
- ³⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ³⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ³⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.114 PCXReader

This page lists supported metadata fields for the Bio-Formats PCX format reader.

These fields are from the [OME data model](#)³⁹⁹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats PCX format reader:

- Channel : ID³⁹⁹⁷
- Channel : SamplesPerPixel³⁹⁹⁸
- Image : AcquisitionDate³⁹⁹⁹
- Image : ID⁴⁰⁰⁰
- Image : Name⁴⁰⁰¹
- Pixels : BigEndian⁴⁰⁰²
- Pixels : DimensionOrder⁴⁰⁰³
- Pixels : ID⁴⁰⁰⁴
- Pixels : Interleaved⁴⁰⁰⁵
- Pixels : SignificantBits⁴⁰⁰⁶
- Pixels : SizeC⁴⁰⁰⁷
- Pixels : SizeT⁴⁰⁰⁸
- Pixels : SizeX⁴⁰⁰⁹
- Pixels : SizeY⁴⁰¹⁰
- Pixels : SizeZ⁴⁰¹¹
- Pixels : Type⁴⁰¹²
- Plane : TheC⁴⁰¹³
- Plane : TheT⁴⁰¹⁴

³⁹⁹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

³⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁴⁰¹⁵

Total supported: 19

Total unknown or missing: 456

18.2.115 PDSReader

This page lists supported metadata fields for the Bio-Formats Perkin Elmer Densitometer format reader.

These fields are from the [OME data model](#)⁴⁰¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Perkin Elmer Densitometer format reader:

- Channel : ID⁴⁰¹⁷
- Channel : SamplesPerPixel⁴⁰¹⁸
- Image : AcquisitionDate⁴⁰¹⁹
- Image : ID⁴⁰²⁰
- Image : Name⁴⁰²¹
- Pixels : BigEndian⁴⁰²²
- Pixels : DimensionOrder⁴⁰²³
- Pixels : ID⁴⁰²⁴
- Pixels : Interleaved⁴⁰²⁵
- Pixels : PhysicalSizeX⁴⁰²⁶
- Pixels : PhysicalSizeY⁴⁰²⁷
- Pixels : SignificantBits⁴⁰²⁸
- Pixels : SizeC⁴⁰²⁹
- Pixels : SizeT⁴⁰³⁰
- Pixels : SizeX⁴⁰³¹
- Pixels : SizeY⁴⁰³²

⁴⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁰¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁴⁰³³
- Pixels : Type⁴⁰³⁴
- Plane : PositionX⁴⁰³⁵
- Plane : PositionY⁴⁰³⁶
- Plane : TheC⁴⁰³⁷
- Plane : TheT⁴⁰³⁸
- Plane : TheZ⁴⁰³⁹

Total supported: 23

Total unknown or missing: 452

18.2.116 PGMReader

This page lists supported metadata fields for the Bio-Formats Portable Any Map format reader.

These fields are from the [OME data model](#)⁴⁰⁴⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Portable Any Map format reader:

- Channel : ID⁴⁰⁴¹
- Channel : SamplesPerPixel⁴⁰⁴²
- Image : AcquisitionDate⁴⁰⁴³
- Image : ID⁴⁰⁴⁴
- Image : Name⁴⁰⁴⁵
- Pixels : BigEndian⁴⁰⁴⁶
- Pixels : DimensionOrder⁴⁰⁴⁷
- Pixels : ID⁴⁰⁴⁸
- Pixels : Interleaved⁴⁰⁴⁹
- Pixels : SignificantBits⁴⁰⁵⁰

⁴⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁴⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁴⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁰⁴⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁴⁰⁵¹
- Pixels : SizeT⁴⁰⁵²
- Pixels : SizeX⁴⁰⁵³
- Pixels : SizeY⁴⁰⁵⁴
- Pixels : SizeZ⁴⁰⁵⁵
- Pixels : Type⁴⁰⁵⁶
- Plane : TheC⁴⁰⁵⁷
- Plane : TheT⁴⁰⁵⁸
- Plane : TheZ⁴⁰⁵⁹

Total supported: 19

Total unknown or missing: 456

18.2.117 PQBinReader

This page lists supported metadata fields for the Bio-Formats PicoQuant Bin format reader.

These fields are from the [OME data model](#)⁴⁰⁶⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats PicoQuant Bin format reader:

- Channel : ID⁴⁰⁶¹
- Channel : SamplesPerPixel⁴⁰⁶²
- Image : AcquisitionDate⁴⁰⁶³
- Image : ID⁴⁰⁶⁴
- Image : Name⁴⁰⁶⁵
- Pixels : BigEndian⁴⁰⁶⁶
- Pixels : DimensionOrder⁴⁰⁶⁷
- Pixels : ID⁴⁰⁶⁸

⁴⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁰⁶⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁴⁰⁶⁹
- Pixels : PhysicalSizeX⁴⁰⁷⁰
- Pixels : PhysicalSizeY⁴⁰⁷¹
- Pixels : SignificantBits⁴⁰⁷²
- Pixels : SizeC⁴⁰⁷³
- Pixels : SizeT⁴⁰⁷⁴
- Pixels : SizeX⁴⁰⁷⁵
- Pixels : SizeY⁴⁰⁷⁶
- Pixels : SizeZ⁴⁰⁷⁷
- Pixels : Type⁴⁰⁷⁸
- Plane : TheC⁴⁰⁷⁹
- Plane : TheT⁴⁰⁸⁰
- Plane : TheZ⁴⁰⁸¹

Total supported: 21

Total unknown or missing: 454

18.2.118 PSDReader

This page lists supported metadata fields for the Bio-Formats Adobe Photoshop format reader.

These fields are from the [OME data model](#)⁴⁰⁸². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Adobe Photoshop format reader:

- Channel : ID⁴⁰⁸³
- Channel : SamplesPerPixel⁴⁰⁸⁴
- Image : AcquisitionDate⁴⁰⁸⁵
- Image : ID⁴⁰⁸⁶

⁴⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁰⁸²<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁴⁰⁸⁷
- Pixels : BigEndian⁴⁰⁸⁸
- Pixels : DimensionOrder⁴⁰⁸⁹
- Pixels : ID⁴⁰⁹⁰
- Pixels : Interleaved⁴⁰⁹¹
- Pixels : SignificantBits⁴⁰⁹²
- Pixels : SizeC⁴⁰⁹³
- Pixels : SizeT⁴⁰⁹⁴
- Pixels : SizeX⁴⁰⁹⁵
- Pixels : SizeY⁴⁰⁹⁶
- Pixels : SizeZ⁴⁰⁹⁷
- Pixels : Type⁴⁰⁹⁸
- Plane : TheC⁴⁰⁹⁹
- Plane : TheT⁴¹⁰⁰
- Plane : TheZ⁴¹⁰¹

Total supported: 19

Total unknown or missing: 456

18.2.119 PerkinElmerReader

This page lists supported metadata fields for the Bio-Formats PerkinElmer format reader.

These fields are from the [OME data model](#)⁴¹⁰². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 30 of them (6%).
- Of those, Bio-Formats fully or partially converts 30 (100%).

Supported fields

These fields are fully supported by the Bio-Formats PerkinElmer format reader:

- Channel : EmissionWavelength⁴¹⁰³
- Channel : ExcitationWavelength⁴¹⁰⁴

⁴⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴¹⁰²<http://www.openmicroscopy.org/site/support/ome-model/>

⁴¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁴¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

- Channel : ID⁴¹⁰⁵
- Channel : SamplesPerPixel⁴¹⁰⁶
- Image : AcquisitionDate⁴¹⁰⁷
- Image : ID⁴¹⁰⁸
- Image : InstrumentRef⁴¹⁰⁹
- Image : Name⁴¹¹⁰
- Instrument : ID⁴¹¹¹
- Pixels : BigEndian⁴¹¹²
- Pixels : DimensionOrder⁴¹¹³
- Pixels : ID⁴¹¹⁴
- Pixels : Interleaved⁴¹¹⁵
- Pixels : PhysicalSizeX⁴¹¹⁶
- Pixels : PhysicalSizeY⁴¹¹⁷
- Pixels : SignificantBits⁴¹¹⁸
- Pixels : SizeC⁴¹¹⁹
- Pixels : SizeT⁴¹²⁰
- Pixels : SizeX⁴¹²¹
- Pixels : SizeY⁴¹²²
- Pixels : SizeZ⁴¹²³
- Pixels : Type⁴¹²⁴
- Plane : DeltaT⁴¹²⁵
- Plane : ExposureTime⁴¹²⁶
- Plane : PositionX⁴¹²⁷
- Plane : PositionY⁴¹²⁸
- Plane : PositionZ⁴¹²⁹
- Plane : TheC⁴¹³⁰

⁴¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁴¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁴¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁴¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁴¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁴¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁴¹³¹
- Plane : TheZ⁴¹³²

Total supported: 30

Total unknown or missing: 445

18.2.120 PhotoshopTiffReader

This page lists supported metadata fields for the Bio-Formats Adobe Photoshop TIFF format reader.

These fields are from the [OME data model](#)⁴¹³³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Adobe Photoshop TIFF format reader:

- Channel : ID⁴¹³⁴
- Channel : SamplesPerPixel⁴¹³⁵
- Image : AcquisitionDate⁴¹³⁶
- Image : ID⁴¹³⁷
- Image : Name⁴¹³⁸
- Pixels : BigEndian⁴¹³⁹
- Pixels : DimensionOrder⁴¹⁴⁰
- Pixels : ID⁴¹⁴¹
- Pixels : Interleaved⁴¹⁴²
- Pixels : SignificantBits⁴¹⁴³
- Pixels : SizeC⁴¹⁴⁴
- Pixels : SizeT⁴¹⁴⁵
- Pixels : SizeX⁴¹⁴⁶
- Pixels : SizeY⁴¹⁴⁷
- Pixels : SizeZ⁴¹⁴⁸

⁴¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴¹³³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type⁴¹⁴⁹
- Plane : TheC⁴¹⁵⁰
- Plane : TheT⁴¹⁵¹
- Plane : TheZ⁴¹⁵²

Total supported: 19

Total unknown or missing: 456

18.2.121 PictReader

This page lists supported metadata fields for the Bio-Formats PICT format reader.

These fields are from the [OME data model](#)⁴¹⁵³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats PICT format reader:

- Channel : ID⁴¹⁵⁴
- Channel : SamplesPerPixel⁴¹⁵⁵
- Image : AcquisitionDate⁴¹⁵⁶
- Image : ID⁴¹⁵⁷
- Image : Name⁴¹⁵⁸
- Pixels : BigEndian⁴¹⁵⁹
- Pixels : DimensionOrder⁴¹⁶⁰
- Pixels : ID⁴¹⁶¹
- Pixels : Interleaved⁴¹⁶²
- Pixels : SignificantBits⁴¹⁶³
- Pixels : SizeC⁴¹⁶⁴
- Pixels : SizeT⁴¹⁶⁵
- Pixels : SizeX⁴¹⁶⁶

⁴¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴¹⁵³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁴¹⁶⁷
- Pixels : SizeZ⁴¹⁶⁸
- Pixels : Type⁴¹⁶⁹
- Plane : TheC⁴¹⁷⁰
- Plane : TheT⁴¹⁷¹
- Plane : TheZ⁴¹⁷²

Total supported: 19

Total unknown or missing: 456

18.2.122 PovrayReader

This page lists supported metadata fields for the Bio-Formats POV-Ray format reader.

These fields are from the [OME data model](#)⁴¹⁷³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats POV-Ray format reader:

- Channel : ID⁴¹⁷⁴
- Channel : SamplesPerPixel⁴¹⁷⁵
- Image : AcquisitionDate⁴¹⁷⁶
- Image : ID⁴¹⁷⁷
- Image : Name⁴¹⁷⁸
- Pixels : BigEndian⁴¹⁷⁹
- Pixels : DimensionOrder⁴¹⁸⁰
- Pixels : ID⁴¹⁸¹
- Pixels : Interleaved⁴¹⁸²
- Pixels : SignificantBits⁴¹⁸³
- Pixels : SizeC⁴¹⁸⁴

⁴¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴¹⁷³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁴¹⁸⁵
- Pixels : SizeX⁴¹⁸⁶
- Pixels : SizeY⁴¹⁸⁷
- Pixels : SizeZ⁴¹⁸⁸
- Pixels : Type⁴¹⁸⁹
- Plane : TheC⁴¹⁹⁰
- Plane : TheT⁴¹⁹¹
- Plane : TheZ⁴¹⁹²

Total supported: 19

Total unknown or missing: 456

18.2.123 PrairieReader

This page lists supported metadata fields for the Bio-Formats Prairie TIFF format reader.

These fields are from the [OME data model](#)⁴¹⁹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 46 of them (9%).
- Of those, Bio-Formats fully or partially converts 46 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Prairie TIFF format reader:

- Channel : EmissionWavelength⁴¹⁹⁴
- Channel : ID⁴¹⁹⁵
- Channel : Name⁴¹⁹⁶
- Channel : SamplesPerPixel⁴¹⁹⁷
- Detector : ID⁴¹⁹⁸
- Detector : Type⁴¹⁹⁹
- Detector : Zoom⁴²⁰⁰
- DetectorSettings : Gain⁴²⁰¹
- DetectorSettings : ID⁴²⁰²

⁴¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴¹⁹³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁴¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁴¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁴²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁴²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁴²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

- DetectorSettings : Offset⁴²⁰³
- Image : AcquisitionDate⁴²⁰⁴
- Image : ID⁴²⁰⁵
- Image : InstrumentRef⁴²⁰⁶
- Image : Name⁴²⁰⁷
- Instrument : ID⁴²⁰⁸
- Laser : ID⁴²⁰⁹
- Laser : Power⁴²¹⁰
- Microscope : Model⁴²¹¹
- Objective : Correction⁴²¹²
- Objective : ID⁴²¹³
- Objective : Immersion⁴²¹⁴
- Objective : LensNA⁴²¹⁵
- Objective : Manufacturer⁴²¹⁶
- Objective : NominalMagnification⁴²¹⁷
- ObjectiveSettings : ID⁴²¹⁸
- Pixels : BigEndian⁴²¹⁹
- Pixels : DimensionOrder⁴²²⁰
- Pixels : ID⁴²²¹
- Pixels : Interleaved⁴²²²
- Pixels : PhysicalSizeX⁴²²³
- Pixels : PhysicalSizeY⁴²²⁴
- Pixels : SignificantBits⁴²²⁵
- Pixels : SizeC⁴²²⁶
- Pixels : SizeT⁴²²⁷
- Pixels : SizeX⁴²²⁸

⁴²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁴²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁴²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁴²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁴²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁴²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁴²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁴²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁴²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁴²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁴²²⁹
- Pixels : SizeZ⁴²³⁰
- Pixels : TimeIncrement⁴²³¹
- Pixels : Type⁴²³²
- Plane : DeltaT⁴²³³
- Plane : PositionX⁴²³⁴
- Plane : PositionY⁴²³⁵
- Plane : PositionZ⁴²³⁶
- Plane : TheC⁴²³⁷
- Plane : TheT⁴²³⁸
- Plane : TheZ⁴²³⁹

Total supported: 46

Total unknown or missing: 429

18.2.124 PyramidTiffReader

This page lists supported metadata fields for the Bio-Formats Pyramid TIFF format reader.

These fields are from the [OME data model](#)⁴²⁴⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Pyramid TIFF format reader:

- Channel : ID⁴²⁴¹
- Channel : SamplesPerPixel⁴²⁴²
- Image : AcquisitionDate⁴²⁴³
- Image : ID⁴²⁴⁴
- Image : Name⁴²⁴⁵
- Pixels : BigEndian⁴²⁴⁶

⁴²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁴²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁴²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁴²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁴²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁴²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴²⁴⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁴²⁴⁷
- Pixels : ID⁴²⁴⁸
- Pixels : Interleaved⁴²⁴⁹
- Pixels : SignificantBits⁴²⁵⁰
- Pixels : SizeC⁴²⁵¹
- Pixels : SizeT⁴²⁵²
- Pixels : SizeX⁴²⁵³
- Pixels : SizeY⁴²⁵⁴
- Pixels : SizeZ⁴²⁵⁵
- Pixels : Type⁴²⁵⁶
- Plane : TheC⁴²⁵⁷
- Plane : TheT⁴²⁵⁸
- Plane : TheZ⁴²⁵⁹

Total supported: 19

Total unknown or missing: 456

18.2.125 QTReader

This page lists supported metadata fields for the Bio-Formats QuickTime format reader.

These fields are from the [OME data model](#)⁴²⁶⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats QuickTime format reader:

- Channel : ID⁴²⁶¹
- Channel : SamplesPerPixel⁴²⁶²
- Image : AcquisitionDate⁴²⁶³
- Image : ID⁴²⁶⁴

⁴²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴²⁶⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁴²⁶⁵
- Pixels : BigEndian⁴²⁶⁶
- Pixels : DimensionOrder⁴²⁶⁷
- Pixels : ID⁴²⁶⁸
- Pixels : Interleaved⁴²⁶⁹
- Pixels : SignificantBits⁴²⁷⁰
- Pixels : SizeC⁴²⁷¹
- Pixels : SizeT⁴²⁷²
- Pixels : SizeX⁴²⁷³
- Pixels : SizeY⁴²⁷⁴
- Pixels : SizeZ⁴²⁷⁵
- Pixels : Type⁴²⁷⁶
- Plane : TheC⁴²⁷⁷
- Plane : TheT⁴²⁷⁸
- Plane : TheZ⁴²⁷⁹

Total supported: 19

Total unknown or missing: 456

18.2.126 QuesantReader

This page lists supported metadata fields for the Bio-Formats Quesant AFM format reader.

These fields are from the [OME data model](#)⁴²⁸⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Quesant AFM format reader:

- Channel : ID⁴²⁸¹
- Channel : SamplesPerPixel⁴²⁸²

⁴²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴²⁸⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁴²⁸³
- Image : Description⁴²⁸⁴
- Image : ID⁴²⁸⁵
- Image : Name⁴²⁸⁶
- Pixels : BigEndian⁴²⁸⁷
- Pixels : DimensionOrder⁴²⁸⁸
- Pixels : ID⁴²⁸⁹
- Pixels : Interleaved⁴²⁹⁰
- Pixels : PhysicalSizeX⁴²⁹¹
- Pixels : PhysicalSizeY⁴²⁹²
- Pixels : SignificantBits⁴²⁹³
- Pixels : SizeC⁴²⁹⁴
- Pixels : SizeT⁴²⁹⁵
- Pixels : SizeX⁴²⁹⁶
- Pixels : SizeY⁴²⁹⁷
- Pixels : SizeZ⁴²⁹⁸
- Pixels : Type⁴²⁹⁹
- Plane : TheC⁴³⁰⁰
- Plane : TheT⁴³⁰¹
- Plane : TheZ⁴³⁰²

Total supported: 22

Total unknown or missing: 453

18.2.127 RHKReader

This page lists supported metadata fields for the Bio-Formats RHK Technologies format reader.

These fields are from the [OME data model](#)⁴³⁰³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

⁴²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴³⁰³<http://www.openmicroscopy.org/site/support/ome-model/>

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats RHK Technologies format reader:

- Channel : ID⁴³⁰⁴
- Channel : SamplesPerPixel⁴³⁰⁵
- Image : AcquisitionDate⁴³⁰⁶
- Image : Description⁴³⁰⁷
- Image : ID⁴³⁰⁸
- Image : Name⁴³⁰⁹
- Pixels : BigEndian⁴³¹⁰
- Pixels : DimensionOrder⁴³¹¹
- Pixels : ID⁴³¹²
- Pixels : Interleaved⁴³¹³
- Pixels : PhysicalSizeX⁴³¹⁴
- Pixels : PhysicalSizeY⁴³¹⁵
- Pixels : SignificantBits⁴³¹⁶
- Pixels : SizeC⁴³¹⁷
- Pixels : SizeT⁴³¹⁸
- Pixels : SizeX⁴³¹⁹
- Pixels : SizeY⁴³²⁰
- Pixels : SizeZ⁴³²¹
- Pixels : Type⁴³²²
- Plane : TheC⁴³²³
- Plane : TheT⁴³²⁴
- Plane : TheZ⁴³²⁵

⁴³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
⁴³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
⁴³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
⁴³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
⁴³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁴³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁴³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁴³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁴³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁴³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁴³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁴³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁴³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁴³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁴³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁴³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁴³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁴³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁴³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁴³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁴³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁴³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Total supported: 22

Total unknown or missing: 453

18.2.128 SBIGReader

This page lists supported metadata fields for the Bio-Formats SBIG format reader.

These fields are from the [OME data model](#)⁴³²⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats SBIG format reader:

- Channel : ID⁴³²⁷
- Channel : SamplesPerPixel⁴³²⁸
- Image : AcquisitionDate⁴³²⁹
- Image : Description⁴³³⁰
- Image : ID⁴³³¹
- Image : Name⁴³³²
- Pixels : BigEndian⁴³³³
- Pixels : DimensionOrder⁴³³⁴
- Pixels : ID⁴³³⁵
- Pixels : Interleaved⁴³³⁶
- Pixels : PhysicalSizeX⁴³³⁷
- Pixels : PhysicalSizeY⁴³³⁸
- Pixels : SignificantBits⁴³³⁹
- Pixels : SizeC⁴³⁴⁰
- Pixels : SizeT⁴³⁴¹
- Pixels : SizeX⁴³⁴²
- Pixels : SizeY⁴³⁴³

⁴³²⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁴³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁴³⁴⁴
- Pixels : Type⁴³⁴⁵
- Plane : TheC⁴³⁴⁶
- Plane : TheT⁴³⁴⁷
- Plane : TheZ⁴³⁴⁸

Total supported: 22

Total unknown or missing: 453

18.2.129 SDTReader

This page lists supported metadata fields for the Bio-Formats SPCImage Data format reader.

These fields are from the [OME data model](#)⁴³⁴⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats SPCImage Data format reader:

- Channel : ID⁴³⁵⁰
- Channel : SamplesPerPixel⁴³⁵¹
- Image : AcquisitionDate⁴³⁵²
- Image : ID⁴³⁵³
- Image : Name⁴³⁵⁴
- Pixels : BigEndian⁴³⁵⁵
- Pixels : DimensionOrder⁴³⁵⁶
- Pixels : ID⁴³⁵⁷
- Pixels : Interleaved⁴³⁵⁸
- Pixels : SignificantBits⁴³⁵⁹
- Pixels : SizeC⁴³⁶⁰
- Pixels : SizeT⁴³⁶¹

⁴³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴³⁴⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁴³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁴³⁶²
- Pixels : SizeY⁴³⁶³
- Pixels : SizeZ⁴³⁶⁴
- Pixels : Type⁴³⁶⁵
- Plane : TheC⁴³⁶⁶
- Plane : TheT⁴³⁶⁷
- Plane : TheZ⁴³⁶⁸

Total supported: 19

Total unknown or missing: 456

18.2.130 SEQReader

This page lists supported metadata fields for the Bio-Formats Image-Pro Sequence format reader.

These fields are from the [OME data model](#)⁴³⁶⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Image-Pro Sequence format reader:

- Channel : ID⁴³⁷⁰
- Channel : SamplesPerPixel⁴³⁷¹
- Image : AcquisitionDate⁴³⁷²
- Image : ID⁴³⁷³
- Image : Name⁴³⁷⁴
- Pixels : BigEndian⁴³⁷⁵
- Pixels : DimensionOrder⁴³⁷⁶
- Pixels : ID⁴³⁷⁷
- Pixels : Interleaved⁴³⁷⁸
- Pixels : SignificantBits⁴³⁷⁹

⁴³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴³⁶⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁴³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁴³⁸⁰
- Pixels : SizeT⁴³⁸¹
- Pixels : SizeX⁴³⁸²
- Pixels : SizeY⁴³⁸³
- Pixels : SizeZ⁴³⁸⁴
- Pixels : Type⁴³⁸⁵
- Plane : TheC⁴³⁸⁶
- Plane : TheT⁴³⁸⁷
- Plane : TheZ⁴³⁸⁸

Total supported: 19

Total unknown or missing: 456

18.2.131 SIFReader

This page lists supported metadata fields for the Bio-Formats Andor SIF format reader.

These fields are from the [OME data model](#)⁴³⁸⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 20 of them (4%).
- Of those, Bio-Formats fully or partially converts 20 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Andor SIF format reader:

- Channel : ID⁴³⁹⁰
- Channel : SamplesPerPixel⁴³⁹¹
- Image : AcquisitionDate⁴³⁹²
- Image : ID⁴³⁹³
- Image : Name⁴³⁹⁴
- Pixels : BigEndian⁴³⁹⁵
- Pixels : DimensionOrder⁴³⁹⁶
- Pixels : ID⁴³⁹⁷

⁴³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴³⁸⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁴³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁴³⁹⁸
- Pixels : SignificantBits⁴³⁹⁹
- Pixels : SizeC⁴⁴⁰⁰
- Pixels : SizeT⁴⁴⁰¹
- Pixels : SizeX⁴⁴⁰²
- Pixels : SizeY⁴⁴⁰³
- Pixels : SizeZ⁴⁴⁰⁴
- Pixels : Type⁴⁴⁰⁵
- Plane : DeltaT⁴⁴⁰⁶
- Plane : TheC⁴⁴⁰⁷
- Plane : TheT⁴⁴⁰⁸
- Plane : TheZ⁴⁴⁰⁹

Total supported: 20

Total unknown or missing: 455

18.2.132 SISReader

This page lists supported metadata fields for the Bio-Formats Olympus SIS TIFF format reader.

These fields are from the [OME data model](#)⁴⁴¹⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 33 of them (6%).
- Of those, Bio-Formats fully or partially converts 33 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus SIS TIFF format reader:

- Channel : ID⁴⁴¹¹
- Channel : Name⁴⁴¹²
- Channel : SamplesPerPixel⁴⁴¹³
- Detector : ID⁴⁴¹⁴
- Detector : Model⁴⁴¹⁵

⁴³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁴⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁴¹⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁴⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

- Detector : Type⁴⁴¹⁶
- DetectorSettings : ID⁴⁴¹⁷
- Image : AcquisitionDate⁴⁴¹⁸
- Image : ID⁴⁴¹⁹
- Image : InstrumentRef⁴⁴²⁰
- Image : Name⁴⁴²¹
- Instrument : ID⁴⁴²²
- Objective : Correction⁴⁴²³
- Objective : ID⁴⁴²⁴
- Objective : Immersion⁴⁴²⁵
- Objective : NominalMagnification⁴⁴²⁶
- ObjectiveSettings : ID⁴⁴²⁷
- Pixels : BigEndian⁴⁴²⁸
- Pixels : DimensionOrder⁴⁴²⁹
- Pixels : ID⁴⁴³⁰
- Pixels : Interleaved⁴⁴³¹
- Pixels : PhysicalSizeX⁴⁴³²
- Pixels : PhysicalSizeY⁴⁴³³
- Pixels : SignificantBits⁴⁴³⁴
- Pixels : SizeC⁴⁴³⁵
- Pixels : SizeT⁴⁴³⁶
- Pixels : SizeX⁴⁴³⁷
- Pixels : SizeY⁴⁴³⁸
- Pixels : SizeZ⁴⁴³⁹
- Pixels : Type⁴⁴⁴⁰
- Plane : TheC⁴⁴⁴¹

⁴⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁴⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁴⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁴⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁴⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁴⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁴⁴⁴²
- Plane : TheZ⁴⁴⁴³

Total supported: 33

Total unknown or missing: 442

18.2.133 SMCameraReader

This page lists supported metadata fields for the Bio-Formats SM Camera format reader.

These fields are from the [OME data model](#)⁴⁴⁴⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats SM Camera format reader:

- Channel : ID⁴⁴⁴⁵
- Channel : SamplesPerPixel⁴⁴⁴⁶
- Image : AcquisitionDate⁴⁴⁴⁷
- Image : ID⁴⁴⁴⁸
- Image : Name⁴⁴⁴⁹
- Pixels : BigEndian⁴⁴⁵⁰
- Pixels : DimensionOrder⁴⁴⁵¹
- Pixels : ID⁴⁴⁵²
- Pixels : Interleaved⁴⁴⁵³
- Pixels : SignificantBits⁴⁴⁵⁴
- Pixels : SizeC⁴⁴⁵⁵
- Pixels : SizeT⁴⁴⁵⁶
- Pixels : SizeX⁴⁴⁵⁷
- Pixels : SizeY⁴⁴⁵⁸
- Pixels : SizeZ⁴⁴⁵⁹

⁴⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁴⁴⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type⁴⁴⁶⁰
- Plane : TheC⁴⁴⁶¹
- Plane : TheT⁴⁴⁶²
- Plane : TheZ⁴⁴⁶³

Total supported: 19

Total unknown or missing: 456

18.2.134 SVSReader

This page lists supported metadata fields for the Bio-Formats Aperio SVS format reader.

These fields are from the [OME data model](#)⁴⁴⁶⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 29 of them (6%).
- Of those, Bio-Formats fully or partially converts 29 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Aperio SVS format reader:

- Channel : EmissionWavelength⁴⁴⁶⁵
- Channel : ExcitationWavelength⁴⁴⁶⁶
- Channel : ID⁴⁴⁶⁷
- Channel : SamplesPerPixel⁴⁴⁶⁸
- Image : AcquisitionDate⁴⁴⁶⁹
- Image : Description⁴⁴⁷⁰
- Image : ID⁴⁴⁷¹
- Image : InstrumentRef⁴⁴⁷²
- Image : Name⁴⁴⁷³
- Instrument : ID⁴⁴⁷⁴
- Objective : ID⁴⁴⁷⁵
- Objective : NominalMagnification⁴⁴⁷⁶
- ObjectiveSettings : ID⁴⁴⁷⁷

⁴⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁴⁶⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁴⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁴⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

- Pixels : BigEndian⁴⁴⁷⁸
- Pixels : DimensionOrder⁴⁴⁷⁹
- Pixels : ID⁴⁴⁸⁰
- Pixels : Interleaved⁴⁴⁸¹
- Pixels : PhysicalSizeX⁴⁴⁸²
- Pixels : PhysicalSizeY⁴⁴⁸³
- Pixels : SignificantBits⁴⁴⁸⁴
- Pixels : SizeC⁴⁴⁸⁵
- Pixels : SizeT⁴⁴⁸⁶
- Pixels : SizeX⁴⁴⁸⁷
- Pixels : SizeY⁴⁴⁸⁸
- Pixels : SizeZ⁴⁴⁸⁹
- Pixels : Type⁴⁴⁹⁰
- Plane : TheC⁴⁴⁹¹
- Plane : TheT⁴⁴⁹²
- Plane : TheZ⁴⁴⁹³

Total supported: 29

Total unknown or missing: 446

18.2.135 ScanRReader

This page lists supported metadata fields for the Bio-Formats Olympus ScanR format reader.

These fields are from the [OME data model](#)⁴⁴⁹⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 43 of them (9%).
- Of those, Bio-Formats fully or partially converts 43 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus ScanR format reader:

- Channel : ID⁴⁴⁹⁵

⁴⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁴⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁴⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁴⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁴⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁴⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁴⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁴⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁴⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁴⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁴⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁴⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁴⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁴⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁴⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁴⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁴⁴⁹⁴<http://www.openmicroscopy.org/site/support/ome-model/>
⁴⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : Name⁴⁴⁹⁶
- Channel : SamplesPerPixel⁴⁴⁹⁷
- Image : AcquisitionDate⁴⁴⁹⁸
- Image : ID⁴⁴⁹⁹
- Image : Name⁴⁵⁰⁰
- Pixels : BigEndian⁴⁵⁰¹
- Pixels : DimensionOrder⁴⁵⁰²
- Pixels : ID⁴⁵⁰³
- Pixels : Interleaved⁴⁵⁰⁴
- Pixels : PhysicalSizeX⁴⁵⁰⁵
- Pixels : PhysicalSizeY⁴⁵⁰⁶
- Pixels : SignificantBits⁴⁵⁰⁷
- Pixels : SizeC⁴⁵⁰⁸
- Pixels : SizeT⁴⁵⁰⁹
- Pixels : SizeX⁴⁵¹⁰
- Pixels : SizeY⁴⁵¹¹
- Pixels : SizeZ⁴⁵¹²
- Pixels : Type⁴⁵¹³
- Plane : DeltaT⁴⁵¹⁴
- Plane : ExposureTime⁴⁵¹⁵
- Plane : PositionX⁴⁵¹⁶
- Plane : PositionY⁴⁵¹⁷
- Plane : TheC⁴⁵¹⁸
- Plane : TheT⁴⁵¹⁹
- Plane : TheZ⁴⁵²⁰
- Plate : ColumnNamingConvention⁴⁵²¹

⁴⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁴⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁴⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁴⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁴⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

- Plate : Columns⁴⁵²²
- Plate : ID⁴⁵²³
- Plate : Name⁴⁵²⁴
- Plate : RowNamingConvention⁴⁵²⁵
- Plate : Rows⁴⁵²⁶
- PlateAcquisition : ID⁴⁵²⁷
- PlateAcquisition : MaximumFieldCount⁴⁵²⁸
- PlateAcquisition : WellSampleRef⁴⁵²⁹
- Well : Column⁴⁵³⁰
- Well : ID⁴⁵³¹
- Well : Row⁴⁵³²
- WellSample : ID⁴⁵³³
- WellSample : ImageRef⁴⁵³⁴
- WellSample : Index⁴⁵³⁵
- WellSample : PositionX⁴⁵³⁶
- WellSample : PositionY⁴⁵³⁷

Total supported: 43

Total unknown or missing: 432

18.2.136 ScreenReader

This page lists supported metadata fields for the Bio-Formats Screen format reader.

These fields are from the [OME data model](#)⁴⁵³⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 34 of them (7%).
- Of those, Bio-Formats fully or partially converts 34 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Screen format reader:

- Channel : ID⁴⁵³⁹

⁴⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

⁴⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁴⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁴⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁴⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

⁴⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁴⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁴⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁴⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁴⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁴⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁴⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁴⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁴⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁴⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁴⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

⁴⁵³⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : SamplesPerPixel⁴⁵⁴⁰
- Image : AcquisitionDate⁴⁵⁴¹
- Image : ID⁴⁵⁴²
- Image : Name⁴⁵⁴³
- Pixels : BigEndian⁴⁵⁴⁴
- Pixels : DimensionOrder⁴⁵⁴⁵
- Pixels : ID⁴⁵⁴⁶
- Pixels : Interleaved⁴⁵⁴⁷
- Pixels : SignificantBits⁴⁵⁴⁸
- Pixels : SizeC⁴⁵⁴⁹
- Pixels : SizeT⁴⁵⁵⁰
- Pixels : SizeX⁴⁵⁵¹
- Pixels : SizeY⁴⁵⁵²
- Pixels : SizeZ⁴⁵⁵³
- Pixels : Type⁴⁵⁵⁴
- Plane : TheC⁴⁵⁵⁵
- Plane : TheT⁴⁵⁵⁶
- Plane : TheZ⁴⁵⁵⁷
- Plate : ColumnNamingConvention⁴⁵⁵⁸
- Plate : Columns⁴⁵⁵⁹
- Plate : ID⁴⁵⁶⁰
- Plate : Name⁴⁵⁶¹
- Plate : RowNamingConvention⁴⁵⁶²
- Plate : Rows⁴⁵⁶³
- Screen : ID⁴⁵⁶⁴
- Screen : Name⁴⁵⁶⁵

⁴⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁴⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

⁴⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁴⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁴⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁴⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

⁴⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_ID

⁴⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_Name

- Screen : PlateRef⁴⁵⁶⁶
- Well : Column⁴⁵⁶⁷
- Well : ID⁴⁵⁶⁸
- Well : Row⁴⁵⁶⁹
- WellSample : ID⁴⁵⁷⁰
- WellSample : ImageRef⁴⁵⁷¹
- WellSample : Index⁴⁵⁷²

Total supported: 34

Total unknown or missing: 441

18.2.137 SeikoReader

This page lists supported metadata fields for the Bio-Formats Seiko format reader.

These fields are from the [OME data model](#)⁴⁵⁷³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Seiko format reader:

- Channel : ID⁴⁵⁷⁴
- Channel : SamplesPerPixel⁴⁵⁷⁵
- Image : AcquisitionDate⁴⁵⁷⁶
- Image : Description⁴⁵⁷⁷
- Image : ID⁴⁵⁷⁸
- Image : Name⁴⁵⁷⁹
- Pixels : BigEndian⁴⁵⁸⁰
- Pixels : DimensionOrder⁴⁵⁸¹
- Pixels : ID⁴⁵⁸²
- Pixels : Interleaved⁴⁵⁸³

⁴⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_Screen_PlateRef_ID

⁴⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁴⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁴⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁴⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁴⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁴⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁴⁵⁷³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : PhysicalSizeX⁴⁵⁸⁴
- Pixels : PhysicalSizeY⁴⁵⁸⁵
- Pixels : SignificantBits⁴⁵⁸⁶
- Pixels : SizeC⁴⁵⁸⁷
- Pixels : SizeT⁴⁵⁸⁸
- Pixels : SizeX⁴⁵⁸⁹
- Pixels : SizeY⁴⁵⁹⁰
- Pixels : SizeZ⁴⁵⁹¹
- Pixels : Type⁴⁵⁹²
- Plane : TheC⁴⁵⁹³
- Plane : TheT⁴⁵⁹⁴
- Plane : TheZ⁴⁵⁹⁵

Total supported: 22

Total unknown or missing: 453

18.2.138 SimplePCITiffReader

This page lists supported metadata fields for the Bio-Formats SimplePCI TIFF format reader.

These fields are from the [OME data model](#)⁴⁵⁹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 33 of them (6%).
- Of those, Bio-Formats fully or partially converts 33 (100%).

Supported fields

These fields are fully supported by the Bio-Formats SimplePCI TIFF format reader:

- Channel : ID⁴⁵⁹⁷
- Channel : SamplesPerPixel⁴⁵⁹⁸
- Detector : ID⁴⁵⁹⁹
- Detector : Model⁴⁶⁰⁰
- Detector : Type⁴⁶⁰¹

⁴⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁵⁹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁴⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁴⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

- DetectorSettings : Binning⁴⁶⁰²
- DetectorSettings : ID⁴⁶⁰³
- Image : AcquisitionDate⁴⁶⁰⁴
- Image : Description⁴⁶⁰⁵
- Image : ID⁴⁶⁰⁶
- Image : InstrumentRef⁴⁶⁰⁷
- Image : Name⁴⁶⁰⁸
- Instrument : ID⁴⁶⁰⁹
- Objective : ID⁴⁶¹⁰
- Objective : Immersion⁴⁶¹¹
- Objective : NominalMagnification⁴⁶¹²
- Pixels : BigEndian⁴⁶¹³
- Pixels : DimensionOrder⁴⁶¹⁴
- Pixels : ID⁴⁶¹⁵
- Pixels : Interleaved⁴⁶¹⁶
- Pixels : PhysicalSizeX⁴⁶¹⁷
- Pixels : PhysicalSizeY⁴⁶¹⁸
- Pixels : SignificantBits⁴⁶¹⁹
- Pixels : SizeC⁴⁶²⁰
- Pixels : SizeT⁴⁶²¹
- Pixels : SizeX⁴⁶²²
- Pixels : SizeY⁴⁶²³
- Pixels : SizeZ⁴⁶²⁴
- Pixels : Type⁴⁶²⁵
- Plane : ExposureTime⁴⁶²⁶
- Plane : TheC⁴⁶²⁷

⁴⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁴⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁴⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁴⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁴⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁴⁶²⁸
- Plane : TheZ⁴⁶²⁹

Total supported: 33

Total unknown or missing: 442

18.2.139 SlideBook6Reader

This page lists supported metadata fields for the Bio-Formats SlideBook 6 SLD (native) format reader.

These fields are from the [OME data model](#)⁴⁶³⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 37 of them (7%).
- Of those, Bio-Formats fully or partially converts 37 (100%).

Supported fields

These fields are fully supported by the Bio-Formats SlideBook 6 SLD (native) format reader:

- Channel : ID⁴⁶³¹
- Channel : Name⁴⁶³²
- Channel : SamplesPerPixel⁴⁶³³
- Image : AcquisitionDate⁴⁶³⁴
- Image : Description⁴⁶³⁵
- Image : ID⁴⁶³⁶
- Image : InstrumentRef⁴⁶³⁷
- Image : Name⁴⁶³⁸
- Instrument : ID⁴⁶³⁹
- Objective : Correction⁴⁶⁴⁰
- Objective : ID⁴⁶⁴¹
- Objective : Immersion⁴⁶⁴²
- Objective : Model⁴⁶⁴³
- Objective : NominalMagnification⁴⁶⁴⁴
- ObjectiveSettings : ID⁴⁶⁴⁵

⁴⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁶³⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁴⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁴⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁴⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

- Pixels : BigEndian⁴⁶⁴⁶
- Pixels : DimensionOrder⁴⁶⁴⁷
- Pixels : ID⁴⁶⁴⁸
- Pixels : Interleaved⁴⁶⁴⁹
- Pixels : PhysicalSizeX⁴⁶⁵⁰
- Pixels : PhysicalSizeY⁴⁶⁵¹
- Pixels : PhysicalSizeZ⁴⁶⁵²
- Pixels : SignificantBits⁴⁶⁵³
- Pixels : SizeC⁴⁶⁵⁴
- Pixels : SizeT⁴⁶⁵⁵
- Pixels : SizeX⁴⁶⁵⁶
- Pixels : SizeY⁴⁶⁵⁷
- Pixels : SizeZ⁴⁶⁵⁸
- Pixels : Type⁴⁶⁵⁹
- Plane : DeltaT⁴⁶⁶⁰
- Plane : ExposureTime⁴⁶⁶¹
- Plane : PositionX⁴⁶⁶²
- Plane : PositionY⁴⁶⁶³
- Plane : PositionZ⁴⁶⁶⁴
- Plane : TheC⁴⁶⁶⁵
- Plane : TheT⁴⁶⁶⁶
- Plane : TheZ⁴⁶⁶⁷

Total supported: 37

Total unknown or missing: 438

18.2.140 SlidebookReader

This page lists supported metadata fields for the Bio-Formats Olympus Slidebook format reader.

- ⁴⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁴⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁴⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁴⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁴⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁴⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁴⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ⁴⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁴⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁴⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁴⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁴⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁴⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁴⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁴⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT
- ⁴⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime
- ⁴⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
- ⁴⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
- ⁴⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ
- ⁴⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁴⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁴⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁴⁶⁶⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 34 of them (7%).
- Of those, Bio-Formats fully or partially converts 34 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus Slidebook format reader:

- Channel : ID⁴⁶⁶⁹
- Channel : NDFilter⁴⁶⁷⁰
- Channel : Name⁴⁶⁷¹
- Channel : SamplesPerPixel⁴⁶⁷²
- Image : AcquisitionDate⁴⁶⁷³
- Image : Description⁴⁶⁷⁴
- Image : ID⁴⁶⁷⁵
- Image : InstrumentRef⁴⁶⁷⁶
- Image : Name⁴⁶⁷⁷
- Instrument : ID⁴⁶⁷⁸
- Objective : Correction⁴⁶⁷⁹
- Objective : ID⁴⁶⁸⁰
- Objective : Immersion⁴⁶⁸¹
- Objective : Model⁴⁶⁸²
- Objective : NominalMagnification⁴⁶⁸³
- ObjectiveSettings : ID⁴⁶⁸⁴
- Pixels : BigEndian⁴⁶⁸⁵
- Pixels : DimensionOrder⁴⁶⁸⁶
- Pixels : ID⁴⁶⁸⁷
- Pixels : Interleaved⁴⁶⁸⁸

⁴⁶⁶⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_NDFilter

⁴⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁴⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁴⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁴⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁴⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : PhysicalSizeX⁴⁶⁸⁹
- Pixels : PhysicalSizeY⁴⁶⁹⁰
- Pixels : PhysicalSizeZ⁴⁶⁹¹
- Pixels : SignificantBits⁴⁶⁹²
- Pixels : SizeC⁴⁶⁹³
- Pixels : SizeT⁴⁶⁹⁴
- Pixels : SizeX⁴⁶⁹⁵
- Pixels : SizeY⁴⁶⁹⁶
- Pixels : SizeZ⁴⁶⁹⁷
- Pixels : Type⁴⁶⁹⁸
- Plane : ExposureTime⁴⁶⁹⁹
- Plane : TheC⁴⁷⁰⁰
- Plane : TheT⁴⁷⁰¹
- Plane : TheZ⁴⁷⁰²

Total supported: 34

Total unknown or missing: 441

18.2.141 SlidebookTiffReader

This page lists supported metadata fields for the Bio-Formats Slidebook TIFF format reader.

These fields are from the [OME data model](#)⁴⁷⁰³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 30 of them (6%).
- Of those, Bio-Formats fully or partially converts 30 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Slidebook TIFF format reader:

- Channel : ID⁴⁷⁰⁴
- Channel : Name⁴⁷⁰⁵
- Channel : SamplesPerPixel⁴⁷⁰⁶

⁴⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁴⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁴⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁷⁰³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁴⁷⁰⁷
- Image : ID⁴⁷⁰⁸
- Image : Name⁴⁷⁰⁹
- Instrument : ID⁴⁷¹⁰
- Objective : Correction⁴⁷¹¹
- Objective : ID⁴⁷¹²
- Objective : Immersion⁴⁷¹³
- Objective : NominalMagnification⁴⁷¹⁴
- Pixels : BigEndian⁴⁷¹⁵
- Pixels : DimensionOrder⁴⁷¹⁶
- Pixels : ID⁴⁷¹⁷
- Pixels : Interleaved⁴⁷¹⁸
- Pixels : PhysicalSizeX⁴⁷¹⁹
- Pixels : PhysicalSizeY⁴⁷²⁰
- Pixels : SignificantBits⁴⁷²¹
- Pixels : SizeC⁴⁷²²
- Pixels : SizeT⁴⁷²³
- Pixels : SizeX⁴⁷²⁴
- Pixels : SizeY⁴⁷²⁵
- Pixels : SizeZ⁴⁷²⁶
- Pixels : Type⁴⁷²⁷
- Plane : PositionX⁴⁷²⁸
- Plane : PositionY⁴⁷²⁹
- Plane : PositionZ⁴⁷³⁰
- Plane : TheC⁴⁷³¹
- Plane : TheT⁴⁷³²

⁴⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁴⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁴⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁴⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁴⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁴⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁴⁷³³

Total supported: 30

Total unknown or missing: 445

18.2.142 SpiderReader

This page lists supported metadata fields for the Bio-Formats SPIDER format reader.

