



Bio-Formats Documentation

Release 5.1.5

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 5.1.5 (2015 October 12)

- **Java bug fixes, including:**
 - ImageJ plugins

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 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

4.2.2 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/HCIImage TIFF**
 - * fixed bit depth parsing for files from newer versions of HCIImage
- **SimplePCI/HCIImage .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

4.2.3 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

4.2.4 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

4.2.5 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

4.2.6 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

4.2.7 5.0.8 (2015 February 10)

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

4.2.8 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

4.2.9 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

4.2.10 5.0.5 (2014 September 23)

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

4.2.11 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)

4.2.12 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

4.2.13 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

4.2.14 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)

4.2.15 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*

4.2.16 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

4.2.17 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

4.2.18 4.4.10 (2014 Jan 15)

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

4.2.19 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

4.2.20 4.4.8 (2013 May 2)

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

4.2.21 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.

4.2.22 4.4.6 (2013 February 11)

- Many bug fixes
- Further documentation improvements

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

4.2.23 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

4.2.24 4.4.4 (2012 September 24)

- Many bug fixes

4.2.25 4.4.2 (2012 August 22)

- Security fix for OMERO plugins for ImageJ

4.2.26 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

4.2.27 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

4.2.28 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

4.2.29 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

4.2.30 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

4.2.31 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

4.2.32 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

4.2.33 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

4.2.34 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

4.2.35 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

4.2.36 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

4.2.37 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

4.2.38 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

4.2.39 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

4.2.40 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

4.2.41 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

4.2.42 2008 Feb 12

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

4.2.43 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

4.2.44 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

4.2.45 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

4.2.46 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

4.2.47 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

4.2.48 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

4.2.49 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

4.2.50 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

4.2.51 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

4.2.52 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

4.2.53 2007 July 2

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

4.2.54 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

4.2.55 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

4.2.56 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

4.2.57 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

4.2.58 2007 Mar 16

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

4.2.59 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

4.2.60 2007 Feb 28

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

4.2.61 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

4.2.62 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

4.2.63 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

4.2.64 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

4.2.65 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

4.2.66 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

4.2.67 2006 Oct 31

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

4.2.68 2006 Oct 30

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

4.2.69 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

4.2.70 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

4.2.71 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

4.2.72 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

4.2.73 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/utills/macros/basicMetadata.txt>

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

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

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

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

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

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

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

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

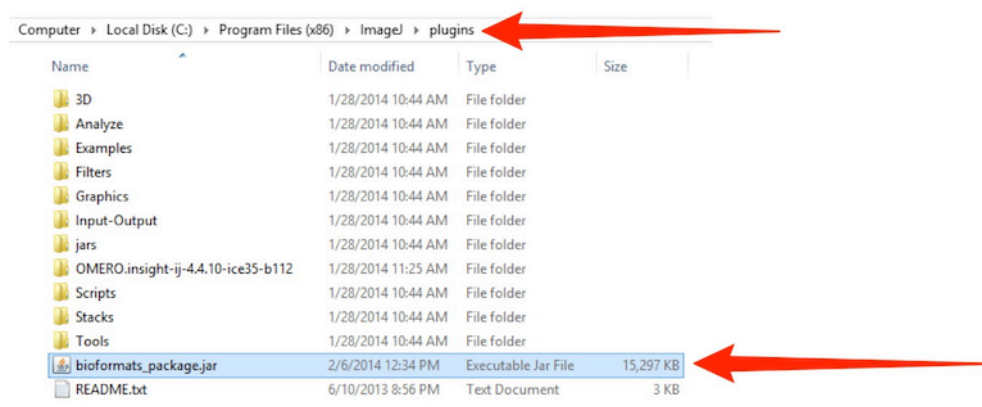


Figure 5.1: Plugin Directory for ImageJ: Where in ImageJ’s file structure you should place the file once you downloaded it.

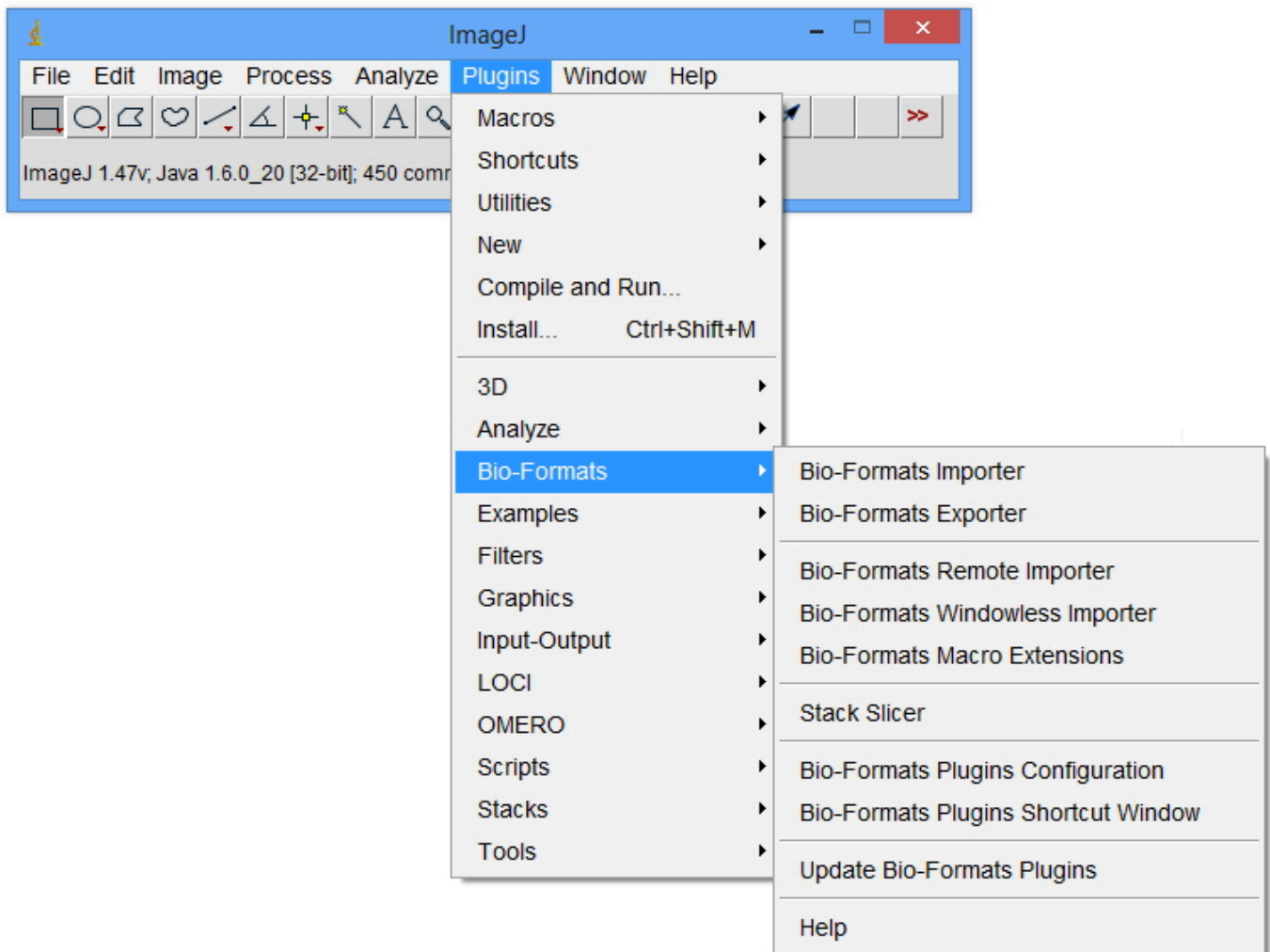
You may have to quit and restart ImageJ. Once you restart it, you will find Bio-Formats in the Bio-Formats option under the Plugins menu:

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

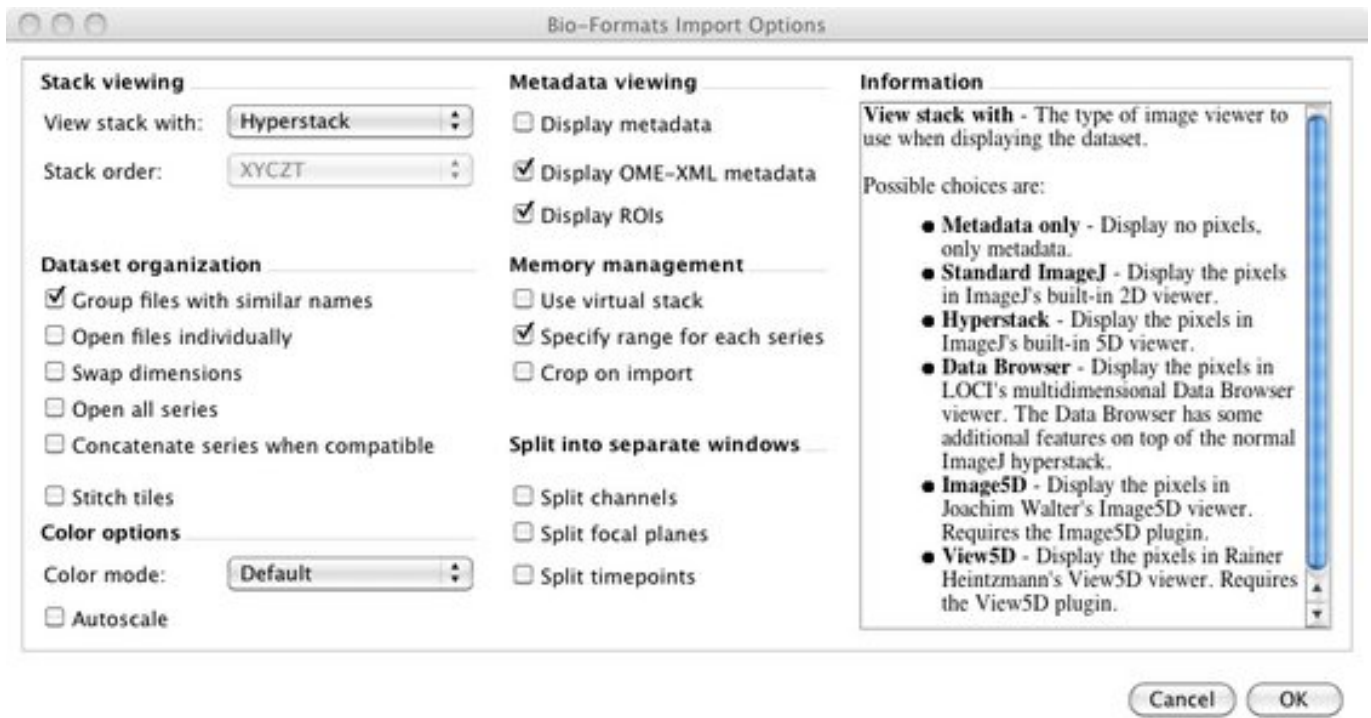
This section will explain how to use Bio-Formats to import files into ImageJ and how to use the settings on the Bio-Formats Import Options screen.

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

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 [dub](http://loci.wisc.edu/sample-data/dub)²⁷ data set available under LOCI's [Sample Data](http://loci.wisc.edu/sample-data)²⁸ 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.

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

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

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 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”.
- 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](http://download.oracle.com/javase/1.5.0/docs/api/java/util/regex/Pattern.html)²⁹.

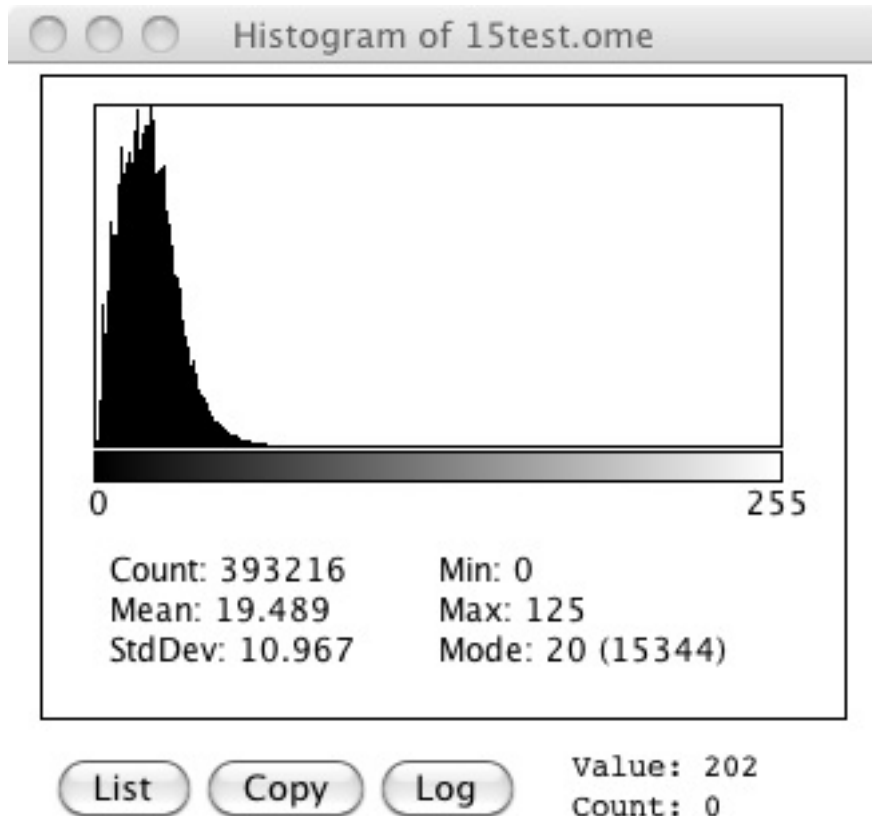
²⁹<http://download.oracle.com/javase/1.5.0/docs/api/java/util/regex/Pattern.html>

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.

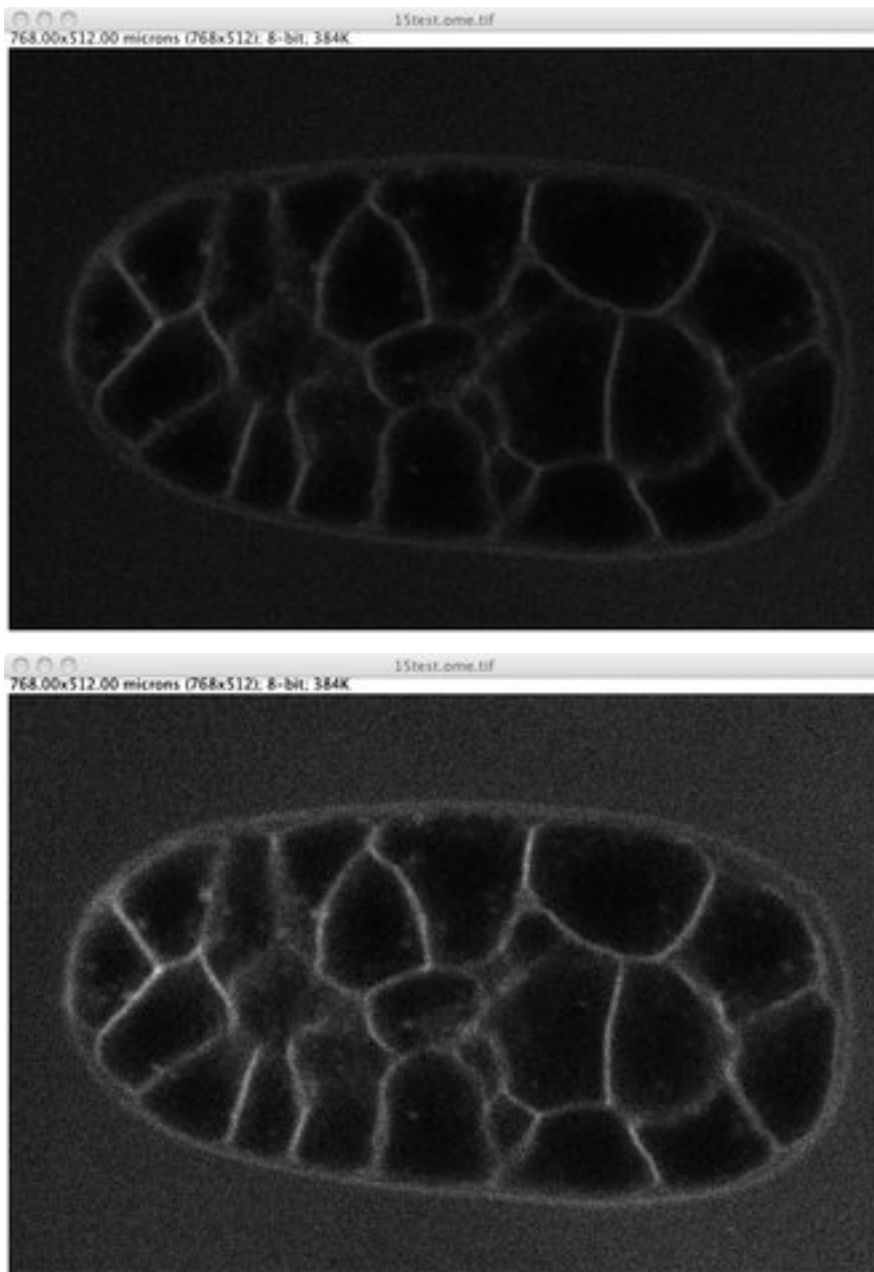
ImageJ can collect the intensity information about each pixel from an image or stack and create a histogram (you can see it by selecting Histogram under the Analyze menu). Here is the histogram of a one particular image:



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:

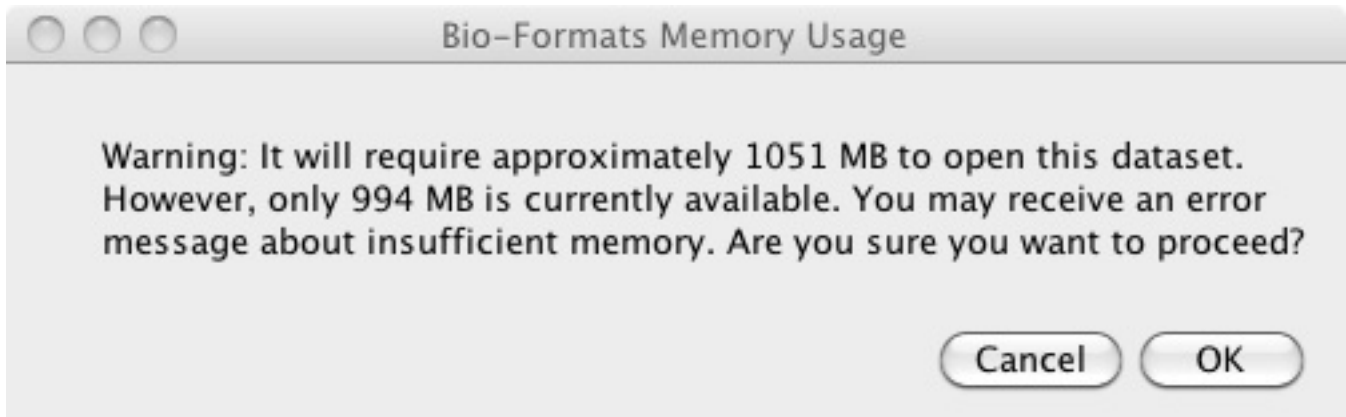


Autoscale readjusts the image based on the highest value in the entire data set. This means if the highest value in your dataset is close to maximum display value, Autoscale's adjusting may be undetectable to the eye.

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:

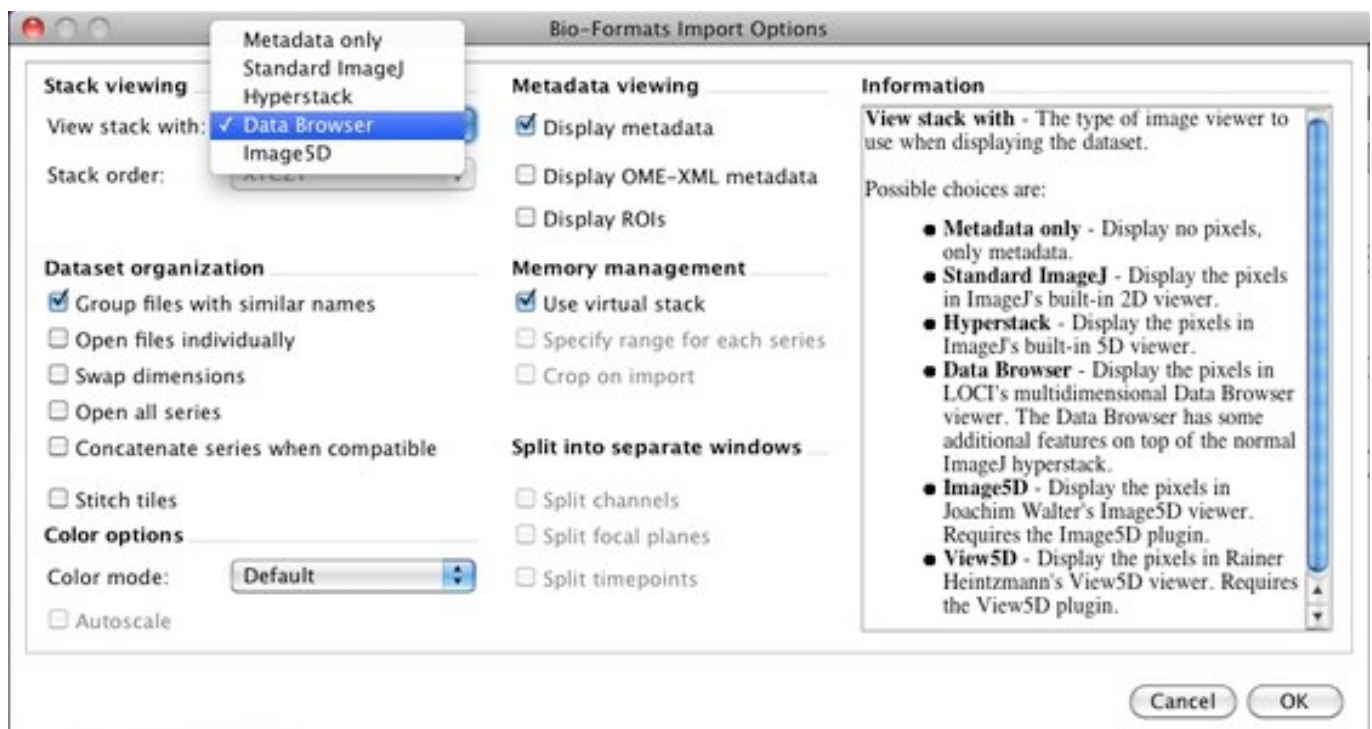
- View your stack with Data Browser
- Crop the view area
- Open only a subset of images
- Use Virtual Stack
- Increase ImageJ/Fiji's memory.

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.

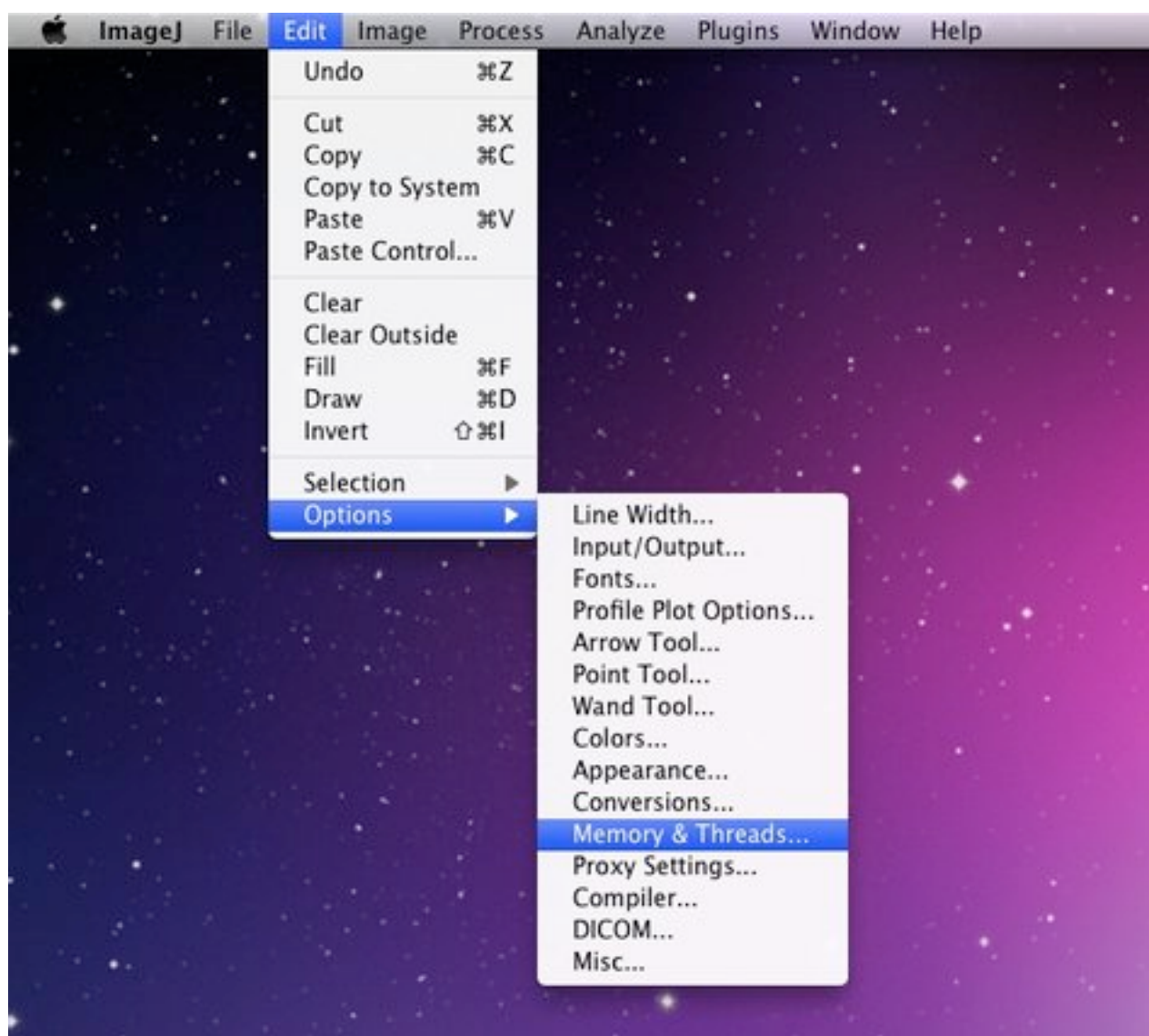
5.6.4 Use Virtual Stack

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](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#GRAPHICS_DOMAIN)⁷
- [HCS_DOMAIN](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#HCS_DOMAIN)⁸
- [HISTOLOGY_DOMAIN](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#HISTOLOGY_DOMAIN)⁹
- [LM_DOMAIN](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#LM_DOMAIN)¹⁰
- [MEDICAL_DOMAIN](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#MEDICAL_DOMAIN)¹¹
- [SEM_DOMAIN](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#SEM_DOMAIN)¹²
- [SPM_DOMAIN](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#SPM_DOMAIN)¹³
- [UNKNOWN_DOMAIN](http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html#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 [PlateAcquisition](#)¹⁵).

-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
```

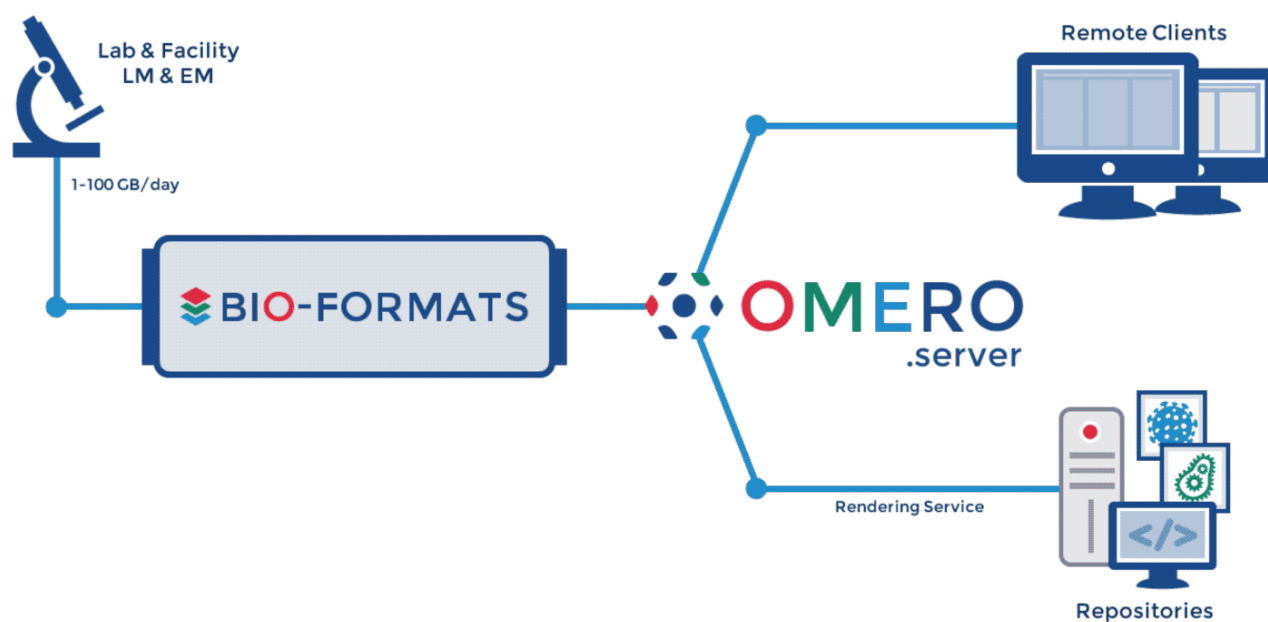
-debug DEBUG

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](#)⁴

[FARSIGHT HowToBuild tutorial](#)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](#)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](#)¹¹

[CBIA Software Development](#)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 N-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 IDL

IDL¹ (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.

10.1.1 Installation

Download the `ij_read_bio_formats.pro`² script from Karsten Rodenacker's [IDL goodies \(?\)](#)³ web site. See the comments at the top of the script for installation instructions and caveats.

10.1.2 Upgrading

To use a newer version of Bio-Formats, overwrite the requisite JAR files with the [newer version](#)⁴ and restart IDL.

10.2 KNIME

KNIME⁵ (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](#)⁶ (a.k.a. KNIP) plugin.

10.3 MATLAB

MATLAB⁷ 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](#)⁸ for reading image files. Note the minimum supported MATLAB version is R2007b (7.5).

¹<http://www.exelisvis.com/ProductsServices/IDL.aspx>

²http://karo03.bplaced.net/karo/IDL/_pro/ij_read_bio_formats.pro

³http://karo03.bplaced.net/karo/ro_embed.php?file=IDL/index.html

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

⁵<http://www.knime.org/>

⁶<http://tech.knime.org/community/image-processing>

⁷<http://www.mathworks.com/products/matlab/>

⁸<https://github.com/openmicroscopy/bioformats/tree/develop/components/formats-gpl/matlab>

10.3.1 Installation

Download the MATLAB toolbox from the Bio-Formats [downloads page](#)⁹. Unzip `bformatlab.zip` and add the unzipped `bf-matlab` 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.

10.3.2 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.

10.3.3 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.

10.3.4 Upgrading

To use a newer version of Bio-Formats, overwrite the content of the `bformatlab` folder with the [newer version](#)¹⁰ of the toolbox and restart MATLAB.

10.3.5 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 formats¹¹

10.4 VisAD

The [VisAD](#)¹² 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.

10.4.1 Installation

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

10.4.2 Upgrading

It should be possible to use a newer version of Bio-Formats by putting the latest `bioformats_package.jar`¹³ or `formats-gpl.jar`¹⁴ 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.

⁹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

¹⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/>

¹¹<http://www.mathworks.com/matlabcentral/fileexchange/32920-imread-for-multiple-life-science-image-file-formats>

¹²<http://www.ssec.wisc.edu/%7Ebillh/visad.html>

¹³http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/bioformats_package.jar

¹⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/artifacts/formats-gpl.jar>

VISUALIZATION AND ANALYSIS APPLICATIONS

11.1 Bitplane Imaris

[Imaris](#)¹ 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

[CellProfiler](#)⁴—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:

[CellProfiler](#)⁶ 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>

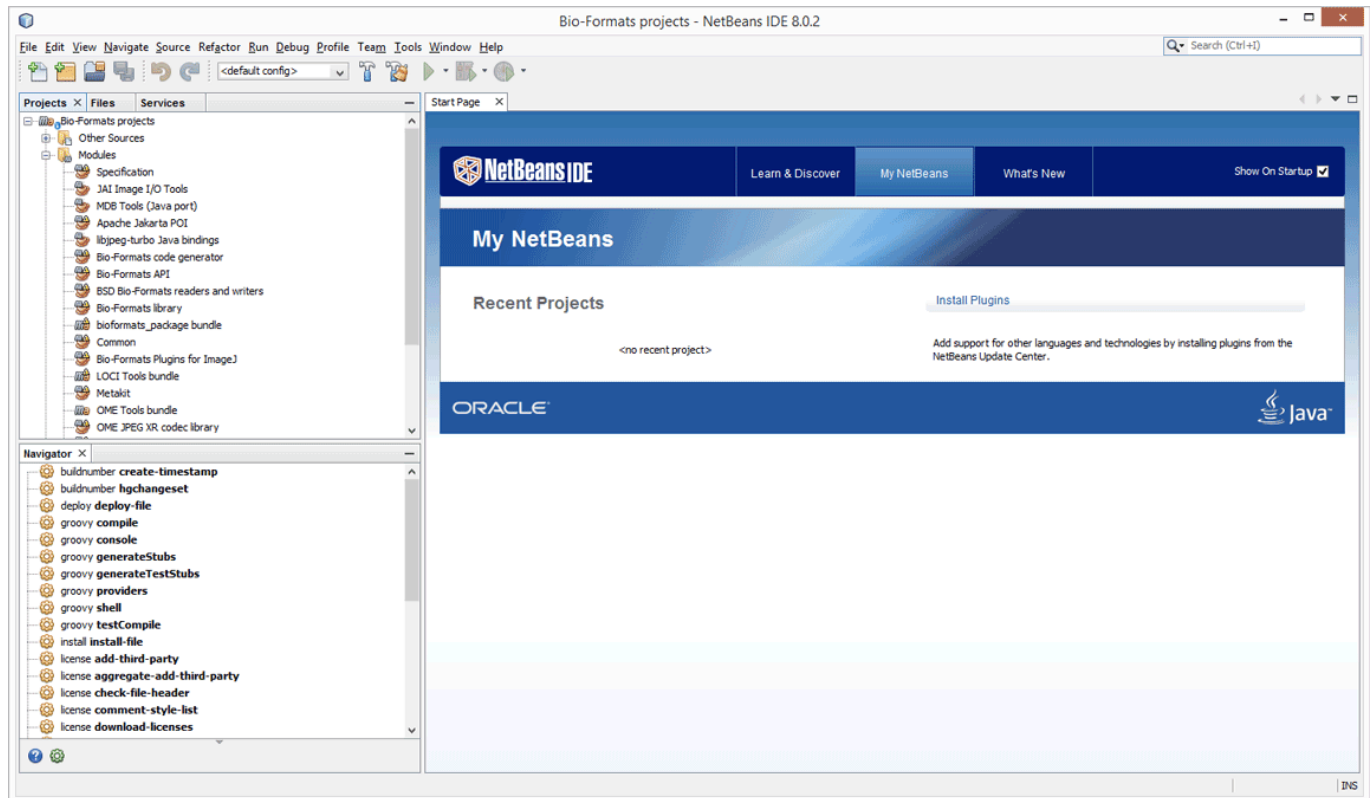
¹⁰<http://genshi.edgewall.org>

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
loci.formats.BufferedImageReader ⁹⁰	Allows pixel data to be returned as BufferedImages instead of raw byte arrays
loci.formats.FileStitcher ⁹¹	Uses advanced pattern matching heuristics to group files that belong to the same dataset
loci.formats.ChannelSeparator ⁹²	Makes sure that all planes are grayscale - RGB images are split into 3 separate grayscale images
loci.formats.ChannelMerger ⁹³	Merges grayscale images to RGB if the number of channels is greater than 1
loci.formats.ChannelFiller ⁹⁴	Converts indexed color images to RGB images
loci.formats.MinMaxCalculator ⁹⁵	Provides an API for retrieving the minimum and maximum pixel values for each channel
loci.formats.DimensionSwapper ⁹⁶	Provides an API for changing the dimension order of a file
loci.formats.Memoizer 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 Buffered-Images 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	<code>ome-poi.jar</code> ¹³	Apache	OME fork; for OLE-based formats (zvi, oib, ipw, cxd)
MDB Tools ¹⁴	<code>mdbtools-java.jar</code> ¹⁵	LGPL	Java port, OME fork; for Olympus CellR and Zeiss LSM metadata (mdb)
JAI Image I/O Tools ¹⁶	<code>jai_imageio.jar</code> ¹⁷	BSD	Pure Java implementation, OME fork; for JPEG2000-based formats (nd2, jp2)
NetCDF ¹⁸	<code>netcdf-4.3.19.jar</code> 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>

export&component=Bio-

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.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 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
voxelSizeXdouble = 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 (BF-CPP for short). 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.

BF-CPP comes with some standalone examples which you can use as a starting point in your own project:

- `showinf`⁵⁴
- `minimum_writer`⁵⁵

Other projects using BF-CPP include:

- *WiscScan*⁵⁶ which uses BF-CPP to write *OME-TIFF*⁵⁷ files.
- *XuvTools* which uses an adapted version of BF-CPP called *BlitzBioFormats*⁵⁸.

See the *build instructions* (*Windows*, *Mac OS X*, *Linux*) for details on compiling BF-CPP 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**⁵⁹ 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**⁶⁰ 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.
- **Boost Thread**⁶¹ 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.

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>

- **Java Development Kit**⁶² 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](#)⁶³ or [mailing lists](#)⁶⁴.

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.

⁶³<http://www.openmicroscopy.org/community/>

⁶⁴<http://lists.openmicroscopy.org.uk/mailman/listinfo/>

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](http://maven.apache.org/)⁶⁵.

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](http://cmake.org/)⁶⁶.

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](http://www.boost.org/users/download/)⁶⁷.

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](http://www.oracle.com/technetwork/java/javase/downloads/)⁶⁸.

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.

⁶⁵<http://maven.apache.org/>

⁶⁶<http://cmake.org/>

⁶⁷<http://www.boost.org/users/download/>

⁶⁸<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](#)⁶⁹.

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](#)⁷⁰:

```
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
```

⁶⁹<http://www.microsoft.com/express/>

⁷⁰<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 superbuild 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.

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`
- Destruction is non-deterministic
- All passing is by value (primitives and object references)

³²<http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/annotated.html>

```
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 it 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 `getCoreMetadataL-`

³³http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/MetadataTools_8h_source.html

ist 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';
        }
    }
}
```

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](http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/MetadataTools_8h_source.html)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:

³⁴http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/MetadataTools_8h_source.html

```

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);

    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();

    // 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

```

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

```

    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));

```

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.

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

```

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");
// 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);

```

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

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 classes](#)⁴⁴
- [OME](#)⁴⁵

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
// 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

⁴⁴http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/namespaeome_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/namespaeome_1_1bioformats.html#ad9ebb405a4815c189fa788325f68a91a

⁴⁷http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1PixelBufferBase.html#a419ad49f2ea90937a57b81a74b56380b

⁴⁸http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1PixelBufferBase.html#ac7e922610bf561f311d13c3d7fcaeb69

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 XYSTZztc; 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 SXYZCTztc; 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
    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 = 1;
    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 = 1;
        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 x 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 rule⁴⁹](#) 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:

- [PixelType⁵⁰](#)
- [PixelBuffer⁵¹](#)
- [VariantPixelBuffer⁵²](#)
- [FormatReader::getLookupTable⁵³](#)
- [FormatReader::openBytes⁵⁴](#)
- [FormatWriter::setLookupTable⁵⁵](#)

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

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#a75ad99e400c31ccb9e52da8aeb991b73

⁵⁴http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1FormatReader.html#aae4d2b9475b078f7ba2378ed505e864c

⁵⁵http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1FormatWriter.html#a00ae3dc46c205e64f782c7b6f47bd5ab

- `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 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

⁵⁶http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1FormatWriter.html#ad1e8b427214f7cfd19ce2251d38e24f5

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

- [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.

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

⁵⁹http://downloads.openmicroscopy.org/latest/bio-formats-cpp5.1/api/classome_1_1bioformats_1_1in_1_1OMETIFFReader.html

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

- [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

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

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_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

14.6.5 See also

Environment, bf-test info, bf-test view.

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

14.7 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 Public test data

Most of the data-driven tests would benefit from having a comprehensive set of public sample data (see also [#4086⁴](#)).

Formats for which we already have public sample data:

A '*' indicates that we could generate more public data in this format.

- ICS (*)
- Leica LEI
- IPLab
- BMP (*)
- Image-Pro SEQ
- QuickTime (*)
- Bio-Rad PIC
- Image-Pro Workspace
- Fluoview/ABD TIFF (*)
- Perkin Elmer Ultraview
- Gatan DM3
- Zeiss LSM
- Openlab LIFF (*)
- Leica LIF (*)
- TIFF (*)
- Khoros (<http://netghost.narod.ru/gff/sample/images/viff/index.htm>)
- MNG ([Download⁵](#)) (*)

Formats for which we can definitely generate public sample data:

- PNG/APNG
- JPEG
- PGM
- FITS
- PCX
- GIF
- Openlab Raw
- OME-XML
- OME-TIFF
- AVI
- PICT
- LIM
- PSD
- Targa
- Bio-Rad Gel
- Fake

⁴<https://trac.openmicroscopy.org/ome/ticket/4086>

⁵http://sourceforge.net/projects/libmng/files/libmng-testsuites/Release-20030305/MNGsuite-20030305.zip/download?use_mirror=freefr&download=

- ECAT-7 (minctoecat)
- NRRD
- JPEG-2000
- Micromanager
- Text
- DICOM
- MINC (rawtominc)
- NIfTI (dicomnifti)
- Analyze 7.5 (medcon)
- SDT
- FV1000 .oib/.oif
- Zeiss ZVI
- Leica TCS
- Aperio SVS
- Imaris (raw)

Formats for which I need to check whether or not we can generate public sample data:

- IPLab Mac (Ivision)
- Deltavision
- MRC
- Gatan DM2
- Imaris (HDF)
- EPS
- Alicona AL3D
- Visitech
- InCell
- L2D
- FEI
- NAF
- MRW
- ARF
- LI-FLIM
- Oxford Instruments
- VG-SAM
- Hamamatsu HIS
- WA-TOP
- Seiko
- TopoMetrix
- UBM
- Quesant
- RHK
- Molecular Imaging

- JEOL
- Amira
- Unisoku
- Perkin Elmer Densitometer
- Nikon ND2
- SimplePCI .cxd
- Imaris (TIFF)
- Molecular Devices Gel
- Imacon .fff
- LEO
- JPK
- Nikon NEF
- Nikon TIFF
- Prairie
- Metamorph TIFF/STK/ND
- Improvision TIFF
- Photoshop TIFF
- FEI TIFF
- SimplePCI TIFF
- Burleigh
- SM-Camera
- SBIG

Formats for which we definitely cannot generate public sample data:

- TillVision
- Olympus CellIR/APL
- Slidebook
- Cellomics
- CellWorX
- Olympus ScanR
- BD Pathway
- Opera Flex
- MIAS

15.3 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`⁶ for `bfconvert`.

15.4 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`⁷ or an existing reader⁸.

15.4.1 Methods to override

- `isSingleFile(java.lang.String)`⁹ 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)`¹⁰ 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).
- `fileGroupOption(java.lang.String)`¹¹ 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`¹²: the files cannot be handled separately
 - `FormatTools.CAN_GROUP`¹³: the files may be handled separately or as a single unit
 - `FormatTools.CANNOT_GROUP`¹⁴: 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)`¹⁵ 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`¹⁶. 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)`¹⁷ 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`¹⁸ 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`¹⁹ and `isInterleaved`²⁰. 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)`²¹ 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`²² variable (see `loci.formats.CoreMetadata`²³).

⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-tools/src/loci/formats/tools/ImageConverter.java>

⁷<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html>

⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/in/package-summary.html>

⁹[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))

¹⁰[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))

¹¹[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))

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

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

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

¹⁵[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))

¹⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PerkinElmerReader.java>

¹⁷[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))

¹⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatException.html>

¹⁹[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())

²⁰[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())

²¹[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))

²²<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#core>

²³<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/CoreMetadata.html>

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`²⁴ 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()`²⁵ method and populate the `Pixels` elements of the metadata store from the `core` variable using the `MetadataTools.populatePixels(MetadataStore, FormatReader)`²⁶ 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)`²⁷:

```
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)`²⁸ 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`²⁹). In this case, it is usually sufficient to override `initFile(java.lang.String)`³⁰ and `isThisType(byte[])`³¹.

Every reader also has an instance of `loci.formats.CoreMetadata`³². 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`³³ or `loci.common.Location`³⁴, 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
}
```

²⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#metadata>

²⁵[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())

²⁶[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))

²⁷[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))

²⁸[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))

²⁹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html>

³⁰[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))

³¹[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[]))

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

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

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

For more details, see `loci.common.Location.mapId(java.lang.String, java.lang.String)`³⁵ and `loci.common.Location.getMappedId(java.lang.String)`³⁶.

15.4.2 Variables to populate

There are a number of global variables defined in `loci.formats.FormatReader`³⁷ that should be populated in the constructor of any implemented reader.

These variables are:

- `suffixNecessary`³⁸ Indicates whether or not a file name suffix is required; true by default
- `suffixSufficient`³⁹ Indicates whether or not a specific file name suffix guarantees that this reader can open a particular file; true by default
- `hasCompanionFiles`⁴⁰ 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`⁴¹ A brief description of the layout of files in datasets of this format; only necessary for multi-file datasets
- `domains`⁴² An array of imaging domains for which this format is used. Domains are defined in `loci.formats.FormatTools`⁴³.

15.4.3 Other useful things

- `loci.common.RandomAccessInputStream`⁴⁴ 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`⁴⁵ 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*⁴⁶ for additional information.
- `loci.common.DataTools`⁴⁷ 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`⁴⁸ 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` package⁴⁹.
- Several common image compression types are supported through subclasses of `loci.formats.codec.BaseCodec`⁵⁰. 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`⁵¹ 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`⁵², the master

³⁵[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))

³⁶[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))

³⁷<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html>

³⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#suffixNecessary>

³⁹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#suffixSufficient>

⁴⁰<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#hasCompanionFiles>

⁴¹<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#datasetDescription>

⁴²<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatReader.html#domains>

⁴³<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/FormatTools.html>

⁴⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/RandomAccessInputStream.html>

⁴⁵<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/Location.html>

⁴⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/>

⁴⁷<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/DataTools.html>

⁴⁸<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ImageTools.html>

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

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

file format reader, tries to identify which format reader to use according to the order given in `readers.txt`⁵³, 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`⁵⁴ 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`⁵⁵ to see exactly what each one does.

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`⁵⁶ 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 Javadocs⁵⁷. 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`⁵⁸ (this is the most straightforward one). `loci.formats.in.LIFReader`⁵⁹ and `InCellReader`⁶⁰ 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 team⁶¹.

⁵³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-api/src/loci/formats/readers.txt>

⁵⁴<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/formats/ImageReader.html>

⁵⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/bio-formats-tools/src/loci/formats/tools/ImageInfo.java>

⁵⁶<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/tests/testng/FormatReaderTest.html>

⁵⁷<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/>

⁵⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImarisReader.java>

⁵⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LIFReader.java>

⁶⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/InCellReader.java>

⁶¹<http://www.openmicroscopy.org/site/community>

15.5 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](#)⁶² component contains most of the infrastructure to run automated tests against the data repository.

15.5.1 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`⁶³ and generate a reStructuredText file for each format stored under `formats/<formatname>.txt` as well as an index page for all supported formats using [Velocity](#)⁶⁴.

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

15.5.2 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.

15.5.3 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:

⁶²<https://github.com/openmicroscopy/bioformats/tree/develop/components/autogen>

⁶³<https://github.com/openmicroscopy/bioformats/blob/develop/components/autogen/src/format-pages.txt>

⁶⁴<http://velocity.apache.org/>


```
$ 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 [Velocity](#)⁶⁵.

15.6 Bio-Formats service and dependency infrastructure

15.6.1 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](#)⁶⁶, [dependency inversion](#)⁶⁷ or [component based design](#)⁶⁸.

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](#)⁶⁹ 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](#)⁷⁰ and [#464](#)⁷¹.

15.6.2 Writing a service

- **Interface** – The basic form of a service is an interface which inherits from `loci.common.services.Service`⁷². 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.
```

⁶⁵<http://velocity.apache.org/>

⁶⁶http://en.wikipedia.org/wiki/Dependency_injection

⁶⁷http://en.wikipedia.org/wiki/Dependency_inversion_principle

⁶⁸http://en.wikipedia.org/wiki/Component-based_software_engineering

⁶⁹http://en.wikipedia.org/wiki/Dependency_injection

⁷⁰<https://trac.openmicroscopy.org/ome/ticket/463>

⁷¹<https://trac.openmicroscopy.org/ome/ticket/464>

⁷²<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/services/Service.html>

```

    */
    public OMENotesServiceImpl() {
        checkClassDependency(Notes.class);
    }

    /* (non-Javadoc)
     * @see loci.formats.dependency.OMENotesService#newNotes()
     */
    public void newNotes(String filename) {
        new Notes(null, filename);
    }
}

```

• 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`⁷³ 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](#)⁷⁴. Source code for `loci.common.services.Service` interface

[loci.common.services.ServiceFactory](#)⁷⁵ Source code for `loci.common.services.Service` interface

15.6.3 Using a service

```

OMENotesService service = null;
try {
    ServiceFactory factory = new ServiceFactory();
    service = factory.getInstance(OMENotesService.class);
}
catch (DependencyException de) {
    LOGGER.info("", de);
}
...

```

⁷³<http://downloads.openmicroscopy.org/latest/bio-formats5.1/api/loci/common/services/ServiceFactory.html>

15.7 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.

15.7.1 Available options

-d, --dry-run

Run all source generation processing, but don't write output files. In combination with `--print-depends` or `--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.

15.7.2 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

15.7.3 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:

-d, --dry-run	Do not create output files
--debug	Enable xsd-fu and template debugging
-l, --language=lang	Generated language
--metadata-package=pkg	Metadata package
--ome-xml-metadata-package=pkg	OME-XML metadata class package
--ome-xml-model-package=pkg	OME-XML model package
--ome-xml-model-enums-package=pkg	OME-XML model enum package
--ome-xml-model-enum-handlers-package=pkg	OME-XML model enum handler package
-o, --output-directory=dir	Generated output directory
-q, --quiet	Do not output file names
-t, --template-path=path	Genshi template path
-v, --verbose	Output generated file names
-n, --xsd-namespace	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
./components/xsd-fu/xsd-fu -l C++ -n 'xsd:' --ome-xml-model-package=ome::xml::model -o omexml /path/to
```

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.

15.7.4 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.

15.7.5 Working with Enumerations and Enumeration Handlers

XsdFu code generates enumeration regular expressions using a flexible [configuration file](#)⁷⁶.

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"
```

⁷⁶https://github.com/openmicroscopy/bioformats/blob/develop/components/xsd-fu/cfg/enum_handler.cfg

15.7.6 Generate OMERO model specification files

Run **xsd-fu** with the `omero_model` subcommand.

15.7.7 Special thanks

A special thanks goes out to [Dave Kuhlman](http://www.davekuhlman.org/)⁷⁷ for his fabulous work on [generateDS](http://www.davekuhlman.org/generateDS.html)⁷⁸ which **xsd-fu** makes heavy use of internally.

15.8 Scripts for performing development tasks

The `tools` directory contains several scripts which are useful for building and performing routine updates to the code base.

15.8.1 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
```

15.8.2 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*

15.8.3 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-Formats](https://trac.openmicroscopy.org/ome/report/44)⁷⁹ for information on work currently planned or in progress.

For more general guidance about how to contribute to OME projects, see the [Contributing developers documentation](http://www.openmicroscopy.org/site/support/contributing/index.html)⁸⁰.

⁷⁷<http://www.davekuhlman.org/>

⁷⁸<http://www.davekuhlman.org/generateDS.html>

⁷⁹<https://trac.openmicroscopy.org/ome/report/44>

⁸⁰<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/)⁸¹. If you have any questions, or would prefer not to use QA, please email the [ome-users mailing list](http://www.openmicroscopy.org/site/community/mailing-lists)⁸². 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.

⁸¹<http://qa.openmicroscopy.org.uk/qa/upload/>

⁸²<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
JPk 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 'metadata.txt' file plus or 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	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

Continued on next page

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
<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
<i>Canon DNG</i>	.cr2, .crw							
<i>CellH5</i>	.ch5							
<i>Cellomics</i>	.c01							
<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							
<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							

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Table 17.1 – continued from previous page

Format	Extensions	Pixels	Metadata	Openness	Presence	Utility	Export	BSD
<i>Improvision TIFF</i>	.tif							
<i>Inspector OBF</i>	.obf, .msr							
<i>InCell 1000</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							

Continued on next page

Table 17.1 – continued from previous page

Format	Extensions	Pixels	Metadata	Openness	Presence	Utility	Export	BSD
<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 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>	.tif, .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	■	▼	▼	▼	▼	✗	✗
<i>PICT (Macintosh Picture)</i>	.pict	▲	▼	▼	▲	▼	✗	✓

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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
<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							
<i>Zeiss AxioVision ZVI (Zeiss Vision Image)</i>	.zvi							

Continued on next page

Table 17.1 – continued from previous page

Format	Extensions	Pixels	Metadata	Openness	Presence	Utility	Export	BSD
<i>Zeiss CZI</i>	.czi 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.

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

BSD-licensed:

Export:

Officially Supported Versions: 4.1, 4.2, 5.0, 5.5, 6.0

³<http://www.zeiss.com/czi>

⁴<http://www.intelligent-imaging.com/>

⁵<http://www.intelligent-imaging.com/>

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:

- an ABD-TIFF specification document (from 2005 November, in PDF)
- a few ABD-TIFF datasets

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>


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: 

17.4 Alicona 3D

Extensions: .al3d

Owner: [Alicona Imaging](#)¹⁴

Support

¹²<http://www.scanco.ch>

¹³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/AIMReader.java>

¹⁴<http://www.alicon.com/>

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)
- a few GEL datasets

We would like to have:

Ratings

Pixels: ▲

Metadata: ▲

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/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>

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

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: FlowSightReader ([Source Code](#)²³, *Supported Metadata Fields*)

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/>


²³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/FlowSightReader.java>

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: 

17.9 Animated PNG

Extensions: .png

Developer: [The Animated PNG Project](#)²⁷

Support

BSD-licensed: 

Export: 

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>

²⁷<http://www.animatedpng.com/>

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
- KSquirrel³²

We currently have:


- a specification document³³
- 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:


- several AFI datasets

We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

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>

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
- 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:

[Aperio ImageScope](#)³⁹

17.12 Applied Precision CellWorX

Extensions: .htd, .pnl

Developer: [Applied Precision](#)⁴⁰

Support

BSD-licensed: 

Export: 

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://www.leicabiosystems.com/index.php?id=8991>

⁴⁰<http://www.api.com>

Officially Supported Versions:

Reader: CellWorxReader ([Source Code](#)⁴¹, *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](#)⁴²

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: AVIReader ([Source Code](#)⁴³, *Supported Metadata Fields*)

Writer: AVIWriter ([Source Code](#)⁴⁴)

Freely Available Software:

- AVI Reader plugin for ImageJ⁴⁵
- AVI Writer plugin for ImageJ⁴⁶

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

⁴¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/CellWorxReader.java>






⁴²<http://www.microsoft.com/>

⁴³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/AVIReader.java>

⁴⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/AVIWriter.java>

⁴⁵<http://rsb.info.nih.gov/ij/plugins/avi-reader.html>

⁴⁶<http://rsb.info.nih.gov/ij/plugins/avi.html>

RatingsPixels: 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](#)⁴⁷ [AVI on Wikipedia](#)⁴⁸

17.14 Axon Raw Format

Extensions: .arf

Owner: INDEC BioSystems⁴⁹**Support**BSD-licensed: Export: 

Officially Supported Versions:




Reader: ARFReader ([Source Code](#)⁵⁰, *Supported Metadata Fields*)

We currently have:

- one ARF dataset
- a [specification document](#)⁵¹

We would like to have:

- more ARF datasets

RatingsPixels: Metadata: Openness: Presence: Utility: 

⁴⁷<http://msdn2.microsoft.com/en-us/library/ms779636.aspx>

⁴⁸http://en.wikipedia.org/wiki/Audio_Video_Interleave

⁴⁹<http://www.indecbiosystems.com/>

⁵⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ARFReader.java>


⁵¹http://www.indecbiosystems.com/imagingworkbench/ApplicationNotes/IWAppNote11-ARF_File_Format.pdf

17.15 BD Pathway

Extensions: .exp, .tif

Owner: [BD Biosciences](#)⁵²

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: BDReader ([Source Code](#)⁵³, *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](#)⁵⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: SDTReader ([Source Code](#)⁵⁵, *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](#)⁵⁶ software
- a large number of SDT datasets
- the ability to produce new datasets

⁵²<http://www.bdbiosciences.com>

⁵³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BDReader.java>

⁵⁴<http://www.becker-hickl.de/>

⁵⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SDTReader.java>

⁵⁶<http://www.becker-hickl.de/software/tcspc/softwaretcspcspecial.htm>

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](#)⁵⁷

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: BioRadGelReader ([Source Code](#)⁵⁸, *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:

Utility:

17.18 Bio-Rad PIC

Extensions: .pic, .raw, .xml

Developer: Bio-Rad

Owner: [Carl Zeiss, Inc.](#)⁵⁹

Support

⁵⁷<http://www.bio-rad.com>

⁵⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BioRadGelReader.java>

⁵⁹<http://www.zeiss.com/>

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: BioRadReader ([Source Code](#)⁶⁰, *Supported Metadata Fields*)

Freely Available Software:

- [Bio-Rad PIC reader plugin for ImageJ](#)⁶¹

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](#)⁶²
 - [SVI Huygens](#)⁶³

17.19 Bio-Rad SCN

Extensions: .scn

Developer: Bio-Rad

Owner: [Bio-Rad](#)⁶⁴

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: BioRadSCNReader ([Source Code](#)⁶⁵, *Supported Metadata Fields*)

We currently have:

- a few Bio-Rad .scn files

⁶⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BioRadReader.java>

⁶¹<http://rsb.info.nih.gov/ij/plugins/biorad.html>

⁶²<http://www.bitplane.com/>

⁶³<http://svi.nl/>

⁶⁴<http://www.bio-rad.com>

⁶⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BioRadSCNReader.java>

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

17.20 Bitplane Imaris

Extensions: .ims

Owner: [Bitplane](#)⁶⁶

Support

BSD-licensed:

Export:

Officially Supported Versions: 2.7, 3.0, 5.5

Readers:

- [ImarisHDFReader](#) ([Source Code](#)⁶⁷, *Supported Metadata Fields*)
- [ImarisTiffReader](#) ([Source Code](#)⁶⁸, *Supported Metadata Fields*)
- [ImarisReader](#) ([Source Code](#)⁶⁹, *Supported Metadata Fields*)

We currently have:

- an [Imaris \(RAW\) specification document](#)⁷⁰ (from no later than 1997 November 11, in HTML)
- an [Imaris 5.5 \(HDF\) specification document](#)⁷¹
- 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

We would like to have:

- an Imaris 3 (TIFF) specification document
- more Imaris 3 (TIFF) datasets

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

⁶⁶<http://www.bitplane.com/>

⁶⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImarisHDFReader.java>

⁶⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImarisTiffReader.java>

⁶⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImarisReader.java>

⁷⁰<http://flash.bitplane.com/wda/interfaces/public/faqs/faqsview.cfm?inCat=0&inQuestionID=104>

⁷¹<http://open.bitplane.com/Default.aspx?tabid=268>


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](#)⁷²

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: BrukerReader ([Source Code](#)⁷³, [Supported Metadata Fields](#))

Freely Available Software:

- [Bruker plugin for ImageJ](#)⁷⁴


We currently have:

- a few Bruker MRI datasets

We would like to have:


- an official specification document


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.22 Burleigh

Extensions: .img

Owner: Burleigh Instruments

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: BurleighReader ([Source Code](#)⁷⁵, [Supported Metadata Fields](#))

We currently have:

⁷²<http://www.bruker.com/>

⁷³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BrukerReader.java>

⁷⁴<http://rsbweb.nih.gov/ij/plugins/bruker.html>


⁷⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/BurleighReader.java>


- 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](#)⁷⁶

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: DNGReader ([Source Code](#)⁷⁷, *Supported Metadata Fields*)

Freely Available Software:

- [IrfanView](#)⁷⁸


We currently have:

- a few example datasets

We would like to have:


- an official specification document


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

⁷⁶<http://canon.com>

⁷⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/DNGReader.java>


⁷⁸<http://www.irfanview.com/>

17.24 CellH5

Extensions: .ch5

Developer: [CellH5](#)⁷⁹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: CellH5Reader ([Source Code](#)⁸⁰, *Supported Metadata Fields*)

Writer: CellH5Writer ([Source Code](#)⁸¹)

Freely Available Software:


- [CellH5](#)⁸²

We currently have:

- a few CellH5 datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.25 Cellomics

Extensions: .c01

Developer: [Thermo Fisher Scientific](#)⁸³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: CellomicsReader ([Source Code](#)⁸⁴, *Supported Metadata Fields*)

We currently have:

- a few Cellomics .c01 datasets

We would like to have:

- a Cellomics .c01 specification document
- more Cellomics .c01 datasets

⁷⁹<http://cellh5.org/>






⁸⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/CellH5Reader.java>

⁸¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/out/CellH5Writer.java>

⁸²<http://cellh5.org/>


⁸³<http://www.thermofisher.com/>

⁸⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/CellomicsReader.java>

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.26 cellSens VSI

Extensions: .vsi

Developer: [Olympus](#)⁸⁵**Support**BSD-licensed: Export: 

Officially Supported Versions:





Reader: CellSensReader ([Source Code](#)⁸⁶, *Supported Metadata Fields*)

We currently have:

- a few example datasets

We would like to have:

- an official specification document

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.27 CellVoyager

Extensions: .xml, .tif

Owner: [Yokogawa](#)⁸⁷**Support**BSD-licensed: Export: 

Officially Supported Versions:

Reader: CellVoyagerReader ([Source Code](#)⁸⁸, *Supported Metadata Fields*)

We currently have:

⁸⁵<http://www.olympus.com/>⁸⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/CellSensReader.java>⁸⁷<http://www.yokogawa.com/>⁸⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/CellVoyagerReader.java>

- 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](#))⁸⁹

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: [DeltavisionReader](#) ([Source Code](#)⁹⁰, *Supported Metadata Fields*)

Freely Available Software:

- [DeltaVision Opener](#) plugin for [ImageJ](#)⁹¹

We currently have:

- a DV specification document (v2.10 or newer, in HTML)
- numerous DV 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.

- The Deltavision format is based on the Medical Research Council (MRC) file format.
- Commercial applications that support DeltaVision include:
 - [Bitplane Imaris](#)⁹²
 - [SVI Huygens](#)⁹³

⁸⁹<http://www.gelifesciences.com/webapp/wcs/stores/servlet/catalog/en/GELifeSciences-UK/brands/deltavision/>

⁹⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/DeltavisionReader.java>

⁹¹<http://rsb.info.nih.gov/ij/plugins/track/delta.html>

⁹²<http://www.bitplane.com/>

⁹³<http://svi.nl/>


– Image-Pro Plus⁹⁴

17.29 DICOM

Extensions: .dcm, .dicom

Developer: [National Electrical Manufacturers Association](#)⁹⁵

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: DicomReader ([Source Code](#)⁹⁶, [Supported Metadata Fields](#))

Freely Available Software:

- [OsiriX Medical Imaging Software](#)⁹⁷
- [ezDICOM](#)⁹⁸
- [Wikipedia's list of freeware health software](#)⁹⁹

Sample Datasets:


- [MRI Chest from FreeVol-3D web site](#)¹⁰⁰
- [Medical Image Samples from Sebastien Barre's Medical Imaging page](#)¹⁰¹
- [DICOM sample image sets from OsiriX web site](#)¹⁰²

We currently have:


- [DICOM specification documents](#)¹⁰³ (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.

⁹⁴<http://www.mediacy.com/>

⁹⁵<http://www.nema.org/>

⁹⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/DicomReader.java>

⁹⁷<http://www.osirix-viewer.com/>

⁹⁸<http://www.sph.sc.edu/comd/rorden/ezdicom.html>

⁹⁹http://en.wikipedia.org/wiki/List_of_freeware_health_software

¹⁰⁰http://members.tripod.com/%7Eclunis_immensus/free3d/hk-40.zip

¹⁰¹<http://www.barre.nom.fr/medical/samples/>

¹⁰²<http://osirix-viewer.com/datasets/>

¹⁰³<http://medical.nema.org/dicom/2007/>

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](#)¹⁰⁴

17.30 ECAT7

Extensions: .v

Developer: [Siemens](#)¹⁰⁵

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: Ecat7Reader ([Source Code](#)¹⁰⁶, *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: 

17.31 EPS (Encapsulated PostScript)

Extensions: .eps, .epsi, .ps

Developer: [Adobe](#)¹⁰⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: EPSReader ([Source Code](#)¹⁰⁸, *Supported Metadata Fields*)

Writer: EPSWriter ([Source Code](#)¹⁰⁹)

Freely Available Software:

¹⁰⁴<http://medical.nema.org/>

¹⁰⁵<http://www.siemens.com>

¹⁰⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/Ecat7Reader.java>

¹⁰⁷<http://www.adobe.com/>

¹⁰⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/EPSReader.java>

¹⁰⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/EPSWriter.java>


- [EPS Writer plugin for ImageJ](#)¹¹⁰


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 PerkinElmer](#)¹¹¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: FlexReader ([Source Code](#)¹¹², *Supported Metadata Fields*)


We currently have:

- 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:

¹¹⁰<http://rsb.info.nih.gov/ij/plugins/eps-writer.html>

¹¹¹<http://www.perkinelmer.com/>

¹¹²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/FlexReader.java>

LuraTech (developers of the proprietary LuraWave LWF compression used for Flex image planes)¹¹³

17.33 FEI

Extensions: .img

Developer: FEI¹¹⁴

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: FEIReader (Source Code¹¹⁵, *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: ▼

17.34 FEI TIFF

Extensions: .tiff

Developer: FEI¹¹⁶

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: FEITiffReader (Source Code¹¹⁷, *Supported Metadata Fields*)

We currently have:

- a few FEI TIFF datasets

We would like to have:

Ratings

Pixels: ▲





¹¹³<http://www.luratech.com/>

¹¹⁴<http://www.fei.com/>

¹¹⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/FEIReader.java>

¹¹⁶<http://www.fei.com>

¹¹⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/FEITiffReader.java>


Metadata: Openness: Presence: Utility: 

17.35 FITS (Flexible Image Transport System)

Extensions: .fits

Developer: [National Radio Astronomy Observatory](#)¹¹⁸

Support

BSD-licensed: Export: 

Officially Supported Versions:




Reader: FitsReader ([Source Code](#)¹¹⁹, *Supported Metadata Fields*)

We currently have:

- a [FITS specification document](#)¹²⁰ (NOST 100-2.0, from 1999 March 29, in HTML)
- several FITS datasets

We would like to have:

Ratings

Pixels: Metadata: Openness: Presence: Utility: 

Additional Information

See also:

[MAST:FITS homepage](#)¹²¹ [FITS Support Office](#)¹²²

17.36 Gatan Digital Micrograph

Extensions: .dm3, .dm4

Owner: [Gatan](#)¹²³

Support

BSD-licensed: Export: 

Officially Supported Versions: 3, 4

¹¹⁸<http://www.nrao.edu/>¹¹⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/FitsReader.java>¹²⁰http://archive.stsci.edu/fits/fits_standard/¹²¹<http://archive.stsci.edu/fits/>¹²²<http://fits.gsfc.nasa.gov/>¹²³<http://www.gatan.com/>

Reader: GatanReader ([Source Code](#)¹²⁴, *Supported Metadata Fields*)

Freely Available Software:

- [DM3 Reader plugin for ImageJ](#)¹²⁵
- [EMAN](#)¹²⁶


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](#)¹²⁷.

17.37 Gatan Digital Micrograph 2

Extensions: .dm2

Developer: [Gatan](#)¹²⁸

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 2

Reader: GatanDM2Reader ([Source Code](#)¹²⁹, *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: 

¹²⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/GatanReader.java>


¹²⁵http://rsb.info.nih.gov/ij/plugins/DM3_Reader.html

¹²⁶<http://blake.bcm.edu/EMAN/>

¹²⁷<http://www.datasqueezesoftware.com/>

¹²⁸<http://www.gatan.com>

¹²⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/GatanDM2Reader.java>

Openness: Presence: Utility: 

17.38 GIF (Graphics Interchange Format)

Extensions: .gif

Developer: [CompuServe](http://www.compuserve.com/)¹³⁰Owner: [Unisys](http://www.unisys.com/)¹³¹

Support

BSD-licensed: Export: 

Officially Supported Versions:

Reader: GIFReader ([Source Code](#)¹³², *Supported Metadata Fields*)

Freely Available Software:



- [Animated GIF Reader plugin for ImageJ](#)¹³³
- [GIF Stack Writer plugin for ImageJ](#)¹³⁴

We currently have:

- a [GIF specification document](#)¹³⁵ (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](http://www.hamamatsu.com/)¹³⁶

Support

BSD-licensed: ¹³⁰<http://www.compuserve.com/>¹³¹<http://www.unisys.com/>¹³²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/GIFReader.java>¹³³<http://rsb.info.nih.gov/ij/plugins/agr.html>¹³⁴<http://rsb.info.nih.gov/ij/plugins/gif-stack-writer.html>¹³⁵<http://tronche.com/computer-graphics/gif/>¹³⁶<http://www.hamamatsu.com/>

Export: 

Officially Supported Versions:

Reader: NAFReader ([Source Code](#)¹³⁷, *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](#)¹³⁸

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: HISReader ([Source Code](#)¹³⁹, *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: 

¹³⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NAFReader.java>

¹³⁸<http://www.hamamatsu.com>


¹³⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/HISReader.java>

17.41 Hamamatsu ndpi

Extensions: .ndpi

Developer: [Hamamatsu](#)¹⁴⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: NDPIReader ([Source Code](#)¹⁴¹, *Supported Metadata Fields*)

Freely Available Software:

- [NDP.view](#)¹⁴²

Sample Datasets:

- [OpenSlide](#)¹⁴³


We currently have:

- many example datasets


We would like to have:


- an official specification document


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.42 Hamamatsu VMS

Extensions: .vms

Developer: [Hamamatsu](#)¹⁴⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: HamamatsuVMSReader ([Source Code](#)¹⁴⁵, *Supported Metadata Fields*)

Sample Datasets:

- [OpenSlide](#)¹⁴⁶

We currently have:

¹⁴⁰<http://www.hamamatsu.com>

¹⁴¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NDPIReader.java>

¹⁴²http://www.olympusamerica.com/seg_section/seg_vm_downloads.asp

¹⁴³<http://openslide.cs.cmu.edu/download/openslide-testdata/Hamamatsu/>

¹⁴⁴<http://www.hamamatsu.com>

¹⁴⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/HamamatsuVMSReader.java>


¹⁴⁶<http://openslide.cs.cmu.edu/download/openslide-testdata/Hamamatsu-vms/>

- a few example datasets
- [developer documentation from the OpenSlide project](#)¹⁴⁷


We would like to have:


- an official specification document
- more example datasets


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 


Utility: 

17.43 Hitachi S-4800

Extensions: .txt, .tif, .bmp, .jpg

Developer: [Hitachi](#)¹⁴⁸

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: HitachiReader ([Source Code](#)¹⁴⁹, *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 School](#)¹⁵⁰

Support

BSD-licensed: 

¹⁴⁷<http://openslide.org/Hamamatsu%20format/>

¹⁴⁸http://www.hitachi-hta.com/sites/default/files/technotes/Hitachi_4800_STEM.pdf

¹⁴⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/HitachiReader.java>

¹⁵⁰<http://invitro.umassmed.edu/>

Export: 

Officially Supported Versions:


Reader: I2IReader ([Source Code](#)¹⁵¹, *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: 

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](#)¹⁵², *Supported Metadata Fields*)

Writer: ICSWriter ([Source Code](#)¹⁵³)

Freely Available Software:


- [Libics](#) (ICS reference library)¹⁵⁴
- [ICS Opener](#) plugin for ImageJ¹⁵⁵
- [IrfanView](#)¹⁵⁶

We currently have:

- numerous ICS datasets

We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 

¹⁵¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/I2IReader.java>


¹⁵²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/ICSReader.java>


¹⁵³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/ICSWriter.java>

¹⁵⁴<http://libics.sourceforge.net/>

¹⁵⁵http://valelab.ucsf.edu/%7Enstuurman/IJplugins/Ics_Opener.html

¹⁵⁶<http://www.irfanview.com/>

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](#)¹⁵⁷
- [SVI Huygens](#)¹⁵⁸

17.46 Imacon

Extensions: .fff

Owner: [Hasselblad](#)¹⁵⁹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: ImaconReader ([Source Code](#)¹⁶⁰, *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](#)¹⁶¹

Support

BSD-licensed: 

Export: 

¹⁵⁷<http://www.bitplane.com/>

¹⁵⁸<http://svi.nl/>

¹⁵⁹<http://www.hasselbladusa.com/>

¹⁶⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImaconReader.java>

¹⁶¹<http://www.mediacy.com/>

Officially Supported Versions:

Reader: SEQReader ([Source Code](#)¹⁶², *Supported Metadata Fields*)

We currently have:

- the [Image-Pro Plus](#)¹⁶³ 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:

17.48 ImagePro Workspace

Extensions: .ipw

Owner: [Media Cybernetics](#)¹⁶⁴

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: IPWReader ([Source Code](#)¹⁶⁵, *Supported Metadata Fields*)

We currently have:

- the [Image-Pro Plus](#)¹⁶⁶ 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:


¹⁶²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SEQReader.java>


¹⁶³<http://www.mediacy.com/index.aspx?page=IPP>

¹⁶⁴<http://www.mediacy.com/>

¹⁶⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/IPWReader.java>

¹⁶⁶<http://www.mediacy.com/index.aspx?page=IPP>

Presence: 

Utility: 

Additional Information


Bio-Formats uses a modified version of the [Apache Jakarta POI¹⁶⁷](#) library to read IPW files.

17.49 IMAGIC

Extensions: .hed, .img

Developer: [Image Science¹⁶⁸](#)

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: [ImagicReader \(Source Code¹⁶⁹, Supported Metadata Fields\)](#)

Freely Available Software:

- [em2em¹⁷⁰](#)


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 specification¹⁷¹](#)

17.50 IMOD

Extensions: .mod

Developer: [Boulder Laboratory for 3-Dimensional Electron Microscopy of Cells¹⁷²](#)

Owner: [Boulder Laboratory for 3-Dimensional Electron Microscopy of Cells¹⁷³](#)

¹⁶⁷<http://jakarta.apache.org/poi/>

¹⁶⁸<http://www.imagescience.de>

¹⁶⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImagicReader.java>

¹⁷⁰<http://www.imagescience.de/em2em.html>

¹⁷¹<http://www.imagescience.de/em2em.html>

¹⁷²<http://bio3d.colorado.edu>

¹⁷³<http://bio3d.colorado.edu>

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: IMODReader ([Source Code](#)¹⁷⁴, *Supported Metadata Fields*)

Freely Available Software:

- [IMOD](#)¹⁷⁵

We currently have:

- a few sample datasets
- [official documentation](#)¹⁷⁶

We would like to have:

Ratings

Pixels: 🟡

Metadata: 🟡

Openness: 🟢

Presence: 🟠

Utility: 🟠

17.51 Improvition Openlab LIFF

Extensions: .liff

Developer: [Improvition](#)¹⁷⁷

Owner: [PerkinElmer](#)¹⁷⁸

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions: 2.0, 5.0

Reader: OpenlabReader ([Source Code](#)¹⁷⁹, *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)

¹⁷⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/IMODReader.java>





¹⁷⁵<http://bio3d.colorado.edu/imod/>

¹⁷⁶<http://bio3d.colorado.edu/imod/doc/binspec.html>

¹⁷⁷<http://www.improvition.com/>

¹⁷⁸<http://www.perkinelmer.com/>

¹⁷⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/OpenlabReader.java>


RatingsPixels: 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](#)¹⁸⁰

17.52 Improvion Openlab Raw

Extensions: .raw

Developer: [Improvion](#)¹⁸¹Owner: [PerkinElmer](#)¹⁸²**Support**BSD-licensed: Export: 



Officially Supported Versions:

Reader: OpenlabRawReader ([Source Code](#)¹⁸³, *Supported Metadata Fields*)

We currently have:

- an [Openlab Raw specification document](#)¹⁸⁴ (from 2004 November 09, in HTML)
- a few Openlab Raw datasets

We would like to have:

RatingsPixels: Metadata: Openness: Presence: Utility: **Additional Information****See also:**[Openlab software review](#)¹⁸⁵¹⁸⁰<http://www.improvion.com/products/openlab/>¹⁸¹<http://www.improvion.com/>¹⁸²<http://www.perkinelmer.com/>¹⁸³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/OpenlabRawReader.java>¹⁸⁴http://cellularimaging.perkinelmer.com/support/technical_notes/detail.php?id=344¹⁸⁵<http://www.improvion.com/products/openlab/>


17.53 Improvision TIFF

Extensions: .tif

Developer: [Improvision](#)¹⁸⁶

Owner: [PerkinElmer](#)¹⁸⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: ImprovisionTiffReader ([Source Code](#)¹⁸⁸, *Supported Metadata Fields*)

We currently have:

- an Improvision TIFF specification document
- a few Improvision 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.

See also:

[Openlab software overview](#)¹⁸⁹

17.54 Inspector OBF

Extensions: .obf, .msr

Developer: [Department of NanoBiophotonics, MPI-BPC](#)¹⁹⁰

Owner: [MPI-BPC](#)¹⁹¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: OBFReader ([Source Code](#)¹⁹², *Supported Metadata Fields*)

We currently have:

¹⁸⁶<http://www.improvision.com/>

¹⁸⁷<http://www.perkinelmer.com/>

¹⁸⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ImprovisionTiffReader.java>

¹⁸⁹<http://www.improvision.com/products/openlab/>

¹⁹⁰<https://inspector.mpibpc.mpg.de/index.html>

¹⁹¹<http://www.mpibpc.mpg.de/>

¹⁹²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/OBFReader.java>

- a few .msr datasets
- a specification document¹⁹³

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

17.55 InCell 1000

Extensions: .xdce, .tif

Developer: GE¹⁹⁴

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: InCellReader ([Source Code](#)¹⁹⁵, *Supported Metadata Fields*)

We currently have:

- a few InCell 1000 datasets

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: GE¹⁹⁶

Support

BSD-licensed:

¹⁹³<https://inspector.mpibpc.mpg.de/documentation/fileformat.html>

¹⁹⁴<http://gelifesciences.com/>

¹⁹⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/InCellReader.java>

¹⁹⁶<http://gelifesciences.com/>

Export: ❌

Officially Supported Versions:

Reader: InCell3000Reader ([Source Code](#)¹⁹⁷, *Supported Metadata Fields*)

Sample Datasets:

- [Broad Bioimage Benchmark Collection](#)¹⁹⁸


We currently have:

- a few example datasets


We would like to have:


- an official specification document


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.57 INR

Extensions: .inr

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:


Reader: INRReader ([Source Code](#)¹⁹⁹, *Supported Metadata Fields*)

We currently have:

- several sample .inr datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

¹⁹⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/InCell3000Reader.java>


¹⁹⁸<http://www.broadinstitute.org/bbbc/BBBC013/>

¹⁹⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/INRReader.java>

17.58 Inveon

Extensions: .hdr

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: InveonReader ([Source Code](#)²⁰⁰, *Supported Metadata Fields*)


We currently have:


a few Inveon datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 


17.59 IPLab

Extensions: .ipl

Developer: Scanalytics

Owner: was [BD Biosystems](#)²⁰¹, now [BioVision Technologies](#)²⁰²

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: IPLabReader ([Source Code](#)²⁰³, *Supported Metadata Fields*)

Freely Available Software:

- [IPLab Reader plugin for ImageJ](#)²⁰⁴

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)


²⁰⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/InveonReader.java>

²⁰¹<http://www.bdbiosciences.com/>

²⁰²<http://www.bioviz.com/iplab.htm>

²⁰³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/IPLabReader.java>

²⁰⁴<http://rsb.info.nih.gov/ij/plugins/iplab-reader.html>

RatingsPixels: 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 Imaris²⁰⁵
- SVI Huygens²⁰⁶

See also:[IPLab software review](#)²⁰⁷

17.60 iVision

Extensions: .ipm

Owner: [BioVision Technologies](#)²⁰⁸**Support**BSD-licensed: Export: 

Officially Supported Versions:



Reader: IvisionReader ([Source Code](#)²⁰⁹, *Supported Metadata Fields*)

We currently have:

- a few iVision-Mac datasets
- a specification document

We would like to have:

- more iVision-Mac datasets

RatingsPixels: 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.**²⁰⁵<http://www.bitplane.com/>²⁰⁶<http://svi.nl/>²⁰⁷<http://www.biovis.com/iplab.htm>²⁰⁸<http://biovis.com/>²⁰⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/IvisionReader.java>

iVision-Mac was formerly called IPLab for Macintosh.

17.61 JEOL

Extensions: .dat, .img, .par

Owner: [JEOL](#)²¹⁰

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: JEOLReader ([Source Code](#)²¹¹, [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


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.62 JPEG

Extensions: .jpg

Developer: [Independent JPEG Group](#)²¹²

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: JPEGReader ([Source Code](#)²¹³, [Supported Metadata Fields](#))

Writer: JPEGWriter ([Source Code](#)²¹⁴)

We currently have:

- a [JPEG specification document](#)²¹⁵ (v1.04, from 1992 September 1, in PDF)

²¹⁰<http://www.jeol.com>

²¹¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/JEOLReader.java>

²¹²<http://www.ijg.org/>

²¹³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/JPEGReader.java>


²¹⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/JPEGWriter.java>


²¹⁵<http://www.w3.org/Graphics/JPEG/jfif3.pdf>


- numerous JPEG datasets
- the ability to produce more datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Bio-Formats can save individual planes as JPEG. Bio-Formats uses the [Java Image I/O²¹⁶](#) API to read and write JPEG files. JPEG stands for “Joint Photographic Experts Group”.

See also:


[JPEG homepage²¹⁷](#)

17.63 JPEG 2000

Extensions: .jp2

Developer: [Independent JPEG Group²¹⁸](#)

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: JPEG2000Reader ([Source Code²¹⁹](#), [Supported Metadata Fields](#))

Writer: JPEG2000Writer ([Source Code²²⁰](#))

Freely Available Software:


- [JJ2000 \(JPEG 2000 library for Java\)²²¹](#)

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: 

²¹⁶<http://docs.oracle.com/javase/6/docs/technotes/guides/imageio/>

²¹⁷<http://www.jpeg.org/jpeg/index.html>

²¹⁸<http://www.ijg.org/>

²¹⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/JPEG2000Reader.java>

²²⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/JPEG2000Writer.java>

²²¹<http://code.google.com/p/jj2000/>

Utility: 

Additional Information

Bio-Formats uses the [JAI Image I/O Tools](#)²²² library to read JP2 files. JPEG stands for “Joint Photographic Experts Group”.

17.64 JPK

Extensions: .jpk

Developer: [JPK Instruments](#)²²³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: JPKReader ([Source Code](#)²²⁴, *Supported Metadata Fields*)


We currently have:

- Pascal code that can read JPK files (from ImageSXM)
- 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](#)²²⁵

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: JPXReader ([Source Code](#)²²⁶, *Supported Metadata Fields*)

We currently have:

- a few .jpx files

²²²<https://java.net/projects/jai-imageio>

²²³<http://www.jpk.com>

²²⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/JPKReader.java>

²²⁵<http://www.jpeg.org/jpeg2000/>

²²⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/JPXReader.java>

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

17.66 Khoros VIFF (Visualization Image File Format) Bitmap

Extensions: .xv

Developer: [Khoral](#)²²⁷

Owner: [AccuSoft](#)²²⁸

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: KhorosReader ([Source Code](#)²²⁹, *Supported Metadata Fields*)

Sample Datasets:

- [VIFF Images](#)²³⁰

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](#)²³¹

Support

BSD-licensed:

²²⁷<http://www.khoral.com/company/>

²²⁸<http://www.accusoft.com/company/>

²²⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/KhorosReader.java>

²³⁰<http://netghost.narod.ru/gff/sample/images/viff/index.htm>

²³¹<http://carestream.com>

Export: ❌

Officially Supported Versions:

Reader: KodakReader ([Source Code](#)²³², *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:

[Information on Image Station systems](#)²³³

17.68 Lambert Instruments FLIM

Extensions: .fli

Developer: [Lambert Instruments](#)²³⁴

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: LiFlimReader ([Source Code](#)²³⁵, *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

²³²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/KodakReader.java>

²³³<http://carestream.com/PublicContent.aspx?langType=1033&id=448953>

²³⁴<http://www.lambert-instruments.com>

²³⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LiFlimReader.java>

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](#)²³⁶

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: InspectorReader ([Source Code](#)²³⁷, *Supported Metadata Fields*)

We currently have:

- a few .msr files

We would like to have:

Ratings

Pixels: ▼

Metadata: ▼

Openness: ▼

Presence: ▼

Utility: ▼

17.70 Leica LCS LEI

Extensions: .lei, .tif

Developer: [Leica Microsystems CMS GmbH](#)²³⁸

Owner: [Leica](#)²³⁹

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: LeicaReader ([Source Code](#)²⁴⁰, *Supported Metadata Fields*)

Freely Available Software:

- [Leica LCS Lite](#)²⁴¹

We currently have:

- an LEI specification document (beta 2.000, from no later than 2004 February 17, in PDF)
- many LEI datasets

²³⁶<http://www.lavisionbiotec.com/>

²³⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/InspectorReader.java>

²³⁸<http://www.leica-microsystems.com/>


²³⁹<http://www.leica.com/>


²⁴⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LeicaReader.java>


²⁴¹<ftp://ftp.llt.de/softlib/LCSLite/LCSLite2611537.exe>


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 Imaris²⁴²
- SVI Huygens²⁴³
- Image-Pro Plus²⁴⁴


17.71 Leica LAS AF LIF (Leica Image File Format)

Extensions: .lif

Developer: Leica Microsystems CMS GmbH²⁴⁵

Owner: Leica²⁴⁶

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 1.0, 2.0

Reader: LIFReader ([Source Code](#)²⁴⁷, *Supported Metadata Fields*)

Freely Available Software:


- Leica LAS AF Lite²⁴⁸ (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: 

²⁴²<http://www.bitplane.com/>

²⁴³<http://svi.nl/>




²⁴⁴<http://www.mediacy.com/>

²⁴⁵<http://www.leica-microsystems.com/>

²⁴⁶<http://www.leica.com/>

²⁴⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LIFReader.java>

²⁴⁸<http://www.leica-microsystems.com/products/microscope-software/software-for-life-science-research/las-x/>

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 Imaris²⁴⁹
- SVI Huygens²⁵⁰
- Amira²⁵¹

17.72 Leica SCN

Extensions: .scn

Developer: Leica Microsystems²⁵²**Support**BSD-licensed: Export: 

Officially Supported Versions: 2012-03-10



Reader: LeicaSCNReader ([Source Code](#)²⁵³, *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

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.73 LEO

Extensions: .sxm

Owner: Zeiss²⁵⁴

²⁴⁹<http://www.bitplane.com/>

²⁵⁰<http://svi.nl/>

²⁵¹<http://www.amira.com/>

²⁵²<http://www.leica-microsystems.com/>

²⁵³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LeicaSCNReader.java>

²⁵⁴<http://www.zeiss.de>

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: LEOReader ([Source Code](#)²⁵⁵, *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


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.74 Li-Cor L2D

Extensions: .l2d, .tif, .scn

Owner: [LiCor Biosciences](#)²⁵⁶

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: L2DReader ([Source Code](#)²⁵⁷, *Supported Metadata Fields*)


We currently have:

- a few L2D datasets


We would like to have:

- an official specification document
- more L2D datasets

Ratings

Pixels: 

Metadata: 


Openness: 

Presence: 

²⁵⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LEOReader.java>

²⁵⁶<http://www.licor.com/>

²⁵⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/L2DReader.java>

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](#)²⁵⁸

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: LIMReader ([Source Code](#)²⁵⁹, [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 Elements](#)²⁶⁰


17.76 MetaMorph 7.5 TIFF

Extensions: .tiff

Owner: [Molecular Devices](#)²⁶¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

²⁵⁸<http://www.lim.cz/>

²⁵⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/LIMReader.java>

²⁶⁰<http://www.nis-elements.com/>

²⁶¹<http://www.moleculardevices.com/>


Reader: `MetamorphTiffReader` ([Source Code](#)²⁶², *Supported Metadata Fields*)

We currently have:

- a few Metamorph 7.5 TIFF datasets

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.77 MetaMorph Stack (STK)

Extensions: `.stk`, `.nd`

Owner: [Molecular Devices](#)²⁶³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: `MetamorphReader` ([Source Code](#)²⁶⁴, *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 Imaris](#)²⁶⁵

²⁶²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MetamorphTiffReader.java>

²⁶³<http://www.moleculardevices.com/>

²⁶⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MetamorphReader.java>

²⁶⁵<http://www.bitplane.com/>

- [SVI Huygens](#)²⁶⁶
- [DIMIN](#)²⁶⁷

See also:


[Metamorph imaging system overview](#)²⁶⁸

17.78 MIAS (Maia Scientific)

Extensions: .tif

Developer: [Maia Scientific](#)²⁶⁹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: MIASReader ([Source Code](#)²⁷⁰, *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](#)²⁷¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: MicromanagerReader ([Source Code](#)²⁷², *Supported Metadata Fields*)

Freely Available Software:

- [Micro-Manager](#)²⁷³

²⁶⁶<http://svi.nl/>

²⁶⁷<http://dimin.net/>

²⁶⁸<http://www.metamorph.com/>

²⁶⁹<http://www.selectscience.net/supplier/maia-scientific/?compID=6088>

²⁷⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MIASReader.java>

²⁷¹<http://valelab.ucsf.edu/>

²⁷²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/MicromanagerReader.java>

²⁷³<http://micro-manager.org/>

We currently have:

- many Micro-manager datasets

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

17.80 MINC MRI

Extensions: .mnc

Developer: [McGill University](#)²⁷⁴

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: MINCReader ([Source Code](#)²⁷⁵, *Supported Metadata Fields*)

Freely Available Software:

- [MINC](#)²⁷⁶

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](#)²⁷⁷

Support

BSD-licensed:

²⁷⁴<http://www.bic.mni.mcgill.ca/ServicesSoftware/MINC>

²⁷⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MINCReader.java>

²⁷⁶<http://www.bic.mni.mcgill.ca/ServicesSoftware/MINC>

²⁷⁷<http://www.konicaminolta.com/>

Export: 

Officially Supported Versions:

Reader: MRWReader ([Source Code](#)²⁷⁸, *Supported Metadata Fields*)

Freely Available Software:


- [dcraw](#)²⁷⁹

We currently have:

- 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](#)²⁸⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: MNGReader ([Source Code](#)²⁸¹, *Supported Metadata Fields*)

Freely Available Software:

- [libmng \(MNG reference library\)](#)²⁸²

Sample Datasets:


- [MNG sample files](#)²⁸³

We currently have:

- the [libmng-testsuites](#)²⁸⁴ package (from 2003 March 05, in C)
- a large number of MNG datasets

We would like to have:

Ratings

Pixels: 

Metadata: 

²⁷⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MRWReader.java>

²⁷⁹<http://www.cybercom.net/%7Edcoffin/dcraw/>

²⁸⁰<http://www.libpng.org/pub/mng/mngnews.html>

²⁸¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/MNGReader.java>


²⁸²<http://sourceforge.net/projects/libmng/>

²⁸³<http://sourceforge.net/projects/libmng/files/libmng-testsuites/MNGsuite-1.0/MNGsuite.zip/download>

²⁸⁴<http://downloads.sourceforge.net/libmng/MNGsuite-20030305.zip>

Openness: 

Presence: 

Utility: 

Additional Information

See also:


[MNG homepage](#)²⁸⁵ [MNG specification](#)²⁸⁶

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](#)²⁸⁷, [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](#)²⁸⁸

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

²⁸⁵<http://www.libpng.org/pub/mng/>

²⁸⁶<http://www.libpng.org/pub/mng/spec>

²⁸⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MolecularImagingReader.java>

²⁸⁸<http://www2.mrc-lmb.cam.ac.uk/>

Reader: MRCReader ([Source Code](#)²⁸⁹, *Supported Metadata Fields*)

Sample Datasets:


- [golgi.mrc](#)²⁹⁰


We currently have:


- an [MRC specification document](#)²⁹¹ (in TXT)
- a few MRC datasets


We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

Additional Information

Commercial applications that support MRC include:

- [Bitplane Imaris](#)²⁹²

See also:

[MRC on Wikipedia](#)²⁹³

17.85 NEF (Nikon Electronic Format)

Extensions: .nef, .tif

Developer: [Nikon](#)²⁹⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: NikonReader ([Source Code](#)²⁹⁵, *Supported Metadata Fields*)

Sample Datasets:

- [neffile1.zip](#)²⁹⁶
- [Sample NEF images](#)²⁹⁷

We currently have:

- a NEF specification document (v0.1, from 2003, in PDF)
- several NEF datasets

²⁸⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/MRCReader.java>

²⁹⁰http://bio3d.colorado.edu/imod/files/imod_data.tar.gz

²⁹¹http://bio3d.colorado.edu/imod/doc/mrc_format.txt

²⁹²<http://www.bitplane.com/>

²⁹³http://en.wikipedia.org/wiki/MRC_%28file_format%29

²⁹⁴<http://www.nikon.com/>

²⁹⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NikonReader.java>

²⁹⁶http://www.outbackphoto.com/workshop/NEF_conversion/neffile1.zip

²⁹⁷http://www.nikondigital.org/articles/library/nikon_d2x_first_impressions.htm

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:

[NEF Conversion](#)²⁹⁸

17.86 NIfTI

Extensions: .img, .hdr

Developer: [National Institutes of Health](#)²⁹⁹

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: NiftiReader ([Source Code](#)³⁰⁰, *Supported Metadata Fields*)

Sample Datasets:

- [Official test data](#)³⁰¹

We currently have:

- [NIfTI specification documents](#)³⁰²
- several NIfTI datasets

We would like to have:

Ratings

Pixels:

Metadata:

Openness:

Presence:

Utility:

²⁹⁸http://www.outbackphoto.com/workshop/NEF_conversion/nefconversion.html

²⁹⁹<http://www.nih.gov/>

³⁰⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NiftiReader.java>

³⁰¹<http://nifti.nimh.nih.gov/nifti-1/data>

³⁰²<http://nifti.nimh.nih.gov/nifti-1/>

17.87 Nikon Elements TIFF

Extensions: .tiff

Developer: [Nikon](#)³⁰³

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: NikonElementsTiffReader ([Source Code](#)³⁰⁴, *Supported Metadata Fields*)

We currently have:

- 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](#)³⁰⁵

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:


Reader: NikonTiffReader ([Source Code](#)³⁰⁶, *Supported Metadata Fields*)

We currently have:


- a few Nikon EZ-C1 TIFF files


We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 


Presence: 

³⁰³<http://www.nikon.com>

³⁰⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NikonElementsTiffReader.java>

³⁰⁵<http://www.nikon.com/>

³⁰⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NikonTiffReader.java>


Utility: 

17.89 Nikon NIS-Elements ND2

Extensions: .nd2

Developer: [Nikon USA](#)³⁰⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: NativeND2Reader ([Source Code](#)³⁰⁸, *Supported Metadata Fields*)

Freely Available Software:

- [NIS-Elements Viewer from Nikon](#)³⁰⁹


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 Tools](#)³¹⁰ 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 ImageJ](#)³¹¹ installed. Additionally, you will need to download [LegacyND2Reader.dll](#)³¹² and place it in your ImageJ plugin folder.

17.90 NRRD (Nearly Raw Raster Data)

Extensions: .nrrd, .nhdr, .raw, .txt

Developer: [Teem developers](#)³¹³

Support

BSD-licensed: 

³⁰⁷<http://www.nikonusa.com/>

³⁰⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/NativeND2Reader.java>

³⁰⁹<http://www.nikoninstruments.com/Products/Software/NIS-Elements-Advanced-Research/NIS-Elements-Viewer>

³¹⁰<http://java.net/projects/jai-imageio>

³¹¹<http://rsb.info.nih.gov/ij/plugins/nd2-reader.html>

³¹²<https://github.com/openmicroscopy/bioformats/blob/develop/lib/LegacyND2Reader.dll?raw=true>

³¹³<http://teem.sourceforge.net/>

Export: 

Officially Supported Versions:

Reader: NRRDReader ([Source Code](#)³¹⁴, *Supported Metadata Fields*)

Freely Available Software:

- [nrrd](#) (NRRD reference library)³¹⁵

Sample Datasets:

- [Diffusion tensor MRI datasets](#)³¹⁶

We currently have:


- an [nrrd specification document](#)³¹⁷ (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](#)³¹⁸

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: APLReader ([Source Code](#)³¹⁹, *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: 

³¹⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/NRRDReader.java>


³¹⁵<http://teem.sourceforge.net/nrrd/>


³¹⁶<http://www.sci.utah.edu/%7Egk/DTI-data/>

³¹⁷<http://teem.sourceforge.net/nrrd/format.html>

³¹⁸<http://www.olympus.com/>

³¹⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/APLReader.java>

Presence: 

Utility: 

17.92 Olympus FluoView FV1000

Extensions: .oib, .oif

Owner: [Olympus](#)³²⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 1.0, 2.0

Reader: FV1000Reader ([Source Code](#)³²¹, *Supported Metadata Fields*)

Freely Available Software:

- [FV-Viewer from Olympus](#)³²²


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](#)³²³ 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](#)³²⁴
- [SVI Huygens](#)³²⁵

³²⁰<http://www.olympus.com/>

³²¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/FV1000Reader.java>

³²²http://www.olympus.co.uk/microscopy/22_FluoView_FV1000_Confocal_Microscope.htm

³²³<http://jakarta.apache.org/poi/>

³²⁴<http://www.bitplane.com/>

³²⁵<http://svi.nl/>

See also:


Olympus FluoView Resource Center³²⁶

17.93 Olympus FluoView TIFF

Extensions: .tif

Owner: Olympus³²⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: FluoviewReader (Source Code³²⁸, *Supported Metadata Fields*)

Freely Available Software:


- DIMIN³²⁹

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 Imaris³³⁰
- SVI Huygens³³¹

17.94 Olympus ScanR

Extensions: .xml, .dat, .tif

Developer: Olympus³³²

Owner: Olympus³³³

³²⁶<http://www.olympusfluoview.com>

³²⁷<http://www.olympus.com/>

³²⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/FluoviewReader.java>

³²⁹<http://www.dimin.net/>


³³⁰<http://www.bitplane.com/>

³³¹<http://svi.nl/>

³³²<http://www.olympus.com/>

³³³<http://www.olympus.com/>

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: ScanrReader ([Source Code](#)³³⁴, *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](#)³³⁵

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: SISReader ([Source Code](#)³³⁶, *Supported Metadata Fields*)

We currently have:


- a few example SIS TIFF files

We would like to have:


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

³³⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ScanrReader.java>

³³⁵<http://www.olympus-sis.com/>


³³⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SISReader.java>

17.96 OME-TIFF

Extensions: `.ome.tiff`³³⁷

Developer: Open Microscopy Environment³³⁸

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

Reader: OMETiffReader (Source Code³³⁹, *Supported Metadata Fields*)


Writer: OMETiffWriter (Source Code³⁴⁰)

We currently have:

- an OME-TIFF specification document³⁴¹ (from 2006 October 19, in HTML)
- many OME-TIFF datasets
- 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 Imaris³⁴²
- SVI Huygens³⁴³

See also:

OME-TIFF technical overview³⁴⁴

17.97 OME-XML

Extensions: `.ome`³⁴⁵

Developer: Open Microscopy Environment³⁴⁶

Support

³³⁷<http://www.openmicroscopy.org/site/support/ome-model/ome-tiff/index.html>

³³⁸<http://www.openmicroscopy.org/>

³³⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/OMETiffReader.java>

³⁴⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/OMETiffWriter.java>

³⁴¹<http://www.openmicroscopy.org/site/support/ome-model/ome-tiff/specification.html>


³⁴²<http://www.bitplane.com/>

³⁴³<http://svi.nl/>

³⁴⁴<http://www.openmicroscopy.org/site/support/ome-model/ome-tiff/index.html>

³⁴⁵<http://www.openmicroscopy.org/site/support/ome-model/ome-xml/index.html>

³⁴⁶<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

Reader: OMEXMLReader ([Source Code](#)³⁴⁷, *Supported Metadata Fields*)


Writer: OMEXMLWriter ([Source Code](#)³⁴⁸)


We currently have:


- [OME-XML specification documents](#)³⁴⁹
- many OME-XML datasets
- 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](#)³⁵⁰ to read OME-XML files.

Commercial applications that support OME-XML include:

- [Bitplane Imaris](#)³⁵¹
- [SVI Huygens](#)³⁵²

17.98 Oxford Instruments

Extensions: .top

Owner: [Oxford Instruments](#)³⁵³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: OxfordInstrumentsReader ([Source Code](#)³⁵⁴, *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:

³⁴⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/OMEXMLReader.java>

³⁴⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/OMEXMLWriter.java>

³⁴⁹<http://www.openmicroscopy.org/Schemas/>

³⁵⁰<http://www.openmicroscopy.org/site/support/ome-model/ome-xml/java-library.html>

³⁵¹<http://www.bitplane.com/>

³⁵²<http://svi.nl/>

³⁵³<http://www.oxinst.com>


³⁵⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/OxfordInstrumentsReader.java>

- an official specification document
- more Oxford Instruments files


Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.99 PCORAW

Extensions: .pcoraw, .rec

Developer: [PCO](#)³⁵⁵

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: PCORAWReader ([Source Code](#)³⁵⁶, *Supported Metadata Fields*)

We currently have:

- a few example datasets

We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

Utility: 

17.100 PCX (PC Paintbrush)

Extensions: .pcx

Developer: ZSoft Corporation

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: PCXReader ([Source Code](#)³⁵⁷, *Supported Metadata Fields*)

³⁵⁵<http://www.pco.de/>

³⁵⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PCORAWReader.java>


³⁵⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/PCXReader.java>

We currently have:

- several .pcx files
- 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](#)³⁵⁸.