These fields are from the [OME data model](#)⁴⁷³⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats SPIDER format reader:

- Channel : ID⁴⁷³⁵
- Channel : SamplesPerPixel⁴⁷³⁶
- Image : AcquisitionDate⁴⁷³⁷
- Image : ID⁴⁷³⁸
- Image : Name⁴⁷³⁹
- Pixels : BigEndian⁴⁷⁴⁰
- Pixels : DimensionOrder⁴⁷⁴¹
- Pixels : ID⁴⁷⁴²
- Pixels : Interleaved⁴⁷⁴³
- Pixels : PhysicalSizeX⁴⁷⁴⁴
- Pixels : PhysicalSizeY⁴⁷⁴⁵
- Pixels : SignificantBits⁴⁷⁴⁶
- Pixels : SizeC⁴⁷⁴⁷
- Pixels : SizeT⁴⁷⁴⁸
- Pixels : SizeX⁴⁷⁴⁹
- Pixels : SizeY⁴⁷⁵⁰

⁴⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁷³⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁴⁷⁵¹
- Pixels : Type⁴⁷⁵²
- Plane : TheC⁴⁷⁵³
- Plane : TheT⁴⁷⁵⁴
- Plane : TheZ⁴⁷⁵⁵

Total supported: 21

Total unknown or missing: 454

18.2.143 TCSReader

This page lists supported metadata fields for the Bio-Formats Leica TCS TIFF format reader.

These fields are from the [OME data model](#)⁴⁷⁵⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Leica TCS TIFF format reader:

- Channel : ID⁴⁷⁵⁷
- Channel : SamplesPerPixel⁴⁷⁵⁸
- Image : AcquisitionDate⁴⁷⁵⁹
- Image : ID⁴⁷⁶⁰
- Image : Name⁴⁷⁶¹
- Pixels : BigEndian⁴⁷⁶²
- Pixels : DimensionOrder⁴⁷⁶³
- Pixels : ID⁴⁷⁶⁴
- Pixels : Interleaved⁴⁷⁶⁵
- Pixels : PhysicalSizeX⁴⁷⁶⁶
- Pixels : PhysicalSizeY⁴⁷⁶⁷
- Pixels : PhysicalSizeZ⁴⁷⁶⁸

⁴⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁷⁵⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

- Pixels : SignificantBits⁴⁷⁶⁹
- Pixels : SizeC⁴⁷⁷⁰
- Pixels : SizeT⁴⁷⁷¹
- Pixels : SizeX⁴⁷⁷²
- Pixels : SizeY⁴⁷⁷³
- Pixels : SizeZ⁴⁷⁷⁴
- Pixels : Type⁴⁷⁷⁵
- Plane : TheC⁴⁷⁷⁶
- Plane : TheT⁴⁷⁷⁷
- Plane : TheZ⁴⁷⁷⁸

Total supported: 22

Total unknown or missing: 453

18.2.144 TargaReader

This page lists supported metadata fields for the Bio-Formats Truevision Targa format reader.

These fields are from the [OME data model](#)⁴⁷⁷⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 20 of them (4%).
- Of those, Bio-Formats fully or partially converts 20 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Truevision Targa format reader:

- Channel : ID⁴⁷⁸⁰
- Channel : SamplesPerPixel⁴⁷⁸¹
- Image : AcquisitionDate⁴⁷⁸²
- Image : Description⁴⁷⁸³
- Image : ID⁴⁷⁸⁴
- Image : Name⁴⁷⁸⁵
- Pixels : BigEndian⁴⁷⁸⁶

⁴⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁷⁷⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁴⁷⁸⁷
- Pixels : ID⁴⁷⁸⁸
- Pixels : Interleaved⁴⁷⁸⁹
- Pixels : SignificantBits⁴⁷⁹⁰
- Pixels : SizeC⁴⁷⁹¹
- Pixels : SizeT⁴⁷⁹²
- Pixels : SizeX⁴⁷⁹³
- Pixels : SizeY⁴⁷⁹⁴
- Pixels : SizeZ⁴⁷⁹⁵
- Pixels : Type⁴⁷⁹⁶
- Plane : TheC⁴⁷⁹⁷
- Plane : TheT⁴⁷⁹⁸
- Plane : TheZ⁴⁷⁹⁹

Total supported: 20

Total unknown or missing: 455

18.2.145 TextReader

This page lists supported metadata fields for the Bio-Formats Text format reader.

These fields are from the [OME data model](#)⁴⁸⁰⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Text format reader:

- Channel : ID⁴⁸⁰¹
- Channel : SamplesPerPixel⁴⁸⁰²
- Image : AcquisitionDate⁴⁸⁰³
- Image : ID⁴⁸⁰⁴

⁴⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁸⁰⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁴⁸⁰⁵
- Pixels : BigEndian⁴⁸⁰⁶
- Pixels : DimensionOrder⁴⁸⁰⁷
- Pixels : ID⁴⁸⁰⁸
- Pixels : Interleaved⁴⁸⁰⁹
- Pixels : SignificantBits⁴⁸¹⁰
- Pixels : SizeC⁴⁸¹¹
- Pixels : SizeT⁴⁸¹²
- Pixels : SizeX⁴⁸¹³
- Pixels : SizeY⁴⁸¹⁴
- Pixels : SizeZ⁴⁸¹⁵
- Pixels : Type⁴⁸¹⁶
- Plane : TheC⁴⁸¹⁷
- Plane : TheT⁴⁸¹⁸
- Plane : TheZ⁴⁸¹⁹

Total supported: 19

Total unknown or missing: 456

18.2.146 TiffDelegateReader

This page lists supported metadata fields for the Bio-Formats Tagged Image File Format format reader.

These fields are from the [OME data model](#)⁴⁸²⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Tagged Image File Format format reader:

- Channel : ID⁴⁸²¹
- Channel : SamplesPerPixel⁴⁸²²

⁴⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁸²⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁴⁸²³
- Image : ID⁴⁸²⁴
- Image : Name⁴⁸²⁵
- Pixels : BigEndian⁴⁸²⁶
- Pixels : DimensionOrder⁴⁸²⁷
- Pixels : ID⁴⁸²⁸
- Pixels : Interleaved⁴⁸²⁹
- Pixels : SignificantBits⁴⁸³⁰
- Pixels : SizeC⁴⁸³¹
- Pixels : SizeT⁴⁸³²
- Pixels : SizeX⁴⁸³³
- Pixels : SizeY⁴⁸³⁴
- Pixels : SizeZ⁴⁸³⁵
- Pixels : Type⁴⁸³⁶
- Plane : TheC⁴⁸³⁷
- Plane : TheT⁴⁸³⁸
- Plane : TheZ⁴⁸³⁹

Total supported: 19

Total unknown or missing: 456

18.2.147 TiffJAIReader

This page lists supported metadata fields for the Bio-Formats Tagged Image File Format format reader.

These fields are from the [OME data model](#)⁴⁸⁴⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

⁴⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁸⁴⁰<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Tagged Image File Format format reader:

- Channel : ID⁴⁸⁴¹
- Channel : SamplesPerPixel⁴⁸⁴²
- Image : AcquisitionDate⁴⁸⁴³
- Image : ID⁴⁸⁴⁴
- Image : Name⁴⁸⁴⁵
- Pixels : BigEndian⁴⁸⁴⁶
- Pixels : DimensionOrder⁴⁸⁴⁷
- Pixels : ID⁴⁸⁴⁸
- Pixels : Interleaved⁴⁸⁴⁹
- Pixels : SignificantBits⁴⁸⁵⁰
- Pixels : SizeC⁴⁸⁵¹
- Pixels : SizeT⁴⁸⁵²
- Pixels : SizeX⁴⁸⁵³
- Pixels : SizeY⁴⁸⁵⁴
- Pixels : SizeZ⁴⁸⁵⁵
- Pixels : Type⁴⁸⁵⁶
- Plane : TheC⁴⁸⁵⁷
- Plane : TheT⁴⁸⁵⁸
- Plane : TheZ⁴⁸⁵⁹

Total supported: 19

Total unknown or missing: 456

18.2.148 TiffReader

This page lists supported metadata fields for the Bio-Formats Tagged Image File Format format reader.

These fields are from the [OME data model](#)⁴⁸⁶⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁴⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
⁴⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
⁴⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
⁴⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁴⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁴⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁴⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁴⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁴⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁴⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁴⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁴⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁴⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁴⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁴⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁴⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁴⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁴⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁴⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁴⁸⁶⁰<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Tagged Image File Format format reader:

- Channel : ID⁴⁸⁶¹
- Channel : SamplesPerPixel⁴⁸⁶²
- Image : AcquisitionDate⁴⁸⁶³
- Image : Description⁴⁸⁶⁴
- Image : ID⁴⁸⁶⁵
- Image : Name⁴⁸⁶⁶
- Pixels : BigEndian⁴⁸⁶⁷
- Pixels : DimensionOrder⁴⁸⁶⁸
- Pixels : ID⁴⁸⁶⁹
- Pixels : Interleaved⁴⁸⁷⁰
- Pixels : PhysicalSizeZ⁴⁸⁷¹
- Pixels : SignificantBits⁴⁸⁷²
- Pixels : SizeC⁴⁸⁷³
- Pixels : SizeT⁴⁸⁷⁴
- Pixels : SizeX⁴⁸⁷⁵
- Pixels : SizeY⁴⁸⁷⁶
- Pixels : SizeZ⁴⁸⁷⁷
- Pixels : TimeIncrement⁴⁸⁷⁸
- Pixels : Type⁴⁸⁷⁹
- Plane : TheC⁴⁸⁸⁰
- Plane : TheT⁴⁸⁸¹
- Plane : TheZ⁴⁸⁸²

⁴⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
⁴⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
⁴⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
⁴⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
⁴⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁴⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁴⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁴⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁴⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁴⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁴⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
⁴⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁴⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁴⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁴⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁴⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁴⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁴⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement
⁴⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁴⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁴⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁴⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Total supported: 22

Total unknown or missing: 453

18.2.149 TileJPEGReader

This page lists supported metadata fields for the Bio-Formats Tile JPEG format reader.

These fields are from the [OME data model](#)⁴⁸⁸³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Tile JPEG format reader:

- Channel : ID⁴⁸⁸⁴
- Channel : SamplesPerPixel⁴⁸⁸⁵
- Image : AcquisitionDate⁴⁸⁸⁶
- Image : ID⁴⁸⁸⁷
- Image : Name⁴⁸⁸⁸
- Pixels : BigEndian⁴⁸⁸⁹
- Pixels : DimensionOrder⁴⁸⁹⁰
- Pixels : ID⁴⁸⁹¹
- Pixels : Interleaved⁴⁸⁹²
- Pixels : SignificantBits⁴⁸⁹³
- Pixels : SizeC⁴⁸⁹⁴
- Pixels : SizeT⁴⁸⁹⁵
- Pixels : SizeX⁴⁸⁹⁶
- Pixels : SizeY⁴⁸⁹⁷
- Pixels : SizeZ⁴⁸⁹⁸
- Pixels : Type⁴⁸⁹⁹
- Plane : TheC⁴⁹⁰⁰

⁴⁸⁸³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁴⁹⁰¹
- Plane : TheZ⁴⁹⁰²

Total supported: 19

Total unknown or missing: 456

18.2.150 TillVisionReader

This page lists supported metadata fields for the Bio-Formats TillVision format reader.

These fields are from the [OME data model](http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT)⁴⁹⁰³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats TillVision format reader:

- Channel : ID⁴⁹⁰⁴
- Channel : SamplesPerPixel⁴⁹⁰⁵
- Experiment : ID⁴⁹⁰⁶
- Experiment : Type⁴⁹⁰⁷
- Image : AcquisitionDate⁴⁹⁰⁸
- Image : ID⁴⁹⁰⁹
- Image : Name⁴⁹¹⁰
- Pixels : BigEndian⁴⁹¹¹
- Pixels : DimensionOrder⁴⁹¹²
- Pixels : ID⁴⁹¹³
- Pixels : Interleaved⁴⁹¹⁴
- Pixels : SignificantBits⁴⁹¹⁵
- Pixels : SizeC⁴⁹¹⁶
- Pixels : SizeT⁴⁹¹⁷
- Pixels : SizeX⁴⁹¹⁸

⁴⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁹⁰³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

⁴⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

⁴⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁴⁹¹⁹
- Pixels : SizeZ⁴⁹²⁰
- Pixels : Type⁴⁹²¹
- Plane : ExposureTime⁴⁹²²
- Plane : TheC⁴⁹²³
- Plane : TheT⁴⁹²⁴
- Plane : TheZ⁴⁹²⁵

Total supported: 22

Total unknown or missing: 453

18.2.151 TopometrixReader

This page lists supported metadata fields for the Bio-Formats TopoMetrix format reader.

These fields are from the [OME data model](#)⁴⁹²⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats TopoMetrix format reader:

- Channel : ID⁴⁹²⁷
- Channel : SamplesPerPixel⁴⁹²⁸
- Image : AcquisitionDate⁴⁹²⁹
- Image : Description⁴⁹³⁰
- Image : ID⁴⁹³¹
- Image : Name⁴⁹³²
- Pixels : BigEndian⁴⁹³³
- Pixels : DimensionOrder⁴⁹³⁴
- Pixels : ID⁴⁹³⁵
- Pixels : Interleaved⁴⁹³⁶

⁴⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁴⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁹²⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : PhysicalSizeX⁴⁹³⁷
- Pixels : PhysicalSizeY⁴⁹³⁸
- Pixels : SignificantBits⁴⁹³⁹
- Pixels : SizeC⁴⁹⁴⁰
- Pixels : SizeT⁴⁹⁴¹
- Pixels : SizeX⁴⁹⁴²
- Pixels : SizeY⁴⁹⁴³
- Pixels : SizeZ⁴⁹⁴⁴
- Pixels : Type⁴⁹⁴⁵
- Plane : TheC⁴⁹⁴⁶
- Plane : TheT⁴⁹⁴⁷
- Plane : TheZ⁴⁹⁴⁸

Total supported: 22

Total unknown or missing: 453

18.2.152 TrestleReader

This page lists supported metadata fields for the Bio-Formats Trestle format reader.

These fields are from the [OME data model](#)⁴⁹⁴⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 26 of them (5%).
- Of those, Bio-Formats fully or partially converts 26 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Trestle format reader:

- Channel : ID⁴⁹⁵⁰
- Channel : SamplesPerPixel⁴⁹⁵¹
- Image : AcquisitionDate⁴⁹⁵²
- Image : ID⁴⁹⁵³
- Image : Name⁴⁹⁵⁴

⁴⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁹⁴⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Image : ROIRef⁴⁹⁵⁵
- Mask : Height⁴⁹⁵⁶
- Mask : ID⁴⁹⁵⁷
- Mask : Width⁴⁹⁵⁸
- Mask : X⁴⁹⁵⁹
- Mask : Y⁴⁹⁶⁰
- Pixels : BigEndian⁴⁹⁶¹
- Pixels : DimensionOrder⁴⁹⁶²
- Pixels : ID⁴⁹⁶³
- Pixels : Interleaved⁴⁹⁶⁴
- Pixels : SignificantBits⁴⁹⁶⁵
- Pixels : SizeC⁴⁹⁶⁶
- Pixels : SizeT⁴⁹⁶⁷
- Pixels : SizeX⁴⁹⁶⁸
- Pixels : SizeY⁴⁹⁶⁹
- Pixels : SizeZ⁴⁹⁷⁰
- Pixels : Type⁴⁹⁷¹
- Plane : TheC⁴⁹⁷²
- Plane : TheT⁴⁹⁷³
- Plane : TheZ⁴⁹⁷⁴
- ROI : ID⁴⁹⁷⁵

Total supported: 26

Total unknown or missing: 449

18.2.153 UBMReader

This page lists supported metadata fields for the Bio-Formats UBM format reader.

These fields are from the [OME data model](#)⁴⁹⁷⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁴⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID
⁴⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Height
⁴⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
⁴⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Width
⁴⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_X
⁴⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Y
⁴⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁴⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁴⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁴⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁴⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁴⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁴⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁴⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁴⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁴⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁴⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁴⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁴⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁴⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁴⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID
⁴⁹⁷⁶<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats UBM format reader:

- Channel : ID⁴⁹⁷⁷
- Channel : SamplesPerPixel⁴⁹⁷⁸
- Image : AcquisitionDate⁴⁹⁷⁹
- Image : ID⁴⁹⁸⁰
- Image : Name⁴⁹⁸¹
- Pixels : BigEndian⁴⁹⁸²
- Pixels : DimensionOrder⁴⁹⁸³
- Pixels : ID⁴⁹⁸⁴
- Pixels : Interleaved⁴⁹⁸⁵
- Pixels : SignificantBits⁴⁹⁸⁶
- Pixels : SizeC⁴⁹⁸⁷
- Pixels : SizeT⁴⁹⁸⁸
- Pixels : SizeX⁴⁹⁸⁹
- Pixels : SizeY⁴⁹⁹⁰
- Pixels : SizeZ⁴⁹⁹¹
- Pixels : Type⁴⁹⁹²
- Plane : TheC⁴⁹⁹³
- Plane : TheT⁴⁹⁹⁴
- Plane : TheZ⁴⁹⁹⁵

Total supported: 19

Total unknown or missing: 456

⁴⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
⁴⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
⁴⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
⁴⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁴⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁴⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁴⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁴⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁴⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁴⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁴⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁴⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁴⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁴⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁴⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁴⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁴⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁴⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁴⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.154 UnisokuReader

This page lists supported metadata fields for the Bio-Formats Unisoku STM format reader.

These fields are from the [OME data model](#)⁴⁹⁹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Unisoku STM format reader:

- Channel : ID⁴⁹⁹⁷
- Channel : SamplesPerPixel⁴⁹⁹⁸
- Image : AcquisitionDate⁴⁹⁹⁹
- Image : Description⁵⁰⁰⁰
- Image : ID⁵⁰⁰¹
- Image : Name⁵⁰⁰²
- Pixels : BigEndian⁵⁰⁰³
- Pixels : DimensionOrder⁵⁰⁰⁴
- Pixels : ID⁵⁰⁰⁵
- Pixels : Interleaved⁵⁰⁰⁶
- Pixels : PhysicalSizeX⁵⁰⁰⁷
- Pixels : PhysicalSizeY⁵⁰⁰⁸
- Pixels : SignificantBits⁵⁰⁰⁹
- Pixels : SizeC⁵⁰¹⁰
- Pixels : SizeT⁵⁰¹¹
- Pixels : SizeX⁵⁰¹²
- Pixels : SizeY⁵⁰¹³
- Pixels : SizeZ⁵⁰¹⁴
- Pixels : Type⁵⁰¹⁵

⁴⁹⁹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁵⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁵⁰¹⁶
- Plane : TheT⁵⁰¹⁷
- Plane : TheZ⁵⁰¹⁸

Total supported: 22

Total unknown or missing: 453

18.2.155 VGSAMReader

This page lists supported metadata fields for the Bio-Formats VG SAM format reader.

These fields are from the [OME data model](#)⁵⁰¹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats VG SAM format reader:

- Channel : ID⁵⁰²⁰
- Channel : SamplesPerPixel⁵⁰²¹
- Image : AcquisitionDate⁵⁰²²
- Image : ID⁵⁰²³
- Image : Name⁵⁰²⁴
- Pixels : BigEndian⁵⁰²⁵
- Pixels : DimensionOrder⁵⁰²⁶
- Pixels : ID⁵⁰²⁷
- Pixels : Interleaved⁵⁰²⁸
- Pixels : SignificantBits⁵⁰²⁹
- Pixels : SizeC⁵⁰³⁰
- Pixels : SizeT⁵⁰³¹
- Pixels : SizeX⁵⁰³²
- Pixels : SizeY⁵⁰³³

⁵⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁰¹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁵⁰³⁴
- Pixels : Type⁵⁰³⁵
- Plane : TheC⁵⁰³⁶
- Plane : TheT⁵⁰³⁷
- Plane : TheZ⁵⁰³⁸

Total supported: 19

Total unknown or missing: 456

18.2.156 VarianFDFReader

This page lists supported metadata fields for the Bio-Formats Varian FDF format reader.

These fields are from the [OME data model](#)⁵⁰³⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 25 of them (5%).
- Of those, Bio-Formats fully or partially converts 25 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Varian FDF format reader:

- Channel : ID⁵⁰⁴⁰
- Channel : SamplesPerPixel⁵⁰⁴¹
- Image : AcquisitionDate⁵⁰⁴²
- Image : ID⁵⁰⁴³
- Image : Name⁵⁰⁴⁴
- Pixels : BigEndian⁵⁰⁴⁵
- Pixels : DimensionOrder⁵⁰⁴⁶
- Pixels : ID⁵⁰⁴⁷
- Pixels : Interleaved⁵⁰⁴⁸
- Pixels : PhysicalSizeX⁵⁰⁴⁹
- Pixels : PhysicalSizeY⁵⁰⁵⁰
- Pixels : PhysicalSizeZ⁵⁰⁵¹

⁵⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁰³⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

- Pixels : SignificantBits⁵⁰⁵²
- Pixels : SizeC⁵⁰⁵³
- Pixels : SizeT⁵⁰⁵⁴
- Pixels : SizeX⁵⁰⁵⁵
- Pixels : SizeY⁵⁰⁵⁶
- Pixels : SizeZ⁵⁰⁵⁷
- Pixels : Type⁵⁰⁵⁸
- Plane : PositionX⁵⁰⁵⁹
- Plane : PositionY⁵⁰⁶⁰
- Plane : PositionZ⁵⁰⁶¹
- Plane : TheC⁵⁰⁶²
- Plane : TheT⁵⁰⁶³
- Plane : TheZ⁵⁰⁶⁴

Total supported: 25

Total unknown or missing: 450

18.2.157 VeecoReader

This page lists supported metadata fields for the Bio-Formats Veeco format reader.

These fields are from the [OME data model](#)⁵⁰⁶⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Veeco format reader:

- Channel : ID⁵⁰⁶⁶
- Channel : SamplesPerPixel⁵⁰⁶⁷
- Image : AcquisitionDate⁵⁰⁶⁸
- Image : ID⁵⁰⁶⁹

⁵⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁵⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁵⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁵⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁰⁶⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁵⁰⁷⁰
- Pixels : BigEndian⁵⁰⁷¹
- Pixels : DimensionOrder⁵⁰⁷²
- Pixels : ID⁵⁰⁷³
- Pixels : Interleaved⁵⁰⁷⁴
- Pixels : SignificantBits⁵⁰⁷⁵
- Pixels : SizeC⁵⁰⁷⁶
- Pixels : SizeT⁵⁰⁷⁷
- Pixels : SizeX⁵⁰⁷⁸
- Pixels : SizeY⁵⁰⁷⁹
- Pixels : SizeZ⁵⁰⁸⁰
- Pixels : Type⁵⁰⁸¹
- Plane : TheC⁵⁰⁸²
- Plane : TheT⁵⁰⁸³
- Plane : TheZ⁵⁰⁸⁴

Total supported: 19

Total unknown or missing: 456

18.2.158 VisitechReader

This page lists supported metadata fields for the Bio-Formats Visitech XYS format reader.

These fields are from the [OME data model](#)⁵⁰⁸⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Visitech XYS format reader:

- Channel : ID⁵⁰⁸⁶
- Channel : SamplesPerPixel⁵⁰⁸⁷

⁵⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁰⁸⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁵⁰⁸⁸
- Image : ID⁵⁰⁸⁹
- Image : Name⁵⁰⁹⁰
- Pixels : BigEndian⁵⁰⁹¹
- Pixels : DimensionOrder⁵⁰⁹²
- Pixels : ID⁵⁰⁹³
- Pixels : Interleaved⁵⁰⁹⁴
- Pixels : SignificantBits⁵⁰⁹⁵
- Pixels : SizeC⁵⁰⁹⁶
- Pixels : SizeT⁵⁰⁹⁷
- Pixels : SizeX⁵⁰⁹⁸
- Pixels : SizeY⁵⁰⁹⁹
- Pixels : SizeZ⁵¹⁰⁰
- Pixels : Type⁵¹⁰¹
- Plane : TheC⁵¹⁰²
- Plane : TheT⁵¹⁰³
- Plane : TheZ⁵¹⁰⁴

Total supported: 19

Total unknown or missing: 456

18.2.159 VolocityClippingReader

This page lists supported metadata fields for the Bio-Formats Volocity Library Clipping format reader.

These fields are from the [OME data model](#)⁵¹⁰⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

⁵⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵¹⁰⁵<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Velocity Library Clipping format reader:

- Channel : ID⁵¹⁰⁶
- Channel : SamplesPerPixel⁵¹⁰⁷
- Image : AcquisitionDate⁵¹⁰⁸
- Image : ID⁵¹⁰⁹
- Image : Name⁵¹¹⁰
- Pixels : BigEndian⁵¹¹¹
- Pixels : DimensionOrder⁵¹¹²
- Pixels : ID⁵¹¹³
- Pixels : Interleaved⁵¹¹⁴
- Pixels : SignificantBits⁵¹¹⁵
- Pixels : SizeC⁵¹¹⁶
- Pixels : SizeT⁵¹¹⁷
- Pixels : SizeX⁵¹¹⁸
- Pixels : SizeY⁵¹¹⁹
- Pixels : SizeZ⁵¹²⁰
- Pixels : Type⁵¹²¹
- Plane : TheC⁵¹²²
- Plane : TheT⁵¹²³
- Plane : TheZ⁵¹²⁴

Total supported: 19

Total unknown or missing: 456

18.2.160 VelocityReader

This page lists supported metadata fields for the Bio-Formats Velocity Library format reader.

These fields are from the [OME data model](#)⁵¹²⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁵¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
⁵¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
⁵¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
⁵¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁵¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁵¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁵¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁵¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁵¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁵¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁵¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁵¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁵¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁵¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁵¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁵¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁵¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁵¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁵¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁵¹²⁵<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 38 of them (8%).
- Of those, Bio-Formats fully or partially converts 38 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Volocity Library format reader:

- Channel : ID⁵¹²⁶
- Channel : Name⁵¹²⁷
- Channel : SamplesPerPixel⁵¹²⁸
- Detector : ID⁵¹²⁹
- Detector : Model⁵¹³⁰
- DetectorSettings : ID⁵¹³¹
- Image : AcquisitionDate⁵¹³²
- Image : Description⁵¹³³
- Image : ID⁵¹³⁴
- Image : InstrumentRef⁵¹³⁵
- Image : Name⁵¹³⁶
- Instrument : ID⁵¹³⁷
- Objective : Correction⁵¹³⁸
- Objective : ID⁵¹³⁹
- Objective : Immersion⁵¹⁴⁰
- Objective : NominalMagnification⁵¹⁴¹
- ObjectiveSettings : ID⁵¹⁴²
- Pixels : BigEndian⁵¹⁴³
- Pixels : DimensionOrder⁵¹⁴⁴
- Pixels : ID⁵¹⁴⁵
- Pixels : Interleaved⁵¹⁴⁶
- Pixels : PhysicalSizeX⁵¹⁴⁷

⁵¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁵¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁵¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁵¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁵¹⁴⁸
- Pixels : PhysicalSizeZ⁵¹⁴⁹
- Pixels : SignificantBits⁵¹⁵⁰
- Pixels : SizeC⁵¹⁵¹
- Pixels : SizeT⁵¹⁵²
- Pixels : SizeX⁵¹⁵³
- Pixels : SizeY⁵¹⁵⁴
- Pixels : SizeZ⁵¹⁵⁵
- Pixels : Type⁵¹⁵⁶
- Plane : DeltaT⁵¹⁵⁷
- Plane : PositionX⁵¹⁵⁸
- Plane : PositionY⁵¹⁵⁹
- Plane : PositionZ⁵¹⁶⁰
- Plane : TheC⁵¹⁶¹
- Plane : TheT⁵¹⁶²
- Plane : TheZ⁵¹⁶³

Total supported: 38

Total unknown or missing: 437

18.2.161 WATOPReader

This page lists supported metadata fields for the Bio-Formats WA Technology TOP format reader.

These fields are from the [OME data model](#)⁵¹⁶⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats WA Technology TOP format reader:

- Channel : ID⁵¹⁶⁵

⁵¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁵¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁵¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁵¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁵¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵¹⁶⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁵¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : SamplesPerPixel⁵¹⁶⁶
- Image : AcquisitionDate⁵¹⁶⁷
- Image : Description⁵¹⁶⁸
- Image : ID⁵¹⁶⁹
- Image : Name⁵¹⁷⁰
- Pixels : BigEndian⁵¹⁷¹
- Pixels : DimensionOrder⁵¹⁷²
- Pixels : ID⁵¹⁷³
- Pixels : Interleaved⁵¹⁷⁴
- Pixels : PhysicalSizeX⁵¹⁷⁵
- Pixels : PhysicalSizeY⁵¹⁷⁶
- Pixels : SignificantBits⁵¹⁷⁷
- Pixels : SizeC⁵¹⁷⁸
- Pixels : SizeT⁵¹⁷⁹
- Pixels : SizeX⁵¹⁸⁰
- Pixels : SizeY⁵¹⁸¹
- Pixels : SizeZ⁵¹⁸²
- Pixels : Type⁵¹⁸³
- Plane : TheC⁵¹⁸⁴
- Plane : TheT⁵¹⁸⁵
- Plane : TheZ⁵¹⁸⁶

Total supported: 22

Total unknown or missing: 453

18.2.162 WlzReader

This page lists supported metadata fields for the Bio-Formats Woolz format reader.

These fields are from the [OME data model](#)⁵¹⁸⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁵¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁵¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵¹⁸⁷<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 26 of them (5%).
- Of those, Bio-Formats fully or partially converts 26 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Woolz format reader:

- Channel : ID⁵¹⁸⁸
- Channel : SamplesPerPixel⁵¹⁸⁹
- Image : AcquisitionDate⁵¹⁹⁰
- Image : ID⁵¹⁹¹
- Image : Name⁵¹⁹²
- Pixels : BigEndian⁵¹⁹³
- Pixels : DimensionOrder⁵¹⁹⁴
- Pixels : ID⁵¹⁹⁵
- Pixels : Interleaved⁵¹⁹⁶
- Pixels : PhysicalSizeX⁵¹⁹⁷
- Pixels : PhysicalSizeY⁵¹⁹⁸
- Pixels : PhysicalSizeZ⁵¹⁹⁹
- Pixels : SignificantBits⁵²⁰⁰
- Pixels : SizeC⁵²⁰¹
- Pixels : SizeT⁵²⁰²
- Pixels : SizeX⁵²⁰³
- Pixels : SizeY⁵²⁰⁴
- Pixels : SizeZ⁵²⁰⁵
- Pixels : Type⁵²⁰⁶
- Plane : TheC⁵²⁰⁷
- Plane : TheT⁵²⁰⁸
- Plane : TheZ⁵²⁰⁹

⁵¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

- StageLabel : Name⁵²¹⁰
- StageLabel : X⁵²¹¹
- StageLabel : Y⁵²¹²
- StageLabel : Z⁵²¹³

Total supported: 26

Total unknown or missing: 449

18.2.163 ZeissCZIReader

This page lists supported metadata fields for the Bio-Formats Zeiss CZI format reader.

These fields are from the [OME data model](#)⁵²¹⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 158 of them (33%).
- Of those, Bio-Formats fully or partially converts 158 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Zeiss CZI format reader:

- Arc : LotNumber⁵²¹⁵
- Arc : Manufacturer⁵²¹⁶
- Arc : Model⁵²¹⁷
- Arc : Power⁵²¹⁸
- Arc : SerialNumber⁵²¹⁹
- Channel : AcquisitionMode⁵²²⁰
- Channel : Color⁵²²¹
- Channel : EmissionWavelength⁵²²²
- Channel : ExcitationWavelength⁵²²³
- Channel : FilterSetRef⁵²²⁴
- Channel : Fluor⁵²²⁵
- Channel : ID⁵²²⁶
- Channel : IlluminationType⁵²²⁷

⁵²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Name

⁵²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_X

⁵²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Y

⁵²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Z

⁵²¹⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁵²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁵²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

⁵²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁵²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁵²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁵²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSetRef_ID

⁵²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Fluor

⁵²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_IlluminationType

- Channel : Name⁵²²⁸
- Channel : PinholeSize⁵²²⁹
- Channel : SamplesPerPixel⁵²³⁰
- Detector : AmplificationGain⁵²³¹
- Detector : Gain⁵²³²
- Detector : ID⁵²³³
- Detector : LotNumber⁵²³⁴
- Detector : Manufacturer⁵²³⁵
- Detector : Model⁵²³⁶
- Detector : Offset⁵²³⁷
- Detector : SerialNumber⁵²³⁸
- Detector : Type⁵²³⁹
- Detector : Zoom⁵²⁴⁰
- DetectorSettings : Binning⁵²⁴¹
- DetectorSettings : Gain⁵²⁴²
- DetectorSettings : ID⁵²⁴³
- Dichroic : ID⁵²⁴⁴
- Dichroic : LotNumber⁵²⁴⁵
- Dichroic : Manufacturer⁵²⁴⁶
- Dichroic : Model⁵²⁴⁷
- Dichroic : SerialNumber⁵²⁴⁸
- Ellipse : ID⁵²⁴⁹
- Ellipse : RadiusX⁵²⁵⁰
- Ellipse : RadiusY⁵²⁵¹
- Ellipse : Text⁵²⁵²
- Ellipse : X⁵²⁵³

⁵²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁵²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_AmplificationGain

⁵²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁵²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁵²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁵²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁵²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁵²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁵²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁵²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁵²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁵²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁵²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

- Ellipse : Y⁵²⁵⁴
- Experimenter : Email⁵²⁵⁵
- Experimenter : FirstName⁵²⁵⁶
- Experimenter : ID⁵²⁵⁷
- Experimenter : Institution⁵²⁵⁸
- Experimenter : LastName⁵²⁵⁹
- Experimenter : MiddleName⁵²⁶⁰
- Experimenter : UserName⁵²⁶¹
- Filament : LotNumber⁵²⁶²
- Filament : Manufacturer⁵²⁶³
- Filament : Model⁵²⁶⁴
- Filament : Power⁵²⁶⁵
- Filament : SerialNumber⁵²⁶⁶
- Filter : FilterWheel⁵²⁶⁷
- Filter : ID⁵²⁶⁸
- Filter : LotNumber⁵²⁶⁹
- Filter : Manufacturer⁵²⁷⁰
- Filter : Model⁵²⁷¹
- Filter : SerialNumber⁵²⁷²
- Filter : Type⁵²⁷³
- FilterSet : DichroicRef⁵²⁷⁴
- FilterSet : EmissionFilterRef⁵²⁷⁵
- FilterSet : ExcitationFilterRef⁵²⁷⁶
- FilterSet : ID⁵²⁷⁷
- FilterSet : LotNumber⁵²⁷⁸
- FilterSet : Manufacturer⁵²⁷⁹

⁵²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

⁵²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Email

⁵²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

⁵²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁵²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution

⁵²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁵²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_MiddleName

⁵²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName

⁵²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁵²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_FilterWheel

⁵²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁵²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_Type

⁵²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁵²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁵²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁵²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSet_ID

⁵²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

- FilterSet : Model⁵²⁸⁰
- FilterSet : SerialNumber⁵²⁸¹
- Image : AcquisitionDate⁵²⁸²
- Image : Description⁵²⁸³
- Image : ExperimenterRef⁵²⁸⁴
- Image : ID⁵²⁸⁵
- Image : InstrumentRef⁵²⁸⁶
- Image : Name⁵²⁸⁷
- Image : ROIRef⁵²⁸⁸
- ImagingEnvironment : AirPressure⁵²⁸⁹
- ImagingEnvironment : CO2Percent⁵²⁹⁰
- ImagingEnvironment : Humidity⁵²⁹¹
- ImagingEnvironment : Temperature⁵²⁹²
- Instrument : ID⁵²⁹³
- Laser : LotNumber⁵²⁹⁴
- Laser : Manufacturer⁵²⁹⁵
- Laser : Model⁵²⁹⁶
- Laser : Power⁵²⁹⁷
- Laser : SerialNumber⁵²⁹⁸
- LightEmittingDiode : LotNumber⁵²⁹⁹
- LightEmittingDiode : Manufacturer⁵³⁰⁰
- LightEmittingDiode : Model⁵³⁰¹
- LightEmittingDiode : Power⁵³⁰²
- LightEmittingDiode : SerialNumber⁵³⁰³
- Line : ID⁵³⁰⁴
- Line : Text⁵³⁰⁵

⁵²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁵²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

⁵²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁵²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_AirPressure

⁵²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_CO2Percent

⁵²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Humidity

⁵²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁵²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁵²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁵³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

- Line : X1⁵³⁰⁶
- Line : X2⁵³⁰⁷
- Line : Y1⁵³⁰⁸
- Line : Y2⁵³⁰⁹
- Microscope : LotNumber⁵³¹⁰
- Microscope : Manufacturer⁵³¹¹
- Microscope : Model⁵³¹²
- Microscope : SerialNumber⁵³¹³
- Microscope : Type⁵³¹⁴
- Objective : CalibratedMagnification⁵³¹⁵
- Objective : Correction⁵³¹⁶
- Objective : ID⁵³¹⁷
- Objective : Immersion⁵³¹⁸
- Objective : Iris⁵³¹⁹
- Objective : LensNA⁵³²⁰
- Objective : LotNumber⁵³²¹
- Objective : Manufacturer⁵³²²
- Objective : Model⁵³²³
- Objective : NominalMagnification⁵³²⁴
- Objective : SerialNumber⁵³²⁵
- Objective : WorkingDistance⁵³²⁶
- ObjectiveSettings : CorrectionCollar⁵³²⁷
- ObjectiveSettings : ID⁵³²⁸
- ObjectiveSettings : Medium⁵³²⁹
- ObjectiveSettings : RefractiveIndex⁵³³⁰
- Pixels : BigEndian⁵³³¹

⁵³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁵³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁵³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁵³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁵³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Microscope_Type

⁵³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁵³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁵³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁵³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Iris

⁵³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁵³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁵³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_CorrectionCollar

⁵³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_Medium

⁵³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁵³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁵³³²
- Pixels : ID⁵³³³
- Pixels : Interleaved⁵³³⁴
- Pixels : PhysicalSizeX⁵³³⁵
- Pixels : PhysicalSizeY⁵³³⁶
- Pixels : PhysicalSizeZ⁵³³⁷
- Pixels : SignificantBits⁵³³⁸
- Pixels : SizeC⁵³³⁹
- Pixels : SizeT⁵³⁴⁰
- Pixels : SizeX⁵³⁴¹
- Pixels : SizeY⁵³⁴²
- Pixels : SizeZ⁵³⁴³
- Pixels : Type⁵³⁴⁴
- Plane : DeltaT⁵³⁴⁵
- Plane : ExposureTime⁵³⁴⁶
- Plane : PositionX⁵³⁴⁷
- Plane : PositionY⁵³⁴⁸
- Plane : PositionZ⁵³⁴⁹
- Plane : TheC⁵³⁵⁰
- Plane : TheT⁵³⁵¹
- Plane : TheZ⁵³⁵²
- Polygon : ID⁵³⁵³
- Polygon : Points⁵³⁵⁴
- Polygon : Text⁵³⁵⁵
- Polyline : ID⁵³⁵⁶
- Polyline : Points⁵³⁵⁷

⁵³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁵³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁵³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁵³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁵³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁵³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁵³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁵³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

- Polyline : Text⁵³⁵⁸
- ROI : Description⁵³⁵⁹
- ROI : ID⁵³⁶⁰
- ROI : Name⁵³⁶¹
- Rectangle : Height⁵³⁶²
- Rectangle : ID⁵³⁶³
- Rectangle : Text⁵³⁶⁴
- Rectangle : Width⁵³⁶⁵
- Rectangle : X⁵³⁶⁶
- Rectangle : Y⁵³⁶⁷
- TransmittanceRange : CutIn⁵³⁶⁸
- TransmittanceRange : CutInTolerance⁵³⁶⁹
- TransmittanceRange : CutOut⁵³⁷⁰
- TransmittanceRange : CutOutTolerance⁵³⁷¹
- TransmittanceRange : Transmittance⁵³⁷²

Total supported: 158

Total unknown or missing: 317

18.2.164 ZeissLMSReader

This page lists supported metadata fields for the Bio-Formats Zeiss LMS format reader.

These fields are from the [OME data model](#)⁵³⁷³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Zeiss LMS format reader:

- Channel : ID⁵³⁷⁴
- Channel : SamplesPerPixel⁵³⁷⁵

⁵³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁵³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Description

⁵³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁵³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name

⁵³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁵³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁵³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁵³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁵³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁵³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

⁵³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutInTolerance

⁵³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

⁵³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOutTolerance

⁵³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_Transmittance

⁵³⁷³<http://www.openmicroscopy.org/site/support/ome-model/>

⁵³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁵³⁷⁶
- Image : ID⁵³⁷⁷
- Image : Name⁵³⁷⁸
- Instrument : ID⁵³⁷⁹
- Objective : ID⁵³⁸⁰
- Objective : NominalMagnification⁵³⁸¹
- ObjectiveSettings : ID⁵³⁸²
- Pixels : BigEndian⁵³⁸³
- Pixels : DimensionOrder⁵³⁸⁴
- Pixels : ID⁵³⁸⁵
- Pixels : Interleaved⁵³⁸⁶
- Pixels : SignificantBits⁵³⁸⁷
- Pixels : SizeC⁵³⁸⁸
- Pixels : SizeT⁵³⁸⁹
- Pixels : SizeX⁵³⁹⁰
- Pixels : SizeY⁵³⁹¹
- Pixels : SizeZ⁵³⁹²
- Pixels : Type⁵³⁹³
- Plane : TheC⁵³⁹⁴
- Plane : TheT⁵³⁹⁵
- Plane : TheZ⁵³⁹⁶

Total supported: 23

Total unknown or missing: 452

18.2.165 ZeissLSMReader

This page lists supported metadata fields for the Bio-Formats Zeiss Laser-Scanning Microscopy format reader.

These fields are from the [OME data model](#)⁵³⁹⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁵³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵³⁹⁷<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 101 of them (21%).
- Of those, Bio-Formats fully or partially converts 101 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Zeiss Laser-Scanning Microscopy format reader:

- Channel : Color⁵³⁹⁸
- Channel : ID⁵³⁹⁹
- Channel : Name⁵⁴⁰⁰
- Channel : PinholeSize⁵⁴⁰¹
- Channel : SamplesPerPixel⁵⁴⁰²
- Detector : AmplificationGain⁵⁴⁰³
- Detector : Gain⁵⁴⁰⁴
- Detector : ID⁵⁴⁰⁵
- Detector : Type⁵⁴⁰⁶
- Detector : Zoom⁵⁴⁰⁷
- DetectorSettings : Binning⁵⁴⁰⁸
- DetectorSettings : ID⁵⁴⁰⁹
- Dichroic : ID⁵⁴¹⁰
- Dichroic : Model⁵⁴¹¹
- Ellipse : FontSize⁵⁴¹²
- Ellipse : ID⁵⁴¹³
- Ellipse : RadiusX⁵⁴¹⁴
- Ellipse : RadiusY⁵⁴¹⁵
- Ellipse : StrokeWidth⁵⁴¹⁶
- Ellipse : Transform⁵⁴¹⁷
- Ellipse : X⁵⁴¹⁸
- Ellipse : Y⁵⁴¹⁹

⁵³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁵³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁵⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_AmplificationGain

⁵⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁵⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁵⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁵⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁵⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁵⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁵⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁵⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁵⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁵⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁵⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

⁵⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

- Experimenter : ID⁵⁴²⁰
- Experimenter : UserName⁵⁴²¹
- Filter : ID⁵⁴²²
- Filter : Model⁵⁴²³
- Filter : Type⁵⁴²⁴
- Image : AcquisitionDate⁵⁴²⁵
- Image : Description⁵⁴²⁶
- Image : ID⁵⁴²⁷
- Image : InstrumentRef⁵⁴²⁸
- Image : Name⁵⁴²⁹
- Image : ROIRef⁵⁴³⁰
- Instrument : ID⁵⁴³¹
- Label : FontSize⁵⁴³²
- Label : ID⁵⁴³³
- Label : StrokeWidth⁵⁴³⁴
- Label : Text⁵⁴³⁵
- Label : X⁵⁴³⁶
- Label : Y⁵⁴³⁷
- Laser : ID⁵⁴³⁸
- Laser : LaserMedium⁵⁴³⁹
- Laser : Model⁵⁴⁴⁰
- Laser : Type⁵⁴⁴¹
- Laser : Wavelength⁵⁴⁴²
- LightPath : DichroicRef⁵⁴⁴³
- LightPath : EmissionFilterRef⁵⁴⁴⁴
- Line : FontSize⁵⁴⁴⁵

⁵⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁵⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName

⁵⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁵⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_Type

⁵⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁵⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁵⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁵⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁵⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁵⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_X

⁵⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_Y

⁵⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁵⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁵⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁵⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁵⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁵⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁵⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

- Line : ID⁵⁴⁴⁶
- Line : StrokeWidth⁵⁴⁴⁷
- Line : X1⁵⁴⁴⁸
- Line : X2⁵⁴⁴⁹
- Line : Y1⁵⁴⁵⁰
- Line : Y2⁵⁴⁵¹
- Objective : Correction⁵⁴⁵²
- Objective : ID⁵⁴⁵³
- Objective : Immersion⁵⁴⁵⁴
- Objective : Iris⁵⁴⁵⁵
- Objective : LensNA⁵⁴⁵⁶
- Objective : NominalMagnification⁵⁴⁵⁷
- ObjectiveSettings : ID⁵⁴⁵⁸
- Pixels : BigEndian⁵⁴⁵⁹
- Pixels : DimensionOrder⁵⁴⁶⁰
- Pixels : ID⁵⁴⁶¹
- Pixels : Interleaved⁵⁴⁶²
- Pixels : PhysicalSizeX⁵⁴⁶³
- Pixels : PhysicalSizeY⁵⁴⁶⁴
- Pixels : PhysicalSizeZ⁵⁴⁶⁵
- Pixels : SignificantBits⁵⁴⁶⁶
- Pixels : SizeC⁵⁴⁶⁷
- Pixels : SizeT⁵⁴⁶⁸
- Pixels : SizeX⁵⁴⁶⁹
- Pixels : SizeY⁵⁴⁷⁰
- Pixels : SizeZ⁵⁴⁷¹

⁵⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁵⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁵⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁵⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁵⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁵⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁵⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁵⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Iris

⁵⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁵⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : TimeIncrement⁵⁴⁷²
- Pixels : Type⁵⁴⁷³
- Plane : DeltaT⁵⁴⁷⁴
- Plane : PositionX⁵⁴⁷⁵
- Plane : PositionY⁵⁴⁷⁶
- Plane : PositionZ⁵⁴⁷⁷
- Plane : TheC⁵⁴⁷⁸
- Plane : TheT⁵⁴⁷⁹
- Plane : TheZ⁵⁴⁸⁰
- Polygon : FontSize⁵⁴⁸¹
- Polygon : ID⁵⁴⁸²
- Polygon : Points⁵⁴⁸³
- Polygon : StrokeWidth⁵⁴⁸⁴
- Polyline : FontSize⁵⁴⁸⁵
- Polyline : ID⁵⁴⁸⁶
- Polyline : Points⁵⁴⁸⁷
- Polyline : StrokeWidth⁵⁴⁸⁸
- ROI : ID⁵⁴⁸⁹
- Rectangle : FontSize⁵⁴⁹⁰
- Rectangle : Height⁵⁴⁹¹
- Rectangle : ID⁵⁴⁹²
- Rectangle : StrokeWidth⁵⁴⁹³
- Rectangle : Width⁵⁴⁹⁴
- Rectangle : X⁵⁴⁹⁵
- Rectangle : Y⁵⁴⁹⁶
- TransmittanceRange : CutIn⁵⁴⁹⁷

⁵⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁵⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁵⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁵⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁵⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁵⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁵⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁵⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁵⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁵⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

⁵⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁵⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁵⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁵⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁵⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁵⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁵⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁵⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁵⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

- TransmittanceRange : CutOut⁵⁴⁹⁸

Total supported: 101

Total unknown or missing: 374

18.2.166 ZeissTIFFReader

This page lists supported metadata fields for the Bio-Formats Zeiss AxioVision TIFF format reader.