17.101 Perkin Elmer Densitometer

Extensions: .pds

Developer: [Perkin Elmer](#)³⁵⁹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: PDSReader ([Source Code](#)³⁶⁰, *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: 

³⁵⁸http://www.zeiss.com/microscopy/en_de/downloads/lsm-5-series.html

³⁵⁹<http://www.perkinelmer.com>


³⁶⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PDSReader.java>


17.102 PerkinElmer Nuance

Extensions: .im3

Developer: [PerkinElmer](#)³⁶¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: IM3Reader ([Source Code](#)³⁶², *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](#)³⁶³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: OperettaReader ([Source Code](#)³⁶⁴, *Supported Metadata Fields*)


We currently have:

- a few sample datasets

We would like to have:

- an official specification document
- more sample datasets

Ratings

Pixels: 

Metadata: 


Openness: 


³⁶¹<http://www.perkinelmer.com/>

³⁶²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/IM3Reader.java>

³⁶³<http://www.perkinelmer.com/>

³⁶⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/OperettaReader.java>

Presence: 


Utility: 

17.104 PerkinElmer UltraView

Extensions: .tif, .2, .3, .4, etc.

Owner: [PerkinElmer](#)³⁶⁵

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: [PerkinElmerReader](#) ([Source Code](#)³⁶⁶, [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](#)³⁶⁷
- [Image-Pro Plus](#)³⁶⁸

See also:


[PerkinElmer UltraView system overview](#)³⁶⁹

17.105 Portable Any Map

Extensions: .pbm, .pgm, .ppm

Developer: Netpbm developers

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

³⁶⁵<http://www.perkinelmer.com/>

³⁶⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PerkinElmerReader.java>

³⁶⁷<http://www.bitplane.com/>

³⁶⁸<http://www.mediacy.com/>

³⁶⁹<http://www.perkinelmer.com/pages/020/cellularimaging/products/ultraviewvoxsysteoverview.xhtml>

Reader: PGMReader ([Source Code](#)³⁷⁰, *Supported Metadata Fields*)

Freely Available Software:


- Netpbm graphics filter³⁷¹

We currently have:

- a PGM specification document³⁷² (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: Adobe³⁷³

Support

BSD-licensed: 

Export: 

Officially Supported Versions: 1.0

Reader: PSDReader ([Source Code](#)³⁷⁴, *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: 

³⁷⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/PGMReader.java>

³⁷¹<http://netpbm.sourceforge.net/>

³⁷²<http://netpbm.sourceforge.net/doc/pgm.html>

³⁷³<http://www.adobe.com/>

³⁷⁴<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](#)³⁷⁵

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: PhotoshopTiffReader ([Source Code](#)³⁷⁶, *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](#)³⁷⁷

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: PQBinReader ([Source Code](#)³⁷⁸, *Supported Metadata Fields*)

Freely Available Software:


- [SymphoTime64](#)³⁷⁹

We currently have:

- a few example datasets

We would like to have:

Ratings

Pixels: 

Metadata: 




³⁷⁵<http://www.adobe.com>

³⁷⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PhotoshopTiffReader.java>

³⁷⁷<http://www.picoquant.com/>

³⁷⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PQBinReader.java>

³⁷⁹<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](#)³⁸⁰

Support

BSD-licensed: Export: 

Officially Supported Versions:



Reader: PictReader ([Source Code](#)³⁸¹, [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](#)³⁸² is required for reading vector files and some compressed files.

See also:


[PICT technical overview](#)³⁸³ [Another PICT technical overview](#)³⁸⁴

17.110 PNG (Portable Network Graphics)

Extensions: .png

Developer: [PNG Development Group](#)³⁸⁵

Support

BSD-licensed: Export: 

Officially Supported Versions:

Reader: APNGReader ([Source Code](#)³⁸⁶, [Supported Metadata Fields](#))³⁸⁰<http://www.apple.com>³⁸¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/PictReader.java>³⁸²<http://www.apple.com/quicktime/download/standalone.html>³⁸³<http://www.faqs.org/faqs/graphics/fileformats-faq/part3/section-107.html>³⁸⁴<http://www.prepressure.com/formats/pict/fileformat.htm>³⁸⁵<http://www.libpng.org/pub/png/pngnews.html>³⁸⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/APNGReader.java>

Writer: APNGWriter ([Source Code](#)³⁸⁷)

Freely Available Software:


- PNG Writer plugin for ImageJ³⁸⁸

We currently have:


- a PNG specification document³⁸⁹ (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/O³⁹⁰ API to read and write PNG files.

See also:


[PNG technical overview](#)³⁹¹

17.111 Prairie Technologies TIFF

Extensions: .tif, .xml, .cfg

Developer: [Prairie Technologies](#)³⁹²

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: PrairieReader ([Source Code](#)³⁹³, *Supported Metadata Fields*)

We currently have:


- many Prairie datasets


We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 

Presence: 

³⁸⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/APNGWriter.java>

³⁸⁸<http://rsb.info.nih.gov/ij/plugins/png-writer.html>


³⁸⁹<http://www.libpng.org/pub/png/spec/iso/>

³⁹⁰<http://docs.oracle.com/javase/6/docs/technotes/guides/imageio/>

³⁹¹<http://www.libpng.org/pub/png/>

³⁹²<http://www.prairie-technologies.com/>

³⁹³<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](#)³⁹⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: QuesantReader ([Source Code](#)³⁹⁵, *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](#)³⁹⁶

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: NativeQTReader ([Source Code](#)³⁹⁷, *Supported Metadata Fields*)

Writer: QTWriter ([Source Code](#)³⁹⁸)

Freely Available Software:

³⁹⁴<http://www.kla-tencor.com/surface-profilometry-and-metrology.html>

³⁹⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/QuesantReader.java>

³⁹⁶<http://www.apple.com/>

³⁹⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/NativeQTReader.java>

³⁹⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/QTWriter.java>

- QuickTime Player³⁹⁹


We currently have:

- a QuickTime specification document⁴⁰⁰ (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 QuickTime⁴⁰¹ 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](#)⁴⁰²

³⁹⁹<http://www.apple.com/quicktime/download/>

⁴⁰⁰<http://developer.apple.com/documentation/Quicktime/QTFF/>

⁴⁰¹<http://www.apple.com/quicktime/download/>

⁴⁰²<http://www.apple.com/quicktime/>

17.114 RHK

Extensions: .sm2, .sm3

Owner: [RHK Technologies](#)⁴⁰³

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: RHKReader ([Source Code](#)⁴⁰⁴, *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 \(SBIG\)](#)⁴⁰⁵

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: SBIGReader ([Source Code](#)⁴⁰⁶, *Supported Metadata Fields*)

We currently have:

- an [official SBIG specification document](#)⁴⁰⁷
- a few SBIG files

We would like to have:

- more SBIG files






⁴⁰³<http://www.rhk-tech.com>

⁴⁰⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/RHKReader.java>

⁴⁰⁵<http://www.sbig.com>

⁴⁰⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SBIGReader.java>

⁴⁰⁷<http://sbig.impulse.net/pdffiles/file.format.pdf>

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.116 Seiko

Extensions: .xqd, .xqf

Owner: [Seiko](#)⁴⁰⁸**Support**BSD-licensed: Export: 

Officially Supported Versions:




Reader: SeikoReader ([Source Code](#)⁴⁰⁹, *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](#)⁴¹⁰**Support**BSD-licensed: Export: 

Officially Supported Versions:

⁴⁰⁸<http://www.seiko.co.jp/en/index.php>⁴⁰⁹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SeikoReader.java>⁴¹⁰<http://hcimage.com>

Reader: PCIRReader ([Source Code](#)⁴¹¹, *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](#)⁴¹² to read CXD files.

See also:

[SimplePCI software overview](#)⁴¹³

17.118 SimplePCI & HImage TIFF

Extensions: .tiff

Developer: [Hamamatsu](#)⁴¹⁴

Support

BSD-licensed:

Export:

Officially Supported Versions:

Reader: SimplePCITiffReader ([Source Code](#)⁴¹⁵, *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:

⁴¹¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/PCIRReader.java>

⁴¹²<http://jakarta.apache.org/poi/>

⁴¹³<http://himage.com/simple-pci-legacy/>

⁴¹⁴<http://himage.com/simple-pci-legacy/>

⁴¹⁵<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](#)⁴¹⁶, *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](#)⁴¹⁷

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: SpiderReader ([Source Code](#)⁴¹⁸, *Supported Metadata Fields*)

Freely Available Software:


- [SPIDER](#)⁴¹⁹

We currently have:

- a few example datasets
- [official file format documentation](#)⁴²⁰

We would like to have:

Ratings

Pixels: 


⁴¹⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SMCameraReader.java>


⁴¹⁷http://www.wadsworth.org/spider_doc/spider/docs/spider.html


⁴¹⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/SpiderReader.java>


⁴¹⁹http://www.wadsworth.org/spider_doc/spider/docs/spider.html

⁴²⁰http://www.wadsworth.org/spider_doc/spider/docs/image_doc.html

Metadata: 

Openness: 

Presence: 


Utility: 

17.121 Targa

Extensions: .tga

Developer: Truevision⁴²¹

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: TargaReader ([Source Code](#)⁴²², *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](#)⁴²³, *Supported Metadata Fields*)

We currently have:

We would like to have:

Ratings

Pixels: 

⁴²¹<http://www.truevision.com>

⁴²²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/TargaReader.java>

⁴²³<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: Adobe⁴²⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: TiffReader (Source Code⁴²⁵, *Supported Metadata Fields*)

Writer: TiffWriter (Source Code⁴²⁶)

Sample Datasets:


- LZW TIFF data gallery⁴²⁷
- Big TIFF⁴²⁸

We currently have:


- a TIFF specification document⁴²⁹ (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:

⁴²⁴<http://www.adobe.com>

⁴²⁵<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/TiffReader.java>

⁴²⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/out/TiffWriter.java>

⁴²⁷http://marlin.life.utsa.edu/Data_Gallery.html

⁴²⁸<http://www.awaresystems.be/imaging/tiff/bigtiff.html#samples>

⁴²⁹<http://partners.adobe.com/asn/developer/PDFS/TN/TIFF6.pdf>

TIFF technical overview⁴³⁰ BigTIFF technical overview⁴³¹

17.124 TillPhotonics TillVision

Extensions: .vws

Developer: TILL Photonics⁴³²

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: TillVisionReader ([Source Code](#)⁴³³, *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)⁴³⁴

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: TopometrixReader ([Source Code](#)⁴³⁵, *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

⁴³⁰<http://www.awaresystems.be/imaging/tiff/faq.html#q3>

⁴³¹<http://www.awaresystems.be/imaging/tiff/bigtiff.html>

⁴³²<http://www.till-photonics.com/>

⁴³³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/TillVisionReader.java>

⁴³⁴<http://www.veeco.com/>


⁴³⁵<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](#)⁴³⁶, *Supported Metadata Fields*)

Sample Datasets:


- [OpenSlide](#)⁴³⁷

We currently have:


- a few example datasets
- [developer documentation from the OpenSlide project](#)⁴³⁸

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](#)⁴³⁹, *Supported Metadata Fields*)

⁴³⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/TrestleReader.java>

⁴³⁷<http://openslide.cs.cmu.edu/download/openslide-testdata/Trestle/>

⁴³⁸<http://openslide.org/Trestle%20format/>

⁴³⁹<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)⁴⁴⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: UnisokuReader ([Source Code](#)⁴⁴¹, *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: 

⁴⁴⁰<http://www.unisoku.com>


⁴⁴¹<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.](#)⁴⁴²

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: VarianFDFReader ([Source Code](#)⁴⁴³, *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](#)⁴⁴⁴

Support

BSD-licensed: 

Export: 

Officially Supported Versions:


Reader: VeecoReader ([Source Code](#)⁴⁴⁵, *Supported Metadata Fields*)

We currently have:

- a few sample datasets

We would like to have:

Ratings

Pixels: 

Metadata: 

Openness: 


⁴⁴²<http://www.varianinc.com>

⁴⁴³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/VarianFDFReader.java>

⁴⁴⁴<http://www.veeco.com>

⁴⁴⁵<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](#)⁴⁴⁶, *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](#)⁴⁴⁷

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: VisitechReader ([Source Code](#)⁴⁴⁸, *Supported Metadata Fields*)

We currently have:

- several VisiTech datasets




We would like to have:

- an official specification document

⁴⁴⁶<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/VGSAMReader.java>

⁴⁴⁷<http://www.visitech.co.uk/>

⁴⁴⁸<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](#)⁴⁴⁹**Support**BSD-licensed: Export: 

Officially Supported Versions:

Reader: VolocityReader ([Source Code](#)⁴⁵⁰, *Supported Metadata Fields*)

Sample Datasets:



- [PerkinElmer Downloads](#)⁴⁵¹

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](#)⁴⁵².

17.134 Volocity Library Clipping

Extensions: .acff

Developer: [PerkinElmer](#)⁴⁵³⁴⁴⁹<http://www.perkinelmer.com/pages/020/cellularimaging/products/volocity.xhtml>⁴⁵⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/VolocityReader.java>⁴⁵¹<http://cellularimaging.perkinelmer.com/downloads/>⁴⁵²<http://equi4.com/metakit/>⁴⁵³<http://www.perkinelmer.com/pages/020/cellularimaging/products/volocity.xhtml>

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: VolocityClippingReader ([Source Code](#)⁴⁵⁴, *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](#)⁴⁵⁵.

17.135 WA-TOP

Extensions: .wat

Developer: WA Technology

Owner: [Oxford Instruments](#)⁴⁵⁶

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: WATOPReader ([Source Code](#)⁴⁵⁷, *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

⁴⁵⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/VolocityClippingReader.java>

⁴⁵⁵<https://trac.openmicroscopy.org/ome/ticket/6413>

⁴⁵⁶<http://www.oxinst.com>

⁴⁵⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/WATOPReader.java>

RatingsPixels: Metadata: Openness: Presence: Utility: 

17.136 Windows Bitmap

Extensions: .bmp

Developer: Microsoft and IBM

SupportBSD-licensed: Export: 

Officially Supported Versions:

Reader: BMPReader ([Source Code](#)⁴⁵⁸, *Supported Metadata Fields*)




Freely Available Software:

- [BMP Writer plugin for ImageJ](#)⁴⁵⁹

We currently have:

- many BMP datasets

We would like to have:

RatingsPixels: Metadata: Openness: Presence: Utility: **Additional Information**

Compressed BMP files are currently not supported.

See also:[Technical Overview](#)⁴⁶⁰

17.137 Woolz

Extensions: .wlz

Developer: [MRC Human Genetics Unit](#)⁴⁶¹**Support**⁴⁵⁸<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-bsd/src/loci/formats/in/BMPReader.java>⁴⁵⁹<http://rsb.info.nih.gov/ij/plugins/bmp-writer.html>⁴⁶⁰<http://www.faqs.org/faqs/graphics/fileformats-faq/part3/section-18.html>⁴⁶¹http://www.emouseatlas.org/emap/analysis_tools_resources/software/woolz.html

BSD-licensed: ❌

Export: ✅

Officially Supported Versions:

Reader: WlzReader ([Source Code](#)⁴⁶², *Supported Metadata Fields*)

Writer: WlzWriter ([Source Code](#)⁴⁶³)

Freely Available Software:

- Woolz⁴⁶⁴

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 GmbH⁴⁶⁵

Owner: Carl Zeiss Microscopy GmbH⁴⁶⁶

Support

BSD-licensed: ❌

Export: ❌

Officially Supported Versions:

Reader: ZeissLMSReader ([Source Code](#)⁴⁶⁷, *Supported Metadata Fields*)

We currently have:

- one example dataset

We would like to have:

Ratings

Pixels: ■

Metadata: ▼

Openness: ▼

Presence: ▼

Utility: ▼

⁴⁶²<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/WlzReader.java>

⁴⁶³<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/out/WlzWriter.java>

⁴⁶⁴http://www.emouseatlas.org/emap/analysis_tools_resources/software/woolz.html

⁴⁶⁵<http://www.zeiss.com/microscopy/>

⁴⁶⁶<http://www.zeiss.com/microscopy/>

⁴⁶⁷<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ZeissLMSReader.java>

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.

17.139 Zeiss AxioVision TIFF

Extensions: .xml, .tiff

Developer: Carl Zeiss Microscopy GmbH⁴⁶⁸

Owner: Carl Zeiss Microscopy GmbH⁴⁶⁹

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions:

Reader: ZeissTIFFReader (Source Code⁴⁷⁰, *Supported Metadata Fields*)

Freely Available Software:

- Zeiss ZEN Lite⁴⁷¹

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)⁴⁷²

Owner: Carl Zeiss Microscopy GmbH⁴⁷³

Support

BSD-licensed: ✖

Export: ✖

Officially Supported Versions: 1.0, 2.0

⁴⁶⁸<http://www.zeiss.com/microscopy/>

⁴⁶⁹<http://www.zeiss.com/microscopy/>

⁴⁷⁰<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ZeissTIFFReader.java>

⁴⁷¹http://www.zeiss.com/microscopy/en_de/products/microscope-software/zen-lite.html

⁴⁷²http://www.zeiss.com/microscopy/en_de/products/microscope-software/axiovision-for-biology.html

⁴⁷³<http://www.zeiss.com/microscopy/>

Reader: ZeissZVIReader ([Source Code](#)⁴⁷⁴, *Supported Metadata Fields*)

Freely Available Software:


- [Zeiss Axiovision LE](#)⁴⁷⁵


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](#)⁴⁷⁶ 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](#)⁴⁷⁷.

See also:


[Axiovision software overview](#)⁴⁷⁸

17.141 Zeiss CZI

Extensions: .czi⁴⁷⁹

Developer: [Carl Zeiss Microscopy GmbH](#)⁴⁸⁰

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: ZeissCZIReader ([Source Code](#)⁴⁸¹, *Supported Metadata Fields*)

Freely Available Software:

⁴⁷⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ZeissZVIReader.java>

⁴⁷⁵http://www.zeiss.com/microscopy/en_de/downloads/axiovision.html

⁴⁷⁶<http://jakarta.apache.org/poi/>

⁴⁷⁷<http://www.bitplane.com/>

⁴⁷⁸http://www.zeiss.com/microscopy/en_de/products/microscope-software/axiovision-for-biology.html

⁴⁷⁹<http://www.zeiss.com/czi>

⁴⁸⁰<http://www.zeiss.com/czi>

⁴⁸¹<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ZeissCZIReader.java>


- [Zeiss ZEN](#)⁴⁸²

We currently have:


- many example datasets
- 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.

17.142 Zeiss LSM (Laser Scanning Microscope) 510/710

Extensions: .lsm, .mdb

Owner: [Carl Zeiss Microscopy GmbH](#)⁴⁸³

Support

BSD-licensed: 

Export: 

Officially Supported Versions:

Reader: ZeissLSMReader ([Source Code](#)⁴⁸⁴, *Supported Metadata Fields*)

Freely Available Software:


- [Zeiss LSM Image Browser](#)⁴⁸⁵
- [LSM Toolbox plugin for ImageJ](#)⁴⁸⁶
- [LSM Reader plugin for ImageJ](#)⁴⁸⁷
- [DIMIN](#)⁴⁸⁸

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: 

⁴⁸²http://www.zeiss.com/microscopy/en_de/products/microscope-software/zen.html

⁴⁸³<http://www.zeiss.com/microscopy/>

⁴⁸⁴<https://github.com/openmicroscopy/bioformats/blob/develop/components/formats-gpl/src/loci/formats/in/ZeissLSMReader.java>

⁴⁸⁵http://www.zeiss.com/microscopy/en_de/downloads/lsm-5-series.html


⁴⁸⁶<http://imagejdocu.tudor.lu/Members/ppirrotte/lsmtoolbox>


⁴⁸⁷<http://rsb.info.nih.gov/ij/plugins/lsm-reader.html>

⁴⁸⁸<http://www.dimin.net/>

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 the [MDB Tools Java port](http://mdbtools.sourceforge.net/)⁴⁸⁹

Commercial applications that support this format include:

- [SVI Huygens](http://www.svi.nl/)⁴⁹⁰
- [Bitplane Imaris](http://www.bitplane.com/)⁴⁹¹
- [Amira](http://www.amira.com/)⁴⁹²
- [Image-Pro Plus](http://www.mediacy.com/)⁴⁹³

⁴⁸⁹<http://mdbtools.sourceforge.net/>

⁴⁹⁰<http://www2.svi.nl/>

⁴⁹¹<http://www.bitplane.com/>

⁴⁹²<http://www.amira.com/>

⁴⁹³<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>	38	0	0	437
<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

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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

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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
Continued on next page				

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
Continued on next page				

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_FontSize¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontStyle¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_LineCap²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Locked²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_MarkerEnd²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_MarkerStart²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Visible²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Description²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_ID²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#Annotation_Namespace²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID²²²http://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 - ExposureTime ²⁹²	32	0	0	136
Plane - HashSHA1 ²⁹³	0	0	0	168
Plane - PositionX ²⁹⁴	29	0	0	139
Plane - PositionY ²⁹⁵	29	0	0	139
Plane - PositionZ ²⁹⁶	22	0	0	146
Plane - TheC ²⁹⁷	168	0	0	0
Plane - TheT ²⁹⁸	168	0	0	0
Plane - TheZ ²⁹⁹	168	0	0	0
Plate - AnnotationRef 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

Continued on next page

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
Continued on next page				

³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_MarkerEnd³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_MarkerStart³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Visible³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DatasetRef_ID³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Project_Description³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterGroupRef_ID³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Project_ID³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Project_Name³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SA_xsd.html#AnnotationRef_ID³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Description³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name³⁸⁸http://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
Continued on next page				

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 AFIREader

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` : `AcquisitionDate`¹⁹⁵⁷
- `Image` : ID¹⁹⁵⁸
- `Image` : `InstrumentRef`¹⁹⁵⁹
- `Image` : `Name`¹⁹⁶⁰
- `Instrument` : ID¹⁹⁶¹
- `Pixels` : `BigEndian`¹⁹⁶²
- `Pixels` : `DimensionOrder`¹⁹⁶³
- `Pixels` : ID¹⁹⁶⁴
- `Pixels` : `Interleaved`¹⁹⁶⁵
- `Pixels` : `SignificantBits`¹⁹⁶⁶
- `Pixels` : `SizeC`¹⁹⁶⁷
- `Pixels` : `SizeT`¹⁹⁶⁸
- `Pixels` : `SizeX`¹⁹⁶⁹
- `Pixels` : `SizeY`¹⁹⁷⁰
- `Pixels` : `SizeZ`¹⁹⁷¹
- `Pixels` : `Type`¹⁹⁷²
- `Plane` : `ExposureTime`¹⁹⁷³
- `Plane` : `TheC`¹⁹⁷⁴
- `Plane` : `TheT`¹⁹⁷⁵
- `Plane` : `TheZ`¹⁹⁷⁶

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 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 : 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 : TheC³³⁸²
- Plane : TheT³³⁸³
- Plane : TheZ³³⁸⁴

Total supported: 38

Total unknown or missing: 437

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](#)³³⁸⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³³⁸⁶
- Channel : SamplesPerPixel³³⁸⁷
- Image : AcquisitionDate³³⁸⁸
- Image : ID³³⁸⁹
- Image : Name³³⁹⁰
- Pixels : BigEndian³³⁹¹
- Pixels : DimensionOrder³³⁹²
- Pixels : ID³³⁹³

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_TheC

³³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³³⁸⁵<http://www.openmicroscopy.org/site/support/ome-model/>

³³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved³³⁹⁴
- Pixels : SignificantBits³³⁹⁵
- Pixels : SizeC³³⁹⁶
- Pixels : SizeT³³⁹⁷
- Pixels : SizeX³³⁹⁸
- Pixels : SizeY³³⁹⁹
- Pixels : SizeZ³⁴⁰⁰
- Pixels : Type³⁴⁰¹
- Plane : TheC³⁴⁰²
- Plane : TheT³⁴⁰³
- Plane : TheZ³⁴⁰⁴

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](#)³⁴⁰⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³⁴⁰⁶
- Channel : SamplesPerPixel³⁴⁰⁷
- Image : AcquisitionDate³⁴⁰⁸
- Image : ID³⁴⁰⁹
- Image : Name³⁴¹⁰
- Pixels : BigEndian³⁴¹¹

³³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁴⁰⁵<http://www.openmicroscopy.org/site/support/ome-model/>

³⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder³⁴¹²
- Pixels : ID³⁴¹³
- Pixels : Interleaved³⁴¹⁴
- Pixels : PhysicalSizeX³⁴¹⁵
- Pixels : PhysicalSizeY³⁴¹⁶
- Pixels : SignificantBits³⁴¹⁷
- Pixels : SizeC³⁴¹⁸
- Pixels : SizeT³⁴¹⁹
- Pixels : SizeX³⁴²⁰
- Pixels : SizeY³⁴²¹
- Pixels : SizeZ³⁴²²
- Pixels : Type³⁴²³
- Plane : TheC³⁴²⁴
- Plane : TheT³⁴²⁵
- Plane : TheZ³⁴²⁶

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](#)³⁴²⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 Aquacosmos format reader:

- Channel : ID³⁴²⁸
- Channel : SamplesPerPixel³⁴²⁹

³⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁴²⁷<http://www.openmicroscopy.org/site/support/ome-model/>

³⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate³⁴³⁰
- Image : ID³⁴³¹
- Image : Name³⁴³²
- Pixels : BigEndian³⁴³³
- Pixels : DimensionOrder³⁴³⁴
- Pixels : ID³⁴³⁵
- Pixels : Interleaved³⁴³⁶
- Pixels : SignificantBits³⁴³⁷
- Pixels : SizeC³⁴³⁸
- Pixels : SizeT³⁴³⁹
- Pixels : SizeX³⁴⁴⁰
- Pixels : SizeY³⁴⁴¹
- Pixels : SizeZ³⁴⁴²
- Pixels : Type³⁴⁴³
- Plane : TheC³⁴⁴⁴
- Plane : TheT³⁴⁴⁵
- Plane : TheZ³⁴⁴⁶

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](#)³⁴⁴⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

³⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁴⁴⁷<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Nikon ND2 format reader:

- Channel : ID³⁴⁴⁸
- Channel : SamplesPerPixel³⁴⁴⁹
- Image : AcquisitionDate³⁴⁵⁰
- Image : ID³⁴⁵¹
- Image : Name³⁴⁵²
- Pixels : BigEndian³⁴⁵³
- Pixels : DimensionOrder³⁴⁵⁴
- Pixels : ID³⁴⁵⁵
- Pixels : Interleaved³⁴⁵⁶
- Pixels : SignificantBits³⁴⁵⁷
- Pixels : SizeC³⁴⁵⁸
- Pixels : SizeT³⁴⁵⁹
- Pixels : SizeX³⁴⁶⁰
- Pixels : SizeY³⁴⁶¹
- Pixels : SizeZ³⁴⁶²
- Pixels : Type³⁴⁶³
- Plane : TheC³⁴⁶⁴
- Plane : TheT³⁴⁶⁵
- Plane : TheZ³⁴⁶⁶

Total supported: 19

Total unknown or missing: 456

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](#)³⁴⁶⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

³⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
³⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
³⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
³⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
³⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
³⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
³⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
³⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
³⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
³⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
³⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
³⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
³⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
³⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
³⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
³⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
³⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
³⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
³⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
³⁴⁶⁷<http://www.openmicroscopy.org/site/support/ome-model/>

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 : ID³⁴⁶⁸
- Channel : SamplesPerPixel³⁴⁶⁹
- Image : AcquisitionDate³⁴⁷⁰
- Image : Description³⁴⁷¹
- Image : ID³⁴⁷²
- Image : InstrumentRef³⁴⁷³
- Image : Name³⁴⁷⁴
- Instrument : ID³⁴⁷⁵
- Microscope : Model³⁴⁷⁶
- Objective : ID³⁴⁷⁷
- Objective : NominalMagnification³⁴⁷⁸
- ObjectiveSettings : ID³⁴⁷⁹
- Pixels : BigEndian³⁴⁸⁰
- Pixels : DimensionOrder³⁴⁸¹
- Pixels : ID³⁴⁸²
- Pixels : Interleaved³⁴⁸³
- Pixels : PhysicalSizeX³⁴⁸⁴
- Pixels : PhysicalSizeY³⁴⁸⁵
- Pixels : SignificantBits³⁴⁸⁶
- Pixels : SizeC³⁴⁸⁷
- Pixels : SizeT³⁴⁸⁸
- Pixels : SizeX³⁴⁸⁹

³⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

³⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

³⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

³⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY³⁴⁹⁰
- Pixels : SizeZ³⁴⁹¹
- Pixels : Type³⁴⁹²
- Plane : TheC³⁴⁹³
- Plane : TheT³⁴⁹⁴
- Plane : TheZ³⁴⁹⁵

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](#)³⁴⁹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³⁴⁹⁷
- Channel : SamplesPerPixel³⁴⁹⁸
- Image : AcquisitionDate³⁴⁹⁹
- Image : ID³⁵⁰⁰
- Image : Name³⁵⁰¹
- Pixels : BigEndian³⁵⁰²
- Pixels : DimensionOrder³⁵⁰³
- Pixels : ID³⁵⁰⁴
- Pixels : Interleaved³⁵⁰⁵
- Pixels : SignificantBits³⁵⁰⁶
- Pixels : SizeC³⁵⁰⁷

³⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁴⁹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

³⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT³⁵⁰⁸
- Pixels : SizeX³⁵⁰⁹
- Pixels : SizeY³⁵¹⁰
- Pixels : SizeZ³⁵¹¹
- Pixels : Type³⁵¹²
- Plane : TheC³⁵¹³
- Plane : TheT³⁵¹⁴
- Plane : TheZ³⁵¹⁵

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](#)³⁵¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³⁵¹⁷
- Channel : SamplesPerPixel³⁵¹⁸
- Image : AcquisitionDate³⁵¹⁹
- Image : ID³⁵²⁰
- Image : Name³⁵²¹
- Pixels : BigEndian³⁵²²
- Pixels : DimensionOrder³⁵²³
- Pixels : ID³⁵²⁴
- Pixels : Interleaved³⁵²⁵

³⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁵¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

³⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : PhysicalSizeX³⁵²⁶
- Pixels : PhysicalSizeY³⁵²⁷
- Pixels : PhysicalSizeZ³⁵²⁸
- Pixels : SignificantBits³⁵²⁹
- Pixels : SizeC³⁵³⁰
- Pixels : SizeT³⁵³¹
- Pixels : SizeX³⁵³²
- Pixels : SizeY³⁵³³
- Pixels : SizeZ³⁵³⁴
- Pixels : Type³⁵³⁵
- Plane : TheC³⁵³⁶
- Plane : TheT³⁵³⁷
- Plane : TheZ³⁵³⁸

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](#)³⁵³⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : AcquisitionMode³⁵⁴⁰
- Channel : Color³⁵⁴¹
- Channel : EmissionWavelength³⁵⁴²
- Channel : ExcitationWavelength³⁵⁴³

³⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁵³⁹<http://www.openmicroscopy.org/site/support/ome-model/>

³⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

³⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

³⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

³⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

- Channel : ID³⁵⁴⁴
- Channel : Name³⁵⁴⁵
- Channel : PinholeSize³⁵⁴⁶
- Channel : SamplesPerPixel³⁵⁴⁷
- Detector : ID³⁵⁴⁸
- Detector : Model³⁵⁴⁹
- Detector : Type³⁵⁵⁰
- DetectorSettings : Binning³⁵⁵¹
- DetectorSettings : Gain³⁵⁵²
- DetectorSettings : ID³⁵⁵³
- DetectorSettings : ReadOutRate³⁵⁵⁴
- DetectorSettings : Voltage³⁵⁵⁵
- Image : AcquisitionDate³⁵⁵⁶
- Image : ID³⁵⁵⁷
- Image : InstrumentRef³⁵⁵⁸
- Image : Name³⁵⁵⁹
- ImagingEnvironment : Temperature³⁵⁶⁰
- Instrument : ID³⁵⁶¹
- Objective : CalibratedMagnification³⁵⁶²
- Objective : Correction³⁵⁶³
- Objective : ID³⁵⁶⁴
- Objective : Immersion³⁵⁶⁵
- Objective : LensNA³⁵⁶⁶
- Objective : Model³⁵⁶⁷
- ObjectiveSettings : ID³⁵⁶⁸
- ObjectiveSettings : RefractiveIndex³⁵⁶⁹

- ³⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ³⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name
- ³⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize
- ³⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ³⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID
- ³⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model
- ³⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type
- ³⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning
- ³⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain
- ³⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID
- ³⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate
- ³⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage
- ³⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ³⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ³⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID
- ³⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ³⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature
- ³⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ³⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification
- ³⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction
- ³⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
- ³⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion
- ³⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA
- ³⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model
- ³⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
- ³⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

- Pixels : BigEndian³⁵⁷⁰
- Pixels : DimensionOrder³⁵⁷¹
- Pixels : ID³⁵⁷²
- Pixels : Interleaved³⁵⁷³
- Pixels : PhysicalSizeX³⁵⁷⁴
- Pixels : PhysicalSizeY³⁵⁷⁵
- Pixels : PhysicalSizeZ³⁵⁷⁶
- Pixels : SignificantBits³⁵⁷⁷
- Pixels : SizeC³⁵⁷⁸
- Pixels : SizeT³⁵⁷⁹
- Pixels : SizeX³⁵⁸⁰
- Pixels : SizeY³⁵⁸¹
- Pixels : SizeZ³⁵⁸²
- Pixels : Type³⁵⁸³
- Plane : DeltaT³⁵⁸⁴
- Plane : ExposureTime³⁵⁸⁵
- Plane : PositionX³⁵⁸⁶
- Plane : PositionY³⁵⁸⁷
- Plane : PositionZ³⁵⁸⁸
- Plane : TheC³⁵⁸⁹
- Plane : TheT³⁵⁹⁰
- Plane : TheZ³⁵⁹¹

Total supported: 52

Total unknown or missing: 423

18.2.100 NativeQTReader

This page lists supported metadata fields for the Bio-Formats QuickTime format reader.

- ³⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ³⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ³⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ³⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ³⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ³⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ³⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ³⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ³⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ³⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ³⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ³⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ³⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ³⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ³⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT
- ³⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime
- ³⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
- ³⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
- ³⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ
- ³⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ³⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ³⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)³⁵⁹². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³⁵⁹³
- Channel : SamplesPerPixel³⁵⁹⁴
- Image : AcquisitionDate³⁵⁹⁵
- Image : ID³⁵⁹⁶
- Image : Name³⁵⁹⁷
- Pixels : BigEndian³⁵⁹⁸
- Pixels : DimensionOrder³⁵⁹⁹
- Pixels : ID³⁶⁰⁰
- Pixels : Interleaved³⁶⁰¹
- Pixels : SignificantBits³⁶⁰²
- Pixels : SizeC³⁶⁰³
- Pixels : SizeT³⁶⁰⁴
- Pixels : SizeX³⁶⁰⁵
- Pixels : SizeY³⁶⁰⁶
- Pixels : SizeZ³⁶⁰⁷
- Pixels : Type³⁶⁰⁸
- Plane : TheC³⁶⁰⁹
- Plane : TheT³⁶¹⁰
- Plane : TheZ³⁶¹¹

Total supported: 19

Total unknown or missing: 456

³⁵⁹²<http://www.openmicroscopy.org/site/support/ome-model/>

³⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

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](#)³⁶¹². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³⁶¹³
- Channel : SamplesPerPixel³⁶¹⁴
- Image : AcquisitionDate³⁶¹⁵
- Image : Description³⁶¹⁶
- Image : ID³⁶¹⁷
- Image : Name³⁶¹⁸
- Pixels : BigEndian³⁶¹⁹
- Pixels : DimensionOrder³⁶²⁰
- Pixels : ID³⁶²¹
- Pixels : Interleaved³⁶²²
- Pixels : PhysicalSizeX³⁶²³
- Pixels : PhysicalSizeY³⁶²⁴
- Pixels : PhysicalSizeZ³⁶²⁵
- Pixels : SignificantBits³⁶²⁶
- Pixels : SizeC³⁶²⁷
- Pixels : SizeT³⁶²⁸
- Pixels : SizeX³⁶²⁹
- Pixels : SizeY³⁶³⁰

³⁶¹²<http://www.openmicroscopy.org/site/support/ome-model/>

³⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ³⁶³¹
- Pixels : TimeIncrement³⁶³²
- Pixels : Type³⁶³³
- Plane : TheC³⁶³⁴
- Plane : TheT³⁶³⁵
- Plane : TheZ³⁶³⁶

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](#)³⁶³⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : AcquisitionMode³⁶³⁸
- Channel : EmissionWavelength³⁶³⁹
- Channel : ExcitationWavelength³⁶⁴⁰
- Channel : ID³⁶⁴¹
- Channel : Name³⁶⁴²
- Channel : PinholeSize³⁶⁴³
- Channel : SamplesPerPixel³⁶⁴⁴
- Detector : ID³⁶⁴⁵
- Detector : Model³⁶⁴⁶
- Detector : Type³⁶⁴⁷
- DetectorSettings : Binning³⁶⁴⁸

³⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

³⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁶³⁷<http://www.openmicroscopy.org/site/support/ome-model/>

³⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

³⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

³⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

³⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

³⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

³⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

- DetectorSettings : Gain³⁶⁴⁹
- DetectorSettings : ID³⁶⁵⁰
- DetectorSettings : ReadOutRate³⁶⁵¹
- DetectorSettings : Voltage³⁶⁵²
- Image : AcquisitionDate³⁶⁵³
- Image : ID³⁶⁵⁴
- Image : InstrumentRef³⁶⁵⁵
- Image : Name³⁶⁵⁶
- ImagingEnvironment : Temperature³⁶⁵⁷
- Instrument : ID³⁶⁵⁸
- Objective : CalibratedMagnification³⁶⁵⁹
- Objective : Correction³⁶⁶⁰
- Objective : ID³⁶⁶¹
- Objective : Immersion³⁶⁶²
- Objective : LensNA³⁶⁶³
- Objective : Model³⁶⁶⁴
- ObjectiveSettings : ID³⁶⁶⁵
- ObjectiveSettings : RefractiveIndex³⁶⁶⁶
- Pixels : BigEndian³⁶⁶⁷
- Pixels : DimensionOrder³⁶⁶⁸
- Pixels : ID³⁶⁶⁹
- Pixels : Interleaved³⁶⁷⁰
- Pixels : PhysicalSizeX³⁶⁷¹
- Pixels : PhysicalSizeY³⁶⁷²
- Pixels : PhysicalSizeZ³⁶⁷³
- Pixels : SignificantBits³⁶⁷⁴

³⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

³⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

³⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

³⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

³⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

³⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

³⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

³⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

³⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

³⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

³⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

³⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

³⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC³⁶⁷⁵
- Pixels : SizeT³⁶⁷⁶
- Pixels : SizeX³⁶⁷⁷
- Pixels : SizeY³⁶⁷⁸
- Pixels : SizeZ³⁶⁷⁹
- Pixels : Type³⁶⁸⁰
- Plane : ExposureTime³⁶⁸¹
- Plane : PositionX³⁶⁸²
- Plane : PositionY³⁶⁸³
- Plane : PositionZ³⁶⁸⁴
- Plane : TheC³⁶⁸⁵
- Plane : TheT³⁶⁸⁶
- Plane : TheZ³⁶⁸⁷

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](#)³⁶⁸⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³⁶⁸⁹
- Channel : SamplesPerPixel³⁶⁹⁰
- Image : AcquisitionDate³⁶⁹¹
- Image : ID³⁶⁹²

³⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

³⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

³⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

³⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

³⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁶⁸⁸<http://www.openmicroscopy.org/site/support/ome-model/>

³⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name³⁶⁹³
- Pixels : BigEndian³⁶⁹⁴
- Pixels : DimensionOrder³⁶⁹⁵
- Pixels : ID³⁶⁹⁶
- Pixels : Interleaved³⁶⁹⁷
- Pixels : SignificantBits³⁶⁹⁸
- Pixels : SizeC³⁶⁹⁹
- Pixels : SizeT³⁷⁰⁰
- Pixels : SizeX³⁷⁰¹
- Pixels : SizeY³⁷⁰²
- Pixels : SizeZ³⁷⁰³
- Pixels : Type³⁷⁰⁴
- Plane : TheC³⁷⁰⁵
- Plane : TheT³⁷⁰⁶
- Plane : TheZ³⁷⁰⁷

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](#)³⁷⁰⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength³⁷⁰⁹
- Channel : ExcitationWavelength³⁷¹⁰

³⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁷⁰⁸<http://www.openmicroscopy.org/site/support/ome-model/>

³⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

³⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

- Channel : ID³⁷¹¹
- Channel : PinholeSize³⁷¹²
- Channel : SamplesPerPixel³⁷¹³
- Detector : Gain³⁷¹⁴
- Detector : ID³⁷¹⁵
- Detector : Type³⁷¹⁶
- Dichroic : ID³⁷¹⁷
- Dichroic : Model³⁷¹⁸
- Filter : ID³⁷¹⁹
- Filter : Model³⁷²⁰
- Image : AcquisitionDate³⁷²¹
- Image : Description³⁷²²
- Image : ID³⁷²³
- Image : InstrumentRef³⁷²⁴
- Image : Name³⁷²⁵
- Instrument : ID³⁷²⁶
- Laser : ID³⁷²⁷
- Laser : LaserMedium³⁷²⁸
- Laser : Model³⁷²⁹
- Laser : Type³⁷³⁰
- Laser : Wavelength³⁷³¹
- Objective : Correction³⁷³²
- Objective : ID³⁷³³
- Objective : Immersion³⁷³⁴
- Objective : LensNA³⁷³⁵
- Objective : NominalMagnification³⁷³⁶

³⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

³⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

³⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

³⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

³⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

³⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

³⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

³⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

³⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

³⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

³⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

³⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

³⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

³⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

³⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

- Objective : WorkingDistance³⁷³⁷
- ObjectiveSettings : ID³⁷³⁸
- Pixels : BigEndian³⁷³⁹
- Pixels : DimensionOrder³⁷⁴⁰
- Pixels : ID³⁷⁴¹
- Pixels : Interleaved³⁷⁴²
- Pixels : PhysicalSizeX³⁷⁴³
- Pixels : PhysicalSizeY³⁷⁴⁴
- Pixels : PhysicalSizeZ³⁷⁴⁵
- Pixels : SignificantBits³⁷⁴⁶
- Pixels : SizeC³⁷⁴⁷
- Pixels : SizeT³⁷⁴⁸
- Pixels : SizeX³⁷⁴⁹
- Pixels : SizeY³⁷⁵⁰
- Pixels : SizeZ³⁷⁵¹
- Pixels : Type³⁷⁵²
- Plane : TheC³⁷⁵³
- Plane : TheT³⁷⁵⁴
- Plane : TheZ³⁷⁵⁵

Total supported: 47

Total unknown or missing: 428

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](#)³⁷⁵⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

³⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

³⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

³⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

³⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁷⁵⁶<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats OBF format reader:

- Channel : ID³⁷⁵⁷
- Channel : SamplesPerPixel³⁷⁵⁸
- Image : AcquisitionDate³⁷⁵⁹
- Image : ID³⁷⁶⁰
- Image : Name³⁷⁶¹
- Pixels : BigEndian³⁷⁶²
- Pixels : DimensionOrder³⁷⁶³
- Pixels : ID³⁷⁶⁴
- Pixels : Interleaved³⁷⁶⁵
- Pixels : SignificantBits³⁷⁶⁶
- Pixels : SizeC³⁷⁶⁷
- Pixels : SizeT³⁷⁶⁸
- Pixels : SizeX³⁷⁶⁹
- Pixels : SizeY³⁷⁷⁰
- Pixels : SizeZ³⁷⁷¹
- Pixels : Type³⁷⁷²
- Plane : TheC³⁷⁷³
- Plane : TheT³⁷⁷⁴
- Plane : TheZ³⁷⁷⁵

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](#)³⁷⁷⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

- ³⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ³⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ³⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ³⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ³⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ³⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ³⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ³⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ³⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ³⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ³⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ³⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ³⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ³⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ³⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ³⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ³⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ³⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ³⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ³⁷⁷⁶<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 OME-TIFF format reader:

- Channel : ID³⁷⁷⁷
- Channel : SamplesPerPixel³⁷⁷⁸
- Image : AcquisitionDate³⁷⁷⁹
- Image : ID³⁷⁸⁰
- Image : Name³⁷⁸¹
- Pixels : BigEndian³⁷⁸²
- Pixels : DimensionOrder³⁷⁸³
- Pixels : ID³⁷⁸⁴
- Pixels : Interleaved³⁷⁸⁵
- Pixels : SignificantBits³⁷⁸⁶
- Pixels : SizeC³⁷⁸⁷
- Pixels : SizeT³⁷⁸⁸
- Pixels : SizeX³⁷⁸⁹
- Pixels : SizeY³⁷⁹⁰
- Pixels : SizeZ³⁷⁹¹
- Pixels : Type³⁷⁹²
- Plane : TheC³⁷⁹³
- Plane : TheT³⁷⁹⁴
- Plane : TheZ³⁷⁹⁵

Total supported: 19

Total unknown or missing: 456

³⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

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](#)³⁷⁹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³⁷⁹⁷
- Channel : SamplesPerPixel³⁷⁹⁸
- Image : AcquisitionDate³⁷⁹⁹
- Image : ID³⁸⁰⁰
- Image : Name³⁸⁰¹
- Pixels : BigEndian³⁸⁰²
- Pixels : DimensionOrder³⁸⁰³
- Pixels : ID³⁸⁰⁴
- Pixels : Interleaved³⁸⁰⁵
- Pixels : SignificantBits³⁸⁰⁶
- Pixels : SizeC³⁸⁰⁷
- Pixels : SizeT³⁸⁰⁸
- Pixels : SizeX³⁸⁰⁹
- Pixels : SizeY³⁸¹⁰
- Pixels : SizeZ³⁸¹¹
- Pixels : Type³⁸¹²
- Plane : TheC³⁸¹³
- Plane : TheT³⁸¹⁴

³⁷⁹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

³⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ³⁸¹⁵

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](#)³⁸¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³⁸¹⁷
- Channel : SamplesPerPixel³⁸¹⁸
- Image : AcquisitionDate³⁸¹⁹
- Image : ID³⁸²⁰
- Image : Name³⁸²¹
- Pixels : BigEndian³⁸²²
- Pixels : DimensionOrder³⁸²³
- Pixels : ID³⁸²⁴
- Pixels : Interleaved³⁸²⁵
- Pixels : SignificantBits³⁸²⁶
- Pixels : SizeC³⁸²⁷
- Pixels : SizeT³⁸²⁸
- Pixels : SizeX³⁸²⁹
- Pixels : SizeY³⁸³⁰
- Pixels : SizeZ³⁸³¹
- Pixels : Type³⁸³²

³⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁸¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

³⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC³⁸³³
- Plane : TheT³⁸³⁴
- Plane : TheZ³⁸³⁵

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](#)³⁸³⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³⁸³⁷
- Channel : Name³⁸³⁸
- Channel : SamplesPerPixel³⁸³⁹
- Detector : ID³⁸⁴⁰
- Detector : Type³⁸⁴¹
- DetectorSettings : Gain³⁸⁴²
- DetectorSettings : ID³⁸⁴³
- DetectorSettings : Offset³⁸⁴⁴
- Image : AcquisitionDate³⁸⁴⁵
- Image : ID³⁸⁴⁶
- Image : InstrumentRef³⁸⁴⁷
- Image : Name³⁸⁴⁸
- Instrument : ID³⁸⁴⁹
- Pixels : BigEndian³⁸⁵⁰

³⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁸³⁶<http://www.openmicroscopy.org/site/support/ome-model/>

³⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

³⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

³⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

³⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

³⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder³⁸⁵¹
- Pixels : ID³⁸⁵²
- Pixels : Interleaved³⁸⁵³
- Pixels : PhysicalSizeX³⁸⁵⁴
- Pixels : PhysicalSizeY³⁸⁵⁵
- Pixels : SignificantBits³⁸⁵⁶
- Pixels : SizeC³⁸⁵⁷
- Pixels : SizeT³⁸⁵⁸
- Pixels : SizeX³⁸⁵⁹
- Pixels : SizeY³⁸⁶⁰
- Pixels : SizeZ³⁸⁶¹
- Pixels : Type³⁸⁶²
- Plane : PositionX³⁸⁶³
- Plane : PositionY³⁸⁶⁴
- Plane : PositionZ³⁸⁶⁵
- Plane : TheC³⁸⁶⁶
- Plane : TheT³⁸⁶⁷
- Plane : TheZ³⁸⁶⁸

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.