These fields are from the [OME data model](#)⁵⁴⁹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Zeiss AxioVision TIFF format reader:

- Channel : ID⁵⁵⁰⁰
- Channel : SamplesPerPixel⁵⁵⁰¹
- Image : AcquisitionDate⁵⁵⁰²
- Image : ID⁵⁵⁰³
- Image : Name⁵⁵⁰⁴
- Pixels : BigEndian⁵⁵⁰⁵
- Pixels : DimensionOrder⁵⁵⁰⁶
- Pixels : ID⁵⁵⁰⁷
- Pixels : Interleaved⁵⁵⁰⁸
- Pixels : SignificantBits⁵⁵⁰⁹
- Pixels : SizeC⁵⁵¹⁰
- Pixels : SizeT⁵⁵¹¹
- Pixels : SizeX⁵⁵¹²
- Pixels : SizeY⁵⁵¹³
- Pixels : SizeZ⁵⁵¹⁴
- Pixels : Type⁵⁵¹⁵

⁵⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

⁵⁴⁹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁵⁵¹⁶
- Plane : TheT⁵⁵¹⁷
- Plane : TheZ⁵⁵¹⁸

Total supported: 19

Total unknown or missing: 456

18.2.167 ZeissZVIReader

This page lists supported metadata fields for the Bio-Formats Zeiss Vision Image (ZVI) format reader.

These fields are from the [OME data model](#)⁵⁵¹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Zeiss Vision Image (ZVI) format reader:

- Channel : ID⁵⁵²⁰
- Channel : SamplesPerPixel⁵⁵²¹
- Image : AcquisitionDate⁵⁵²²
- Image : ID⁵⁵²³
- Image : Name⁵⁵²⁴
- Pixels : BigEndian⁵⁵²⁵
- Pixels : DimensionOrder⁵⁵²⁶
- Pixels : ID⁵⁵²⁷
- Pixels : Interleaved⁵⁵²⁸
- Pixels : SignificantBits⁵⁵²⁹
- Pixels : SizeC⁵⁵³⁰
- Pixels : SizeT⁵⁵³¹
- Pixels : SizeX⁵⁵³²
- Pixels : SizeY⁵⁵³³

⁵⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁵¹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁵⁵³⁴
- Pixels : Type⁵⁵³⁵
- Plane : TheC⁵⁵³⁶
- Plane : TheT⁵⁵³⁷
- Plane : TheZ⁵⁵³⁸

Total supported: 19

Total unknown or missing: 456

18.2.168 ZipReader

This page lists supported metadata fields for the Bio-Formats Zip format reader.

These fields are from the [OME data model](#)⁵⁵³⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Zip format reader:

- Channel : ID⁵⁵⁴⁰
- Channel : SamplesPerPixel⁵⁵⁴¹
- Image : AcquisitionDate⁵⁵⁴²
- Image : ID⁵⁵⁴³
- Image : Name⁵⁵⁴⁴
- Pixels : BigEndian⁵⁵⁴⁵
- Pixels : DimensionOrder⁵⁵⁴⁶
- Pixels : ID⁵⁵⁴⁷
- Pixels : Interleaved⁵⁵⁴⁸
- Pixels : SignificantBits⁵⁵⁴⁹
- Pixels : SizeC⁵⁵⁵⁰
- Pixels : SizeT⁵⁵⁵¹

⁵⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁵³⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁵⁵⁵²
- Pixels : SizeY⁵⁵⁵³
- Pixels : SizeZ⁵⁵⁵⁴
- Pixels : Type⁵⁵⁵⁵
- Plane : TheC⁵⁵⁵⁶
- Plane : TheT⁵⁵⁵⁷
- Plane : TheZ⁵⁵⁵⁸

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *3i SlideBook*

18.2.169 SlidebookReader

This page lists supported metadata fields for the Bio-Formats Olympus Slidebook format reader.

These fields are from the [OME data model](#)⁵⁵⁵⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 34 of them (7%).
- Of those, Bio-Formats fully or partially converts 34 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus Slidebook format reader:

- Channel : ID⁵⁵⁶⁰
- Channel : NDFilter⁵⁵⁶¹
- Channel : Name⁵⁵⁶²
- Channel : SamplesPerPixel⁵⁵⁶³
- Image : AcquisitionDate⁵⁵⁶⁴
- Image : Description⁵⁵⁶⁵
- Image : ID⁵⁵⁶⁶
- Image : InstrumentRef⁵⁵⁶⁷
- Image : Name⁵⁵⁶⁸

⁵⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁵⁵⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_NDFilter

⁵⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁵⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Instrument : ID⁵⁵⁶⁹
- Objective : Correction⁵⁵⁷⁰
- Objective : ID⁵⁵⁷¹
- Objective : Immersion⁵⁵⁷²
- Objective : Model⁵⁵⁷³
- Objective : NominalMagnification⁵⁵⁷⁴
- ObjectiveSettings : ID⁵⁵⁷⁵
- Pixels : BigEndian⁵⁵⁷⁶
- Pixels : DimensionOrder⁵⁵⁷⁷
- Pixels : ID⁵⁵⁷⁸
- Pixels : Interleaved⁵⁵⁷⁹
- Pixels : PhysicalSizeX⁵⁵⁸⁰
- Pixels : PhysicalSizeY⁵⁵⁸¹
- Pixels : PhysicalSizeZ⁵⁵⁸²
- Pixels : SignificantBits⁵⁵⁸³
- Pixels : SizeC⁵⁵⁸⁴
- Pixels : SizeT⁵⁵⁸⁵
- Pixels : SizeX⁵⁵⁸⁶
- Pixels : SizeY⁵⁵⁸⁷
- Pixels : SizeZ⁵⁵⁸⁸
- Pixels : Type⁵⁵⁸⁹
- Plane : ExposureTime⁵⁵⁹⁰
- Plane : TheC⁵⁵⁹¹
- Plane : TheT⁵⁵⁹²
- Plane : TheZ⁵⁵⁹³

⁵⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁵⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁵⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁵⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Total supported: 34

Total unknown or missing: 441

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [AIM](#)

18.2.170 AIMReader

This page lists supported metadata fields for the Bio-Formats AIM format reader.

These fields are from the [OME data model](#)⁵⁵⁹⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats AIM format reader:

- Channel : ID⁵⁵⁹⁵
- Channel : SamplesPerPixel⁵⁵⁹⁶
- Image : AcquisitionDate⁵⁵⁹⁷
- Image : ID⁵⁵⁹⁸
- Image : Name⁵⁵⁹⁹
- Pixels : BigEndian⁵⁶⁰⁰
- Pixels : DimensionOrder⁵⁶⁰¹
- Pixels : ID⁵⁶⁰²
- Pixels : Interleaved⁵⁶⁰³
- Pixels : PhysicalSizeX⁵⁶⁰⁴
- Pixels : PhysicalSizeY⁵⁶⁰⁵
- Pixels : PhysicalSizeZ⁵⁶⁰⁶
- Pixels : SignificantBits⁵⁶⁰⁷
- Pixels : SizeC⁵⁶⁰⁸
- Pixels : SizeT⁵⁶⁰⁹
- Pixels : SizeX⁵⁶¹⁰

⁵⁵⁹⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁵⁶¹¹
- Pixels : SizeZ⁵⁶¹²
- Pixels : Type⁵⁶¹³
- Plane : TheC⁵⁶¹⁴
- Plane : TheT⁵⁶¹⁵
- Plane : TheZ⁵⁶¹⁶

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Alicona 3D*

18.2.171 AliconaReader

This page lists supported metadata fields for the Bio-Formats Alicona AL3D format reader.

These fields are from the *OME data model*⁵⁶¹⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 33 of them (6%).
- Of those, Bio-Formats fully or partially converts 33 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Alicona AL3D format reader:

- Channel : ID⁵⁶¹⁸
- Channel : SamplesPerPixel⁵⁶¹⁹
- Detector : ID⁵⁶²⁰
- Detector : Type⁵⁶²¹
- DetectorSettings : ID⁵⁶²²
- DetectorSettings : Voltage⁵⁶²³
- Image : AcquisitionDate⁵⁶²⁴
- Image : ID⁵⁶²⁵
- Image : InstrumentRef⁵⁶²⁶
- Image : Name⁵⁶²⁷

⁵⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁶¹⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁵⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁵⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Instrument : ID⁵⁶²⁸
- Objective : CalibratedMagnification⁵⁶²⁹
- Objective : Correction⁵⁶³⁰
- Objective : ID⁵⁶³¹
- Objective : Immersion⁵⁶³²
- Objective : WorkingDistance⁵⁶³³
- ObjectiveSettings : ID⁵⁶³⁴
- Pixels : BigEndian⁵⁶³⁵
- Pixels : DimensionOrder⁵⁶³⁶
- Pixels : ID⁵⁶³⁷
- Pixels : Interleaved⁵⁶³⁸
- Pixels : PhysicalSizeX⁵⁶³⁹
- Pixels : PhysicalSizeY⁵⁶⁴⁰
- Pixels : SignificantBits⁵⁶⁴¹
- Pixels : SizeC⁵⁶⁴²
- Pixels : SizeT⁵⁶⁴³
- Pixels : SizeX⁵⁶⁴⁴
- Pixels : SizeY⁵⁶⁴⁵
- Pixels : SizeZ⁵⁶⁴⁶
- Pixels : Type⁵⁶⁴⁷
- Plane : TheC⁵⁶⁴⁸
- Plane : TheT⁵⁶⁴⁹
- Plane : TheZ⁵⁶⁵⁰

Total supported: 33

Total unknown or missing: 442

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Amersham Biosciences Gel*

- ⁵⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ⁵⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification
- ⁵⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction
- ⁵⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
- ⁵⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion
- ⁵⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance
- ⁵⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
- ⁵⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁵⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁵⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁵⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁵⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁵⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁵⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁵⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁵⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁵⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁵⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁵⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁵⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁵⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁵⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁵⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.172 GelReader

This page lists supported metadata fields for the Bio-Formats Amersham Biosciences GEL format reader.

These fields are from the [OME data model](#)⁵⁶⁵¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Amersham Biosciences GEL format reader:

- Channel : ID⁵⁶⁵²
- Channel : SamplesPerPixel⁵⁶⁵³
- Image : AcquisitionDate⁵⁶⁵⁴
- Image : ID⁵⁶⁵⁵
- Image : Name⁵⁶⁵⁶
- Pixels : BigEndian⁵⁶⁵⁷
- Pixels : DimensionOrder⁵⁶⁵⁸
- Pixels : ID⁵⁶⁵⁹
- Pixels : Interleaved⁵⁶⁶⁰
- Pixels : PhysicalSizeX⁵⁶⁶¹
- Pixels : PhysicalSizeY⁵⁶⁶²
- Pixels : SignificantBits⁵⁶⁶³
- Pixels : SizeC⁵⁶⁶⁴
- Pixels : SizeT⁵⁶⁶⁵
- Pixels : SizeX⁵⁶⁶⁶
- Pixels : SizeY⁵⁶⁶⁷
- Pixels : SizeZ⁵⁶⁶⁸
- Pixels : Type⁵⁶⁶⁹

⁵⁶⁵¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁵⁶⁷⁰
- Plane : TheT⁵⁶⁷¹
- Plane : TheZ⁵⁶⁷²

Total supported: 21

Total unknown or missing: 454

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Amira Mesh*

18.2.173 AmiraReader

This page lists supported metadata fields for the Bio-Formats Amira format reader.

These fields are from the *OME data model*⁵⁶⁷³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Amira format reader:

- Channel : ID⁵⁶⁷⁴
- Channel : SamplesPerPixel⁵⁶⁷⁵
- Image : AcquisitionDate⁵⁶⁷⁶
- Image : ID⁵⁶⁷⁷
- Image : Name⁵⁶⁷⁸
- Pixels : BigEndian⁵⁶⁷⁹
- Pixels : DimensionOrder⁵⁶⁸⁰
- Pixels : ID⁵⁶⁸¹
- Pixels : Interleaved⁵⁶⁸²
- Pixels : PhysicalSizeX⁵⁶⁸³
- Pixels : PhysicalSizeY⁵⁶⁸⁴
- Pixels : PhysicalSizeZ⁵⁶⁸⁵
- Pixels : SignificantBits⁵⁶⁸⁶

⁵⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁶⁷³<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁵⁶⁸⁷
- Pixels : SizeT⁵⁶⁸⁸
- Pixels : SizeX⁵⁶⁸⁹
- Pixels : SizeY⁵⁶⁹⁰
- Pixels : SizeZ⁵⁶⁹¹
- Pixels : Type⁵⁶⁹²
- Plane : TheC⁵⁶⁹³
- Plane : TheT⁵⁶⁹⁴
- Plane : TheZ⁵⁶⁹⁵

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Amnis FlowSight*

18.2.174 FlowSightReader

This page lists supported metadata fields for the Bio-Formats FlowSight format reader.

These fields are from the *OME data model*⁵⁶⁹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 20 of them (4%).
- Of those, Bio-Formats fully or partially converts 20 (100%).

Supported fields

These fields are fully supported by the Bio-Formats FlowSight format reader:

- Channel : ID⁵⁶⁹⁷
- Channel : Name⁵⁶⁹⁸
- Channel : SamplesPerPixel⁵⁶⁹⁹
- Image : AcquisitionDate⁵⁷⁰⁰
- Image : ID⁵⁷⁰¹
- Image : Name⁵⁷⁰²
- Pixels : BigEndian⁵⁷⁰³

⁵⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁶⁹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁵⁷⁰⁴
- Pixels : ID⁵⁷⁰⁵
- Pixels : Interleaved⁵⁷⁰⁶
- Pixels : SignificantBits⁵⁷⁰⁷
- Pixels : SizeC⁵⁷⁰⁸
- Pixels : SizeT⁵⁷⁰⁹
- Pixels : SizeX⁵⁷¹⁰
- Pixels : SizeY⁵⁷¹¹
- Pixels : SizeZ⁵⁷¹²
- Pixels : Type⁵⁷¹³
- Plane : TheC⁵⁷¹⁴
- Plane : TheT⁵⁷¹⁵
- Plane : TheZ⁵⁷¹⁶

Total supported: 20

Total unknown or missing: 455

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [Analyze 7.5](#)

18.2.175 AnalyzeReader

This page lists supported metadata fields for the Bio-Formats Analyze 7.5 format reader.

These fields are from the [OME data model](#)⁵⁷¹⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 24 of them (5%).
- Of those, Bio-Formats fully or partially converts 24 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Analyze 7.5 format reader:

- Channel : ID⁵⁷¹⁸
- Channel : SamplesPerPixel⁵⁷¹⁹
- Image : AcquisitionDate⁵⁷²⁰

⁵⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁷¹⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : Description⁵⁷²¹
- Image : ID⁵⁷²²
- Image : Name⁵⁷²³
- Pixels : BigEndian⁵⁷²⁴
- Pixels : DimensionOrder⁵⁷²⁵
- Pixels : ID⁵⁷²⁶
- Pixels : Interleaved⁵⁷²⁷
- Pixels : PhysicalSizeX⁵⁷²⁸
- Pixels : PhysicalSizeY⁵⁷²⁹
- Pixels : PhysicalSizeZ⁵⁷³⁰
- Pixels : SignificantBits⁵⁷³¹
- Pixels : SizeC⁵⁷³²
- Pixels : SizeT⁵⁷³³
- Pixels : SizeX⁵⁷³⁴
- Pixels : SizeY⁵⁷³⁵
- Pixels : SizeZ⁵⁷³⁶
- Pixels : TimeIncrement⁵⁷³⁷
- Pixels : Type⁵⁷³⁸
- Plane : TheC⁵⁷³⁹
- Plane : TheT⁵⁷⁴⁰
- Plane : TheZ⁵⁷⁴¹

Total supported: 24

Total unknown or missing: 451

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Aperio AFI*

18.2.176 AFIREader

This page lists supported metadata fields for the Bio-Formats Aperio AFI format reader.

- ⁵⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
- ⁵⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁵⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁵⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁵⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁵⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁵⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁵⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁵⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁵⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ⁵⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁵⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁵⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁵⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁵⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁵⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁵⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement
- ⁵⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁵⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁵⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁵⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁵⁷⁴². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 30 of them (6%).
- Of those, Bio-Formats fully or partially converts 30 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Aperio AFI format reader:

- Channel : EmissionWavelength⁵⁷⁴³
- Channel : ExcitationWavelength⁵⁷⁴⁴
- Channel : ID⁵⁷⁴⁵
- Channel : Name⁵⁷⁴⁶
- Channel : SamplesPerPixel⁵⁷⁴⁷
- Image : AcquisitionDate⁵⁷⁴⁸
- Image : ID⁵⁷⁴⁹
- Image : InstrumentRef⁵⁷⁵⁰
- Image : Name⁵⁷⁵¹
- Instrument : ID⁵⁷⁵²
- Objective : ID⁵⁷⁵³
- Objective : NominalMagnification⁵⁷⁵⁴
- ObjectiveSettings : ID⁵⁷⁵⁵
- Pixels : BigEndian⁵⁷⁵⁶
- Pixels : DimensionOrder⁵⁷⁵⁷
- Pixels : ID⁵⁷⁵⁸
- Pixels : Interleaved⁵⁷⁵⁹
- Pixels : PhysicalSizeX⁵⁷⁶⁰
- Pixels : PhysicalSizeY⁵⁷⁶¹
- Pixels : SignificantBits⁵⁷⁶²

⁵⁷⁴²<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁵⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁵⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁵⁷⁶³
- Pixels : SizeT⁵⁷⁶⁴
- Pixels : SizeX⁵⁷⁶⁵
- Pixels : SizeY⁵⁷⁶⁶
- Pixels : SizeZ⁵⁷⁶⁷
- Pixels : Type⁵⁷⁶⁸
- Plane : ExposureTime⁵⁷⁶⁹
- Plane : TheC⁵⁷⁷⁰
- Plane : TheT⁵⁷⁷¹
- Plane : TheZ⁵⁷⁷²

Total supported: 30

Total unknown or missing: 445

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Aperio SVS TIFF*

18.2.177 SVSReader

This page lists supported metadata fields for the Bio-Formats Aperio SVS format reader.

These fields are from the *OME data model*⁵⁷⁷³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 29 of them (6%).
- Of those, Bio-Formats fully or partially converts 29 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Aperio SVS format reader:

- Channel : EmissionWavelength⁵⁷⁷⁴
- Channel : ExcitationWavelength⁵⁷⁷⁵
- Channel : ID⁵⁷⁷⁶
- Channel : SamplesPerPixel⁵⁷⁷⁷
- Image : AcquisitionDate⁵⁷⁷⁸
- Image : Description⁵⁷⁷⁹

⁵⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁵⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁷⁷³<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁵⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁵⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

- Image : ID⁵⁷⁸⁰
- Image : InstrumentRef⁵⁷⁸¹
- Image : Name⁵⁷⁸²
- Instrument : ID⁵⁷⁸³
- Objective : ID⁵⁷⁸⁴
- Objective : NominalMagnification⁵⁷⁸⁵
- ObjectiveSettings : ID⁵⁷⁸⁶
- Pixels : BigEndian⁵⁷⁸⁷
- Pixels : DimensionOrder⁵⁷⁸⁸
- Pixels : ID⁵⁷⁸⁹
- Pixels : Interleaved⁵⁷⁹⁰
- Pixels : PhysicalSizeX⁵⁷⁹¹
- Pixels : PhysicalSizeY⁵⁷⁹²
- Pixels : SignificantBits⁵⁷⁹³
- Pixels : SizeC⁵⁷⁹⁴
- Pixels : SizeT⁵⁷⁹⁵
- Pixels : SizeX⁵⁷⁹⁶
- Pixels : SizeY⁵⁷⁹⁷
- Pixels : SizeZ⁵⁷⁹⁸
- Pixels : Type⁵⁷⁹⁹
- Plane : TheC⁵⁸⁰⁰
- Plane : TheT⁵⁸⁰¹
- Plane : TheZ⁵⁸⁰²

Total supported: 29

Total unknown or missing: 446

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Applied Precision CellWorX*

- ⁵⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁵⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID
- ⁵⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁵⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ⁵⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
- ⁵⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification
- ⁵⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
- ⁵⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁵⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁵⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁵⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁵⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁵⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁵⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁵⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁵⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁵⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁵⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁵⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁵⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁵⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁵⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁵⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.178 CellWorxReader

This page lists supported metadata fields for the Bio-Formats CellWorx format reader.

These fields are from the [OME data model](#)⁵⁸⁰³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 45 of them (9%).
- Of those, Bio-Formats fully or partially converts 45 (100%).

Supported fields

These fields are fully supported by the Bio-Formats CellWorx format reader:

- Channel : EmissionWavelength⁵⁸⁰⁴
- Channel : ExcitationWavelength⁵⁸⁰⁵
- Channel : ID⁵⁸⁰⁶
- Channel : Name⁵⁸⁰⁷
- Channel : SamplesPerPixel⁵⁸⁰⁸
- Detector : ID⁵⁸⁰⁹
- DetectorSettings : Gain⁵⁸¹⁰
- DetectorSettings : ID⁵⁸¹¹
- Image : AcquisitionDate⁵⁸¹²
- Image : ID⁵⁸¹³
- Image : InstrumentRef⁵⁸¹⁴
- Image : Name⁵⁸¹⁵
- Instrument : ID⁵⁸¹⁶
- Microscope : SerialNumber⁵⁸¹⁷
- Pixels : BigEndian⁵⁸¹⁸
- Pixels : DimensionOrder⁵⁸¹⁹
- Pixels : ID⁵⁸²⁰
- Pixels : Interleaved⁵⁸²¹
- Pixels : PhysicalSizeX⁵⁸²²

⁵⁸⁰³<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁵⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁵⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁵⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁵⁸²³
- Pixels : SignificantBits⁵⁸²⁴
- Pixels : SizeC⁵⁸²⁵
- Pixels : SizeT⁵⁸²⁶
- Pixels : SizeX⁵⁸²⁷
- Pixels : SizeY⁵⁸²⁸
- Pixels : SizeZ⁵⁸²⁹
- Pixels : Type⁵⁸³⁰
- Plane : TheC⁵⁸³¹
- Plane : TheT⁵⁸³²
- Plane : TheZ⁵⁸³³
- Plate : ID⁵⁸³⁴
- Plate : Name⁵⁸³⁵
- PlateAcquisition : EndTime⁵⁸³⁶
- PlateAcquisition : ID⁵⁸³⁷
- PlateAcquisition : MaximumFieldCount⁵⁸³⁸
- PlateAcquisition : StartTime⁵⁸³⁹
- PlateAcquisition : WellSampleRef⁵⁸⁴⁰
- Well : Column⁵⁸⁴¹
- Well : ID⁵⁸⁴²
- Well : Row⁵⁸⁴³
- WellSample : ID⁵⁸⁴⁴
- WellSample : ImageRef⁵⁸⁴⁵
- WellSample : Index⁵⁸⁴⁶
- WellSample : PositionX⁵⁸⁴⁷
- WellSample : PositionY⁵⁸⁴⁸

⁵⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁵⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁵⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_EndTime

⁵⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁵⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁵⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_StartTime

⁵⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁵⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁵⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁵⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁵⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁵⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁵⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁵⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁵⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

Total supported: 45

Total unknown or missing: 430

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *AVI (Audio Video Interleave)*

18.2.179 AVIReader

This page lists supported metadata fields for the Bio-Formats Audio Video Interleave format reader.

These fields are from the [OME data model](#)⁵⁸⁴⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Audio Video Interleave format reader:

- Channel : ID⁵⁸⁵⁰
- Channel : SamplesPerPixel⁵⁸⁵¹
- Image : AcquisitionDate⁵⁸⁵²
- Image : ID⁵⁸⁵³
- Image : Name⁵⁸⁵⁴
- Pixels : BigEndian⁵⁸⁵⁵
- Pixels : DimensionOrder⁵⁸⁵⁶
- Pixels : ID⁵⁸⁵⁷
- Pixels : Interleaved⁵⁸⁵⁸
- Pixels : SignificantBits⁵⁸⁵⁹
- Pixels : SizeC⁵⁸⁶⁰
- Pixels : SizeT⁵⁸⁶¹
- Pixels : SizeX⁵⁸⁶²
- Pixels : SizeY⁵⁸⁶³
- Pixels : SizeZ⁵⁸⁶⁴
- Pixels : Type⁵⁸⁶⁵

⁵⁸⁴⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁵⁸⁶⁶
- Plane : TheT⁵⁸⁶⁷
- Plane : TheZ⁵⁸⁶⁸

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Axon Raw Format*

18.2.180 ARFReader

This page lists supported metadata fields for the Bio-Formats ARF format reader.

These fields are from the *OME data model*⁵⁸⁶⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats ARF format reader:

- Channel : ID⁵⁸⁷⁰
- Channel : SamplesPerPixel⁵⁸⁷¹
- Image : AcquisitionDate⁵⁸⁷²
- Image : ID⁵⁸⁷³
- Image : Name⁵⁸⁷⁴
- Pixels : BigEndian⁵⁸⁷⁵
- Pixels : DimensionOrder⁵⁸⁷⁶
- Pixels : ID⁵⁸⁷⁷
- Pixels : Interleaved⁵⁸⁷⁸
- Pixels : SignificantBits⁵⁸⁷⁹
- Pixels : SizeC⁵⁸⁸⁰
- Pixels : SizeT⁵⁸⁸¹
- Pixels : SizeX⁵⁸⁸²

⁵⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁸⁶⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁵⁸⁸³
- Pixels : SizeZ⁵⁸⁸⁴
- Pixels : Type⁵⁸⁸⁵
- Plane : TheC⁵⁸⁸⁶
- Plane : TheT⁵⁸⁸⁷
- Plane : TheZ⁵⁸⁸⁸

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *BD Pathway*

18.2.181 BDReader

This page lists supported metadata fields for the Bio-Formats BD Pathway format reader.

These fields are from the [OME data model](#)⁵⁸⁸⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 57 of them (12%).
- Of those, Bio-Formats fully or partially converts 57 (100%).

Supported fields

These fields are fully supported by the Bio-Formats BD Pathway format reader:

- Channel : EmissionWavelength⁵⁸⁹⁰
- Channel : ExcitationWavelength⁵⁸⁹¹
- Channel : ID⁵⁸⁹²
- Channel : Name⁵⁸⁹³
- Channel : SamplesPerPixel⁵⁸⁹⁴
- Detector : ID⁵⁸⁹⁵
- DetectorSettings : Binning⁵⁸⁹⁶
- DetectorSettings : Gain⁵⁸⁹⁷
- DetectorSettings : ID⁵⁸⁹⁸
- DetectorSettings : Offset⁵⁸⁹⁹

⁵⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁸⁸⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁵⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁵⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁵⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁵⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

- Image : AcquisitionDate⁵⁹⁰⁰
- Image : ID⁵⁹⁰¹
- Image : InstrumentRef⁵⁹⁰²
- Image : Name⁵⁹⁰³
- Image : ROIRef⁵⁹⁰⁴
- Instrument : ID⁵⁹⁰⁵
- Objective : ID⁵⁹⁰⁶
- Objective : LensNA⁵⁹⁰⁷
- Objective : Manufacturer⁵⁹⁰⁸
- Objective : NominalMagnification⁵⁹⁰⁹
- ObjectiveSettings : ID⁵⁹¹⁰
- Pixels : BigEndian⁵⁹¹¹
- Pixels : DimensionOrder⁵⁹¹²
- Pixels : ID⁵⁹¹³
- Pixels : Interleaved⁵⁹¹⁴
- Pixels : SignificantBits⁵⁹¹⁵
- Pixels : SizeC⁵⁹¹⁶
- Pixels : SizeT⁵⁹¹⁷
- Pixels : SizeX⁵⁹¹⁸
- Pixels : SizeY⁵⁹¹⁹
- Pixels : SizeZ⁵⁹²⁰
- Pixels : Type⁵⁹²¹
- Plane : DeltaT⁵⁹²²
- Plane : ExposureTime⁵⁹²³
- Plane : TheC⁵⁹²⁴
- Plane : TheT⁵⁹²⁵

⁵⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁵⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁵⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁵⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁵⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁵⁹²⁶
- Plate : ColumnNamingConvention⁵⁹²⁷
- Plate : Description⁵⁹²⁸
- Plate : ID⁵⁹²⁹
- Plate : Name⁵⁹³⁰
- Plate : RowNamingConvention⁵⁹³¹
- PlateAcquisition : ID⁵⁹³²
- PlateAcquisition : MaximumFieldCount⁵⁹³³
- PlateAcquisition : WellSampleRef⁵⁹³⁴
- ROI : ID⁵⁹³⁵
- Rectangle : Height⁵⁹³⁶
- Rectangle : ID⁵⁹³⁷
- Rectangle : Width⁵⁹³⁸
- Rectangle : X⁵⁹³⁹
- Rectangle : Y⁵⁹⁴⁰
- Well : Column⁵⁹⁴¹
- Well : ID⁵⁹⁴²
- Well : Row⁵⁹⁴³
- WellSample : ID⁵⁹⁴⁴
- WellSample : ImageRef⁵⁹⁴⁵
- WellSample : Index⁵⁹⁴⁶

Total supported: 57

Total unknown or missing: 418

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Becker & Hickl SPCImage*

18.2.182 SDTReader

This page lists supported metadata fields for the Bio-Formats SPCImage Data format reader.

- ⁵⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ⁵⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention
- ⁵⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Description
- ⁵⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID
- ⁵⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name
- ⁵⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention
- ⁵⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID
- ⁵⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount
- ⁵⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID
- ⁵⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID
- ⁵⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height
- ⁵⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ⁵⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width
- ⁵⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X
- ⁵⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y
- ⁵⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column
- ⁵⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID
- ⁵⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row
- ⁵⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID
- ⁵⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID
- ⁵⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

These fields are from the [OME data model](#)⁵⁹⁴⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats SPCImage Data format reader:

- Channel : ID⁵⁹⁴⁸
- Channel : SamplesPerPixel⁵⁹⁴⁹
- Image : AcquisitionDate⁵⁹⁵⁰
- Image : ID⁵⁹⁵¹
- Image : Name⁵⁹⁵²
- Pixels : BigEndian⁵⁹⁵³
- Pixels : DimensionOrder⁵⁹⁵⁴
- Pixels : ID⁵⁹⁵⁵
- Pixels : Interleaved⁵⁹⁵⁶
- Pixels : SignificantBits⁵⁹⁵⁷
- Pixels : SizeC⁵⁹⁵⁸
- Pixels : SizeT⁵⁹⁵⁹
- Pixels : SizeX⁵⁹⁶⁰
- Pixels : SizeY⁵⁹⁶¹
- Pixels : SizeZ⁵⁹⁶²
- Pixels : Type⁵⁹⁶³
- Plane : TheC⁵⁹⁶⁴
- Plane : TheT⁵⁹⁶⁵
- Plane : TheZ⁵⁹⁶⁶

⁵⁹⁴⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Bio-Rad Gel*

18.2.183 BioRadGelReader

This page lists supported metadata fields for the Bio-Formats Bio-Rad GEL format reader.

These fields are from the [OME data model](#)⁵⁹⁶⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Bio-Rad GEL format reader:

- Channel : ID⁵⁹⁶⁸
- Channel : SamplesPerPixel⁵⁹⁶⁹
- Image : AcquisitionDate⁵⁹⁷⁰
- Image : ID⁵⁹⁷¹
- Image : Name⁵⁹⁷²
- Pixels : BigEndian⁵⁹⁷³
- Pixels : DimensionOrder⁵⁹⁷⁴
- Pixels : ID⁵⁹⁷⁵
- Pixels : Interleaved⁵⁹⁷⁶
- Pixels : PhysicalSizeX⁵⁹⁷⁷
- Pixels : PhysicalSizeY⁵⁹⁷⁸
- Pixels : SignificantBits⁵⁹⁷⁹
- Pixels : SizeC⁵⁹⁸⁰
- Pixels : SizeT⁵⁹⁸¹
- Pixels : SizeX⁵⁹⁸²
- Pixels : SizeY⁵⁹⁸³

⁵⁹⁶⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁵⁹⁸⁴
- Pixels : Type⁵⁹⁸⁵
- Plane : TheC⁵⁹⁸⁶
- Plane : TheT⁵⁹⁸⁷
- Plane : TheZ⁵⁹⁸⁸

Total supported: 21

Total unknown or missing: 454

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Bio-Rad PIC*

18.2.184 BioRadReader

This page lists supported metadata fields for the Bio-Formats Bio-Rad PIC format reader.

These fields are from the *OME data model*⁵⁹⁸⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 40 of them (8%).
- Of those, Bio-Formats fully or partially converts 40 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Bio-Rad PIC format reader:

- Channel : ID⁵⁹⁹⁰
- Channel : SamplesPerPixel⁵⁹⁹¹
- Detector : Gain⁵⁹⁹²
- Detector : ID⁵⁹⁹³
- Detector : Offset⁵⁹⁹⁴
- Detector : Type⁵⁹⁹⁵
- DetectorSettings : Gain⁵⁹⁹⁶
- DetectorSettings : ID⁵⁹⁹⁷
- DetectorSettings : Offset⁵⁹⁹⁸
- Experiment : ID⁵⁹⁹⁹
- Experiment : Type⁶⁰⁰⁰

⁵⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁹⁸⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁵⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁵⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁵⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁵⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁵⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

⁶⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

- Image : AcquisitionDate⁶⁰⁰¹
- Image : ID⁶⁰⁰²
- Image : InstrumentRef⁶⁰⁰³
- Image : Name⁶⁰⁰⁴
- Instrument : ID⁶⁰⁰⁵
- Objective : Correction⁶⁰⁰⁶
- Objective : ID⁶⁰⁰⁷
- Objective : Immersion⁶⁰⁰⁸
- Objective : LensNA⁶⁰⁰⁹
- Objective : Model⁶⁰¹⁰
- Objective : NominalMagnification⁶⁰¹¹
- ObjectiveSettings : ID⁶⁰¹²
- Pixels : BigEndian⁶⁰¹³
- Pixels : DimensionOrder⁶⁰¹⁴
- Pixels : ID⁶⁰¹⁵
- Pixels : Interleaved⁶⁰¹⁶
- Pixels : PhysicalSizeX⁶⁰¹⁷
- Pixels : PhysicalSizeY⁶⁰¹⁸
- Pixels : PhysicalSizeZ⁶⁰¹⁹
- Pixels : SignificantBits⁶⁰²⁰
- Pixels : SizeC⁶⁰²¹
- Pixels : SizeT⁶⁰²²
- Pixels : SizeX⁶⁰²³
- Pixels : SizeY⁶⁰²⁴
- Pixels : SizeZ⁶⁰²⁵
- Pixels : Type⁶⁰²⁶

⁶⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁶⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁶⁰²⁷
- Plane : TheT⁶⁰²⁸
- Plane : TheZ⁶⁰²⁹

Total supported: 40

Total unknown or missing: 435

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Bio-Rad SCN*

18.2.185 BioRadSCNReader

This page lists supported metadata fields for the Bio-Formats Bio-Rad SCN format reader.

These fields are from the *OME data model*⁶⁰³⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 29 of them (6%).
- Of those, Bio-Formats fully or partially converts 29 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Bio-Rad SCN format reader:

- Channel : ID⁶⁰³¹
- Channel : SamplesPerPixel⁶⁰³²
- Detector : ID⁶⁰³³
- DetectorSettings : Binning⁶⁰³⁴
- DetectorSettings : Gain⁶⁰³⁵
- DetectorSettings : ID⁶⁰³⁶
- Image : AcquisitionDate⁶⁰³⁷
- Image : ID⁶⁰³⁸
- Image : Name⁶⁰³⁹
- Instrument : ID⁶⁰⁴⁰
- Microscope : Model⁶⁰⁴¹
- Microscope : SerialNumber⁶⁰⁴²
- Pixels : BigEndian⁶⁰⁴³

⁶⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁰³⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁶⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁶⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁶⁰⁴⁴
- Pixels : ID⁶⁰⁴⁵
- Pixels : Interleaved⁶⁰⁴⁶
- Pixels : PhysicalSizeX⁶⁰⁴⁷
- Pixels : PhysicalSizeY⁶⁰⁴⁸
- Pixels : SignificantBits⁶⁰⁴⁹
- Pixels : SizeC⁶⁰⁵⁰
- Pixels : SizeT⁶⁰⁵¹
- Pixels : SizeX⁶⁰⁵²
- Pixels : SizeY⁶⁰⁵³
- Pixels : SizeZ⁶⁰⁵⁴
- Pixels : Type⁶⁰⁵⁵
- Plane : ExposureTime⁶⁰⁵⁶
- Plane : TheC⁶⁰⁵⁷
- Plane : TheT⁶⁰⁵⁸
- Plane : TheZ⁶⁰⁵⁹

Total supported: 29

Total unknown or missing: 446

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Bitplane Imaris*

18.2.186 ImarisHDFReader

This page lists supported metadata fields for the Bio-Formats Bitplane Imaris 5.5 (HDF) format reader.

These fields are from the [OME data model](#)⁶⁰⁶⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

⁶⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁰⁶⁰<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Bitplane Imaris 5.5 (HDF) format reader:

- Channel : Color⁶⁰⁶¹
- Channel : ID⁶⁰⁶²
- Channel : SamplesPerPixel⁶⁰⁶³
- Image : AcquisitionDate⁶⁰⁶⁴
- Image : ID⁶⁰⁶⁵
- Image : Name⁶⁰⁶⁶
- Pixels : BigEndian⁶⁰⁶⁷
- Pixels : DimensionOrder⁶⁰⁶⁸
- Pixels : ID⁶⁰⁶⁹
- Pixels : Interleaved⁶⁰⁷⁰
- Pixels : PhysicalSizeX⁶⁰⁷¹
- Pixels : PhysicalSizeY⁶⁰⁷²
- Pixels : PhysicalSizeZ⁶⁰⁷³
- Pixels : SignificantBits⁶⁰⁷⁴
- Pixels : SizeC⁶⁰⁷⁵
- Pixels : SizeT⁶⁰⁷⁶
- Pixels : SizeX⁶⁰⁷⁷
- Pixels : SizeY⁶⁰⁷⁸
- Pixels : SizeZ⁶⁰⁷⁹
- Pixels : Type⁶⁰⁸⁰
- Plane : TheC⁶⁰⁸¹
- Plane : TheT⁶⁰⁸²
- Plane : TheZ⁶⁰⁸³

Total supported: 23

Total unknown or missing: 452

⁶⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁶⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Bruker MRI*

18.2.187 BrukerReader

This page lists supported metadata fields for the Bio-Formats Bruker format reader.

These fields are from the [OME data model](#)⁶⁰⁸⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Bruker format reader:

- Channel : ID⁶⁰⁸⁵
- Channel : SamplesPerPixel⁶⁰⁸⁶
- Experimenter : ID⁶⁰⁸⁷
- Experimenter : Institution⁶⁰⁸⁸
- Experimenter : LastName⁶⁰⁸⁹
- Image : AcquisitionDate⁶⁰⁹⁰
- Image : ExperimenterRef⁶⁰⁹¹
- Image : ID⁶⁰⁹²
- Image : Name⁶⁰⁹³
- Pixels : BigEndian⁶⁰⁹⁴
- Pixels : DimensionOrder⁶⁰⁹⁵
- Pixels : ID⁶⁰⁹⁶
- Pixels : Interleaved⁶⁰⁹⁷
- Pixels : SignificantBits⁶⁰⁹⁸
- Pixels : SizeC⁶⁰⁹⁹
- Pixels : SizeT⁶¹⁰⁰
- Pixels : SizeX⁶¹⁰¹

⁶⁰⁸⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁶⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution

⁶⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁶⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

⁶⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁶¹⁰²
- Pixels : SizeZ⁶¹⁰³
- Pixels : Type⁶¹⁰⁴
- Plane : TheC⁶¹⁰⁵
- Plane : TheT⁶¹⁰⁶
- Plane : TheZ⁶¹⁰⁷

Total supported: 23

Total unknown or missing: 452

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [Burleigh](#)

18.2.188 BurleighReader

This page lists supported metadata fields for the Bio-Formats Burleigh format reader.

These fields are from the [OME data model](#)⁶¹⁰⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Burleigh format reader:

- Channel : ID⁶¹⁰⁹
- Channel : SamplesPerPixel⁶¹¹⁰
- Image : AcquisitionDate⁶¹¹¹
- Image : ID⁶¹¹²
- Image : Name⁶¹¹³
- Pixels : BigEndian⁶¹¹⁴
- Pixels : DimensionOrder⁶¹¹⁵
- Pixels : ID⁶¹¹⁶
- Pixels : Interleaved⁶¹¹⁷
- Pixels : PhysicalSizeX⁶¹¹⁸

⁶¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶¹⁰⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁶¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁶¹¹⁹
- Pixels : PhysicalSizeZ⁶¹²⁰
- Pixels : SignificantBits⁶¹²¹
- Pixels : SizeC⁶¹²²
- Pixels : SizeT⁶¹²³
- Pixels : SizeX⁶¹²⁴
- Pixels : SizeY⁶¹²⁵
- Pixels : SizeZ⁶¹²⁶
- Pixels : Type⁶¹²⁷
- Plane : TheC⁶¹²⁸
- Plane : TheT⁶¹²⁹
- Plane : TheZ⁶¹³⁰

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Canon DNG*

18.2.189 DNGReader

This page lists supported metadata fields for the Bio-Formats DNG format reader.

These fields are from the *OME data model*⁶¹³¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats DNG format reader:

- Channel : ID⁶¹³²
- Channel : SamplesPerPixel⁶¹³³
- Image : AcquisitionDate⁶¹³⁴
- Image : ID⁶¹³⁵

⁶¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶¹³¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁶¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁶¹³⁶
- Pixels : BigEndian⁶¹³⁷
- Pixels : DimensionOrder⁶¹³⁸
- Pixels : ID⁶¹³⁹
- Pixels : Interleaved⁶¹⁴⁰
- Pixels : SignificantBits⁶¹⁴¹
- Pixels : SizeC⁶¹⁴²
- Pixels : SizeT⁶¹⁴³
- Pixels : SizeX⁶¹⁴⁴
- Pixels : SizeY⁶¹⁴⁵
- Pixels : SizeZ⁶¹⁴⁶
- Pixels : Type⁶¹⁴⁷
- Plane : TheC⁶¹⁴⁸
- Plane : TheT⁶¹⁴⁹
- Plane : TheZ⁶¹⁵⁰

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *CellH5*

18.2.190 CellH5Reader

This page lists supported metadata fields for the Bio-Formats CellH5 (HDF) format reader.

These fields are from the *OME data model*⁶¹⁵¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 41 of them (8%).
- Of those, Bio-Formats fully or partially converts 41 (100%).

Supported fields

These fields are fully supported by the Bio-Formats CellH5 (HDF) format reader:

- Channel : ID⁶¹⁵²

⁶¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁶¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁶¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁶¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁶¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁶¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁶¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁶¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁶¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁶¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁶¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁶¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁶¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁶¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁶¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁶¹⁵¹<http://www.openmicroscopy.org/site/support/ome-model/>
⁶¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : SamplesPerPixel⁶¹⁵³
- Image : AcquisitionDate⁶¹⁵⁴
- Image : ID⁶¹⁵⁵
- Image : Name⁶¹⁵⁶
- Image : ROIRef⁶¹⁵⁷
- Pixels : BigEndian⁶¹⁵⁸
- Pixels : DimensionOrder⁶¹⁵⁹
- Pixels : ID⁶¹⁶⁰
- Pixels : Interleaved⁶¹⁶¹
- Pixels : SignificantBits⁶¹⁶²
- Pixels : SizeC⁶¹⁶³
- Pixels : SizeT⁶¹⁶⁴
- Pixels : SizeX⁶¹⁶⁵
- Pixels : SizeY⁶¹⁶⁶
- Pixels : SizeZ⁶¹⁶⁷
- Pixels : Type⁶¹⁶⁸
- Plane : TheC⁶¹⁶⁹
- Plane : TheT⁶¹⁷⁰
- Plane : TheZ⁶¹⁷¹
- Plate : ID⁶¹⁷²
- Plate : Name⁶¹⁷³
- ROI : ID⁶¹⁷⁴
- ROI : Name⁶¹⁷⁵
- Rectangle : Height⁶¹⁷⁶
- Rectangle : ID⁶¹⁷⁷
- Rectangle : StrokeColor⁶¹⁷⁸

⁶¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁶¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁶¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁶¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁶¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name

⁶¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁶¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁶¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

- Rectangle : Text⁶¹⁷⁹
- Rectangle : TheC⁶¹⁸⁰
- Rectangle : TheT⁶¹⁸¹
- Rectangle : TheZ⁶¹⁸²
- Rectangle : Width⁶¹⁸³
- Rectangle : X⁶¹⁸⁴
- Rectangle : Y⁶¹⁸⁵
- Well : Column⁶¹⁸⁶
- Well : ExternalIdentifier⁶¹⁸⁷
- Well : ID⁶¹⁸⁸
- Well : Row⁶¹⁸⁹
- WellSample : ID⁶¹⁹⁰
- WellSample : ImageRef⁶¹⁹¹
- WellSample : Index⁶¹⁹²

Total supported: 41

Total unknown or missing: 434

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Cellomics*

18.2.191 CellomicsReader

This page lists supported metadata fields for the Bio-Formats Cellomics C01 format reader.

These fields are from the *OME data model*⁶¹⁹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 31 of them (6%).
- Of those, Bio-Formats fully or partially converts 31 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Cellomics C01 format reader:

- Channel : ID⁶¹⁹⁴
- Channel : SamplesPerPixel⁶¹⁹⁵

⁶¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁶¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC

⁶¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁶¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁶¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁶¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁶¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁶¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁶¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ExternalIdentifier

⁶¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁶¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁶¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁶¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁶¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁶¹⁹³<http://www.openmicroscopy.org/site/support/ome-model/>

⁶¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁶¹⁹⁶
- Image : ID⁶¹⁹⁷
- Image : Name⁶¹⁹⁸
- Pixels : BigEndian⁶¹⁹⁹
- Pixels : DimensionOrder⁶²⁰⁰
- Pixels : ID⁶²⁰¹
- Pixels : Interleaved⁶²⁰²
- Pixels : PhysicalSizeX⁶²⁰³
- Pixels : PhysicalSizeY⁶²⁰⁴
- Pixels : SignificantBits⁶²⁰⁵
- Pixels : SizeC⁶²⁰⁶
- Pixels : SizeT⁶²⁰⁷
- Pixels : SizeX⁶²⁰⁸
- Pixels : SizeY⁶²⁰⁹
- Pixels : SizeZ⁶²¹⁰
- Pixels : Type⁶²¹¹
- Plane : TheC⁶²¹²
- Plane : TheT⁶²¹³
- Plane : TheZ⁶²¹⁴
- Plate : ColumnNamingConvention⁶²¹⁵
- Plate : ID⁶²¹⁶
- Plate : Name⁶²¹⁷
- Plate : RowNamingConvention⁶²¹⁸
- Well : Column⁶²¹⁹
- Well : ID⁶²²⁰
- Well : Row⁶²²¹

⁶¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁶²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁶²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁶²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁶²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁶²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁶²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

- WellSample : ID⁶²²²
- WellSample : ImageRef⁶²²³
- WellSample : Index⁶²²⁴

Total supported: 31

Total unknown or missing: 444

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *cellSens VSI*

18.2.192 CellSensReader

This page lists supported metadata fields for the Bio-Formats CellSens VSI format reader.