These fields are from the [OME data model](#)³⁸⁶⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

³⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

³⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

³⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

³⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁸⁶⁹<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats PerkinElmer Operetta format reader:

- Channel : ID³⁸⁷⁰
- Channel : Name³⁸⁷¹
- Channel : SamplesPerPixel³⁸⁷²
- Experimenter : ID³⁸⁷³
- Experimenter : LastName³⁸⁷⁴
- Image : AcquisitionDate³⁸⁷⁵
- Image : ExperimenterRef³⁸⁷⁶
- Image : ID³⁸⁷⁷
- Image : Name³⁸⁷⁸
- Pixels : BigEndian³⁸⁷⁹
- Pixels : DimensionOrder³⁸⁸⁰
- Pixels : ID³⁸⁸¹
- Pixels : Interleaved³⁸⁸²
- Pixels : PhysicalSizeX³⁸⁸³
- Pixels : PhysicalSizeY³⁸⁸⁴
- Pixels : SignificantBits³⁸⁸⁵
- Pixels : SizeC³⁸⁸⁶
- Pixels : SizeT³⁸⁸⁷
- Pixels : SizeX³⁸⁸⁸
- Pixels : SizeY³⁸⁸⁹
- Pixels : SizeZ³⁸⁹⁰
- Pixels : Type³⁸⁹¹
- Plane : PositionX³⁸⁹²
- Plane : PositionY³⁸⁹³

³⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

³⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

³⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

³⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ExperimenterRef_ID

³⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

³⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

³⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

- Plane : PositionZ³⁸⁹⁴
- Plane : TheC³⁸⁹⁵
- Plane : TheT³⁸⁹⁶
- Plane : TheZ³⁸⁹⁷
- Plate : Columns³⁸⁹⁸
- Plate : Description³⁸⁹⁹
- Plate : ExternalIdentifier³⁹⁰⁰
- Plate : ID³⁹⁰¹
- Plate : Name³⁹⁰²
- Plate : Rows³⁹⁰³
- PlateAcquisition : ID³⁹⁰⁴
- PlateAcquisition : MaximumFieldCount³⁹⁰⁵
- PlateAcquisition : WellSampleRef³⁹⁰⁶
- Well : Column³⁹⁰⁷
- Well : ID³⁹⁰⁸
- Well : Row³⁹⁰⁹
- WellSample : ID³⁹¹⁰
- WellSample : ImageRef³⁹¹¹
- WellSample : Index³⁹¹²

Total supported: 43

Total unknown or missing: 432

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](#)³⁹¹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

³⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

³⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

³⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Description

³⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ExternalIdentifier

³⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

³⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

³⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

³⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

³⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

³⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

³⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

³⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

³⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

³⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

³⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

³⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

³⁹¹³<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Oxford Instruments format reader:

- Channel : ID³⁹¹⁴
- Channel : SamplesPerPixel³⁹¹⁵
- Image : AcquisitionDate³⁹¹⁶
- Image : Description³⁹¹⁷
- Image : ID³⁹¹⁸
- Image : Name³⁹¹⁹
- Pixels : BigEndian³⁹²⁰
- Pixels : DimensionOrder³⁹²¹
- Pixels : ID³⁹²²
- Pixels : Interleaved³⁹²³
- Pixels : PhysicalSizeX³⁹²⁴
- Pixels : PhysicalSizeY³⁹²⁵
- Pixels : SignificantBits³⁹²⁶
- Pixels : SizeC³⁹²⁷
- Pixels : SizeT³⁹²⁸
- Pixels : SizeX³⁹²⁹
- Pixels : SizeY³⁹³⁰
- Pixels : SizeZ³⁹³¹
- Pixels : Type³⁹³²
- Plane : TheC³⁹³³
- Plane : TheT³⁹³⁴
- Plane : TheZ³⁹³⁵

Total supported: 22

Total unknown or missing: 453

- ³⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ³⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ³⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ³⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
- ³⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ³⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ³⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ³⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ³⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ³⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ³⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ³⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ³⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ³⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ³⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ³⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ³⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ³⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ³⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ³⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ³⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ³⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

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](#)³⁹³⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³⁹³⁷
- Channel : SamplesPerPixel³⁹³⁸
- Detector : ID³⁹³⁹
- Detector : Type³⁹⁴⁰
- DetectorSettings : Binning³⁹⁴¹
- DetectorSettings : ID³⁹⁴²
- Image : AcquisitionDate³⁹⁴³
- Image : ID³⁹⁴⁴
- Image : InstrumentRef³⁹⁴⁵
- Image : Name³⁹⁴⁶
- Instrument : ID³⁹⁴⁷
- Pixels : BigEndian³⁹⁴⁸
- Pixels : DimensionOrder³⁹⁴⁹
- Pixels : ID³⁹⁵⁰
- Pixels : Interleaved³⁹⁵¹
- Pixels : PhysicalSizeX³⁹⁵²
- Pixels : PhysicalSizeY³⁹⁵³
- Pixels : SignificantBits³⁹⁵⁴

³⁹³⁶<http://www.openmicroscopy.org/site/support/ome-model/>

³⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

³⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

³⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

³⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

³⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

³⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

³⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

³⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

³⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

³⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

³⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

³⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC³⁹⁵⁵
- Pixels : SizeT³⁹⁵⁶
- Pixels : SizeX³⁹⁵⁷
- Pixels : SizeY³⁹⁵⁸
- Pixels : SizeZ³⁹⁵⁹
- Pixels : TimeIncrement³⁹⁶⁰
- Pixels : Type³⁹⁶¹
- Plane : DeltaT³⁹⁶²
- Plane : TheC³⁹⁶³
- Plane : TheT³⁹⁶⁴
- Plane : TheZ³⁹⁶⁵

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](#)³⁹⁶⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID³⁹⁶⁷
- Channel : SamplesPerPixel³⁹⁶⁸
- Detector : ID³⁹⁶⁹
- Detector : SerialNumber³⁹⁷⁰
- DetectorSettings : Binning³⁹⁷¹
- DetectorSettings : ID³⁹⁷²

³⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

³⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

³⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

³⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

³⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

³⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

³⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

³⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

³⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

³⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

³⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

³⁹⁶⁶<http://www.openmicroscopy.org/site/support/ome-model/>

³⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

³⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

³⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

³⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

- Image : AcquisitionDate³⁹⁷³
- Image : Description³⁹⁷⁴
- Image : ID³⁹⁷⁵
- Image : Name³⁹⁷⁶
- Instrument : ID³⁹⁷⁷
- Pixels : BigEndian³⁹⁷⁸
- Pixels : DimensionOrder³⁹⁷⁹
- Pixels : ID³⁹⁸⁰
- Pixels : Interleaved³⁹⁸¹
- Pixels : SignificantBits³⁹⁸²
- Pixels : SizeC³⁹⁸³
- Pixels : SizeT³⁹⁸⁴
- Pixels : SizeX³⁹⁸⁵
- Pixels : SizeY³⁹⁸⁶
- Pixels : SizeZ³⁹⁸⁷
- Pixels : Type³⁹⁸⁸
- Plane : ExposureTime³⁹⁸⁹
- Plane : TheC³⁹⁹⁰
- Plane : TheT³⁹⁹¹
- Plane : TheZ³⁹⁹²

Total supported: 26

Total unknown or missing: 449

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](#)³⁹⁹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- ³⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ³⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
- ³⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ³⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ³⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ³⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ³⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ³⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ³⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ³⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ³⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ³⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ³⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ³⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ³⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ³⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ³⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime
- ³⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ³⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ³⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ³⁹⁹³<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 PCX format reader:

- Channel : ID³⁹⁹⁴
- Channel : SamplesPerPixel³⁹⁹⁵
- Image : AcquisitionDate³⁹⁹⁶
- Image : ID³⁹⁹⁷
- Image : Name³⁹⁹⁸
- Pixels : BigEndian³⁹⁹⁹
- Pixels : DimensionOrder⁴⁰⁰⁰
- Pixels : ID⁴⁰⁰¹
- Pixels : Interleaved⁴⁰⁰²
- Pixels : SignificantBits⁴⁰⁰³
- Pixels : SizeC⁴⁰⁰⁴
- Pixels : SizeT⁴⁰⁰⁵
- Pixels : SizeX⁴⁰⁰⁶
- Pixels : SizeY⁴⁰⁰⁷
- Pixels : SizeZ⁴⁰⁰⁸
- Pixels : Type⁴⁰⁰⁹
- Plane : TheC⁴⁰¹⁰
- Plane : TheT⁴⁰¹¹
- Plane : TheZ⁴⁰¹²

Total supported: 19

Total unknown or missing: 456

³⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

³⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

³⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

³⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

³⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

³⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

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](#)⁴⁰¹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁰¹⁴
- Channel : SamplesPerPixel⁴⁰¹⁵
- Image : AcquisitionDate⁴⁰¹⁶
- Image : ID⁴⁰¹⁷
- Image : Name⁴⁰¹⁸
- Pixels : BigEndian⁴⁰¹⁹
- Pixels : DimensionOrder⁴⁰²⁰
- Pixels : ID⁴⁰²¹
- Pixels : Interleaved⁴⁰²²
- Pixels : PhysicalSizeX⁴⁰²³
- Pixels : PhysicalSizeY⁴⁰²⁴
- Pixels : SignificantBits⁴⁰²⁵
- Pixels : SizeC⁴⁰²⁶
- Pixels : SizeT⁴⁰²⁷
- Pixels : SizeX⁴⁰²⁸
- Pixels : SizeY⁴⁰²⁹
- Pixels : SizeZ⁴⁰³⁰
- Pixels : Type⁴⁰³¹

⁴⁰¹³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : PositionX⁴⁰³²
- Plane : PositionY⁴⁰³³
- Plane : TheC⁴⁰³⁴
- Plane : TheT⁴⁰³⁵
- Plane : TheZ⁴⁰³⁶

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](#)⁴⁰³⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁰³⁸
- Channel : SamplesPerPixel⁴⁰³⁹
- Image : AcquisitionDate⁴⁰⁴⁰
- Image : ID⁴⁰⁴¹
- Image : Name⁴⁰⁴²
- Pixels : BigEndian⁴⁰⁴³
- Pixels : DimensionOrder⁴⁰⁴⁴
- Pixels : ID⁴⁰⁴⁵
- Pixels : Interleaved⁴⁰⁴⁶
- Pixels : SignificantBits⁴⁰⁴⁷
- Pixels : SizeC⁴⁰⁴⁸
- Pixels : SizeT⁴⁰⁴⁹

⁴⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁴⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁴⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁰³⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁴⁰⁵⁰
- Pixels : SizeY⁴⁰⁵¹
- Pixels : SizeZ⁴⁰⁵²
- Pixels : Type⁴⁰⁵³
- Plane : TheC⁴⁰⁵⁴
- Plane : TheT⁴⁰⁵⁵
- Plane : TheZ⁴⁰⁵⁶

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](#)⁴⁰⁵⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁰⁵⁸
- Channel : SamplesPerPixel⁴⁰⁵⁹
- Image : AcquisitionDate⁴⁰⁶⁰
- Image : ID⁴⁰⁶¹
- Image : Name⁴⁰⁶²
- Pixels : BigEndian⁴⁰⁶³
- Pixels : DimensionOrder⁴⁰⁶⁴
- Pixels : ID⁴⁰⁶⁵
- Pixels : Interleaved⁴⁰⁶⁶
- Pixels : PhysicalSizeX⁴⁰⁶⁷

⁴⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁰⁵⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁴⁰⁶⁸
- Pixels : SignificantBits⁴⁰⁶⁹
- Pixels : SizeC⁴⁰⁷⁰
- Pixels : SizeT⁴⁰⁷¹
- Pixels : SizeX⁴⁰⁷²
- Pixels : SizeY⁴⁰⁷³
- Pixels : SizeZ⁴⁰⁷⁴
- Pixels : Type⁴⁰⁷⁵
- Plane : TheC⁴⁰⁷⁶
- Plane : TheT⁴⁰⁷⁷
- Plane : TheZ⁴⁰⁷⁸

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](#)⁴⁰⁷⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁰⁸⁰
- Channel : SamplesPerPixel⁴⁰⁸¹
- Image : AcquisitionDate⁴⁰⁸²
- Image : ID⁴⁰⁸³
- Image : Name⁴⁰⁸⁴
- Pixels : BigEndian⁴⁰⁸⁵

⁴⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁰⁷⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁴⁰⁸⁶
- Pixels : ID⁴⁰⁸⁷
- Pixels : Interleaved⁴⁰⁸⁸
- Pixels : SignificantBits⁴⁰⁸⁹
- Pixels : SizeC⁴⁰⁹⁰
- Pixels : SizeT⁴⁰⁹¹
- Pixels : SizeX⁴⁰⁹²
- Pixels : SizeY⁴⁰⁹³
- Pixels : SizeZ⁴⁰⁹⁴
- Pixels : Type⁴⁰⁹⁵
- Plane : TheC⁴⁰⁹⁶
- Plane : TheT⁴⁰⁹⁷
- Plane : TheZ⁴⁰⁹⁸

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](#)⁴⁰⁹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁴¹⁰⁰
- Channel : ExcitationWavelength⁴¹⁰¹
- Channel : ID⁴¹⁰²
- Channel : SamplesPerPixel⁴¹⁰³

⁴⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁰⁹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁴¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁴¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁴¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁴¹⁰⁴
- Image : ID⁴¹⁰⁵
- Image : InstrumentRef⁴¹⁰⁶
- Image : Name⁴¹⁰⁷
- Instrument : ID⁴¹⁰⁸
- Pixels : BigEndian⁴¹⁰⁹
- Pixels : DimensionOrder⁴¹¹⁰
- Pixels : ID⁴¹¹¹
- Pixels : Interleaved⁴¹¹²
- Pixels : PhysicalSizeX⁴¹¹³
- Pixels : PhysicalSizeY⁴¹¹⁴
- Pixels : SignificantBits⁴¹¹⁵
- Pixels : SizeC⁴¹¹⁶
- Pixels : SizeT⁴¹¹⁷
- Pixels : SizeX⁴¹¹⁸
- Pixels : SizeY⁴¹¹⁹
- Pixels : SizeZ⁴¹²⁰
- Pixels : Type⁴¹²¹
- Plane : DeltaT⁴¹²²
- Plane : ExposureTime⁴¹²³
- Plane : PositionX⁴¹²⁴
- Plane : PositionY⁴¹²⁵
- Plane : PositionZ⁴¹²⁶
- Plane : TheC⁴¹²⁷
- Plane : TheT⁴¹²⁸
- Plane : TheZ⁴¹²⁹

⁴¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁴¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁴¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁴¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁴¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁴¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

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](#)⁴¹³⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴¹³¹
- Channel : SamplesPerPixel⁴¹³²
- Image : AcquisitionDate⁴¹³³
- Image : ID⁴¹³⁴
- Image : Name⁴¹³⁵
- Pixels : BigEndian⁴¹³⁶
- Pixels : DimensionOrder⁴¹³⁷
- Pixels : ID⁴¹³⁸
- Pixels : Interleaved⁴¹³⁹
- Pixels : SignificantBits⁴¹⁴⁰
- Pixels : SizeC⁴¹⁴¹
- Pixels : SizeT⁴¹⁴²
- Pixels : SizeX⁴¹⁴³
- Pixels : SizeY⁴¹⁴⁴
- Pixels : SizeZ⁴¹⁴⁵
- Pixels : Type⁴¹⁴⁶
- Plane : TheC⁴¹⁴⁷

⁴¹³⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁴¹⁴⁸
- Plane : TheZ⁴¹⁴⁹

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](#)⁴¹⁵⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴¹⁵¹
- Channel : SamplesPerPixel⁴¹⁵²
- Image : AcquisitionDate⁴¹⁵³
- Image : ID⁴¹⁵⁴
- Image : Name⁴¹⁵⁵
- Pixels : BigEndian⁴¹⁵⁶
- Pixels : DimensionOrder⁴¹⁵⁷
- Pixels : ID⁴¹⁵⁸
- Pixels : Interleaved⁴¹⁵⁹
- Pixels : SignificantBits⁴¹⁶⁰
- Pixels : SizeC⁴¹⁶¹
- Pixels : SizeT⁴¹⁶²
- Pixels : SizeX⁴¹⁶³
- Pixels : SizeY⁴¹⁶⁴
- Pixels : SizeZ⁴¹⁶⁵

⁴¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴¹⁵⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type⁴¹⁶⁶
- Plane : TheC⁴¹⁶⁷
- Plane : TheT⁴¹⁶⁸
- Plane : TheZ⁴¹⁶⁹

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](#)⁴¹⁷⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴¹⁷¹
- Channel : SamplesPerPixel⁴¹⁷²
- Image : AcquisitionDate⁴¹⁷³
- Image : ID⁴¹⁷⁴
- Image : Name⁴¹⁷⁵
- Pixels : BigEndian⁴¹⁷⁶
- Pixels : DimensionOrder⁴¹⁷⁷
- Pixels : ID⁴¹⁷⁸
- Pixels : Interleaved⁴¹⁷⁹
- Pixels : SignificantBits⁴¹⁸⁰
- Pixels : SizeC⁴¹⁸¹
- Pixels : SizeT⁴¹⁸²
- Pixels : SizeX⁴¹⁸³

⁴¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴¹⁷⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁴¹⁸⁴
- Pixels : SizeZ⁴¹⁸⁵
- Pixels : Type⁴¹⁸⁶
- Plane : TheC⁴¹⁸⁷
- Plane : TheT⁴¹⁸⁸
- Plane : TheZ⁴¹⁸⁹

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](#)⁴¹⁹⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁴¹⁹¹
- Channel : ID⁴¹⁹²
- Channel : Name⁴¹⁹³
- Channel : SamplesPerPixel⁴¹⁹⁴
- Detector : ID⁴¹⁹⁵
- Detector : Type⁴¹⁹⁶
- Detector : Zoom⁴¹⁹⁷
- DetectorSettings : Gain⁴¹⁹⁸
- DetectorSettings : ID⁴¹⁹⁹
- DetectorSettings : Offset⁴²⁰⁰
- Image : AcquisitionDate⁴²⁰¹

⁴¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴¹⁹⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁴¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁴¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁴¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁴¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁴¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁴²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁴²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁴²⁰²
- Image : InstrumentRef⁴²⁰³
- Image : Name⁴²⁰⁴
- Instrument : ID⁴²⁰⁵
- Laser : ID⁴²⁰⁶
- Laser : Power⁴²⁰⁷
- Microscope : Model⁴²⁰⁸
- Objective : Correction⁴²⁰⁹
- Objective : ID⁴²¹⁰
- Objective : Immersion⁴²¹¹
- Objective : LensNA⁴²¹²
- Objective : Manufacturer⁴²¹³
- Objective : NominalMagnification⁴²¹⁴
- ObjectiveSettings : ID⁴²¹⁵
- Pixels : BigEndian⁴²¹⁶
- Pixels : DimensionOrder⁴²¹⁷
- Pixels : ID⁴²¹⁸
- Pixels : Interleaved⁴²¹⁹
- Pixels : PhysicalSizeX⁴²²⁰
- Pixels : PhysicalSizeY⁴²²¹
- Pixels : SignificantBits⁴²²²
- Pixels : SizeC⁴²²³
- Pixels : SizeT⁴²²⁴
- Pixels : SizeX⁴²²⁵
- Pixels : SizeY⁴²²⁶
- Pixels : SizeZ⁴²²⁷

⁴²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁴²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁴²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁴²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁴²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁴²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁴²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁴²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁴²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : TimeIncrement⁴²²⁸
- Pixels : Type⁴²²⁹
- Plane : DeltaT⁴²³⁰
- Plane : PositionX⁴²³¹
- Plane : PositionY⁴²³²
- Plane : PositionZ⁴²³³
- Plane : TheC⁴²³⁴
- Plane : TheT⁴²³⁵
- Plane : TheZ⁴²³⁶

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](#)⁴²³⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴²³⁸
- Channel : SamplesPerPixel⁴²³⁹
- Image : AcquisitionDate⁴²⁴⁰
- Image : ID⁴²⁴¹
- Image : Name⁴²⁴²
- Pixels : BigEndian⁴²⁴³
- Pixels : DimensionOrder⁴²⁴⁴
- Pixels : ID⁴²⁴⁵

⁴²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁴²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁴²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁴²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁴²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁴²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴²³⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁴²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁴²⁴⁶
- Pixels : SignificantBits⁴²⁴⁷
- Pixels : SizeC⁴²⁴⁸
- Pixels : SizeT⁴²⁴⁹
- Pixels : SizeX⁴²⁵⁰
- Pixels : SizeY⁴²⁵¹
- Pixels : SizeZ⁴²⁵²
- Pixels : Type⁴²⁵³
- Plane : TheC⁴²⁵⁴
- Plane : TheT⁴²⁵⁵
- Plane : TheZ⁴²⁵⁶

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](#)⁴²⁵⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴²⁵⁸
- Channel : SamplesPerPixel⁴²⁵⁹
- Image : AcquisitionDate⁴²⁶⁰
- Image : ID⁴²⁶¹
- Image : Name⁴²⁶²
- Pixels : BigEndian⁴²⁶³

⁴²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴²⁵⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁴²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁴²⁶⁴
- Pixels : ID⁴²⁶⁵
- Pixels : Interleaved⁴²⁶⁶
- Pixels : SignificantBits⁴²⁶⁷
- Pixels : SizeC⁴²⁶⁸
- Pixels : SizeT⁴²⁶⁹
- Pixels : SizeX⁴²⁷⁰
- Pixels : SizeY⁴²⁷¹
- Pixels : SizeZ⁴²⁷²
- Pixels : Type⁴²⁷³
- Plane : TheC⁴²⁷⁴
- Plane : TheT⁴²⁷⁵
- Plane : TheZ⁴²⁷⁶

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](#)⁴²⁷⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴²⁷⁸
- Channel : SamplesPerPixel⁴²⁷⁹
- Image : AcquisitionDate⁴²⁸⁰
- Image : Description⁴²⁸¹

⁴²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴²⁷⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁴²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

- Image : ID⁴²⁸²
- Image : Name⁴²⁸³
- Pixels : BigEndian⁴²⁸⁴
- Pixels : DimensionOrder⁴²⁸⁵
- Pixels : ID⁴²⁸⁶
- Pixels : Interleaved⁴²⁸⁷
- Pixels : PhysicalSizeX⁴²⁸⁸
- Pixels : PhysicalSizeY⁴²⁸⁹
- Pixels : SignificantBits⁴²⁹⁰
- Pixels : SizeC⁴²⁹¹
- Pixels : SizeT⁴²⁹²
- Pixels : SizeX⁴²⁹³
- Pixels : SizeY⁴²⁹⁴
- Pixels : SizeZ⁴²⁹⁵
- Pixels : Type⁴²⁹⁶
- Plane : TheC⁴²⁹⁷
- Plane : TheT⁴²⁹⁸
- Plane : TheZ⁴²⁹⁹

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](#)⁴³⁰⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁴²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴³⁰⁰<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats RHK Technologies format reader:

- Channel : ID⁴³⁰¹
- Channel : SamplesPerPixel⁴³⁰²
- Image : AcquisitionDate⁴³⁰³
- Image : Description⁴³⁰⁴
- Image : ID⁴³⁰⁵
- Image : Name⁴³⁰⁶
- Pixels : BigEndian⁴³⁰⁷
- Pixels : DimensionOrder⁴³⁰⁸
- Pixels : ID⁴³⁰⁹
- Pixels : Interleaved⁴³¹⁰
- Pixels : PhysicalSizeX⁴³¹¹
- Pixels : PhysicalSizeY⁴³¹²
- Pixels : SignificantBits⁴³¹³
- Pixels : SizeC⁴³¹⁴
- Pixels : SizeT⁴³¹⁵
- Pixels : SizeX⁴³¹⁶
- Pixels : SizeY⁴³¹⁷
- Pixels : SizeZ⁴³¹⁸
- Pixels : Type⁴³¹⁹
- Plane : TheC⁴³²⁰
- Plane : TheT⁴³²¹
- Plane : TheZ⁴³²²

Total supported: 22

Total unknown or missing: 453

- ⁴³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁴³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁴³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁴³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
- ⁴³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁴³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁴³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁴³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁴³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁴³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁴³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁴³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁴³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁴³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁴³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁴³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁴³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁴³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁴³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁴³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁴³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁴³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

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](#)⁴³²³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴³²⁴
- Channel : SamplesPerPixel⁴³²⁵
- Image : AcquisitionDate⁴³²⁶
- Image : Description⁴³²⁷
- Image : ID⁴³²⁸
- Image : Name⁴³²⁹
- Pixels : BigEndian⁴³³⁰
- Pixels : DimensionOrder⁴³³¹
- Pixels : ID⁴³³²
- Pixels : Interleaved⁴³³³
- Pixels : PhysicalSizeX⁴³³⁴
- Pixels : PhysicalSizeY⁴³³⁵
- Pixels : SignificantBits⁴³³⁶
- Pixels : SizeC⁴³³⁷
- Pixels : SizeT⁴³³⁸
- Pixels : SizeX⁴³³⁹
- Pixels : SizeY⁴³⁴⁰
- Pixels : SizeZ⁴³⁴¹
- Pixels : Type⁴³⁴²

⁴³²³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁴³⁴³
- Plane : TheT⁴³⁴⁴
- Plane : TheZ⁴³⁴⁵

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](#)⁴³⁴⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴³⁴⁷
- Channel : SamplesPerPixel⁴³⁴⁸
- Image : AcquisitionDate⁴³⁴⁹
- Image : ID⁴³⁵⁰
- Image : Name⁴³⁵¹
- Pixels : BigEndian⁴³⁵²
- Pixels : DimensionOrder⁴³⁵³
- Pixels : ID⁴³⁵⁴
- Pixels : Interleaved⁴³⁵⁵
- Pixels : SignificantBits⁴³⁵⁶
- Pixels : SizeC⁴³⁵⁷
- Pixels : SizeT⁴³⁵⁸
- Pixels : SizeX⁴³⁵⁹
- Pixels : SizeY⁴³⁶⁰

⁴³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴³⁴⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁴³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁴³⁶¹
- Pixels : Type⁴³⁶²
- Plane : TheC⁴³⁶³
- Plane : TheT⁴³⁶⁴
- Plane : TheZ⁴³⁶⁵

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](#)⁴³⁶⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴³⁶⁷
- Channel : SamplesPerPixel⁴³⁶⁸
- Image : AcquisitionDate⁴³⁶⁹
- Image : ID⁴³⁷⁰
- Image : Name⁴³⁷¹
- Pixels : BigEndian⁴³⁷²
- Pixels : DimensionOrder⁴³⁷³
- Pixels : ID⁴³⁷⁴
- Pixels : Interleaved⁴³⁷⁵
- Pixels : SignificantBits⁴³⁷⁶
- Pixels : SizeC⁴³⁷⁷
- Pixels : SizeT⁴³⁷⁸

⁴³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴³⁶⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁴³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁴³⁷⁹
- Pixels : SizeY⁴³⁸⁰
- Pixels : SizeZ⁴³⁸¹
- Pixels : Type⁴³⁸²
- Plane : TheC⁴³⁸³
- Plane : TheT⁴³⁸⁴
- Plane : TheZ⁴³⁸⁵

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](#)⁴³⁸⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴³⁸⁷
- Channel : SamplesPerPixel⁴³⁸⁸
- Image : AcquisitionDate⁴³⁸⁹
- Image : ID⁴³⁹⁰
- Image : Name⁴³⁹¹
- Pixels : BigEndian⁴³⁹²
- Pixels : DimensionOrder⁴³⁹³
- Pixels : ID⁴³⁹⁴
- Pixels : Interleaved⁴³⁹⁵
- Pixels : SignificantBits⁴³⁹⁶

⁴³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴³⁸⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁴³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁴³⁹⁷
- Pixels : SizeT⁴³⁹⁸
- Pixels : SizeX⁴³⁹⁹
- Pixels : SizeY⁴⁴⁰⁰
- Pixels : SizeZ⁴⁴⁰¹
- Pixels : Type⁴⁴⁰²
- Plane : DeltaT⁴⁴⁰³
- Plane : TheC⁴⁴⁰⁴
- Plane : TheT⁴⁴⁰⁵
- Plane : TheZ⁴⁴⁰⁶

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](#)⁴⁴⁰⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁴⁰⁸
- Channel : Name⁴⁴⁰⁹
- Channel : SamplesPerPixel⁴⁴¹⁰
- Detector : ID⁴⁴¹¹
- Detector : Model⁴⁴¹²
- Detector : Type⁴⁴¹³
- DetectorSettings : ID⁴⁴¹⁴

⁴³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁴⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁴⁰⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁴⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁴⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁴⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

- Image : AcquisitionDate⁴⁴¹⁵
- Image : ID⁴⁴¹⁶
- Image : InstrumentRef⁴⁴¹⁷
- Image : Name⁴⁴¹⁸
- Instrument : ID⁴⁴¹⁹
- Objective : Correction⁴⁴²⁰
- Objective : ID⁴⁴²¹
- Objective : Immersion⁴⁴²²
- Objective : NominalMagnification⁴⁴²³
- ObjectiveSettings : ID⁴⁴²⁴
- Pixels : BigEndian⁴⁴²⁵
- Pixels : DimensionOrder⁴⁴²⁶
- Pixels : ID⁴⁴²⁷
- Pixels : Interleaved⁴⁴²⁸
- Pixels : PhysicalSizeX⁴⁴²⁹
- Pixels : PhysicalSizeY⁴⁴³⁰
- Pixels : SignificantBits⁴⁴³¹
- Pixels : SizeC⁴⁴³²
- Pixels : SizeT⁴⁴³³
- Pixels : SizeX⁴⁴³⁴
- Pixels : SizeY⁴⁴³⁵
- Pixels : SizeZ⁴⁴³⁶
- Pixels : Type⁴⁴³⁷
- Plane : TheC⁴⁴³⁸
- Plane : TheT⁴⁴³⁹
- Plane : TheZ⁴⁴⁴⁰

⁴⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁴⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁴⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁴⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

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](#)⁴⁴⁴¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁴⁴²
- Channel : SamplesPerPixel⁴⁴⁴³
- Image : AcquisitionDate⁴⁴⁴⁴
- Image : ID⁴⁴⁴⁵
- Image : Name⁴⁴⁴⁶
- Pixels : BigEndian⁴⁴⁴⁷
- Pixels : DimensionOrder⁴⁴⁴⁸
- Pixels : ID⁴⁴⁴⁹
- Pixels : Interleaved⁴⁴⁵⁰
- Pixels : SignificantBits⁴⁴⁵¹
- Pixels : SizeC⁴⁴⁵²
- Pixels : SizeT⁴⁴⁵³
- Pixels : SizeX⁴⁴⁵⁴
- Pixels : SizeY⁴⁴⁵⁵
- Pixels : SizeZ⁴⁴⁵⁶
- Pixels : Type⁴⁴⁵⁷
- Plane : TheC⁴⁴⁵⁸

⁴⁴⁴¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁴⁴⁵⁹
- Plane : TheZ⁴⁴⁶⁰

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](#)⁴⁴⁶¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁴⁴⁶²
- Channel : ExcitationWavelength⁴⁴⁶³
- Channel : ID⁴⁴⁶⁴
- Channel : SamplesPerPixel⁴⁴⁶⁵
- Image : AcquisitionDate⁴⁴⁶⁶
- Image : Description⁴⁴⁶⁷
- Image : ID⁴⁴⁶⁸
- Image : InstrumentRef⁴⁴⁶⁹
- Image : Name⁴⁴⁷⁰
- Instrument : ID⁴⁴⁷¹
- Objective : ID⁴⁴⁷²
- Objective : NominalMagnification⁴⁴⁷³
- ObjectiveSettings : ID⁴⁴⁷⁴
- Pixels : BigEndian⁴⁴⁷⁵
- Pixels : DimensionOrder⁴⁴⁷⁶

⁴⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁴⁶¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁴⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁴⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁴⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID⁴⁴⁷⁷
- Pixels : Interleaved⁴⁴⁷⁸
- Pixels : PhysicalSizeX⁴⁴⁷⁹
- Pixels : PhysicalSizeY⁴⁴⁸⁰
- Pixels : SignificantBits⁴⁴⁸¹
- Pixels : SizeC⁴⁴⁸²
- Pixels : SizeT⁴⁴⁸³
- Pixels : SizeX⁴⁴⁸⁴
- Pixels : SizeY⁴⁴⁸⁵
- Pixels : SizeZ⁴⁴⁸⁶
- Pixels : Type⁴⁴⁸⁷
- Plane : TheC⁴⁴⁸⁸
- Plane : TheT⁴⁴⁸⁹
- Plane : TheZ⁴⁴⁹⁰

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](#)⁴⁴⁹¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁴⁹²
- Channel : Name⁴⁴⁹³
- Channel : SamplesPerPixel⁴⁴⁹⁴

⁴⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁴⁹¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁴⁴⁹⁵
- Image : ID⁴⁴⁹⁶
- Image : Name⁴⁴⁹⁷
- Pixels : BigEndian⁴⁴⁹⁸
- Pixels : DimensionOrder⁴⁴⁹⁹
- Pixels : ID⁴⁵⁰⁰
- Pixels : Interleaved⁴⁵⁰¹
- Pixels : PhysicalSizeX⁴⁵⁰²
- Pixels : PhysicalSizeY⁴⁵⁰³
- Pixels : SignificantBits⁴⁵⁰⁴
- Pixels : SizeC⁴⁵⁰⁵
- Pixels : SizeT⁴⁵⁰⁶
- Pixels : SizeX⁴⁵⁰⁷
- Pixels : SizeY⁴⁵⁰⁸
- Pixels : SizeZ⁴⁵⁰⁹
- Pixels : Type⁴⁵¹⁰
- Plane : DeltaT⁴⁵¹¹
- Plane : ExposureTime⁴⁵¹²
- Plane : PositionX⁴⁵¹³
- Plane : PositionY⁴⁵¹⁴
- Plane : TheC⁴⁵¹⁵
- Plane : TheT⁴⁵¹⁶
- Plane : TheZ⁴⁵¹⁷
- Plate : ColumnNamingConvention⁴⁵¹⁸
- Plate : Columns⁴⁵¹⁹
- Plate : ID⁴⁵²⁰

⁴⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁴⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁴⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁴⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁴⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁴⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

⁴⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

- Plate : Name⁴⁵²¹
- Plate : RowNamingConvention⁴⁵²²
- Plate : Rows⁴⁵²³
- PlateAcquisition : ID⁴⁵²⁴
- PlateAcquisition : MaximumFieldCount⁴⁵²⁵
- PlateAcquisition : WellSampleRef⁴⁵²⁶
- Well : Column⁴⁵²⁷
- Well : ID⁴⁵²⁸
- Well : Row⁴⁵²⁹
- WellSample : ID⁴⁵³⁰
- WellSample : ImageRef⁴⁵³¹
- WellSample : Index⁴⁵³²
- WellSample : PositionX⁴⁵³³
- WellSample : PositionY⁴⁵³⁴

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](#)⁴⁵³⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁵³⁶
- Channel : SamplesPerPixel⁴⁵³⁷
- Image : AcquisitionDate⁴⁵³⁸

⁴⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁴⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁴⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

⁴⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁴⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁴⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁴⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁴⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁴⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁴⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁴⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁴⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁴⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁴⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

⁴⁵³⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁴⁵³⁹
- Image : Name⁴⁵⁴⁰
- Pixels : BigEndian⁴⁵⁴¹
- Pixels : DimensionOrder⁴⁵⁴²
- Pixels : ID⁴⁵⁴³
- Pixels : Interleaved⁴⁵⁴⁴
- Pixels : SignificantBits⁴⁵⁴⁵
- Pixels : SizeC⁴⁵⁴⁶
- Pixels : SizeT⁴⁵⁴⁷
- Pixels : SizeX⁴⁵⁴⁸
- Pixels : SizeY⁴⁵⁴⁹
- Pixels : SizeZ⁴⁵⁵⁰
- Pixels : Type⁴⁵⁵¹
- Plane : TheC⁴⁵⁵²
- Plane : TheT⁴⁵⁵³
- Plane : TheZ⁴⁵⁵⁴
- Plate : ColumnNamingConvention⁴⁵⁵⁵
- Plate : Columns⁴⁵⁵⁶
- Plate : ID⁴⁵⁵⁷
- Plate : Name⁴⁵⁵⁸
- Plate : RowNamingConvention⁴⁵⁵⁹
- Plate : Rows⁴⁵⁶⁰
- Screen : ID⁴⁵⁶¹
- Screen : Name⁴⁵⁶²
- Screen : PlateRef⁴⁵⁶³
- Well : Column⁴⁵⁶⁴

⁴⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁴⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

⁴⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁴⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁴⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁴⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

⁴⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_ID

⁴⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_Name

⁴⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Screen_Screen_PlateRef_ID

⁴⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

- Well : ID⁴⁵⁶⁵
- Well : Row⁴⁵⁶⁶
- WellSample : ID⁴⁵⁶⁷
- WellSample : ImageRef⁴⁵⁶⁸
- WellSample : Index⁴⁵⁶⁹

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](#)⁴⁵⁷⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁵⁷¹
- Channel : SamplesPerPixel⁴⁵⁷²
- Image : AcquisitionDate⁴⁵⁷³
- Image : Description⁴⁵⁷⁴
- Image : ID⁴⁵⁷⁵
- Image : Name⁴⁵⁷⁶
- Pixels : BigEndian⁴⁵⁷⁷
- Pixels : DimensionOrder⁴⁵⁷⁸
- Pixels : ID⁴⁵⁷⁹
- Pixels : Interleaved⁴⁵⁸⁰
- Pixels : PhysicalSizeX⁴⁵⁸¹
- Pixels : PhysicalSizeY⁴⁵⁸²

⁴⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁴⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁴⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁴⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁴⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁴⁵⁷⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

- Pixels : SignificantBits⁴⁵⁸³
- Pixels : SizeC⁴⁵⁸⁴
- Pixels : SizeT⁴⁵⁸⁵
- Pixels : SizeX⁴⁵⁸⁶
- Pixels : SizeY⁴⁵⁸⁷
- Pixels : SizeZ⁴⁵⁸⁸
- Pixels : Type⁴⁵⁸⁹
- Plane : TheC⁴⁵⁹⁰
- Plane : TheT⁴⁵⁹¹
- Plane : TheZ⁴⁵⁹²

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](#)⁴⁵⁹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁵⁹⁴
- Channel : SamplesPerPixel⁴⁵⁹⁵
- Detector : ID⁴⁵⁹⁶
- Detector : Model⁴⁵⁹⁷
- Detector : Type⁴⁵⁹⁸
- DetectorSettings : Binning⁴⁵⁹⁹
- DetectorSettings : ID⁴⁶⁰⁰

⁴⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁵⁹³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁴⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁴⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁴⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁴⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

- Image : AcquisitionDate⁴⁶⁰¹
- Image : Description⁴⁶⁰²
- Image : ID⁴⁶⁰³
- Image : InstrumentRef⁴⁶⁰⁴
- Image : Name⁴⁶⁰⁵
- Instrument : ID⁴⁶⁰⁶
- Objective : ID⁴⁶⁰⁷
- Objective : Immersion⁴⁶⁰⁸
- Objective : NominalMagnification⁴⁶⁰⁹
- Pixels : BigEndian⁴⁶¹⁰
- Pixels : DimensionOrder⁴⁶¹¹
- Pixels : ID⁴⁶¹²
- Pixels : Interleaved⁴⁶¹³
- Pixels : PhysicalSizeX⁴⁶¹⁴
- Pixels : PhysicalSizeY⁴⁶¹⁵
- Pixels : SignificantBits⁴⁶¹⁶
- Pixels : SizeC⁴⁶¹⁷
- Pixels : SizeT⁴⁶¹⁸
- Pixels : SizeX⁴⁶¹⁹
- Pixels : SizeY⁴⁶²⁰
- Pixels : SizeZ⁴⁶²¹
- Pixels : Type⁴⁶²²
- Plane : ExposureTime⁴⁶²³
- Plane : TheC⁴⁶²⁴
- Plane : TheT⁴⁶²⁵
- Plane : TheZ⁴⁶²⁶

⁴⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁴⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁴⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

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](#)⁴⁶²⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁶²⁸
- Channel : Name⁴⁶²⁹
- Channel : SamplesPerPixel⁴⁶³⁰
- Image : AcquisitionDate⁴⁶³¹
- Image : Description⁴⁶³²
- Image : ID⁴⁶³³
- Image : InstrumentRef⁴⁶³⁴
- Image : Name⁴⁶³⁵
- Instrument : ID⁴⁶³⁶
- Objective : Correction⁴⁶³⁷
- Objective : ID⁴⁶³⁸
- Objective : Immersion⁴⁶³⁹
- Objective : Model⁴⁶⁴⁰
- Objective : NominalMagnification⁴⁶⁴¹
- ObjectiveSettings : ID⁴⁶⁴²
- Pixels : BigEndian⁴⁶⁴³
- Pixels : DimensionOrder⁴⁶⁴⁴

⁴⁶²⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁴⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁴⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁴⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁴⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID⁴⁶⁴⁵
- Pixels : Interleaved⁴⁶⁴⁶
- Pixels : PhysicalSizeX⁴⁶⁴⁷
- Pixels : PhysicalSizeY⁴⁶⁴⁸
- Pixels : PhysicalSizeZ⁴⁶⁴⁹
- Pixels : SignificantBits⁴⁶⁵⁰
- Pixels : SizeC⁴⁶⁵¹
- Pixels : SizeT⁴⁶⁵²
- Pixels : SizeX⁴⁶⁵³
- Pixels : SizeY⁴⁶⁵⁴
- Pixels : SizeZ⁴⁶⁵⁵
- Pixels : Type⁴⁶⁵⁶
- Plane : DeltaT⁴⁶⁵⁷
- Plane : ExposureTime⁴⁶⁵⁸
- Plane : PositionX⁴⁶⁵⁹
- Plane : PositionY⁴⁶⁶⁰
- Plane : PositionZ⁴⁶⁶¹
- Plane : TheC⁴⁶⁶²
- Plane : TheT⁴⁶⁶³
- Plane : TheZ⁴⁶⁶⁴

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.

These fields are from the [OME data model](#)⁴⁶⁶⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

⁴⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁴⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁴⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁴⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁴⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁴⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁴⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁶⁶⁵<http://www.openmicroscopy.org/site/support/ome-model/>

- 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 : ID⁴⁶⁶⁶
- Channel : NDFilter⁴⁶⁶⁷
- Channel : Name⁴⁶⁶⁸
- Channel : SamplesPerPixel⁴⁶⁶⁹
- Image : AcquisitionDate⁴⁶⁷⁰
- Image : Description⁴⁶⁷¹
- Image : ID⁴⁶⁷²
- Image : InstrumentRef⁴⁶⁷³
- Image : Name⁴⁶⁷⁴
- Instrument : ID⁴⁶⁷⁵
- Objective : Correction⁴⁶⁷⁶
- Objective : ID⁴⁶⁷⁷
- Objective : Immersion⁴⁶⁷⁸
- Objective : Model⁴⁶⁷⁹
- Objective : NominalMagnification⁴⁶⁸⁰
- ObjectiveSettings : ID⁴⁶⁸¹
- Pixels : BigEndian⁴⁶⁸²
- Pixels : DimensionOrder⁴⁶⁸³
- Pixels : ID⁴⁶⁸⁴
- Pixels : Interleaved⁴⁶⁸⁵
- Pixels : PhysicalSizeX⁴⁶⁸⁶
- Pixels : PhysicalSizeY⁴⁶⁸⁷
- Pixels : PhysicalSizeZ⁴⁶⁸⁸

⁴⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_NDFilter

⁴⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁴⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁴⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁴⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁴⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁴⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁴⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁴⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁴⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

- Pixels : SignificantBits⁴⁶⁸⁹
- Pixels : SizeC⁴⁶⁹⁰
- Pixels : SizeT⁴⁶⁹¹
- Pixels : SizeX⁴⁶⁹²
- Pixels : SizeY⁴⁶⁹³
- Pixels : SizeZ⁴⁶⁹⁴
- Pixels : Type⁴⁶⁹⁵
- Plane : ExposureTime⁴⁶⁹⁶
- Plane : TheC⁴⁶⁹⁷
- Plane : TheT⁴⁶⁹⁸
- Plane : TheZ⁴⁶⁹⁹

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](#)⁴⁷⁰⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁷⁰¹
- Channel : Name⁴⁷⁰²
- Channel : SamplesPerPixel⁴⁷⁰³
- Image : AcquisitionDate⁴⁷⁰⁴
- Image : ID⁴⁷⁰⁵
- Image : Name⁴⁷⁰⁶

⁴⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁴⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁷⁰⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁴⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Instrument : ID⁴⁷⁰⁷
- Objective : Correction⁴⁷⁰⁸
- Objective : ID⁴⁷⁰⁹
- Objective : Immersion⁴⁷¹⁰
- Objective : NominalMagnification⁴⁷¹¹
- Pixels : BigEndian⁴⁷¹²
- Pixels : DimensionOrder⁴⁷¹³
- Pixels : ID⁴⁷¹⁴
- Pixels : Interleaved⁴⁷¹⁵
- Pixels : PhysicalSizeX⁴⁷¹⁶
- Pixels : PhysicalSizeY⁴⁷¹⁷
- Pixels : SignificantBits⁴⁷¹⁸
- Pixels : SizeC⁴⁷¹⁹
- Pixels : SizeT⁴⁷²⁰
- Pixels : SizeX⁴⁷²¹
- Pixels : SizeY⁴⁷²²
- Pixels : SizeZ⁴⁷²³
- Pixels : Type⁴⁷²⁴
- Plane : PositionX⁴⁷²⁵
- Plane : PositionY⁴⁷²⁶
- Plane : PositionZ⁴⁷²⁷
- Plane : TheC⁴⁷²⁸
- Plane : TheT⁴⁷²⁹
- Plane : TheZ⁴⁷³⁰

Total supported: 30

Total unknown or missing: 445

- ⁴⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ⁴⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction
- ⁴⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
- ⁴⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion
- ⁴⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification
- ⁴⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁴⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁴⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁴⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁴⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁴⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁴⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁴⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁴⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁴⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁴⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁴⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁴⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁴⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
- ⁴⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
- ⁴⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ
- ⁴⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁴⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁴⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

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](#)⁴⁷³¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁷³²
- Channel : SamplesPerPixel⁴⁷³³
- Image : AcquisitionDate⁴⁷³⁴
- Image : ID⁴⁷³⁵
- Image : Name⁴⁷³⁶
- Pixels : BigEndian⁴⁷³⁷
- Pixels : DimensionOrder⁴⁷³⁸
- Pixels : ID⁴⁷³⁹
- Pixels : Interleaved⁴⁷⁴⁰
- Pixels : PhysicalSizeX⁴⁷⁴¹
- Pixels : PhysicalSizeY⁴⁷⁴²
- Pixels : SignificantBits⁴⁷⁴³
- Pixels : SizeC⁴⁷⁴⁴
- Pixels : SizeT⁴⁷⁴⁵
- Pixels : SizeX⁴⁷⁴⁶
- Pixels : SizeY⁴⁷⁴⁷
- Pixels : SizeZ⁴⁷⁴⁸
- Pixels : Type⁴⁷⁴⁹

⁴⁷³¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁴⁷⁵⁰
- Plane : TheT⁴⁷⁵¹
- Plane : TheZ⁴⁷⁵²

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](#)⁴⁷⁵³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁷⁵⁴
- Channel : SamplesPerPixel⁴⁷⁵⁵
- Image : AcquisitionDate⁴⁷⁵⁶
- Image : ID⁴⁷⁵⁷
- Image : Name⁴⁷⁵⁸
- Pixels : BigEndian⁴⁷⁵⁹
- Pixels : DimensionOrder⁴⁷⁶⁰
- Pixels : ID⁴⁷⁶¹
- Pixels : Interleaved⁴⁷⁶²
- Pixels : PhysicalSizeX⁴⁷⁶³
- Pixels : PhysicalSizeY⁴⁷⁶⁴
- Pixels : PhysicalSizeZ⁴⁷⁶⁵
- Pixels : SignificantBits⁴⁷⁶⁶
- Pixels : SizeC⁴⁷⁶⁷

⁴⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁷⁵³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁴⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁴⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁴⁷⁶⁸
- Pixels : SizeX⁴⁷⁶⁹
- Pixels : SizeY⁴⁷⁷⁰
- Pixels : SizeZ⁴⁷⁷¹
- Pixels : Type⁴⁷⁷²
- Plane : TheC⁴⁷⁷³
- Plane : TheT⁴⁷⁷⁴
- Plane : TheZ⁴⁷⁷⁵

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](#)⁴⁷⁷⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁷⁷⁷
- Channel : SamplesPerPixel⁴⁷⁷⁸
- Image : AcquisitionDate⁴⁷⁷⁹
- Image : Description⁴⁷⁸⁰
- Image : ID⁴⁷⁸¹
- Image : Name⁴⁷⁸²
- Pixels : BigEndian⁴⁷⁸³
- Pixels : DimensionOrder⁴⁷⁸⁴
- Pixels : ID⁴⁷⁸⁵

⁴⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁷⁷⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁴⁷⁸⁶
- Pixels : SignificantBits⁴⁷⁸⁷
- Pixels : SizeC⁴⁷⁸⁸
- Pixels : SizeT⁴⁷⁸⁹
- Pixels : SizeX⁴⁷⁹⁰
- Pixels : SizeY⁴⁷⁹¹
- Pixels : SizeZ⁴⁷⁹²
- Pixels : Type⁴⁷⁹³
- Plane : TheC⁴⁷⁹⁴
- Plane : TheT⁴⁷⁹⁵
- Plane : TheZ⁴⁷⁹⁶

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](#)⁴⁷⁹⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁷⁹⁸
- Channel : SamplesPerPixel⁴⁷⁹⁹
- Image : AcquisitionDate⁴⁸⁰⁰
- Image : ID⁴⁸⁰¹
- Image : Name⁴⁸⁰²
- Pixels : BigEndian⁴⁸⁰³

⁴⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁷⁹⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁴⁸⁰⁴
- Pixels : ID⁴⁸⁰⁵
- Pixels : Interleaved⁴⁸⁰⁶
- Pixels : SignificantBits⁴⁸⁰⁷
- Pixels : SizeC⁴⁸⁰⁸
- Pixels : SizeT⁴⁸⁰⁹
- Pixels : SizeX⁴⁸¹⁰
- Pixels : SizeY⁴⁸¹¹
- Pixels : SizeZ⁴⁸¹²
- Pixels : Type⁴⁸¹³
- Plane : TheC⁴⁸¹⁴
- Plane : TheT⁴⁸¹⁵
- Plane : TheZ⁴⁸¹⁶

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](#)⁴⁸¹⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁸¹⁸
- Channel : SamplesPerPixel⁴⁸¹⁹
- Image : AcquisitionDate⁴⁸²⁰
- Image : ID⁴⁸²¹

⁴⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁸¹⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁴⁸²²
- Pixels : BigEndian⁴⁸²³
- Pixels : DimensionOrder⁴⁸²⁴
- Pixels : ID⁴⁸²⁵
- Pixels : Interleaved⁴⁸²⁶
- Pixels : SignificantBits⁴⁸²⁷
- Pixels : SizeC⁴⁸²⁸
- Pixels : SizeT⁴⁸²⁹
- Pixels : SizeX⁴⁸³⁰
- Pixels : SizeY⁴⁸³¹
- Pixels : SizeZ⁴⁸³²
- Pixels : Type⁴⁸³³
- Plane : TheC⁴⁸³⁴
- Plane : TheT⁴⁸³⁵
- Plane : TheZ⁴⁸³⁶

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](#)⁴⁸³⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁸³⁸
- Channel : SamplesPerPixel⁴⁸³⁹

⁴⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁸³⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁴⁸⁴⁰
- Image : ID⁴⁸⁴¹
- Image : Name⁴⁸⁴²
- Pixels : BigEndian⁴⁸⁴³
- Pixels : DimensionOrder⁴⁸⁴⁴
- Pixels : ID⁴⁸⁴⁵
- Pixels : Interleaved⁴⁸⁴⁶
- Pixels : SignificantBits⁴⁸⁴⁷
- Pixels : SizeC⁴⁸⁴⁸
- Pixels : SizeT⁴⁸⁴⁹
- Pixels : SizeX⁴⁸⁵⁰
- Pixels : SizeY⁴⁸⁵¹
- Pixels : SizeZ⁴⁸⁵²
- Pixels : Type⁴⁸⁵³
- Plane : TheC⁴⁸⁵⁴
- Plane : TheT⁴⁸⁵⁵
- Plane : TheZ⁴⁸⁵⁶

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](#)⁴⁸⁵⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁴⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁸⁵⁷<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 : ID⁴⁸⁵⁸
- Channel : SamplesPerPixel⁴⁸⁵⁹
- Image : AcquisitionDate⁴⁸⁶⁰
- Image : Description⁴⁸⁶¹
- Image : ID⁴⁸⁶²
- Image : Name⁴⁸⁶³
- Pixels : BigEndian⁴⁸⁶⁴
- Pixels : DimensionOrder⁴⁸⁶⁵
- Pixels : ID⁴⁸⁶⁶
- Pixels : Interleaved⁴⁸⁶⁷
- Pixels : PhysicalSizeZ⁴⁸⁶⁸
- Pixels : SignificantBits⁴⁸⁶⁹
- Pixels : SizeC⁴⁸⁷⁰
- Pixels : SizeT⁴⁸⁷¹
- Pixels : SizeX⁴⁸⁷²
- Pixels : SizeY⁴⁸⁷³
- Pixels : SizeZ⁴⁸⁷⁴
- Pixels : TimeIncrement⁴⁸⁷⁵
- Pixels : Type⁴⁸⁷⁶
- Plane : TheC⁴⁸⁷⁷
- Plane : TheT⁴⁸⁷⁸
- Plane : TheZ⁴⁸⁷⁹

Total supported: 22

Total unknown or missing: 453

-
- ⁴⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
 - ⁴⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
 - ⁴⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
 - ⁴⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
 - ⁴⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
 - ⁴⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
 - ⁴⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
 - ⁴⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
 - ⁴⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
 - ⁴⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
 - ⁴⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
 - ⁴⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
 - ⁴⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
 - ⁴⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
 - ⁴⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
 - ⁴⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
 - ⁴⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
 - ⁴⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement
 - ⁴⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
 - ⁴⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
 - ⁴⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
 - ⁴⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