These fields are from the *OME data model*⁶²²⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 46 of them (9%).
- Of those, Bio-Formats fully or partially converts 46 (100%).

Supported fields

These fields are fully supported by the Bio-Formats CellSens VSI format reader:

- Channel : EmissionWavelength⁶²²⁶
- Channel : ID⁶²²⁷
- Channel : Name⁶²²⁸
- Channel : SamplesPerPixel⁶²²⁹
- Detector : Gain⁶²³⁰
- Detector : ID⁶²³¹
- Detector : Manufacturer⁶²³²
- Detector : Model⁶²³³
- Detector : Offset⁶²³⁴
- Detector : SerialNumber⁶²³⁵
- Detector : Type⁶²³⁶
- DetectorSettings : Binning⁶²³⁷
- DetectorSettings : Gain⁶²³⁸

⁶²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁶²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁶²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁶²²⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁶²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁶²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁶²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁶²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁶²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁶²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁶²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

- DetectorSettings : ID⁶²³⁹
- DetectorSettings : Offset⁶²⁴⁰
- Image : AcquisitionDate⁶²⁴¹
- Image : ID⁶²⁴²
- Image : InstrumentRef⁶²⁴³
- Image : Name⁶²⁴⁴
- Instrument : ID⁶²⁴⁵
- Objective : ID⁶²⁴⁶
- Objective : LensNA⁶²⁴⁷
- Objective : Model⁶²⁴⁸
- Objective : NominalMagnification⁶²⁴⁹
- Objective : WorkingDistance⁶²⁵⁰
- ObjectiveSettings : ID⁶²⁵¹
- ObjectiveSettings : RefractiveIndex⁶²⁵²
- Pixels : BigEndian⁶²⁵³
- Pixels : DimensionOrder⁶²⁵⁴
- Pixels : ID⁶²⁵⁵
- Pixels : Interleaved⁶²⁵⁶
- Pixels : PhysicalSizeX⁶²⁵⁷
- Pixels : PhysicalSizeY⁶²⁵⁸
- Pixels : SignificantBits⁶²⁵⁹
- Pixels : SizeC⁶²⁶⁰
- Pixels : SizeT⁶²⁶¹
- Pixels : SizeX⁶²⁶²
- Pixels : SizeY⁶²⁶³
- Pixels : SizeZ⁶²⁶⁴

⁶²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁶²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁶²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁶²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁶²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type⁶²⁶⁵
- Plane : ExposureTime⁶²⁶⁶
- Plane : PositionX⁶²⁶⁷
- Plane : PositionY⁶²⁶⁸
- Plane : TheC⁶²⁶⁹
- Plane : TheT⁶²⁷⁰
- Plane : TheZ⁶²⁷¹

Total supported: 46

Total unknown or missing: 429

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *CellVoyager*

18.2.193 CellVoyagerReader

This page lists supported metadata fields for the Bio-Formats CellVoyager format reader.

These fields are from the *OME data model*⁶²⁷². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 34 of them (7%).
- Of those, Bio-Formats fully or partially converts 34 (100%).

Supported fields

These fields are fully supported by the Bio-Formats CellVoyager format reader:

- Channel : ID⁶²⁷³
- Channel : Name⁶²⁷⁴
- Channel : PinholeSize⁶²⁷⁵
- Channel : SamplesPerPixel⁶²⁷⁶
- Image : AcquisitionDate⁶²⁷⁷
- Image : ID⁶²⁷⁸
- Image : Name⁶²⁷⁹
- Pixels : BigEndian⁶²⁸⁰
- Pixels : DimensionOrder⁶²⁸¹

⁶²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶²⁷²<http://www.openmicroscopy.org/site/support/ome-model/>

⁶²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁶²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁶²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID⁶²⁸²
- Pixels : Interleaved⁶²⁸³
- Pixels : SignificantBits⁶²⁸⁴
- Pixels : SizeC⁶²⁸⁵
- Pixels : SizeT⁶²⁸⁶
- Pixels : SizeX⁶²⁸⁷
- Pixels : SizeY⁶²⁸⁸
- Pixels : SizeZ⁶²⁸⁹
- Pixels : Type⁶²⁹⁰
- Plane : TheC⁶²⁹¹
- Plane : TheT⁶²⁹²
- Plane : TheZ⁶²⁹³
- Plate : Columns⁶²⁹⁴
- Plate : Rows⁶²⁹⁵
- PlateAcquisition : EndTime⁶²⁹⁶
- PlateAcquisition : ID⁶²⁹⁷
- PlateAcquisition : MaximumFieldCount⁶²⁹⁸
- PlateAcquisition : StartTime⁶²⁹⁹
- Well : Column⁶³⁰⁰
- Well : ID⁶³⁰¹
- Well : Row⁶³⁰²
- WellSample : ID⁶³⁰³
- WellSample : Index⁶³⁰⁴
- WellSample : PositionX⁶³⁰⁵
- WellSample : PositionY⁶³⁰⁶

⁶²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

⁶²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

⁶²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_EndTime

⁶²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁶²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁶²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_StartTime

⁶³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁶³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁶³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁶³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁶³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁶³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁶³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

Total supported: 34

Total unknown or missing: 441

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *DeltaVision*

18.2.194 DeltavisionReader

This page lists supported metadata fields for the Bio-Formats Deltavision format reader.

These fields are from the [OME data model](#)⁶³⁰⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 52 of them (10%).
- Of those, Bio-Formats fully or partially converts 52 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Deltavision format reader:

- Channel : EmissionWavelength⁶³⁰⁸
- Channel : ExcitationWavelength⁶³⁰⁹
- Channel : ID⁶³¹⁰
- Channel : NDFilter⁶³¹¹
- Channel : Name⁶³¹²
- Channel : SamplesPerPixel⁶³¹³
- Detector : ID⁶³¹⁴
- Detector : Model⁶³¹⁵
- Detector : Type⁶³¹⁶
- DetectorSettings : Binning⁶³¹⁷
- DetectorSettings : Gain⁶³¹⁸
- DetectorSettings : ID⁶³¹⁹
- DetectorSettings : ReadOutRate⁶³²⁰
- Image : AcquisitionDate⁶³²¹
- Image : Description⁶³²²
- Image : ID⁶³²³

⁶³⁰⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁶³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁶³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁶³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_NDFilter

⁶³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁶³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁶³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

⁶³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : InstrumentRef⁶³²⁴
- Image : Name⁶³²⁵
- ImagingEnvironment : Temperature⁶³²⁶
- Instrument : ID⁶³²⁷
- Objective : CalibratedMagnification⁶³²⁸
- Objective : Correction⁶³²⁹
- Objective : ID⁶³³⁰
- Objective : Immersion⁶³³¹
- Objective : LensNA⁶³³²
- Objective : Manufacturer⁶³³³
- Objective : Model⁶³³⁴
- Objective : NominalMagnification⁶³³⁵
- Objective : WorkingDistance⁶³³⁶
- ObjectiveSettings : ID⁶³³⁷
- Pixels : BigEndian⁶³³⁸
- Pixels : DimensionOrder⁶³³⁹
- Pixels : ID⁶³⁴⁰
- Pixels : Interleaved⁶³⁴¹
- Pixels : PhysicalSizeX⁶³⁴²
- Pixels : PhysicalSizeY⁶³⁴³
- Pixels : PhysicalSizeZ⁶³⁴⁴
- Pixels : SignificantBits⁶³⁴⁵
- Pixels : SizeC⁶³⁴⁶
- Pixels : SizeT⁶³⁴⁷
- Pixels : SizeX⁶³⁴⁸
- Pixels : SizeY⁶³⁴⁹

⁶³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁶³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁶³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁶³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁶³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁶³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁶³⁵⁰
- Pixels : Type⁶³⁵¹
- Plane : DeltaT⁶³⁵²
- Plane : ExposureTime⁶³⁵³
- Plane : PositionX⁶³⁵⁴
- Plane : PositionY⁶³⁵⁵
- Plane : PositionZ⁶³⁵⁶
- Plane : TheC⁶³⁵⁷
- Plane : TheT⁶³⁵⁸
- Plane : TheZ⁶³⁵⁹

Total supported: 52

Total unknown or missing: 423

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [DICOM](#)

18.2.195 DicomReader

This page lists supported metadata fields for the Bio-Formats DICOM format reader.

These fields are from the [OME data model](#)⁶³⁶⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats DICOM format reader:

- Channel : ID⁶³⁶¹
- Channel : SamplesPerPixel⁶³⁶²
- Image : AcquisitionDate⁶³⁶³
- Image : Description⁶³⁶⁴
- Image : ID⁶³⁶⁵
- Image : Name⁶³⁶⁶

⁶³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁶³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁶³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶³⁶⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁶³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Pixels : BigEndian⁶³⁶⁷
- Pixels : DimensionOrder⁶³⁶⁸
- Pixels : ID⁶³⁶⁹
- Pixels : Interleaved⁶³⁷⁰
- Pixels : PhysicalSizeX⁶³⁷¹
- Pixels : PhysicalSizeY⁶³⁷²
- Pixels : PhysicalSizeZ⁶³⁷³
- Pixels : SignificantBits⁶³⁷⁴
- Pixels : SizeC⁶³⁷⁵
- Pixels : SizeT⁶³⁷⁶
- Pixels : SizeX⁶³⁷⁷
- Pixels : SizeY⁶³⁷⁸
- Pixels : SizeZ⁶³⁷⁹
- Pixels : Type⁶³⁸⁰
- Plane : TheC⁶³⁸¹
- Plane : TheT⁶³⁸²
- Plane : TheZ⁶³⁸³

Total supported: 23

Total unknown or missing: 452

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [ECAT7](#)

18.2.196 Ecat7Reader

This page lists supported metadata fields for the Bio-Formats ECAT7 format reader.

These fields are from the [OME data model](#)⁶³⁸⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

⁶³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁶³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁶³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁶³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁶³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁶³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁶³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
⁶³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁶³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁶³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁶³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁶³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁶³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁶³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁶³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁶³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁶³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁶³⁸⁴<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats ECAT7 format reader:

- Channel : ID⁶³⁸⁵
- Channel : SamplesPerPixel⁶³⁸⁶
- Image : AcquisitionDate⁶³⁸⁷
- Image : Description⁶³⁸⁸
- Image : ID⁶³⁸⁹
- Image : Name⁶³⁹⁰
- Pixels : BigEndian⁶³⁹¹
- Pixels : DimensionOrder⁶³⁹²
- Pixels : ID⁶³⁹³
- Pixels : Interleaved⁶³⁹⁴
- Pixels : PhysicalSizeX⁶³⁹⁵
- Pixels : PhysicalSizeY⁶³⁹⁶
- Pixels : PhysicalSizeZ⁶³⁹⁷
- Pixels : SignificantBits⁶³⁹⁸
- Pixels : SizeC⁶³⁹⁹
- Pixels : SizeT⁶⁴⁰⁰
- Pixels : SizeX⁶⁴⁰¹
- Pixels : SizeY⁶⁴⁰²
- Pixels : SizeZ⁶⁴⁰³
- Pixels : Type⁶⁴⁰⁴
- Plane : TheC⁶⁴⁰⁵
- Plane : TheT⁶⁴⁰⁶
- Plane : TheZ⁶⁴⁰⁷

Total supported: 23

Total unknown or missing: 452

- ⁶³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁶³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁶³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁶³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
- ⁶³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁶³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁶³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁶³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁶³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁶³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁶³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁶³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁶³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ⁶³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁶³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁶⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁶⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁶⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁶⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁶⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁶⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁶⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁶⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *EPS (Encapsulated PostScript)*

18.2.197 EPSReader

This page lists supported metadata fields for the Bio-Formats Encapsulated PostScript format reader.

These fields are from the [OME data model](#)⁶⁴⁰⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Encapsulated PostScript format reader:

- Channel : ID⁶⁴⁰⁹
- Channel : SamplesPerPixel⁶⁴¹⁰
- Image : AcquisitionDate⁶⁴¹¹
- Image : ID⁶⁴¹²
- Image : Name⁶⁴¹³
- Pixels : BigEndian⁶⁴¹⁴
- Pixels : DimensionOrder⁶⁴¹⁵
- Pixels : ID⁶⁴¹⁶
- Pixels : Interleaved⁶⁴¹⁷
- Pixels : SignificantBits⁶⁴¹⁸
- Pixels : SizeC⁶⁴¹⁹
- Pixels : SizeT⁶⁴²⁰
- Pixels : SizeX⁶⁴²¹
- Pixels : SizeY⁶⁴²²
- Pixels : SizeZ⁶⁴²³
- Pixels : Type⁶⁴²⁴
- Plane : TheC⁶⁴²⁵

⁶⁴⁰⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁶⁴²⁶
- Plane : TheZ⁶⁴²⁷

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Evotec/PerkinElmer Opera Flex*

18.2.198 FlexReader

This page lists supported metadata fields for the Bio-Formats Evotec Flex format reader.

These fields are from the [OME data model](#)⁶⁴²⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 69 of them (14%).
- Of those, Bio-Formats fully or partially converts 69 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Evotec Flex format reader:

- Channel : ID⁶⁴²⁹
- Channel : LightSourceSettingsID⁶⁴³⁰
- Channel : Name⁶⁴³¹
- Channel : SamplesPerPixel⁶⁴³²
- Detector : ID⁶⁴³³
- Detector : Type⁶⁴³⁴
- DetectorSettings : Binning⁶⁴³⁵
- DetectorSettings : ID⁶⁴³⁶
- Dichroic : ID⁶⁴³⁷
- Dichroic : Model⁶⁴³⁸
- Filter : FilterWheel⁶⁴³⁹
- Filter : ID⁶⁴⁴⁰
- Filter : Model⁶⁴⁴¹
- Image : AcquisitionDate⁶⁴⁴²

⁶⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁴²⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

⁶⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁶⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁶⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_FilterWheel

⁶⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁶⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁶⁴⁴³
- Image : InstrumentRef⁶⁴⁴⁴
- Image : Name⁶⁴⁴⁵
- Instrument : ID⁶⁴⁴⁶
- Laser : ID⁶⁴⁴⁷
- Laser : LaserMedium⁶⁴⁴⁸
- Laser : Type⁶⁴⁴⁹
- Laser : Wavelength⁶⁴⁵⁰
- LightPath : DichroicRef⁶⁴⁵¹
- LightPath : EmissionFilterRef⁶⁴⁵²
- LightPath : ExcitationFilterRef⁶⁴⁵³
- Objective : CalibratedMagnification⁶⁴⁵⁴
- Objective : Correction⁶⁴⁵⁵
- Objective : ID⁶⁴⁵⁶
- Objective : Immersion⁶⁴⁵⁷
- Objective : LensNA⁶⁴⁵⁸
- ObjectiveSettings : ID⁶⁴⁵⁹
- Pixels : BigEndian⁶⁴⁶⁰
- Pixels : DimensionOrder⁶⁴⁶¹
- Pixels : ID⁶⁴⁶²
- Pixels : Interleaved⁶⁴⁶³
- Pixels : PhysicalSizeX⁶⁴⁶⁴
- Pixels : PhysicalSizeY⁶⁴⁶⁵
- Pixels : SignificantBits⁶⁴⁶⁶
- Pixels : SizeC⁶⁴⁶⁷
- Pixels : SizeT⁶⁴⁶⁸

⁶⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁶⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁶⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁶⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁶⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁶⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁶⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁶⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁶⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁶⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁶⁴⁶⁹
- Pixels : SizeY⁶⁴⁷⁰
- Pixels : SizeZ⁶⁴⁷¹
- Pixels : Type⁶⁴⁷²
- Plane : DeltaT⁶⁴⁷³
- Plane : ExposureTime⁶⁴⁷⁴
- Plane : PositionX⁶⁴⁷⁵
- Plane : PositionY⁶⁴⁷⁶
- Plane : PositionZ⁶⁴⁷⁷
- Plane : TheC⁶⁴⁷⁸
- Plane : TheT⁶⁴⁷⁹
- Plane : TheZ⁶⁴⁸⁰
- Plate : ColumnNamingConvention⁶⁴⁸¹
- Plate : ExternalIdentifier⁶⁴⁸²
- Plate : ID⁶⁴⁸³
- Plate : Name⁶⁴⁸⁴
- Plate : RowNamingConvention⁶⁴⁸⁵
- PlateAcquisition : ID⁶⁴⁸⁶
- PlateAcquisition : MaximumFieldCount⁶⁴⁸⁷
- PlateAcquisition : StartTime⁶⁴⁸⁸
- PlateAcquisition : WellSampleRef⁶⁴⁸⁹
- Well : Column⁶⁴⁹⁰
- Well : ID⁶⁴⁹¹
- Well : Row⁶⁴⁹²
- WellSample : ID⁶⁴⁹³
- WellSample : ImageRef⁶⁴⁹⁴

⁶⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁶⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁶⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁶⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ExternalIdentifier

⁶⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁶⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁶⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁶⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁶⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁶⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_StartTime

⁶⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁶⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁶⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁶⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁶⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁶⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

- WellSample : Index⁶⁴⁹⁵
- WellSample : PositionX⁶⁴⁹⁶
- WellSample : PositionY⁶⁴⁹⁷

Total supported: 69

Total unknown or missing: 406

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *FEI*

18.2.199 FEIReader

This page lists supported metadata fields for the Bio-Formats FEI/Philips format reader.

These fields are from the *OME data model*⁶⁴⁹⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats FEI/Philips format reader:

- Channel : ID⁶⁴⁹⁹
- Channel : SamplesPerPixel⁶⁵⁰⁰
- Image : AcquisitionDate⁶⁵⁰¹
- Image : ID⁶⁵⁰²
- Image : Name⁶⁵⁰³
- Pixels : BigEndian⁶⁵⁰⁴
- Pixels : DimensionOrder⁶⁵⁰⁵
- Pixels : ID⁶⁵⁰⁶
- Pixels : Interleaved⁶⁵⁰⁷
- Pixels : SignificantBits⁶⁵⁰⁸
- Pixels : SizeC⁶⁵⁰⁹
- Pixels : SizeT⁶⁵¹⁰
- Pixels : SizeX⁶⁵¹¹

⁶⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁶⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁶⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

⁶⁴⁹⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁶⁵¹²
- Pixels : SizeZ⁶⁵¹³
- Pixels : Type⁶⁵¹⁴
- Plane : TheC⁶⁵¹⁵
- Plane : TheT⁶⁵¹⁶
- Plane : TheZ⁶⁵¹⁷

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *FEI TIFF*

18.2.200 FEITiffReader

This page lists supported metadata fields for the Bio-Formats FEI TIFF format reader.

These fields are from the *OME data model*⁶⁵¹⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 39 of them (8%).
- Of those, Bio-Formats fully or partially converts 39 (100%).

Supported fields

These fields are fully supported by the Bio-Formats FEI TIFF format reader:

- Channel : ID⁶⁵¹⁹
- Channel : SamplesPerPixel⁶⁵²⁰
- Detector : ID⁶⁵²¹
- Detector : Model⁶⁵²²
- Detector : Type⁶⁵²³
- Experimenter : ID⁶⁵²⁴
- Experimenter : LastName⁶⁵²⁵
- Image : AcquisitionDate⁶⁵²⁶
- Image : Description⁶⁵²⁷
- Image : ID⁶⁵²⁸

⁶⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁵¹⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁶⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁶⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : InstrumentRef⁶⁵²⁹
- Image : Name⁶⁵³⁰
- Instrument : ID⁶⁵³¹
- Microscope : Model⁶⁵³²
- Objective : Correction⁶⁵³³
- Objective : ID⁶⁵³⁴
- Objective : Immersion⁶⁵³⁵
- Objective : NominalMagnification⁶⁵³⁶
- Pixels : BigEndian⁶⁵³⁷
- Pixels : DimensionOrder⁶⁵³⁸
- Pixels : ID⁶⁵³⁹
- Pixels : Interleaved⁶⁵⁴⁰
- Pixels : PhysicalSizeX⁶⁵⁴¹
- Pixels : PhysicalSizeY⁶⁵⁴²
- Pixels : SignificantBits⁶⁵⁴³
- Pixels : SizeC⁶⁵⁴⁴
- Pixels : SizeT⁶⁵⁴⁵
- Pixels : SizeX⁶⁵⁴⁶
- Pixels : SizeY⁶⁵⁴⁷
- Pixels : SizeZ⁶⁵⁴⁸
- Pixels : TimeIncrement⁶⁵⁴⁹
- Pixels : Type⁶⁵⁵⁰
- Plane : TheC⁶⁵⁵¹
- Plane : TheT⁶⁵⁵²
- Plane : TheZ⁶⁵⁵³
- StageLabel : Name⁶⁵⁵⁴

⁶⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁶⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Name

- StageLabel : X⁶⁵⁵⁵
- StageLabel : Y⁶⁵⁵⁶
- StageLabel : Z⁶⁵⁵⁷

Total supported: 39

Total unknown or missing: 436

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *FITS (Flexible Image Transport System)*

18.2.201 FitsReader

This page lists supported metadata fields for the Bio-Formats Flexible Image Transport System format reader.

These fields are from the *OME data model*⁶⁵⁵⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Flexible Image Transport System format reader:

- Channel : ID⁶⁵⁵⁹
- Channel : SamplesPerPixel⁶⁵⁶⁰
- Image : AcquisitionDate⁶⁵⁶¹
- Image : ID⁶⁵⁶²
- Image : Name⁶⁵⁶³
- Pixels : BigEndian⁶⁵⁶⁴
- Pixels : DimensionOrder⁶⁵⁶⁵
- Pixels : ID⁶⁵⁶⁶
- Pixels : Interleaved⁶⁵⁶⁷
- Pixels : SignificantBits⁶⁵⁶⁸
- Pixels : SizeC⁶⁵⁶⁹
- Pixels : SizeT⁶⁵⁷⁰
- Pixels : SizeX⁶⁵⁷¹

⁶⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_X

⁶⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Y

⁶⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Z

⁶⁵⁵⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁶⁵⁷²
- Pixels : SizeZ⁶⁵⁷³
- Pixels : Type⁶⁵⁷⁴
- Plane : TheC⁶⁵⁷⁵
- Plane : TheT⁶⁵⁷⁶
- Plane : TheZ⁶⁵⁷⁷

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Gatan Digital Micrograph 2*

18.2.202 GatanDM2Reader

This page lists supported metadata fields for the Bio-Formats Gatan DM2 format reader.

These fields are from the [OME data model](#)⁶⁵⁷⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 30 of them (6%).
- Of those, Bio-Formats fully or partially converts 30 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Gatan DM2 format reader:

- Channel : ID⁶⁵⁷⁹
- Channel : SamplesPerPixel⁶⁵⁸⁰
- Detector : ID⁶⁵⁸¹
- DetectorSettings : Binning⁶⁵⁸²
- DetectorSettings : ID⁶⁵⁸³
- Experimenter : FirstName⁶⁵⁸⁴
- Experimenter : ID⁶⁵⁸⁵
- Experimenter : LastName⁶⁵⁸⁶
- Image : AcquisitionDate⁶⁵⁸⁷
- Image : ExperimenterRef⁶⁵⁸⁸

⁶⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁵⁷⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

⁶⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁶⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁶⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

- Image : ID⁶⁵⁸⁹
- Image : InstrumentRef⁶⁵⁹⁰
- Image : Name⁶⁵⁹¹
- Instrument : ID⁶⁵⁹²
- Pixels : BigEndian⁶⁵⁹³
- Pixels : DimensionOrder⁶⁵⁹⁴
- Pixels : ID⁶⁵⁹⁵
- Pixels : Interleaved⁶⁵⁹⁶
- Pixels : PhysicalSizeX⁶⁵⁹⁷
- Pixels : PhysicalSizeY⁶⁵⁹⁸
- Pixels : SignificantBits⁶⁵⁹⁹
- Pixels : SizeC⁶⁶⁰⁰
- Pixels : SizeT⁶⁶⁰¹
- Pixels : SizeX⁶⁶⁰²
- Pixels : SizeY⁶⁶⁰³
- Pixels : SizeZ⁶⁶⁰⁴
- Pixels : Type⁶⁶⁰⁵
- Plane : TheC⁶⁶⁰⁶
- Plane : TheT⁶⁶⁰⁷
- Plane : TheZ⁶⁶⁰⁸

Total supported: 30

Total unknown or missing: 445

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Gatan Digital Micrograph*

18.2.203 GatanReader

This page lists supported metadata fields for the Bio-Formats Gatan Digital Micrograph format reader.

These fields are from the [OME data model](#)⁶⁶⁰⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁶⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁶⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID
⁶⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁶⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
⁶⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁶⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁶⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁶⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁶⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁶⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁶⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁶⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁶⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁶⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁶⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁶⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁶⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁶⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁶⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁶⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁶⁶⁰⁹<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 36 of them (7%).
- Of those, Bio-Formats fully or partially converts 36 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Gatan Digital Micrograph format reader:

- Channel : AcquisitionMode⁶⁶¹⁰
- Channel : ID⁶⁶¹¹
- Channel : SamplesPerPixel⁶⁶¹²
- Detector : ID⁶⁶¹³
- DetectorSettings : ID⁶⁶¹⁴
- DetectorSettings : Voltage⁶⁶¹⁵
- Image : AcquisitionDate⁶⁶¹⁶
- Image : ID⁶⁶¹⁷
- Image : Name⁶⁶¹⁸
- Instrument : ID⁶⁶¹⁹
- Objective : Correction⁶⁶²⁰
- Objective : ID⁶⁶²¹
- Objective : Immersion⁶⁶²²
- Objective : NominalMagnification⁶⁶²³
- ObjectiveSettings : ID⁶⁶²⁴
- Pixels : BigEndian⁶⁶²⁵
- Pixels : DimensionOrder⁶⁶²⁶
- Pixels : ID⁶⁶²⁷
- Pixels : Interleaved⁶⁶²⁸
- Pixels : PhysicalSizeX⁶⁶²⁹
- Pixels : PhysicalSizeY⁶⁶³⁰
- Pixels : PhysicalSizeZ⁶⁶³¹

⁶⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

⁶⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁶⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

- Pixels : SignificantBits⁶⁶³²
- Pixels : SizeC⁶⁶³³
- Pixels : SizeT⁶⁶³⁴
- Pixels : SizeX⁶⁶³⁵
- Pixels : SizeY⁶⁶³⁶
- Pixels : SizeZ⁶⁶³⁷
- Pixels : Type⁶⁶³⁸
- Plane : ExposureTime⁶⁶³⁹
- Plane : PositionX⁶⁶⁴⁰
- Plane : PositionY⁶⁶⁴¹
- Plane : PositionZ⁶⁶⁴²
- Plane : TheC⁶⁶⁴³
- Plane : TheT⁶⁶⁴⁴
- Plane : TheZ⁶⁶⁴⁵

Total supported: 36

Total unknown or missing: 439

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *GIF (Graphics Interchange Format)*

18.2.204 GIFReader

This page lists supported metadata fields for the Bio-Formats Graphics Interchange Format format reader.

These fields are from the [OME data model](#)⁶⁶⁴⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Graphics Interchange Format format reader:

- Channel : ID⁶⁶⁴⁷
- Channel : SamplesPerPixel⁶⁶⁴⁸

⁶⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁶⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁶⁴⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁶⁶⁴⁹
- Image : ID⁶⁶⁵⁰
- Image : Name⁶⁶⁵¹
- Pixels : BigEndian⁶⁶⁵²
- Pixels : DimensionOrder⁶⁶⁵³
- Pixels : ID⁶⁶⁵⁴
- Pixels : Interleaved⁶⁶⁵⁵
- Pixels : SignificantBits⁶⁶⁵⁶
- Pixels : SizeC⁶⁶⁵⁷
- Pixels : SizeT⁶⁶⁵⁸
- Pixels : SizeX⁶⁶⁵⁹
- Pixels : SizeY⁶⁶⁶⁰
- Pixels : SizeZ⁶⁶⁶¹
- Pixels : Type⁶⁶⁶²
- Plane : TheC⁶⁶⁶³
- Plane : TheT⁶⁶⁶⁴
- Plane : TheZ⁶⁶⁶⁵

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Hamamatsu Aquacosmos NAF*

18.2.205 NAFReader

This page lists supported metadata fields for the Bio-Formats Hamamatsu Aquacosmos format reader.

These fields are from the *OME data model*⁶⁶⁶⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

⁶⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁶⁶⁶<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Hamamatsu Aquacosmos format reader:

- Channel : ID⁶⁶⁶⁷
- Channel : SamplesPerPixel⁶⁶⁶⁸
- Image : AcquisitionDate⁶⁶⁶⁹
- Image : ID⁶⁶⁷⁰
- Image : Name⁶⁶⁷¹
- Pixels : BigEndian⁶⁶⁷²
- Pixels : DimensionOrder⁶⁶⁷³
- Pixels : ID⁶⁶⁷⁴
- Pixels : Interleaved⁶⁶⁷⁵
- Pixels : SignificantBits⁶⁶⁷⁶
- Pixels : SizeC⁶⁶⁷⁷
- Pixels : SizeT⁶⁶⁷⁸
- Pixels : SizeX⁶⁶⁷⁹
- Pixels : SizeY⁶⁶⁸⁰
- Pixels : SizeZ⁶⁶⁸¹
- Pixels : Type⁶⁶⁸²
- Plane : TheC⁶⁶⁸³
- Plane : TheT⁶⁶⁸⁴
- Plane : TheZ⁶⁶⁸⁵

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Hamamatsu HIS*

18.2.206 HISReader

This page lists supported metadata fields for the Bio-Formats Hamamatsu HIS format reader.

- ⁶⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁶⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁶⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁶⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁶⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁶⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁶⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁶⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁶⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁶⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁶⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁶⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁶⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁶⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁶⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁶⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁶⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁶⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁶⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁶⁶⁸⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 27 of them (5%).
- Of those, Bio-Formats fully or partially converts 27 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Hamamatsu HIS format reader:

- Channel : ID⁶⁶⁸⁷
- Channel : SamplesPerPixel⁶⁶⁸⁸
- Detector : ID⁶⁶⁸⁹
- Detector : Offset⁶⁶⁹⁰
- Detector : Type⁶⁶⁹¹
- DetectorSettings : Binning⁶⁶⁹²
- DetectorSettings : ID⁶⁶⁹³
- Image : AcquisitionDate⁶⁶⁹⁴
- Image : ID⁶⁶⁹⁵
- Image : InstrumentRef⁶⁶⁹⁶
- Image : Name⁶⁶⁹⁷
- Instrument : ID⁶⁶⁹⁸
- Pixels : BigEndian⁶⁶⁹⁹
- Pixels : DimensionOrder⁶⁷⁰⁰
- Pixels : ID⁶⁷⁰¹
- Pixels : Interleaved⁶⁷⁰²
- Pixels : SignificantBits⁶⁷⁰³
- Pixels : SizeC⁶⁷⁰⁴
- Pixels : SizeT⁶⁷⁰⁵
- Pixels : SizeX⁶⁷⁰⁶

⁶⁶⁸⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁶⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁶⁷⁰⁷
- Pixels : SizeZ⁶⁷⁰⁸
- Pixels : Type⁶⁷⁰⁹
- Plane : ExposureTime⁶⁷¹⁰
- Plane : TheC⁶⁷¹¹
- Plane : TheT⁶⁷¹²
- Plane : TheZ⁶⁷¹³

Total supported: 27

Total unknown or missing: 448

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Hamamatsu ndpi*

18.2.207 NDPIReader

This page lists supported metadata fields for the Bio-Formats Hamamatsu NDPI format reader.

These fields are from the *OME data model*⁶⁷¹⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 28 of them (5%).
- Of those, Bio-Formats fully or partially converts 28 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Hamamatsu NDPI format reader:

- Channel : ID⁶⁷¹⁵
- Channel : SamplesPerPixel⁶⁷¹⁶
- Image : AcquisitionDate⁶⁷¹⁷
- Image : Description⁶⁷¹⁸
- Image : ID⁶⁷¹⁹
- Image : InstrumentRef⁶⁷²⁰
- Image : Name⁶⁷²¹
- Instrument : ID⁶⁷²²
- Microscope : Model⁶⁷²³

⁶⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁷¹⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

- Objective : ID⁶⁷²⁴
- Objective : NominalMagnification⁶⁷²⁵
- ObjectiveSettings : ID⁶⁷²⁶
- Pixels : BigEndian⁶⁷²⁷
- Pixels : DimensionOrder⁶⁷²⁸
- Pixels : ID⁶⁷²⁹
- Pixels : Interleaved⁶⁷³⁰
- Pixels : PhysicalSizeX⁶⁷³¹
- Pixels : PhysicalSizeY⁶⁷³²
- Pixels : SignificantBits⁶⁷³³
- Pixels : SizeC⁶⁷³⁴
- Pixels : SizeT⁶⁷³⁵
- Pixels : SizeX⁶⁷³⁶
- Pixels : SizeY⁶⁷³⁷
- Pixels : SizeZ⁶⁷³⁸
- Pixels : Type⁶⁷³⁹
- Plane : TheC⁶⁷⁴⁰
- Plane : TheT⁶⁷⁴¹
- Plane : TheZ⁶⁷⁴²

Total supported: 28

Total unknown or missing: 447

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Hamamatsu VMS*

18.2.208 HamamatsuVMSReader

This page lists supported metadata fields for the Bio-Formats Hamamatsu VMS format reader.

These fields are from the *OME data model*⁶⁷⁴³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 26 of them (5%).

⁶⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
⁶⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification
⁶⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
⁶⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁶⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁶⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁶⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁶⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁶⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁶⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁶⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁶⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁶⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁶⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁶⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁶⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁶⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁶⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁶⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁶⁷⁴³<http://www.openmicroscopy.org/site/support/ome-model/>

- Of those, Bio-Formats fully or partially converts 26 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Hamamatsu VMS format reader:

- Channel : ID⁶⁷⁴⁴
- Channel : SamplesPerPixel⁶⁷⁴⁵
- Image : AcquisitionDate⁶⁷⁴⁶
- Image : ID⁶⁷⁴⁷
- Image : InstrumentRef⁶⁷⁴⁸
- Image : Name⁶⁷⁴⁹
- Instrument : ID⁶⁷⁵⁰
- Objective : ID⁶⁷⁵¹
- Objective : NominalMagnification⁶⁷⁵²
- ObjectiveSettings : ID⁶⁷⁵³
- Pixels : BigEndian⁶⁷⁵⁴
- Pixels : DimensionOrder⁶⁷⁵⁵
- Pixels : ID⁶⁷⁵⁶
- Pixels : Interleaved⁶⁷⁵⁷
- Pixels : PhysicalSizeX⁶⁷⁵⁸
- Pixels : PhysicalSizeY⁶⁷⁵⁹
- Pixels : SignificantBits⁶⁷⁶⁰
- Pixels : SizeC⁶⁷⁶¹
- Pixels : SizeT⁶⁷⁶²
- Pixels : SizeX⁶⁷⁶³
- Pixels : SizeY⁶⁷⁶⁴
- Pixels : SizeZ⁶⁷⁶⁵
- Pixels : Type⁶⁷⁶⁶

⁶⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁶⁷⁶⁷
- Plane : TheT⁶⁷⁶⁸
- Plane : TheZ⁶⁷⁶⁹

Total supported: 26

Total unknown or missing: 449

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Hitachi S-4800*

18.2.209 HitachiReader

This page lists supported metadata fields for the Bio-Formats Hitachi format reader.

These fields are from the *OME data model*⁶⁷⁷⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 31 of them (6%).
- Of those, Bio-Formats fully or partially converts 31 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Hitachi format reader:

- Channel : ID⁶⁷⁷¹
- Channel : SamplesPerPixel⁶⁷⁷²
- Image : AcquisitionDate⁶⁷⁷³
- Image : ID⁶⁷⁷⁴
- Image : InstrumentRef⁶⁷⁷⁵
- Image : Name⁶⁷⁷⁶
- Instrument : ID⁶⁷⁷⁷
- Microscope : Model⁶⁷⁷⁸
- Microscope : SerialNumber⁶⁷⁷⁹
- Objective : ID⁶⁷⁸⁰
- Objective : WorkingDistance⁶⁷⁸¹
- ObjectiveSettings : ID⁶⁷⁸²
- Pixels : BigEndian⁶⁷⁸³

⁶⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁷⁷⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁶⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁶⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁶⁷⁸⁴
- Pixels : ID⁶⁷⁸⁵
- Pixels : Interleaved⁶⁷⁸⁶
- Pixels : PhysicalSizeX⁶⁷⁸⁷
- Pixels : PhysicalSizeY⁶⁷⁸⁸
- Pixels : SignificantBits⁶⁷⁸⁹
- Pixels : SizeC⁶⁷⁹⁰
- Pixels : SizeT⁶⁷⁹¹
- Pixels : SizeX⁶⁷⁹²
- Pixels : SizeY⁶⁷⁹³
- Pixels : SizeZ⁶⁷⁹⁴
- Pixels : Type⁶⁷⁹⁵
- Plane : PositionX⁶⁷⁹⁶
- Plane : PositionY⁶⁷⁹⁷
- Plane : PositionZ⁶⁷⁹⁸
- Plane : TheC⁶⁷⁹⁹
- Plane : TheT⁶⁸⁰⁰
- Plane : TheZ⁶⁸⁰¹

Total supported: 31

Total unknown or missing: 444

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [I2I](#)

18.2.210 I2IReader

This page lists supported metadata fields for the Bio-Formats I2I format reader.

These fields are from the [OME data model](#)⁶⁸⁰². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

⁶⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁶⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁸⁰²<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats I2I format reader:

- Channel : ID⁶⁸⁰³
- Channel : SamplesPerPixel⁶⁸⁰⁴
- Image : AcquisitionDate⁶⁸⁰⁵
- Image : ID⁶⁸⁰⁶
- Image : Name⁶⁸⁰⁷
- Pixels : BigEndian⁶⁸⁰⁸
- Pixels : DimensionOrder⁶⁸⁰⁹
- Pixels : ID⁶⁸¹⁰
- Pixels : Interleaved⁶⁸¹¹
- Pixels : SignificantBits⁶⁸¹²
- Pixels : SizeC⁶⁸¹³
- Pixels : SizeT⁶⁸¹⁴
- Pixels : SizeX⁶⁸¹⁵
- Pixels : SizeY⁶⁸¹⁶
- Pixels : SizeZ⁶⁸¹⁷
- Pixels : Type⁶⁸¹⁸
- Plane : TheC⁶⁸¹⁹
- Plane : TheT⁶⁸²⁰
- Plane : TheZ⁶⁸²¹

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *ICS (Image Cytometry Standard)*

18.2.211 ICSReader

This page lists supported metadata fields for the Bio-Formats Image Cytometry Standard format reader.

- ⁶⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁶⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁶⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁶⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁶⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁶⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁶⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁶⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁶⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁶⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁶⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁶⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁶⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁶⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁶⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁶⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁶⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁶⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁶⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁶⁸²². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 72 of them (15%).
- Of those, Bio-Formats fully or partially converts 72 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Image Cytometry Standard format reader:

- Channel : EmissionWavelength⁶⁸²³
- Channel : ExcitationWavelength⁶⁸²⁴
- Channel : ID⁶⁸²⁵
- Channel : Name⁶⁸²⁶
- Channel : PinholeSize⁶⁸²⁷
- Channel : SamplesPerPixel⁶⁸²⁸
- Detector : ID⁶⁸²⁹
- Detector : Manufacturer⁶⁸³⁰
- Detector : Model⁶⁸³¹
- Detector : Type⁶⁸³²
- DetectorSettings : Gain⁶⁸³³
- DetectorSettings : ID⁶⁸³⁴
- Dichroic : ID⁶⁸³⁵
- Dichroic : Model⁶⁸³⁶
- Experiment : ID⁶⁸³⁷
- Experiment : Type⁶⁸³⁸
- Experimenter : ID⁶⁸³⁹
- Experimenter : LastName⁶⁸⁴⁰
- Filter : ID⁶⁸⁴¹
- Filter : Model⁶⁸⁴²

⁶⁸²²<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁶⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁶⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁶⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁶⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁶⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁶⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁶⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

⁶⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

⁶⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁶⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁶⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁶⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

- FilterSet : DichroicRef⁶⁸⁴³
- FilterSet : EmissionFilterRef⁶⁸⁴⁴
- FilterSet : ExcitationFilterRef⁶⁸⁴⁵
- FilterSet : ID⁶⁸⁴⁶
- FilterSet : Model⁶⁸⁴⁷
- Image : AcquisitionDate⁶⁸⁴⁸
- Image : Description⁶⁸⁴⁹
- Image : ID⁶⁸⁵⁰
- Image : InstrumentRef⁶⁸⁵¹
- Image : Name⁶⁸⁵²
- Instrument : ID⁶⁸⁵³
- Laser : ID⁶⁸⁵⁴
- Laser : LaserMedium⁶⁸⁵⁵
- Laser : Manufacturer⁶⁸⁵⁶
- Laser : Model⁶⁸⁵⁷
- Laser : Power⁶⁸⁵⁸
- Laser : RepetitionRate⁶⁸⁵⁹
- Laser : Type⁶⁸⁶⁰
- Laser : Wavelength⁶⁸⁶¹
- Microscope : Manufacturer⁶⁸⁶²
- Microscope : Model⁶⁸⁶³
- Objective : CalibratedMagnification⁶⁸⁶⁴
- Objective : Correction⁶⁸⁶⁵
- Objective : ID⁶⁸⁶⁶
- Objective : Immersion⁶⁸⁶⁷
- Objective : LensNA⁶⁸⁶⁸

⁶⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁶⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁶⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁶⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSet_ID

⁶⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁶⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁶⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁶⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁶⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_RepetitionRate

⁶⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁶⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁶⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁶⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁶⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

- Objective : Model⁶⁸⁶⁹
- Objective : WorkingDistance⁶⁸⁷⁰
- ObjectiveSettings : ID⁶⁸⁷¹
- Pixels : BigEndian⁶⁸⁷²
- Pixels : DimensionOrder⁶⁸⁷³
- Pixels : ID⁶⁸⁷⁴
- Pixels : Interleaved⁶⁸⁷⁵
- Pixels : PhysicalSizeX⁶⁸⁷⁶
- Pixels : PhysicalSizeY⁶⁸⁷⁷
- Pixels : PhysicalSizeZ⁶⁸⁷⁸
- Pixels : SignificantBits⁶⁸⁷⁹
- Pixels : SizeC⁶⁸⁸⁰
- Pixels : SizeT⁶⁸⁸¹
- Pixels : SizeX⁶⁸⁸²
- Pixels : SizeY⁶⁸⁸³
- Pixels : SizeZ⁶⁸⁸⁴
- Pixels : TimeIncrement⁶⁸⁸⁵
- Pixels : Type⁶⁸⁸⁶
- Plane : DeltaT⁶⁸⁸⁷
- Plane : ExposureTime⁶⁸⁸⁸
- Plane : PositionX⁶⁸⁸⁹
- Plane : PositionY⁶⁸⁹⁰
- Plane : PositionZ⁶⁸⁹¹
- Plane : TheC⁶⁸⁹²
- Plane : TheT⁶⁸⁹³
- Plane : TheZ⁶⁸⁹⁴

⁶⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁶⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁶⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁶⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁶⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Total supported: 72

Total unknown or missing: 403

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Imacon*

18.2.212 ImaconReader

This page lists supported metadata fields for the Bio-Formats Imacon format reader.

These fields are from the [OME data model](#)⁶⁸⁹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Imacon format reader:

- Channel : ID⁶⁸⁹⁶
- Channel : SamplesPerPixel⁶⁸⁹⁷
- Experimenter : FirstName⁶⁸⁹⁸
- Experimenter : ID⁶⁸⁹⁹
- Experimenter : LastName⁶⁹⁰⁰
- Image : AcquisitionDate⁶⁹⁰¹
- Image : ExperimenterRef⁶⁹⁰²
- Image : ID⁶⁹⁰³
- Image : Name⁶⁹⁰⁴
- Pixels : BigEndian⁶⁹⁰⁵
- Pixels : DimensionOrder⁶⁹⁰⁶
- Pixels : ID⁶⁹⁰⁷
- Pixels : Interleaved⁶⁹⁰⁸
- Pixels : SignificantBits⁶⁹⁰⁹
- Pixels : SizeC⁶⁹¹⁰
- Pixels : SizeT⁶⁹¹¹

⁶⁸⁹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

⁶⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁶⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁶⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ExperimenterRef_ID

⁶⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁶⁹¹²
- Pixels : SizeY⁶⁹¹³
- Pixels : SizeZ⁶⁹¹⁴
- Pixels : Type⁶⁹¹⁵
- Plane : TheC⁶⁹¹⁶
- Plane : TheT⁶⁹¹⁷
- Plane : TheZ⁶⁹¹⁸

Total supported: 23

Total unknown or missing: 452

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *ImagePro Sequence*

18.2.213 SEQReader

This page lists supported metadata fields for the Bio-Formats Image-Pro Sequence format reader.

These fields are from the *OME data model*⁶⁹¹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Image-Pro Sequence format reader:

- Channel : ID⁶⁹²⁰
- Channel : SamplesPerPixel⁶⁹²¹
- Image : AcquisitionDate⁶⁹²²
- Image : ID⁶⁹²³
- Image : Name⁶⁹²⁴
- Pixels : BigEndian⁶⁹²⁵
- Pixels : DimensionOrder⁶⁹²⁶
- Pixels : ID⁶⁹²⁷
- Pixels : Interleaved⁶⁹²⁸

⁶⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁹¹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : SignificantBits⁶⁹²⁹
- Pixels : SizeC⁶⁹³⁰
- Pixels : SizeT⁶⁹³¹
- Pixels : SizeX⁶⁹³²
- Pixels : SizeY⁶⁹³³
- Pixels : SizeZ⁶⁹³⁴
- Pixels : Type⁶⁹³⁵
- Plane : TheC⁶⁹³⁶
- Plane : TheT⁶⁹³⁷
- Plane : TheZ⁶⁹³⁸

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *ImagePro Workspace*

18.2.214 IPWReader

This page lists supported metadata fields for the Bio-Formats Image-Pro Workspace format reader.

These fields are from the *OME data model*⁶⁹³⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 20 of them (4%).
- Of those, Bio-Formats fully or partially converts 20 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Image-Pro Workspace format reader:

- Channel : ID⁶⁹⁴⁰
- Channel : SamplesPerPixel⁶⁹⁴¹
- Image : AcquisitionDate⁶⁹⁴²
- Image : Description⁶⁹⁴³
- Image : ID⁶⁹⁴⁴
- Image : Name⁶⁹⁴⁵

⁶⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁹³⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Pixels : BigEndian⁶⁹⁴⁶
- Pixels : DimensionOrder⁶⁹⁴⁷
- Pixels : ID⁶⁹⁴⁸
- Pixels : Interleaved⁶⁹⁴⁹
- Pixels : SignificantBits⁶⁹⁵⁰
- Pixels : SizeC⁶⁹⁵¹
- Pixels : SizeT⁶⁹⁵²
- Pixels : SizeX⁶⁹⁵³
- Pixels : SizeY⁶⁹⁵⁴
- Pixels : SizeZ⁶⁹⁵⁵
- Pixels : Type⁶⁹⁵⁶
- Plane : TheC⁶⁹⁵⁷
- Plane : TheT⁶⁹⁵⁸
- Plane : TheZ⁶⁹⁵⁹

Total supported: 20

Total unknown or missing: 455

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *IMAGIC*

18.2.215 ImagicReader

This page lists supported metadata fields for the Bio-Formats IMAGIC format reader.