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](#)⁴⁸⁸⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁸⁸¹
- Channel : SamplesPerPixel⁴⁸⁸²
- Image : AcquisitionDate⁴⁸⁸³
- Image : ID⁴⁸⁸⁴
- Image : Name⁴⁸⁸⁵
- Pixels : BigEndian⁴⁸⁸⁶
- Pixels : DimensionOrder⁴⁸⁸⁷
- Pixels : ID⁴⁸⁸⁸
- Pixels : Interleaved⁴⁸⁸⁹
- Pixels : SignificantBits⁴⁸⁹⁰
- Pixels : SizeC⁴⁸⁹¹
- Pixels : SizeT⁴⁸⁹²
- Pixels : SizeX⁴⁸⁹³
- Pixels : SizeY⁴⁸⁹⁴
- Pixels : SizeZ⁴⁸⁹⁵
- Pixels : Type⁴⁸⁹⁶
- Plane : TheC⁴⁸⁹⁷
- Plane : TheT⁴⁸⁹⁸

⁴⁸⁸⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁴⁸⁹⁹

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](#)⁴⁹⁰⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁹⁰¹
- Channel : SamplesPerPixel⁴⁹⁰²
- Experiment : ID⁴⁹⁰³
- Experiment : Type⁴⁹⁰⁴
- Image : AcquisitionDate⁴⁹⁰⁵
- Image : ID⁴⁹⁰⁶
- Image : Name⁴⁹⁰⁷
- Pixels : BigEndian⁴⁹⁰⁸
- Pixels : DimensionOrder⁴⁹⁰⁹
- Pixels : ID⁴⁹¹⁰
- Pixels : Interleaved⁴⁹¹¹
- Pixels : SignificantBits⁴⁹¹²
- Pixels : SizeC⁴⁹¹³
- Pixels : SizeT⁴⁹¹⁴
- Pixels : SizeX⁴⁹¹⁵
- Pixels : SizeY⁴⁹¹⁶

⁴⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁹⁰⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

⁴⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

⁴⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁴⁹¹⁷
- Pixels : Type⁴⁹¹⁸
- Plane : ExposureTime⁴⁹¹⁹
- Plane : TheC⁴⁹²⁰
- Plane : TheT⁴⁹²¹
- Plane : TheZ⁴⁹²²

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](#)⁴⁹²³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁹²⁴
- Channel : SamplesPerPixel⁴⁹²⁵
- Image : AcquisitionDate⁴⁹²⁶
- Image : Description⁴⁹²⁷
- Image : ID⁴⁹²⁸
- Image : Name⁴⁹²⁹
- Pixels : BigEndian⁴⁹³⁰
- Pixels : DimensionOrder⁴⁹³¹
- Pixels : ID⁴⁹³²
- Pixels : Interleaved⁴⁹³³
- Pixels : PhysicalSizeX⁴⁹³⁴

⁴⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁴⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁹²³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁴⁹³⁵
- Pixels : SignificantBits⁴⁹³⁶
- Pixels : SizeC⁴⁹³⁷
- Pixels : SizeT⁴⁹³⁸
- Pixels : SizeX⁴⁹³⁹
- Pixels : SizeY⁴⁹⁴⁰
- Pixels : SizeZ⁴⁹⁴¹
- Pixels : Type⁴⁹⁴²
- Plane : TheC⁴⁹⁴³
- Plane : TheT⁴⁹⁴⁴
- Plane : TheZ⁴⁹⁴⁵

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](#)⁴⁹⁴⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁹⁴⁷
- Channel : SamplesPerPixel⁴⁹⁴⁸
- Image : AcquisitionDate⁴⁹⁴⁹
- Image : ID⁴⁹⁵⁰
- Image : Name⁴⁹⁵¹
- Image : ROISet⁴⁹⁵²

⁴⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁴⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁴⁹⁴⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

- Mask : Height⁴⁹⁵³
- Mask : ID⁴⁹⁵⁴
- Mask : Width⁴⁹⁵⁵
- Mask : X⁴⁹⁵⁶
- Mask : Y⁴⁹⁵⁷
- Pixels : BigEndian⁴⁹⁵⁸
- Pixels : DimensionOrder⁴⁹⁵⁹
- Pixels : ID⁴⁹⁶⁰
- Pixels : Interleaved⁴⁹⁶¹
- Pixels : SignificantBits⁴⁹⁶²
- Pixels : SizeC⁴⁹⁶³
- Pixels : SizeT⁴⁹⁶⁴
- Pixels : SizeX⁴⁹⁶⁵
- Pixels : SizeY⁴⁹⁶⁶
- Pixels : SizeZ⁴⁹⁶⁷
- Pixels : Type⁴⁹⁶⁸
- Plane : TheC⁴⁹⁶⁹
- Plane : TheT⁴⁹⁷⁰
- Plane : TheZ⁴⁹⁷¹
- ROI : ID⁴⁹⁷²

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](#)⁴⁹⁷³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

Of the 475 fields documented in the *metadata summary table*:

- ⁴⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Height
- ⁴⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ⁴⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Width
- ⁴⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_X
- ⁴⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Y
- ⁴⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁴⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁴⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁴⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁴⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁴⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁴⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁴⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁴⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁴⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁴⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁴⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁴⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁴⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ⁴⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID
- ⁴⁹⁷³<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 UBM format reader:

- Channel : ID⁴⁹⁷⁴
- Channel : SamplesPerPixel⁴⁹⁷⁵
- Image : AcquisitionDate⁴⁹⁷⁶
- Image : ID⁴⁹⁷⁷
- Image : Name⁴⁹⁷⁸
- Pixels : BigEndian⁴⁹⁷⁹
- Pixels : DimensionOrder⁴⁹⁸⁰
- Pixels : ID⁴⁹⁸¹
- Pixels : Interleaved⁴⁹⁸²
- Pixels : SignificantBits⁴⁹⁸³
- Pixels : SizeC⁴⁹⁸⁴
- Pixels : SizeT⁴⁹⁸⁵
- Pixels : SizeX⁴⁹⁸⁶
- Pixels : SizeY⁴⁹⁸⁷
- Pixels : SizeZ⁴⁹⁸⁸
- Pixels : Type⁴⁹⁸⁹
- Plane : TheC⁴⁹⁹⁰
- Plane : TheT⁴⁹⁹¹
- Plane : TheZ⁴⁹⁹²

Total supported: 19

Total unknown or missing: 456

⁴⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁴⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁴⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁴⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁴⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁴⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁴⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁴⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁴⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁴⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁴⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁴⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁴⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁴⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁴⁹⁹²http://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](#)⁴⁹⁹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁴⁹⁹⁴
- Channel : SamplesPerPixel⁴⁹⁹⁵
- Image : AcquisitionDate⁴⁹⁹⁶
- Image : Description⁴⁹⁹⁷
- Image : ID⁴⁹⁹⁸
- Image : Name⁴⁹⁹⁹
- Pixels : BigEndian⁵⁰⁰⁰
- Pixels : DimensionOrder⁵⁰⁰¹
- Pixels : ID⁵⁰⁰²
- Pixels : Interleaved⁵⁰⁰³
- Pixels : PhysicalSizeX⁵⁰⁰⁴
- Pixels : PhysicalSizeY⁵⁰⁰⁵
- Pixels : SignificantBits⁵⁰⁰⁶
- Pixels : SizeC⁵⁰⁰⁷
- Pixels : SizeT⁵⁰⁰⁸
- Pixels : SizeX⁵⁰⁰⁹
- Pixels : SizeY⁵⁰¹⁰
- Pixels : SizeZ⁵⁰¹¹
- Pixels : Type⁵⁰¹²

⁴⁹⁹³<http://www.openmicroscopy.org/site/support/ome-model/>

⁴⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁴⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁴⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁴⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁴⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁴⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁵⁰¹³
- Plane : TheT⁵⁰¹⁴
- Plane : TheZ⁵⁰¹⁵

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](#)⁵⁰¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁰¹⁷
- Channel : SamplesPerPixel⁵⁰¹⁸
- Image : AcquisitionDate⁵⁰¹⁹
- Image : ID⁵⁰²⁰
- Image : Name⁵⁰²¹
- Pixels : BigEndian⁵⁰²²
- Pixels : DimensionOrder⁵⁰²³
- Pixels : ID⁵⁰²⁴
- Pixels : Interleaved⁵⁰²⁵
- Pixels : SignificantBits⁵⁰²⁶
- Pixels : SizeC⁵⁰²⁷
- Pixels : SizeT⁵⁰²⁸
- Pixels : SizeX⁵⁰²⁹
- Pixels : SizeY⁵⁰³⁰

⁵⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁰¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁵⁰³¹
- Pixels : Type⁵⁰³²
- Plane : TheC⁵⁰³³
- Plane : TheT⁵⁰³⁴
- Plane : TheZ⁵⁰³⁵

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](#)⁵⁰³⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁰³⁷
- Channel : SamplesPerPixel⁵⁰³⁸
- Image : AcquisitionDate⁵⁰³⁹
- Image : ID⁵⁰⁴⁰
- Image : Name⁵⁰⁴¹
- Pixels : BigEndian⁵⁰⁴²
- Pixels : DimensionOrder⁵⁰⁴³
- Pixels : ID⁵⁰⁴⁴
- Pixels : Interleaved⁵⁰⁴⁵
- Pixels : PhysicalSizeX⁵⁰⁴⁶
- Pixels : PhysicalSizeY⁵⁰⁴⁷
- Pixels : PhysicalSizeZ⁵⁰⁴⁸

⁵⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁰³⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

- Pixels : SignificantBits⁵⁰⁴⁹
- Pixels : SizeC⁵⁰⁵⁰
- Pixels : SizeT⁵⁰⁵¹
- Pixels : SizeX⁵⁰⁵²
- Pixels : SizeY⁵⁰⁵³
- Pixels : SizeZ⁵⁰⁵⁴
- Pixels : Type⁵⁰⁵⁵
- Plane : PositionX⁵⁰⁵⁶
- Plane : PositionY⁵⁰⁵⁷
- Plane : PositionZ⁵⁰⁵⁸
- Plane : TheC⁵⁰⁵⁹
- Plane : TheT⁵⁰⁶⁰
- Plane : TheZ⁵⁰⁶¹

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](#)⁵⁰⁶². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁰⁶³
- Channel : SamplesPerPixel⁵⁰⁶⁴
- Image : AcquisitionDate⁵⁰⁶⁵
- Image : ID⁵⁰⁶⁶

⁵⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁵⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁵⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁵⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁰⁶²<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁵⁰⁶⁷
- Pixels : BigEndian⁵⁰⁶⁸
- Pixels : DimensionOrder⁵⁰⁶⁹
- Pixels : ID⁵⁰⁷⁰
- Pixels : Interleaved⁵⁰⁷¹
- Pixels : SignificantBits⁵⁰⁷²
- Pixels : SizeC⁵⁰⁷³
- Pixels : SizeT⁵⁰⁷⁴
- Pixels : SizeX⁵⁰⁷⁵
- Pixels : SizeY⁵⁰⁷⁶
- Pixels : SizeZ⁵⁰⁷⁷
- Pixels : Type⁵⁰⁷⁸
- Plane : TheC⁵⁰⁷⁹
- Plane : TheT⁵⁰⁸⁰
- Plane : TheZ⁵⁰⁸¹

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](#)⁵⁰⁸². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁰⁸³
- Channel : SamplesPerPixel⁵⁰⁸⁴

⁵⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁰⁸²<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁵⁰⁸⁵
- Image : ID⁵⁰⁸⁶
- Image : Name⁵⁰⁸⁷
- Pixels : BigEndian⁵⁰⁸⁸
- Pixels : DimensionOrder⁵⁰⁸⁹
- Pixels : ID⁵⁰⁹⁰
- Pixels : Interleaved⁵⁰⁹¹
- Pixels : SignificantBits⁵⁰⁹²
- Pixels : SizeC⁵⁰⁹³
- Pixels : SizeT⁵⁰⁹⁴
- Pixels : SizeX⁵⁰⁹⁵
- Pixels : SizeY⁵⁰⁹⁶
- Pixels : SizeZ⁵⁰⁹⁷
- Pixels : Type⁵⁰⁹⁸
- Plane : TheC⁵⁰⁹⁹
- Plane : TheT⁵¹⁰⁰
- Plane : TheZ⁵¹⁰¹

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](#)⁵¹⁰². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁵⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵¹⁰²<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 : ID⁵¹⁰³
- Channel : SamplesPerPixel⁵¹⁰⁴
- Image : AcquisitionDate⁵¹⁰⁵
- Image : ID⁵¹⁰⁶
- Image : Name⁵¹⁰⁷
- Pixels : BigEndian⁵¹⁰⁸
- Pixels : DimensionOrder⁵¹⁰⁹
- Pixels : ID⁵¹¹⁰
- Pixels : Interleaved⁵¹¹¹
- Pixels : SignificantBits⁵¹¹²
- Pixels : SizeC⁵¹¹³
- Pixels : SizeT⁵¹¹⁴
- Pixels : SizeX⁵¹¹⁵
- Pixels : SizeY⁵¹¹⁶
- Pixels : SizeZ⁵¹¹⁷
- Pixels : Type⁵¹¹⁸
- Plane : TheC⁵¹¹⁹
- Plane : TheT⁵¹²⁰
- Plane : TheZ⁵¹²¹

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](#)⁵¹²². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁵¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
⁵¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
⁵¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
⁵¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁵¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁵¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁵¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁵¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁵¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁵¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁵¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁵¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁵¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁵¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁵¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁵¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁵¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁵¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁵¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁵¹²²<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 : ID⁵¹²³
- Channel : Name⁵¹²⁴
- Channel : SamplesPerPixel⁵¹²⁵
- Detector : ID⁵¹²⁶
- Detector : Model⁵¹²⁷
- DetectorSettings : ID⁵¹²⁸
- Image : AcquisitionDate⁵¹²⁹
- Image : Description⁵¹³⁰
- Image : ID⁵¹³¹
- Image : InstrumentRef⁵¹³²
- Image : Name⁵¹³³
- Instrument : ID⁵¹³⁴
- Objective : Correction⁵¹³⁵
- Objective : ID⁵¹³⁶
- Objective : Immersion⁵¹³⁷
- Objective : NominalMagnification⁵¹³⁸
- ObjectiveSettings : ID⁵¹³⁹
- Pixels : BigEndian⁵¹⁴⁰
- Pixels : DimensionOrder⁵¹⁴¹
- Pixels : ID⁵¹⁴²
- Pixels : Interleaved⁵¹⁴³
- Pixels : PhysicalSizeX⁵¹⁴⁴

⁵¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁵¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁵¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁵¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁵¹⁴⁵
- Pixels : PhysicalSizeZ⁵¹⁴⁶
- Pixels : SignificantBits⁵¹⁴⁷
- Pixels : SizeC⁵¹⁴⁸
- Pixels : SizeT⁵¹⁴⁹
- Pixels : SizeX⁵¹⁵⁰
- Pixels : SizeY⁵¹⁵¹
- Pixels : SizeZ⁵¹⁵²
- Pixels : Type⁵¹⁵³
- Plane : DeltaT⁵¹⁵⁴
- Plane : PositionX⁵¹⁵⁵
- Plane : PositionY⁵¹⁵⁶
- Plane : PositionZ⁵¹⁵⁷
- Plane : TheC⁵¹⁵⁸
- Plane : TheT⁵¹⁵⁹
- Plane : TheZ⁵¹⁶⁰

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](#)⁵¹⁶¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵¹⁶²

⁵¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁵¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁵¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁵¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁵¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵¹⁶¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : SamplesPerPixel⁵¹⁶³
- Image : AcquisitionDate⁵¹⁶⁴
- Image : Description⁵¹⁶⁵
- Image : ID⁵¹⁶⁶
- Image : Name⁵¹⁶⁷
- Pixels : BigEndian⁵¹⁶⁸
- Pixels : DimensionOrder⁵¹⁶⁹
- Pixels : ID⁵¹⁷⁰
- Pixels : Interleaved⁵¹⁷¹
- Pixels : PhysicalSizeX⁵¹⁷²
- Pixels : PhysicalSizeY⁵¹⁷³
- Pixels : SignificantBits⁵¹⁷⁴
- Pixels : SizeC⁵¹⁷⁵
- Pixels : SizeT⁵¹⁷⁶
- Pixels : SizeX⁵¹⁷⁷
- Pixels : SizeY⁵¹⁷⁸
- Pixels : SizeZ⁵¹⁷⁹
- Pixels : Type⁵¹⁸⁰
- Plane : TheC⁵¹⁸¹
- Plane : TheT⁵¹⁸²
- Plane : TheZ⁵¹⁸³

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](#)⁵¹⁸⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁵¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁵¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵¹⁸⁴<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 : ID⁵¹⁸⁵
- Channel : SamplesPerPixel⁵¹⁸⁶
- Image : AcquisitionDate⁵¹⁸⁷
- Image : ID⁵¹⁸⁸
- Image : Name⁵¹⁸⁹
- Pixels : BigEndian⁵¹⁹⁰
- Pixels : DimensionOrder⁵¹⁹¹
- Pixels : ID⁵¹⁹²
- Pixels : Interleaved⁵¹⁹³
- Pixels : PhysicalSizeX⁵¹⁹⁴
- Pixels : PhysicalSizeY⁵¹⁹⁵
- Pixels : PhysicalSizeZ⁵¹⁹⁶
- Pixels : SignificantBits⁵¹⁹⁷
- Pixels : SizeC⁵¹⁹⁸
- Pixels : SizeT⁵¹⁹⁹
- Pixels : SizeX⁵²⁰⁰
- Pixels : SizeY⁵²⁰¹
- Pixels : SizeZ⁵²⁰²
- Pixels : Type⁵²⁰³
- Plane : TheC⁵²⁰⁴
- Plane : TheT⁵²⁰⁵
- Plane : TheZ⁵²⁰⁶

⁵¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

- StageLabel : Name⁵²⁰⁷
- StageLabel : X⁵²⁰⁸
- StageLabel : Y⁵²⁰⁹
- StageLabel : Z⁵²¹⁰

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](#)⁵²¹¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : LotNumber⁵²¹²
- Arc : Manufacturer⁵²¹³
- Arc : Model⁵²¹⁴
- Arc : Power⁵²¹⁵
- Arc : SerialNumber⁵²¹⁶
- Channel : AcquisitionMode⁵²¹⁷
- Channel : Color⁵²¹⁸
- Channel : EmissionWavelength⁵²¹⁹
- Channel : ExcitationWavelength⁵²²⁰
- Channel : FilterSetRef⁵²²¹
- Channel : Fluor⁵²²²
- Channel : ID⁵²²³
- Channel : IlluminationType⁵²²⁴

⁵²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Name

⁵²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_X

⁵²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Y

⁵²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Z

⁵²¹¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁵²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

⁵²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁵²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁵²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁵²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSetRef_ID

⁵²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Fluor

⁵²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_IlluminationType

- Channel : Name⁵²²⁵
- Channel : PinholeSize⁵²²⁶
- Channel : SamplesPerPixel⁵²²⁷
- Detector : AmplificationGain⁵²²⁸
- Detector : Gain⁵²²⁹
- Detector : ID⁵²³⁰
- Detector : LotNumber⁵²³¹
- Detector : Manufacturer⁵²³²
- Detector : Model⁵²³³
- Detector : Offset⁵²³⁴
- Detector : SerialNumber⁵²³⁵
- Detector : Type⁵²³⁶
- Detector : Zoom⁵²³⁷
- DetectorSettings : Binning⁵²³⁸
- DetectorSettings : Gain⁵²³⁹
- DetectorSettings : ID⁵²⁴⁰
- Dichroic : ID⁵²⁴¹
- Dichroic : LotNumber⁵²⁴²
- Dichroic : Manufacturer⁵²⁴³
- Dichroic : Model⁵²⁴⁴
- Dichroic : SerialNumber⁵²⁴⁵
- Ellipse : ID⁵²⁴⁶
- Ellipse : RadiusX⁵²⁴⁷
- Ellipse : RadiusY⁵²⁴⁸
- Ellipse : Text⁵²⁴⁹
- Ellipse : X⁵²⁵⁰

⁵²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁵²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_AmplificationGain

⁵²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁵²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁵²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁵²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁵²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁵²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁵²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁵²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁵²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁵²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁵²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

- Ellipse : Y⁵²⁵¹
- Experimenter : Email⁵²⁵²
- Experimenter : FirstName⁵²⁵³
- Experimenter : ID⁵²⁵⁴
- Experimenter : Institution⁵²⁵⁵
- Experimenter : LastName⁵²⁵⁶
- Experimenter : MiddleName⁵²⁵⁷
- Experimenter : UserName⁵²⁵⁸
- Filament : LotNumber⁵²⁵⁹
- Filament : Manufacturer⁵²⁶⁰
- Filament : Model⁵²⁶¹
- Filament : Power⁵²⁶²
- Filament : SerialNumber⁵²⁶³
- Filter : FilterWheel⁵²⁶⁴
- Filter : ID⁵²⁶⁵
- Filter : LotNumber⁵²⁶⁶
- Filter : Manufacturer⁵²⁶⁷
- Filter : Model⁵²⁶⁸
- Filter : SerialNumber⁵²⁶⁹
- Filter : Type⁵²⁷⁰
- FilterSet : DichroicRef⁵²⁷¹
- FilterSet : EmissionFilterRef⁵²⁷²
- FilterSet : ExcitationFilterRef⁵²⁷³
- FilterSet : ID⁵²⁷⁴
- FilterSet : LotNumber⁵²⁷⁵
- FilterSet : Manufacturer⁵²⁷⁶

⁵²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

⁵²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Email

⁵²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

⁵²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁵²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution

⁵²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁵²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_MiddleName

⁵²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName

⁵²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁵²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_FilterWheel

⁵²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁵²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_Type

⁵²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁵²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁵²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁵²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSet_ID

⁵²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

- FilterSet : Model⁵²⁷⁷
- FilterSet : SerialNumber⁵²⁷⁸
- Image : AcquisitionDate⁵²⁷⁹
- Image : Description⁵²⁸⁰
- Image : ExperimenterRef⁵²⁸¹
- Image : ID⁵²⁸²
- Image : InstrumentRef⁵²⁸³
- Image : Name⁵²⁸⁴
- Image : ROIRef⁵²⁸⁵
- ImagingEnvironment : AirPressure⁵²⁸⁶
- ImagingEnvironment : CO2Percent⁵²⁸⁷
- ImagingEnvironment : Humidity⁵²⁸⁸
- ImagingEnvironment : Temperature⁵²⁸⁹
- Instrument : ID⁵²⁹⁰
- Laser : LotNumber⁵²⁹¹
- Laser : Manufacturer⁵²⁹²
- Laser : Model⁵²⁹³
- Laser : Power⁵²⁹⁴
- Laser : SerialNumber⁵²⁹⁵
- LightEmittingDiode : LotNumber⁵²⁹⁶
- LightEmittingDiode : Manufacturer⁵²⁹⁷
- LightEmittingDiode : Model⁵²⁹⁸
- LightEmittingDiode : Power⁵²⁹⁹
- LightEmittingDiode : SerialNumber⁵³⁰⁰
- Line : ID⁵³⁰¹
- Line : Text⁵³⁰²

⁵²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁵²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

⁵²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁵²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_AirPressure

⁵²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_CO2Percent

⁵²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Humidity

⁵²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁵²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁵²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁵³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

- Line : X1⁵³⁰³
- Line : X2⁵³⁰⁴
- Line : Y1⁵³⁰⁵
- Line : Y2⁵³⁰⁶
- Microscope : LotNumber⁵³⁰⁷
- Microscope : Manufacturer⁵³⁰⁸
- Microscope : Model⁵³⁰⁹
- Microscope : SerialNumber⁵³¹⁰
- Microscope : Type⁵³¹¹
- Objective : CalibratedMagnification⁵³¹²
- Objective : Correction⁵³¹³
- Objective : ID⁵³¹⁴
- Objective : Immersion⁵³¹⁵
- Objective : Iris⁵³¹⁶
- Objective : LensNA⁵³¹⁷
- Objective : LotNumber⁵³¹⁸
- Objective : Manufacturer⁵³¹⁹
- Objective : Model⁵³²⁰
- Objective : NominalMagnification⁵³²¹
- Objective : SerialNumber⁵³²²
- Objective : WorkingDistance⁵³²³
- ObjectiveSettings : CorrectionCollar⁵³²⁴
- ObjectiveSettings : ID⁵³²⁵
- ObjectiveSettings : Medium⁵³²⁶
- ObjectiveSettings : RefractiveIndex⁵³²⁷
- Pixels : BigEndian⁵³²⁸

⁵³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁵³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁵³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁵³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁵³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Microscope_Type

⁵³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁵³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁵³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁵³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Iris

⁵³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁵³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁵³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁵³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_CorrectionCollar

⁵³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_Medium

⁵³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁵³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁵³²⁹
- Pixels : ID⁵³³⁰
- Pixels : Interleaved⁵³³¹
- Pixels : PhysicalSizeX⁵³³²
- Pixels : PhysicalSizeY⁵³³³
- Pixels : PhysicalSizeZ⁵³³⁴
- Pixels : SignificantBits⁵³³⁵
- Pixels : SizeC⁵³³⁶
- Pixels : SizeT⁵³³⁷
- Pixels : SizeX⁵³³⁸
- Pixels : SizeY⁵³³⁹
- Pixels : SizeZ⁵³⁴⁰
- Pixels : Type⁵³⁴¹
- Plane : DeltaT⁵³⁴²
- Plane : ExposureTime⁵³⁴³
- Plane : PositionX⁵³⁴⁴
- Plane : PositionY⁵³⁴⁵
- Plane : PositionZ⁵³⁴⁶
- Plane : TheC⁵³⁴⁷
- Plane : TheT⁵³⁴⁸
- Plane : TheZ⁵³⁴⁹
- Polygon : ID⁵³⁵⁰
- Polygon : Points⁵³⁵¹
- Polygon : Text⁵³⁵²
- Polyline : ID⁵³⁵³
- Polyline : Points⁵³⁵⁴

⁵³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁵³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁵³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁵³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁵³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁵³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁵³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

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#Polyline_Points

- Polyline : Text⁵³⁵⁵
- ROI : Description⁵³⁵⁶
- ROI : ID⁵³⁵⁷
- ROI : Name⁵³⁵⁸
- Rectangle : Height⁵³⁵⁹
- Rectangle : ID⁵³⁶⁰
- Rectangle : Text⁵³⁶¹
- Rectangle : Width⁵³⁶²
- Rectangle : X⁵³⁶³
- Rectangle : Y⁵³⁶⁴
- TransmittanceRange : CutIn⁵³⁶⁵
- TransmittanceRange : CutInTolerance⁵³⁶⁶
- TransmittanceRange : CutOut⁵³⁶⁷
- TransmittanceRange : CutOutTolerance⁵³⁶⁸
- TransmittanceRange : Transmittance⁵³⁶⁹

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](#)⁵³⁷⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵³⁷¹
- Channel : SamplesPerPixel⁵³⁷²

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#ROI_Description

⁵³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁵³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name

⁵³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁵³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁵³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁵³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁵³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁵³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

⁵³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutInTolerance

⁵³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

⁵³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOutTolerance

⁵³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_Transmittance

⁵³⁷⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁵³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁵³⁷³
- Image : ID⁵³⁷⁴
- Image : Name⁵³⁷⁵
- Instrument : ID⁵³⁷⁶
- Objective : ID⁵³⁷⁷
- Objective : NominalMagnification⁵³⁷⁸
- ObjectiveSettings : ID⁵³⁷⁹
- Pixels : BigEndian⁵³⁸⁰
- Pixels : DimensionOrder⁵³⁸¹
- Pixels : ID⁵³⁸²
- Pixels : Interleaved⁵³⁸³
- Pixels : SignificantBits⁵³⁸⁴
- Pixels : SizeC⁵³⁸⁵
- Pixels : SizeT⁵³⁸⁶
- Pixels : SizeX⁵³⁸⁷
- Pixels : SizeY⁵³⁸⁸
- Pixels : SizeZ⁵³⁸⁹
- Pixels : Type⁵³⁹⁰
- Plane : TheC⁵³⁹¹
- Plane : TheT⁵³⁹²
- Plane : TheZ⁵³⁹³

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](#)⁵³⁹⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁵³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵³⁹⁴<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 : Color⁵³⁹⁵
- Channel : ID⁵³⁹⁶
- Channel : Name⁵³⁹⁷
- Channel : PinholeSize⁵³⁹⁸
- Channel : SamplesPerPixel⁵³⁹⁹
- Detector : AmplificationGain⁵⁴⁰⁰
- Detector : Gain⁵⁴⁰¹
- Detector : ID⁵⁴⁰²
- Detector : Type⁵⁴⁰³
- Detector : Zoom⁵⁴⁰⁴
- DetectorSettings : Binning⁵⁴⁰⁵
- DetectorSettings : ID⁵⁴⁰⁶
- Dichroic : ID⁵⁴⁰⁷
- Dichroic : Model⁵⁴⁰⁸
- Ellipse : FontSize⁵⁴⁰⁹
- Ellipse : ID⁵⁴¹⁰
- Ellipse : RadiusX⁵⁴¹¹
- Ellipse : RadiusY⁵⁴¹²
- Ellipse : StrokeWidth⁵⁴¹³
- Ellipse : Transform⁵⁴¹⁴
- Ellipse : X⁵⁴¹⁵
- Ellipse : Y⁵⁴¹⁶

⁵³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁵³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁵³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_AmplificationGain

⁵⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁵⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁵⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁵⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁵⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁵⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁵⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁵⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁵⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁵⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁵⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

⁵⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

- Experimenter : ID⁵⁴¹⁷
- Experimenter : UserName⁵⁴¹⁸
- Filter : ID⁵⁴¹⁹
- Filter : Model⁵⁴²⁰
- Filter : Type⁵⁴²¹
- Image : AcquisitionDate⁵⁴²²
- Image : Description⁵⁴²³
- Image : ID⁵⁴²⁴
- Image : InstrumentRef⁵⁴²⁵
- Image : Name⁵⁴²⁶
- Image : ROIRef⁵⁴²⁷
- Instrument : ID⁵⁴²⁸
- Label : FontSize⁵⁴²⁹
- Label : ID⁵⁴³⁰
- Label : StrokeWidth⁵⁴³¹
- Label : Text⁵⁴³²
- Label : X⁵⁴³³
- Label : Y⁵⁴³⁴
- Laser : ID⁵⁴³⁵
- Laser : LaserMedium⁵⁴³⁶
- Laser : Model⁵⁴³⁷
- Laser : Type⁵⁴³⁸
- Laser : Wavelength⁵⁴³⁹
- LightPath : DichroicRef⁵⁴⁴⁰
- LightPath : EmissionFilterRef⁵⁴⁴¹
- Line : FontSize⁵⁴⁴²

⁵⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID
⁵⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName
⁵⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID
⁵⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model
⁵⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_Type
⁵⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
⁵⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
⁵⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁵⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID
⁵⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁵⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID
⁵⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
⁵⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize
⁵⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
⁵⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth
⁵⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text
⁵⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_X
⁵⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_Y
⁵⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID
⁵⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium
⁵⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model
⁵⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type
⁵⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength
⁵⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID
⁵⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID
⁵⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

- Line : ID⁵⁴⁴³
- Line : StrokeWidth⁵⁴⁴⁴
- Line : X1⁵⁴⁴⁵
- Line : X2⁵⁴⁴⁶
- Line : Y1⁵⁴⁴⁷
- Line : Y2⁵⁴⁴⁸
- Objective : Correction⁵⁴⁴⁹
- Objective : ID⁵⁴⁵⁰
- Objective : Immersion⁵⁴⁵¹
- Objective : Iris⁵⁴⁵²
- Objective : LensNA⁵⁴⁵³
- Objective : NominalMagnification⁵⁴⁵⁴
- ObjectiveSettings : ID⁵⁴⁵⁵
- Pixels : BigEndian⁵⁴⁵⁶
- Pixels : DimensionOrder⁵⁴⁵⁷
- Pixels : ID⁵⁴⁵⁸
- Pixels : Interleaved⁵⁴⁵⁹
- Pixels : PhysicalSizeX⁵⁴⁶⁰
- Pixels : PhysicalSizeY⁵⁴⁶¹
- Pixels : PhysicalSizeZ⁵⁴⁶²
- Pixels : SignificantBits⁵⁴⁶³
- Pixels : SizeC⁵⁴⁶⁴
- Pixels : SizeT⁵⁴⁶⁵
- Pixels : SizeX⁵⁴⁶⁶
- Pixels : SizeY⁵⁴⁶⁷
- Pixels : SizeZ⁵⁴⁶⁸

⁵⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁵⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁵⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁵⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁵⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁵⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁵⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁵⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Iris

⁵⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁵⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : TimeIncrement⁵⁴⁶⁹
- Pixels : Type⁵⁴⁷⁰
- Plane : DeltaT⁵⁴⁷¹
- Plane : PositionX⁵⁴⁷²
- Plane : PositionY⁵⁴⁷³
- Plane : PositionZ⁵⁴⁷⁴
- Plane : TheC⁵⁴⁷⁵
- Plane : TheT⁵⁴⁷⁶
- Plane : TheZ⁵⁴⁷⁷
- Polygon : FontSize⁵⁴⁷⁸
- Polygon : ID⁵⁴⁷⁹
- Polygon : Points⁵⁴⁸⁰
- Polygon : StrokeWidth⁵⁴⁸¹
- Polyline : FontSize⁵⁴⁸²
- Polyline : ID⁵⁴⁸³
- Polyline : Points⁵⁴⁸⁴
- Polyline : StrokeWidth⁵⁴⁸⁵
- ROI : ID⁵⁴⁸⁶
- Rectangle : FontSize⁵⁴⁸⁷
- Rectangle : Height⁵⁴⁸⁸
- Rectangle : ID⁵⁴⁸⁹
- Rectangle : StrokeWidth⁵⁴⁹⁰
- Rectangle : Width⁵⁴⁹¹
- Rectangle : X⁵⁴⁹²
- Rectangle : Y⁵⁴⁹³
- TransmittanceRange : CutIn⁵⁴⁹⁴

⁵⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁵⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁵⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁵⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁵⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁵⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁵⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁵⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁵⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁵⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

⁵⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁵⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁵⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁵⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁵⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁵⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁵⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁵⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁵⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁵⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

- `TransmittanceRange` : `CutOut`⁵⁴⁹⁵

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](#)⁵⁴⁹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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` : `ID`⁵⁴⁹⁷
- `Channel` : `SamplesPerPixel`⁵⁴⁹⁸
- `Image` : `AcquisitionDate`⁵⁴⁹⁹
- `Image` : `ID`⁵⁵⁰⁰
- `Image` : `Name`⁵⁵⁰¹
- `Pixels` : `BigEndian`⁵⁵⁰²
- `Pixels` : `DimensionOrder`⁵⁵⁰³
- `Pixels` : `ID`⁵⁵⁰⁴
- `Pixels` : `Interleaved`⁵⁵⁰⁵
- `Pixels` : `SignificantBits`⁵⁵⁰⁶
- `Pixels` : `SizeC`⁵⁵⁰⁷
- `Pixels` : `SizeT`⁵⁵⁰⁸
- `Pixels` : `SizeX`⁵⁵⁰⁹
- `Pixels` : `SizeY`⁵⁵¹⁰
- `Pixels` : `SizeZ`⁵⁵¹¹
- `Pixels` : `Type`⁵⁵¹²

⁵⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

⁵⁴⁹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁵⁵¹³
- Plane : TheT⁵⁵¹⁴
- Plane : TheZ⁵⁵¹⁵

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](#)⁵⁵¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁵¹⁷
- Channel : SamplesPerPixel⁵⁵¹⁸
- Image : AcquisitionDate⁵⁵¹⁹
- Image : ID⁵⁵²⁰
- Image : Name⁵⁵²¹
- Pixels : BigEndian⁵⁵²²
- Pixels : DimensionOrder⁵⁵²³
- Pixels : ID⁵⁵²⁴
- Pixels : Interleaved⁵⁵²⁵
- Pixels : SignificantBits⁵⁵²⁶
- Pixels : SizeC⁵⁵²⁷
- Pixels : SizeT⁵⁵²⁸
- Pixels : SizeX⁵⁵²⁹
- Pixels : SizeY⁵⁵³⁰

⁵⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁵¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁵⁵³¹
- Pixels : Type⁵⁵³²
- Plane : TheC⁵⁵³³
- Plane : TheT⁵⁵³⁴
- Plane : TheZ⁵⁵³⁵

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](#)⁵⁵³⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁵³⁷
- Channel : SamplesPerPixel⁵⁵³⁸
- Image : AcquisitionDate⁵⁵³⁹
- Image : ID⁵⁵⁴⁰
- Image : Name⁵⁵⁴¹
- Pixels : BigEndian⁵⁵⁴²
- Pixels : DimensionOrder⁵⁵⁴³
- Pixels : ID⁵⁵⁴⁴
- Pixels : Interleaved⁵⁵⁴⁵
- Pixels : SignificantBits⁵⁵⁴⁶
- Pixels : SizeC⁵⁵⁴⁷
- Pixels : SizeT⁵⁵⁴⁸

⁵⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁵³⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁵⁵⁴⁹
- Pixels : SizeY⁵⁵⁵⁰
- Pixels : SizeZ⁵⁵⁵¹
- Pixels : Type⁵⁵⁵²
- Plane : TheC⁵⁵⁵³
- Plane : TheT⁵⁵⁵⁴
- Plane : TheZ⁵⁵⁵⁵

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](#)⁵⁵⁵⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁵⁵⁷
- Channel : NDFilter⁵⁵⁵⁸
- Channel : Name⁵⁵⁵⁹
- Channel : SamplesPerPixel⁵⁵⁶⁰
- Image : AcquisitionDate⁵⁵⁶¹
- Image : Description⁵⁵⁶²
- Image : ID⁵⁵⁶³
- Image : InstrumentRef⁵⁵⁶⁴
- Image : Name⁵⁵⁶⁵

⁵⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁵⁵⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_NDFilter

⁵⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁵⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Instrument : ID⁵⁵⁶⁶
- Objective : Correction⁵⁵⁶⁷
- Objective : ID⁵⁵⁶⁸
- Objective : Immersion⁵⁵⁶⁹
- Objective : Model⁵⁵⁷⁰
- Objective : NominalMagnification⁵⁵⁷¹
- ObjectiveSettings : ID⁵⁵⁷²
- Pixels : BigEndian⁵⁵⁷³
- Pixels : DimensionOrder⁵⁵⁷⁴
- Pixels : ID⁵⁵⁷⁵
- Pixels : Interleaved⁵⁵⁷⁶
- Pixels : PhysicalSizeX⁵⁵⁷⁷
- Pixels : PhysicalSizeY⁵⁵⁷⁸
- Pixels : PhysicalSizeZ⁵⁵⁷⁹
- Pixels : SignificantBits⁵⁵⁸⁰
- Pixels : SizeC⁵⁵⁸¹
- Pixels : SizeT⁵⁵⁸²
- Pixels : SizeX⁵⁵⁸³
- Pixels : SizeY⁵⁵⁸⁴
- Pixels : SizeZ⁵⁵⁸⁵
- Pixels : Type⁵⁵⁸⁶
- Plane : ExposureTime⁵⁵⁸⁷
- Plane : TheC⁵⁵⁸⁸
- Plane : TheT⁵⁵⁸⁹
- Plane : TheZ⁵⁵⁹⁰

⁵⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁵⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁵⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁵⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁵⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁵⁹⁰http://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](#)⁵⁵⁹¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁵⁹²
- Channel : SamplesPerPixel⁵⁵⁹³
- Image : AcquisitionDate⁵⁵⁹⁴
- Image : ID⁵⁵⁹⁵
- Image : Name⁵⁵⁹⁶
- Pixels : BigEndian⁵⁵⁹⁷
- Pixels : DimensionOrder⁵⁵⁹⁸
- Pixels : ID⁵⁵⁹⁹
- Pixels : Interleaved⁵⁶⁰⁰
- Pixels : PhysicalSizeX⁵⁶⁰¹
- Pixels : PhysicalSizeY⁵⁶⁰²
- Pixels : PhysicalSizeZ⁵⁶⁰³
- Pixels : SignificantBits⁵⁶⁰⁴
- Pixels : SizeC⁵⁶⁰⁵
- Pixels : SizeT⁵⁶⁰⁶
- Pixels : SizeX⁵⁶⁰⁷

⁵⁵⁹¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁵⁶⁰⁸
- Pixels : SizeZ⁵⁶⁰⁹
- Pixels : Type⁵⁶¹⁰
- Plane : TheC⁵⁶¹¹
- Plane : TheT⁵⁶¹²
- Plane : TheZ⁵⁶¹³

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*⁵⁶¹⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁶¹⁵
- Channel : SamplesPerPixel⁵⁶¹⁶
- Detector : ID⁵⁶¹⁷
- Detector : Type⁵⁶¹⁸
- DetectorSettings : ID⁵⁶¹⁹
- DetectorSettings : Voltage⁵⁶²⁰
- Image : AcquisitionDate⁵⁶²¹
- Image : ID⁵⁶²²
- Image : InstrumentRef⁵⁶²³
- Image : Name⁵⁶²⁴

⁵⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁶¹⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁵⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁵⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Instrument : ID⁵⁶²⁵
- Objective : CalibratedMagnification⁵⁶²⁶
- Objective : Correction⁵⁶²⁷
- Objective : ID⁵⁶²⁸
- Objective : Immersion⁵⁶²⁹
- Objective : WorkingDistance⁵⁶³⁰
- ObjectiveSettings : ID⁵⁶³¹
- Pixels : BigEndian⁵⁶³²
- Pixels : DimensionOrder⁵⁶³³
- Pixels : ID⁵⁶³⁴
- Pixels : Interleaved⁵⁶³⁵
- Pixels : PhysicalSizeX⁵⁶³⁶
- Pixels : PhysicalSizeY⁵⁶³⁷
- Pixels : SignificantBits⁵⁶³⁸
- Pixels : SizeC⁵⁶³⁹
- Pixels : SizeT⁵⁶⁴⁰
- Pixels : SizeX⁵⁶⁴¹
- Pixels : SizeY⁵⁶⁴²
- Pixels : SizeZ⁵⁶⁴³
- Pixels : Type⁵⁶⁴⁴
- Plane : TheC⁵⁶⁴⁵
- Plane : TheT⁵⁶⁴⁶
- Plane : TheZ⁵⁶⁴⁷

Total supported: 33

Total unknown or missing: 442

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Amersham Biosciences Gel*

- ⁵⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ⁵⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification
- ⁵⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction
- ⁵⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
- ⁵⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion
- ⁵⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance
- ⁵⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
- ⁵⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁵⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁵⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁵⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁵⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁵⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁵⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁵⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁵⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁵⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁵⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁵⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁵⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁵⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁵⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁵⁶⁴⁷http://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](#)⁵⁶⁴⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁶⁴⁹
- Channel : SamplesPerPixel⁵⁶⁵⁰
- Image : AcquisitionDate⁵⁶⁵¹
- Image : ID⁵⁶⁵²
- Image : Name⁵⁶⁵³
- Pixels : BigEndian⁵⁶⁵⁴
- Pixels : DimensionOrder⁵⁶⁵⁵
- Pixels : ID⁵⁶⁵⁶
- Pixels : Interleaved⁵⁶⁵⁷
- Pixels : PhysicalSizeX⁵⁶⁵⁸
- Pixels : PhysicalSizeY⁵⁶⁵⁹
- Pixels : SignificantBits⁵⁶⁶⁰
- Pixels : SizeC⁵⁶⁶¹
- Pixels : SizeT⁵⁶⁶²
- Pixels : SizeX⁵⁶⁶³
- Pixels : SizeY⁵⁶⁶⁴
- Pixels : SizeZ⁵⁶⁶⁵
- Pixels : Type⁵⁶⁶⁶

⁵⁶⁴⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁵⁶⁶⁷
- Plane : TheT⁵⁶⁶⁸
- Plane : TheZ⁵⁶⁶⁹

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*⁵⁶⁷⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁶⁷¹
- Channel : SamplesPerPixel⁵⁶⁷²
- Image : AcquisitionDate⁵⁶⁷³
- Image : ID⁵⁶⁷⁴
- Image : Name⁵⁶⁷⁵
- Pixels : BigEndian⁵⁶⁷⁶
- Pixels : DimensionOrder⁵⁶⁷⁷
- Pixels : ID⁵⁶⁷⁸
- Pixels : Interleaved⁵⁶⁷⁹
- Pixels : PhysicalSizeX⁵⁶⁸⁰
- Pixels : PhysicalSizeY⁵⁶⁸¹
- Pixels : PhysicalSizeZ⁵⁶⁸²
- Pixels : SignificantBits⁵⁶⁸³

⁵⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁶⁷⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁵⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁵⁶⁸⁴
- Pixels : SizeT⁵⁶⁸⁵
- Pixels : SizeX⁵⁶⁸⁶
- Pixels : SizeY⁵⁶⁸⁷
- Pixels : SizeZ⁵⁶⁸⁸
- Pixels : Type⁵⁶⁸⁹
- Plane : TheC⁵⁶⁹⁰
- Plane : TheT⁵⁶⁹¹
- Plane : TheZ⁵⁶⁹²

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*⁵⁶⁹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁶⁹⁴
- Channel : Name⁵⁶⁹⁵
- Channel : SamplesPerPixel⁵⁶⁹⁶
- Image : AcquisitionDate⁵⁶⁹⁷
- Image : ID⁵⁶⁹⁸
- Image : Name⁵⁶⁹⁹
- Pixels : BigEndian⁵⁷⁰⁰

⁵⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁶⁹³<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁵⁷⁰¹
- Pixels : ID⁵⁷⁰²
- Pixels : Interleaved⁵⁷⁰³
- Pixels : SignificantBits⁵⁷⁰⁴
- Pixels : SizeC⁵⁷⁰⁵
- Pixels : SizeT⁵⁷⁰⁶
- Pixels : SizeX⁵⁷⁰⁷
- Pixels : SizeY⁵⁷⁰⁸
- Pixels : SizeZ⁵⁷⁰⁹
- Pixels : Type⁵⁷¹⁰
- Plane : TheC⁵⁷¹¹
- Plane : TheT⁵⁷¹²
- Plane : TheZ⁵⁷¹³

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](#)⁵⁷¹⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁷¹⁵
- Channel : SamplesPerPixel⁵⁷¹⁶
- Image : AcquisitionDate⁵⁷¹⁷

⁵⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁷¹⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : Description⁵⁷¹⁸
- Image : ID⁵⁷¹⁹
- Image : Name⁵⁷²⁰
- Pixels : BigEndian⁵⁷²¹
- Pixels : DimensionOrder⁵⁷²²
- Pixels : ID⁵⁷²³
- Pixels : Interleaved⁵⁷²⁴
- Pixels : PhysicalSizeX⁵⁷²⁵
- Pixels : PhysicalSizeY⁵⁷²⁶
- Pixels : PhysicalSizeZ⁵⁷²⁷
- Pixels : SignificantBits⁵⁷²⁸
- Pixels : SizeC⁵⁷²⁹
- Pixels : SizeT⁵⁷³⁰
- Pixels : SizeX⁵⁷³¹
- Pixels : SizeY⁵⁷³²
- Pixels : SizeZ⁵⁷³³
- Pixels : TimeIncrement⁵⁷³⁴
- Pixels : Type⁵⁷³⁵
- Plane : TheC⁵⁷³⁶
- Plane : TheT⁵⁷³⁷
- Plane : TheZ⁵⁷³⁸

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.

- ⁵⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
- ⁵⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁵⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁵⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁵⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁵⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁵⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁵⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁵⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁵⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ⁵⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁵⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁵⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁵⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁵⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁵⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁵⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement
- ⁵⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁵⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁵⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁵⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁵⁷³⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁵⁷⁴⁰
- Channel : ExcitationWavelength⁵⁷⁴¹
- Channel : ID⁵⁷⁴²
- Channel : Name⁵⁷⁴³
- Channel : SamplesPerPixel⁵⁷⁴⁴
- Image : AcquisitionDate⁵⁷⁴⁵
- Image : ID⁵⁷⁴⁶
- Image : InstrumentRef⁵⁷⁴⁷
- Image : Name⁵⁷⁴⁸
- Instrument : ID⁵⁷⁴⁹
- Objective : ID⁵⁷⁵⁰
- Objective : NominalMagnification⁵⁷⁵¹
- ObjectiveSettings : ID⁵⁷⁵²
- Pixels : BigEndian⁵⁷⁵³
- Pixels : DimensionOrder⁵⁷⁵⁴
- Pixels : ID⁵⁷⁵⁵
- Pixels : Interleaved⁵⁷⁵⁶
- Pixels : PhysicalSizeX⁵⁷⁵⁷
- Pixels : PhysicalSizeY⁵⁷⁵⁸
- Pixels : SignificantBits⁵⁷⁵⁹

⁵⁷³⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁵⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁵⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁵⁷⁶⁰
- Pixels : SizeT⁵⁷⁶¹
- Pixels : SizeX⁵⁷⁶²
- Pixels : SizeY⁵⁷⁶³
- Pixels : SizeZ⁵⁷⁶⁴
- Pixels : Type⁵⁷⁶⁵
- Plane : ExposureTime⁵⁷⁶⁶
- Plane : TheC⁵⁷⁶⁷
- Plane : TheT⁵⁷⁶⁸
- Plane : TheZ⁵⁷⁶⁹

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*⁵⁷⁷⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁵⁷⁷¹
- Channel : ExcitationWavelength⁵⁷⁷²
- Channel : ID⁵⁷⁷³
- Channel : SamplesPerPixel⁵⁷⁷⁴
- Image : AcquisitionDate⁵⁷⁷⁵
- Image : Description⁵⁷⁷⁶

⁵⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁵⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁷⁷⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁵⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁵⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

- Image : ID⁵⁷⁷⁷
- Image : InstrumentRef⁵⁷⁷⁸
- Image : Name⁵⁷⁷⁹
- Instrument : ID⁵⁷⁸⁰
- Objective : ID⁵⁷⁸¹
- Objective : NominalMagnification⁵⁷⁸²
- ObjectiveSettings : ID⁵⁷⁸³
- Pixels : BigEndian⁵⁷⁸⁴
- Pixels : DimensionOrder⁵⁷⁸⁵
- Pixels : ID⁵⁷⁸⁶
- Pixels : Interleaved⁵⁷⁸⁷
- Pixels : PhysicalSizeX⁵⁷⁸⁸
- Pixels : PhysicalSizeY⁵⁷⁸⁹
- Pixels : SignificantBits⁵⁷⁹⁰
- Pixels : SizeC⁵⁷⁹¹
- Pixels : SizeT⁵⁷⁹²
- Pixels : SizeX⁵⁷⁹³
- Pixels : SizeY⁵⁷⁹⁴
- Pixels : SizeZ⁵⁷⁹⁵
- Pixels : Type⁵⁷⁹⁶
- Plane : TheC⁵⁷⁹⁷
- Plane : TheT⁵⁷⁹⁸
- Plane : TheZ⁵⁷⁹⁹

Total supported: 29

Total unknown or missing: 446

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Applied Precision CellWorX*

- ⁵⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁵⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID
- ⁵⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁵⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ⁵⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
- ⁵⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification
- ⁵⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
- ⁵⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁵⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁵⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁵⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁵⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁵⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁵⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁵⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁵⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁵⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁵⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁵⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁵⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁵⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁵⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁵⁷⁹⁹http://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](#)⁵⁸⁰⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁵⁸⁰¹
- Channel : ExcitationWavelength⁵⁸⁰²
- Channel : ID⁵⁸⁰³
- Channel : Name⁵⁸⁰⁴
- Channel : SamplesPerPixel⁵⁸⁰⁵
- Detector : ID⁵⁸⁰⁶
- DetectorSettings : Gain⁵⁸⁰⁷
- DetectorSettings : ID⁵⁸⁰⁸
- Image : AcquisitionDate⁵⁸⁰⁹
- Image : ID⁵⁸¹⁰
- Image : InstrumentRef⁵⁸¹¹
- Image : Name⁵⁸¹²
- Instrument : ID⁵⁸¹³
- Microscope : SerialNumber⁵⁸¹⁴
- Pixels : BigEndian⁵⁸¹⁵
- Pixels : DimensionOrder⁵⁸¹⁶
- Pixels : ID⁵⁸¹⁷
- Pixels : Interleaved⁵⁸¹⁸
- Pixels : PhysicalSizeX⁵⁸¹⁹

⁵⁸⁰⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁵⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁵⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁵⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁵⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁵⁸²⁰
- Pixels : SignificantBits⁵⁸²¹
- Pixels : SizeC⁵⁸²²
- Pixels : SizeT⁵⁸²³
- Pixels : SizeX⁵⁸²⁴
- Pixels : SizeY⁵⁸²⁵
- Pixels : SizeZ⁵⁸²⁶
- Pixels : Type⁵⁸²⁷
- Plane : TheC⁵⁸²⁸
- Plane : TheT⁵⁸²⁹
- Plane : TheZ⁵⁸³⁰
- Plate : ID⁵⁸³¹
- Plate : Name⁵⁸³²
- PlateAcquisition : EndTime⁵⁸³³
- PlateAcquisition : ID⁵⁸³⁴
- PlateAcquisition : MaximumFieldCount⁵⁸³⁵
- PlateAcquisition : StartTime⁵⁸³⁶
- PlateAcquisition : WellSampleRef⁵⁸³⁷
- Well : Column⁵⁸³⁸
- Well : ID⁵⁸³⁹
- Well : Row⁵⁸⁴⁰
- WellSample : ID⁵⁸⁴¹
- WellSample : ImageRef⁵⁸⁴²
- WellSample : Index⁵⁸⁴³
- WellSample : PositionX⁵⁸⁴⁴
- WellSample : PositionY⁵⁸⁴⁵

⁵⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁵⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁵⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_EndTime

⁵⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁵⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁵⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_StartTime

⁵⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁵⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁵⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁵⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁵⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁵⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁵⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁵⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁵⁸⁴⁵http://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](#)⁵⁸⁴⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁸⁴⁷
- Channel : SamplesPerPixel⁵⁸⁴⁸
- Image : AcquisitionDate⁵⁸⁴⁹
- Image : ID⁵⁸⁵⁰
- Image : Name⁵⁸⁵¹
- Pixels : BigEndian⁵⁸⁵²
- Pixels : DimensionOrder⁵⁸⁵³
- Pixels : ID⁵⁸⁵⁴
- Pixels : Interleaved⁵⁸⁵⁵
- Pixels : SignificantBits⁵⁸⁵⁶
- Pixels : SizeC⁵⁸⁵⁷
- Pixels : SizeT⁵⁸⁵⁸
- Pixels : SizeX⁵⁸⁵⁹
- Pixels : SizeY⁵⁸⁶⁰
- Pixels : SizeZ⁵⁸⁶¹
- Pixels : Type⁵⁸⁶²

⁵⁸⁴⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁵⁸⁶³
- Plane : TheT⁵⁸⁶⁴
- Plane : TheZ⁵⁸⁶⁵

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*⁵⁸⁶⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁸⁶⁷
- Channel : SamplesPerPixel⁵⁸⁶⁸
- Image : AcquisitionDate⁵⁸⁶⁹
- Image : ID⁵⁸⁷⁰
- Image : Name⁵⁸⁷¹
- Pixels : BigEndian⁵⁸⁷²
- Pixels : DimensionOrder⁵⁸⁷³
- Pixels : ID⁵⁸⁷⁴
- Pixels : Interleaved⁵⁸⁷⁵
- Pixels : SignificantBits⁵⁸⁷⁶
- Pixels : SizeC⁵⁸⁷⁷
- Pixels : SizeT⁵⁸⁷⁸
- Pixels : SizeX⁵⁸⁷⁹

⁵⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁸⁶⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁵⁸⁸⁰
- Pixels : SizeZ⁵⁸⁸¹
- Pixels : Type⁵⁸⁸²
- Plane : TheC⁵⁸⁸³
- Plane : TheT⁵⁸⁸⁴
- Plane : TheZ⁵⁸⁸⁵

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](#)⁵⁸⁸⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁵⁸⁸⁷
- Channel : ExcitationWavelength⁵⁸⁸⁸
- Channel : ID⁵⁸⁸⁹
- Channel : Name⁵⁸⁹⁰
- Channel : SamplesPerPixel⁵⁸⁹¹
- Detector : ID⁵⁸⁹²
- DetectorSettings : Binning⁵⁸⁹³
- DetectorSettings : Gain⁵⁸⁹⁴
- DetectorSettings : ID⁵⁸⁹⁵
- DetectorSettings : Offset⁵⁸⁹⁶

⁵⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁸⁸⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁵⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁵⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁵⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁵⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁵⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

- Image : AcquisitionDate⁵⁸⁹⁷
- Image : ID⁵⁸⁹⁸
- Image : InstrumentRef⁵⁸⁹⁹
- Image : Name⁵⁹⁰⁰
- Image : ROIRef⁵⁹⁰¹
- Instrument : ID⁵⁹⁰²
- Objective : ID⁵⁹⁰³
- Objective : LensNA⁵⁹⁰⁴
- Objective : Manufacturer⁵⁹⁰⁵
- Objective : NominalMagnification⁵⁹⁰⁶
- ObjectiveSettings : ID⁵⁹⁰⁷
- Pixels : BigEndian⁵⁹⁰⁸
- Pixels : DimensionOrder⁵⁹⁰⁹
- Pixels : ID⁵⁹¹⁰
- Pixels : Interleaved⁵⁹¹¹
- Pixels : SignificantBits⁵⁹¹²
- Pixels : SizeC⁵⁹¹³
- Pixels : SizeT⁵⁹¹⁴
- Pixels : SizeX⁵⁹¹⁵
- Pixels : SizeY⁵⁹¹⁶
- Pixels : SizeZ⁵⁹¹⁷
- Pixels : Type⁵⁹¹⁸
- Plane : DeltaT⁵⁹¹⁹
- Plane : ExposureTime⁵⁹²⁰
- Plane : TheC⁵⁹²¹
- Plane : TheT⁵⁹²²

⁵⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁵⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁵⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁵⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁵⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁵⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁵⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁵⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁵⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁵⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁵⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁵⁹²³
- Plate : ColumnNamingConvention⁵⁹²⁴
- Plate : Description⁵⁹²⁵
- Plate : ID⁵⁹²⁶
- Plate : Name⁵⁹²⁷
- Plate : RowNamingConvention⁵⁹²⁸
- PlateAcquisition : ID⁵⁹²⁹
- PlateAcquisition : MaximumFieldCount⁵⁹³⁰
- PlateAcquisition : WellSampleRef⁵⁹³¹
- ROI : ID⁵⁹³²
- Rectangle : Height⁵⁹³³
- Rectangle : ID⁵⁹³⁴
- Rectangle : Width⁵⁹³⁵
- Rectangle : X⁵⁹³⁶
- Rectangle : Y⁵⁹³⁷
- Well : Column⁵⁹³⁸
- Well : ID⁵⁹³⁹
- Well : Row⁵⁹⁴⁰
- WellSample : ID⁵⁹⁴¹
- WellSample : ImageRef⁵⁹⁴²
- WellSample : Index⁵⁹⁴³

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.

- ⁵⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ⁵⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention
- ⁵⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Description
- ⁵⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID
- ⁵⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name
- ⁵⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention
- ⁵⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID
- ⁵⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount
- ⁵⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID
- ⁵⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID
- ⁵⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height
- ⁵⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ⁵⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width
- ⁵⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X
- ⁵⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y
- ⁵⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column
- ⁵⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID
- ⁵⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row
- ⁵⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID
- ⁵⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID
- ⁵⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

These fields are from the [OME data model](#)⁵⁹⁴⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁹⁴⁵
- Channel : SamplesPerPixel⁵⁹⁴⁶
- Image : AcquisitionDate⁵⁹⁴⁷
- Image : ID⁵⁹⁴⁸
- Image : Name⁵⁹⁴⁹
- Pixels : BigEndian⁵⁹⁵⁰
- Pixels : DimensionOrder⁵⁹⁵¹
- Pixels : ID⁵⁹⁵²
- Pixels : Interleaved⁵⁹⁵³
- Pixels : SignificantBits⁵⁹⁵⁴
- Pixels : SizeC⁵⁹⁵⁵
- Pixels : SizeT⁵⁹⁵⁶
- Pixels : SizeX⁵⁹⁵⁷
- Pixels : SizeY⁵⁹⁵⁸
- Pixels : SizeZ⁵⁹⁵⁹
- Pixels : Type⁵⁹⁶⁰
- Plane : TheC⁵⁹⁶¹
- Plane : TheT⁵⁹⁶²
- Plane : TheZ⁵⁹⁶³

⁵⁹⁴⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁵⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁹⁶³http://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](#)⁵⁹⁶⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁹⁶⁵
- Channel : SamplesPerPixel⁵⁹⁶⁶
- Image : AcquisitionDate⁵⁹⁶⁷
- Image : ID⁵⁹⁶⁸
- Image : Name⁵⁹⁶⁹
- Pixels : BigEndian⁵⁹⁷⁰
- Pixels : DimensionOrder⁵⁹⁷¹
- Pixels : ID⁵⁹⁷²
- Pixels : Interleaved⁵⁹⁷³
- Pixels : PhysicalSizeX⁵⁹⁷⁴
- Pixels : PhysicalSizeY⁵⁹⁷⁵
- Pixels : SignificantBits⁵⁹⁷⁶
- Pixels : SizeC⁵⁹⁷⁷
- Pixels : SizeT⁵⁹⁷⁸
- Pixels : SizeX⁵⁹⁷⁹
- Pixels : SizeY⁵⁹⁸⁰

⁵⁹⁶⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁵⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁵⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁵⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁵⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁵⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁵⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁵⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁵⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁵⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁵⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁵⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁵⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁵⁹⁸¹
- Pixels : Type⁵⁹⁸²
- Plane : TheC⁵⁹⁸³
- Plane : TheT⁵⁹⁸⁴
- Plane : TheZ⁵⁹⁸⁵

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](#)⁵⁹⁸⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁵⁹⁸⁷
- Channel : SamplesPerPixel⁵⁹⁸⁸
- Detector : Gain⁵⁹⁸⁹
- Detector : ID⁵⁹⁹⁰
- Detector : Offset⁵⁹⁹¹
- Detector : Type⁵⁹⁹²
- DetectorSettings : Gain⁵⁹⁹³
- DetectorSettings : ID⁵⁹⁹⁴
- DetectorSettings : Offset⁵⁹⁹⁵
- Experiment : ID⁵⁹⁹⁶
- Experiment : Type⁵⁹⁹⁷

⁵⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁵⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁵⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁵⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁵⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁵⁹⁸⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁵⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁵⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁵⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁵⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁵⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁵⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁵⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁵⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁵⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁵⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

⁵⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

- Image : AcquisitionDate⁵⁹⁹⁸
- Image : ID⁵⁹⁹⁹
- Image : InstrumentRef⁶⁰⁰⁰
- Image : Name⁶⁰⁰¹
- Instrument : ID⁶⁰⁰²
- Objective : Correction⁶⁰⁰³
- Objective : ID⁶⁰⁰⁴
- Objective : Immersion⁶⁰⁰⁵
- Objective : LensNA⁶⁰⁰⁶
- Objective : Model⁶⁰⁰⁷
- Objective : NominalMagnification⁶⁰⁰⁸
- ObjectiveSettings : ID⁶⁰⁰⁹
- Pixels : BigEndian⁶⁰¹⁰
- Pixels : DimensionOrder⁶⁰¹¹
- Pixels : ID⁶⁰¹²
- Pixels : Interleaved⁶⁰¹³
- Pixels : PhysicalSizeX⁶⁰¹⁴
- Pixels : PhysicalSizeY⁶⁰¹⁵
- Pixels : PhysicalSizeZ⁶⁰¹⁶
- Pixels : SignificantBits⁶⁰¹⁷
- Pixels : SizeC⁶⁰¹⁸
- Pixels : SizeT⁶⁰¹⁹
- Pixels : SizeX⁶⁰²⁰
- Pixels : SizeY⁶⁰²¹
- Pixels : SizeZ⁶⁰²²
- Pixels : Type⁶⁰²³

⁵⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁵⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁶⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁶⁰²⁴
- Plane : TheT⁶⁰²⁵
- Plane : TheZ⁶⁰²⁶

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*⁶⁰²⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁰²⁸
- Channel : SamplesPerPixel⁶⁰²⁹
- Detector : ID⁶⁰³⁰
- DetectorSettings : Binning⁶⁰³¹
- DetectorSettings : Gain⁶⁰³²
- DetectorSettings : ID⁶⁰³³
- Image : AcquisitionDate⁶⁰³⁴
- Image : ID⁶⁰³⁵
- Image : Name⁶⁰³⁶
- Instrument : ID⁶⁰³⁷
- Microscope : Model⁶⁰³⁸
- Microscope : SerialNumber⁶⁰³⁹
- Pixels : BigEndian⁶⁰⁴⁰

⁶⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁰²⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁶⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁶⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁶⁰⁴¹
- Pixels : ID⁶⁰⁴²
- Pixels : Interleaved⁶⁰⁴³
- Pixels : PhysicalSizeX⁶⁰⁴⁴
- Pixels : PhysicalSizeY⁶⁰⁴⁵
- Pixels : SignificantBits⁶⁰⁴⁶
- Pixels : SizeC⁶⁰⁴⁷
- Pixels : SizeT⁶⁰⁴⁸
- Pixels : SizeX⁶⁰⁴⁹
- Pixels : SizeY⁶⁰⁵⁰
- Pixels : SizeZ⁶⁰⁵¹
- Pixels : Type⁶⁰⁵²
- Plane : ExposureTime⁶⁰⁵³
- Plane : TheC⁶⁰⁵⁴
- Plane : TheT⁶⁰⁵⁵
- Plane : TheZ⁶⁰⁵⁶

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](#)⁶⁰⁵⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁶⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁰⁵⁷<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 : Color⁶⁰⁵⁸
- Channel : ID⁶⁰⁵⁹
- Channel : SamplesPerPixel⁶⁰⁶⁰
- Image : AcquisitionDate⁶⁰⁶¹
- Image : ID⁶⁰⁶²
- Image : Name⁶⁰⁶³
- Pixels : BigEndian⁶⁰⁶⁴
- Pixels : DimensionOrder⁶⁰⁶⁵
- Pixels : ID⁶⁰⁶⁶
- Pixels : Interleaved⁶⁰⁶⁷
- Pixels : PhysicalSizeX⁶⁰⁶⁸
- Pixels : PhysicalSizeY⁶⁰⁶⁹
- Pixels : PhysicalSizeZ⁶⁰⁷⁰
- Pixels : SignificantBits⁶⁰⁷¹
- Pixels : SizeC⁶⁰⁷²
- Pixels : SizeT⁶⁰⁷³
- Pixels : SizeX⁶⁰⁷⁴
- Pixels : SizeY⁶⁰⁷⁵
- Pixels : SizeZ⁶⁰⁷⁶
- Pixels : Type⁶⁰⁷⁷
- Plane : TheC⁶⁰⁷⁸
- Plane : TheT⁶⁰⁷⁹
- Plane : TheZ⁶⁰⁸⁰

Total supported: 23

Total unknown or missing: 452

⁶⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁶⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁰⁸⁰http://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](#)⁶⁰⁸¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁰⁸²
- Channel : SamplesPerPixel⁶⁰⁸³
- Experimenter : ID⁶⁰⁸⁴
- Experimenter : Institution⁶⁰⁸⁵
- Experimenter : LastName⁶⁰⁸⁶
- Image : AcquisitionDate⁶⁰⁸⁷
- Image : ExperimenterRef⁶⁰⁸⁸
- Image : ID⁶⁰⁸⁹
- Image : Name⁶⁰⁹⁰
- Pixels : BigEndian⁶⁰⁹¹
- Pixels : DimensionOrder⁶⁰⁹²
- Pixels : ID⁶⁰⁹³
- Pixels : Interleaved⁶⁰⁹⁴
- Pixels : SignificantBits⁶⁰⁹⁵
- Pixels : SizeC⁶⁰⁹⁶
- Pixels : SizeT⁶⁰⁹⁷
- Pixels : SizeX⁶⁰⁹⁸

⁶⁰⁸¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁶⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution

⁶⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁶⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

⁶⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁶⁰⁹⁹
- Pixels : SizeZ⁶¹⁰⁰
- Pixels : Type⁶¹⁰¹
- Plane : TheC⁶¹⁰²
- Plane : TheT⁶¹⁰³
- Plane : TheZ⁶¹⁰⁴

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](#)⁶¹⁰⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶¹⁰⁶
- Channel : SamplesPerPixel⁶¹⁰⁷
- Image : AcquisitionDate⁶¹⁰⁸
- Image : ID⁶¹⁰⁹
- Image : Name⁶¹¹⁰
- Pixels : BigEndian⁶¹¹¹
- Pixels : DimensionOrder⁶¹¹²
- Pixels : ID⁶¹¹³
- Pixels : Interleaved⁶¹¹⁴
- Pixels : PhysicalSizeX⁶¹¹⁵

⁶⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶¹⁰⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁶¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁶¹¹⁶
- Pixels : PhysicalSizeZ⁶¹¹⁷
- Pixels : SignificantBits⁶¹¹⁸
- Pixels : SizeC⁶¹¹⁹
- Pixels : SizeT⁶¹²⁰
- Pixels : SizeX⁶¹²¹
- Pixels : SizeY⁶¹²²
- Pixels : SizeZ⁶¹²³
- Pixels : Type⁶¹²⁴
- Plane : TheC⁶¹²⁵
- Plane : TheT⁶¹²⁶
- Plane : TheZ⁶¹²⁷

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*⁶¹²⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶¹²⁹
- Channel : SamplesPerPixel⁶¹³⁰
- Image : AcquisitionDate⁶¹³¹
- Image : ID⁶¹³²

⁶¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶¹²⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁶¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁶¹³³
- Pixels : BigEndian⁶¹³⁴
- Pixels : DimensionOrder⁶¹³⁵
- Pixels : ID⁶¹³⁶
- Pixels : Interleaved⁶¹³⁷
- Pixels : SignificantBits⁶¹³⁸
- Pixels : SizeC⁶¹³⁹
- Pixels : SizeT⁶¹⁴⁰
- Pixels : SizeX⁶¹⁴¹
- Pixels : SizeY⁶¹⁴²
- Pixels : SizeZ⁶¹⁴³
- Pixels : Type⁶¹⁴⁴
- Plane : TheC⁶¹⁴⁵
- Plane : TheT⁶¹⁴⁶
- Plane : TheZ⁶¹⁴⁷

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*⁶¹⁴⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶¹⁴⁹

⁶¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶¹⁴⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁶¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : SamplesPerPixel⁶¹⁵⁰
- Image : AcquisitionDate⁶¹⁵¹
- Image : ID⁶¹⁵²
- Image : Name⁶¹⁵³
- Image : ROIRef⁶¹⁵⁴
- Pixels : BigEndian⁶¹⁵⁵
- Pixels : DimensionOrder⁶¹⁵⁶
- Pixels : ID⁶¹⁵⁷
- Pixels : Interleaved⁶¹⁵⁸
- Pixels : SignificantBits⁶¹⁵⁹
- Pixels : SizeC⁶¹⁶⁰
- Pixels : SizeT⁶¹⁶¹
- Pixels : SizeX⁶¹⁶²
- Pixels : SizeY⁶¹⁶³
- Pixels : SizeZ⁶¹⁶⁴
- Pixels : Type⁶¹⁶⁵
- Plane : TheC⁶¹⁶⁶
- Plane : TheT⁶¹⁶⁷
- Plane : TheZ⁶¹⁶⁸
- Plate : ID⁶¹⁶⁹
- Plate : Name⁶¹⁷⁰
- ROI : ID⁶¹⁷¹
- ROI : Name⁶¹⁷²
- Rectangle : Height⁶¹⁷³
- Rectangle : ID⁶¹⁷⁴
- Rectangle : StrokeColor⁶¹⁷⁵

⁶¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁶¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁶¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁶¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁶¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name

⁶¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁶¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁶¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

- Rectangle : Text⁶¹⁷⁶
- Rectangle : TheC⁶¹⁷⁷
- Rectangle : TheT⁶¹⁷⁸
- Rectangle : TheZ⁶¹⁷⁹
- Rectangle : Width⁶¹⁸⁰
- Rectangle : X⁶¹⁸¹
- Rectangle : Y⁶¹⁸²
- Well : Column⁶¹⁸³
- Well : ExternalIdentifier⁶¹⁸⁴
- Well : ID⁶¹⁸⁵
- Well : Row⁶¹⁸⁶
- WellSample : ID⁶¹⁸⁷
- WellSample : ImageRef⁶¹⁸⁸
- WellSample : Index⁶¹⁸⁹

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](#)⁶¹⁹⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶¹⁹¹
- Channel : SamplesPerPixel⁶¹⁹²

⁶¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁶¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheC

⁶¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁶¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁶¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁶¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁶¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁶¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁶¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ExternalIdentifier

⁶¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁶¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁶¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁶¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁶¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁶¹⁹⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁶¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁶¹⁹³
- Image : ID⁶¹⁹⁴
- Image : Name⁶¹⁹⁵
- Pixels : BigEndian⁶¹⁹⁶
- Pixels : DimensionOrder⁶¹⁹⁷
- Pixels : ID⁶¹⁹⁸
- Pixels : Interleaved⁶¹⁹⁹
- Pixels : PhysicalSizeX⁶²⁰⁰
- Pixels : PhysicalSizeY⁶²⁰¹
- Pixels : SignificantBits⁶²⁰²
- Pixels : SizeC⁶²⁰³
- Pixels : SizeT⁶²⁰⁴
- Pixels : SizeX⁶²⁰⁵
- Pixels : SizeY⁶²⁰⁶
- Pixels : SizeZ⁶²⁰⁷
- Pixels : Type⁶²⁰⁸
- Plane : TheC⁶²⁰⁹
- Plane : TheT⁶²¹⁰
- Plane : TheZ⁶²¹¹
- Plate : ColumnNamingConvention⁶²¹²
- Plate : ID⁶²¹³
- Plate : Name⁶²¹⁴
- Plate : RowNamingConvention⁶²¹⁵
- Well : Column⁶²¹⁶
- Well : ID⁶²¹⁷
- Well : Row⁶²¹⁸

⁶¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁶²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁶²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁶²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁶²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁶²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁶²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

- WellSample : ID⁶²¹⁹
- WellSample : ImageRef⁶²²⁰
- WellSample : Index⁶²²¹

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*⁶²²². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁶²²³
- Channel : ID⁶²²⁴
- Channel : Name⁶²²⁵
- Channel : SamplesPerPixel⁶²²⁶
- Detector : Gain⁶²²⁷
- Detector : ID⁶²²⁸
- Detector : Manufacturer⁶²²⁹
- Detector : Model⁶²³⁰
- Detector : Offset⁶²³¹
- Detector : SerialNumber⁶²³²
- Detector : Type⁶²³³
- DetectorSettings : Binning⁶²³⁴
- DetectorSettings : Gain⁶²³⁵

⁶²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁶²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁶²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁶²²²<http://www.openmicroscopy.org/site/support/ome-model/>

⁶²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁶²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁶²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁶²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁶²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁶²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁶²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

- DetectorSettings : ID⁶²³⁶
- DetectorSettings : Offset⁶²³⁷
- Image : AcquisitionDate⁶²³⁸
- Image : ID⁶²³⁹
- Image : InstrumentRef⁶²⁴⁰
- Image : Name⁶²⁴¹
- Instrument : ID⁶²⁴²
- Objective : ID⁶²⁴³
- Objective : LensNA⁶²⁴⁴
- Objective : Model⁶²⁴⁵
- Objective : NominalMagnification⁶²⁴⁶
- Objective : WorkingDistance⁶²⁴⁷
- ObjectiveSettings : ID⁶²⁴⁸
- ObjectiveSettings : RefractiveIndex⁶²⁴⁹
- Pixels : BigEndian⁶²⁵⁰
- Pixels : DimensionOrder⁶²⁵¹
- Pixels : ID⁶²⁵²
- Pixels : Interleaved⁶²⁵³
- Pixels : PhysicalSizeX⁶²⁵⁴
- Pixels : PhysicalSizeY⁶²⁵⁵
- Pixels : SignificantBits⁶²⁵⁶
- Pixels : SizeC⁶²⁵⁷
- Pixels : SizeT⁶²⁵⁸
- Pixels : SizeX⁶²⁵⁹
- Pixels : SizeY⁶²⁶⁰
- Pixels : SizeZ⁶²⁶¹

⁶²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁶²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁶²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁶²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁶²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type⁶²⁶²
- Plane : ExposureTime⁶²⁶³
- Plane : PositionX⁶²⁶⁴
- Plane : PositionY⁶²⁶⁵
- Plane : TheC⁶²⁶⁶
- Plane : TheT⁶²⁶⁷
- Plane : TheZ⁶²⁶⁸

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*⁶²⁶⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶²⁷⁰
- Channel : Name⁶²⁷¹
- Channel : PinholeSize⁶²⁷²
- Channel : SamplesPerPixel⁶²⁷³
- Image : AcquisitionDate⁶²⁷⁴
- Image : ID⁶²⁷⁵
- Image : Name⁶²⁷⁶
- Pixels : BigEndian⁶²⁷⁷
- Pixels : DimensionOrder⁶²⁷⁸

⁶²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶²⁶⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁶²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁶²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁶²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID⁶²⁷⁹
- Pixels : Interleaved⁶²⁸⁰
- Pixels : SignificantBits⁶²⁸¹
- Pixels : SizeC⁶²⁸²
- Pixels : SizeT⁶²⁸³
- Pixels : SizeX⁶²⁸⁴
- Pixels : SizeY⁶²⁸⁵
- Pixels : SizeZ⁶²⁸⁶
- Pixels : Type⁶²⁸⁷
- Plane : TheC⁶²⁸⁸
- Plane : TheT⁶²⁸⁹
- Plane : TheZ⁶²⁹⁰
- Plate : Columns⁶²⁹¹
- Plate : Rows⁶²⁹²
- PlateAcquisition : EndTime⁶²⁹³
- PlateAcquisition : ID⁶²⁹⁴
- PlateAcquisition : MaximumFieldCount⁶²⁹⁵
- PlateAcquisition : StartTime⁶²⁹⁶
- Well : Column⁶²⁹⁷
- Well : ID⁶²⁹⁸
- Well : Row⁶²⁹⁹
- WellSample : ID⁶³⁰⁰
- WellSample : Index⁶³⁰¹
- WellSample : PositionX⁶³⁰²
- WellSample : PositionY⁶³⁰³

⁶²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

⁶²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

⁶²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_EndTime

⁶²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁶²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁶²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_StartTime

⁶²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁶²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁶²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁶³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁶³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁶³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁶³⁰³http://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*⁶³⁰⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁶³⁰⁵
- Channel : ExcitationWavelength⁶³⁰⁶
- Channel : ID⁶³⁰⁷
- Channel : NDFilter⁶³⁰⁸
- Channel : Name⁶³⁰⁹
- Channel : SamplesPerPixel⁶³¹⁰
- Detector : ID⁶³¹¹
- Detector : Model⁶³¹²
- Detector : Type⁶³¹³
- DetectorSettings : Binning⁶³¹⁴
- DetectorSettings : Gain⁶³¹⁵
- DetectorSettings : ID⁶³¹⁶
- DetectorSettings : ReadOutRate⁶³¹⁷
- Image : AcquisitionDate⁶³¹⁸
- Image : Description⁶³¹⁹
- Image : ID⁶³²⁰

⁶³⁰⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁶³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁶³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁶³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_NDFilter

⁶³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁶³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁶³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

⁶³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : InstrumentRef⁶³²¹
- Image : Name⁶³²²
- ImagingEnvironment : Temperature⁶³²³
- Instrument : ID⁶³²⁴
- Objective : CalibratedMagnification⁶³²⁵
- Objective : Correction⁶³²⁶
- Objective : ID⁶³²⁷
- Objective : Immersion⁶³²⁸
- Objective : LensNA⁶³²⁹
- Objective : Manufacturer⁶³³⁰
- Objective : Model⁶³³¹
- Objective : NominalMagnification⁶³³²
- Objective : WorkingDistance⁶³³³
- ObjectiveSettings : ID⁶³³⁴
- Pixels : BigEndian⁶³³⁵
- Pixels : DimensionOrder⁶³³⁶
- Pixels : ID⁶³³⁷
- Pixels : Interleaved⁶³³⁸
- Pixels : PhysicalSizeX⁶³³⁹
- Pixels : PhysicalSizeY⁶³⁴⁰
- Pixels : PhysicalSizeZ⁶³⁴¹
- Pixels : SignificantBits⁶³⁴²
- Pixels : SizeC⁶³⁴³
- Pixels : SizeT⁶³⁴⁴
- Pixels : SizeX⁶³⁴⁵
- Pixels : SizeY⁶³⁴⁶

⁶³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁶³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁶³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁶³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁶³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁶³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁶³⁴⁷
- Pixels : Type⁶³⁴⁸
- Plane : DeltaT⁶³⁴⁹
- Plane : ExposureTime⁶³⁵⁰
- Plane : PositionX⁶³⁵¹
- Plane : PositionY⁶³⁵²
- Plane : PositionZ⁶³⁵³
- Plane : TheC⁶³⁵⁴
- Plane : TheT⁶³⁵⁵
- Plane : TheZ⁶³⁵⁶

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](#)⁶³⁵⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶³⁵⁸
- Channel : SamplesPerPixel⁶³⁵⁹
- Image : AcquisitionDate⁶³⁶⁰
- Image : Description⁶³⁶¹
- Image : ID⁶³⁶²
- Image : Name⁶³⁶³

⁶³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁶³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁶³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶³⁵⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁶³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Pixels : BigEndian⁶³⁶⁴
- Pixels : DimensionOrder⁶³⁶⁵
- Pixels : ID⁶³⁶⁶
- Pixels : Interleaved⁶³⁶⁷
- Pixels : PhysicalSizeX⁶³⁶⁸
- Pixels : PhysicalSizeY⁶³⁶⁹
- Pixels : PhysicalSizeZ⁶³⁷⁰
- Pixels : SignificantBits⁶³⁷¹
- Pixels : SizeC⁶³⁷²
- Pixels : SizeT⁶³⁷³
- Pixels : SizeX⁶³⁷⁴
- Pixels : SizeY⁶³⁷⁵
- Pixels : SizeZ⁶³⁷⁶
- Pixels : Type⁶³⁷⁷
- Plane : TheC⁶³⁷⁸
- Plane : TheT⁶³⁷⁹
- Plane : TheZ⁶³⁸⁰

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](#)⁶³⁸¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁶³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶³⁸¹<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats ECAT7 format reader:

- Channel : ID⁶³⁸²
- Channel : SamplesPerPixel⁶³⁸³
- Image : AcquisitionDate⁶³⁸⁴
- Image : Description⁶³⁸⁵
- Image : ID⁶³⁸⁶
- Image : Name⁶³⁸⁷
- Pixels : BigEndian⁶³⁸⁸
- Pixels : DimensionOrder⁶³⁸⁹
- Pixels : ID⁶³⁹⁰
- Pixels : Interleaved⁶³⁹¹
- Pixels : PhysicalSizeX⁶³⁹²
- Pixels : PhysicalSizeY⁶³⁹³
- Pixels : PhysicalSizeZ⁶³⁹⁴
- Pixels : SignificantBits⁶³⁹⁵
- Pixels : SizeC⁶³⁹⁶
- Pixels : SizeT⁶³⁹⁷
- Pixels : SizeX⁶³⁹⁸
- Pixels : SizeY⁶³⁹⁹
- Pixels : SizeZ⁶⁴⁰⁰
- Pixels : Type⁶⁴⁰¹
- Plane : TheC⁶⁴⁰²
- Plane : TheT⁶⁴⁰³
- Plane : TheZ⁶⁴⁰⁴

Total supported: 23

Total unknown or missing: 452

- ⁶³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁶³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁶³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁶³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
- ⁶³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁶³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁶³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁶³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁶³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁶³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁶³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁶³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁶³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ⁶³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁶³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁶³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁶³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁶³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁶⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁶⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁶⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁶⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁶⁴⁰⁴http://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](#)⁶⁴⁰⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁴⁰⁶
- Channel : SamplesPerPixel⁶⁴⁰⁷
- Image : AcquisitionDate⁶⁴⁰⁸
- Image : ID⁶⁴⁰⁹
- Image : Name⁶⁴¹⁰
- Pixels : BigEndian⁶⁴¹¹
- Pixels : DimensionOrder⁶⁴¹²
- Pixels : ID⁶⁴¹³
- Pixels : Interleaved⁶⁴¹⁴
- Pixels : SignificantBits⁶⁴¹⁵
- Pixels : SizeC⁶⁴¹⁶
- Pixels : SizeT⁶⁴¹⁷
- Pixels : SizeX⁶⁴¹⁸
- Pixels : SizeY⁶⁴¹⁹
- Pixels : SizeZ⁶⁴²⁰
- Pixels : Type⁶⁴²¹
- Plane : TheC⁶⁴²²

⁶⁴⁰⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁶⁴²³
- Plane : TheZ⁶⁴²⁴

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](#)⁶⁴²⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁴²⁶
- Channel : LightSourceSettingsID⁶⁴²⁷
- Channel : Name⁶⁴²⁸
- Channel : SamplesPerPixel⁶⁴²⁹
- Detector : ID⁶⁴³⁰
- Detector : Type⁶⁴³¹
- DetectorSettings : Binning⁶⁴³²
- DetectorSettings : ID⁶⁴³³
- Dichroic : ID⁶⁴³⁴
- Dichroic : Model⁶⁴³⁵
- Filter : FilterWheel⁶⁴³⁶
- Filter : ID⁶⁴³⁷
- Filter : Model⁶⁴³⁸
- Image : AcquisitionDate⁶⁴³⁹

⁶⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁴²⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

⁶⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁶⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁶⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_FilterWheel

⁶⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_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#Image_AcquisitionDate

- Image : ID⁶⁴⁴⁰
- Image : InstrumentRef⁶⁴⁴¹
- Image : Name⁶⁴⁴²
- Instrument : ID⁶⁴⁴³
- Laser : ID⁶⁴⁴⁴
- Laser : LaserMedium⁶⁴⁴⁵
- Laser : Type⁶⁴⁴⁶
- Laser : Wavelength⁶⁴⁴⁷
- LightPath : DichroicRef⁶⁴⁴⁸
- LightPath : EmissionFilterRef⁶⁴⁴⁹
- LightPath : ExcitationFilterRef⁶⁴⁵⁰
- Objective : CalibratedMagnification⁶⁴⁵¹
- Objective : Correction⁶⁴⁵²
- Objective : ID⁶⁴⁵³
- Objective : Immersion⁶⁴⁵⁴
- Objective : LensNA⁶⁴⁵⁵
- ObjectiveSettings : ID⁶⁴⁵⁶
- Pixels : BigEndian⁶⁴⁵⁷
- Pixels : DimensionOrder⁶⁴⁵⁸
- Pixels : ID⁶⁴⁵⁹
- Pixels : Interleaved⁶⁴⁶⁰
- Pixels : PhysicalSizeX⁶⁴⁶¹
- Pixels : PhysicalSizeY⁶⁴⁶²
- Pixels : SignificantBits⁶⁴⁶³
- Pixels : SizeC⁶⁴⁶⁴
- Pixels : SizeT⁶⁴⁶⁵

⁶⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁶⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁶⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁶⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁶⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁶⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁶⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁶⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁶⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁶⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁶⁴⁶⁶
- Pixels : SizeY⁶⁴⁶⁷
- Pixels : SizeZ⁶⁴⁶⁸
- Pixels : Type⁶⁴⁶⁹
- Plane : DeltaT⁶⁴⁷⁰
- Plane : ExposureTime⁶⁴⁷¹
- Plane : PositionX⁶⁴⁷²
- Plane : PositionY⁶⁴⁷³
- Plane : PositionZ⁶⁴⁷⁴
- Plane : TheC⁶⁴⁷⁵
- Plane : TheT⁶⁴⁷⁶
- Plane : TheZ⁶⁴⁷⁷
- Plate : ColumnNamingConvention⁶⁴⁷⁸
- Plate : ExternalIdentifier⁶⁴⁷⁹
- Plate : ID⁶⁴⁸⁰
- Plate : Name⁶⁴⁸¹
- Plate : RowNamingConvention⁶⁴⁸²
- PlateAcquisition : ID⁶⁴⁸³
- PlateAcquisition : MaximumFieldCount⁶⁴⁸⁴
- PlateAcquisition : StartTime⁶⁴⁸⁵
- PlateAcquisition : WellSampleRef⁶⁴⁸⁶
- Well : Column⁶⁴⁸⁷
- Well : ID⁶⁴⁸⁸
- Well : Row⁶⁴⁸⁹
- WellSample : ID⁶⁴⁹⁰
- WellSample : ImageRef⁶⁴⁹¹

⁶⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁶⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁶⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁶⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ExternalIdentifier

⁶⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁶⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁶⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁶⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁶⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁶⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_StartTime

⁶⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁶⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁶⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁶⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁶⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁶⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

- WellSample : Index⁶⁴⁹²
- WellSample : PositionX⁶⁴⁹³
- WellSample : PositionY⁶⁴⁹⁴

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*⁶⁴⁹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁴⁹⁶
- Channel : SamplesPerPixel⁶⁴⁹⁷
- Image : AcquisitionDate⁶⁴⁹⁸
- Image : ID⁶⁴⁹⁹
- Image : Name⁶⁵⁰⁰
- Pixels : BigEndian⁶⁵⁰¹
- Pixels : DimensionOrder⁶⁵⁰²
- Pixels : ID⁶⁵⁰³
- Pixels : Interleaved⁶⁵⁰⁴
- Pixels : SignificantBits⁶⁵⁰⁵
- Pixels : SizeC⁶⁵⁰⁶
- Pixels : SizeT⁶⁵⁰⁷
- Pixels : SizeX⁶⁵⁰⁸

⁶⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁶⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁶⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

⁶⁴⁹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁶⁵⁰⁹
- Pixels : SizeZ⁶⁵¹⁰
- Pixels : Type⁶⁵¹¹
- Plane : TheC⁶⁵¹²
- Plane : TheT⁶⁵¹³
- Plane : TheZ⁶⁵¹⁴

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*⁶⁵¹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁵¹⁶
- Channel : SamplesPerPixel⁶⁵¹⁷
- Detector : ID⁶⁵¹⁸
- Detector : Model⁶⁵¹⁹
- Detector : Type⁶⁵²⁰
- Experimenter : ID⁶⁵²¹
- Experimenter : LastName⁶⁵²²
- Image : AcquisitionDate⁶⁵²³
- Image : Description⁶⁵²⁴
- Image : ID⁶⁵²⁵

⁶⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁵¹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁶⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁶⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : InstrumentRef⁶⁵²⁶
- Image : Name⁶⁵²⁷
- Instrument : ID⁶⁵²⁸
- Microscope : Model⁶⁵²⁹
- Objective : Correction⁶⁵³⁰
- Objective : ID⁶⁵³¹
- Objective : Immersion⁶⁵³²
- Objective : NominalMagnification⁶⁵³³
- Pixels : BigEndian⁶⁵³⁴
- Pixels : DimensionOrder⁶⁵³⁵
- Pixels : ID⁶⁵³⁶
- Pixels : Interleaved⁶⁵³⁷
- Pixels : PhysicalSizeX⁶⁵³⁸
- Pixels : PhysicalSizeY⁶⁵³⁹
- Pixels : SignificantBits⁶⁵⁴⁰
- Pixels : SizeC⁶⁵⁴¹
- Pixels : SizeT⁶⁵⁴²
- Pixels : SizeX⁶⁵⁴³
- Pixels : SizeY⁶⁵⁴⁴
- Pixels : SizeZ⁶⁵⁴⁵
- Pixels : TimeIncrement⁶⁵⁴⁶
- Pixels : Type⁶⁵⁴⁷
- Plane : TheC⁶⁵⁴⁸
- Plane : TheT⁶⁵⁴⁹
- Plane : TheZ⁶⁵⁵⁰
- StageLabel : Name⁶⁵⁵¹

⁶⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁶⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Name

- StageLabel : X⁶⁵⁵²
- StageLabel : Y⁶⁵⁵³
- StageLabel : Z⁶⁵⁵⁴

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*⁶⁵⁵⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁵⁵⁶
- Channel : SamplesPerPixel⁶⁵⁵⁷
- Image : AcquisitionDate⁶⁵⁵⁸
- Image : ID⁶⁵⁵⁹
- Image : Name⁶⁵⁶⁰
- Pixels : BigEndian⁶⁵⁶¹
- Pixels : DimensionOrder⁶⁵⁶²
- Pixels : ID⁶⁵⁶³
- Pixels : Interleaved⁶⁵⁶⁴
- Pixels : SignificantBits⁶⁵⁶⁵
- Pixels : SizeC⁶⁵⁶⁶
- Pixels : SizeT⁶⁵⁶⁷
- Pixels : SizeX⁶⁵⁶⁸

⁶⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_X

⁶⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Y

⁶⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Z

⁶⁵⁵⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁶⁵⁶⁹
- Pixels : SizeZ⁶⁵⁷⁰
- Pixels : Type⁶⁵⁷¹
- Plane : TheC⁶⁵⁷²
- Plane : TheT⁶⁵⁷³
- Plane : TheZ⁶⁵⁷⁴

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](#)⁶⁵⁷⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁵⁷⁶
- Channel : SamplesPerPixel⁶⁵⁷⁷
- Detector : ID⁶⁵⁷⁸
- DetectorSettings : Binning⁶⁵⁷⁹
- DetectorSettings : ID⁶⁵⁸⁰
- Experimenter : FirstName⁶⁵⁸¹
- Experimenter : ID⁶⁵⁸²
- Experimenter : LastName⁶⁵⁸³
- Image : AcquisitionDate⁶⁵⁸⁴
- Image : ExperimenterRef⁶⁵⁸⁵

⁶⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁵⁷⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

⁶⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁶⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁶⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

- Image : ID⁶⁵⁸⁶
- Image : InstrumentRef⁶⁵⁸⁷
- Image : Name⁶⁵⁸⁸
- Instrument : ID⁶⁵⁸⁹
- Pixels : BigEndian⁶⁵⁹⁰
- Pixels : DimensionOrder⁶⁵⁹¹
- Pixels : ID⁶⁵⁹²
- Pixels : Interleaved⁶⁵⁹³
- Pixels : PhysicalSizeX⁶⁵⁹⁴
- Pixels : PhysicalSizeY⁶⁵⁹⁵
- Pixels : SignificantBits⁶⁵⁹⁶
- Pixels : SizeC⁶⁵⁹⁷
- Pixels : SizeT⁶⁵⁹⁸
- Pixels : SizeX⁶⁵⁹⁹
- Pixels : SizeY⁶⁶⁰⁰
- Pixels : SizeZ⁶⁶⁰¹
- Pixels : Type⁶⁶⁰²
- Plane : TheC⁶⁶⁰³
- Plane : TheT⁶⁶⁰⁴
- Plane : TheZ⁶⁶⁰⁵

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](#)⁶⁶⁰⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁶⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁶⁰⁶<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 : AcquisitionMode⁶⁶⁰⁷
- Channel : ID⁶⁶⁰⁸
- Channel : SamplesPerPixel⁶⁶⁰⁹
- Detector : ID⁶⁶¹⁰
- DetectorSettings : ID⁶⁶¹¹
- DetectorSettings : Voltage⁶⁶¹²
- Image : AcquisitionDate⁶⁶¹³
- Image : ID⁶⁶¹⁴
- Image : Name⁶⁶¹⁵
- Instrument : ID⁶⁶¹⁶
- Objective : Correction⁶⁶¹⁷
- Objective : ID⁶⁶¹⁸
- Objective : Immersion⁶⁶¹⁹
- Objective : NominalMagnification⁶⁶²⁰
- ObjectiveSettings : ID⁶⁶²¹
- Pixels : BigEndian⁶⁶²²
- Pixels : DimensionOrder⁶⁶²³
- Pixels : ID⁶⁶²⁴
- Pixels : Interleaved⁶⁶²⁵
- Pixels : PhysicalSizeX⁶⁶²⁶
- Pixels : PhysicalSizeY⁶⁶²⁷
- Pixels : PhysicalSizeZ⁶⁶²⁸

⁶⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

⁶⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁶⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

- Pixels : SignificantBits⁶⁶²⁹
- Pixels : SizeC⁶⁶³⁰
- Pixels : SizeT⁶⁶³¹
- Pixels : SizeX⁶⁶³²
- Pixels : SizeY⁶⁶³³
- Pixels : SizeZ⁶⁶³⁴
- Pixels : Type⁶⁶³⁵
- Plane : ExposureTime⁶⁶³⁶
- Plane : PositionX⁶⁶³⁷
- Plane : PositionY⁶⁶³⁸
- Plane : PositionZ⁶⁶³⁹
- Plane : TheC⁶⁶⁴⁰
- Plane : TheT⁶⁶⁴¹
- Plane : TheZ⁶⁶⁴²

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](#)⁶⁶⁴³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁶⁴⁴
- Channel : SamplesPerPixel⁶⁶⁴⁵

⁶⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁶⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁶⁴³<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁶⁶⁴⁶
- Image : ID⁶⁶⁴⁷
- Image : Name⁶⁶⁴⁸
- Pixels : BigEndian⁶⁶⁴⁹
- Pixels : DimensionOrder⁶⁶⁵⁰
- Pixels : ID⁶⁶⁵¹
- Pixels : Interleaved⁶⁶⁵²
- Pixels : SignificantBits⁶⁶⁵³
- Pixels : SizeC⁶⁶⁵⁴
- Pixels : SizeT⁶⁶⁵⁵
- Pixels : SizeX⁶⁶⁵⁶
- Pixels : SizeY⁶⁶⁵⁷
- Pixels : SizeZ⁶⁶⁵⁸
- Pixels : Type⁶⁶⁵⁹
- Plane : TheC⁶⁶⁶⁰
- Plane : TheT⁶⁶⁶¹
- Plane : TheZ⁶⁶⁶²

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*⁶⁶⁶³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁶⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁶⁶³<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Hamamatsu Aquacosmos format reader:

- Channel : ID⁶⁶⁶⁴
- Channel : SamplesPerPixel⁶⁶⁶⁵
- Image : AcquisitionDate⁶⁶⁶⁶
- Image : ID⁶⁶⁶⁷
- Image : Name⁶⁶⁶⁸
- Pixels : BigEndian⁶⁶⁶⁹
- Pixels : DimensionOrder⁶⁶⁷⁰
- Pixels : ID⁶⁶⁷¹
- Pixels : Interleaved⁶⁶⁷²
- Pixels : SignificantBits⁶⁶⁷³
- Pixels : SizeC⁶⁶⁷⁴
- Pixels : SizeT⁶⁶⁷⁵
- Pixels : SizeX⁶⁶⁷⁶
- Pixels : SizeY⁶⁶⁷⁷
- Pixels : SizeZ⁶⁶⁷⁸
- Pixels : Type⁶⁶⁷⁹
- Plane : TheC⁶⁶⁸⁰
- Plane : TheT⁶⁶⁸¹
- Plane : TheZ⁶⁶⁸²

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.

- ⁶⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁶⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁶⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁶⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁶⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁶⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁶⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁶⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁶⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁶⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁶⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁶⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁶⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁶⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁶⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁶⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁶⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁶⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁶⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁶⁶⁸³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁶⁸⁴
- Channel : SamplesPerPixel⁶⁶⁸⁵
- Detector : ID⁶⁶⁸⁶
- Detector : Offset⁶⁶⁸⁷
- Detector : Type⁶⁶⁸⁸
- DetectorSettings : Binning⁶⁶⁸⁹
- DetectorSettings : ID⁶⁶⁹⁰
- Image : AcquisitionDate⁶⁶⁹¹
- Image : ID⁶⁶⁹²
- Image : InstrumentRef⁶⁶⁹³
- Image : Name⁶⁶⁹⁴
- Instrument : ID⁶⁶⁹⁵
- Pixels : BigEndian⁶⁶⁹⁶
- Pixels : DimensionOrder⁶⁶⁹⁷
- Pixels : ID⁶⁶⁹⁸
- Pixels : Interleaved⁶⁶⁹⁹
- Pixels : SignificantBits⁶⁷⁰⁰
- Pixels : SizeC⁶⁷⁰¹
- Pixels : SizeT⁶⁷⁰²
- Pixels : SizeX⁶⁷⁰³

⁶⁶⁸³<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁶⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁶⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁶⁷⁰⁴
- Pixels : SizeZ⁶⁷⁰⁵
- Pixels : Type⁶⁷⁰⁶
- Plane : ExposureTime⁶⁷⁰⁷
- Plane : TheC⁶⁷⁰⁸
- Plane : TheT⁶⁷⁰⁹
- Plane : TheZ⁶⁷¹⁰

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*⁶⁷¹¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁷¹²
- Channel : SamplesPerPixel⁶⁷¹³
- Image : AcquisitionDate⁶⁷¹⁴
- Image : Description⁶⁷¹⁵
- Image : ID⁶⁷¹⁶
- Image : InstrumentRef⁶⁷¹⁷
- Image : Name⁶⁷¹⁸
- Instrument : ID⁶⁷¹⁹
- Microscope : Model⁶⁷²⁰

⁶⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁷¹¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

- Objective : ID⁶⁷²¹
- Objective : NominalMagnification⁶⁷²²
- ObjectiveSettings : ID⁶⁷²³
- Pixels : BigEndian⁶⁷²⁴
- Pixels : DimensionOrder⁶⁷²⁵
- Pixels : ID⁶⁷²⁶
- Pixels : Interleaved⁶⁷²⁷
- Pixels : PhysicalSizeX⁶⁷²⁸
- Pixels : PhysicalSizeY⁶⁷²⁹
- Pixels : SignificantBits⁶⁷³⁰
- Pixels : SizeC⁶⁷³¹
- Pixels : SizeT⁶⁷³²
- Pixels : SizeX⁶⁷³³
- Pixels : SizeY⁶⁷³⁴
- Pixels : SizeZ⁶⁷³⁵
- Pixels : Type⁶⁷³⁶
- Plane : TheC⁶⁷³⁷
- Plane : TheT⁶⁷³⁸
- Plane : TheZ⁶⁷³⁹

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*⁶⁷⁴⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁶⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
⁶⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification
⁶⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
⁶⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁶⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁶⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁶⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁶⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁶⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁶⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁶⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁶⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁶⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁶⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁶⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁶⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁶⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁶⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁶⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁶⁷⁴⁰<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 : ID⁶⁷⁴¹
- Channel : SamplesPerPixel⁶⁷⁴²
- Image : AcquisitionDate⁶⁷⁴³
- Image : ID⁶⁷⁴⁴
- Image : InstrumentRef⁶⁷⁴⁵
- Image : Name⁶⁷⁴⁶
- Instrument : ID⁶⁷⁴⁷
- Objective : ID⁶⁷⁴⁸
- Objective : NominalMagnification⁶⁷⁴⁹
- ObjectiveSettings : ID⁶⁷⁵⁰
- Pixels : BigEndian⁶⁷⁵¹
- Pixels : DimensionOrder⁶⁷⁵²
- Pixels : ID⁶⁷⁵³
- Pixels : Interleaved⁶⁷⁵⁴
- Pixels : PhysicalSizeX⁶⁷⁵⁵
- Pixels : PhysicalSizeY⁶⁷⁵⁶
- Pixels : SignificantBits⁶⁷⁵⁷
- Pixels : SizeC⁶⁷⁵⁸
- Pixels : SizeT⁶⁷⁵⁹
- Pixels : SizeX⁶⁷⁶⁰
- Pixels : SizeY⁶⁷⁶¹
- Pixels : SizeZ⁶⁷⁶²
- Pixels : Type⁶⁷⁶³

⁶⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁶⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁶⁷⁶⁴
- Plane : TheT⁶⁷⁶⁵
- Plane : TheZ⁶⁷⁶⁶

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*⁶⁷⁶⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁷⁶⁸
- Channel : SamplesPerPixel⁶⁷⁶⁹
- Image : AcquisitionDate⁶⁷⁷⁰
- Image : ID⁶⁷⁷¹
- Image : InstrumentRef⁶⁷⁷²
- Image : Name⁶⁷⁷³
- Instrument : ID⁶⁷⁷⁴
- Microscope : Model⁶⁷⁷⁵
- Microscope : SerialNumber⁶⁷⁷⁶
- Objective : ID⁶⁷⁷⁷
- Objective : WorkingDistance⁶⁷⁷⁸
- ObjectiveSettings : ID⁶⁷⁷⁹
- Pixels : BigEndian⁶⁷⁸⁰

⁶⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁷⁶⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁶⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁶⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁶⁷⁸¹
- Pixels : ID⁶⁷⁸²
- Pixels : Interleaved⁶⁷⁸³
- Pixels : PhysicalSizeX⁶⁷⁸⁴
- Pixels : PhysicalSizeY⁶⁷⁸⁵
- Pixels : SignificantBits⁶⁷⁸⁶
- Pixels : SizeC⁶⁷⁸⁷
- Pixels : SizeT⁶⁷⁸⁸
- Pixels : SizeX⁶⁷⁸⁹
- Pixels : SizeY⁶⁷⁹⁰
- Pixels : SizeZ⁶⁷⁹¹
- Pixels : Type⁶⁷⁹²
- Plane : PositionX⁶⁷⁹³
- Plane : PositionY⁶⁷⁹⁴
- Plane : PositionZ⁶⁷⁹⁵
- Plane : TheC⁶⁷⁹⁶
- Plane : TheT⁶⁷⁹⁷
- Plane : TheZ⁶⁷⁹⁸

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](#)⁶⁷⁹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁶⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁶⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁷⁹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats I2I format reader:

- Channel : ID⁶⁸⁰⁰
- Channel : SamplesPerPixel⁶⁸⁰¹
- Image : AcquisitionDate⁶⁸⁰²
- Image : ID⁶⁸⁰³
- Image : Name⁶⁸⁰⁴
- Pixels : BigEndian⁶⁸⁰⁵
- Pixels : DimensionOrder⁶⁸⁰⁶
- Pixels : ID⁶⁸⁰⁷
- Pixels : Interleaved⁶⁸⁰⁸
- Pixels : SignificantBits⁶⁸⁰⁹
- Pixels : SizeC⁶⁸¹⁰
- Pixels : SizeT⁶⁸¹¹
- Pixels : SizeX⁶⁸¹²
- Pixels : SizeY⁶⁸¹³
- Pixels : SizeZ⁶⁸¹⁴
- Pixels : Type⁶⁸¹⁵
- Plane : TheC⁶⁸¹⁶
- Plane : TheT⁶⁸¹⁷
- Plane : TheZ⁶⁸¹⁸

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.