These fields are from the *OME data model*⁶⁹⁶⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats IMAGIC format reader:

- Channel : ID⁶⁹⁶¹
- Channel : SamplesPerPixel⁶⁹⁶²

⁶⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁹⁶⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁶⁹⁶³
- Image : ID⁶⁹⁶⁴
- Image : Name⁶⁹⁶⁵
- Pixels : BigEndian⁶⁹⁶⁶
- Pixels : DimensionOrder⁶⁹⁶⁷
- Pixels : ID⁶⁹⁶⁸
- Pixels : Interleaved⁶⁹⁶⁹
- Pixels : PhysicalSizeX⁶⁹⁷⁰
- Pixels : PhysicalSizeY⁶⁹⁷¹
- Pixels : PhysicalSizeZ⁶⁹⁷²
- Pixels : SignificantBits⁶⁹⁷³
- Pixels : SizeC⁶⁹⁷⁴
- Pixels : SizeT⁶⁹⁷⁵
- Pixels : SizeX⁶⁹⁷⁶
- Pixels : SizeY⁶⁹⁷⁷
- Pixels : SizeZ⁶⁹⁷⁸
- Pixels : Type⁶⁹⁷⁹
- Plane : TheC⁶⁹⁸⁰
- Plane : TheT⁶⁹⁸¹
- Plane : TheZ⁶⁹⁸²

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *IMOD*

18.2.216 IMODReader

This page lists supported metadata fields for the Bio-Formats IMOD format reader.

These fields are from the [OME data model](#)⁶⁹⁸³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁶⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁹⁸³<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 44 of them (9%).
- Of those, Bio-Formats fully or partially converts 44 (100%).

Supported fields

These fields are fully supported by the Bio-Formats IMOD format reader:

- Channel : ID⁶⁹⁸⁴
- Channel : SamplesPerPixel⁶⁹⁸⁵
- Image : AcquisitionDate⁶⁹⁸⁶
- Image : ID⁶⁹⁸⁷
- Image : Name⁶⁹⁸⁸
- Image : ROIRef⁶⁹⁸⁹
- Pixels : BigEndian⁶⁹⁹⁰
- Pixels : DimensionOrder⁶⁹⁹¹
- Pixels : ID⁶⁹⁹²
- Pixels : Interleaved⁶⁹⁹³
- Pixels : PhysicalSizeX⁶⁹⁹⁴
- Pixels : PhysicalSizeY⁶⁹⁹⁵
- Pixels : PhysicalSizeZ⁶⁹⁹⁶
- Pixels : SignificantBits⁶⁹⁹⁷
- Pixels : SizeC⁶⁹⁹⁸
- Pixels : SizeT⁶⁹⁹⁹
- Pixels : SizeX⁷⁰⁰⁰
- Pixels : SizeY⁷⁰⁰¹
- Pixels : SizeZ⁷⁰⁰²
- Pixels : Type⁷⁰⁰³
- Plane : TheC⁷⁰⁰⁴
- Plane : TheT⁷⁰⁰⁵

⁶⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁶⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷⁰⁰⁶
- Point : ID⁷⁰⁰⁷
- Point : StrokeColor⁷⁰⁰⁸
- Point : StrokeDashArray⁷⁰⁰⁹
- Point : StrokeWidth⁷⁰¹⁰
- Point : TheZ⁷⁰¹¹
- Point : X⁷⁰¹²
- Point : Y⁷⁰¹³
- Polygon : ID⁷⁰¹⁴
- Polygon : Points⁷⁰¹⁵
- Polygon : StrokeColor⁷⁰¹⁶
- Polygon : StrokeDashArray⁷⁰¹⁷
- Polygon : StrokeWidth⁷⁰¹⁸
- Polygon : TheZ⁷⁰¹⁹
- Polyline : ID⁷⁰²⁰
- Polyline : Points⁷⁰²¹
- Polyline : StrokeColor⁷⁰²²
- Polyline : StrokeDashArray⁷⁰²³
- Polyline : StrokeWidth⁷⁰²⁴
- Polyline : TheZ⁷⁰²⁵
- ROI : ID⁷⁰²⁶
- ROI : Name⁷⁰²⁷

Total supported: 44

Total unknown or missing: 431

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Improvision Openlab LIFF*

- ⁷⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ⁷⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ⁷⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor
- ⁷⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray
- ⁷⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth
- ⁷⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ
- ⁷⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_X
- ⁷⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_Y
- ⁷⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ⁷⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points
- ⁷⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor
- ⁷⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray
- ⁷⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth
- ⁷⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ
- ⁷⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ⁷⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points
- ⁷⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor
- ⁷⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray
- ⁷⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth
- ⁷⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ
- ⁷⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID
- ⁷⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name

18.2.217 OpenlabReader

This page lists supported metadata fields for the Bio-Formats Openlab LIFF format reader.

These fields are from the [OME data model](#)⁷⁰²⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 32 of them (6%).
- Of those, Bio-Formats fully or partially converts 32 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Openlab LIFF format reader:

- Channel : ID⁷⁰²⁹
- Channel : Name⁷⁰³⁰
- Channel : SamplesPerPixel⁷⁰³¹
- Detector : ID⁷⁰³²
- Detector : Type⁷⁰³³
- DetectorSettings : Gain⁷⁰³⁴
- DetectorSettings : ID⁷⁰³⁵
- DetectorSettings : Offset⁷⁰³⁶
- Image : AcquisitionDate⁷⁰³⁷
- Image : ID⁷⁰³⁸
- Image : InstrumentRef⁷⁰³⁹
- Image : Name⁷⁰⁴⁰
- Instrument : ID⁷⁰⁴¹
- Pixels : BigEndian⁷⁰⁴²
- Pixels : DimensionOrder⁷⁰⁴³
- Pixels : ID⁷⁰⁴⁴
- Pixels : Interleaved⁷⁰⁴⁵
- Pixels : PhysicalSizeX⁷⁰⁴⁶
- Pixels : PhysicalSizeY⁷⁰⁴⁷

⁷⁰²⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁷⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

- Pixels : SignificantBits⁷⁰⁴⁸
- Pixels : SizeC⁷⁰⁴⁹
- Pixels : SizeT⁷⁰⁵⁰
- Pixels : SizeX⁷⁰⁵¹
- Pixels : SizeY⁷⁰⁵²
- Pixels : SizeZ⁷⁰⁵³
- Pixels : Type⁷⁰⁵⁴
- Plane : PositionX⁷⁰⁵⁵
- Plane : PositionY⁷⁰⁵⁶
- Plane : PositionZ⁷⁰⁵⁷
- Plane : TheC⁷⁰⁵⁸
- Plane : TheT⁷⁰⁵⁹
- Plane : TheZ⁷⁰⁶⁰

Total supported: 32

Total unknown or missing: 443

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Improvisation Openlab Raw*

18.2.218 OpenlabRawReader

This page lists supported metadata fields for the Bio-Formats Openlab RAW format reader.

These fields are from the *OME data model*⁷⁰⁶¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Openlab RAW format reader:

- Channel : ID⁷⁰⁶²
- Channel : SamplesPerPixel⁷⁰⁶³
- Image : AcquisitionDate⁷⁰⁶⁴

⁷⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁷⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁷⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁷⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁰⁶¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁷⁰⁶⁵
- Image : Name⁷⁰⁶⁶
- Pixels : BigEndian⁷⁰⁶⁷
- Pixels : DimensionOrder⁷⁰⁶⁸
- Pixels : ID⁷⁰⁶⁹
- Pixels : Interleaved⁷⁰⁷⁰
- Pixels : SignificantBits⁷⁰⁷¹
- Pixels : SizeC⁷⁰⁷²
- Pixels : SizeT⁷⁰⁷³
- Pixels : SizeX⁷⁰⁷⁴
- Pixels : SizeY⁷⁰⁷⁵
- Pixels : SizeZ⁷⁰⁷⁶
- Pixels : Type⁷⁰⁷⁷
- Plane : TheC⁷⁰⁷⁸
- Plane : TheT⁷⁰⁷⁹
- Plane : TheZ⁷⁰⁸⁰

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Improvision TIFF*

18.2.219 ImprovisionTiffReader

This page lists supported metadata fields for the Bio-Formats Improvision TIFF format reader.

These fields are from the [OME data model](#)⁷⁰⁸¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 25 of them (5%).
- Of those, Bio-Formats fully or partially converts 25 (100%).

⁷⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁰⁸¹<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Improvition TIFF format reader:

- Channel : ID⁷⁰⁸²
- Channel : Name⁷⁰⁸³
- Channel : SamplesPerPixel⁷⁰⁸⁴
- Image : AcquisitionDate⁷⁰⁸⁵
- Image : Description⁷⁰⁸⁶
- Image : ID⁷⁰⁸⁷
- Image : Name⁷⁰⁸⁸
- Pixels : BigEndian⁷⁰⁸⁹
- Pixels : DimensionOrder⁷⁰⁹⁰
- Pixels : ID⁷⁰⁹¹
- Pixels : Interleaved⁷⁰⁹²
- Pixels : PhysicalSizeX⁷⁰⁹³
- Pixels : PhysicalSizeY⁷⁰⁹⁴
- Pixels : PhysicalSizeZ⁷⁰⁹⁵
- Pixels : SignificantBits⁷⁰⁹⁶
- Pixels : SizeC⁷⁰⁹⁷
- Pixels : SizeT⁷⁰⁹⁸
- Pixels : SizeX⁷⁰⁹⁹
- Pixels : SizeY⁷¹⁰⁰
- Pixels : SizeZ⁷¹⁰¹
- Pixels : TimeIncrement⁷¹⁰²
- Pixels : Type⁷¹⁰³
- Plane : TheC⁷¹⁰⁴
- Plane : TheT⁷¹⁰⁵

⁷⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁷¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷¹⁰⁶

Total supported: 25

Total unknown or missing: 450

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Inspector OBF*

18.2.220 OBFReader

This page lists supported metadata fields for the Bio-Formats OBF format reader.

These fields are from the [OME data model](#)⁷¹⁰⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats OBF format reader:

- Channel : ID⁷¹⁰⁸
- Channel : SamplesPerPixel⁷¹⁰⁹
- Image : AcquisitionDate⁷¹¹⁰
- Image : ID⁷¹¹¹
- Image : Name⁷¹¹²
- Pixels : BigEndian⁷¹¹³
- Pixels : DimensionOrder⁷¹¹⁴
- Pixels : ID⁷¹¹⁵
- Pixels : Interleaved⁷¹¹⁶
- Pixels : SignificantBits⁷¹¹⁷
- Pixels : SizeC⁷¹¹⁸
- Pixels : SizeT⁷¹¹⁹
- Pixels : SizeX⁷¹²⁰
- Pixels : SizeY⁷¹²¹
- Pixels : SizeZ⁷¹²²

⁷¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷¹⁰⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁷¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type⁷¹²³
- Plane : TheC⁷¹²⁴
- Plane : TheT⁷¹²⁵
- Plane : TheZ⁷¹²⁶

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *InCell 1000/2000*

18.2.221 InCellReader

This page lists supported metadata fields for the Bio-Formats InCell 1000/2000 format reader.

These fields are from the *OME data model*⁷¹²⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 67 of them (14%).
- Of those, Bio-Formats fully or partially converts 67 (100%).

Supported fields

These fields are fully supported by the Bio-Formats InCell 1000/2000 format reader:

- Channel : EmissionWavelength⁷¹²⁸
- Channel : ExcitationWavelength⁷¹²⁹
- Channel : ID⁷¹³⁰
- Channel : Name⁷¹³¹
- Channel : SamplesPerPixel⁷¹³²
- Detector : ID⁷¹³³
- Detector : Model⁷¹³⁴
- Detector : Type⁷¹³⁵
- DetectorSettings : Binning⁷¹³⁶
- DetectorSettings : Gain⁷¹³⁷
- DetectorSettings : ID⁷¹³⁸
- Experiment : ID⁷¹³⁹

⁷¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷¹²⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁷¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁷¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁷¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁷¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

- Experiment : Type⁷¹⁴⁰
- Image : AcquisitionDate⁷¹⁴¹
- Image : Description⁷¹⁴²
- Image : ExperimentRef⁷¹⁴³
- Image : ID⁷¹⁴⁴
- Image : InstrumentRef⁷¹⁴⁵
- Image : Name⁷¹⁴⁶
- ImagingEnvironment : Temperature⁷¹⁴⁷
- Instrument : ID⁷¹⁴⁸
- Objective : Correction⁷¹⁴⁹
- Objective : ID⁷¹⁵⁰
- Objective : Immersion⁷¹⁵¹
- Objective : LensNA⁷¹⁵²
- Objective : Manufacturer⁷¹⁵³
- Objective : NominalMagnification⁷¹⁵⁴
- ObjectiveSettings : ID⁷¹⁵⁵
- ObjectiveSettings : RefractiveIndex⁷¹⁵⁶
- Pixels : BigEndian⁷¹⁵⁷
- Pixels : DimensionOrder⁷¹⁵⁸
- Pixels : ID⁷¹⁵⁹
- Pixels : Interleaved⁷¹⁶⁰
- Pixels : PhysicalSizeX⁷¹⁶¹
- Pixels : PhysicalSizeY⁷¹⁶²
- Pixels : SignificantBits⁷¹⁶³
- Pixels : SizeC⁷¹⁶⁴
- Pixels : SizeT⁷¹⁶⁵

⁷¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

⁷¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimentRef_ID

⁷¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁷¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁷¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁷¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁷¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁷¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁷¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁷¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁷¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁷¹⁶⁶
- Pixels : SizeY⁷¹⁶⁷
- Pixels : SizeZ⁷¹⁶⁸
- Pixels : Type⁷¹⁶⁹
- Plane : DeltaT⁷¹⁷⁰
- Plane : ExposureTime⁷¹⁷¹
- Plane : PositionX⁷¹⁷²
- Plane : PositionY⁷¹⁷³
- Plane : PositionZ⁷¹⁷⁴
- Plane : TheC⁷¹⁷⁵
- Plane : TheT⁷¹⁷⁶
- Plane : TheZ⁷¹⁷⁷
- Plate : ColumnNamingConvention⁷¹⁷⁸
- Plate : ID⁷¹⁷⁹
- Plate : Name⁷¹⁸⁰
- Plate : RowNamingConvention⁷¹⁸¹
- Plate : WellOriginX⁷¹⁸²
- Plate : WellOriginY⁷¹⁸³
- PlateAcquisition : ID⁷¹⁸⁴
- PlateAcquisition : MaximumFieldCount⁷¹⁸⁵
- PlateAcquisition : WellSampleRef⁷¹⁸⁶
- Well : Column⁷¹⁸⁷
- Well : ID⁷¹⁸⁸
- Well : Row⁷¹⁸⁹
- WellSample : ID⁷¹⁹⁰
- WellSample : ImageRef⁷¹⁹¹

⁷¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁷¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁷¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁷¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁷¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁷¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁷¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁷¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_WellOriginX

⁷¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_WellOriginY

⁷¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁷¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁷¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁷¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁷¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁷¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁷¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁷¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

- WellSample : Index⁷¹⁹²
- WellSample : PositionX⁷¹⁹³
- WellSample : PositionY⁷¹⁹⁴

Total supported: 67

Total unknown or missing: 408

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *InCell 3000*

18.2.222 InCell3000Reader

This page lists supported metadata fields for the Bio-Formats InCell 3000 format reader.

These fields are from the *OME data model*⁷¹⁹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats InCell 3000 format reader:

- Channel : ID⁷¹⁹⁶
- Channel : SamplesPerPixel⁷¹⁹⁷
- Image : AcquisitionDate⁷¹⁹⁸
- Image : ID⁷¹⁹⁹
- Image : Name⁷²⁰⁰
- Pixels : BigEndian⁷²⁰¹
- Pixels : DimensionOrder⁷²⁰²
- Pixels : ID⁷²⁰³
- Pixels : Interleaved⁷²⁰⁴
- Pixels : SignificantBits⁷²⁰⁵
- Pixels : SizeC⁷²⁰⁶
- Pixels : SizeT⁷²⁰⁷
- Pixels : SizeX⁷²⁰⁸

⁷¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁷¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁷¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

⁷¹⁹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁷¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁷²⁰⁹
- Pixels : SizeZ⁷²¹⁰
- Pixels : Type⁷²¹¹
- Plane : TheC⁷²¹²
- Plane : TheT⁷²¹³
- Plane : TheZ⁷²¹⁴

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [INR](#)

18.2.223 INRReader

This page lists supported metadata fields for the Bio-Formats INR format reader.

These fields are from the [OME data model](#)⁷²¹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats INR format reader:

- Channel : ID⁷²¹⁶
- Channel : SamplesPerPixel⁷²¹⁷
- Image : AcquisitionDate⁷²¹⁸
- Image : ID⁷²¹⁹
- Image : Name⁷²²⁰
- Pixels : BigEndian⁷²²¹
- Pixels : DimensionOrder⁷²²²
- Pixels : ID⁷²²³
- Pixels : Interleaved⁷²²⁴
- Pixels : PhysicalSizeX⁷²²⁵

⁷²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷²¹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁷²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁷²²⁶
- Pixels : PhysicalSizeZ⁷²²⁷
- Pixels : SignificantBits⁷²²⁸
- Pixels : SizeC⁷²²⁹
- Pixels : SizeT⁷²³⁰
- Pixels : SizeX⁷²³¹
- Pixels : SizeY⁷²³²
- Pixels : SizeZ⁷²³³
- Pixels : Type⁷²³⁴
- Plane : TheC⁷²³⁵
- Plane : TheT⁷²³⁶
- Plane : TheZ⁷²³⁷

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Inveon*

18.2.224 InveonReader

This page lists supported metadata fields for the Bio-Formats Inveon format reader.

These fields are from the *OME data model*⁷²³⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 30 of them (6%).
- Of those, Bio-Formats fully or partially converts 30 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Inveon format reader:

- Channel : ID⁷²³⁹
- Channel : SamplesPerPixel⁷²⁴⁰
- Experimenter : ID⁷²⁴¹
- Experimenter : Institution⁷²⁴²

⁷²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷²³⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁷²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁷²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution

- Experimenter : UserName⁷²⁴³
- Image : AcquisitionDate⁷²⁴⁴
- Image : Description⁷²⁴⁵
- Image : ExperimenterRef⁷²⁴⁶
- Image : ID⁷²⁴⁷
- Image : InstrumentRef⁷²⁴⁸
- Image : Name⁷²⁴⁹
- Instrument : ID⁷²⁵⁰
- Microscope : Model⁷²⁵¹
- Pixels : BigEndian⁷²⁵²
- Pixels : DimensionOrder⁷²⁵³
- Pixels : ID⁷²⁵⁴
- Pixels : Interleaved⁷²⁵⁵
- Pixels : PhysicalSizeX⁷²⁵⁶
- Pixels : PhysicalSizeY⁷²⁵⁷
- Pixels : PhysicalSizeZ⁷²⁵⁸
- Pixels : SignificantBits⁷²⁵⁹
- Pixels : SizeC⁷²⁶⁰
- Pixels : SizeT⁷²⁶¹
- Pixels : SizeX⁷²⁶²
- Pixels : SizeY⁷²⁶³
- Pixels : SizeZ⁷²⁶⁴
- Pixels : Type⁷²⁶⁵
- Plane : TheC⁷²⁶⁶
- Plane : TheT⁷²⁶⁷
- Plane : TheZ⁷²⁶⁸

⁷²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName

⁷²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

⁷²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Total supported: 30

Total unknown or missing: 445

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *IVision*

18.2.225 IvisionReader

This page lists supported metadata fields for the Bio-Formats IVision format reader.

These fields are from the [OME data model](#)⁷²⁶⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 34 of them (7%).
- Of those, Bio-Formats fully or partially converts 34 (100%).

Supported fields

These fields are fully supported by the Bio-Formats IVision format reader:

- Channel : ID⁷²⁷⁰
- Channel : SamplesPerPixel⁷²⁷¹
- Detector : ID⁷²⁷²
- Detector : Type⁷²⁷³
- DetectorSettings : Binning⁷²⁷⁴
- DetectorSettings : Gain⁷²⁷⁵
- DetectorSettings : ID⁷²⁷⁶
- Image : AcquisitionDate⁷²⁷⁷
- Image : ID⁷²⁷⁸
- Image : InstrumentRef⁷²⁷⁹
- Image : Name⁷²⁸⁰
- Instrument : ID⁷²⁸¹
- Objective : Correction⁷²⁸²
- Objective : ID⁷²⁸³
- Objective : Immersion⁷²⁸⁴
- Objective : LensNA⁷²⁸⁵

⁷²⁶⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁷²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁷²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁷²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁷²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

- Objective : NominalMagnification⁷²⁸⁶
- ObjectiveSettings : ID⁷²⁸⁷
- ObjectiveSettings : RefractiveIndex⁷²⁸⁸
- Pixels : BigEndian⁷²⁸⁹
- Pixels : DimensionOrder⁷²⁹⁰
- Pixels : ID⁷²⁹¹
- Pixels : Interleaved⁷²⁹²
- Pixels : SignificantBits⁷²⁹³
- Pixels : SizeC⁷²⁹⁴
- Pixels : SizeT⁷²⁹⁵
- Pixels : SizeX⁷²⁹⁶
- Pixels : SizeY⁷²⁹⁷
- Pixels : SizeZ⁷²⁹⁸
- Pixels : TimeIncrement⁷²⁹⁹
- Pixels : Type⁷³⁰⁰
- Plane : TheC⁷³⁰¹
- Plane : TheT⁷³⁰²
- Plane : TheZ⁷³⁰³

Total supported: 34

Total unknown or missing: 441

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [IPLab](#)

18.2.226 IPLabReader

This page lists supported metadata fields for the Bio-Formats IPLab format reader.

These fields are from the [OME data model](#)⁷³⁰⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 31 of them (6%).
- Of those, Bio-Formats fully or partially converts 31 (100%).

⁷²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁷²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁷²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁷²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁷³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷³⁰⁴<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats IPLab format reader:

- Channel : ID⁷³⁰⁵
- Channel : SamplesPerPixel⁷³⁰⁶
- Image : AcquisitionDate⁷³⁰⁷
- Image : Description⁷³⁰⁸
- Image : ID⁷³⁰⁹
- Image : Name⁷³¹⁰
- Image : ROIRef⁷³¹¹
- Pixels : BigEndian⁷³¹²
- Pixels : DimensionOrder⁷³¹³
- Pixels : ID⁷³¹⁴
- Pixels : Interleaved⁷³¹⁵
- Pixels : PhysicalSizeX⁷³¹⁶
- Pixels : PhysicalSizeY⁷³¹⁷
- Pixels : SignificantBits⁷³¹⁸
- Pixels : SizeC⁷³¹⁹
- Pixels : SizeT⁷³²⁰
- Pixels : SizeX⁷³²¹
- Pixels : SizeY⁷³²²
- Pixels : SizeZ⁷³²³
- Pixels : TimeIncrement⁷³²⁴
- Pixels : Type⁷³²⁵
- Plane : DeltaT⁷³²⁶
- Plane : TheC⁷³²⁷
- Plane : TheT⁷³²⁸

⁷³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁷³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁷³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷³²⁹
- ROI : ID⁷³³⁰
- Rectangle : Height⁷³³¹
- Rectangle : ID⁷³³²
- Rectangle : Width⁷³³³
- Rectangle : X⁷³³⁴
- Rectangle : Y⁷³³⁵

Total supported: 31

Total unknown or missing: 444

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [JEOL](#)

18.2.227 JEOLReader

This page lists supported metadata fields for the Bio-Formats JEOL format reader.

These fields are from the [OME data model](#)⁷³³⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats JEOL format reader:

- Channel : ID⁷³³⁷
- Channel : SamplesPerPixel⁷³³⁸
- Image : AcquisitionDate⁷³³⁹
- Image : ID⁷³⁴⁰
- Image : Name⁷³⁴¹
- Pixels : BigEndian⁷³⁴²
- Pixels : DimensionOrder⁷³⁴³
- Pixels : ID⁷³⁴⁴
- Pixels : Interleaved⁷³⁴⁵

⁷³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁷³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁷³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁷³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁷³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁷³³⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁷³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : SignificantBits⁷³⁴⁶
- Pixels : SizeC⁷³⁴⁷
- Pixels : SizeT⁷³⁴⁸
- Pixels : SizeX⁷³⁴⁹
- Pixels : SizeY⁷³⁵⁰
- Pixels : SizeZ⁷³⁵¹
- Pixels : Type⁷³⁵²
- Plane : TheC⁷³⁵³
- Plane : TheT⁷³⁵⁴
- Plane : TheZ⁷³⁵⁵

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [JPEG 2000](#)

18.2.228 JPEG2000Reader

This page lists supported metadata fields for the Bio-Formats JPEG-2000 format reader.

These fields are from the [OME data model](#)⁷³⁵⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats JPEG-2000 format reader:

- Channel : ID⁷³⁵⁷
- Channel : SamplesPerPixel⁷³⁵⁸
- Image : AcquisitionDate⁷³⁵⁹
- Image : ID⁷³⁶⁰
- Image : Name⁷³⁶¹
- Pixels : BigEndian⁷³⁶²

⁷³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷³⁵⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁷³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁷³⁶³
- Pixels : ID⁷³⁶⁴
- Pixels : Interleaved⁷³⁶⁵
- Pixels : SignificantBits⁷³⁶⁶
- Pixels : SizeC⁷³⁶⁷
- Pixels : SizeT⁷³⁶⁸
- Pixels : SizeX⁷³⁶⁹
- Pixels : SizeY⁷³⁷⁰
- Pixels : SizeZ⁷³⁷¹
- Pixels : Type⁷³⁷²
- Plane : TheC⁷³⁷³
- Plane : TheT⁷³⁷⁴
- Plane : TheZ⁷³⁷⁵

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *JPEG*

18.2.229 JPEGReader

This page lists supported metadata fields for the Bio-Formats JPEG format reader.

These fields are from the *OME data model*⁷³⁷⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats JPEG format reader:

- Channel : ID⁷³⁷⁷
- Channel : SamplesPerPixel⁷³⁷⁸
- Image : AcquisitionDate⁷³⁷⁹

⁷³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷³⁷⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁷³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁷³⁸⁰
- Image : Name⁷³⁸¹
- Pixels : BigEndian⁷³⁸²
- Pixels : DimensionOrder⁷³⁸³
- Pixels : ID⁷³⁸⁴
- Pixels : Interleaved⁷³⁸⁵
- Pixels : SignificantBits⁷³⁸⁶
- Pixels : SizeC⁷³⁸⁷
- Pixels : SizeT⁷³⁸⁸
- Pixels : SizeX⁷³⁸⁹
- Pixels : SizeY⁷³⁹⁰
- Pixels : SizeZ⁷³⁹¹
- Pixels : Type⁷³⁹²
- Plane : TheC⁷³⁹³
- Plane : TheT⁷³⁹⁴
- Plane : TheZ⁷³⁹⁵

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [JPK](#)

18.2.230 JPKReader

This page lists supported metadata fields for the Bio-Formats JPK Instruments format reader.

These fields are from the [OME data model](#)⁷³⁹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

⁷³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷³⁹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats JPK Instruments format reader:

- Channel : ID⁷³⁹⁷
- Channel : SamplesPerPixel⁷³⁹⁸
- Image : AcquisitionDate⁷³⁹⁹
- Image : ID⁷⁴⁰⁰
- Image : Name⁷⁴⁰¹
- Pixels : BigEndian⁷⁴⁰²
- Pixels : DimensionOrder⁷⁴⁰³
- Pixels : ID⁷⁴⁰⁴
- Pixels : Interleaved⁷⁴⁰⁵
- Pixels : SignificantBits⁷⁴⁰⁶
- Pixels : SizeC⁷⁴⁰⁷
- Pixels : SizeT⁷⁴⁰⁸
- Pixels : SizeX⁷⁴⁰⁹
- Pixels : SizeY⁷⁴¹⁰
- Pixels : SizeZ⁷⁴¹¹
- Pixels : Type⁷⁴¹²
- Plane : TheC⁷⁴¹³
- Plane : TheT⁷⁴¹⁴
- Plane : TheZ⁷⁴¹⁵

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *JPX*

18.2.231 JPXReader

This page lists supported metadata fields for the Bio-Formats JPX format reader.

- ⁷³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁷³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁷³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁷⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁷⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁷⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁷⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁷⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁷⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁷⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁷⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁷⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁷⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁷⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁷⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁷⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁷⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁷⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁷⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁷⁴¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats JPX format reader:

- Channel : ID⁷⁴¹⁷
- Channel : SamplesPerPixel⁷⁴¹⁸
- Image : AcquisitionDate⁷⁴¹⁹
- Image : ID⁷⁴²⁰
- Image : Name⁷⁴²¹
- Pixels : BigEndian⁷⁴²²
- Pixels : DimensionOrder⁷⁴²³
- Pixels : ID⁷⁴²⁴
- Pixels : Interleaved⁷⁴²⁵
- Pixels : SignificantBits⁷⁴²⁶
- Pixels : SizeC⁷⁴²⁷
- Pixels : SizeT⁷⁴²⁸
- Pixels : SizeX⁷⁴²⁹
- Pixels : SizeY⁷⁴³⁰
- Pixels : SizeZ⁷⁴³¹
- Pixels : Type⁷⁴³²
- Plane : TheC⁷⁴³³
- Plane : TheT⁷⁴³⁴
- Plane : TheZ⁷⁴³⁵

⁷⁴¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Khoros VIFF (Visualization Image File Format) Bitmap*

18.2.232 KhorosReader

This page lists supported metadata fields for the Bio-Formats Khoros XV format reader.

These fields are from the [OME data model](#)⁷⁴³⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Khoros XV format reader:

- Channel : ID⁷⁴³⁷
- Channel : SamplesPerPixel⁷⁴³⁸
- Image : AcquisitionDate⁷⁴³⁹
- Image : ID⁷⁴⁴⁰
- Image : Name⁷⁴⁴¹
- Pixels : BigEndian⁷⁴⁴²
- Pixels : DimensionOrder⁷⁴⁴³
- Pixels : ID⁷⁴⁴⁴
- Pixels : Interleaved⁷⁴⁴⁵
- Pixels : SignificantBits⁷⁴⁴⁶
- Pixels : SizeC⁷⁴⁴⁷
- Pixels : SizeT⁷⁴⁴⁸
- Pixels : SizeX⁷⁴⁴⁹
- Pixels : SizeY⁷⁴⁵⁰
- Pixels : SizeZ⁷⁴⁵¹
- Pixels : Type⁷⁴⁵²

⁷⁴³⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁷⁴⁵³
- Plane : TheT⁷⁴⁵⁴
- Plane : TheZ⁷⁴⁵⁵

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Kodak BIP*

18.2.233 KodakReader

This page lists supported metadata fields for the Bio-Formats Kodak Molecular Imaging format reader.

These fields are from the *OME data model*⁷⁴⁵⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 26 of them (5%).
- Of those, Bio-Formats fully or partially converts 26 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Kodak Molecular Imaging format reader:

- Channel : ID⁷⁴⁵⁷
- Channel : SamplesPerPixel⁷⁴⁵⁸
- Image : AcquisitionDate⁷⁴⁵⁹
- Image : ID⁷⁴⁶⁰
- Image : InstrumentRef⁷⁴⁶¹
- Image : Name⁷⁴⁶²
- ImagingEnvironment : Temperature⁷⁴⁶³
- Instrument : ID⁷⁴⁶⁴
- Microscope : Model⁷⁴⁶⁵
- Pixels : BigEndian⁷⁴⁶⁶
- Pixels : DimensionOrder⁷⁴⁶⁷
- Pixels : ID⁷⁴⁶⁸
- Pixels : Interleaved⁷⁴⁶⁹

⁷⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁴⁵⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁷⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : PhysicalSizeX⁷⁴⁷⁰
- Pixels : PhysicalSizeY⁷⁴⁷¹
- Pixels : SignificantBits⁷⁴⁷²
- Pixels : SizeC⁷⁴⁷³
- Pixels : SizeT⁷⁴⁷⁴
- Pixels : SizeX⁷⁴⁷⁵
- Pixels : SizeY⁷⁴⁷⁶
- Pixels : SizeZ⁷⁴⁷⁷
- Pixels : Type⁷⁴⁷⁸
- Plane : ExposureTime⁷⁴⁷⁹
- Plane : TheC⁷⁴⁸⁰
- Plane : TheT⁷⁴⁸¹
- Plane : TheZ⁷⁴⁸²

Total supported: 26

Total unknown or missing: 449

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Lambert Instruments FLIM*

18.2.234 LiFlimReader

This page lists supported metadata fields for the Bio-Formats LI-FLIM format reader.

These fields are from the *OME data model*⁷⁴⁸³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 25 of them (5%).
- Of those, Bio-Formats fully or partially converts 25 (100%).

Supported fields

These fields are fully supported by the Bio-Formats LI-FLIM format reader:

- Channel : ID⁷⁴⁸⁴
- Channel : SamplesPerPixel⁷⁴⁸⁵
- Image : AcquisitionDate⁷⁴⁸⁶

⁷⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁴⁸³<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁷⁴⁸⁷
- Image : Name⁷⁴⁸⁸
- Image : ROIRef⁷⁴⁸⁹
- Pixels : BigEndian⁷⁴⁹⁰
- Pixels : DimensionOrder⁷⁴⁹¹
- Pixels : ID⁷⁴⁹²
- Pixels : Interleaved⁷⁴⁹³
- Pixels : SignificantBits⁷⁴⁹⁴
- Pixels : SizeC⁷⁴⁹⁵
- Pixels : SizeT⁷⁴⁹⁶
- Pixels : SizeX⁷⁴⁹⁷
- Pixels : SizeY⁷⁴⁹⁸
- Pixels : SizeZ⁷⁴⁹⁹
- Pixels : Type⁷⁵⁰⁰
- Plane : DeltaT⁷⁵⁰¹
- Plane : ExposureTime⁷⁵⁰²
- Plane : TheC⁷⁵⁰³
- Plane : TheT⁷⁵⁰⁴
- Plane : TheZ⁷⁵⁰⁵
- Polygon : ID⁷⁵⁰⁶
- Polygon : Points⁷⁵⁰⁷
- ROI : ID⁷⁵⁰⁸

Total supported: 25

Total unknown or missing: 450

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *LaVision Inspector*

- ⁷⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁷⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁷⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID
- ⁷⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁷⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁷⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁷⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁷⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁷⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁷⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁷⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁷⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁷⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁷⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁷⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT
- ⁷⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime
- ⁷⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁷⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁷⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ⁷⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ⁷⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points
- ⁷⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

18.2.235 InspectorReader

This page lists supported metadata fields for the Bio-Formats Lavisoin Inspector format reader.

These fields are from the [OME data model](#)⁷⁵⁰⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Lavisoin Inspector format reader:

- Channel : ID⁷⁵¹⁰
- Channel : SamplesPerPixel⁷⁵¹¹
- Image : AcquisitionDate⁷⁵¹²
- Image : ID⁷⁵¹³
- Image : Name⁷⁵¹⁴
- Pixels : BigEndian⁷⁵¹⁵
- Pixels : DimensionOrder⁷⁵¹⁶
- Pixels : ID⁷⁵¹⁷
- Pixels : Interleaved⁷⁵¹⁸
- Pixels : SignificantBits⁷⁵¹⁹
- Pixels : SizeC⁷⁵²⁰
- Pixels : SizeT⁷⁵²¹
- Pixels : SizeX⁷⁵²²
- Pixels : SizeY⁷⁵²³
- Pixels : SizeZ⁷⁵²⁴
- Pixels : Type⁷⁵²⁵
- Plane : TheC⁷⁵²⁶
- Plane : TheT⁷⁵²⁷

⁷⁵⁰⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷⁵²⁸

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Leica LCS LEI*

18.2.236 LeicaReader

This page lists supported metadata fields for the Bio-Formats Leica format reader.

These fields are from the *OME data model*⁷⁵²⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 56 of them (11%).
- Of those, Bio-Formats fully or partially converts 56 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Leica format reader:

- Channel : Color⁷⁵³⁰
- Channel : EmissionWavelength⁷⁵³¹
- Channel : ExcitationWavelength⁷⁵³²
- Channel : ID⁷⁵³³
- Channel : Name⁷⁵³⁴
- Channel : PinholeSize⁷⁵³⁵
- Channel : SamplesPerPixel⁷⁵³⁶
- Detector : ID⁷⁵³⁷
- Detector : Offset⁷⁵³⁸
- Detector : Type⁷⁵³⁹
- Detector : Voltage⁷⁵⁴⁰
- DetectorSettings : ID⁷⁵⁴¹
- Filter : ID⁷⁵⁴²
- Filter : Model⁷⁵⁴³
- Image : AcquisitionDate⁷⁵⁴⁴

⁷⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁵²⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁷⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁷⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁷⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁷⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁷⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Voltage

⁷⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁷⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : Description⁷⁵⁴⁵
- Image : ID⁷⁵⁴⁶
- Image : InstrumentRef⁷⁵⁴⁷
- Image : Name⁷⁵⁴⁸
- Instrument : ID⁷⁵⁴⁹
- LightPath : EmissionFilterRef⁷⁵⁵⁰
- Objective : Correction⁷⁵⁵¹
- Objective : ID⁷⁵⁵²
- Objective : Immersion⁷⁵⁵³
- Objective : LensNA⁷⁵⁵⁴
- Objective : Model⁷⁵⁵⁵
- Objective : NominalMagnification⁷⁵⁵⁶
- Objective : SerialNumber⁷⁵⁵⁷
- ObjectiveSettings : ID⁷⁵⁵⁸
- ObjectiveSettings : RefractiveIndex⁷⁵⁵⁹
- Pixels : BigEndian⁷⁵⁶⁰
- Pixels : DimensionOrder⁷⁵⁶¹
- Pixels : ID⁷⁵⁶²
- Pixels : Interleaved⁷⁵⁶³
- Pixels : PhysicalSizeX⁷⁵⁶⁴
- Pixels : PhysicalSizeY⁷⁵⁶⁵
- Pixels : PhysicalSizeZ⁷⁵⁶⁶
- Pixels : SignificantBits⁷⁵⁶⁷
- Pixels : SizeC⁷⁵⁶⁸
- Pixels : SizeT⁷⁵⁶⁹
- Pixels : SizeX⁷⁵⁷⁰

⁷⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁷⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁷⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁷⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁷⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁷⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁷⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁷⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁷⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁷⁵⁷¹
- Pixels : SizeZ⁷⁵⁷²
- Pixels : TimeIncrement⁷⁵⁷³
- Pixels : Type⁷⁵⁷⁴
- Plane : DeltaT⁷⁵⁷⁵
- Plane : ExposureTime⁷⁵⁷⁶
- Plane : PositionX⁷⁵⁷⁷
- Plane : PositionY⁷⁵⁷⁸
- Plane : TheC⁷⁵⁷⁹
- Plane : TheT⁷⁵⁸⁰
- Plane : TheZ⁷⁵⁸¹
- StageLabel : Name⁷⁵⁸²
- StageLabel : Z⁷⁵⁸³
- TransmittanceRange : CutIn⁷⁵⁸⁴
- TransmittanceRange : CutOut⁷⁵⁸⁵

Total supported: 56

Total unknown or missing: 419

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Leica LAS AF LIF (Leica Image File Format)*

18.2.237 LIFReader

This page lists supported metadata fields for the Bio-Formats Leica Image File Format format reader.

These fields are from the *OME data model*⁷⁵⁸⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 85 of them (17%).
- Of those, Bio-Formats fully or partially converts 85 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Leica Image File Format format reader:

- Channel : Color⁷⁵⁸⁷

⁷⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁷⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁷⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁷⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Name

⁷⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Z

⁷⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

⁷⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

⁷⁵⁸⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

- Channel : ExcitationWavelength⁷⁵⁸⁸
- Channel : ID⁷⁵⁸⁹
- Channel : LightSourceSettingsAttenuation⁷⁵⁹⁰
- Channel : LightSourceSettingsID⁷⁵⁹¹
- Channel : Name⁷⁵⁹²
- Channel : PinholeSize⁷⁵⁹³
- Channel : SamplesPerPixel⁷⁵⁹⁴
- Detector : ID⁷⁵⁹⁵
- Detector : Model⁷⁵⁹⁶
- Detector : Offset⁷⁵⁹⁷
- Detector : Type⁷⁵⁹⁸
- Detector : Zoom⁷⁵⁹⁹
- DetectorSettings : Gain⁷⁶⁰⁰
- DetectorSettings : ID⁷⁶⁰¹
- DetectorSettings : Offset⁷⁶⁰²
- Filter : ID⁷⁶⁰³
- Filter : Model⁷⁶⁰⁴
- Image : AcquisitionDate⁷⁶⁰⁵
- Image : Description⁷⁶⁰⁶
- Image : ID⁷⁶⁰⁷
- Image : InstrumentRef⁷⁶⁰⁸
- Image : Name⁷⁶⁰⁹
- Image : ROIRef⁷⁶¹⁰
- Instrument : ID⁷⁶¹¹
- Label : FontSize⁷⁶¹²
- Label : ID⁷⁶¹³

⁷⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁷⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Attenuation

⁷⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

⁷⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁷⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁷⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁷⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁷⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁷⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁷⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁷⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

- Label : StrokeWidth⁷⁶¹⁴
- Label : Text⁷⁶¹⁵
- Label : X⁷⁶¹⁶
- Label : Y⁷⁶¹⁷
- Laser : ID⁷⁶¹⁸
- Laser : LaserMedium⁷⁶¹⁹
- Laser : Type⁷⁶²⁰
- Laser : Wavelength⁷⁶²¹
- LightPath : EmissionFilterRef⁷⁶²²
- Line : ID⁷⁶²³
- Line : X1⁷⁶²⁴
- Line : X2⁷⁶²⁵
- Line : Y1⁷⁶²⁶
- Line : Y2⁷⁶²⁷
- Microscope : Model⁷⁶²⁸
- Microscope : Type⁷⁶²⁹
- Objective : Correction⁷⁶³⁰
- Objective : ID⁷⁶³¹
- Objective : Immersion⁷⁶³²
- Objective : LensNA⁷⁶³³
- Objective : Model⁷⁶³⁴
- Objective : NominalMagnification⁷⁶³⁵
- Objective : SerialNumber⁷⁶³⁶
- ObjectiveSettings : ID⁷⁶³⁷
- ObjectiveSettings : RefractiveIndex⁷⁶³⁸
- Pixels : BigEndian⁷⁶³⁹

⁷⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁷⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁷⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_X

⁷⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_Y

⁷⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁷⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁷⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁷⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁷⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁷⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁷⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁷⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁷⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁷⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Microscope_Type

⁷⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁷⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁷⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁷⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁷⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁷⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁷⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁷⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁷⁶⁴⁰
- Pixels : ID⁷⁶⁴¹
- Pixels : Interleaved⁷⁶⁴²
- Pixels : PhysicalSizeX⁷⁶⁴³
- Pixels : PhysicalSizeY⁷⁶⁴⁴
- Pixels : PhysicalSizeZ⁷⁶⁴⁵
- Pixels : SignificantBits⁷⁶⁴⁶
- Pixels : SizeC⁷⁶⁴⁷
- Pixels : SizeT⁷⁶⁴⁸
- Pixels : SizeX⁷⁶⁴⁹
- Pixels : SizeY⁷⁶⁵⁰
- Pixels : SizeZ⁷⁶⁵¹
- Pixels : TimeIncrement⁷⁶⁵²
- Pixels : Type⁷⁶⁵³
- Plane : DeltaT⁷⁶⁵⁴
- Plane : ExposureTime⁷⁶⁵⁵
- Plane : PositionX⁷⁶⁵⁶
- Plane : PositionY⁷⁶⁵⁷
- Plane : PositionZ⁷⁶⁵⁸
- Plane : TheC⁷⁶⁵⁹
- Plane : TheT⁷⁶⁶⁰
- Plane : TheZ⁷⁶⁶¹
- Polygon : ID⁷⁶⁶²
- Polygon : Points⁷⁶⁶³
- ROI : ID⁷⁶⁶⁴
- Rectangle : Height⁷⁶⁶⁵

⁷⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁷⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁷⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁷⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁷⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁷⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁷⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

- Rectangle : ID⁷⁶⁶⁶
- Rectangle : Width⁷⁶⁶⁷
- Rectangle : X⁷⁶⁶⁸
- Rectangle : Y⁷⁶⁶⁹
- TransmittanceRange : CutIn⁷⁶⁷⁰
- TransmittanceRange : CutOut⁷⁶⁷¹

Total supported: 85

Total unknown or missing: 390

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Leica SCN*

18.2.238 LeicaSCNReader

This page lists supported metadata fields for the Bio-Formats Leica SCN format reader.

These fields are from the *OME data model*⁷⁶⁷². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 33 of them (6%).
- Of those, Bio-Formats fully or partially converts 33 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Leica SCN format reader:

- Channel : ID⁷⁶⁷³
- Channel : IlluminationType⁷⁶⁷⁴
- Channel : SamplesPerPixel⁷⁶⁷⁵
- Image : AcquisitionDate⁷⁶⁷⁶
- Image : Description⁷⁶⁷⁷
- Image : ID⁷⁶⁷⁸
- Image : InstrumentRef⁷⁶⁷⁹
- Image : Name⁷⁶⁸⁰
- Instrument : ID⁷⁶⁸¹
- Objective : CalibratedMagnification⁷⁶⁸²

⁷⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁷⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁷⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁷⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

⁷⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

⁷⁶⁷²<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_IlluminationType

⁷⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

- Objective : ID⁷⁶⁸³
- Objective : LensNA⁷⁶⁸⁴
- Objective : NominalMagnification⁷⁶⁸⁵
- ObjectiveSettings : ID⁷⁶⁸⁶
- Pixels : BigEndian⁷⁶⁸⁷
- Pixels : DimensionOrder⁷⁶⁸⁸
- Pixels : ID⁷⁶⁸⁹
- Pixels : Interleaved⁷⁶⁹⁰
- Pixels : PhysicalSizeX⁷⁶⁹¹
- Pixels : PhysicalSizeY⁷⁶⁹²
- Pixels : PhysicalSizeZ⁷⁶⁹³
- Pixels : SignificantBits⁷⁶⁹⁴
- Pixels : SizeC⁷⁶⁹⁵
- Pixels : SizeT⁷⁶⁹⁶
- Pixels : SizeX⁷⁶⁹⁷
- Pixels : SizeY⁷⁶⁹⁸
- Pixels : SizeZ⁷⁶⁹⁹
- Pixels : Type⁷⁷⁰⁰
- Plane : PositionX⁷⁷⁰¹
- Plane : PositionY⁷⁷⁰²
- Plane : TheC⁷⁷⁰³
- Plane : TheT⁷⁷⁰⁴
- Plane : TheZ⁷⁷⁰⁵

Total supported: 33

Total unknown or missing: 442

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [LEO](#)

- ⁷⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
- ⁷⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA
- ⁷⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification
- ⁷⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
- ⁷⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁷⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁷⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁷⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁷⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁷⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁷⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ⁷⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁷⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁷⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁷⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁷⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁷⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁷⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁷⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
- ⁷⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
- ⁷⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁷⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁷⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.239 LEOReader

This page lists supported metadata fields for the Bio-Formats LEO format reader.