- ⁶⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁶⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁶⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁶⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁶⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁶⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁶⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁶⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁶⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁶⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁶⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁶⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁶⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁶⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁶⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁶⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁶⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁶⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁶⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁶⁸¹⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁶⁸²⁰
- Channel : ExcitationWavelength⁶⁸²¹
- Channel : ID⁶⁸²²
- Channel : Name⁶⁸²³
- Channel : PinholeSize⁶⁸²⁴
- Channel : SamplesPerPixel⁶⁸²⁵
- Detector : ID⁶⁸²⁶
- Detector : Manufacturer⁶⁸²⁷
- Detector : Model⁶⁸²⁸
- Detector : Type⁶⁸²⁹
- DetectorSettings : Gain⁶⁸³⁰
- DetectorSettings : ID⁶⁸³¹
- Dichroic : ID⁶⁸³²
- Dichroic : Model⁶⁸³³
- Experiment : ID⁶⁸³⁴
- Experiment : Type⁶⁸³⁵
- Experimenter : ID⁶⁸³⁶
- Experimenter : LastName⁶⁸³⁷
- Filter : ID⁶⁸³⁸
- Filter : Model⁶⁸³⁹

⁶⁸¹⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁶⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁶⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁶⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁶⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁶⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁶⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁶⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁶⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁶⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁶⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

⁶⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

⁶⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁶⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁶⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁶⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

- FilterSet : DichroicRef⁶⁸⁴⁰
- FilterSet : EmissionFilterRef⁶⁸⁴¹
- FilterSet : ExcitationFilterRef⁶⁸⁴²
- FilterSet : ID⁶⁸⁴³
- FilterSet : Model⁶⁸⁴⁴
- Image : AcquisitionDate⁶⁸⁴⁵
- Image : Description⁶⁸⁴⁶
- Image : ID⁶⁸⁴⁷
- Image : InstrumentRef⁶⁸⁴⁸
- Image : Name⁶⁸⁴⁹
- Instrument : ID⁶⁸⁵⁰
- Laser : ID⁶⁸⁵¹
- Laser : LaserMedium⁶⁸⁵²
- Laser : Manufacturer⁶⁸⁵³
- Laser : Model⁶⁸⁵⁴
- Laser : Power⁶⁸⁵⁵
- Laser : RepetitionRate⁶⁸⁵⁶
- Laser : Type⁶⁸⁵⁷
- Laser : Wavelength⁶⁸⁵⁸
- Microscope : Manufacturer⁶⁸⁵⁹
- Microscope : Model⁶⁸⁶⁰
- Objective : CalibratedMagnification⁶⁸⁶¹
- Objective : Correction⁶⁸⁶²
- Objective : ID⁶⁸⁶³
- Objective : Immersion⁶⁸⁶⁴
- Objective : LensNA⁶⁸⁶⁵

⁶⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁶⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁶⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁶⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSet_ID

⁶⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁶⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁶⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁶⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁶⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁶⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁶⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_RepetitionRate

⁶⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁶⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁶⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁶⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁶⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁶⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁶⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁶⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

- Objective : Model⁶⁸⁶⁶
- Objective : WorkingDistance⁶⁸⁶⁷
- ObjectiveSettings : ID⁶⁸⁶⁸
- Pixels : BigEndian⁶⁸⁶⁹
- Pixels : DimensionOrder⁶⁸⁷⁰
- Pixels : ID⁶⁸⁷¹
- Pixels : Interleaved⁶⁸⁷²
- Pixels : PhysicalSizeX⁶⁸⁷³
- Pixels : PhysicalSizeY⁶⁸⁷⁴
- Pixels : PhysicalSizeZ⁶⁸⁷⁵
- Pixels : SignificantBits⁶⁸⁷⁶
- Pixels : SizeC⁶⁸⁷⁷
- Pixels : SizeT⁶⁸⁷⁸
- Pixels : SizeX⁶⁸⁷⁹
- Pixels : SizeY⁶⁸⁸⁰
- Pixels : SizeZ⁶⁸⁸¹
- Pixels : TimeIncrement⁶⁸⁸²
- Pixels : Type⁶⁸⁸³
- Plane : DeltaT⁶⁸⁸⁴
- Plane : ExposureTime⁶⁸⁸⁵
- Plane : PositionX⁶⁸⁸⁶
- Plane : PositionY⁶⁸⁸⁷
- Plane : PositionZ⁶⁸⁸⁸
- Plane : TheC⁶⁸⁸⁹
- Plane : TheT⁶⁸⁹⁰
- Plane : TheZ⁶⁸⁹¹

⁶⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁶⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁶⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁶⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁶⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁶⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁶⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁶⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁶⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁶⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁸⁹¹http://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](#)⁶⁸⁹². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁸⁹³
- Channel : SamplesPerPixel⁶⁸⁹⁴
- Experimenter : FirstName⁶⁸⁹⁵
- Experimenter : ID⁶⁸⁹⁶
- Experimenter : LastName⁶⁸⁹⁷
- Image : AcquisitionDate⁶⁸⁹⁸
- Image : ExperimenterRef⁶⁸⁹⁹
- Image : ID⁶⁹⁰⁰
- Image : Name⁶⁹⁰¹
- Pixels : BigEndian⁶⁹⁰²
- Pixels : DimensionOrder⁶⁹⁰³
- Pixels : ID⁶⁹⁰⁴
- Pixels : Interleaved⁶⁹⁰⁵
- Pixels : SignificantBits⁶⁹⁰⁶
- Pixels : SizeC⁶⁹⁰⁷
- Pixels : SizeT⁶⁹⁰⁸

⁶⁸⁹²<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

⁶⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁶⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁶⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

⁶⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁶⁹⁰⁹
- Pixels : SizeY⁶⁹¹⁰
- Pixels : SizeZ⁶⁹¹¹
- Pixels : Type⁶⁹¹²
- Plane : TheC⁶⁹¹³
- Plane : TheT⁶⁹¹⁴
- Plane : TheZ⁶⁹¹⁵

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*⁶⁹¹⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁹¹⁷
- Channel : SamplesPerPixel⁶⁹¹⁸
- Image : AcquisitionDate⁶⁹¹⁹
- Image : ID⁶⁹²⁰
- Image : Name⁶⁹²¹
- Pixels : BigEndian⁶⁹²²
- Pixels : DimensionOrder⁶⁹²³
- Pixels : ID⁶⁹²⁴
- Pixels : Interleaved⁶⁹²⁵

⁶⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁹¹⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : SignificantBits⁶⁹²⁶
- Pixels : SizeC⁶⁹²⁷
- Pixels : SizeT⁶⁹²⁸
- Pixels : SizeX⁶⁹²⁹
- Pixels : SizeY⁶⁹³⁰
- Pixels : SizeZ⁶⁹³¹
- Pixels : Type⁶⁹³²
- Plane : TheC⁶⁹³³
- Plane : TheT⁶⁹³⁴
- Plane : TheZ⁶⁹³⁵

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](#)⁶⁹³⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁹³⁷
- Channel : SamplesPerPixel⁶⁹³⁸
- Image : AcquisitionDate⁶⁹³⁹
- Image : Description⁶⁹⁴⁰
- Image : ID⁶⁹⁴¹
- Image : Name⁶⁹⁴²

⁶⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁹³⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁶⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Pixels : BigEndian⁶⁹⁴³
- Pixels : DimensionOrder⁶⁹⁴⁴
- Pixels : ID⁶⁹⁴⁵
- Pixels : Interleaved⁶⁹⁴⁶
- Pixels : SignificantBits⁶⁹⁴⁷
- Pixels : SizeC⁶⁹⁴⁸
- Pixels : SizeT⁶⁹⁴⁹
- Pixels : SizeX⁶⁹⁵⁰
- Pixels : SizeY⁶⁹⁵¹
- Pixels : SizeZ⁶⁹⁵²
- Pixels : Type⁶⁹⁵³
- Plane : TheC⁶⁹⁵⁴
- Plane : TheT⁶⁹⁵⁵
- Plane : TheZ⁶⁹⁵⁶

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*⁶⁹⁵⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁶⁹⁵⁸
- Channel : SamplesPerPixel⁶⁹⁵⁹

⁶⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁹⁵⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁶⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁶⁹⁶⁰
- Image : ID⁶⁹⁶¹
- Image : Name⁶⁹⁶²
- Pixels : BigEndian⁶⁹⁶³
- Pixels : DimensionOrder⁶⁹⁶⁴
- Pixels : ID⁶⁹⁶⁵
- Pixels : Interleaved⁶⁹⁶⁶
- Pixels : PhysicalSizeX⁶⁹⁶⁷
- Pixels : PhysicalSizeY⁶⁹⁶⁸
- Pixels : PhysicalSizeZ⁶⁹⁶⁹
- Pixels : SignificantBits⁶⁹⁷⁰
- Pixels : SizeC⁶⁹⁷¹
- Pixels : SizeT⁶⁹⁷²
- Pixels : SizeX⁶⁹⁷³
- Pixels : SizeY⁶⁹⁷⁴
- Pixels : SizeZ⁶⁹⁷⁵
- Pixels : Type⁶⁹⁷⁶
- Plane : TheC⁶⁹⁷⁷
- Plane : TheT⁶⁹⁷⁸
- Plane : TheZ⁶⁹⁷⁹

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](#)⁶⁹⁸⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁶⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁶⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁶⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁶⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁶⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁶⁹⁸⁰<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 : ID⁶⁹⁸¹
- Channel : SamplesPerPixel⁶⁹⁸²
- Image : AcquisitionDate⁶⁹⁸³
- Image : ID⁶⁹⁸⁴
- Image : Name⁶⁹⁸⁵
- Image : ROIRef⁶⁹⁸⁶
- Pixels : BigEndian⁶⁹⁸⁷
- Pixels : DimensionOrder⁶⁹⁸⁸
- Pixels : ID⁶⁹⁸⁹
- Pixels : Interleaved⁶⁹⁹⁰
- Pixels : PhysicalSizeX⁶⁹⁹¹
- Pixels : PhysicalSizeY⁶⁹⁹²
- Pixels : PhysicalSizeZ⁶⁹⁹³
- Pixels : SignificantBits⁶⁹⁹⁴
- Pixels : SizeC⁶⁹⁹⁵
- Pixels : SizeT⁶⁹⁹⁶
- Pixels : SizeX⁶⁹⁹⁷
- Pixels : SizeY⁶⁹⁹⁸
- Pixels : SizeZ⁶⁹⁹⁹
- Pixels : Type⁷⁰⁰⁰
- Plane : TheC⁷⁰⁰¹
- Plane : TheT⁷⁰⁰²

⁶⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁶⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁶⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁶⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁶⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁶⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁶⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁶⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁶⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁶⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁶⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁶⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁶⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁶⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁶⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁶⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁶⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁶⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁶⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷⁰⁰³
- Point : ID⁷⁰⁰⁴
- Point : StrokeColor⁷⁰⁰⁵
- Point : StrokeDashArray⁷⁰⁰⁶
- Point : StrokeWidth⁷⁰⁰⁷
- Point : TheZ⁷⁰⁰⁸
- Point : X⁷⁰⁰⁹
- Point : Y⁷⁰¹⁰
- Polygon : ID⁷⁰¹¹
- Polygon : Points⁷⁰¹²
- Polygon : StrokeColor⁷⁰¹³
- Polygon : StrokeDashArray⁷⁰¹⁴
- Polygon : StrokeWidth⁷⁰¹⁵
- Polygon : TheZ⁷⁰¹⁶
- Polyline : ID⁷⁰¹⁷
- Polyline : Points⁷⁰¹⁸
- Polyline : StrokeColor⁷⁰¹⁹
- Polyline : StrokeDashArray⁷⁰²⁰
- Polyline : StrokeWidth⁷⁰²¹
- Polyline : TheZ⁷⁰²²
- ROI : ID⁷⁰²³
- ROI : Name⁷⁰²⁴

Total supported: 44

Total unknown or missing: 431

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Improvision Openlab LIFF*

⁷⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

⁷⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray

⁷⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁷⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁷⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_X

⁷⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_Y

⁷⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁷⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

⁷⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray

⁷⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁷⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁷⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

⁷⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

⁷⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeDashArray

⁷⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁷⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁷⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁷⁰²⁴http://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](#)⁷⁰²⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁰²⁶
- Channel : Name⁷⁰²⁷
- Channel : SamplesPerPixel⁷⁰²⁸
- Detector : ID⁷⁰²⁹
- Detector : Type⁷⁰³⁰
- DetectorSettings : Gain⁷⁰³¹
- DetectorSettings : ID⁷⁰³²
- DetectorSettings : Offset⁷⁰³³
- Image : AcquisitionDate⁷⁰³⁴
- Image : ID⁷⁰³⁵
- Image : InstrumentRef⁷⁰³⁶
- Image : Name⁷⁰³⁷
- Instrument : ID⁷⁰³⁸
- Pixels : BigEndian⁷⁰³⁹
- Pixels : DimensionOrder⁷⁰⁴⁰
- Pixels : ID⁷⁰⁴¹
- Pixels : Interleaved⁷⁰⁴²
- Pixels : PhysicalSizeX⁷⁰⁴³
- Pixels : PhysicalSizeY⁷⁰⁴⁴

⁷⁰²⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁷⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

- Pixels : SignificantBits⁷⁰⁴⁵
- Pixels : SizeC⁷⁰⁴⁶
- Pixels : SizeT⁷⁰⁴⁷
- Pixels : SizeX⁷⁰⁴⁸
- Pixels : SizeY⁷⁰⁴⁹
- Pixels : SizeZ⁷⁰⁵⁰
- Pixels : Type⁷⁰⁵¹
- Plane : PositionX⁷⁰⁵²
- Plane : PositionY⁷⁰⁵³
- Plane : PositionZ⁷⁰⁵⁴
- Plane : TheC⁷⁰⁵⁵
- Plane : TheT⁷⁰⁵⁶
- Plane : TheZ⁷⁰⁵⁷

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*⁷⁰⁵⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁰⁵⁹
- Channel : SamplesPerPixel⁷⁰⁶⁰
- Image : AcquisitionDate⁷⁰⁶¹

⁷⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁷⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁷⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁷⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁰⁵⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁷⁰⁶²
- Image : Name⁷⁰⁶³
- Pixels : BigEndian⁷⁰⁶⁴
- Pixels : DimensionOrder⁷⁰⁶⁵
- Pixels : ID⁷⁰⁶⁶
- Pixels : Interleaved⁷⁰⁶⁷
- Pixels : SignificantBits⁷⁰⁶⁸
- Pixels : SizeC⁷⁰⁶⁹
- Pixels : SizeT⁷⁰⁷⁰
- Pixels : SizeX⁷⁰⁷¹
- Pixels : SizeY⁷⁰⁷²
- Pixels : SizeZ⁷⁰⁷³
- Pixels : Type⁷⁰⁷⁴
- Plane : TheC⁷⁰⁷⁵
- Plane : TheT⁷⁰⁷⁶
- Plane : TheZ⁷⁰⁷⁷

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](#)⁷⁰⁷⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁷⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁰⁷⁸<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Improvition TIFF format reader:

- Channel : ID⁷⁰⁷⁹
- Channel : Name⁷⁰⁸⁰
- Channel : SamplesPerPixel⁷⁰⁸¹
- Image : AcquisitionDate⁷⁰⁸²
- Image : Description⁷⁰⁸³
- Image : ID⁷⁰⁸⁴
- Image : Name⁷⁰⁸⁵
- Pixels : BigEndian⁷⁰⁸⁶
- Pixels : DimensionOrder⁷⁰⁸⁷
- Pixels : ID⁷⁰⁸⁸
- Pixels : Interleaved⁷⁰⁸⁹
- Pixels : PhysicalSizeX⁷⁰⁹⁰
- Pixels : PhysicalSizeY⁷⁰⁹¹
- Pixels : PhysicalSizeZ⁷⁰⁹²
- Pixels : SignificantBits⁷⁰⁹³
- Pixels : SizeC⁷⁰⁹⁴
- Pixels : SizeT⁷⁰⁹⁵
- Pixels : SizeX⁷⁰⁹⁶
- Pixels : SizeY⁷⁰⁹⁷
- Pixels : SizeZ⁷⁰⁹⁸
- Pixels : TimeIncrement⁷⁰⁹⁹
- Pixels : Type⁷¹⁰⁰
- Plane : TheC⁷¹⁰¹
- Plane : TheT⁷¹⁰²

⁷⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁷¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷¹⁰³

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](#)⁷¹⁰⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷¹⁰⁵
- Channel : SamplesPerPixel⁷¹⁰⁶
- Image : AcquisitionDate⁷¹⁰⁷
- Image : ID⁷¹⁰⁸
- Image : Name⁷¹⁰⁹
- Pixels : BigEndian⁷¹¹⁰
- Pixels : DimensionOrder⁷¹¹¹
- Pixels : ID⁷¹¹²
- Pixels : Interleaved⁷¹¹³
- Pixels : SignificantBits⁷¹¹⁴
- Pixels : SizeC⁷¹¹⁵
- Pixels : SizeT⁷¹¹⁶
- Pixels : SizeX⁷¹¹⁷
- Pixels : SizeY⁷¹¹⁸
- Pixels : SizeZ⁷¹¹⁹

⁷¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷¹⁰⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁷¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type⁷¹²⁰
- Plane : TheC⁷¹²¹
- Plane : TheT⁷¹²²
- Plane : TheZ⁷¹²³

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *InCell 1000*

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](#)⁷¹²⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁷¹²⁵
- Channel : ExcitationWavelength⁷¹²⁶
- Channel : ID⁷¹²⁷
- Channel : Name⁷¹²⁸
- Channel : SamplesPerPixel⁷¹²⁹
- Detector : ID⁷¹³⁰
- Detector : Model⁷¹³¹
- Detector : Type⁷¹³²
- DetectorSettings : Binning⁷¹³³
- DetectorSettings : Gain⁷¹³⁴
- DetectorSettings : ID⁷¹³⁵
- Experiment : ID⁷¹³⁶

⁷¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷¹²⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁷¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁷¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁷¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁷¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

- Experiment : Type⁷¹³⁷
- Image : AcquisitionDate⁷¹³⁸
- Image : Description⁷¹³⁹
- Image : ExperimentRef⁷¹⁴⁰
- Image : ID⁷¹⁴¹
- Image : InstrumentRef⁷¹⁴²
- Image : Name⁷¹⁴³
- ImagingEnvironment : Temperature⁷¹⁴⁴
- Instrument : ID⁷¹⁴⁵
- Objective : Correction⁷¹⁴⁶
- Objective : ID⁷¹⁴⁷
- Objective : Immersion⁷¹⁴⁸
- Objective : LensNA⁷¹⁴⁹
- Objective : Manufacturer⁷¹⁵⁰
- Objective : NominalMagnification⁷¹⁵¹
- ObjectiveSettings : ID⁷¹⁵²
- ObjectiveSettings : RefractiveIndex⁷¹⁵³
- Pixels : BigEndian⁷¹⁵⁴
- Pixels : DimensionOrder⁷¹⁵⁵
- Pixels : ID⁷¹⁵⁶
- Pixels : Interleaved⁷¹⁵⁷
- Pixels : PhysicalSizeX⁷¹⁵⁸
- Pixels : PhysicalSizeY⁷¹⁵⁹
- Pixels : SignificantBits⁷¹⁶⁰
- Pixels : SizeC⁷¹⁶¹
- Pixels : SizeT⁷¹⁶²

⁷¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

⁷¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimentRef_ID

⁷¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁷¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁷¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁷¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁷¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁷¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁷¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁷¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁷¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁷¹⁶³
- Pixels : SizeY⁷¹⁶⁴
- Pixels : SizeZ⁷¹⁶⁵
- Pixels : Type⁷¹⁶⁶
- Plane : DeltaT⁷¹⁶⁷
- Plane : ExposureTime⁷¹⁶⁸
- Plane : PositionX⁷¹⁶⁹
- Plane : PositionY⁷¹⁷⁰
- Plane : PositionZ⁷¹⁷¹
- Plane : TheC⁷¹⁷²
- Plane : TheT⁷¹⁷³
- Plane : TheZ⁷¹⁷⁴
- Plate : ColumnNamingConvention⁷¹⁷⁵
- Plate : ID⁷¹⁷⁶
- Plate : Name⁷¹⁷⁷
- Plate : RowNamingConvention⁷¹⁷⁸
- Plate : WellOriginX⁷¹⁷⁹
- Plate : WellOriginY⁷¹⁸⁰
- PlateAcquisition : ID⁷¹⁸¹
- PlateAcquisition : MaximumFieldCount⁷¹⁸²
- PlateAcquisition : WellSampleRef⁷¹⁸³
- Well : Column⁷¹⁸⁴
- Well : ID⁷¹⁸⁵
- Well : Row⁷¹⁸⁶
- WellSample : ID⁷¹⁸⁷
- WellSample : ImageRef⁷¹⁸⁸

⁷¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁷¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁷¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁷¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁷¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁷¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁷¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁷¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_WellOriginX

⁷¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_WellOriginY

⁷¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁷¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁷¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁷¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁷¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁷¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁷¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁷¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

- WellSample : Index⁷¹⁸⁹
- WellSample : PositionX⁷¹⁹⁰
- WellSample : PositionY⁷¹⁹¹

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*⁷¹⁹². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷¹⁹³
- Channel : SamplesPerPixel⁷¹⁹⁴
- Image : AcquisitionDate⁷¹⁹⁵
- Image : ID⁷¹⁹⁶
- Image : Name⁷¹⁹⁷
- Pixels : BigEndian⁷¹⁹⁸
- Pixels : DimensionOrder⁷¹⁹⁹
- Pixels : ID⁷²⁰⁰
- Pixels : Interleaved⁷²⁰¹
- Pixels : SignificantBits⁷²⁰²
- Pixels : SizeC⁷²⁰³
- Pixels : SizeT⁷²⁰⁴
- Pixels : SizeX⁷²⁰⁵

⁷¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁷¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁷¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

⁷¹⁹²<http://www.openmicroscopy.org/site/support/ome-model/>

⁷¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁷²⁰⁶
- Pixels : SizeZ⁷²⁰⁷
- Pixels : Type⁷²⁰⁸
- Plane : TheC⁷²⁰⁹
- Plane : TheT⁷²¹⁰
- Plane : TheZ⁷²¹¹

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](#)⁷²¹². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷²¹³
- Channel : SamplesPerPixel⁷²¹⁴
- Image : AcquisitionDate⁷²¹⁵
- Image : ID⁷²¹⁶
- Image : Name⁷²¹⁷
- Pixels : BigEndian⁷²¹⁸
- Pixels : DimensionOrder⁷²¹⁹
- Pixels : ID⁷²²⁰
- Pixels : Interleaved⁷²²¹
- Pixels : PhysicalSizeX⁷²²²

⁷²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷²¹²<http://www.openmicroscopy.org/site/support/ome-model/>

⁷²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁷²²³
- Pixels : PhysicalSizeZ⁷²²⁴
- Pixels : SignificantBits⁷²²⁵
- Pixels : SizeC⁷²²⁶
- Pixels : SizeT⁷²²⁷
- Pixels : SizeX⁷²²⁸
- Pixels : SizeY⁷²²⁹
- Pixels : SizeZ⁷²³⁰
- Pixels : Type⁷²³¹
- Plane : TheC⁷²³²
- Plane : TheT⁷²³³
- Plane : TheZ⁷²³⁴

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*⁷²³⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷²³⁶
- Channel : SamplesPerPixel⁷²³⁷
- Experimenter : ID⁷²³⁸
- Experimenter : Institution⁷²³⁹

⁷²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷²³⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁷²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁷²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution

- Experimenter : UserName⁷²⁴⁰
- Image : AcquisitionDate⁷²⁴¹
- Image : Description⁷²⁴²
- Image : ExperimenterRef⁷²⁴³
- Image : ID⁷²⁴⁴
- Image : InstrumentRef⁷²⁴⁵
- Image : Name⁷²⁴⁶
- Instrument : ID⁷²⁴⁷
- Microscope : Model⁷²⁴⁸
- Pixels : BigEndian⁷²⁴⁹
- Pixels : DimensionOrder⁷²⁵⁰
- Pixels : ID⁷²⁵¹
- Pixels : Interleaved⁷²⁵²
- Pixels : PhysicalSizeX⁷²⁵³
- Pixels : PhysicalSizeY⁷²⁵⁴
- Pixels : PhysicalSizeZ⁷²⁵⁵
- Pixels : SignificantBits⁷²⁵⁶
- Pixels : SizeC⁷²⁵⁷
- Pixels : SizeT⁷²⁵⁸
- Pixels : SizeX⁷²⁵⁹
- Pixels : SizeY⁷²⁶⁰
- Pixels : SizeZ⁷²⁶¹
- Pixels : Type⁷²⁶²
- Plane : TheC⁷²⁶³
- Plane : TheT⁷²⁶⁴
- Plane : TheZ⁷²⁶⁵

⁷²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName

⁷²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

⁷²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷²⁶⁵http://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](#)⁷²⁶⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷²⁶⁷
- Channel : SamplesPerPixel⁷²⁶⁸
- Detector : ID⁷²⁶⁹
- Detector : Type⁷²⁷⁰
- DetectorSettings : Binning⁷²⁷¹
- DetectorSettings : Gain⁷²⁷²
- DetectorSettings : ID⁷²⁷³
- Image : AcquisitionDate⁷²⁷⁴
- Image : ID⁷²⁷⁵
- Image : InstrumentRef⁷²⁷⁶
- Image : Name⁷²⁷⁷
- Instrument : ID⁷²⁷⁸
- Objective : Correction⁷²⁷⁹
- Objective : ID⁷²⁸⁰
- Objective : Immersion⁷²⁸¹
- Objective : LensNA⁷²⁸²

⁷²⁶⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁷²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁷²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁷²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁷²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

- Objective : NominalMagnification⁷²⁸³
- ObjectiveSettings : ID⁷²⁸⁴
- ObjectiveSettings : RefractiveIndex⁷²⁸⁵
- Pixels : BigEndian⁷²⁸⁶
- Pixels : DimensionOrder⁷²⁸⁷
- Pixels : ID⁷²⁸⁸
- Pixels : Interleaved⁷²⁸⁹
- Pixels : SignificantBits⁷²⁹⁰
- Pixels : SizeC⁷²⁹¹
- Pixels : SizeT⁷²⁹²
- Pixels : SizeX⁷²⁹³
- Pixels : SizeY⁷²⁹⁴
- Pixels : SizeZ⁷²⁹⁵
- Pixels : TimeIncrement⁷²⁹⁶
- Pixels : Type⁷²⁹⁷
- Plane : TheC⁷²⁹⁸
- Plane : TheT⁷²⁹⁹
- Plane : TheZ⁷³⁰⁰

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](#)⁷³⁰¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁷²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁷²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁷²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁷²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁷²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷³⁰¹<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats IPLab format reader:

- Channel : ID⁷³⁰²
- Channel : SamplesPerPixel⁷³⁰³
- Image : AcquisitionDate⁷³⁰⁴
- Image : Description⁷³⁰⁵
- Image : ID⁷³⁰⁶
- Image : Name⁷³⁰⁷
- Image : ROIRef⁷³⁰⁸
- Pixels : BigEndian⁷³⁰⁹
- Pixels : DimensionOrder⁷³¹⁰
- Pixels : ID⁷³¹¹
- Pixels : Interleaved⁷³¹²
- Pixels : PhysicalSizeX⁷³¹³
- Pixels : PhysicalSizeY⁷³¹⁴
- Pixels : SignificantBits⁷³¹⁵
- Pixels : SizeC⁷³¹⁶
- Pixels : SizeT⁷³¹⁷
- Pixels : SizeX⁷³¹⁸
- Pixels : SizeY⁷³¹⁹
- Pixels : SizeZ⁷³²⁰
- Pixels : TimeIncrement⁷³²¹
- Pixels : Type⁷³²²
- Plane : DeltaT⁷³²³
- Plane : TheC⁷³²⁴
- Plane : TheT⁷³²⁵

⁷³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁷³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁷³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷³²⁶
- ROI : ID⁷³²⁷
- Rectangle : Height⁷³²⁸
- Rectangle : ID⁷³²⁹
- Rectangle : Width⁷³³⁰
- Rectangle : X⁷³³¹
- Rectangle : Y⁷³³²

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](#)⁷³³³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷³³⁴
- Channel : SamplesPerPixel⁷³³⁵
- Image : AcquisitionDate⁷³³⁶
- Image : ID⁷³³⁷
- Image : Name⁷³³⁸
- Pixels : BigEndian⁷³³⁹
- Pixels : DimensionOrder⁷³⁴⁰
- Pixels : ID⁷³⁴¹
- Pixels : Interleaved⁷³⁴²

⁷³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁷³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁷³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁷³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁷³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁷³³³<http://www.openmicroscopy.org/site/support/ome-model/>

⁷³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : SignificantBits⁷³⁴³
- Pixels : SizeC⁷³⁴⁴
- Pixels : SizeT⁷³⁴⁵
- Pixels : SizeX⁷³⁴⁶
- Pixels : SizeY⁷³⁴⁷
- Pixels : SizeZ⁷³⁴⁸
- Pixels : Type⁷³⁴⁹
- Plane : TheC⁷³⁵⁰
- Plane : TheT⁷³⁵¹
- Plane : TheZ⁷³⁵²

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](#)⁷³⁵³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷³⁵⁴
- Channel : SamplesPerPixel⁷³⁵⁵
- Image : AcquisitionDate⁷³⁵⁶
- Image : ID⁷³⁵⁷
- Image : Name⁷³⁵⁸
- Pixels : BigEndian⁷³⁵⁹

⁷³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷³⁵³<http://www.openmicroscopy.org/site/support/ome-model/>

⁷³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁷³⁶⁰
- Pixels : ID⁷³⁶¹
- Pixels : Interleaved⁷³⁶²
- Pixels : SignificantBits⁷³⁶³
- Pixels : SizeC⁷³⁶⁴
- Pixels : SizeT⁷³⁶⁵
- Pixels : SizeX⁷³⁶⁶
- Pixels : SizeY⁷³⁶⁷
- Pixels : SizeZ⁷³⁶⁸
- Pixels : Type⁷³⁶⁹
- Plane : TheC⁷³⁷⁰
- Plane : TheT⁷³⁷¹
- Plane : TheZ⁷³⁷²

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*⁷³⁷³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷³⁷⁴
- Channel : SamplesPerPixel⁷³⁷⁵
- Image : AcquisitionDate⁷³⁷⁶

⁷³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷³⁷³<http://www.openmicroscopy.org/site/support/ome-model/>

⁷³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁷³⁷⁷
- Image : Name⁷³⁷⁸
- Pixels : BigEndian⁷³⁷⁹
- Pixels : DimensionOrder⁷³⁸⁰
- Pixels : ID⁷³⁸¹
- Pixels : Interleaved⁷³⁸²
- Pixels : SignificantBits⁷³⁸³
- Pixels : SizeC⁷³⁸⁴
- Pixels : SizeT⁷³⁸⁵
- Pixels : SizeX⁷³⁸⁶
- Pixels : SizeY⁷³⁸⁷
- Pixels : SizeZ⁷³⁸⁸
- Pixels : Type⁷³⁸⁹
- Plane : TheC⁷³⁹⁰
- Plane : TheT⁷³⁹¹
- Plane : TheZ⁷³⁹²

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](#)⁷³⁹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁷³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷³⁹³<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats JPK Instruments format reader:

- Channel : ID⁷³⁹⁴
- Channel : SamplesPerPixel⁷³⁹⁵
- Image : AcquisitionDate⁷³⁹⁶
- Image : ID⁷³⁹⁷
- Image : Name⁷³⁹⁸
- Pixels : BigEndian⁷³⁹⁹
- Pixels : DimensionOrder⁷⁴⁰⁰
- Pixels : ID⁷⁴⁰¹
- Pixels : Interleaved⁷⁴⁰²
- Pixels : SignificantBits⁷⁴⁰³
- Pixels : SizeC⁷⁴⁰⁴
- Pixels : SizeT⁷⁴⁰⁵
- Pixels : SizeX⁷⁴⁰⁶
- Pixels : SizeY⁷⁴⁰⁷
- Pixels : SizeZ⁷⁴⁰⁸
- Pixels : Type⁷⁴⁰⁹
- Plane : TheC⁷⁴¹⁰
- Plane : TheT⁷⁴¹¹
- Plane : TheZ⁷⁴¹²

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.

- ⁷³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁷³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁷³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁷³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁷³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁷³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁷⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁷⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁷⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁷⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁷⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁷⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁷⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁷⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁷⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁷⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁷⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁷⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁷⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁷⁴¹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁴¹⁴
- Channel : SamplesPerPixel⁷⁴¹⁵
- Image : AcquisitionDate⁷⁴¹⁶
- Image : ID⁷⁴¹⁷
- Image : Name⁷⁴¹⁸
- Pixels : BigEndian⁷⁴¹⁹
- Pixels : DimensionOrder⁷⁴²⁰
- Pixels : ID⁷⁴²¹
- Pixels : Interleaved⁷⁴²²
- Pixels : SignificantBits⁷⁴²³
- Pixels : SizeC⁷⁴²⁴
- Pixels : SizeT⁷⁴²⁵
- Pixels : SizeX⁷⁴²⁶
- Pixels : SizeY⁷⁴²⁷
- Pixels : SizeZ⁷⁴²⁸
- Pixels : Type⁷⁴²⁹
- Plane : TheC⁷⁴³⁰
- Plane : TheT⁷⁴³¹
- Plane : TheZ⁷⁴³²

⁷⁴¹³<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁴³²http://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](#)⁷⁴³³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁴³⁴
- Channel : SamplesPerPixel⁷⁴³⁵
- Image : AcquisitionDate⁷⁴³⁶
- Image : ID⁷⁴³⁷
- Image : Name⁷⁴³⁸
- Pixels : BigEndian⁷⁴³⁹
- Pixels : DimensionOrder⁷⁴⁴⁰
- Pixels : ID⁷⁴⁴¹
- Pixels : Interleaved⁷⁴⁴²
- Pixels : SignificantBits⁷⁴⁴³
- Pixels : SizeC⁷⁴⁴⁴
- Pixels : SizeT⁷⁴⁴⁵
- Pixels : SizeX⁷⁴⁴⁶
- Pixels : SizeY⁷⁴⁴⁷
- Pixels : SizeZ⁷⁴⁴⁸
- Pixels : Type⁷⁴⁴⁹

⁷⁴³³<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

- Plane : TheC⁷⁴⁵⁰
- Plane : TheT⁷⁴⁵¹
- Plane : TheZ⁷⁴⁵²

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*⁷⁴⁵³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁴⁵⁴
- Channel : SamplesPerPixel⁷⁴⁵⁵
- Image : AcquisitionDate⁷⁴⁵⁶
- Image : ID⁷⁴⁵⁷
- Image : InstrumentRef⁷⁴⁵⁸
- Image : Name⁷⁴⁵⁹
- ImagingEnvironment : Temperature⁷⁴⁶⁰
- Instrument : ID⁷⁴⁶¹
- Microscope : Model⁷⁴⁶²
- Pixels : BigEndian⁷⁴⁶³
- Pixels : DimensionOrder⁷⁴⁶⁴
- Pixels : ID⁷⁴⁶⁵
- Pixels : Interleaved⁷⁴⁶⁶

⁷⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁴⁵³<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁷⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : PhysicalSizeX⁷⁴⁶⁷
- Pixels : PhysicalSizeY⁷⁴⁶⁸
- Pixels : SignificantBits⁷⁴⁶⁹
- Pixels : SizeC⁷⁴⁷⁰
- Pixels : SizeT⁷⁴⁷¹
- Pixels : SizeX⁷⁴⁷²
- Pixels : SizeY⁷⁴⁷³
- Pixels : SizeZ⁷⁴⁷⁴
- Pixels : Type⁷⁴⁷⁵
- Plane : ExposureTime⁷⁴⁷⁶
- Plane : TheC⁷⁴⁷⁷
- Plane : TheT⁷⁴⁷⁸
- Plane : TheZ⁷⁴⁷⁹

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*⁷⁴⁸⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁴⁸¹
- Channel : SamplesPerPixel⁷⁴⁸²
- Image : AcquisitionDate⁷⁴⁸³

⁷⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁴⁸⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁷⁴⁸⁴
- Image : Name⁷⁴⁸⁵
- Image : ROIRef⁷⁴⁸⁶
- Pixels : BigEndian⁷⁴⁸⁷
- Pixels : DimensionOrder⁷⁴⁸⁸
- Pixels : ID⁷⁴⁸⁹
- Pixels : Interleaved⁷⁴⁹⁰
- Pixels : SignificantBits⁷⁴⁹¹
- Pixels : SizeC⁷⁴⁹²
- Pixels : SizeT⁷⁴⁹³
- Pixels : SizeX⁷⁴⁹⁴
- Pixels : SizeY⁷⁴⁹⁵
- Pixels : SizeZ⁷⁴⁹⁶
- Pixels : Type⁷⁴⁹⁷
- Plane : DeltaT⁷⁴⁹⁸
- Plane : ExposureTime⁷⁴⁹⁹
- Plane : TheC⁷⁵⁰⁰
- Plane : TheT⁷⁵⁰¹
- Plane : TheZ⁷⁵⁰²
- Polygon : ID⁷⁵⁰³
- Polygon : Points⁷⁵⁰⁴
- ROI : ID⁷⁵⁰⁵

Total supported: 25

Total unknown or missing: 450

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *LaVision Inspector*

- ⁷⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁷⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁷⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID
- ⁷⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁷⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁷⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁷⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁷⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁷⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁷⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁷⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁷⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁷⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁷⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁷⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT
- ⁷⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime
- ⁷⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁷⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁷⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ⁷⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ⁷⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points
- ⁷⁵⁰⁵http://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](#)⁷⁵⁰⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁵⁰⁷
- Channel : SamplesPerPixel⁷⁵⁰⁸
- Image : AcquisitionDate⁷⁵⁰⁹
- Image : ID⁷⁵¹⁰
- Image : Name⁷⁵¹¹
- Pixels : BigEndian⁷⁵¹²
- Pixels : DimensionOrder⁷⁵¹³
- Pixels : ID⁷⁵¹⁴
- Pixels : Interleaved⁷⁵¹⁵
- Pixels : SignificantBits⁷⁵¹⁶
- Pixels : SizeC⁷⁵¹⁷
- Pixels : SizeT⁷⁵¹⁸
- Pixels : SizeX⁷⁵¹⁹
- Pixels : SizeY⁷⁵²⁰
- Pixels : SizeZ⁷⁵²¹
- Pixels : Type⁷⁵²²
- Plane : TheC⁷⁵²³
- Plane : TheT⁷⁵²⁴

⁷⁵⁰⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷⁵²⁵

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*⁷⁵²⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : Color⁷⁵²⁷
- Channel : EmissionWavelength⁷⁵²⁸
- Channel : ExcitationWavelength⁷⁵²⁹
- Channel : ID⁷⁵³⁰
- Channel : Name⁷⁵³¹
- Channel : PinholeSize⁷⁵³²
- Channel : SamplesPerPixel⁷⁵³³
- Detector : ID⁷⁵³⁴
- Detector : Offset⁷⁵³⁵
- Detector : Type⁷⁵³⁶
- Detector : Voltage⁷⁵³⁷
- DetectorSettings : ID⁷⁵³⁸
- Filter : ID⁷⁵³⁹
- Filter : Model⁷⁵⁴⁰
- Image : AcquisitionDate⁷⁵⁴¹

⁷⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁵²⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁷⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁷⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁷⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁷⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁷⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Voltage

⁷⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁷⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : Description⁷⁵⁴²
- Image : ID⁷⁵⁴³
- Image : InstrumentRef⁷⁵⁴⁴
- Image : Name⁷⁵⁴⁵
- Instrument : ID⁷⁵⁴⁶
- LightPath : EmissionFilterRef⁷⁵⁴⁷
- Objective : Correction⁷⁵⁴⁸
- Objective : ID⁷⁵⁴⁹
- Objective : Immersion⁷⁵⁵⁰
- Objective : LensNA⁷⁵⁵¹
- Objective : Model⁷⁵⁵²
- Objective : NominalMagnification⁷⁵⁵³
- Objective : SerialNumber⁷⁵⁵⁴
- ObjectiveSettings : ID⁷⁵⁵⁵
- ObjectiveSettings : RefractiveIndex⁷⁵⁵⁶
- Pixels : BigEndian⁷⁵⁵⁷
- Pixels : DimensionOrder⁷⁵⁵⁸
- Pixels : ID⁷⁵⁵⁹
- Pixels : Interleaved⁷⁵⁶⁰
- Pixels : PhysicalSizeX⁷⁵⁶¹
- Pixels : PhysicalSizeY⁷⁵⁶²
- Pixels : PhysicalSizeZ⁷⁵⁶³
- Pixels : SignificantBits⁷⁵⁶⁴
- Pixels : SizeC⁷⁵⁶⁵
- Pixels : SizeT⁷⁵⁶⁶
- Pixels : SizeX⁷⁵⁶⁷

⁷⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁷⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁷⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁷⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁷⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁷⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁷⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁷⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁷⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁷⁵⁶⁸
- Pixels : SizeZ⁷⁵⁶⁹
- Pixels : TimeIncrement⁷⁵⁷⁰
- Pixels : Type⁷⁵⁷¹
- Plane : DeltaT⁷⁵⁷²
- Plane : ExposureTime⁷⁵⁷³
- Plane : PositionX⁷⁵⁷⁴
- Plane : PositionY⁷⁵⁷⁵
- Plane : TheC⁷⁵⁷⁶
- Plane : TheT⁷⁵⁷⁷
- Plane : TheZ⁷⁵⁷⁸
- StageLabel : Name⁷⁵⁷⁹
- StageLabel : Z⁷⁵⁸⁰
- TransmittanceRange : CutIn⁷⁵⁸¹
- TransmittanceRange : CutOut⁷⁵⁸²

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*⁷⁵⁸³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : Color⁷⁵⁸⁴

⁷⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁷⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁷⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁷⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Name

⁷⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Z

⁷⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

⁷⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

⁷⁵⁸³<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

- Channel : ExcitationWavelength⁷⁵⁸⁵
- Channel : ID⁷⁵⁸⁶
- Channel : LightSourceSettingsAttenuation⁷⁵⁸⁷
- Channel : LightSourceSettingsID⁷⁵⁸⁸
- Channel : Name⁷⁵⁸⁹
- Channel : PinholeSize⁷⁵⁹⁰
- Channel : SamplesPerPixel⁷⁵⁹¹
- Detector : ID⁷⁵⁹²
- Detector : Model⁷⁵⁹³
- Detector : Offset⁷⁵⁹⁴
- Detector : Type⁷⁵⁹⁵
- Detector : Zoom⁷⁵⁹⁶
- DetectorSettings : Gain⁷⁵⁹⁷
- DetectorSettings : ID⁷⁵⁹⁸
- DetectorSettings : Offset⁷⁵⁹⁹
- Filter : ID⁷⁶⁰⁰
- Filter : Model⁷⁶⁰¹
- Image : AcquisitionDate⁷⁶⁰²
- Image : Description⁷⁶⁰³
- Image : ID⁷⁶⁰⁴
- Image : InstrumentRef⁷⁶⁰⁵
- Image : Name⁷⁶⁰⁶
- Image : ROIRef⁷⁶⁰⁷
- Instrument : ID⁷⁶⁰⁸
- Label : FontSize⁷⁶⁰⁹
- Label : ID⁷⁶¹⁰

⁷⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁷⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Attenuation

⁷⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

⁷⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁷⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁷⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁷⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁷⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁷⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁷⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁷⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

- Label : StrokeWidth⁷⁶¹¹
- Label : Text⁷⁶¹²
- Label : X⁷⁶¹³
- Label : Y⁷⁶¹⁴
- Laser : ID⁷⁶¹⁵
- Laser : LaserMedium⁷⁶¹⁶
- Laser : Type⁷⁶¹⁷
- Laser : Wavelength⁷⁶¹⁸
- LightPath : EmissionFilterRef⁷⁶¹⁹
- Line : ID⁷⁶²⁰
- Line : X1⁷⁶²¹
- Line : X2⁷⁶²²
- Line : Y1⁷⁶²³
- Line : Y2⁷⁶²⁴
- Microscope : Model⁷⁶²⁵
- Microscope : Type⁷⁶²⁶
- Objective : Correction⁷⁶²⁷
- Objective : ID⁷⁶²⁸
- Objective : Immersion⁷⁶²⁹
- Objective : LensNA⁷⁶³⁰
- Objective : Model⁷⁶³¹
- Objective : NominalMagnification⁷⁶³²
- Objective : SerialNumber⁷⁶³³
- ObjectiveSettings : ID⁷⁶³⁴
- ObjectiveSettings : RefractiveIndex⁷⁶³⁵
- Pixels : BigEndian⁷⁶³⁶

⁷⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁷⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁷⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_X

⁷⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_Y

⁷⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁷⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁷⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁷⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁷⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁷⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁷⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁷⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁷⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁷⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Microscope_Type

⁷⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁷⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁷⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁷⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁷⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁷⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁷⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁷⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁷⁶³⁷
- Pixels : ID⁷⁶³⁸
- Pixels : Interleaved⁷⁶³⁹
- Pixels : PhysicalSizeX⁷⁶⁴⁰
- Pixels : PhysicalSizeY⁷⁶⁴¹
- Pixels : PhysicalSizeZ⁷⁶⁴²
- Pixels : SignificantBits⁷⁶⁴³
- Pixels : SizeC⁷⁶⁴⁴
- Pixels : SizeT⁷⁶⁴⁵
- Pixels : SizeX⁷⁶⁴⁶
- Pixels : SizeY⁷⁶⁴⁷
- Pixels : SizeZ⁷⁶⁴⁸
- Pixels : TimeIncrement⁷⁶⁴⁹
- Pixels : Type⁷⁶⁵⁰
- Plane : DeltaT⁷⁶⁵¹
- Plane : ExposureTime⁷⁶⁵²
- Plane : PositionX⁷⁶⁵³
- Plane : PositionY⁷⁶⁵⁴
- Plane : PositionZ⁷⁶⁵⁵
- Plane : TheC⁷⁶⁵⁶
- Plane : TheT⁷⁶⁵⁷
- Plane : TheZ⁷⁶⁵⁸
- Polygon : ID⁷⁶⁵⁹
- Polygon : Points⁷⁶⁶⁰
- ROI : ID⁷⁶⁶¹
- Rectangle : Height⁷⁶⁶²

⁷⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁷⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁷⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁷⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁷⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁷⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁷⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

- Rectangle : ID⁷⁶⁶³
- Rectangle : Width⁷⁶⁶⁴
- Rectangle : X⁷⁶⁶⁵
- Rectangle : Y⁷⁶⁶⁶
- TransmittanceRange : CutIn⁷⁶⁶⁷
- TransmittanceRange : CutOut⁷⁶⁶⁸

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*⁷⁶⁶⁹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁶⁷⁰
- Channel : IlluminationType⁷⁶⁷¹
- Channel : SamplesPerPixel⁷⁶⁷²
- Image : AcquisitionDate⁷⁶⁷³
- Image : Description⁷⁶⁷⁴
- Image : ID⁷⁶⁷⁵
- Image : InstrumentRef⁷⁶⁷⁶
- Image : Name⁷⁶⁷⁷
- Instrument : ID⁷⁶⁷⁸
- Objective : CalibratedMagnification⁷⁶⁷⁹

⁷⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁷⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁷⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁷⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

⁷⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

⁷⁶⁶⁹<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_IlluminationType

⁷⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

- Objective : ID⁷⁶⁸⁰
- Objective : LensNA⁷⁶⁸¹
- Objective : NominalMagnification⁷⁶⁸²
- ObjectiveSettings : ID⁷⁶⁸³
- Pixels : BigEndian⁷⁶⁸⁴
- Pixels : DimensionOrder⁷⁶⁸⁵
- Pixels : ID⁷⁶⁸⁶
- Pixels : Interleaved⁷⁶⁸⁷
- Pixels : PhysicalSizeX⁷⁶⁸⁸
- Pixels : PhysicalSizeY⁷⁶⁸⁹
- Pixels : PhysicalSizeZ⁷⁶⁹⁰
- Pixels : SignificantBits⁷⁶⁹¹
- Pixels : SizeC⁷⁶⁹²
- Pixels : SizeT⁷⁶⁹³
- Pixels : SizeX⁷⁶⁹⁴
- Pixels : SizeY⁷⁶⁹⁵
- Pixels : SizeZ⁷⁶⁹⁶
- Pixels : Type⁷⁶⁹⁷
- Plane : PositionX⁷⁶⁹⁸
- Plane : PositionY⁷⁶⁹⁹
- Plane : TheC⁷⁷⁰⁰
- Plane : TheT⁷⁷⁰¹
- Plane : TheZ⁷⁷⁰²

Total supported: 33

Total unknown or missing: 442

Deprecated since version 5.1.5: See the Supported Metadata Fields links under [LEO](#)

- ⁷⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID
- ⁷⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA
- ⁷⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification
- ⁷⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID
- ⁷⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁷⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁷⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁷⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁷⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁷⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁷⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ⁷⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁷⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁷⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁷⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁷⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁷⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁷⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁷⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
- ⁷⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
- ⁷⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁷⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁷⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

18.2.239 LEORReader

This page lists supported metadata fields for the Bio-Formats LEO format reader.