These fields are from the [OME data model](#)⁷⁷⁰⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 27 of them (5%).
- Of those, Bio-Formats fully or partially converts 27 (100%).

Supported fields

These fields are fully supported by the Bio-Formats LEO format reader:

- Channel : ID⁷⁷⁰⁷
- Channel : SamplesPerPixel⁷⁷⁰⁸
- Image : AcquisitionDate⁷⁷⁰⁹
- Image : ID⁷⁷¹⁰
- Image : InstrumentRef⁷⁷¹¹
- Image : Name⁷⁷¹²
- Instrument : ID⁷⁷¹³
- Objective : Correction⁷⁷¹⁴
- Objective : ID⁷⁷¹⁵
- Objective : Immersion⁷⁷¹⁶
- Objective : WorkingDistance⁷⁷¹⁷
- Pixels : BigEndian⁷⁷¹⁸
- Pixels : DimensionOrder⁷⁷¹⁹
- Pixels : ID⁷⁷²⁰
- Pixels : Interleaved⁷⁷²¹
- Pixels : PhysicalSizeX⁷⁷²²
- Pixels : PhysicalSizeY⁷⁷²³
- Pixels : SignificantBits⁷⁷²⁴

⁷⁷⁰⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁷⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁷⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁷⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁷⁷²⁵
- Pixels : SizeT⁷⁷²⁶
- Pixels : SizeX⁷⁷²⁷
- Pixels : SizeY⁷⁷²⁸
- Pixels : SizeZ⁷⁷²⁹
- Pixels : Type⁷⁷³⁰
- Plane : TheC⁷⁷³¹
- Plane : TheT⁷⁷³²
- Plane : TheZ⁷⁷³³

Total supported: 27

Total unknown or missing: 448

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Li-Cor L2D*

18.2.240 L2DReader

This page lists supported metadata fields for the Bio-Formats Li-Cor L2D format reader.

These fields are from the *OME data model*⁷⁷³⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 29 of them (6%).
- Of those, Bio-Formats fully or partially converts 29 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Li-Cor L2D format reader:

- Channel : ID⁷⁷³⁵
- Channel : LightSourceSettingsID⁷⁷³⁶
- Channel : SamplesPerPixel⁷⁷³⁷
- Image : AcquisitionDate⁷⁷³⁸
- Image : Description⁷⁷³⁹
- Image : ID⁷⁷⁴⁰
- Image : InstrumentRef⁷⁷⁴¹

⁷⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁷³⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

⁷⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

- Image : Name⁷⁷⁴²
- Instrument : ID⁷⁷⁴³
- Laser : ID⁷⁷⁴⁴
- Laser : LaserMedium⁷⁷⁴⁵
- Laser : Type⁷⁷⁴⁶
- Laser : Wavelength⁷⁷⁴⁷
- Microscope : Model⁷⁷⁴⁸
- Microscope : Type⁷⁷⁴⁹
- Pixels : BigEndian⁷⁷⁵⁰
- Pixels : DimensionOrder⁷⁷⁵¹
- Pixels : ID⁷⁷⁵²
- Pixels : Interleaved⁷⁷⁵³
- Pixels : SignificantBits⁷⁷⁵⁴
- Pixels : SizeC⁷⁷⁵⁵
- Pixels : SizeT⁷⁷⁵⁶
- Pixels : SizeX⁷⁷⁵⁷
- Pixels : SizeY⁷⁷⁵⁸
- Pixels : SizeZ⁷⁷⁵⁹
- Pixels : Type⁷⁷⁶⁰
- Plane : TheC⁷⁷⁶¹
- Plane : TheT⁷⁷⁶²
- Plane : TheZ⁷⁷⁶³

Total supported: 29

Total unknown or missing: 446

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *LIM (Laboratory Imaging/Nikon)*

⁷⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁷⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁷⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁷⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁷⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Microscope_Type

⁷⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.241 LIMReader

This page lists supported metadata fields for the Bio-Formats Laboratory Imaging format reader.

These fields are from the [OME data model](#)⁷⁷⁶⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Laboratory Imaging format reader:

- Channel : ID⁷⁷⁶⁵
- Channel : SamplesPerPixel⁷⁷⁶⁶
- Image : AcquisitionDate⁷⁷⁶⁷
- Image : ID⁷⁷⁶⁸
- Image : Name⁷⁷⁶⁹
- Pixels : BigEndian⁷⁷⁷⁰
- Pixels : DimensionOrder⁷⁷⁷¹
- Pixels : ID⁷⁷⁷²
- Pixels : Interleaved⁷⁷⁷³
- Pixels : SignificantBits⁷⁷⁷⁴
- Pixels : SizeC⁷⁷⁷⁵
- Pixels : SizeT⁷⁷⁷⁶
- Pixels : SizeX⁷⁷⁷⁷
- Pixels : SizeY⁷⁷⁷⁸
- Pixels : SizeZ⁷⁷⁷⁹
- Pixels : Type⁷⁷⁸⁰
- Plane : TheC⁷⁷⁸¹
- Plane : TheT⁷⁷⁸²

⁷⁷⁶⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷⁷⁸³

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *MetaMorph 7.5 TIFF*

18.2.242 MetamorphTiffReader

This page lists supported metadata fields for the Bio-Formats Metamorph TIFF format reader.

These fields are from the *OME data model*⁷⁷⁸⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 38 of them (8%).
- Of those, Bio-Formats fully or partially converts 38 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Metamorph TIFF format reader:

- Channel : ID⁷⁷⁸⁵
- Channel : Name⁷⁷⁸⁶
- Channel : SamplesPerPixel⁷⁷⁸⁷
- Image : AcquisitionDate⁷⁷⁸⁸
- Image : Description⁷⁷⁸⁹
- Image : ID⁷⁷⁹⁰
- Image : Name⁷⁷⁹¹
- ImagingEnvironment : Temperature⁷⁷⁹²
- Pixels : BigEndian⁷⁷⁹³
- Pixels : DimensionOrder⁷⁷⁹⁴
- Pixels : ID⁷⁷⁹⁵
- Pixels : Interleaved⁷⁷⁹⁶
- Pixels : PhysicalSizeX⁷⁷⁹⁷
- Pixels : PhysicalSizeY⁷⁷⁹⁸
- Pixels : PhysicalSizeZ⁷⁷⁹⁹

⁷⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁷⁸⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁷⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

- Pixels : SignificantBits⁷⁸⁰⁰
- Pixels : SizeC⁷⁸⁰¹
- Pixels : SizeT⁷⁸⁰²
- Pixels : SizeX⁷⁸⁰³
- Pixels : SizeY⁷⁸⁰⁴
- Pixels : SizeZ⁷⁸⁰⁵
- Pixels : Type⁷⁸⁰⁶
- Plane : DeltaT⁷⁸⁰⁷
- Plane : ExposureTime⁷⁸⁰⁸
- Plane : PositionX⁷⁸⁰⁹
- Plane : PositionY⁷⁸¹⁰
- Plane : TheC⁷⁸¹¹
- Plane : TheT⁷⁸¹²
- Plane : TheZ⁷⁸¹³
- Plate : ColumnNamingConvention⁷⁸¹⁴
- Plate : ID⁷⁸¹⁵
- Plate : RowNamingConvention⁷⁸¹⁶
- Well : Column⁷⁸¹⁷
- Well : ID⁷⁸¹⁸
- Well : Row⁷⁸¹⁹
- WellSample : ID⁷⁸²⁰
- WellSample : ImageRef⁷⁸²¹
- WellSample : Index⁷⁸²²

Total supported: 38

Total unknown or missing: 437

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *MetaMorph Stack (STK)*

- ⁷⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁷⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁷⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁷⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁷⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁷⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁷⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁷⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT
- ⁷⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime
- ⁷⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
- ⁷⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
- ⁷⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁷⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁷⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ⁷⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention
- ⁷⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID
- ⁷⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention
- ⁷⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column
- ⁷⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID
- ⁷⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row
- ⁷⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID
- ⁷⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID
- ⁷⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

18.2.243 MetamorphReader

This page lists supported metadata fields for the Bio-Formats Metamorph STK format reader.

These fields are from the [OME data model](#)⁷⁸²³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 46 of them (9%).
- Of those, Bio-Formats fully or partially converts 46 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Metamorph STK format reader:

- Channel : ID⁷⁸²⁴
- Channel : LightSourceSettingsID⁷⁸²⁵
- Channel : LightSourceSettingsWavelength⁷⁸²⁶
- Channel : Name⁷⁸²⁷
- Channel : SamplesPerPixel⁷⁸²⁸
- Detector : ID⁷⁸²⁹
- Detector : Type⁷⁸³⁰
- DetectorSettings : Binning⁷⁸³¹
- DetectorSettings : Gain⁷⁸³²
- DetectorSettings : ID⁷⁸³³
- DetectorSettings : ReadOutRate⁷⁸³⁴
- Image : AcquisitionDate⁷⁸³⁵
- Image : Description⁷⁸³⁶
- Image : ID⁷⁸³⁷
- Image : InstrumentRef⁷⁸³⁸
- Image : Name⁷⁸³⁹
- ImagingEnvironment : Temperature⁷⁸⁴⁰
- Instrument : ID⁷⁸⁴¹

⁷⁸²³<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

⁷⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Wavelength

⁷⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁷⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

⁷⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁷⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

- Laser : ID⁷⁸⁴²
- Laser : LaserMedium⁷⁸⁴³
- Laser : Type⁷⁸⁴⁴
- Objective : ID⁷⁸⁴⁵
- Objective : LensNA⁷⁸⁴⁶
- ObjectiveSettings : ID⁷⁸⁴⁷
- Pixels : BigEndian⁷⁸⁴⁸
- Pixels : DimensionOrder⁷⁸⁴⁹
- Pixels : ID⁷⁸⁵⁰
- Pixels : Interleaved⁷⁸⁵¹
- Pixels : PhysicalSizeX⁷⁸⁵²
- Pixels : PhysicalSizeY⁷⁸⁵³
- Pixels : PhysicalSizeZ⁷⁸⁵⁴
- Pixels : SignificantBits⁷⁸⁵⁵
- Pixels : SizeC⁷⁸⁵⁶
- Pixels : SizeT⁷⁸⁵⁷
- Pixels : SizeX⁷⁸⁵⁸
- Pixels : SizeY⁷⁸⁵⁹
- Pixels : SizeZ⁷⁸⁶⁰
- Pixels : Type⁷⁸⁶¹
- Plane : DeltaT⁷⁸⁶²
- Plane : ExposureTime⁷⁸⁶³
- Plane : PositionX⁷⁸⁶⁴
- Plane : PositionY⁷⁸⁶⁵
- Plane : PositionZ⁷⁸⁶⁶
- Plane : TheC⁷⁸⁶⁷

⁷⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁷⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁷⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁷⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁷⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁷⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁷⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁷⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁷⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁷⁸⁶⁸
- Plane : TheZ⁷⁸⁶⁹

Total supported: 46

Total unknown or missing: 429

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *MIAS (Maia Scientific)*

18.2.244 MIASReader

This page lists supported metadata fields for the Bio-Formats MIAS format reader.

These fields are from the *OME data model*⁷⁸⁷⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 64 of them (13%).
- Of those, Bio-Formats fully or partially converts 64 (100%).

Supported fields

These fields are fully supported by the Bio-Formats MIAS format reader:

- Channel : Color⁷⁸⁷¹
- Channel : ID⁷⁸⁷²
- Channel : Name⁷⁸⁷³
- Channel : SamplesPerPixel⁷⁸⁷⁴
- Ellipse : ID⁷⁸⁷⁵
- Ellipse : RadiusX⁷⁸⁷⁶
- Ellipse : RadiusY⁷⁸⁷⁷
- Ellipse : Text⁷⁸⁷⁸
- Ellipse : TheT⁷⁸⁷⁹
- Ellipse : TheZ⁷⁸⁸⁰
- Ellipse : X⁷⁸⁸¹
- Ellipse : Y⁷⁸⁸²
- Experiment : Description⁷⁸⁸³
- Experiment : ID⁷⁸⁸⁴

⁷⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁸⁷⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁷⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁷⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁷⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁷⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁷⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁷⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

⁷⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

⁷⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Description

⁷⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

- Experiment : Type⁷⁸⁸⁵
- Image : AcquisitionDate⁷⁸⁸⁶
- Image : ExperimentRef⁷⁸⁸⁷
- Image : ID⁷⁸⁸⁸
- Image : InstrumentRef⁷⁸⁸⁹
- Image : Name⁷⁸⁹⁰
- Image : ROIRef⁷⁸⁹¹
- Instrument : ID⁷⁸⁹²
- Mask : FillColor⁷⁸⁹³
- Mask : Height⁷⁸⁹⁴
- Mask : ID⁷⁸⁹⁵
- Mask : StrokeColor⁷⁸⁹⁶
- Mask : Width⁷⁸⁹⁷
- Mask : X⁷⁸⁹⁸
- Mask : Y⁷⁸⁹⁹
- Objective : ID⁷⁹⁰⁰
- Objective : Model⁷⁹⁰¹
- Objective : NominalMagnification⁷⁹⁰²
- Pixels : BigEndian⁷⁹⁰³
- Pixels : DimensionOrder⁷⁹⁰⁴
- Pixels : ID⁷⁹⁰⁵
- Pixels : Interleaved⁷⁹⁰⁶
- Pixels : PhysicalSizeX⁷⁹⁰⁷
- Pixels : PhysicalSizeY⁷⁹⁰⁸
- Pixels : SignificantBits⁷⁹⁰⁹
- Pixels : SizeC⁷⁹¹⁰

⁷⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

⁷⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimentRef_ID

⁷⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁷⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillColor

⁷⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Height

⁷⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

⁷⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Width

⁷⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_X

⁷⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Y

⁷⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁷⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁷⁹¹¹
- Pixels : SizeX⁷⁹¹²
- Pixels : SizeY⁷⁹¹³
- Pixels : SizeZ⁷⁹¹⁴
- Pixels : Type⁷⁹¹⁵
- Plane : ExposureTime⁷⁹¹⁶
- Plane : TheC⁷⁹¹⁷
- Plane : TheT⁷⁹¹⁸
- Plane : TheZ⁷⁹¹⁹
- Plate : ColumnNamingConvention⁷⁹²⁰
- Plate : ExternalIdentifier⁷⁹²¹
- Plate : ID⁷⁹²²
- Plate : Name⁷⁹²³
- Plate : RowNamingConvention⁷⁹²⁴
- PlateAcquisition : ID⁷⁹²⁵
- PlateAcquisition : MaximumFieldCount⁷⁹²⁶
- PlateAcquisition : WellSampleRef⁷⁹²⁷
- ROI : ID⁷⁹²⁸
- Well : Column⁷⁹²⁹
- Well : ID⁷⁹³⁰
- Well : Row⁷⁹³¹
- WellSample : ID⁷⁹³²
- WellSample : ImageRef⁷⁹³³
- WellSample : Index⁷⁹³⁴

Total supported: 64

Total unknown or missing: 411

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Micro-Manager*

⁷⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁷⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ExternalIdentifier

⁷⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁷⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁷⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁷⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁷⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁷⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁷⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁷⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁷⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁷⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁷⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁷⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁷⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

18.2.245 MicromanagerReader

This page lists supported metadata fields for the Bio-Formats Micro-Manager format reader.

These fields are from the [OME data model](#)⁷⁹³⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 38 of them (8%).
- Of those, Bio-Formats fully or partially converts 38 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Micro-Manager format reader:

- Channel : ID⁷⁹³⁶
- Channel : Name⁷⁹³⁷
- Channel : SamplesPerPixel⁷⁹³⁸
- Detector : ID⁷⁹³⁹
- Detector : Manufacturer⁷⁹⁴⁰
- Detector : Model⁷⁹⁴¹
- Detector : SerialNumber⁷⁹⁴²
- Detector : Type⁷⁹⁴³
- DetectorSettings : Binning⁷⁹⁴⁴
- DetectorSettings : Gain⁷⁹⁴⁵
- DetectorSettings : ID⁷⁹⁴⁶
- DetectorSettings : Voltage⁷⁹⁴⁷
- Image : AcquisitionDate⁷⁹⁴⁸
- Image : Description⁷⁹⁴⁹
- Image : ID⁷⁹⁵⁰
- Image : InstrumentRef⁷⁹⁵¹
- Image : Name⁷⁹⁵²
- ImagingEnvironment : Temperature⁷⁹⁵³

⁷⁹³⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁷⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁷⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁷⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁷⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

- Instrument : ID⁷⁹⁵⁴
- Pixels : BigEndian⁷⁹⁵⁵
- Pixels : DimensionOrder⁷⁹⁵⁶
- Pixels : ID⁷⁹⁵⁷
- Pixels : Interleaved⁷⁹⁵⁸
- Pixels : PhysicalSizeX⁷⁹⁵⁹
- Pixels : PhysicalSizeY⁷⁹⁶⁰
- Pixels : PhysicalSizeZ⁷⁹⁶¹
- Pixels : SignificantBits⁷⁹⁶²
- Pixels : SizeC⁷⁹⁶³
- Pixels : SizeT⁷⁹⁶⁴
- Pixels : SizeX⁷⁹⁶⁵
- Pixels : SizeY⁷⁹⁶⁶
- Pixels : SizeZ⁷⁹⁶⁷
- Pixels : Type⁷⁹⁶⁸
- Plane : DeltaT⁷⁹⁶⁹
- Plane : ExposureTime⁷⁹⁷⁰
- Plane : TheC⁷⁹⁷¹
- Plane : TheT⁷⁹⁷²
- Plane : TheZ⁷⁹⁷³

Total supported: 38

Total unknown or missing: 437

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [MINC MRI](#)

18.2.246 MINCReader

This page lists supported metadata fields for the Bio-Formats MINC MRI format reader.

These fields are from the [OME data model](#)⁷⁹⁷⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁷⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁹⁷⁴<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats MINC MRI format reader:

- Channel : ID⁷⁹⁷⁵
- Channel : SamplesPerPixel⁷⁹⁷⁶
- Image : AcquisitionDate⁷⁹⁷⁷
- Image : Description⁷⁹⁷⁸
- Image : ID⁷⁹⁷⁹
- Image : Name⁷⁹⁸⁰
- Pixels : BigEndian⁷⁹⁸¹
- Pixels : DimensionOrder⁷⁹⁸²
- Pixels : ID⁷⁹⁸³
- Pixels : Interleaved⁷⁹⁸⁴
- Pixels : PhysicalSizeX⁷⁹⁸⁵
- Pixels : PhysicalSizeY⁷⁹⁸⁶
- Pixels : PhysicalSizeZ⁷⁹⁸⁷
- Pixels : SignificantBits⁷⁹⁸⁸
- Pixels : SizeC⁷⁹⁸⁹
- Pixels : SizeT⁷⁹⁹⁰
- Pixels : SizeX⁷⁹⁹¹
- Pixels : SizeY⁷⁹⁹²
- Pixels : SizeZ⁷⁹⁹³
- Pixels : Type⁷⁹⁹⁴
- Plane : TheC⁷⁹⁹⁵
- Plane : TheT⁷⁹⁹⁶

⁷⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷⁹⁹⁷

Total supported: 23

Total unknown or missing: 452

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Minolta MRW*

18.2.247 MRWReader

This page lists supported metadata fields for the Bio-Formats Minolta MRW format reader.

These fields are from the *OME data model*⁷⁹⁹⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Minolta MRW format reader:

- Channel : ID⁷⁹⁹⁹
- Channel : SamplesPerPixel⁸⁰⁰⁰
- Image : AcquisitionDate⁸⁰⁰¹
- Image : ID⁸⁰⁰²
- Image : Name⁸⁰⁰³
- Pixels : BigEndian⁸⁰⁰⁴
- Pixels : DimensionOrder⁸⁰⁰⁵
- Pixels : ID⁸⁰⁰⁶
- Pixels : Interleaved⁸⁰⁰⁷
- Pixels : SignificantBits⁸⁰⁰⁸
- Pixels : SizeC⁸⁰⁰⁹
- Pixels : SizeT⁸⁰¹⁰
- Pixels : SizeX⁸⁰¹¹
- Pixels : SizeY⁸⁰¹²
- Pixels : SizeZ⁸⁰¹³

⁷⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁹⁹⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type⁸⁰¹⁴
- Plane : TheC⁸⁰¹⁵
- Plane : TheT⁸⁰¹⁶
- Plane : TheZ⁸⁰¹⁷

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *MNG (Multiple-image Network Graphics)*

18.2.248 MNGReader

This page lists supported metadata fields for the Bio-Formats Multiple Network Graphics format reader.

These fields are from the *OME data model*⁸⁰¹⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Multiple Network Graphics format reader:

- Channel : ID⁸⁰¹⁹
- Channel : SamplesPerPixel⁸⁰²⁰
- Image : AcquisitionDate⁸⁰²¹
- Image : ID⁸⁰²²
- Image : Name⁸⁰²³
- Pixels : BigEndian⁸⁰²⁴
- Pixels : DimensionOrder⁸⁰²⁵
- Pixels : ID⁸⁰²⁶
- Pixels : Interleaved⁸⁰²⁷
- Pixels : SignificantBits⁸⁰²⁸
- Pixels : SizeC⁸⁰²⁹
- Pixels : SizeT⁸⁰³⁰

⁸⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁰¹⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁸⁰³¹
- Pixels : SizeY⁸⁰³²
- Pixels : SizeZ⁸⁰³³
- Pixels : Type⁸⁰³⁴
- Plane : TheC⁸⁰³⁵
- Plane : TheT⁸⁰³⁶
- Plane : TheZ⁸⁰³⁷

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Molecular Imaging*

18.2.249 MolecularImagingReader

This page lists supported metadata fields for the Bio-Formats Molecular Imaging format reader.

These fields are from the *OME data model*⁸⁰³⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Molecular Imaging format reader:

- Channel : ID⁸⁰³⁹
- Channel : SamplesPerPixel⁸⁰⁴⁰
- Image : AcquisitionDate⁸⁰⁴¹
- Image : ID⁸⁰⁴²
- Image : Name⁸⁰⁴³
- Pixels : BigEndian⁸⁰⁴⁴
- Pixels : DimensionOrder⁸⁰⁴⁵
- Pixels : ID⁸⁰⁴⁶
- Pixels : Interleaved⁸⁰⁴⁷

⁸⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁰³⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : PhysicalSizeX⁸⁰⁴⁸
- Pixels : PhysicalSizeY⁸⁰⁴⁹
- Pixels : SignificantBits⁸⁰⁵⁰
- Pixels : SizeC⁸⁰⁵¹
- Pixels : SizeT⁸⁰⁵²
- Pixels : SizeX⁸⁰⁵³
- Pixels : SizeY⁸⁰⁵⁴
- Pixels : SizeZ⁸⁰⁵⁵
- Pixels : Type⁸⁰⁵⁶
- Plane : TheC⁸⁰⁵⁷
- Plane : TheT⁸⁰⁵⁸
- Plane : TheZ⁸⁰⁵⁹

Total supported: 21

Total unknown or missing: 454

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *MRC (Medical Research Council)*

18.2.250 MRCReader

This page lists supported metadata fields for the Bio-Formats Medical Research Council format reader.

These fields are from the *OME data model*⁸⁰⁶⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Medical Research Council format reader:

- Channel : ID⁸⁰⁶¹
- Channel : SamplesPerPixel⁸⁰⁶²
- Image : AcquisitionDate⁸⁰⁶³
- Image : ID⁸⁰⁶⁴

⁸⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁰⁶⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁸⁰⁶⁵
- Pixels : BigEndian⁸⁰⁶⁶
- Pixels : DimensionOrder⁸⁰⁶⁷
- Pixels : ID⁸⁰⁶⁸
- Pixels : Interleaved⁸⁰⁶⁹
- Pixels : PhysicalSizeX⁸⁰⁷⁰
- Pixels : PhysicalSizeY⁸⁰⁷¹
- Pixels : PhysicalSizeZ⁸⁰⁷²
- Pixels : SignificantBits⁸⁰⁷³
- Pixels : SizeC⁸⁰⁷⁴
- Pixels : SizeT⁸⁰⁷⁵
- Pixels : SizeX⁸⁰⁷⁶
- Pixels : SizeY⁸⁰⁷⁷
- Pixels : SizeZ⁸⁰⁷⁸
- Pixels : Type⁸⁰⁷⁹
- Plane : TheC⁸⁰⁸⁰
- Plane : TheT⁸⁰⁸¹
- Plane : TheZ⁸⁰⁸²

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *NEF (Nikon Electronic Format)*

18.2.251 NikonReader

This page lists supported metadata fields for the Bio-Formats Nikon NEF format reader.

These fields are from the [OME data model](#)⁸⁰⁸³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

⁸⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁰⁸³<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Nikon NEF format reader:

- Channel : ID⁸⁰⁸⁴
- Channel : SamplesPerPixel⁸⁰⁸⁵
- Image : AcquisitionDate⁸⁰⁸⁶
- Image : ID⁸⁰⁸⁷
- Image : Name⁸⁰⁸⁸
- Pixels : BigEndian⁸⁰⁸⁹
- Pixels : DimensionOrder⁸⁰⁹⁰
- Pixels : ID⁸⁰⁹¹
- Pixels : Interleaved⁸⁰⁹²
- Pixels : SignificantBits⁸⁰⁹³
- Pixels : SizeC⁸⁰⁹⁴
- Pixels : SizeT⁸⁰⁹⁵
- Pixels : SizeX⁸⁰⁹⁶
- Pixels : SizeY⁸⁰⁹⁷
- Pixels : SizeZ⁸⁰⁹⁸
- Pixels : Type⁸⁰⁹⁹
- Plane : TheC⁸¹⁰⁰
- Plane : TheT⁸¹⁰¹
- Plane : TheZ⁸¹⁰²

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Nifti*

18.2.252 NiftiReader

This page lists supported metadata fields for the Bio-Formats NIFTI format reader.

- ⁸⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁸⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁸⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁸⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁸⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁸⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁸⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁸⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁸⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁸⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁸⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁸⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁸⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁸⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁸⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁸⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁸¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁸¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁸¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁸¹⁰³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 24 of them (5%).
- Of those, Bio-Formats fully or partially converts 24 (100%).

Supported fields

These fields are fully supported by the Bio-Formats NIFTI format reader:

- Channel : ID⁸¹⁰⁴
- Channel : SamplesPerPixel⁸¹⁰⁵
- Image : AcquisitionDate⁸¹⁰⁶
- Image : Description⁸¹⁰⁷
- Image : ID⁸¹⁰⁸
- Image : Name⁸¹⁰⁹
- Pixels : BigEndian⁸¹¹⁰
- Pixels : DimensionOrder⁸¹¹¹
- Pixels : ID⁸¹¹²
- Pixels : Interleaved⁸¹¹³
- Pixels : PhysicalSizeX⁸¹¹⁴
- Pixels : PhysicalSizeY⁸¹¹⁵
- Pixels : PhysicalSizeZ⁸¹¹⁶
- Pixels : SignificantBits⁸¹¹⁷
- Pixels : SizeC⁸¹¹⁸
- Pixels : SizeT⁸¹¹⁹
- Pixels : SizeX⁸¹²⁰
- Pixels : SizeY⁸¹²¹
- Pixels : SizeZ⁸¹²²
- Pixels : TimeIncrement⁸¹²³

⁸¹⁰³<http://www.openmicroscopy.org/site/support/ome-model/>

⁸¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

- Pixels : Type⁸¹²⁴
- Plane : TheC⁸¹²⁵
- Plane : TheT⁸¹²⁶
- Plane : TheZ⁸¹²⁷

Total supported: 24

Total unknown or missing: 451

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Nikon Elements TIFF*

18.2.253 NikonElementsTiffReader

This page lists supported metadata fields for the Bio-Formats Nikon Elements TIFF format reader.

These fields are from the *OME data model*⁸¹²⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 50 of them (10%).
- Of those, Bio-Formats fully or partially converts 50 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Nikon Elements TIFF format reader:

- Channel : AcquisitionMode⁸¹²⁹
- Channel : EmissionWavelength⁸¹³⁰
- Channel : ExcitationWavelength⁸¹³¹
- Channel : ID⁸¹³²
- Channel : Name⁸¹³³
- Channel : PinholeSize⁸¹³⁴
- Channel : SamplesPerPixel⁸¹³⁵
- Detector : ID⁸¹³⁶
- Detector : Model⁸¹³⁷
- Detector : Type⁸¹³⁸
- DetectorSettings : Binning⁸¹³⁹
- DetectorSettings : Gain⁸¹⁴⁰

⁸¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸¹²⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁸¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

⁸¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁸¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁸¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁸¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

- DetectorSettings : ID⁸¹⁴¹
- DetectorSettings : ReadOutRate⁸¹⁴²
- DetectorSettings : Voltage⁸¹⁴³
- Image : AcquisitionDate⁸¹⁴⁴
- Image : ID⁸¹⁴⁵
- Image : InstrumentRef⁸¹⁴⁶
- Image : Name⁸¹⁴⁷
- ImagingEnvironment : Temperature⁸¹⁴⁸
- Instrument : ID⁸¹⁴⁹
- Objective : CalibratedMagnification⁸¹⁵⁰
- Objective : Correction⁸¹⁵¹
- Objective : ID⁸¹⁵²
- Objective : Immersion⁸¹⁵³
- Objective : LensNA⁸¹⁵⁴
- Objective : Model⁸¹⁵⁵
- ObjectiveSettings : ID⁸¹⁵⁶
- ObjectiveSettings : RefractiveIndex⁸¹⁵⁷
- Pixels : BigEndian⁸¹⁵⁸
- Pixels : DimensionOrder⁸¹⁵⁹
- Pixels : ID⁸¹⁶⁰
- Pixels : Interleaved⁸¹⁶¹
- Pixels : PhysicalSizeX⁸¹⁶²
- Pixels : PhysicalSizeY⁸¹⁶³
- Pixels : PhysicalSizeZ⁸¹⁶⁴
- Pixels : SignificantBits⁸¹⁶⁵
- Pixels : SizeC⁸¹⁶⁶

⁸¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

⁸¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁸¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁸¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁸¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁸¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁸¹⁶⁷
- Pixels : SizeX⁸¹⁶⁸
- Pixels : SizeY⁸¹⁶⁹
- Pixels : SizeZ⁸¹⁷⁰
- Pixels : Type⁸¹⁷¹
- Plane : ExposureTime⁸¹⁷²
- Plane : PositionX⁸¹⁷³
- Plane : PositionY⁸¹⁷⁴
- Plane : PositionZ⁸¹⁷⁵
- Plane : TheC⁸¹⁷⁶
- Plane : TheT⁸¹⁷⁷
- Plane : TheZ⁸¹⁷⁸

Total supported: 50

Total unknown or missing: 425

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Nikon EZ-C1 TIFF*

18.2.254 NikonTiffReader

This page lists supported metadata fields for the Bio-Formats Nikon TIFF format reader.

These fields are from the [OME data model](#)⁸¹⁷⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 47 of them (9%).
- Of those, Bio-Formats fully or partially converts 47 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Nikon TIFF format reader:

- Channel : EmissionWavelength⁸¹⁸⁰
- Channel : ExcitationWavelength⁸¹⁸¹
- Channel : ID⁸¹⁸²
- Channel : PinholeSize⁸¹⁸³

⁸¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸¹⁷⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁸¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁸¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

- Channel : SamplesPerPixel⁸¹⁸⁴
- Detector : Gain⁸¹⁸⁵
- Detector : ID⁸¹⁸⁶
- Detector : Type⁸¹⁸⁷
- Dichroic : ID⁸¹⁸⁸
- Dichroic : Model⁸¹⁸⁹
- Filter : ID⁸¹⁹⁰
- Filter : Model⁸¹⁹¹
- Image : AcquisitionDate⁸¹⁹²
- Image : Description⁸¹⁹³
- Image : ID⁸¹⁹⁴
- Image : InstrumentRef⁸¹⁹⁵
- Image : Name⁸¹⁹⁶
- Instrument : ID⁸¹⁹⁷
- Laser : ID⁸¹⁹⁸
- Laser : LaserMedium⁸¹⁹⁹
- Laser : Model⁸²⁰⁰
- Laser : Type⁸²⁰¹
- Laser : Wavelength⁸²⁰²
- Objective : Correction⁸²⁰³
- Objective : ID⁸²⁰⁴
- Objective : Immersion⁸²⁰⁵
- Objective : LensNA⁸²⁰⁶
- Objective : NominalMagnification⁸²⁰⁷
- Objective : WorkingDistance⁸²⁰⁸
- ObjectiveSettings : ID⁸²⁰⁹

⁸¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁸¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁸¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁸¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁸¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁸²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁸²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁸²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁸²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁸²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

- Pixels : BigEndian⁸²¹⁰
- Pixels : DimensionOrder⁸²¹¹
- Pixels : ID⁸²¹²
- Pixels : Interleaved⁸²¹³
- Pixels : PhysicalSizeX⁸²¹⁴
- Pixels : PhysicalSizeY⁸²¹⁵
- Pixels : PhysicalSizeZ⁸²¹⁶
- Pixels : SignificantBits⁸²¹⁷
- Pixels : SizeC⁸²¹⁸
- Pixels : SizeT⁸²¹⁹
- Pixels : SizeX⁸²²⁰
- Pixels : SizeY⁸²²¹
- Pixels : SizeZ⁸²²²
- Pixels : Type⁸²²³
- Plane : TheC⁸²²⁴
- Plane : TheT⁸²²⁵
- Plane : TheZ⁸²²⁶

Total supported: 47

Total unknown or missing: 428

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Nikon NIS-Elements ND2*

18.2.255 NativeND2Reader

This page lists supported metadata fields for the Bio-Formats Nikon ND2 format reader.

These fields are from the *OME data model*⁸²²⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 52 of them (10%).
- Of those, Bio-Formats fully or partially converts 52 (100%).

⁸²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁸²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁸²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁸²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁸²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁸²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁸²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
⁸²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁸²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁸²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁸²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁸²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁸²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁸²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁸²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁸²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁸²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁸²²⁷<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Nikon ND2 format reader:

- Channel : AcquisitionMode⁸²²⁸
- Channel : Color⁸²²⁹
- Channel : EmissionWavelength⁸²³⁰
- Channel : ExcitationWavelength⁸²³¹
- Channel : ID⁸²³²
- Channel : Name⁸²³³
- Channel : PinholeSize⁸²³⁴
- Channel : SamplesPerPixel⁸²³⁵
- Detector : ID⁸²³⁶
- Detector : Model⁸²³⁷
- Detector : Type⁸²³⁸
- DetectorSettings : Binning⁸²³⁹
- DetectorSettings : Gain⁸²⁴⁰
- DetectorSettings : ID⁸²⁴¹
- DetectorSettings : ReadOutRate⁸²⁴²
- DetectorSettings : Voltage⁸²⁴³
- Image : AcquisitionDate⁸²⁴⁴
- Image : ID⁸²⁴⁵
- Image : InstrumentRef⁸²⁴⁶
- Image : Name⁸²⁴⁷
- ImagingEnvironment : Temperature⁸²⁴⁸
- Instrument : ID⁸²⁴⁹
- Objective : CalibratedMagnification⁸²⁵⁰
- Objective : Correction⁸²⁵¹

⁸²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

⁸²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁸²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁸²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁸²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁸²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁸²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

⁸²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁸²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁸²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁸²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

- Objective : ID⁸²⁵²
- Objective : Immersion⁸²⁵³
- Objective : LensNA⁸²⁵⁴
- Objective : Model⁸²⁵⁵
- ObjectiveSettings : ID⁸²⁵⁶
- ObjectiveSettings : RefractiveIndex⁸²⁵⁷
- Pixels : BigEndian⁸²⁵⁸
- Pixels : DimensionOrder⁸²⁵⁹
- Pixels : ID⁸²⁶⁰
- Pixels : Interleaved⁸²⁶¹
- Pixels : PhysicalSizeX⁸²⁶²
- Pixels : PhysicalSizeY⁸²⁶³
- Pixels : PhysicalSizeZ⁸²⁶⁴
- Pixels : SignificantBits⁸²⁶⁵
- Pixels : SizeC⁸²⁶⁶
- Pixels : SizeT⁸²⁶⁷
- Pixels : SizeX⁸²⁶⁸
- Pixels : SizeY⁸²⁶⁹
- Pixels : SizeZ⁸²⁷⁰
- Pixels : Type⁸²⁷¹
- Plane : DeltaT⁸²⁷²
- Plane : ExposureTime⁸²⁷³
- Plane : PositionX⁸²⁷⁴
- Plane : PositionY⁸²⁷⁵
- Plane : PositionZ⁸²⁷⁶
- Plane : TheC⁸²⁷⁷

⁸²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁸²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁸²⁷⁸
- Plane : TheZ⁸²⁷⁹

Total supported: 52

Total unknown or missing: 423

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *NRRD (Nearly Raw Raster Data)*

18.2.256 NRRDReader

This page lists supported metadata fields for the Bio-Formats NRRD format reader.

These fields are from the *OME data model*⁸²⁸⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats NRRD format reader:

- Channel : ID⁸²⁸¹
- Channel : SamplesPerPixel⁸²⁸²
- Image : AcquisitionDate⁸²⁸³
- Image : ID⁸²⁸⁴
- Image : Name⁸²⁸⁵
- Pixels : BigEndian⁸²⁸⁶
- Pixels : DimensionOrder⁸²⁸⁷
- Pixels : ID⁸²⁸⁸
- Pixels : Interleaved⁸²⁸⁹
- Pixels : PhysicalSizeX⁸²⁹⁰
- Pixels : PhysicalSizeY⁸²⁹¹
- Pixels : PhysicalSizeZ⁸²⁹²
- Pixels : SignificantBits⁸²⁹³
- Pixels : SizeC⁸²⁹⁴

⁸²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸²⁸⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁸²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁸²⁹⁵
- Pixels : SizeX⁸²⁹⁶
- Pixels : SizeY⁸²⁹⁷
- Pixels : SizeZ⁸²⁹⁸
- Pixels : Type⁸²⁹⁹
- Plane : TheC⁸³⁰⁰
- Plane : TheT⁸³⁰¹
- Plane : TheZ⁸³⁰²

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Olympus CellR/APL*

18.2.257 APLReader

This page lists supported metadata fields for the Bio-Formats Olympus APL format reader.

These fields are from the *OME data model*⁸³⁰³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus APL format reader:

- Channel : ID⁸³⁰⁴
- Channel : SamplesPerPixel⁸³⁰⁵
- Image : AcquisitionDate⁸³⁰⁶
- Image : ID⁸³⁰⁷
- Image : Name⁸³⁰⁸
- Pixels : BigEndian⁸³⁰⁹
- Pixels : DimensionOrder⁸³¹⁰
- Pixels : ID⁸³¹¹

⁸²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸³⁰³<http://www.openmicroscopy.org/site/support/ome-model/>

⁸³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁸³¹²
- Pixels : PhysicalSizeX⁸³¹³
- Pixels : PhysicalSizeY⁸³¹⁴
- Pixels : SignificantBits⁸³¹⁵
- Pixels : SizeC⁸³¹⁶
- Pixels : SizeT⁸³¹⁷
- Pixels : SizeX⁸³¹⁸
- Pixels : SizeY⁸³¹⁹
- Pixels : SizeZ⁸³²⁰
- Pixels : Type⁸³²¹
- Plane : TheC⁸³²²
- Plane : TheT⁸³²³
- Plane : TheZ⁸³²⁴

Total supported: 21

Total unknown or missing: 454

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Olympus FluoView FV1000*

18.2.258 FV1000Reader

This page lists supported metadata fields for the Bio-Formats Olympus FV1000 format reader.

These fields are from the *OME data model*⁸³²⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 113 of them (23%).
- Of those, Bio-Formats fully or partially converts 113 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus FV1000 format reader:

- Channel : EmissionWavelength⁸³²⁶
- Channel : ExcitationWavelength⁸³²⁷
- Channel : ID⁸³²⁸

⁸³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸³²⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁸³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁸³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : IlluminationType⁸³²⁹
- Channel : LightSourceSettingsID⁸³³⁰
- Channel : LightSourceSettingsWavelength⁸³³¹
- Channel : Name⁸³³²
- Channel : SamplesPerPixel⁸³³³
- Detector : Gain⁸³³⁴
- Detector : ID⁸³³⁵
- Detector : Type⁸³³⁶
- Detector : Voltage⁸³³⁷
- DetectorSettings : ID⁸³³⁸
- Dichroic : ID⁸³³⁹
- Dichroic : Model⁸³⁴⁰
- Ellipse : FontSize⁸³⁴¹
- Ellipse : ID⁸³⁴²
- Ellipse : RadiusX⁸³⁴³
- Ellipse : RadiusY⁸³⁴⁴
- Ellipse : StrokeWidth⁸³⁴⁵
- Ellipse : TheT⁸³⁴⁶
- Ellipse : TheZ⁸³⁴⁷
- Ellipse : Transform⁸³⁴⁸
- Ellipse : X⁸³⁴⁹
- Ellipse : Y⁸³⁵⁰
- Filter : ID⁸³⁵¹
- Filter : Model⁸³⁵²
- Image : AcquisitionDate⁸³⁵³
- Image : ID⁸³⁵⁴

⁸³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_IlluminationType

⁸³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

⁸³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Wavelength

⁸³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁸³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Voltage

⁸³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁸³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁸³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁸³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁸³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁸³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

⁸³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

⁸³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁸³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : InstrumentRef⁸³⁵⁵
- Image : Name⁸³⁵⁶
- Image : ROIRef⁸³⁵⁷
- Instrument : ID⁸³⁵⁸
- Laser : ID⁸³⁵⁹
- Laser : LaserMedium⁸³⁶⁰
- Laser : Type⁸³⁶¹
- Laser : Wavelength⁸³⁶²
- LightPath : DichroicRef⁸³⁶³
- LightPath : EmissionFilterRef⁸³⁶⁴
- Line : FontSize⁸³⁶⁵
- Line : ID⁸³⁶⁶
- Line : StrokeWidth⁸³⁶⁷
- Line : TheT⁸³⁶⁸
- Line : TheZ⁸³⁶⁹
- Line : Transform⁸³⁷⁰
- Line : X1⁸³⁷¹
- Line : X2⁸³⁷²
- Line : Y1⁸³⁷³
- Line : Y2⁸³⁷⁴
- Objective : Correction⁸³⁷⁵
- Objective : ID⁸³⁷⁶
- Objective : Immersion⁸³⁷⁷
- Objective : LensNA⁸³⁷⁸
- Objective : Model⁸³⁷⁹
- Objective : NominalMagnification⁸³⁸⁰

⁸³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁸³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁸³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁸³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁸³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁸³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁸³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁸³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁸³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁸³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁸³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁸³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁸³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁸³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

- Objective : WorkingDistance⁸³⁸¹
- ObjectiveSettings : ID⁸³⁸²
- Pixels : BigEndian⁸³⁸³
- Pixels : DimensionOrder⁸³⁸⁴
- Pixels : ID⁸³⁸⁵
- Pixels : Interleaved⁸³⁸⁶
- Pixels : PhysicalSizeX⁸³⁸⁷
- Pixels : PhysicalSizeY⁸³⁸⁸
- Pixels : PhysicalSizeZ⁸³⁸⁹
- Pixels : SignificantBits⁸³⁹⁰
- Pixels : SizeC⁸³⁹¹
- Pixels : SizeT⁸³⁹²
- Pixels : SizeX⁸³⁹³
- Pixels : SizeY⁸³⁹⁴
- Pixels : SizeZ⁸³⁹⁵
- Pixels : TimeIncrement⁸³⁹⁶
- Pixels : Type⁸³⁹⁷
- Plane : DeltaT⁸³⁹⁸
- Plane : PositionX⁸³⁹⁹
- Plane : PositionY⁸⁴⁰⁰
- Plane : PositionZ⁸⁴⁰¹
- Plane : TheC⁸⁴⁰²
- Plane : TheT⁸⁴⁰³
- Plane : TheZ⁸⁴⁰⁴
- Point : FontSize⁸⁴⁰⁵
- Point : ID⁸⁴⁰⁶

⁸³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁸³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁸³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

- Point : StrokeWidth⁸⁴⁰⁷
- Point : TheT⁸⁴⁰⁸
- Point : TheZ⁸⁴⁰⁹
- Point : X⁸⁴¹⁰
- Point : Y⁸⁴¹¹
- Polygon : FontSize⁸⁴¹²
- Polygon : ID⁸⁴¹³
- Polygon : Points⁸⁴¹⁴
- Polygon : StrokeWidth⁸⁴¹⁵
- Polygon : TheT⁸⁴¹⁶
- Polygon : TheZ⁸⁴¹⁷
- Polygon : Transform⁸⁴¹⁸
- Polyline : FontSize⁸⁴¹⁹
- Polyline : ID⁸⁴²⁰
- Polyline : Points⁸⁴²¹
- Polyline : StrokeWidth⁸⁴²²
- Polyline : TheT⁸⁴²³
- Polyline : TheZ⁸⁴²⁴
- Polyline : Transform⁸⁴²⁵
- ROI : ID⁸⁴²⁶
- Rectangle : FontSize⁸⁴²⁷
- Rectangle : Height⁸⁴²⁸
- Rectangle : ID⁸⁴²⁹
- Rectangle : StrokeWidth⁸⁴³⁰
- Rectangle : TheT⁸⁴³¹
- Rectangle : TheZ⁸⁴³²

⁸⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁸⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_X

⁸⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_Y

⁸⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁸⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁸⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁸⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

⁸⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁸⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁸⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁸⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁸⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

- Rectangle : Transform⁸⁴³³
- Rectangle : Width⁸⁴³⁴
- Rectangle : X⁸⁴³⁵
- Rectangle : Y⁸⁴³⁶
- TransmittanceRange : CutIn⁸⁴³⁷
- TransmittanceRange : CutOut⁸⁴³⁸

Total supported: 113

Total unknown or missing: 362

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Olympus Fluoview TIFF*

18.2.259 FluoviewReader

This page lists supported metadata fields for the Bio-Formats Olympus Fluoview/ABD TIFF format reader.

These fields are from the *OME data model*⁸⁴³⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 49 of them (10%).
- Of those, Bio-Formats fully or partially converts 49 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus Fluoview/ABD TIFF format reader:

- Channel : ID⁸⁴⁴⁰
- Channel : Name⁸⁴⁴¹
- Channel : SamplesPerPixel⁸⁴⁴²
- Detector : ID⁸⁴⁴³
- Detector : Manufacturer⁸⁴⁴⁴
- Detector : Model⁸⁴⁴⁵
- Detector : Type⁸⁴⁴⁶
- DetectorSettings : Gain⁸⁴⁴⁷
- DetectorSettings : ID⁸⁴⁴⁸
- DetectorSettings : Offset⁸⁴⁴⁹

⁸⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁸⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁸⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁸⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁸⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

⁸⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

⁸⁴³⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁸⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁸⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

- DetectorSettings : ReadOutRate⁸⁴⁵⁰
- DetectorSettings : Voltage⁸⁴⁵¹
- Image : AcquisitionDate⁸⁴⁵²
- Image : Description⁸⁴⁵³
- Image : ID⁸⁴⁵⁴
- Image : InstrumentRef⁸⁴⁵⁵
- Image : Name⁸⁴⁵⁶
- ImagingEnvironment : Temperature⁸⁴⁵⁷
- Instrument : ID⁸⁴⁵⁸
- Objective : CalibratedMagnification⁸⁴⁵⁹
- Objective : Correction⁸⁴⁶⁰
- Objective : ID⁸⁴⁶¹
- Objective : Immersion⁸⁴⁶²
- Objective : LensNA⁸⁴⁶³
- Objective : Model⁸⁴⁶⁴
- ObjectiveSettings : ID⁸⁴⁶⁵
- Pixels : BigEndian⁸⁴⁶⁶
- Pixels : DimensionOrder⁸⁴⁶⁷
- Pixels : ID⁸⁴⁶⁸
- Pixels : Interleaved⁸⁴⁶⁹
- Pixels : PhysicalSizeX⁸⁴⁷⁰
- Pixels : PhysicalSizeY⁸⁴⁷¹
- Pixels : PhysicalSizeZ⁸⁴⁷²
- Pixels : SignificantBits⁸⁴⁷³
- Pixels : SizeC⁸⁴⁷⁴
- Pixels : SizeT⁸⁴⁷⁵

⁸⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

⁸⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁸⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁸⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁸⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁸⁴⁷⁶
- Pixels : SizeY⁸⁴⁷⁷
- Pixels : SizeZ⁸⁴⁷⁸
- Pixels : TimeIncrement⁸⁴⁷⁹
- Pixels : Type⁸⁴⁸⁰
- Plane : DeltaT⁸⁴⁸¹
- Plane : ExposureTime⁸⁴⁸²
- Plane : PositionX⁸⁴⁸³
- Plane : PositionY⁸⁴⁸⁴
- Plane : PositionZ⁸⁴⁸⁵
- Plane : TheC⁸⁴⁸⁶
- Plane : TheT⁸⁴⁸⁷
- Plane : TheZ⁸⁴⁸⁸

Total supported: 49

Total unknown or missing: 426

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Olympus ScanR*

18.2.260 ScanrReader

This page lists supported metadata fields for the Bio-Formats Olympus ScanR format reader.

These fields are from the *OME data model*⁸⁴⁸⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 43 of them (9%).
- Of those, Bio-Formats fully or partially converts 43 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus ScanR format reader:

- Channel : ID⁸⁴⁹⁰
- Channel : Name⁸⁴⁹¹
- Channel : SamplesPerPixel⁸⁴⁹²

⁸⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁸⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁴⁸⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁸⁴⁹³
- Image : ID⁸⁴⁹⁴
- Image : Name⁸⁴⁹⁵
- Pixels : BigEndian⁸⁴⁹⁶
- Pixels : DimensionOrder⁸⁴⁹⁷
- Pixels : ID⁸⁴⁹⁸
- Pixels : Interleaved⁸⁴⁹⁹
- Pixels : PhysicalSizeX⁸⁵⁰⁰
- Pixels : PhysicalSizeY⁸⁵⁰¹
- Pixels : SignificantBits⁸⁵⁰²
- Pixels : SizeC⁸⁵⁰³
- Pixels : SizeT⁸⁵⁰⁴
- Pixels : SizeX⁸⁵⁰⁵
- Pixels : SizeY⁸⁵⁰⁶
- Pixels : SizeZ⁸⁵⁰⁷
- Pixels : Type⁸⁵⁰⁸
- Plane : DeltaT⁸⁵⁰⁹
- Plane : ExposureTime⁸⁵¹⁰
- Plane : PositionX⁸⁵¹¹
- Plane : PositionY⁸⁵¹²
- Plane : TheC⁸⁵¹³
- Plane : TheT⁸⁵¹⁴
- Plane : TheZ⁸⁵¹⁵
- Plate : ColumnNamingConvention⁸⁵¹⁶
- Plate : Columns⁸⁵¹⁷
- Plate : ID⁸⁵¹⁸

⁸⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁸⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

⁸⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

- Plate : Name⁸⁵¹⁹
- Plate : RowNamingConvention⁸⁵²⁰
- Plate : Rows⁸⁵²¹
- PlateAcquisition : ID⁸⁵²²
- PlateAcquisition : MaximumFieldCount⁸⁵²³
- PlateAcquisition : WellSampleRef⁸⁵²⁴
- Well : Column⁸⁵²⁵
- Well : ID⁸⁵²⁶
- Well : Row⁸⁵²⁷
- WellSample : ID⁸⁵²⁸
- WellSample : ImageRef⁸⁵²⁹
- WellSample : Index⁸⁵³⁰
- WellSample : PositionX⁸⁵³¹
- WellSample : PositionY⁸⁵³²

Total supported: 43

Total unknown or missing: 432

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Olympus SIS TIFF*

18.2.261 SISReader

This page lists supported metadata fields for the Bio-Formats Olympus SIS TIFF format reader.

These fields are from the [OME data model](#)⁸⁵³³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 33 of them (6%).
- Of those, Bio-Formats fully or partially converts 33 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Olympus SIS TIFF format reader:

- Channel : ID⁸⁵³⁴
- Channel : Name⁸⁵³⁵

⁸⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁸⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁸⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

⁸⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁸⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁸⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁸⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁸⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁸⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁸⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁸⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁸⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁸⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁸⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

⁸⁵³³<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

- Channel : SamplesPerPixel⁸⁵³⁶
- Detector : ID⁸⁵³⁷
- Detector : Model⁸⁵³⁸
- Detector : Type⁸⁵³⁹
- DetectorSettings : ID⁸⁵⁴⁰
- Image : AcquisitionDate⁸⁵⁴¹
- Image : ID⁸⁵⁴²
- Image : InstrumentRef⁸⁵⁴³
- Image : Name⁸⁵⁴⁴
- Instrument : ID⁸⁵⁴⁵
- Objective : Correction⁸⁵⁴⁶
- Objective : ID⁸⁵⁴⁷
- Objective : Immersion⁸⁵⁴⁸
- Objective : NominalMagnification⁸⁵⁴⁹
- ObjectiveSettings : ID⁸⁵⁵⁰
- Pixels : BigEndian⁸⁵⁵¹
- Pixels : DimensionOrder⁸⁵⁵²
- Pixels : ID⁸⁵⁵³
- Pixels : Interleaved⁸⁵⁵⁴
- Pixels : PhysicalSizeX⁸⁵⁵⁵
- Pixels : PhysicalSizeY⁸⁵⁵⁶
- Pixels : SignificantBits⁸⁵⁵⁷
- Pixels : SizeC⁸⁵⁵⁸
- Pixels : SizeT⁸⁵⁵⁹
- Pixels : SizeX⁸⁵⁶⁰
- Pixels : SizeY⁸⁵⁶¹

⁸⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁸⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁸⁵⁶²
- Pixels : Type⁸⁵⁶³
- Plane : TheC⁸⁵⁶⁴
- Plane : TheT⁸⁵⁶⁵
- Plane : TheZ⁸⁵⁶⁶

Total supported: 33

Total unknown or missing: 442

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *OME-TIFF*

18.2.262 OMETiffReader

This page lists supported metadata fields for the Bio-Formats OME-TIFF format reader.

These fields are from the *OME data model*⁸⁵⁶⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats OME-TIFF format reader:

- Channel : ID⁸⁵⁶⁸
- Channel : SamplesPerPixel⁸⁵⁶⁹
- Image : AcquisitionDate⁸⁵⁷⁰
- Image : ID⁸⁵⁷¹
- Image : Name⁸⁵⁷²
- Pixels : BigEndian⁸⁵⁷³
- Pixels : DimensionOrder⁸⁵⁷⁴
- Pixels : ID⁸⁵⁷⁵
- Pixels : Interleaved⁸⁵⁷⁶
- Pixels : SignificantBits⁸⁵⁷⁷
- Pixels : SizeC⁸⁵⁷⁸

⁸⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁵⁶⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁸⁵⁷⁹
- Pixels : SizeX⁸⁵⁸⁰
- Pixels : SizeY⁸⁵⁸¹
- Pixels : SizeZ⁸⁵⁸²
- Pixels : Type⁸⁵⁸³
- Plane : TheC⁸⁵⁸⁴
- Plane : TheT⁸⁵⁸⁵
- Plane : TheZ⁸⁵⁸⁶

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [OME-XML](#)

18.2.263 OMEXMLReader

This page lists supported metadata fields for the Bio-Formats OME-XML format reader.

These fields are from the [OME data model](#)⁸⁵⁸⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats OME-XML format reader:

- Channel : ID⁸⁵⁸⁸
- Channel : SamplesPerPixel⁸⁵⁸⁹
- Image : AcquisitionDate⁸⁵⁹⁰
- Image : ID⁸⁵⁹¹
- Image : Name⁸⁵⁹²
- Pixels : BigEndian⁸⁵⁹³
- Pixels : DimensionOrder⁸⁵⁹⁴
- Pixels : ID⁸⁵⁹⁵

⁸⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁵⁸⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁸⁵⁹⁶
- Pixels : SignificantBits⁸⁵⁹⁷
- Pixels : SizeC⁸⁵⁹⁸
- Pixels : SizeT⁸⁵⁹⁹
- Pixels : SizeX⁸⁶⁰⁰
- Pixels : SizeY⁸⁶⁰¹
- Pixels : SizeZ⁸⁶⁰²
- Pixels : Type⁸⁶⁰³
- Plane : TheC⁸⁶⁰⁴
- Plane : TheT⁸⁶⁰⁵
- Plane : TheZ⁸⁶⁰⁶

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Oxford Instruments*

18.2.264 OxfordInstrumentsReader

This page lists supported metadata fields for the Bio-Formats Oxford Instruments format reader.

These fields are from the *OME data model*⁸⁶⁰⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Oxford Instruments format reader:

- Channel : ID⁸⁶⁰⁸
- Channel : SamplesPerPixel⁸⁶⁰⁹
- Image : AcquisitionDate⁸⁶¹⁰
- Image : Description⁸⁶¹¹
- Image : ID⁸⁶¹²

⁸⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁶⁰⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁸⁶¹³
- Pixels : BigEndian⁸⁶¹⁴
- Pixels : DimensionOrder⁸⁶¹⁵
- Pixels : ID⁸⁶¹⁶
- Pixels : Interleaved⁸⁶¹⁷
- Pixels : PhysicalSizeX⁸⁶¹⁸
- Pixels : PhysicalSizeY⁸⁶¹⁹
- Pixels : SignificantBits⁸⁶²⁰
- Pixels : SizeC⁸⁶²¹
- Pixels : SizeT⁸⁶²²
- Pixels : SizeX⁸⁶²³
- Pixels : SizeY⁸⁶²⁴
- Pixels : SizeZ⁸⁶²⁵
- Pixels : Type⁸⁶²⁶
- Plane : TheC⁸⁶²⁷
- Plane : TheT⁸⁶²⁸
- Plane : TheZ⁸⁶²⁹

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *PCORAW*

18.2.265 PCORAWReader

This page lists supported metadata fields for the Bio-Formats PCO-RAW format reader.

These fields are from the *OME data model*⁸⁶³⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 26 of them (5%).
- Of those, Bio-Formats fully or partially converts 26 (100%).

⁸⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁶³⁰<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats PCO-Raw format reader:

- Channel : ID⁸⁶³¹
- Channel : SamplesPerPixel⁸⁶³²
- Detector : ID⁸⁶³³
- Detector : SerialNumber⁸⁶³⁴
- DetectorSettings : Binning⁸⁶³⁵
- DetectorSettings : ID⁸⁶³⁶
- Image : AcquisitionDate⁸⁶³⁷
- Image : Description⁸⁶³⁸
- Image : ID⁸⁶³⁹
- Image : Name⁸⁶⁴⁰
- Instrument : ID⁸⁶⁴¹
- Pixels : BigEndian⁸⁶⁴²
- Pixels : DimensionOrder⁸⁶⁴³
- Pixels : ID⁸⁶⁴⁴
- Pixels : Interleaved⁸⁶⁴⁵
- Pixels : SignificantBits⁸⁶⁴⁶
- Pixels : SizeC⁸⁶⁴⁷
- Pixels : SizeT⁸⁶⁴⁸
- Pixels : SizeX⁸⁶⁴⁹
- Pixels : SizeY⁸⁶⁵⁰
- Pixels : SizeZ⁸⁶⁵¹
- Pixels : Type⁸⁶⁵²
- Plane : ExposureTime⁸⁶⁵³
- Plane : TheC⁸⁶⁵⁴

⁸⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁸⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁸⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁸⁶⁵⁵
- Plane : TheZ⁸⁶⁵⁶

Total supported: 26

Total unknown or missing: 449

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *PCX (PC Paintbrush)*

18.2.266 PCXReader

This page lists supported metadata fields for the Bio-Formats PCX format reader.

These fields are from the *OME data model*⁸⁶⁵⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats PCX format reader:

- Channel : ID⁸⁶⁵⁸
- Channel : SamplesPerPixel⁸⁶⁵⁹
- Image : AcquisitionDate⁸⁶⁶⁰
- Image : ID⁸⁶⁶¹
- Image : Name⁸⁶⁶²
- Pixels : BigEndian⁸⁶⁶³
- Pixels : DimensionOrder⁸⁶⁶⁴
- Pixels : ID⁸⁶⁶⁵
- Pixels : Interleaved⁸⁶⁶⁶
- Pixels : SignificantBits⁸⁶⁶⁷
- Pixels : SizeC⁸⁶⁶⁸
- Pixels : SizeT⁸⁶⁶⁹
- Pixels : SizeX⁸⁶⁷⁰
- Pixels : SizeY⁸⁶⁷¹

⁸⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁶⁵⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁸⁶⁷²
- Pixels : Type⁸⁶⁷³
- Plane : TheC⁸⁶⁷⁴
- Plane : TheT⁸⁶⁷⁵
- Plane : TheZ⁸⁶⁷⁶

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Perkin Elmer Densitometer*

18.2.267 PDSReader

This page lists supported metadata fields for the Bio-Formats Perkin Elmer Densitometer format reader.

These fields are from the *OME data model*⁸⁶⁷⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Perkin Elmer Densitometer format reader:

- Channel : ID⁸⁶⁷⁸
- Channel : SamplesPerPixel⁸⁶⁷⁹
- Image : AcquisitionDate⁸⁶⁸⁰
- Image : ID⁸⁶⁸¹
- Image : Name⁸⁶⁸²
- Pixels : BigEndian⁸⁶⁸³
- Pixels : DimensionOrder⁸⁶⁸⁴
- Pixels : ID⁸⁶⁸⁵
- Pixels : Interleaved⁸⁶⁸⁶
- Pixels : PhysicalSizeX⁸⁶⁸⁷
- Pixels : PhysicalSizeY⁸⁶⁸⁸

⁸⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁶⁷⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

- Pixels : SignificantBits⁸⁶⁸⁹
- Pixels : SizeC⁸⁶⁹⁰
- Pixels : SizeT⁸⁶⁹¹
- Pixels : SizeX⁸⁶⁹²
- Pixels : SizeY⁸⁶⁹³
- Pixels : SizeZ⁸⁶⁹⁴
- Pixels : Type⁸⁶⁹⁵
- Plane : PositionX⁸⁶⁹⁶
- Plane : PositionY⁸⁶⁹⁷
- Plane : TheC⁸⁶⁹⁸
- Plane : TheT⁸⁶⁹⁹
- Plane : TheZ⁸⁷⁰⁰

Total supported: 23

Total unknown or missing: 452

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *PerkinElmer Nuance*

18.2.268 IM3Reader

This page lists supported metadata fields for the Bio-Formats Perkin-Elmer Nuance IM3 format reader.

These fields are from the *OME data model*⁸⁷⁰¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Perkin-Elmer Nuance IM3 format reader:

- Channel : ID⁸⁷⁰²
- Channel : SamplesPerPixel⁸⁷⁰³
- Image : AcquisitionDate⁸⁷⁰⁴
- Image : ID⁸⁷⁰⁵

⁸⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁷⁰¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁸⁷⁰⁶
- Pixels : BigEndian⁸⁷⁰⁷
- Pixels : DimensionOrder⁸⁷⁰⁸
- Pixels : ID⁸⁷⁰⁹
- Pixels : Interleaved⁸⁷¹⁰
- Pixels : SignificantBits⁸⁷¹¹
- Pixels : SizeC⁸⁷¹²
- Pixels : SizeT⁸⁷¹³
- Pixels : SizeX⁸⁷¹⁴
- Pixels : SizeY⁸⁷¹⁵
- Pixels : SizeZ⁸⁷¹⁶
- Pixels : Type⁸⁷¹⁷
- Plane : TheC⁸⁷¹⁸
- Plane : TheT⁸⁷¹⁹
- Plane : TheZ⁸⁷²⁰

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *PerkinElmer Operetta*

18.2.269 OperettaReader

This page lists supported metadata fields for the Bio-Formats PerkinElmer Operetta format reader.

These fields are from the [OME data model](#)⁸⁷²¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 43 of them (9%).
- Of those, Bio-Formats fully or partially converts 43 (100%).

Supported fields

These fields are fully supported by the Bio-Formats PerkinElmer Operetta format reader:

- Channel : ID⁸⁷²²

⁸⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁷²¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : Name⁸⁷²³
- Channel : SamplesPerPixel⁸⁷²⁴
- Experimenter : ID⁸⁷²⁵
- Experimenter : LastName⁸⁷²⁶
- Image : AcquisitionDate⁸⁷²⁷
- Image : ExperimenterRef⁸⁷²⁸
- Image : ID⁸⁷²⁹
- Image : Name⁸⁷³⁰
- Pixels : BigEndian⁸⁷³¹
- Pixels : DimensionOrder⁸⁷³²
- Pixels : ID⁸⁷³³
- Pixels : Interleaved⁸⁷³⁴
- Pixels : PhysicalSizeX⁸⁷³⁵
- Pixels : PhysicalSizeY⁸⁷³⁶
- Pixels : SignificantBits⁸⁷³⁷
- Pixels : SizeC⁸⁷³⁸
- Pixels : SizeT⁸⁷³⁹
- Pixels : SizeX⁸⁷⁴⁰
- Pixels : SizeY⁸⁷⁴¹
- Pixels : SizeZ⁸⁷⁴²
- Pixels : Type⁸⁷⁴³
- Plane : PositionX⁸⁷⁴⁴
- Plane : PositionY⁸⁷⁴⁵
- Plane : PositionZ⁸⁷⁴⁶
- Plane : TheC⁸⁷⁴⁷
- Plane : TheT⁸⁷⁴⁸

⁸⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁸⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁸⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

⁸⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁸⁷⁴⁹
- Plate : Columns⁸⁷⁵⁰
- Plate : Description⁸⁷⁵¹
- Plate : ExternalIdentifier⁸⁷⁵²
- Plate : ID⁸⁷⁵³
- Plate : Name⁸⁷⁵⁴
- Plate : Rows⁸⁷⁵⁵
- PlateAcquisition : ID⁸⁷⁵⁶
- PlateAcquisition : MaximumFieldCount⁸⁷⁵⁷
- PlateAcquisition : WellSampleRef⁸⁷⁵⁸
- Well : Column⁸⁷⁵⁹
- Well : ID⁸⁷⁶⁰
- Well : Row⁸⁷⁶¹
- WellSample : ID⁸⁷⁶²
- WellSample : ImageRef⁸⁷⁶³
- WellSample : Index⁸⁷⁶⁴

Total supported: 43

Total unknown or missing: 432

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *PerkinElmer UltraView*

18.2.270 PerkinElmerReader

This page lists supported metadata fields for the Bio-Formats PerkinElmer format reader.

These fields are from the [OME data model](#)⁸⁷⁶⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 30 of them (6%).
- Of those, Bio-Formats fully or partially converts 30 (100%).

⁸⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

⁸⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Description

⁸⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ExternalIdentifier

⁸⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁸⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁸⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

⁸⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁸⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁸⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁸⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁸⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁸⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁸⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁸⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁸⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁸⁷⁶⁵<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats PerkinElmer format reader:

- Channel : EmissionWavelength⁸⁷⁶⁶
- Channel : ExcitationWavelength⁸⁷⁶⁷
- Channel : ID⁸⁷⁶⁸
- Channel : SamplesPerPixel⁸⁷⁶⁹
- Image : AcquisitionDate⁸⁷⁷⁰
- Image : ID⁸⁷⁷¹
- Image : InstrumentRef⁸⁷⁷²
- Image : Name⁸⁷⁷³
- Instrument : ID⁸⁷⁷⁴
- Pixels : BigEndian⁸⁷⁷⁵
- Pixels : DimensionOrder⁸⁷⁷⁶
- Pixels : ID⁸⁷⁷⁷
- Pixels : Interleaved⁸⁷⁷⁸
- Pixels : PhysicalSizeX⁸⁷⁷⁹
- Pixels : PhysicalSizeY⁸⁷⁸⁰
- Pixels : SignificantBits⁸⁷⁸¹
- Pixels : SizeC⁸⁷⁸²
- Pixels : SizeT⁸⁷⁸³
- Pixels : SizeX⁸⁷⁸⁴
- Pixels : SizeY⁸⁷⁸⁵
- Pixels : SizeZ⁸⁷⁸⁶
- Pixels : Type⁸⁷⁸⁷
- Plane : DeltaT⁸⁷⁸⁸
- Plane : ExposureTime⁸⁷⁸⁹

⁸⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁸⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

- Plane : PositionX⁸⁷⁹⁰
- Plane : PositionY⁸⁷⁹¹
- Plane : PositionZ⁸⁷⁹²
- Plane : TheC⁸⁷⁹³
- Plane : TheT⁸⁷⁹⁴
- Plane : TheZ⁸⁷⁹⁵

Total supported: 30

Total unknown or missing: 445

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Portable Any Map*

18.2.271 PGMReader

This page lists supported metadata fields for the Bio-Formats Portable Any Map format reader.

These fields are from the [OME data model](#)⁸⁷⁹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Portable Any Map format reader:

- Channel : ID⁸⁷⁹⁷
- Channel : SamplesPerPixel⁸⁷⁹⁸
- Image : AcquisitionDate⁸⁷⁹⁹
- Image : ID⁸⁸⁰⁰
- Image : Name⁸⁸⁰¹
- Pixels : BigEndian⁸⁸⁰²
- Pixels : DimensionOrder⁸⁸⁰³
- Pixels : ID⁸⁸⁰⁴
- Pixels : Interleaved⁸⁸⁰⁵
- Pixels : SignificantBits⁸⁸⁰⁶

⁸⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁷⁹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁸⁸⁰⁷
- Pixels : SizeT⁸⁸⁰⁸
- Pixels : SizeX⁸⁸⁰⁹
- Pixels : SizeY⁸⁸¹⁰
- Pixels : SizeZ⁸⁸¹¹
- Pixels : Type⁸⁸¹²
- Plane : TheC⁸⁸¹³
- Plane : TheT⁸⁸¹⁴
- Plane : TheZ⁸⁸¹⁵

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Adobe Photoshop PSD*

18.2.272 PSDReader

This page lists supported metadata fields for the Bio-Formats Adobe Photoshop format reader.

These fields are from the *OME data model*⁸⁸¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Adobe Photoshop format reader:

- Channel : ID⁸⁸¹⁷
- Channel : SamplesPerPixel⁸⁸¹⁸
- Image : AcquisitionDate⁸⁸¹⁹
- Image : ID⁸⁸²⁰
- Image : Name⁸⁸²¹
- Pixels : BigEndian⁸⁸²²
- Pixels : DimensionOrder⁸⁸²³

⁸⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁸¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID⁸⁸²⁴
- Pixels : Interleaved⁸⁸²⁵
- Pixels : SignificantBits⁸⁸²⁶
- Pixels : SizeC⁸⁸²⁷
- Pixels : SizeT⁸⁸²⁸
- Pixels : SizeX⁸⁸²⁹
- Pixels : SizeY⁸⁸³⁰
- Pixels : SizeZ⁸⁸³¹
- Pixels : Type⁸⁸³²
- Plane : TheC⁸⁸³³
- Plane : TheT⁸⁸³⁴
- Plane : TheZ⁸⁸³⁵

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Photoshop TIFF*

18.2.273 PhotoshopTiffReader

This page lists supported metadata fields for the Bio-Formats Adobe Photoshop TIFF format reader.

These fields are from the [OME data model](#)⁸⁸³⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Adobe Photoshop TIFF format reader:

- Channel : ID⁸⁸³⁷
- Channel : SamplesPerPixel⁸⁸³⁸
- Image : AcquisitionDate⁸⁸³⁹
- Image : ID⁸⁸⁴⁰

⁸⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁸³⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁸⁸⁴¹
- Pixels : BigEndian⁸⁸⁴²
- Pixels : DimensionOrder⁸⁸⁴³
- Pixels : ID⁸⁸⁴⁴
- Pixels : Interleaved⁸⁸⁴⁵
- Pixels : SignificantBits⁸⁸⁴⁶
- Pixels : SizeC⁸⁸⁴⁷
- Pixels : SizeT⁸⁸⁴⁸
- Pixels : SizeX⁸⁸⁴⁹
- Pixels : SizeY⁸⁸⁵⁰
- Pixels : SizeZ⁸⁸⁵¹
- Pixels : Type⁸⁸⁵²
- Plane : TheC⁸⁸⁵³
- Plane : TheT⁸⁸⁵⁴
- Plane : TheZ⁸⁸⁵⁵

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *PicoQuant Bin*

18.2.274 PQBinReader

This page lists supported metadata fields for the Bio-Formats PicoQuant Bin format reader.

These fields are from the *OME data model*⁸⁸⁵⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats PicoQuant Bin format reader:

- Channel : ID⁸⁸⁵⁷

⁸⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁸⁵⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : SamplesPerPixel⁸⁸⁵⁸
- Image : AcquisitionDate⁸⁸⁵⁹
- Image : ID⁸⁸⁶⁰
- Image : Name⁸⁸⁶¹
- Pixels : BigEndian⁸⁸⁶²
- Pixels : DimensionOrder⁸⁸⁶³
- Pixels : ID⁸⁸⁶⁴
- Pixels : Interleaved⁸⁸⁶⁵
- Pixels : PhysicalSizeX⁸⁸⁶⁶
- Pixels : PhysicalSizeY⁸⁸⁶⁷
- Pixels : SignificantBits⁸⁸⁶⁸
- Pixels : SizeC⁸⁸⁶⁹
- Pixels : SizeT⁸⁸⁷⁰
- Pixels : SizeX⁸⁸⁷¹
- Pixels : SizeY⁸⁸⁷²
- Pixels : SizeZ⁸⁸⁷³
- Pixels : Type⁸⁸⁷⁴
- Plane : TheC⁸⁸⁷⁵
- Plane : TheT⁸⁸⁷⁶
- Plane : TheZ⁸⁸⁷⁷

Total supported: 21

Total unknown or missing: 454

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *PICT (Macintosh Picture)*

18.2.275 PictReader

This page lists supported metadata fields for the Bio-Formats PICT format reader.

These fields are from the [OME data model](#)⁸⁸⁷⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁸⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁸⁷⁸<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats PICT format reader:

- Channel : ID⁸⁸⁷⁹
- Channel : SamplesPerPixel⁸⁸⁸⁰
- Image : AcquisitionDate⁸⁸⁸¹
- Image : ID⁸⁸⁸²
- Image : Name⁸⁸⁸³
- Pixels : BigEndian⁸⁸⁸⁴
- Pixels : DimensionOrder⁸⁸⁸⁵
- Pixels : ID⁸⁸⁸⁶
- Pixels : Interleaved⁸⁸⁸⁷
- Pixels : SignificantBits⁸⁸⁸⁸
- Pixels : SizeC⁸⁸⁸⁹
- Pixels : SizeT⁸⁸⁹⁰
- Pixels : SizeX⁸⁸⁹¹
- Pixels : SizeY⁸⁸⁹²
- Pixels : SizeZ⁸⁸⁹³
- Pixels : Type⁸⁸⁹⁴
- Plane : TheC⁸⁸⁹⁵
- Plane : TheT⁸⁸⁹⁶
- Plane : TheZ⁸⁸⁹⁷

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *PNG (Portable Network Graphics)*

- ⁸⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁸⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁸⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁸⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁸⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁸⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁸⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁸⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁸⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁸⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁸⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁸⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁸⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁸⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁸⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁸⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁸⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁸⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁸⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.276 APNGReader

This page lists supported metadata fields for the Bio-Formats Animated PNG format reader.

These fields are from the [OME data model](#)⁸⁸⁹⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Animated PNG format reader:

- Channel : ID⁸⁸⁹⁹
- Channel : SamplesPerPixel⁸⁹⁰⁰
- Image : AcquisitionDate⁸⁹⁰¹
- Image : ID⁸⁹⁰²
- Image : Name⁸⁹⁰³
- Pixels : BigEndian⁸⁹⁰⁴
- Pixels : DimensionOrder⁸⁹⁰⁵
- Pixels : ID⁸⁹⁰⁶
- Pixels : Interleaved⁸⁹⁰⁷
- Pixels : SignificantBits⁸⁹⁰⁸
- Pixels : SizeC⁸⁹⁰⁹
- Pixels : SizeT⁸⁹¹⁰
- Pixels : SizeX⁸⁹¹¹
- Pixels : SizeY⁸⁹¹²
- Pixels : SizeZ⁸⁹¹³
- Pixels : Type⁸⁹¹⁴
- Plane : TheC⁸⁹¹⁵
- Plane : TheT⁸⁹¹⁶

⁸⁸⁹⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁸⁹¹⁷

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Prairie Technologies TIFF*

18.2.277 PrairieReader

This page lists supported metadata fields for the Bio-Formats Prairie TIFF format reader.

These fields are from the *OME data model*⁸⁹¹⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 46 of them (9%).
- Of those, Bio-Formats fully or partially converts 46 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Prairie TIFF format reader:

- Channel : EmissionWavelength⁸⁹¹⁹
- Channel : ID⁸⁹²⁰
- Channel : Name⁸⁹²¹
- Channel : SamplesPerPixel⁸⁹²²
- Detector : ID⁸⁹²³
- Detector : Type⁸⁹²⁴
- Detector : Zoom⁸⁹²⁵
- DetectorSettings : Gain⁸⁹²⁶
- DetectorSettings : ID⁸⁹²⁷
- DetectorSettings : Offset⁸⁹²⁸
- Image : AcquisitionDate⁸⁹²⁹
- Image : ID⁸⁹³⁰
- Image : InstrumentRef⁸⁹³¹
- Image : Name⁸⁹³²
- Instrument : ID⁸⁹³³

⁸⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁹¹⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁸⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁸⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁸⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

- Laser : ID⁸⁹³⁴
- Laser : Power⁸⁹³⁵
- Microscope : Model⁸⁹³⁶
- Objective : Correction⁸⁹³⁷
- Objective : ID⁸⁹³⁸
- Objective : Immersion⁸⁹³⁹
- Objective : LensNA⁸⁹⁴⁰
- Objective : Manufacturer⁸⁹⁴¹
- Objective : NominalMagnification⁸⁹⁴²
- ObjectiveSettings : ID⁸⁹⁴³
- Pixels : BigEndian⁸⁹⁴⁴
- Pixels : DimensionOrder⁸⁹⁴⁵
- Pixels : ID⁸⁹⁴⁶
- Pixels : Interleaved⁸⁹⁴⁷
- Pixels : PhysicalSizeX⁸⁹⁴⁸
- Pixels : PhysicalSizeY⁸⁹⁴⁹
- Pixels : SignificantBits⁸⁹⁵⁰
- Pixels : SizeC⁸⁹⁵¹
- Pixels : SizeT⁸⁹⁵²
- Pixels : SizeX⁸⁹⁵³
- Pixels : SizeY⁸⁹⁵⁴
- Pixels : SizeZ⁸⁹⁵⁵
- Pixels : TimeIncrement⁸⁹⁵⁶
- Pixels : Type⁸⁹⁵⁷
- Plane : DeltaT⁸⁹⁵⁸
- Plane : PositionX⁸⁹⁵⁹

⁸⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁸⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁸⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁸⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁸⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁸⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

- Plane : PositionY⁸⁹⁶⁰
- Plane : PositionZ⁸⁹⁶¹
- Plane : TheC⁸⁹⁶²
- Plane : TheT⁸⁹⁶³
- Plane : TheZ⁸⁹⁶⁴

Total supported: 46

Total unknown or missing: 429

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [Quesant](#)

18.2.278 QuesantReader

This page lists supported metadata fields for the Bio-Formats Quesant AFM format reader.

These fields are from the [OME data model](#)⁸⁹⁶⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Quesant AFM format reader:

- Channel : ID⁸⁹⁶⁶
- Channel : SamplesPerPixel⁸⁹⁶⁷
- Image : AcquisitionDate⁸⁹⁶⁸
- Image : Description⁸⁹⁶⁹
- Image : ID⁸⁹⁷⁰
- Image : Name⁸⁹⁷¹
- Pixels : BigEndian⁸⁹⁷²
- Pixels : DimensionOrder⁸⁹⁷³
- Pixels : ID⁸⁹⁷⁴
- Pixels : Interleaved⁸⁹⁷⁵
- Pixels : PhysicalSizeX⁸⁹⁷⁶

⁸⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁹⁶⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁸⁹⁷⁷
- Pixels : SignificantBits⁸⁹⁷⁸
- Pixels : SizeC⁸⁹⁷⁹
- Pixels : SizeT⁸⁹⁸⁰
- Pixels : SizeX⁸⁹⁸¹
- Pixels : SizeY⁸⁹⁸²
- Pixels : SizeZ⁸⁹⁸³
- Pixels : Type⁸⁹⁸⁴
- Plane : TheC⁸⁹⁸⁵
- Plane : TheT⁸⁹⁸⁶
- Plane : TheZ⁸⁹⁸⁷

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *QuickTime Movie*

18.2.279 NativeQTReader

This page lists supported metadata fields for the Bio-Formats QuickTime format reader.

These fields are from the *OME data model*⁸⁹⁸⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats QuickTime format reader:

- Channel : ID⁸⁹⁸⁹
- Channel : SamplesPerPixel⁸⁹⁹⁰
- Image : AcquisitionDate⁸⁹⁹¹
- Image : ID⁸⁹⁹²
- Image : Name⁸⁹⁹³

⁸⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁹⁸⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Pixels : BigEndian⁸⁹⁹⁴
- Pixels : DimensionOrder⁸⁹⁹⁵
- Pixels : ID⁸⁹⁹⁶
- Pixels : Interleaved⁸⁹⁹⁷
- Pixels : SignificantBits⁸⁹⁹⁸
- Pixels : SizeC⁸⁹⁹⁹
- Pixels : SizeT⁹⁰⁰⁰
- Pixels : SizeX⁹⁰⁰¹
- Pixels : SizeY⁹⁰⁰²
- Pixels : SizeZ⁹⁰⁰³
- Pixels : Type⁹⁰⁰⁴
- Plane : TheC⁹⁰⁰⁵
- Plane : TheT⁹⁰⁰⁶
- Plane : TheZ⁹⁰⁰⁷

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [RHK](#)

18.2.280 RHKReader

This page lists supported metadata fields for the Bio-Formats RHK Technologies format reader.

These fields are from the [OME data model](#)⁹⁰⁰⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats RHK Technologies format reader:

- Channel : ID⁹⁰⁰⁹
- Channel : SamplesPerPixel⁹⁰¹⁰

⁸⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁰⁰⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁹⁰¹¹
- Image : Description⁹⁰¹²
- Image : ID⁹⁰¹³
- Image : Name⁹⁰¹⁴
- Pixels : BigEndian⁹⁰¹⁵
- Pixels : DimensionOrder⁹⁰¹⁶
- Pixels : ID⁹⁰¹⁷
- Pixels : Interleaved⁹⁰¹⁸
- Pixels : PhysicalSizeX⁹⁰¹⁹
- Pixels : PhysicalSizeY⁹⁰²⁰
- Pixels : SignificantBits⁹⁰²¹
- Pixels : SizeC⁹⁰²²
- Pixels : SizeT⁹⁰²³
- Pixels : SizeX⁹⁰²⁴
- Pixels : SizeY⁹⁰²⁵
- Pixels : SizeZ⁹⁰²⁶
- Pixels : Type⁹⁰²⁷
- Plane : TheC⁹⁰²⁸
- Plane : TheT⁹⁰²⁹
- Plane : TheZ⁹⁰³⁰

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *SBIG*

18.2.281 SBIGReader

This page lists supported metadata fields for the Bio-Formats SBIG format reader.

These fields are from the [OME data model](#)⁹⁰³¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁹⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁰³¹<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats SBIG format reader:

- Channel : ID⁹⁰³²
- Channel : SamplesPerPixel⁹⁰³³
- Image : AcquisitionDate⁹⁰³⁴
- Image : Description⁹⁰³⁵
- Image : ID⁹⁰³⁶
- Image : Name⁹⁰³⁷
- Pixels : BigEndian⁹⁰³⁸
- Pixels : DimensionOrder⁹⁰³⁹
- Pixels : ID⁹⁰⁴⁰
- Pixels : Interleaved⁹⁰⁴¹
- Pixels : PhysicalSizeX⁹⁰⁴²
- Pixels : PhysicalSizeY⁹⁰⁴³
- Pixels : SignificantBits⁹⁰⁴⁴
- Pixels : SizeC⁹⁰⁴⁵
- Pixels : SizeT⁹⁰⁴⁶
- Pixels : SizeX⁹⁰⁴⁷
- Pixels : SizeY⁹⁰⁴⁸
- Pixels : SizeZ⁹⁰⁴⁹
- Pixels : Type⁹⁰⁵⁰
- Plane : TheC⁹⁰⁵¹
- Plane : TheT⁹⁰⁵²
- Plane : TheZ⁹⁰⁵³

⁹⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
⁹⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
⁹⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
⁹⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
⁹⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁹⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁹⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁹⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁹⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁹⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁹⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁹⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁹⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁹⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁹⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁹⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁹⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁹⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁹⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁹⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁹⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁹⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Seiko*

18.2.282 SeikoReader

This page lists supported metadata fields for the Bio-Formats Seiko format reader.

These fields are from the [OME data model](#)⁹⁰⁵⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Seiko format reader:

- Channel : ID⁹⁰⁵⁵
- Channel : SamplesPerPixel⁹⁰⁵⁶
- Image : AcquisitionDate⁹⁰⁵⁷
- Image : Description⁹⁰⁵⁸
- Image : ID⁹⁰⁵⁹
- Image : Name⁹⁰⁶⁰
- Pixels : BigEndian⁹⁰⁶¹
- Pixels : DimensionOrder⁹⁰⁶²
- Pixels : ID⁹⁰⁶³
- Pixels : Interleaved⁹⁰⁶⁴
- Pixels : PhysicalSizeX⁹⁰⁶⁵
- Pixels : PhysicalSizeY⁹⁰⁶⁶
- Pixels : SignificantBits⁹⁰⁶⁷
- Pixels : SizeC⁹⁰⁶⁸
- Pixels : SizeT⁹⁰⁶⁹
- Pixels : SizeX⁹⁰⁷⁰

⁹⁰⁵⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁹⁰⁷¹
- Pixels : SizeZ⁹⁰⁷²
- Pixels : Type⁹⁰⁷³
- Plane : TheC⁹⁰⁷⁴
- Plane : TheT⁹⁰⁷⁵
- Plane : TheZ⁹⁰⁷⁶

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *SimplePCI & HCImage*

18.2.283 PCIRReader

This page lists supported metadata fields for the Bio-Formats Compix Simple-PCI format reader.

These fields are from the [OME data model](#)⁹⁰⁷⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 29 of them (6%).
- Of those, Bio-Formats fully or partially converts 29 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Compix Simple-PCI format reader:

- Channel : ID⁹⁰⁷⁸
- Channel : SamplesPerPixel⁹⁰⁷⁹
- Detector : ID⁹⁰⁸⁰
- Detector : Type⁹⁰⁸¹
- DetectorSettings : Binning⁹⁰⁸²
- DetectorSettings : ID⁹⁰⁸³
- Image : AcquisitionDate⁹⁰⁸⁴
- Image : ID⁹⁰⁸⁵
- Image : InstrumentRef⁹⁰⁸⁶
- Image : Name⁹⁰⁸⁷

⁹⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁰⁷⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁹⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁹⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁹⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Instrument : ID⁹⁰⁸⁸
- Pixels : BigEndian⁹⁰⁸⁹
- Pixels : DimensionOrder⁹⁰⁹⁰
- Pixels : ID⁹⁰⁹¹
- Pixels : Interleaved⁹⁰⁹²
- Pixels : PhysicalSizeX⁹⁰⁹³
- Pixels : PhysicalSizeY⁹⁰⁹⁴
- Pixels : SignificantBits⁹⁰⁹⁵
- Pixels : SizeC⁹⁰⁹⁶
- Pixels : SizeT⁹⁰⁹⁷
- Pixels : SizeX⁹⁰⁹⁸
- Pixels : SizeY⁹⁰⁹⁹
- Pixels : SizeZ⁹¹⁰⁰
- Pixels : TimeIncrement⁹¹⁰¹
- Pixels : Type⁹¹⁰²
- Plane : DeltaT⁹¹⁰³
- Plane : TheC⁹¹⁰⁴
- Plane : TheT⁹¹⁰⁵
- Plane : TheZ⁹¹⁰⁶

Total supported: 29

Total unknown or missing: 446

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *SimplePCI & HCImage TIFF*

18.2.284 SimplePCITiffReader

This page lists supported metadata fields for the Bio-Formats SimplePCI TIFF format reader.

These fields are from the [OME data model](#)⁹¹⁰⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 33 of them (6%).

⁹⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
⁹⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁹⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁹⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁹⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁹⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁹⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁹⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁹⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁹⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁹⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁹⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁹¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁹¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement
⁹¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁹¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT
⁹¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁹¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁹¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁹¹⁰⁷<http://www.openmicroscopy.org/site/support/ome-model/>

- Of those, Bio-Formats fully or partially converts 33 (100%).

Supported fields

These fields are fully supported by the Bio-Formats SimplePCI TIFF format reader:

- Channel : ID⁹¹⁰⁸
- Channel : SamplesPerPixel⁹¹⁰⁹
- Detector : ID⁹¹¹⁰
- Detector : Model⁹¹¹¹
- Detector : Type⁹¹¹²
- DetectorSettings : Binning⁹¹¹³
- DetectorSettings : ID⁹¹¹⁴
- Image : AcquisitionDate⁹¹¹⁵
- Image : Description⁹¹¹⁶
- Image : ID⁹¹¹⁷
- Image : InstrumentRef⁹¹¹⁸
- Image : Name⁹¹¹⁹
- Instrument : ID⁹¹²⁰
- Objective : ID⁹¹²¹
- Objective : Immersion⁹¹²²
- Objective : NominalMagnification⁹¹²³
- Pixels : BigEndian⁹¹²⁴
- Pixels : DimensionOrder⁹¹²⁵
- Pixels : ID⁹¹²⁶
- Pixels : Interleaved⁹¹²⁷
- Pixels : PhysicalSizeX⁹¹²⁸
- Pixels : PhysicalSizeY⁹¹²⁹
- Pixels : SignificantBits⁹¹³⁰

⁹¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁹¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁹¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁹¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁹¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁹¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁹¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁹¹³¹
- Pixels : SizeT⁹¹³²
- Pixels : SizeX⁹¹³³
- Pixels : SizeY⁹¹³⁴
- Pixels : SizeZ⁹¹³⁵
- Pixels : Type⁹¹³⁶
- Plane : ExposureTime⁹¹³⁷
- Plane : TheC⁹¹³⁸
- Plane : TheT⁹¹³⁹
- Plane : TheZ⁹¹⁴⁰

Total supported: 33

Total unknown or missing: 442

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *SM Camera*

18.2.285 SMCameraReader

This page lists supported metadata fields for the Bio-Formats SM Camera format reader.

These fields are from the [OME data model](#)⁹¹⁴¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats SM Camera format reader:

- Channel : ID⁹¹⁴²
- Channel : SamplesPerPixel⁹¹⁴³
- Image : AcquisitionDate⁹¹⁴⁴
- Image : ID⁹¹⁴⁵
- Image : Name⁹¹⁴⁶
- Pixels : BigEndian⁹¹⁴⁷

⁹¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁹¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹¹⁴¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁹¹⁴⁸
- Pixels : ID⁹¹⁴⁹
- Pixels : Interleaved⁹¹⁵⁰
- Pixels : SignificantBits⁹¹⁵¹
- Pixels : SizeC⁹¹⁵²
- Pixels : SizeT⁹¹⁵³
- Pixels : SizeX⁹¹⁵⁴
- Pixels : SizeY⁹¹⁵⁵
- Pixels : SizeZ⁹¹⁵⁶
- Pixels : Type⁹¹⁵⁷
- Plane : TheC⁹¹⁵⁸
- Plane : TheT⁹¹⁵⁹
- Plane : TheZ⁹¹⁶⁰

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *SPIDER*

18.2.286 SpiderReader

This page lists supported metadata fields for the Bio-Formats SPIDER format reader.

These fields are from the *OME data model*⁹¹⁶¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats SPIDER format reader:

- Channel : ID⁹¹⁶²
- Channel : SamplesPerPixel⁹¹⁶³
- Image : AcquisitionDate⁹¹⁶⁴

⁹¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹¹⁶¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁹¹⁶⁵
- Image : Name⁹¹⁶⁶
- Pixels : BigEndian⁹¹⁶⁷
- Pixels : DimensionOrder⁹¹⁶⁸
- Pixels : ID⁹¹⁶⁹
- Pixels : Interleaved⁹¹⁷⁰
- Pixels : PhysicalSizeX⁹¹⁷¹
- Pixels : PhysicalSizeY⁹¹⁷²
- Pixels : SignificantBits⁹¹⁷³
- Pixels : SizeC⁹¹⁷⁴
- Pixels : SizeT⁹¹⁷⁵
- Pixels : SizeX⁹¹⁷⁶
- Pixels : SizeY⁹¹⁷⁷
- Pixels : SizeZ⁹¹⁷⁸
- Pixels : Type⁹¹⁷⁹
- Plane : TheC⁹¹⁸⁰
- Plane : TheT⁹¹⁸¹
- Plane : TheZ⁹¹⁸²

Total supported: 21

Total unknown or missing: 454

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [Targa](#)

18.2.287 TargaReader

This page lists supported metadata fields for the Bio-Formats Truevision Targa format reader.

These fields are from the [OME data model](#)⁹¹⁸³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 20 of them (4%).
- Of those, Bio-Formats fully or partially converts 20 (100%).

⁹¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹¹⁸³<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Truevision Targa format reader:

- Channel : ID⁹¹⁸⁴
- Channel : SamplesPerPixel⁹¹⁸⁵
- Image : AcquisitionDate⁹¹⁸⁶
- Image : Description⁹¹⁸⁷
- Image : ID⁹¹⁸⁸
- Image : Name⁹¹⁸⁹
- Pixels : BigEndian⁹¹⁹⁰
- Pixels : DimensionOrder⁹¹⁹¹
- Pixels : ID⁹¹⁹²
- Pixels : Interleaved⁹¹⁹³
- Pixels : SignificantBits⁹¹⁹⁴
- Pixels : SizeC⁹¹⁹⁵
- Pixels : SizeT⁹¹⁹⁶
- Pixels : SizeX⁹¹⁹⁷
- Pixels : SizeY⁹¹⁹⁸
- Pixels : SizeZ⁹¹⁹⁹
- Pixels : Type⁹²⁰⁰
- Plane : TheC⁹²⁰¹
- Plane : TheT⁹²⁰²
- Plane : TheZ⁹²⁰³

Total supported: 20

Total unknown or missing: 455

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [Text](#)

18.2.288 TextReader

This page lists supported metadata fields for the Bio-Formats Text format reader.

- ⁹¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁹¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁹¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁹¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
- ⁹¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁹¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁹¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁹¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁹¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁹¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁹¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁹¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁹¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁹¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁹¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁹¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁹²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁹²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁹²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁹²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁹²⁰⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Text format reader:

- Channel : ID⁹²⁰⁵
- Channel : SamplesPerPixel⁹²⁰⁶
- Image : AcquisitionDate⁹²⁰⁷
- Image : ID⁹²⁰⁸
- Image : Name⁹²⁰⁹
- Pixels : BigEndian⁹²¹⁰
- Pixels : DimensionOrder⁹²¹¹
- Pixels : ID⁹²¹²
- Pixels : Interleaved⁹²¹³
- Pixels : SignificantBits⁹²¹⁴
- Pixels : SizeC⁹²¹⁵
- Pixels : SizeT⁹²¹⁶
- Pixels : SizeX⁹²¹⁷
- Pixels : SizeY⁹²¹⁸
- Pixels : SizeZ⁹²¹⁹
- Pixels : Type⁹²²⁰
- Plane : TheC⁹²²¹
- Plane : TheT⁹²²²
- Plane : TheZ⁹²²³

⁹²⁰⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁹²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *TIFF (Tagged Image File Format)*

18.2.289 TiffReader

This page lists supported metadata fields for the Bio-Formats Tagged Image File Format format reader.

These fields are from the [OME data model](#)⁹²²⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Tagged Image File Format format reader:

- Channel : ID⁹²²⁵
- Channel : SamplesPerPixel⁹²²⁶
- Image : AcquisitionDate⁹²²⁷
- Image : Description⁹²²⁸
- Image : ID⁹²²⁹
- Image : Name⁹²³⁰
- Pixels : BigEndian⁹²³¹
- Pixels : DimensionOrder⁹²³²
- Pixels : ID⁹²³³
- Pixels : Interleaved⁹²³⁴
- Pixels : PhysicalSizeZ⁹²³⁵
- Pixels : SignificantBits⁹²³⁶
- Pixels : SizeC⁹²³⁷
- Pixels : SizeT⁹²³⁸
- Pixels : SizeX⁹²³⁹
- Pixels : SizeY⁹²⁴⁰

⁹²²⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁹²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁹²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁹²⁴¹
- Pixels : TimeIncrement⁹²⁴²
- Pixels : Type⁹²⁴³
- Plane : TheC⁹²⁴⁴
- Plane : TheT⁹²⁴⁵
- Plane : TheZ⁹²⁴⁶

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *TillPhotonics TillVision*

18.2.290 TillVisionReader

This page lists supported metadata fields for the Bio-Formats TillVision format reader.

These fields are from the [OME data model](#)⁹²⁴⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats TillVision format reader:

- Channel : ID⁹²⁴⁸
- Channel : SamplesPerPixel⁹²⁴⁹
- Experiment : ID⁹²⁵⁰
- Experiment : Type⁹²⁵¹
- Image : AcquisitionDate⁹²⁵²
- Image : ID⁹²⁵³
- Image : Name⁹²⁵⁴
- Pixels : BigEndian⁹²⁵⁵
- Pixels : DimensionOrder⁹²⁵⁶
- Pixels : ID⁹²⁵⁷

⁹²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁹²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹²⁴⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁹²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

⁹²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

⁹²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁹²⁵⁸
- Pixels : SignificantBits⁹²⁵⁹
- Pixels : SizeC⁹²⁶⁰
- Pixels : SizeT⁹²⁶¹
- Pixels : SizeX⁹²⁶²
- Pixels : SizeY⁹²⁶³
- Pixels : SizeZ⁹²⁶⁴
- Pixels : Type⁹²⁶⁵
- Plane : ExposureTime⁹²⁶⁶
- Plane : TheC⁹²⁶⁷
- Plane : TheT⁹²⁶⁸
- Plane : TheZ⁹²⁶⁹

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Topometrix*

18.2.291 TopometrixReader

This page lists supported metadata fields for the Bio-Formats TopoMetrix format reader.

These fields are from the *OME data model*⁹²⁷⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats TopoMetrix format reader:

- Channel : ID⁹²⁷¹
- Channel : SamplesPerPixel⁹²⁷²
- Image : AcquisitionDate⁹²⁷³
- Image : Description⁹²⁷⁴

⁹²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁹²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹²⁷⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁹²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

- Image : ID⁹²⁷⁵
- Image : Name⁹²⁷⁶
- Pixels : BigEndian⁹²⁷⁷
- Pixels : DimensionOrder⁹²⁷⁸
- Pixels : ID⁹²⁷⁹
- Pixels : Interleaved⁹²⁸⁰
- Pixels : PhysicalSizeX⁹²⁸¹
- Pixels : PhysicalSizeY⁹²⁸²
- Pixels : SignificantBits⁹²⁸³
- Pixels : SizeC⁹²⁸⁴
- Pixels : SizeT⁹²⁸⁵
- Pixels : SizeX⁹²⁸⁶
- Pixels : SizeY⁹²⁸⁷
- Pixels : SizeZ⁹²⁸⁸
- Pixels : Type⁹²⁸⁹
- Plane : TheC⁹²⁹⁰
- Plane : TheT⁹²⁹¹
- Plane : TheZ⁹²⁹²

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [Trestle](#)

18.2.292 TrestleReader

This page lists supported metadata fields for the Bio-Formats Trestle format reader.

These fields are from the [OME data model](#)⁹²⁹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 26 of them (5%).
- Of those, Bio-Formats fully or partially converts 26 (100%).

⁹²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹²⁹³<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Trestle format reader:

- Channel : ID⁹²⁹⁴
- Channel : SamplesPerPixel⁹²⁹⁵
- Image : AcquisitionDate⁹²⁹⁶
- Image : ID⁹²⁹⁷
- Image : Name⁹²⁹⁸
- Image : ROIRef⁹²⁹⁹
- Mask : Height⁹³⁰⁰
- Mask : ID⁹³⁰¹
- Mask : Width⁹³⁰²
- Mask : X⁹³⁰³
- Mask : Y⁹³⁰⁴
- Pixels : BigEndian⁹³⁰⁵
- Pixels : DimensionOrder⁹³⁰⁶
- Pixels : ID⁹³⁰⁷
- Pixels : Interleaved⁹³⁰⁸
- Pixels : SignificantBits⁹³⁰⁹
- Pixels : SizeC⁹³¹⁰
- Pixels : SizeT⁹³¹¹
- Pixels : SizeX⁹³¹²
- Pixels : SizeY⁹³¹³
- Pixels : SizeZ⁹³¹⁴
- Pixels : Type⁹³¹⁵
- Plane : TheC⁹³¹⁶
- Plane : TheT⁹³¹⁷

⁹²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁹³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Height

⁹³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Width

⁹³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_X

⁹³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Y

⁹³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁹³¹⁸
- ROI : ID⁹³¹⁹

Total supported: 26

Total unknown or missing: 449

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [UBM](#)

18.2.293 UBMReader

This page lists supported metadata fields for the Bio-Formats UBM format reader.

These fields are from the [OME data model](#)⁹³²⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats UBM format reader:

- Channel : ID⁹³²¹
- Channel : SamplesPerPixel⁹³²²
- Image : AcquisitionDate⁹³²³
- Image : ID⁹³²⁴
- Image : Name⁹³²⁵
- Pixels : BigEndian⁹³²⁶
- Pixels : DimensionOrder⁹³²⁷
- Pixels : ID⁹³²⁸
- Pixels : Interleaved⁹³²⁹
- Pixels : SignificantBits⁹³³⁰
- Pixels : SizeC⁹³³¹
- Pixels : SizeT⁹³³²
- Pixels : SizeX⁹³³³
- Pixels : SizeY⁹³³⁴

⁹³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁹³²⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁹³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁹³³⁵
- Pixels : Type⁹³³⁶
- Plane : TheC⁹³³⁷
- Plane : TheT⁹³³⁸
- Plane : TheZ⁹³³⁹

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Unisoku*

18.2.294 UnisokuReader

This page lists supported metadata fields for the Bio-Formats Unisoku STM format reader.

These fields are from the *OME data model*⁹³⁴⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Unisoku STM format reader:

- Channel : ID⁹³⁴¹
- Channel : SamplesPerPixel⁹³⁴²
- Image : AcquisitionDate⁹³⁴³
- Image : Description⁹³⁴⁴
- Image : ID⁹³⁴⁵
- Image : Name⁹³⁴⁶
- Pixels : BigEndian⁹³⁴⁷
- Pixels : DimensionOrder⁹³⁴⁸
- Pixels : ID⁹³⁴⁹
- Pixels : Interleaved⁹³⁵⁰
- Pixels : PhysicalSizeX⁹³⁵¹

⁹³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹³⁴⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁹³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁹³⁵²
- Pixels : SignificantBits⁹³⁵³
- Pixels : SizeC⁹³⁵⁴
- Pixels : SizeT⁹³⁵⁵
- Pixels : SizeX⁹³⁵⁶
- Pixels : SizeY⁹³⁵⁷
- Pixels : SizeZ⁹³⁵⁸
- Pixels : Type⁹³⁵⁹
- Plane : TheC⁹³⁶⁰
- Plane : TheT⁹³⁶¹
- Plane : TheZ⁹³⁶²

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Varian FDF*

18.2.295 VarianFDFReader

This page lists supported metadata fields for the Bio-Formats Varian FDF format reader.

These fields are from the *OME data model*⁹³⁶³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 25 of them (5%).
- Of those, Bio-Formats fully or partially converts 25 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Varian FDF format reader:

- Channel : ID⁹³⁶⁴
- Channel : SamplesPerPixel⁹³⁶⁵
- Image : AcquisitionDate⁹³⁶⁶
- Image : ID⁹³⁶⁷
- Image : Name⁹³⁶⁸

⁹³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹³⁶³<http://www.openmicroscopy.org/site/support/ome-model/>

⁹³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Pixels : BigEndian⁹³⁶⁹
- Pixels : DimensionOrder⁹³⁷⁰
- Pixels : ID⁹³⁷¹
- Pixels : Interleaved⁹³⁷²
- Pixels : PhysicalSizeX⁹³⁷³
- Pixels : PhysicalSizeY⁹³⁷⁴
- Pixels : PhysicalSizeZ⁹³⁷⁵
- Pixels : SignificantBits⁹³⁷⁶
- Pixels : SizeC⁹³⁷⁷
- Pixels : SizeT⁹³⁷⁸
- Pixels : SizeX⁹³⁷⁹
- Pixels : SizeY⁹³⁸⁰
- Pixels : SizeZ⁹³⁸¹
- Pixels : Type⁹³⁸²
- Plane : PositionX⁹³⁸³
- Plane : PositionY⁹³⁸⁴
- Plane : PositionZ⁹³⁸⁵
- Plane : TheC⁹³⁸⁶
- Plane : TheT⁹³⁸⁷
- Plane : TheZ⁹³⁸⁸

Total supported: 25

Total unknown or missing: 450

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Veeco AFM*

18.2.296 VeecoReader

This page lists supported metadata fields for the Bio-Formats Veeco format reader.

These fields are from the [OME data model](#)⁹³⁸⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁹³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁹³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁹³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁹³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁹³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁹³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁹³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
⁹³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁹³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁹³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁹³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁹³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁹³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁹³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁹³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
⁹³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
⁹³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ
⁹³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁹³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁹³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁹³⁸⁹<http://www.openmicroscopy.org/site/support/ome-model/>

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Vecco format reader:

- Channel : ID⁹³⁹⁰
- Channel : SamplesPerPixel⁹³⁹¹
- Image : AcquisitionDate⁹³⁹²
- Image : ID⁹³⁹³
- Image : Name⁹³⁹⁴
- Pixels : BigEndian⁹³⁹⁵
- Pixels : DimensionOrder⁹³⁹⁶
- Pixels : ID⁹³⁹⁷
- Pixels : Interleaved⁹³⁹⁸
- Pixels : SignificantBits⁹³⁹⁹
- Pixels : SizeC⁹⁴⁰⁰
- Pixels : SizeT⁹⁴⁰¹
- Pixels : SizeX⁹⁴⁰²
- Pixels : SizeY⁹⁴⁰³
- Pixels : SizeZ⁹⁴⁰⁴
- Pixels : Type⁹⁴⁰⁵
- Plane : TheC⁹⁴⁰⁶
- Plane : TheT⁹⁴⁰⁷
- Plane : TheZ⁹⁴⁰⁸

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *VG SAM*

⁹³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
⁹³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
⁹³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
⁹³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁹³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁹³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁹³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁹³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁹³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁹³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁹⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁹⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁹⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁹⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁹⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁹⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁹⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁹⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁹⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.297 VGSAMReader

This page lists supported metadata fields for the Bio-Formats VG SAM format reader.

These fields are from the [OME data model](#)⁹⁴⁰⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats VG SAM format reader:

- Channel : ID⁹⁴¹⁰
- Channel : SamplesPerPixel⁹⁴¹¹
- Image : AcquisitionDate⁹⁴¹²
- Image : ID⁹⁴¹³
- Image : Name⁹⁴¹⁴
- Pixels : BigEndian⁹⁴¹⁵
- Pixels : DimensionOrder⁹⁴¹⁶
- Pixels : ID⁹⁴¹⁷
- Pixels : Interleaved⁹⁴¹⁸
- Pixels : SignificantBits⁹⁴¹⁹
- Pixels : SizeC⁹⁴²⁰
- Pixels : SizeT⁹⁴²¹
- Pixels : SizeX⁹⁴²²
- Pixels : SizeY⁹⁴²³
- Pixels : SizeZ⁹⁴²⁴
- Pixels : Type⁹⁴²⁵
- Plane : TheC⁹⁴²⁶
- Plane : TheT⁹⁴²⁷

⁹⁴⁰⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁹⁴²⁸

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *VisiTech XYS*

18.2.298 VisitechReader

This page lists supported metadata fields for the Bio-Formats Visitech XYS format reader.

These fields are from the *OME data model*⁹⁴²⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Visitech XYS format reader:

- Channel : ID⁹⁴³⁰
- Channel : SamplesPerPixel⁹⁴³¹
- Image : AcquisitionDate⁹⁴³²
- Image : ID⁹⁴³³
- Image : Name⁹⁴³⁴
- Pixels : BigEndian⁹⁴³⁵
- Pixels : DimensionOrder⁹⁴³⁶
- Pixels : ID⁹⁴³⁷
- Pixels : Interleaved⁹⁴³⁸
- Pixels : SignificantBits⁹⁴³⁹
- Pixels : SizeC⁹⁴⁴⁰
- Pixels : SizeT⁹⁴⁴¹
- Pixels : SizeX⁹⁴⁴²
- Pixels : SizeY⁹⁴⁴³
- Pixels : SizeZ⁹⁴⁴⁴

⁹⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁴²⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type⁹⁴⁴⁵
- Plane : TheC⁹⁴⁴⁶
- Plane : TheT⁹⁴⁴⁷
- Plane : TheZ⁹⁴⁴⁸

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Velocity Library Clipping*

18.2.299 VelocityClippingReader

This page lists supported metadata fields for the Bio-Formats Velocity Library Clipping format reader.

These fields are from the *OME data model*⁹⁴⁴⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Velocity Library Clipping format reader:

- Channel : ID⁹⁴⁵⁰
- Channel : SamplesPerPixel⁹⁴⁵¹
- Image : AcquisitionDate⁹⁴⁵²
- Image : ID⁹⁴⁵³
- Image : Name⁹⁴⁵⁴
- Pixels : BigEndian⁹⁴⁵⁵
- Pixels : DimensionOrder⁹⁴⁵⁶
- Pixels : ID⁹⁴⁵⁷
- Pixels : Interleaved⁹⁴⁵⁸
- Pixels : SignificantBits⁹⁴⁵⁹
- Pixels : SizeC⁹⁴⁶⁰
- Pixels : SizeT⁹⁴⁶¹

⁹⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁴⁴⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁹⁴⁶²
- Pixels : SizeY⁹⁴⁶³
- Pixels : SizeZ⁹⁴⁶⁴
- Pixels : Type⁹⁴⁶⁵
- Plane : TheC⁹⁴⁶⁶
- Plane : TheT⁹⁴⁶⁷
- Plane : TheZ⁹⁴⁶⁸

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Velocity*

18.2.300 VelocityReader

This page lists supported metadata fields for the Bio-Formats Velocity Library format reader.

These fields are from the *OME data model*⁹⁴⁶⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 38 of them (8%).
- Of those, Bio-Formats fully or partially converts 38 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Velocity Library format reader:

- Channel : ID⁹⁴⁷⁰
- Channel : Name⁹⁴⁷¹
- Channel : SamplesPerPixel⁹⁴⁷²
- Detector : ID⁹⁴⁷³
- Detector : Model⁹⁴⁷⁴
- DetectorSettings : ID⁹⁴⁷⁵
- Image : AcquisitionDate⁹⁴⁷⁶
- Image : Description⁹⁴⁷⁷
- Image : ID⁹⁴⁷⁸

⁹⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁴⁶⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁹⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : InstrumentRef⁹⁴⁷⁹
- Image : Name⁹⁴⁸⁰
- Instrument : ID⁹⁴⁸¹
- Objective : Correction⁹⁴⁸²
- Objective : ID⁹⁴⁸³
- Objective : Immersion⁹⁴⁸⁴
- Objective : NominalMagnification⁹⁴⁸⁵
- ObjectiveSettings : ID⁹⁴⁸⁶
- Pixels : BigEndian⁹⁴⁸⁷
- Pixels : DimensionOrder⁹⁴⁸⁸
- Pixels : ID⁹⁴⁸⁹
- Pixels : Interleaved⁹⁴⁹⁰
- Pixels : PhysicalSizeX⁹⁴⁹¹
- Pixels : PhysicalSizeY⁹⁴⁹²
- Pixels : PhysicalSizeZ⁹⁴⁹³
- Pixels : SignificantBits⁹⁴⁹⁴
- Pixels : SizeC⁹⁴⁹⁵
- Pixels : SizeT⁹⁴⁹⁶
- Pixels : SizeX⁹⁴⁹⁷
- Pixels : SizeY⁹⁴⁹⁸
- Pixels : SizeZ⁹⁴⁹⁹
- Pixels : Type⁹⁵⁰⁰
- Plane : DeltaT⁹⁵⁰¹
- Plane : PositionX⁹⁵⁰²
- Plane : PositionY⁹⁵⁰³
- Plane : PositionZ⁹⁵⁰⁴

⁹⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁹⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁹⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁹⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁹⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁹⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁹⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁹⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁹⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁹⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁹⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

- Plane : TheC⁹⁵⁰⁵
- Plane : TheT⁹⁵⁰⁶
- Plane : TheZ⁹⁵⁰⁷

Total supported: 38

Total unknown or missing: 437

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [WA-TOP](#)

18.2.301 WATOPReader

This page lists supported metadata fields for the Bio-Formats WA Technology TOP format reader.

These fields are from the [OME data model](#)⁹⁵⁰⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 22 of them (4%).
- Of those, Bio-Formats fully or partially converts 22 (100%).

Supported fields

These fields are fully supported by the Bio-Formats WA Technology TOP format reader:

- Channel : ID⁹⁵⁰⁹
- Channel : SamplesPerPixel⁹⁵¹⁰
- Image : AcquisitionDate⁹⁵¹¹
- Image : Description⁹⁵¹²
- Image : ID⁹⁵¹³
- Image : Name⁹⁵¹⁴
- Pixels : BigEndian⁹⁵¹⁵
- Pixels : DimensionOrder⁹⁵¹⁶
- Pixels : ID⁹⁵¹⁷
- Pixels : Interleaved⁹⁵¹⁸
- Pixels : PhysicalSizeX⁹⁵¹⁹
- Pixels : PhysicalSizeY⁹⁵²⁰
- Pixels : SignificantBits⁹⁵²¹

⁹⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁵⁰⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁹⁵²²
- Pixels : SizeT⁹⁵²³
- Pixels : SizeX⁹⁵²⁴
- Pixels : SizeY⁹⁵²⁵
- Pixels : SizeZ⁹⁵²⁶
- Pixels : Type⁹⁵²⁷
- Plane : TheC⁹⁵²⁸
- Plane : TheT⁹⁵²⁹
- Plane : TheZ⁹⁵³⁰

Total supported: 22

Total unknown or missing: 453

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Windows Bitmap*

18.2.302 BMPReader

This page lists supported metadata fields for the Bio-Formats Windows Bitmap format reader.

These fields are from the *OME data model*⁹⁵³¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 21 of them (4%).
- Of those, Bio-Formats fully or partially converts 21 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Windows Bitmap format reader:

- Channel : ID⁹⁵³²
- Channel : SamplesPerPixel⁹⁵³³
- Image : AcquisitionDate⁹⁵³⁴
- Image : ID⁹⁵³⁵
- Image : Name⁹⁵³⁶
- Pixels : BigEndian⁹⁵³⁷
- Pixels : DimensionOrder⁹⁵³⁸

⁹⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁵³¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID⁹⁵³⁹
- Pixels : Interleaved⁹⁵⁴⁰
- Pixels : PhysicalSizeX⁹⁵⁴¹
- Pixels : PhysicalSizeY⁹⁵⁴²
- Pixels : SignificantBits⁹⁵⁴³
- Pixels : SizeC⁹⁵⁴⁴
- Pixels : SizeT⁹⁵⁴⁵
- Pixels : SizeX⁹⁵⁴⁶
- Pixels : SizeY⁹⁵⁴⁷
- Pixels : SizeZ⁹⁵⁴⁸
- Pixels : Type⁹⁵⁴⁹
- Plane : TheC⁹⁵⁵⁰
- Plane : TheT⁹⁵⁵¹
- Plane : TheZ⁹⁵⁵²

Total supported: 21

Total unknown or missing: 454

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [Woolz](#)

18.2.303 WlZReader

This page lists supported metadata fields for the Bio-Formats Woolz format reader.

These fields are from the [OME data model](#)⁹⁵⁵³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 26 of them (5%).
- Of those, Bio-Formats fully or partially converts 26 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Woolz format reader:

- Channel : ID⁹⁵⁵⁴
- Channel : SamplesPerPixel⁹⁵⁵⁵

⁹⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁵⁵³<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁹⁵⁵⁶
- Image : ID⁹⁵⁵⁷
- Image : Name⁹⁵⁵⁸
- Pixels : BigEndian⁹⁵⁵⁹
- Pixels : DimensionOrder⁹⁵⁶⁰
- Pixels : ID⁹⁵⁶¹
- Pixels : Interleaved⁹⁵⁶²
- Pixels : PhysicalSizeX⁹⁵⁶³
- Pixels : PhysicalSizeY⁹⁵⁶⁴
- Pixels : PhysicalSizeZ⁹⁵⁶⁵
- Pixels : SignificantBits⁹⁵⁶⁶
- Pixels : SizeC⁹⁵⁶⁷
- Pixels : SizeT⁹⁵⁶⁸
- Pixels : SizeX⁹⁵⁶⁹
- Pixels : SizeY⁹⁵⁷⁰
- Pixels : SizeZ⁹⁵⁷¹
- Pixels : Type⁹⁵⁷²
- Plane : TheC⁹⁵⁷³
- Plane : TheT⁹⁵⁷⁴
- Plane : TheZ⁹⁵⁷⁵
- StageLabel : Name⁹⁵⁷⁶
- StageLabel : X⁹⁵⁷⁷
- StageLabel : Y⁹⁵⁷⁸
- StageLabel : Z⁹⁵⁷⁹

Total supported: 26

Total unknown or missing: 449

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Zeiss Axio CSM*

- ⁹⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁹⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁹⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁹⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁹⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁹⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁹⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁹⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁹⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁹⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ⁹⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁹⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁹⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁹⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁹⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁹⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁹⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁹⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁹⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁹⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ⁹⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Name
- ⁹⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_X
- ⁹⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Y
- ⁹⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Z

18.2.304 ZeissLMSReader

This page lists supported metadata fields for the Bio-Formats Zeiss LMS format reader.

These fields are from the [OME data model](#)⁹⁵⁸⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 23 of them (4%).
- Of those, Bio-Formats fully or partially converts 23 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Zeiss LMS format reader:

- Channel : ID⁹⁵⁸¹
- Channel : SamplesPerPixel⁹⁵⁸²
- Image : AcquisitionDate⁹⁵⁸³
- Image : ID⁹⁵⁸⁴
- Image : Name⁹⁵⁸⁵
- Instrument : ID⁹⁵⁸⁶
- Objective : ID⁹⁵⁸⁷
- Objective : NominalMagnification⁹⁵⁸⁸
- ObjectiveSettings : ID⁹⁵⁸⁹
- Pixels : BigEndian⁹⁵⁹⁰
- Pixels : DimensionOrder⁹⁵⁹¹
- Pixels : ID⁹⁵⁹²
- Pixels : Interleaved⁹⁵⁹³
- Pixels : SignificantBits⁹⁵⁹⁴
- Pixels : SizeC⁹⁵⁹⁵
- Pixels : SizeT⁹⁵⁹⁶
- Pixels : SizeX⁹⁵⁹⁷
- Pixels : SizeY⁹⁵⁹⁸

⁹⁵⁸⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁹⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁹⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁹⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁹⁵⁹⁹
- Pixels : Type⁹⁶⁰⁰
- Plane : TheC⁹⁶⁰¹
- Plane : TheT⁹⁶⁰²
- Plane : TheZ⁹⁶⁰³

Total supported: 23

Total unknown or missing: 452

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Zeiss AxioVision TIFF*

18.2.305 ZeissTIFFReader

This page lists supported metadata fields for the Bio-Formats Zeiss AxioVision TIFF format reader.

These fields are from the *OME data model*⁹⁶⁰⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Zeiss AxioVision TIFF format reader:

- Channel : ID⁹⁶⁰⁵
- Channel : SamplesPerPixel⁹⁶⁰⁶
- Image : AcquisitionDate⁹⁶⁰⁷
- Image : ID⁹⁶⁰⁸
- Image : Name⁹⁶⁰⁹
- Pixels : BigEndian⁹⁶¹⁰
- Pixels : DimensionOrder⁹⁶¹¹
- Pixels : ID⁹⁶¹²
- Pixels : Interleaved⁹⁶¹³
- Pixels : SignificantBits⁹⁶¹⁴
- Pixels : SizeC⁹⁶¹⁵

⁹⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁶⁰⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁹⁶¹⁶
- Pixels : SizeX⁹⁶¹⁷
- Pixels : SizeY⁹⁶¹⁸
- Pixels : SizeZ⁹⁶¹⁹
- Pixels : Type⁹⁶²⁰
- Plane : TheC⁹⁶²¹
- Plane : TheT⁹⁶²²
- Plane : TheZ⁹⁶²³

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [Zeiss AxioVision ZVI \(Zeiss Vision Image\)](#)

18.2.306 ZeissZVIReader

This page lists supported metadata fields for the Bio-Formats Zeiss Vision Image (ZVI) format reader.

These fields are from the [OME data model](#)⁹⁶²⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 19 of them (4%).
- Of those, Bio-Formats fully or partially converts 19 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Zeiss Vision Image (ZVI) format reader:

- Channel : ID⁹⁶²⁵
- Channel : SamplesPerPixel⁹⁶²⁶
- Image : AcquisitionDate⁹⁶²⁷
- Image : ID⁹⁶²⁸
- Image : Name⁹⁶²⁹
- Pixels : BigEndian⁹⁶³⁰
- Pixels : DimensionOrder⁹⁶³¹
- Pixels : ID⁹⁶³²

⁹⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁶²⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁹⁶³³
- Pixels : SignificantBits⁹⁶³⁴
- Pixels : SizeC⁹⁶³⁵
- Pixels : SizeT⁹⁶³⁶
- Pixels : SizeX⁹⁶³⁷
- Pixels : SizeY⁹⁶³⁸
- Pixels : SizeZ⁹⁶³⁹
- Pixels : Type⁹⁶⁴⁰
- Plane : TheC⁹⁶⁴¹
- Plane : TheT⁹⁶⁴²
- Plane : TheZ⁹⁶⁴³

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [Zeiss CZI](#)

18.2.307 ZeissCZIReader

This page lists supported metadata fields for the Bio-Formats Zeiss CZI format reader.

These fields are from the [OME data model](#)⁹⁶⁴⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the [metadata summary table](#):

- The file format itself supports 158 of them (33%).
- Of those, Bio-Formats fully or partially converts 158 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Zeiss CZI format reader:

- Arc : LotNumber⁹⁶⁴⁵
- Arc : Manufacturer⁹⁶⁴⁶
- Arc : Model⁹⁶⁴⁷
- Arc : Power⁹⁶⁴⁸
- Arc : SerialNumber⁹⁶⁴⁹

⁹⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁶⁴⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁹⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

- Channel : AcquisitionMode⁹⁶⁵⁰
- Channel : Color⁹⁶⁵¹
- Channel : EmissionWavelength⁹⁶⁵²
- Channel : ExcitationWavelength⁹⁶⁵³
- Channel : FilterSetRef⁹⁶⁵⁴
- Channel : Fluor⁹⁶⁵⁵
- Channel : ID⁹⁶⁵⁶
- Channel : IlluminationType⁹⁶⁵⁷
- Channel : Name⁹⁶⁵⁸
- Channel : PinholeSize⁹⁶⁵⁹
- Channel : SamplesPerPixel⁹⁶⁶⁰
- Detector : AmplificationGain⁹⁶⁶¹
- Detector : Gain⁹⁶⁶²
- Detector : ID⁹⁶⁶³
- Detector : LotNumber⁹⁶⁶⁴
- Detector : Manufacturer⁹⁶⁶⁵
- Detector : Model⁹⁶⁶⁶
- Detector : Offset⁹⁶⁶⁷
- Detector : SerialNumber⁹⁶⁶⁸
- Detector : Type⁹⁶⁶⁹
- Detector : Zoom⁹⁶⁷⁰
- DetectorSettings : Binning⁹⁶⁷¹
- DetectorSettings : Gain⁹⁶⁷²
- DetectorSettings : ID⁹⁶⁷³
- Dichroic : ID⁹⁶⁷⁴
- Dichroic : LotNumber⁹⁶⁷⁵

⁹⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

⁹⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁹⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁹⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁹⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSetRef_ID

⁹⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Fluor

⁹⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_IlluminationType

⁹⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁹⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁹⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_AmplificationGain

⁹⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁹⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁹⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁹⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁹⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁹⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁹⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁹⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

- Dichroic : Manufacturer⁹⁶⁷⁶
- Dichroic : Model⁹⁶⁷⁷
- Dichroic : SerialNumber⁹⁶⁷⁸
- Ellipse : ID⁹⁶⁷⁹
- Ellipse : RadiusX⁹⁶⁸⁰
- Ellipse : RadiusY⁹⁶⁸¹
- Ellipse : Text⁹⁶⁸²
- Ellipse : X⁹⁶⁸³
- Ellipse : Y⁹⁶⁸⁴
- Experimenter : Email⁹⁶⁸⁵
- Experimenter : FirstName⁹⁶⁸⁶
- Experimenter : ID⁹⁶⁸⁷
- Experimenter : Institution⁹⁶⁸⁸
- Experimenter : LastName⁹⁶⁸⁹
- Experimenter : MiddleName⁹⁶⁹⁰
- Experimenter : UserName⁹⁶⁹¹
- Filament : LotNumber⁹⁶⁹²
- Filament : Manufacturer⁹⁶⁹³
- Filament : Model⁹⁶⁹⁴
- Filament : Power⁹⁶⁹⁵
- Filament : SerialNumber⁹⁶⁹⁶
- Filter : FilterWheel⁹⁶⁹⁷
- Filter : ID⁹⁶⁹⁸
- Filter : LotNumber⁹⁶⁹⁹
- Filter : Manufacturer⁹⁷⁰⁰
- Filter : Model⁹⁷⁰¹

⁹⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁹⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁹⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁹⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

⁹⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

⁹⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Email

⁹⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

⁹⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁹⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution

⁹⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁹⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_MiddleName

⁹⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName

⁹⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁹⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_FilterWheel

⁹⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁹⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

- Filter : SerialNumber⁹⁷⁰²
- Filter : Type⁹⁷⁰³
- FilterSet : DichroicRef⁹⁷⁰⁴
- FilterSet : EmissionFilterRef⁹⁷⁰⁵
- FilterSet : ExcitationFilterRef⁹⁷⁰⁶
- FilterSet : ID⁹⁷⁰⁷
- FilterSet : LotNumber⁹⁷⁰⁸
- FilterSet : Manufacturer⁹⁷⁰⁹
- FilterSet : Model⁹⁷¹⁰
- FilterSet : SerialNumber⁹⁷¹¹
- Image : AcquisitionDate⁹⁷¹²
- Image : Description⁹⁷¹³
- Image : ExperimenterRef⁹⁷¹⁴
- Image : ID⁹⁷¹⁵
- Image : InstrumentRef⁹⁷¹⁶
- Image : Name⁹⁷¹⁷
- Image : ROIRef⁹⁷¹⁸
- ImagingEnvironment : AirPressure⁹⁷¹⁹
- ImagingEnvironment : CO2Percent⁹⁷²⁰
- ImagingEnvironment : Humidity⁹⁷²¹
- ImagingEnvironment : Temperature⁹⁷²²
- Instrument : ID⁹⁷²³
- Laser : LotNumber⁹⁷²⁴
- Laser : Manufacturer⁹⁷²⁵
- Laser : Model⁹⁷²⁶
- Laser : Power⁹⁷²⁷

⁹⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_Type

⁹⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁹⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁹⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁹⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSet_ID

⁹⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

⁹⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁹⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁹⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_AirPressure

⁹⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_CO2Percent

⁹⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Humidity

⁹⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁹⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

- Laser : SerialNumber⁹⁷²⁸
- LightEmittingDiode : LotNumber⁹⁷²⁹
- LightEmittingDiode : Manufacturer⁹⁷³⁰
- LightEmittingDiode : Model⁹⁷³¹
- LightEmittingDiode : Power⁹⁷³²
- LightEmittingDiode : SerialNumber⁹⁷³³
- Line : ID⁹⁷³⁴
- Line : Text⁹⁷³⁵
- Line : X1⁹⁷³⁶
- Line : X2⁹⁷³⁷
- Line : Y1⁹⁷³⁸
- Line : Y2⁹⁷³⁹
- Microscope : LotNumber⁹⁷⁴⁰
- Microscope : Manufacturer⁹⁷⁴¹
- Microscope : Model⁹⁷⁴²
- Microscope : SerialNumber⁹⁷⁴³
- Microscope : Type⁹⁷⁴⁴
- Objective : CalibratedMagnification⁹⁷⁴⁵
- Objective : Correction⁹⁷⁴⁶
- Objective : ID⁹⁷⁴⁷
- Objective : Immersion⁹⁷⁴⁸
- Objective : Iris⁹⁷⁴⁹
- Objective : LensNA⁹⁷⁵⁰
- Objective : LotNumber⁹⁷⁵¹
- Objective : Manufacturer⁹⁷⁵²
- Objective : Model⁹⁷⁵³

⁹⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁹⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁹⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁹⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁹⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁹⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁹⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Microscope_Type

⁹⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁹⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁹⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁹⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁹⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Iris

⁹⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁹⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

- Objective : NominalMagnification⁹⁷⁵⁴
- Objective : SerialNumber⁹⁷⁵⁵
- Objective : WorkingDistance⁹⁷⁵⁶
- ObjectiveSettings : CorrectionCollar⁹⁷⁵⁷
- ObjectiveSettings : ID⁹⁷⁵⁸
- ObjectiveSettings : Medium⁹⁷⁵⁹
- ObjectiveSettings : RefractiveIndex⁹⁷⁶⁰
- Pixels : BigEndian⁹⁷⁶¹
- Pixels : DimensionOrder⁹⁷⁶²
- Pixels : ID⁹⁷⁶³
- Pixels : Interleaved⁹⁷⁶⁴
- Pixels : PhysicalSizeX⁹⁷⁶⁵
- Pixels : PhysicalSizeY⁹⁷⁶⁶
- Pixels : PhysicalSizeZ⁹⁷⁶⁷
- Pixels : SignificantBits⁹⁷⁶⁸
- Pixels : SizeC⁹⁷⁶⁹
- Pixels : SizeT⁹⁷⁷⁰
- Pixels : SizeX⁹⁷⁷¹
- Pixels : SizeY⁹⁷⁷²
- Pixels : SizeZ⁹⁷⁷³
- Pixels : Type⁹⁷⁷⁴
- Plane : DeltaT⁹⁷⁷⁵
- Plane : ExposureTime⁹⁷⁷⁶
- Plane : PositionX⁹⁷⁷⁷
- Plane : PositionY⁹⁷⁷⁸
- Plane : PositionZ⁹⁷⁷⁹

⁹⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁹⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁹⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_CorrectionCollar

⁹⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁹⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_Medium

⁹⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁹⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁹⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁹⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁹⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁹⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁹⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

- Plane : TheC⁹⁷⁸⁰
- Plane : TheT⁹⁷⁸¹
- Plane : TheZ⁹⁷⁸²
- Polygon : ID⁹⁷⁸³
- Polygon : Points⁹⁷⁸⁴
- Polygon : Text⁹⁷⁸⁵
- Polyline : ID⁹⁷⁸⁶
- Polyline : Points⁹⁷⁸⁷
- Polyline : Text⁹⁷⁸⁸
- ROI : Description⁹⁷⁸⁹
- ROI : ID⁹⁷⁹⁰
- ROI : Name⁹⁷⁹¹
- Rectangle : Height⁹⁷⁹²
- Rectangle : ID⁹⁷⁹³
- Rectangle : Text⁹⁷⁹⁴
- Rectangle : Width⁹⁷⁹⁵
- Rectangle : X⁹⁷⁹⁶
- Rectangle : Y⁹⁷⁹⁷
- TransmittanceRange : CutIn⁹⁷⁹⁸
- TransmittanceRange : CutInTolerance⁹⁷⁹⁹
- TransmittanceRange : CutOut⁹⁸⁰⁰
- TransmittanceRange : CutOutTolerance⁹⁸⁰¹
- TransmittanceRange : Transmittance⁹⁸⁰²

Total supported: 158

Total unknown or missing: 317

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Zeiss LSM (Laser Scanning Microscope) 510/710*

⁹⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁹⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁹⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

⁹⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁹⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Description

⁹⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁹⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name

⁹⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁹⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁹⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁹⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁹⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁹⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

⁹⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutInTolerance

⁹⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

⁹⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOutTolerance

⁹⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_Transmittance

18.2.308 ZeissLSMReader

This page lists supported metadata fields for the Bio-Formats Zeiss Laser-Scanning Microscopy format reader.

These fields are from the [OME data model](#)⁹⁸⁰³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- The file format itself supports 101 of them (21%).
- Of those, Bio-Formats fully or partially converts 101 (100%).

Supported fields

These fields are fully supported by the Bio-Formats Zeiss Laser-Scanning Microscopy format reader:

- Channel : Color⁹⁸⁰⁴
- Channel : ID⁹⁸⁰⁵
- Channel : Name⁹⁸⁰⁶
- Channel : PinholeSize⁹⁸⁰⁷
- Channel : SamplesPerPixel⁹⁸⁰⁸
- Detector : AmplificationGain⁹⁸⁰⁹
- Detector : Gain⁹⁸¹⁰
- Detector : ID⁹⁸¹¹
- Detector : Type⁹⁸¹²
- Detector : Zoom⁹⁸¹³
- DetectorSettings : Binning⁹⁸¹⁴
- DetectorSettings : ID⁹⁸¹⁵
- Dichroic : ID⁹⁸¹⁶
- Dichroic : Model⁹⁸¹⁷
- Ellipse : FontSize⁹⁸¹⁸
- Ellipse : ID⁹⁸¹⁹
- Ellipse : RadiusX⁹⁸²⁰
- Ellipse : RadiusY⁹⁸²¹
- Ellipse : StrokeWidth⁹⁸²²

⁹⁸⁰³<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁹⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁹⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁹⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_AmplificationGain

⁹⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁹⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁹⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁹⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁹⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁹⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁹⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁹⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

- Ellipse : Transform⁹⁸²³
- Ellipse : X⁹⁸²⁴
- Ellipse : Y⁹⁸²⁵
- Experimenter : ID⁹⁸²⁶
- Experimenter : UserName⁹⁸²⁷
- Filter : ID⁹⁸²⁸
- Filter : Model⁹⁸²⁹
- Filter : Type⁹⁸³⁰
- Image : AcquisitionDate⁹⁸³¹
- Image : Description⁹⁸³²
- Image : ID⁹⁸³³
- Image : InstrumentRef⁹⁸³⁴
- Image : Name⁹⁸³⁵
- Image : ROIRef⁹⁸³⁶
- Instrument : ID⁹⁸³⁷
- Label : FontSize⁹⁸³⁸
- Label : ID⁹⁸³⁹
- Label : StrokeWidth⁹⁸⁴⁰
- Label : Text⁹⁸⁴¹
- Label : X⁹⁸⁴²
- Label : Y⁹⁸⁴³
- Laser : ID⁹⁸⁴⁴
- Laser : LaserMedium⁹⁸⁴⁵
- Laser : Model⁹⁸⁴⁶
- Laser : Type⁹⁸⁴⁷
- Laser : Wavelength⁹⁸⁴⁸

⁹⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁹⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

⁹⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

⁹⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁹⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName

⁹⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁹⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_Type

⁹⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁹⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁹⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁹⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁹⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_X

⁹⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_Y

⁹⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁹⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁹⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁹⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

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- LightPath : EmissionFilterRef⁹⁸⁵⁰
- Line : FontSize⁹⁸⁵¹
- Line : ID⁹⁸⁵²
- Line : StrokeWidth⁹⁸⁵³
- Line : X1⁹⁸⁵⁴
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- Objective : Iris⁹⁸⁶¹
- Objective : LensNA⁹⁸⁶²
- Objective : NominalMagnification⁹⁸⁶³
- ObjectiveSettings : ID⁹⁸⁶⁴
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⁹⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁹⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁹⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁹⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁹⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁹⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁹⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁹⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁹⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁹⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁹⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Iris

⁹⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁹⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁹⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁹⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁹⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁹⁸⁷⁵
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- Pixels : SizeZ⁹⁸⁷⁷
- Pixels : TimeIncrement⁹⁸⁷⁸
- Pixels : Type⁹⁸⁷⁹
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- Plane : PositionX⁹⁸⁸¹
- Plane : PositionY⁹⁸⁸²
- Plane : PositionZ⁹⁸⁸³
- Plane : TheC⁹⁸⁸⁴
- Plane : TheT⁹⁸⁸⁵
- Plane : TheZ⁹⁸⁸⁶
- Polygon : FontSize⁹⁸⁸⁷
- Polygon : ID⁹⁸⁸⁸
- Polygon : Points⁹⁸⁸⁹
- Polygon : StrokeWidth⁹⁸⁹⁰
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- Polyline : ID⁹⁸⁹²
- Polyline : Points⁹⁸⁹³
- Polyline : StrokeWidth⁹⁸⁹⁴
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- Rectangle : ID⁹⁸⁹⁸
- Rectangle : StrokeWidth⁹⁸⁹⁹
- Rectangle : Width⁹⁹⁰⁰

⁹⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁹⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁹⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁹⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁹⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁹⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁹⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁹⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

⁹⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁹⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁹⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁹⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁹⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

- Rectangle : X⁹⁹⁰¹
- Rectangle : Y⁹⁹⁰²
- TransmittanceRange : CutIn⁹⁹⁰³
- TransmittanceRange : CutOut⁹⁹⁰⁴

Total supported: 101

Total unknown or missing: 374

⁹⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁹⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁹⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

⁹⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

GROUPING FILES USING A PATTERN FILE

Individual files can be grouped together into a single fileset using a pattern file. This works for any single-file format that Bio-Formats supports, as long as all files are in the same format. It is most useful for sets of TIFF, JPEG, PNG, etc. files that do not have any associated metadata.

All files to be grouped together should be in the same folder. The pattern file should be in the same folder as the other files; it can have any name, but must have the `.pattern` extension. The pattern file is what must be opened or imported, so it may be helpful to give it a descriptive or easily-recognizable name.

The pattern file contains a single line of text that is specially formatted to describe how the files should be grouped. The file can be created in any text editor.

The text in the pattern file can take one of several forms. To illustrate, consider a folder with the following file names:

```
red.tiff
green.tiff
blue.tiff
test_Z0_C0.png
test_Z1_C0.png
test_Z0_C1.png
test_Z1_C1.png
test_Z0_C2.png
test_Z1_C2.png
test_Z00.tiff
test_Z01.tiff
```

A pattern file that groups `red.tiff`, `green.tiff`, and `blue.tiff` in that order would look like:

```
<red, green, blue>.tiff
```

A pattern that groups `test_Z0_C0.png`, `test_Z1_C0.png`, `test_Z0_C2.png`, and `test_Z1_C2.png`:

```
test_Z<0-1>_C<0-2:2>.png
```

The `<>` notation in general can accept a single literal value, a comma-separated list of literal values, a range of integer values, or a range of integer values with a step value greater than 1 (the range and step are separated by `:`). Note that inverting the values in a range (e.g. `<2-0>`) is not supported and will cause an exception to be thrown.

The characters immediately preceding the `<` can affect which dimension is assigned to the specified values. The values will be interpreted as:

- channels, if `c`, `ch`, `w`, or `wavelength` precede `<`
- timepoints, if `t`, `tl`, `tp`, or `timepoint` precede `<`
- Z sections, if `z`, `zs`, `sec`, `fp`, `focal`, or `focalplane` precede `<`
- series, if `s`, `sp`, or `series` precede `<`

Note that the listed dimension specifier characters are case insensitive. A separator character (underscore or space) must precede the dimension specifier if it is not at the beginning of the filename. In the above example, 2 Z sections and 2 out of 3 channels would be detected according to the dimension specifiers.

Leading zeros in the integer values must be specified. To group `test_Z00.tif` and `test_Z01.tif`:

```
test_Z<00-01>.tif
```

or:

```
test_Z0<0-1>.tif
```

Note that this pattern would not group the files correctly:

```
test_Z<0-1>.tif
```

A pattern file that groups all PNG files beginning with `test_` would look like:

```
test_.*.png
```

This and most other Java-style regular expressions can be used in place of the `<>` notation above. See [the `java.util.regex.Pattern` Javadoc](http://docs.oracle.com/javase/6/docs/api/java/util/regex/Pattern.html)¹ for more information on constructing regular expressions.

¹<http://docs.oracle.com/javase/6/docs/api/java/util/regex/Pattern.html>

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