These fields are from the [OME data model](#)⁷⁷⁰³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁷⁰⁴
- Channel : SamplesPerPixel⁷⁷⁰⁵
- Image : AcquisitionDate⁷⁷⁰⁶
- Image : ID⁷⁷⁰⁷
- Image : InstrumentRef⁷⁷⁰⁸
- Image : Name⁷⁷⁰⁹
- Instrument : ID⁷⁷¹⁰
- Objective : Correction⁷⁷¹¹
- Objective : ID⁷⁷¹²
- Objective : Immersion⁷⁷¹³
- Objective : WorkingDistance⁷⁷¹⁴
- Pixels : BigEndian⁷⁷¹⁵
- Pixels : DimensionOrder⁷⁷¹⁶
- Pixels : ID⁷⁷¹⁷
- Pixels : Interleaved⁷⁷¹⁸
- Pixels : PhysicalSizeX⁷⁷¹⁹
- Pixels : PhysicalSizeY⁷⁷²⁰
- Pixels : SignificantBits⁷⁷²¹

⁷⁷⁰³<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁷⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁷⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁷⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁷⁷²²
- Pixels : SizeT⁷⁷²³
- Pixels : SizeX⁷⁷²⁴
- Pixels : SizeY⁷⁷²⁵
- Pixels : SizeZ⁷⁷²⁶
- Pixels : Type⁷⁷²⁷
- Plane : TheC⁷⁷²⁸
- Plane : TheT⁷⁷²⁹
- Plane : TheZ⁷⁷³⁰

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*⁷⁷³¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁷³²
- Channel : LightSourceSettingsID⁷⁷³³
- Channel : SamplesPerPixel⁷⁷³⁴
- Image : AcquisitionDate⁷⁷³⁵
- Image : Description⁷⁷³⁶
- Image : ID⁷⁷³⁷
- Image : InstrumentRef⁷⁷³⁸

⁷⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁷³¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

⁷⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

- Image : Name⁷⁷³⁹
- Instrument : ID⁷⁷⁴⁰
- Laser : ID⁷⁷⁴¹
- Laser : LaserMedium⁷⁷⁴²
- Laser : Type⁷⁷⁴³
- Laser : Wavelength⁷⁷⁴⁴
- Microscope : Model⁷⁷⁴⁵
- Microscope : Type⁷⁷⁴⁶
- Pixels : BigEndian⁷⁷⁴⁷
- Pixels : DimensionOrder⁷⁷⁴⁸
- Pixels : ID⁷⁷⁴⁹
- Pixels : Interleaved⁷⁷⁵⁰
- Pixels : SignificantBits⁷⁷⁵¹
- Pixels : SizeC⁷⁷⁵²
- Pixels : SizeT⁷⁷⁵³
- Pixels : SizeX⁷⁷⁵⁴
- Pixels : SizeY⁷⁷⁵⁵
- Pixels : SizeZ⁷⁷⁵⁶
- Pixels : Type⁷⁷⁵⁷
- Plane : TheC⁷⁷⁵⁸
- Plane : TheT⁷⁷⁵⁹
- Plane : TheZ⁷⁷⁶⁰

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)*

- ⁷⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁷⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID
- ⁷⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID
- ⁷⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium
- ⁷⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type
- ⁷⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength
- ⁷⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model
- ⁷⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Microscope_Type
- ⁷⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁷⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁷⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁷⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁷⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁷⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁷⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁷⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁷⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁷⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁷⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁷⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁷⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁷⁷⁶⁰http://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](#)⁷⁷⁶¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁷⁶²
- Channel : SamplesPerPixel⁷⁷⁶³
- Image : AcquisitionDate⁷⁷⁶⁴
- Image : ID⁷⁷⁶⁵
- Image : Name⁷⁷⁶⁶
- Pixels : BigEndian⁷⁷⁶⁷
- Pixels : DimensionOrder⁷⁷⁶⁸
- Pixels : ID⁷⁷⁶⁹
- Pixels : Interleaved⁷⁷⁷⁰
- Pixels : SignificantBits⁷⁷⁷¹
- Pixels : SizeC⁷⁷⁷²
- Pixels : SizeT⁷⁷⁷³
- Pixels : SizeX⁷⁷⁷⁴
- Pixels : SizeY⁷⁷⁷⁵
- Pixels : SizeZ⁷⁷⁷⁶
- Pixels : Type⁷⁷⁷⁷
- Plane : TheC⁷⁷⁷⁸
- Plane : TheT⁷⁷⁷⁹

⁷⁷⁶¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷⁷⁸⁰

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*⁷⁷⁸¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁷⁸²
- Channel : Name⁷⁷⁸³
- Channel : SamplesPerPixel⁷⁷⁸⁴
- Image : AcquisitionDate⁷⁷⁸⁵
- Image : Description⁷⁷⁸⁶
- Image : ID⁷⁷⁸⁷
- Image : Name⁷⁷⁸⁸
- ImagingEnvironment : Temperature⁷⁷⁸⁹
- Pixels : BigEndian⁷⁷⁹⁰
- Pixels : DimensionOrder⁷⁷⁹¹
- Pixels : ID⁷⁷⁹²
- Pixels : Interleaved⁷⁷⁹³
- Pixels : PhysicalSizeX⁷⁷⁹⁴
- Pixels : PhysicalSizeY⁷⁷⁹⁵
- Pixels : PhysicalSizeZ⁷⁷⁹⁶

⁷⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁷⁸¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁷⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

- Pixels : SignificantBits⁷⁷⁹⁷
- Pixels : SizeC⁷⁷⁹⁸
- Pixels : SizeT⁷⁷⁹⁹
- Pixels : SizeX⁷⁸⁰⁰
- Pixels : SizeY⁷⁸⁰¹
- Pixels : SizeZ⁷⁸⁰²
- Pixels : Type⁷⁸⁰³
- Plane : DeltaT⁷⁸⁰⁴
- Plane : ExposureTime⁷⁸⁰⁵
- Plane : PositionX⁷⁸⁰⁶
- Plane : PositionY⁷⁸⁰⁷
- Plane : TheC⁷⁸⁰⁸
- Plane : TheT⁷⁸⁰⁹
- Plane : TheZ⁷⁸¹⁰
- Plate : ColumnNamingConvention⁷⁸¹¹
- Plate : ID⁷⁸¹²
- Plate : RowNamingConvention⁷⁸¹³
- Well : Column⁷⁸¹⁴
- Well : ID⁷⁸¹⁵
- Well : Row⁷⁸¹⁶
- WellSample : ID⁷⁸¹⁷
- WellSample : ImageRef⁷⁸¹⁸
- WellSample : Index⁷⁸¹⁹

Total supported: 38

Total unknown or missing: 437

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *MetaMorph Stack (STK)*

- ⁷⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁷⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁷⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁷⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁷⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁷⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁷⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁷⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT
- ⁷⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime
- ⁷⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
- ⁷⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
- ⁷⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁷⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁷⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ⁷⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention
- ⁷⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID
- ⁷⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention
- ⁷⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column
- ⁷⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID
- ⁷⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row
- ⁷⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID
- ⁷⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID
- ⁷⁸¹⁹http://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](#)⁷⁸²⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁸²¹
- Channel : LightSourceSettingsID⁷⁸²²
- Channel : LightSourceSettingsWavelength⁷⁸²³
- Channel : Name⁷⁸²⁴
- Channel : SamplesPerPixel⁷⁸²⁵
- Detector : ID⁷⁸²⁶
- Detector : Type⁷⁸²⁷
- DetectorSettings : Binning⁷⁸²⁸
- DetectorSettings : Gain⁷⁸²⁹
- DetectorSettings : ID⁷⁸³⁰
- DetectorSettings : ReadOutRate⁷⁸³¹
- Image : AcquisitionDate⁷⁸³²
- Image : Description⁷⁸³³
- Image : ID⁷⁸³⁴
- Image : InstrumentRef⁷⁸³⁵
- Image : Name⁷⁸³⁶
- ImagingEnvironment : Temperature⁷⁸³⁷
- Instrument : ID⁷⁸³⁸

⁷⁸²⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

⁷⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Wavelength

⁷⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁷⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

⁷⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁷⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

- Laser : ID⁷⁸³⁹
- Laser : LaserMedium⁷⁸⁴⁰
- Laser : Type⁷⁸⁴¹
- Objective : ID⁷⁸⁴²
- Objective : LensNA⁷⁸⁴³
- ObjectiveSettings : ID⁷⁸⁴⁴
- Pixels : BigEndian⁷⁸⁴⁵
- Pixels : DimensionOrder⁷⁸⁴⁶
- Pixels : ID⁷⁸⁴⁷
- Pixels : Interleaved⁷⁸⁴⁸
- Pixels : PhysicalSizeX⁷⁸⁴⁹
- Pixels : PhysicalSizeY⁷⁸⁵⁰
- Pixels : PhysicalSizeZ⁷⁸⁵¹
- Pixels : SignificantBits⁷⁸⁵²
- Pixels : SizeC⁷⁸⁵³
- Pixels : SizeT⁷⁸⁵⁴
- Pixels : SizeX⁷⁸⁵⁵
- Pixels : SizeY⁷⁸⁵⁶
- Pixels : SizeZ⁷⁸⁵⁷
- Pixels : Type⁷⁸⁵⁸
- Plane : DeltaT⁷⁸⁵⁹
- Plane : ExposureTime⁷⁸⁶⁰
- Plane : PositionX⁷⁸⁶¹
- Plane : PositionY⁷⁸⁶²
- Plane : PositionZ⁷⁸⁶³
- Plane : TheC⁷⁸⁶⁴

⁷⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁷⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁷⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁷⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁷⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁷⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁷⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁷⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁷⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁷⁸⁶⁵
- Plane : TheZ⁷⁸⁶⁶

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*⁷⁸⁶⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : Color⁷⁸⁶⁸
- Channel : ID⁷⁸⁶⁹
- Channel : Name⁷⁸⁷⁰
- Channel : SamplesPerPixel⁷⁸⁷¹
- Ellipse : ID⁷⁸⁷²
- Ellipse : RadiusX⁷⁸⁷³
- Ellipse : RadiusY⁷⁸⁷⁴
- Ellipse : Text⁷⁸⁷⁵
- Ellipse : TheT⁷⁸⁷⁶
- Ellipse : TheZ⁷⁸⁷⁷
- Ellipse : X⁷⁸⁷⁸
- Ellipse : Y⁷⁸⁷⁹
- Experiment : Description⁷⁸⁸⁰
- Experiment : ID⁷⁸⁸¹

⁷⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁸⁶⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁷⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁷⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁷⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁷⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁷⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁷⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

⁷⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

⁷⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Description

⁷⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

- Experiment : Type⁷⁸⁸²
- Image : AcquisitionDate⁷⁸⁸³
- Image : ExperimentRef⁷⁸⁸⁴
- Image : ID⁷⁸⁸⁵
- Image : InstrumentRef⁷⁸⁸⁶
- Image : Name⁷⁸⁸⁷
- Image : ROIRef⁷⁸⁸⁸
- Instrument : ID⁷⁸⁸⁹
- Mask : FillColor⁷⁸⁹⁰
- Mask : Height⁷⁸⁹¹
- Mask : ID⁷⁸⁹²
- Mask : StrokeColor⁷⁸⁹³
- Mask : Width⁷⁸⁹⁴
- Mask : X⁷⁸⁹⁵
- Mask : Y⁷⁸⁹⁶
- Objective : ID⁷⁸⁹⁷
- Objective : Model⁷⁸⁹⁸
- Objective : NominalMagnification⁷⁸⁹⁹
- Pixels : BigEndian⁷⁹⁰⁰
- Pixels : DimensionOrder⁷⁹⁰¹
- Pixels : ID⁷⁹⁰²
- Pixels : Interleaved⁷⁹⁰³
- Pixels : PhysicalSizeX⁷⁹⁰⁴
- Pixels : PhysicalSizeY⁷⁹⁰⁵
- Pixels : SignificantBits⁷⁹⁰⁶
- Pixels : SizeC⁷⁹⁰⁷

⁷⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

⁷⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimentRef_ID

⁷⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁷⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FillColor

⁷⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Height

⁷⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁷⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeColor

⁷⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Width

⁷⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_X

⁷⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Y

⁷⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁷⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁷⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁷⁹⁰⁸
- Pixels : SizeX⁷⁹⁰⁹
- Pixels : SizeY⁷⁹¹⁰
- Pixels : SizeZ⁷⁹¹¹
- Pixels : Type⁷⁹¹²
- Plane : ExposureTime⁷⁹¹³
- Plane : TheC⁷⁹¹⁴
- Plane : TheT⁷⁹¹⁵
- Plane : TheZ⁷⁹¹⁶
- Plate : ColumnNamingConvention⁷⁹¹⁷
- Plate : ExternalIdentifier⁷⁹¹⁸
- Plate : ID⁷⁹¹⁹
- Plate : Name⁷⁹²⁰
- Plate : RowNamingConvention⁷⁹²¹
- PlateAcquisition : ID⁷⁹²²
- PlateAcquisition : MaximumFieldCount⁷⁹²³
- PlateAcquisition : WellSampleRef⁷⁹²⁴
- ROI : ID⁷⁹²⁵
- Well : Column⁷⁹²⁶
- Well : ID⁷⁹²⁷
- Well : Row⁷⁹²⁸
- WellSample : ID⁷⁹²⁹
- WellSample : ImageRef⁷⁹³⁰
- WellSample : Index⁷⁹³¹

Total supported: 64

Total unknown or missing: 411

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Micro-Manager*

⁷⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁷⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ExternalIdentifier

⁷⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁷⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁷⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁷⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁷⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁷⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁷⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁷⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁷⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁷⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁷⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁷⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁷⁹³¹http://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](#)⁷⁹³². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁹³³
- Channel : Name⁷⁹³⁴
- Channel : SamplesPerPixel⁷⁹³⁵
- Detector : ID⁷⁹³⁶
- Detector : Manufacturer⁷⁹³⁷
- Detector : Model⁷⁹³⁸
- Detector : SerialNumber⁷⁹³⁹
- Detector : Type⁷⁹⁴⁰
- DetectorSettings : Binning⁷⁹⁴¹
- DetectorSettings : Gain⁷⁹⁴²
- DetectorSettings : ID⁷⁹⁴³
- DetectorSettings : Voltage⁷⁹⁴⁴
- Image : AcquisitionDate⁷⁹⁴⁵
- Image : Description⁷⁹⁴⁶
- Image : ID⁷⁹⁴⁷
- Image : InstrumentRef⁷⁹⁴⁸
- Image : Name⁷⁹⁴⁹
- ImagingEnvironment : Temperature⁷⁹⁵⁰

⁷⁹³²<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁷⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁷⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁷⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁷⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁷⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁷⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁷⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁷⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁷⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁷⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁷⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

- Instrument : ID⁷⁹⁵¹
- Pixels : BigEndian⁷⁹⁵²
- Pixels : DimensionOrder⁷⁹⁵³
- Pixels : ID⁷⁹⁵⁴
- Pixels : Interleaved⁷⁹⁵⁵
- Pixels : PhysicalSizeX⁷⁹⁵⁶
- Pixels : PhysicalSizeY⁷⁹⁵⁷
- Pixels : PhysicalSizeZ⁷⁹⁵⁸
- Pixels : SignificantBits⁷⁹⁵⁹
- Pixels : SizeC⁷⁹⁶⁰
- Pixels : SizeT⁷⁹⁶¹
- Pixels : SizeX⁷⁹⁶²
- Pixels : SizeY⁷⁹⁶³
- Pixels : SizeZ⁷⁹⁶⁴
- Pixels : Type⁷⁹⁶⁵
- Plane : DeltaT⁷⁹⁶⁶
- Plane : ExposureTime⁷⁹⁶⁷
- Plane : TheC⁷⁹⁶⁸
- Plane : TheT⁷⁹⁶⁹
- Plane : TheZ⁷⁹⁷⁰

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](#)⁷⁹⁷¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁷⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁷⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁷⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁷⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁷⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁹⁷¹<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 : ID⁷⁹⁷²
- Channel : SamplesPerPixel⁷⁹⁷³
- Image : AcquisitionDate⁷⁹⁷⁴
- Image : Description⁷⁹⁷⁵
- Image : ID⁷⁹⁷⁶
- Image : Name⁷⁹⁷⁷
- Pixels : BigEndian⁷⁹⁷⁸
- Pixels : DimensionOrder⁷⁹⁷⁹
- Pixels : ID⁷⁹⁸⁰
- Pixels : Interleaved⁷⁹⁸¹
- Pixels : PhysicalSizeX⁷⁹⁸²
- Pixels : PhysicalSizeY⁷⁹⁸³
- Pixels : PhysicalSizeZ⁷⁹⁸⁴
- Pixels : SignificantBits⁷⁹⁸⁵
- Pixels : SizeC⁷⁹⁸⁶
- Pixels : SizeT⁷⁹⁸⁷
- Pixels : SizeX⁷⁹⁸⁸
- Pixels : SizeY⁷⁹⁸⁹
- Pixels : SizeZ⁷⁹⁹⁰
- Pixels : Type⁷⁹⁹¹
- Plane : TheC⁷⁹⁹²
- Plane : TheT⁷⁹⁹³

⁷⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁷⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁷⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁷⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁷⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁷⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁷⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁷⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁷⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁷⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁷⁹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁷⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁷⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁷⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁷⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁷⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁷⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁷⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁷⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁷⁹⁹⁴

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*⁷⁹⁹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁷⁹⁹⁶
- Channel : SamplesPerPixel⁷⁹⁹⁷
- Image : AcquisitionDate⁷⁹⁹⁸
- Image : ID⁷⁹⁹⁹
- Image : Name⁸⁰⁰⁰
- Pixels : BigEndian⁸⁰⁰¹
- Pixels : DimensionOrder⁸⁰⁰²
- Pixels : ID⁸⁰⁰³
- Pixels : Interleaved⁸⁰⁰⁴
- Pixels : SignificantBits⁸⁰⁰⁵
- Pixels : SizeC⁸⁰⁰⁶
- Pixels : SizeT⁸⁰⁰⁷
- Pixels : SizeX⁸⁰⁰⁸
- Pixels : SizeY⁸⁰⁰⁹
- Pixels : SizeZ⁸⁰¹⁰

⁷⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁷⁹⁹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁷⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁷⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁷⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁷⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁰⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type⁸⁰¹¹
- Plane : TheC⁸⁰¹²
- Plane : TheT⁸⁰¹³
- Plane : TheZ⁸⁰¹⁴

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*⁸⁰¹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁰¹⁶
- Channel : SamplesPerPixel⁸⁰¹⁷
- Image : AcquisitionDate⁸⁰¹⁸
- Image : ID⁸⁰¹⁹
- Image : Name⁸⁰²⁰
- Pixels : BigEndian⁸⁰²¹
- Pixels : DimensionOrder⁸⁰²²
- Pixels : ID⁸⁰²³
- Pixels : Interleaved⁸⁰²⁴
- Pixels : SignificantBits⁸⁰²⁵
- Pixels : SizeC⁸⁰²⁶
- Pixels : SizeT⁸⁰²⁷

⁸⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁰¹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁸⁰²⁸
- Pixels : SizeY⁸⁰²⁹
- Pixels : SizeZ⁸⁰³⁰
- Pixels : Type⁸⁰³¹
- Plane : TheC⁸⁰³²
- Plane : TheT⁸⁰³³
- Plane : TheZ⁸⁰³⁴

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*⁸⁰³⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁰³⁶
- Channel : SamplesPerPixel⁸⁰³⁷
- Image : AcquisitionDate⁸⁰³⁸
- Image : ID⁸⁰³⁹
- Image : Name⁸⁰⁴⁰
- Pixels : BigEndian⁸⁰⁴¹
- Pixels : DimensionOrder⁸⁰⁴²
- Pixels : ID⁸⁰⁴³
- Pixels : Interleaved⁸⁰⁴⁴

⁸⁰²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁰³⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

- Pixels : PhysicalSizeX⁸⁰⁴⁵
- Pixels : PhysicalSizeY⁸⁰⁴⁶
- Pixels : SignificantBits⁸⁰⁴⁷
- Pixels : SizeC⁸⁰⁴⁸
- Pixels : SizeT⁸⁰⁴⁹
- Pixels : SizeX⁸⁰⁵⁰
- Pixels : SizeY⁸⁰⁵¹
- Pixels : SizeZ⁸⁰⁵²
- Pixels : Type⁸⁰⁵³
- Plane : TheC⁸⁰⁵⁴
- Plane : TheT⁸⁰⁵⁵
- Plane : TheZ⁸⁰⁵⁶

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*⁸⁰⁵⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁰⁵⁸
- Channel : SamplesPerPixel⁸⁰⁵⁹
- Image : AcquisitionDate⁸⁰⁶⁰
- Image : ID⁸⁰⁶¹

⁸⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁰⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁰⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁰⁵⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁸⁰⁶²
- Pixels : BigEndian⁸⁰⁶³
- Pixels : DimensionOrder⁸⁰⁶⁴
- Pixels : ID⁸⁰⁶⁵
- Pixels : Interleaved⁸⁰⁶⁶
- Pixels : PhysicalSizeX⁸⁰⁶⁷
- Pixels : PhysicalSizeY⁸⁰⁶⁸
- Pixels : PhysicalSizeZ⁸⁰⁶⁹
- Pixels : SignificantBits⁸⁰⁷⁰
- Pixels : SizeC⁸⁰⁷¹
- Pixels : SizeT⁸⁰⁷²
- Pixels : SizeX⁸⁰⁷³
- Pixels : SizeY⁸⁰⁷⁴
- Pixels : SizeZ⁸⁰⁷⁵
- Pixels : Type⁸⁰⁷⁶
- Plane : TheC⁸⁰⁷⁷
- Plane : TheT⁸⁰⁷⁸
- Plane : TheZ⁸⁰⁷⁹

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](#)⁸⁰⁸⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁸⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁰⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁰⁸⁰<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Nikon NEF format reader:

- Channel : ID⁸⁰⁸¹
- Channel : SamplesPerPixel⁸⁰⁸²
- Image : AcquisitionDate⁸⁰⁸³
- Image : ID⁸⁰⁸⁴
- Image : Name⁸⁰⁸⁵
- Pixels : BigEndian⁸⁰⁸⁶
- Pixels : DimensionOrder⁸⁰⁸⁷
- Pixels : ID⁸⁰⁸⁸
- Pixels : Interleaved⁸⁰⁸⁹
- Pixels : SignificantBits⁸⁰⁹⁰
- Pixels : SizeC⁸⁰⁹¹
- Pixels : SizeT⁸⁰⁹²
- Pixels : SizeX⁸⁰⁹³
- Pixels : SizeY⁸⁰⁹⁴
- Pixels : SizeZ⁸⁰⁹⁵
- Pixels : Type⁸⁰⁹⁶
- Plane : TheC⁸⁰⁹⁷
- Plane : TheT⁸⁰⁹⁸
- Plane : TheZ⁸⁰⁹⁹

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.

- ⁸⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁸⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁸⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁸⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁸⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁸⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁸⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁸⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁸⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁸⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁸⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁸⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁸⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁸⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁸⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁸⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁸⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁸⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁸⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁸¹⁰⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸¹⁰¹
- Channel : SamplesPerPixel⁸¹⁰²
- Image : AcquisitionDate⁸¹⁰³
- Image : Description⁸¹⁰⁴
- Image : ID⁸¹⁰⁵
- Image : Name⁸¹⁰⁶
- Pixels : BigEndian⁸¹⁰⁷
- Pixels : DimensionOrder⁸¹⁰⁸
- Pixels : ID⁸¹⁰⁹
- Pixels : Interleaved⁸¹¹⁰
- Pixels : PhysicalSizeX⁸¹¹¹
- Pixels : PhysicalSizeY⁸¹¹²
- Pixels : PhysicalSizeZ⁸¹¹³
- Pixels : SignificantBits⁸¹¹⁴
- Pixels : SizeC⁸¹¹⁵
- Pixels : SizeT⁸¹¹⁶
- Pixels : SizeX⁸¹¹⁷
- Pixels : SizeY⁸¹¹⁸
- Pixels : SizeZ⁸¹¹⁹
- Pixels : TimeIncrement⁸¹²⁰

⁸¹⁰⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁸¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸¹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

- Pixels : Type⁸¹²¹
- Plane : TheC⁸¹²²
- Plane : TheT⁸¹²³
- Plane : TheZ⁸¹²⁴

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*⁸¹²⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : AcquisitionMode⁸¹²⁶
- Channel : EmissionWavelength⁸¹²⁷
- Channel : ExcitationWavelength⁸¹²⁸
- Channel : ID⁸¹²⁹
- Channel : Name⁸¹³⁰
- Channel : PinholeSize⁸¹³¹
- Channel : SamplesPerPixel⁸¹³²
- Detector : ID⁸¹³³
- Detector : Model⁸¹³⁴
- Detector : Type⁸¹³⁵
- DetectorSettings : Binning⁸¹³⁶
- DetectorSettings : Gain⁸¹³⁷

⁸¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸¹²⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁸¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

⁸¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁸¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁸¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁸¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

- DetectorSettings : ID⁸¹³⁸
- DetectorSettings : ReadOutRate⁸¹³⁹
- DetectorSettings : Voltage⁸¹⁴⁰
- Image : AcquisitionDate⁸¹⁴¹
- Image : ID⁸¹⁴²
- Image : InstrumentRef⁸¹⁴³
- Image : Name⁸¹⁴⁴
- ImagingEnvironment : Temperature⁸¹⁴⁵
- Instrument : ID⁸¹⁴⁶
- Objective : CalibratedMagnification⁸¹⁴⁷
- Objective : Correction⁸¹⁴⁸
- Objective : ID⁸¹⁴⁹
- Objective : Immersion⁸¹⁵⁰
- Objective : LensNA⁸¹⁵¹
- Objective : Model⁸¹⁵²
- ObjectiveSettings : ID⁸¹⁵³
- ObjectiveSettings : RefractiveIndex⁸¹⁵⁴
- Pixels : BigEndian⁸¹⁵⁵
- Pixels : DimensionOrder⁸¹⁵⁶
- Pixels : ID⁸¹⁵⁷
- Pixels : Interleaved⁸¹⁵⁸
- Pixels : PhysicalSizeX⁸¹⁵⁹
- Pixels : PhysicalSizeY⁸¹⁶⁰
- Pixels : PhysicalSizeZ⁸¹⁶¹
- Pixels : SignificantBits⁸¹⁶²
- Pixels : SizeC⁸¹⁶³

⁸¹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

⁸¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁸¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁸¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁸¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁸¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸¹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁸¹⁶⁴
- Pixels : SizeX⁸¹⁶⁵
- Pixels : SizeY⁸¹⁶⁶
- Pixels : SizeZ⁸¹⁶⁷
- Pixels : Type⁸¹⁶⁸
- Plane : ExposureTime⁸¹⁶⁹
- Plane : PositionX⁸¹⁷⁰
- Plane : PositionY⁸¹⁷¹
- Plane : PositionZ⁸¹⁷²
- Plane : TheC⁸¹⁷³
- Plane : TheT⁸¹⁷⁴
- Plane : TheZ⁸¹⁷⁵

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](#)⁸¹⁷⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁸¹⁷⁷
- Channel : ExcitationWavelength⁸¹⁷⁸
- Channel : ID⁸¹⁷⁹
- Channel : PinholeSize⁸¹⁸⁰

⁸¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸¹⁷⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁸¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁸¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸¹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

- Channel : SamplesPerPixel⁸¹⁸¹
- Detector : Gain⁸¹⁸²
- Detector : ID⁸¹⁸³
- Detector : Type⁸¹⁸⁴
- Dichroic : ID⁸¹⁸⁵
- Dichroic : Model⁸¹⁸⁶
- Filter : ID⁸¹⁸⁷
- Filter : Model⁸¹⁸⁸
- Image : AcquisitionDate⁸¹⁸⁹
- Image : Description⁸¹⁹⁰
- Image : ID⁸¹⁹¹
- Image : InstrumentRef⁸¹⁹²
- Image : Name⁸¹⁹³
- Instrument : ID⁸¹⁹⁴
- Laser : ID⁸¹⁹⁵
- Laser : LaserMedium⁸¹⁹⁶
- Laser : Model⁸¹⁹⁷
- Laser : Type⁸¹⁹⁸
- Laser : Wavelength⁸¹⁹⁹
- Objective : Correction⁸²⁰⁰
- Objective : ID⁸²⁰¹
- Objective : Immersion⁸²⁰²
- Objective : LensNA⁸²⁰³
- Objective : NominalMagnification⁸²⁰⁴
- Objective : WorkingDistance⁸²⁰⁵
- ObjectiveSettings : ID⁸²⁰⁶

⁸¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁸¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁸¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁸¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁸¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁸¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁸¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁸²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸²⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁸²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁸²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

- Pixels : BigEndian⁸²⁰⁷
- Pixels : DimensionOrder⁸²⁰⁸
- Pixels : ID⁸²⁰⁹
- Pixels : Interleaved⁸²¹⁰
- Pixels : PhysicalSizeX⁸²¹¹
- Pixels : PhysicalSizeY⁸²¹²
- Pixels : PhysicalSizeZ⁸²¹³
- Pixels : SignificantBits⁸²¹⁴
- Pixels : SizeC⁸²¹⁵
- Pixels : SizeT⁸²¹⁶
- Pixels : SizeX⁸²¹⁷
- Pixels : SizeY⁸²¹⁸
- Pixels : SizeZ⁸²¹⁹
- Pixels : Type⁸²²⁰
- Plane : TheC⁸²²¹
- Plane : TheT⁸²²²
- Plane : TheZ⁸²²³

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*⁸²²⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁸²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸²²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸²²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸²²⁴<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Nikon ND2 format reader:

- Channel : AcquisitionMode⁸²²⁵
- Channel : Color⁸²²⁶
- Channel : EmissionWavelength⁸²²⁷
- Channel : ExcitationWavelength⁸²²⁸
- Channel : ID⁸²²⁹
- Channel : Name⁸²³⁰
- Channel : PinholeSize⁸²³¹
- Channel : SamplesPerPixel⁸²³²
- Detector : ID⁸²³³
- Detector : Model⁸²³⁴
- Detector : Type⁸²³⁵
- DetectorSettings : Binning⁸²³⁶
- DetectorSettings : Gain⁸²³⁷
- DetectorSettings : ID⁸²³⁸
- DetectorSettings : ReadOutRate⁸²³⁹
- DetectorSettings : Voltage⁸²⁴⁰
- Image : AcquisitionDate⁸²⁴¹
- Image : ID⁸²⁴²
- Image : InstrumentRef⁸²⁴³
- Image : Name⁸²⁴⁴
- ImagingEnvironment : Temperature⁸²⁴⁵
- Instrument : ID⁸²⁴⁶
- Objective : CalibratedMagnification⁸²⁴⁷
- Objective : Correction⁸²⁴⁸

⁸²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

⁸²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁸²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁸²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁸²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁸²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁸²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

⁸²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁸²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸²⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁸²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁸²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

- Objective : ID⁸²⁴⁹
- Objective : Immersion⁸²⁵⁰
- Objective : LensNA⁸²⁵¹
- Objective : Model⁸²⁵²
- ObjectiveSettings : ID⁸²⁵³
- ObjectiveSettings : RefractiveIndex⁸²⁵⁴
- Pixels : BigEndian⁸²⁵⁵
- Pixels : DimensionOrder⁸²⁵⁶
- Pixels : ID⁸²⁵⁷
- Pixels : Interleaved⁸²⁵⁸
- Pixels : PhysicalSizeX⁸²⁵⁹
- Pixels : PhysicalSizeY⁸²⁶⁰
- Pixels : PhysicalSizeZ⁸²⁶¹
- Pixels : SignificantBits⁸²⁶²
- Pixels : SizeC⁸²⁶³
- Pixels : SizeT⁸²⁶⁴
- Pixels : SizeX⁸²⁶⁵
- Pixels : SizeY⁸²⁶⁶
- Pixels : SizeZ⁸²⁶⁷
- Pixels : Type⁸²⁶⁸
- Plane : DeltaT⁸²⁶⁹
- Plane : ExposureTime⁸²⁷⁰
- Plane : PositionX⁸²⁷¹
- Plane : PositionY⁸²⁷²
- Plane : PositionZ⁸²⁷³
- Plane : TheC⁸²⁷⁴

⁸²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁸²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸²⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁸²⁷⁵
- Plane : TheZ⁸²⁷⁶

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*⁸²⁷⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸²⁷⁸
- Channel : SamplesPerPixel⁸²⁷⁹
- Image : AcquisitionDate⁸²⁸⁰
- Image : ID⁸²⁸¹
- Image : Name⁸²⁸²
- Pixels : BigEndian⁸²⁸³
- Pixels : DimensionOrder⁸²⁸⁴
- Pixels : ID⁸²⁸⁵
- Pixels : Interleaved⁸²⁸⁶
- Pixels : PhysicalSizeX⁸²⁸⁷
- Pixels : PhysicalSizeY⁸²⁸⁸
- Pixels : PhysicalSizeZ⁸²⁸⁹
- Pixels : SignificantBits⁸²⁹⁰
- Pixels : SizeC⁸²⁹¹

⁸²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸²⁷⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁸²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸²⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁸²⁹²
- Pixels : SizeX⁸²⁹³
- Pixels : SizeY⁸²⁹⁴
- Pixels : SizeZ⁸²⁹⁵
- Pixels : Type⁸²⁹⁶
- Plane : TheC⁸²⁹⁷
- Plane : TheT⁸²⁹⁸
- Plane : TheZ⁸²⁹⁹

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](#)⁸³⁰⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸³⁰¹
- Channel : SamplesPerPixel⁸³⁰²
- Image : AcquisitionDate⁸³⁰³
- Image : ID⁸³⁰⁴
- Image : Name⁸³⁰⁵
- Pixels : BigEndian⁸³⁰⁶
- Pixels : DimensionOrder⁸³⁰⁷
- Pixels : ID⁸³⁰⁸

⁸²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸³⁰⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁸³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁸³⁰⁹
- Pixels : PhysicalSizeX⁸³¹⁰
- Pixels : PhysicalSizeY⁸³¹¹
- Pixels : SignificantBits⁸³¹²
- Pixels : SizeC⁸³¹³
- Pixels : SizeT⁸³¹⁴
- Pixels : SizeX⁸³¹⁵
- Pixels : SizeY⁸³¹⁶
- Pixels : SizeZ⁸³¹⁷
- Pixels : Type⁸³¹⁸
- Plane : TheC⁸³¹⁹
- Plane : TheT⁸³²⁰
- Plane : TheZ⁸³²¹

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*⁸³²². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁸³²³
- Channel : ExcitationWavelength⁸³²⁴
- Channel : ID⁸³²⁵

⁸³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸³¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸³²²<http://www.openmicroscopy.org/site/support/ome-model/>

⁸³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁸³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : IlluminationType⁸³²⁶
- Channel : LightSourceSettingsID⁸³²⁷
- Channel : LightSourceSettingsWavelength⁸³²⁸
- Channel : Name⁸³²⁹
- Channel : SamplesPerPixel⁸³³⁰
- Detector : Gain⁸³³¹
- Detector : ID⁸³³²
- Detector : Type⁸³³³
- Detector : Voltage⁸³³⁴
- DetectorSettings : ID⁸³³⁵
- Dichroic : ID⁸³³⁶
- Dichroic : Model⁸³³⁷
- Ellipse : FontSize⁸³³⁸
- Ellipse : ID⁸³³⁹
- Ellipse : RadiusX⁸³⁴⁰
- Ellipse : RadiusY⁸³⁴¹
- Ellipse : StrokeWidth⁸³⁴²
- Ellipse : TheT⁸³⁴³
- Ellipse : TheZ⁸³⁴⁴
- Ellipse : Transform⁸³⁴⁵
- Ellipse : X⁸³⁴⁶
- Ellipse : Y⁸³⁴⁷
- Filter : ID⁸³⁴⁸
- Filter : Model⁸³⁴⁹
- Image : AcquisitionDate⁸³⁵⁰
- Image : ID⁸³⁵¹

⁸³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_IlluminationType

⁸³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_ID

⁸³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSourceSettings_Wavelength

⁸³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁸³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Voltage

⁸³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁸³³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁸³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁸³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁸³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁸³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

⁸³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

⁸³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁸³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : InstrumentRef⁸³⁵²
- Image : Name⁸³⁵³
- Image : ROIRef⁸³⁵⁴
- Instrument : ID⁸³⁵⁵
- Laser : ID⁸³⁵⁶
- Laser : LaserMedium⁸³⁵⁷
- Laser : Type⁸³⁵⁸
- Laser : Wavelength⁸³⁵⁹
- LightPath : DichroicRef⁸³⁶⁰
- LightPath : EmissionFilterRef⁸³⁶¹
- Line : FontSize⁸³⁶²
- Line : ID⁸³⁶³
- Line : StrokeWidth⁸³⁶⁴
- Line : TheT⁸³⁶⁵
- Line : TheZ⁸³⁶⁶
- Line : Transform⁸³⁶⁷
- Line : X1⁸³⁶⁸
- Line : X2⁸³⁶⁹
- Line : Y1⁸³⁷⁰
- Line : Y2⁸³⁷¹
- Objective : Correction⁸³⁷²
- Objective : ID⁸³⁷³
- Objective : Immersion⁸³⁷⁴
- Objective : LensNA⁸³⁷⁵
- Objective : Model⁸³⁷⁶
- Objective : NominalMagnification⁸³⁷⁷

⁸³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁸³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁸³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁸³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁸³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

⁸³⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁸³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁸³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁸³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁸³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁸³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁸³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁸³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁸³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

- Objective : WorkingDistance⁸³⁷⁸
- ObjectiveSettings : ID⁸³⁷⁹
- Pixels : BigEndian⁸³⁸⁰
- Pixels : DimensionOrder⁸³⁸¹
- Pixels : ID⁸³⁸²
- Pixels : Interleaved⁸³⁸³
- Pixels : PhysicalSizeX⁸³⁸⁴
- Pixels : PhysicalSizeY⁸³⁸⁵
- Pixels : PhysicalSizeZ⁸³⁸⁶
- Pixels : SignificantBits⁸³⁸⁷
- Pixels : SizeC⁸³⁸⁸
- Pixels : SizeT⁸³⁸⁹
- Pixels : SizeX⁸³⁹⁰
- Pixels : SizeY⁸³⁹¹
- Pixels : SizeZ⁸³⁹²
- Pixels : TimeIncrement⁸³⁹³
- Pixels : Type⁸³⁹⁴
- Plane : DeltaT⁸³⁹⁵
- Plane : PositionX⁸³⁹⁶
- Plane : PositionY⁸³⁹⁷
- Plane : PositionZ⁸³⁹⁸
- Plane : TheC⁸³⁹⁹
- Plane : TheT⁸⁴⁰⁰
- Plane : TheZ⁸⁴⁰¹
- Point : FontSize⁸⁴⁰²
- Point : ID⁸⁴⁰³

⁸³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁸³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸³⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁸³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

- Point : StrokeWidth⁸⁴⁰⁴
- Point : TheT⁸⁴⁰⁵
- Point : TheZ⁸⁴⁰⁶
- Point : X⁸⁴⁰⁷
- Point : Y⁸⁴⁰⁸
- Polygon : FontSize⁸⁴⁰⁹
- Polygon : ID⁸⁴¹⁰
- Polygon : Points⁸⁴¹¹
- Polygon : StrokeWidth⁸⁴¹²
- Polygon : TheT⁸⁴¹³
- Polygon : TheZ⁸⁴¹⁴
- Polygon : Transform⁸⁴¹⁵
- Polyline : FontSize⁸⁴¹⁶
- Polyline : ID⁸⁴¹⁷
- Polyline : Points⁸⁴¹⁸
- Polyline : StrokeWidth⁸⁴¹⁹
- Polyline : TheT⁸⁴²⁰
- Polyline : TheZ⁸⁴²¹
- Polyline : Transform⁸⁴²²
- ROI : ID⁸⁴²³
- Rectangle : FontSize⁸⁴²⁴
- Rectangle : Height⁸⁴²⁵
- Rectangle : ID⁸⁴²⁶
- Rectangle : StrokeWidth⁸⁴²⁷
- Rectangle : TheT⁸⁴²⁸
- Rectangle : TheZ⁸⁴²⁹

⁸⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸⁴⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸⁴⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁸⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_X

⁸⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Point_Y

⁸⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁸⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁸⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁸⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

⁸⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

⁸⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁸⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁸⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁸⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁸⁴²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁸⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁸⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheT

⁸⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_TheZ

- Rectangle : Transform⁸⁴³⁰
- Rectangle : Width⁸⁴³¹
- Rectangle : X⁸⁴³²
- Rectangle : Y⁸⁴³³
- TransmittanceRange : CutIn⁸⁴³⁴
- TransmittanceRange : CutOut⁸⁴³⁵

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*⁸⁴³⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁴³⁷
- Channel : Name⁸⁴³⁸
- Channel : SamplesPerPixel⁸⁴³⁹
- Detector : ID⁸⁴⁴⁰
- Detector : Manufacturer⁸⁴⁴¹
- Detector : Model⁸⁴⁴²
- Detector : Type⁸⁴⁴³
- DetectorSettings : Gain⁸⁴⁴⁴
- DetectorSettings : ID⁸⁴⁴⁵
- DetectorSettings : Offset⁸⁴⁴⁶

⁸⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁸⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

⁸⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁸⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁸⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

⁸⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut

⁸⁴³⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁸⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁸⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸⁴⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

- DetectorSettings : ReadOutRate⁸⁴⁴⁷
- DetectorSettings : Voltage⁸⁴⁴⁸
- Image : AcquisitionDate⁸⁴⁴⁹
- Image : Description⁸⁴⁵⁰
- Image : ID⁸⁴⁵¹
- Image : InstrumentRef⁸⁴⁵²
- Image : Name⁸⁴⁵³
- ImagingEnvironment : Temperature⁸⁴⁵⁴
- Instrument : ID⁸⁴⁵⁵
- Objective : CalibratedMagnification⁸⁴⁵⁶
- Objective : Correction⁸⁴⁵⁷
- Objective : ID⁸⁴⁵⁸
- Objective : Immersion⁸⁴⁵⁹
- Objective : LensNA⁸⁴⁶⁰
- Objective : Model⁸⁴⁶¹
- ObjectiveSettings : ID⁸⁴⁶²
- Pixels : BigEndian⁸⁴⁶³
- Pixels : DimensionOrder⁸⁴⁶⁴
- Pixels : ID⁸⁴⁶⁵
- Pixels : Interleaved⁸⁴⁶⁶
- Pixels : PhysicalSizeX⁸⁴⁶⁷
- Pixels : PhysicalSizeY⁸⁴⁶⁸
- Pixels : PhysicalSizeZ⁸⁴⁶⁹
- Pixels : SignificantBits⁸⁴⁷⁰
- Pixels : SizeC⁸⁴⁷¹
- Pixels : SizeT⁸⁴⁷²

⁸⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ReadOutRate

⁸⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Voltage

⁸⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁸⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁸⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁴⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁸⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁸⁴⁷³
- Pixels : SizeY⁸⁴⁷⁴
- Pixels : SizeZ⁸⁴⁷⁵
- Pixels : TimeIncrement⁸⁴⁷⁶
- Pixels : Type⁸⁴⁷⁷
- Plane : DeltaT⁸⁴⁷⁸
- Plane : ExposureTime⁸⁴⁷⁹
- Plane : PositionX⁸⁴⁸⁰
- Plane : PositionY⁸⁴⁸¹
- Plane : PositionZ⁸⁴⁸²
- Plane : TheC⁸⁴⁸³
- Plane : TheT⁸⁴⁸⁴
- Plane : TheZ⁸⁴⁸⁵

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*⁸⁴⁸⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁴⁸⁷
- Channel : Name⁸⁴⁸⁸
- Channel : SamplesPerPixel⁸⁴⁸⁹

⁸⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁸⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁴⁸⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁸⁴⁹⁰
- Image : ID⁸⁴⁹¹
- Image : Name⁸⁴⁹²
- Pixels : BigEndian⁸⁴⁹³
- Pixels : DimensionOrder⁸⁴⁹⁴
- Pixels : ID⁸⁴⁹⁵
- Pixels : Interleaved⁸⁴⁹⁶
- Pixels : PhysicalSizeX⁸⁴⁹⁷
- Pixels : PhysicalSizeY⁸⁴⁹⁸
- Pixels : SignificantBits⁸⁴⁹⁹
- Pixels : SizeC⁸⁵⁰⁰
- Pixels : SizeT⁸⁵⁰¹
- Pixels : SizeX⁸⁵⁰²
- Pixels : SizeY⁸⁵⁰³
- Pixels : SizeZ⁸⁵⁰⁴
- Pixels : Type⁸⁵⁰⁵
- Plane : DeltaT⁸⁵⁰⁶
- Plane : ExposureTime⁸⁵⁰⁷
- Plane : PositionX⁸⁵⁰⁸
- Plane : PositionY⁸⁵⁰⁹
- Plane : TheC⁸⁵¹⁰
- Plane : TheT⁸⁵¹¹
- Plane : TheZ⁸⁵¹²
- Plate : ColumnNamingConvention⁸⁵¹³
- Plate : Columns⁸⁵¹⁴
- Plate : ID⁸⁵¹⁵

⁸⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁵⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ColumnNamingConvention

⁸⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

⁸⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

- Plate : Name⁸⁵¹⁶
- Plate : RowNamingConvention⁸⁵¹⁷
- Plate : Rows⁸⁵¹⁸
- PlateAcquisition : ID⁸⁵¹⁹
- PlateAcquisition : MaximumFieldCount⁸⁵²⁰
- PlateAcquisition : WellSampleRef⁸⁵²¹
- Well : Column⁸⁵²²
- Well : ID⁸⁵²³
- Well : Row⁸⁵²⁴
- WellSample : ID⁸⁵²⁵
- WellSample : ImageRef⁸⁵²⁶
- WellSample : Index⁸⁵²⁷
- WellSample : PositionX⁸⁵²⁸
- WellSample : PositionY⁸⁵²⁹

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](#)⁸⁵³⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁵³¹
- Channel : Name⁸⁵³²

⁸⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁸⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_RowNamingConvention

⁸⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

⁸⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁸⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁸⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁸⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁸⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁸⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁸⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁸⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁸⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁸⁵²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionX

⁸⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_PositionY

⁸⁵³⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

- Channel : SamplesPerPixel⁸⁵³³
- Detector : ID⁸⁵³⁴
- Detector : Model⁸⁵³⁵
- Detector : Type⁸⁵³⁶
- DetectorSettings : ID⁸⁵³⁷
- Image : AcquisitionDate⁸⁵³⁸
- Image : ID⁸⁵³⁹
- Image : InstrumentRef⁸⁵⁴⁰
- Image : Name⁸⁵⁴¹
- Instrument : ID⁸⁵⁴²
- Objective : Correction⁸⁵⁴³
- Objective : ID⁸⁵⁴⁴
- Objective : Immersion⁸⁵⁴⁵
- Objective : NominalMagnification⁸⁵⁴⁶
- ObjectiveSettings : ID⁸⁵⁴⁷
- Pixels : BigEndian⁸⁵⁴⁸
- Pixels : DimensionOrder⁸⁵⁴⁹
- Pixels : ID⁸⁵⁵⁰
- Pixels : Interleaved⁸⁵⁵¹
- Pixels : PhysicalSizeX⁸⁵⁵²
- Pixels : PhysicalSizeY⁸⁵⁵³
- Pixels : SignificantBits⁸⁵⁵⁴
- Pixels : SizeC⁸⁵⁵⁵
- Pixels : SizeT⁸⁵⁵⁶
- Pixels : SizeX⁸⁵⁵⁷
- Pixels : SizeY⁸⁵⁵⁸

⁸⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁸⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁵⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁸⁵⁵⁹
- Pixels : Type⁸⁵⁶⁰
- Plane : TheC⁸⁵⁶¹
- Plane : TheT⁸⁵⁶²
- Plane : TheZ⁸⁵⁶³

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*⁸⁵⁶⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁵⁶⁵
- Channel : SamplesPerPixel⁸⁵⁶⁶
- Image : AcquisitionDate⁸⁵⁶⁷
- Image : ID⁸⁵⁶⁸
- Image : Name⁸⁵⁶⁹
- Pixels : BigEndian⁸⁵⁷⁰
- Pixels : DimensionOrder⁸⁵⁷¹
- Pixels : ID⁸⁵⁷²
- Pixels : Interleaved⁸⁵⁷³
- Pixels : SignificantBits⁸⁵⁷⁴
- Pixels : SizeC⁸⁵⁷⁵

⁸⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁵⁶⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁸⁵⁷⁶
- Pixels : SizeX⁸⁵⁷⁷
- Pixels : SizeY⁸⁵⁷⁸
- Pixels : SizeZ⁸⁵⁷⁹
- Pixels : Type⁸⁵⁸⁰
- Plane : TheC⁸⁵⁸¹
- Plane : TheT⁸⁵⁸²
- Plane : TheZ⁸⁵⁸³

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](#)⁸⁵⁸⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁵⁸⁵
- Channel : SamplesPerPixel⁸⁵⁸⁶
- Image : AcquisitionDate⁸⁵⁸⁷
- Image : ID⁸⁵⁸⁸
- Image : Name⁸⁵⁸⁹
- Pixels : BigEndian⁸⁵⁹⁰
- Pixels : DimensionOrder⁸⁵⁹¹
- Pixels : ID⁸⁵⁹²

⁸⁵⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁵⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁵⁸⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁸⁵⁹³
- Pixels : SignificantBits⁸⁵⁹⁴
- Pixels : SizeC⁸⁵⁹⁵
- Pixels : SizeT⁸⁵⁹⁶
- Pixels : SizeX⁸⁵⁹⁷
- Pixels : SizeY⁸⁵⁹⁸
- Pixels : SizeZ⁸⁵⁹⁹
- Pixels : Type⁸⁶⁰⁰
- Plane : TheC⁸⁶⁰¹
- Plane : TheT⁸⁶⁰²
- Plane : TheZ⁸⁶⁰³

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*⁸⁶⁰⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁶⁰⁵
- Channel : SamplesPerPixel⁸⁶⁰⁶
- Image : AcquisitionDate⁸⁶⁰⁷
- Image : Description⁸⁶⁰⁸
- Image : ID⁸⁶⁰⁹

⁸⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁶⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁶⁰⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁸⁶¹⁰
- Pixels : BigEndian⁸⁶¹¹
- Pixels : DimensionOrder⁸⁶¹²
- Pixels : ID⁸⁶¹³
- Pixels : Interleaved⁸⁶¹⁴
- Pixels : PhysicalSizeX⁸⁶¹⁵
- Pixels : PhysicalSizeY⁸⁶¹⁶
- Pixels : SignificantBits⁸⁶¹⁷
- Pixels : SizeC⁸⁶¹⁸
- Pixels : SizeT⁸⁶¹⁹
- Pixels : SizeX⁸⁶²⁰
- Pixels : SizeY⁸⁶²¹
- Pixels : SizeZ⁸⁶²²
- Pixels : Type⁸⁶²³
- Plane : TheC⁸⁶²⁴
- Plane : TheT⁸⁶²⁵
- Plane : TheZ⁸⁶²⁶

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*⁸⁶²⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁸⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁶²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁶²⁷<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats PCO-RAW format reader:

- Channel : ID⁸⁶²⁸
- Channel : SamplesPerPixel⁸⁶²⁹
- Detector : ID⁸⁶³⁰
- Detector : SerialNumber⁸⁶³¹
- DetectorSettings : Binning⁸⁶³²
- DetectorSettings : ID⁸⁶³³
- Image : AcquisitionDate⁸⁶³⁴
- Image : Description⁸⁶³⁵
- Image : ID⁸⁶³⁶
- Image : Name⁸⁶³⁷
- Instrument : ID⁸⁶³⁸
- Pixels : BigEndian⁸⁶³⁹
- Pixels : DimensionOrder⁸⁶⁴⁰
- Pixels : ID⁸⁶⁴¹
- Pixels : Interleaved⁸⁶⁴²
- Pixels : SignificantBits⁸⁶⁴³
- Pixels : SizeC⁸⁶⁴⁴
- Pixels : SizeT⁸⁶⁴⁵
- Pixels : SizeX⁸⁶⁴⁶
- Pixels : SizeY⁸⁶⁴⁷
- Pixels : SizeZ⁸⁶⁴⁸
- Pixels : Type⁸⁶⁴⁹
- Plane : ExposureTime⁸⁶⁵⁰
- Plane : TheC⁸⁶⁵¹

⁸⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁸⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁸⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁶⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁸⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

- Plane : TheT⁸⁶⁵²
- Plane : TheZ⁸⁶⁵³

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*⁸⁶⁵⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁶⁵⁵
- Channel : SamplesPerPixel⁸⁶⁵⁶
- Image : AcquisitionDate⁸⁶⁵⁷
- Image : ID⁸⁶⁵⁸
- Image : Name⁸⁶⁵⁹
- Pixels : BigEndian⁸⁶⁶⁰
- Pixels : DimensionOrder⁸⁶⁶¹
- Pixels : ID⁸⁶⁶²
- Pixels : Interleaved⁸⁶⁶³
- Pixels : SignificantBits⁸⁶⁶⁴
- Pixels : SizeC⁸⁶⁶⁵
- Pixels : SizeT⁸⁶⁶⁶
- Pixels : SizeX⁸⁶⁶⁷
- Pixels : SizeY⁸⁶⁶⁸

⁸⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁶⁵⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁸⁶⁶⁹
- Pixels : Type⁸⁶⁷⁰
- Plane : TheC⁸⁶⁷¹
- Plane : TheT⁸⁶⁷²
- Plane : TheZ⁸⁶⁷³

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*⁸⁶⁷⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁶⁷⁵
- Channel : SamplesPerPixel⁸⁶⁷⁶
- Image : AcquisitionDate⁸⁶⁷⁷
- Image : ID⁸⁶⁷⁸
- Image : Name⁸⁶⁷⁹
- Pixels : BigEndian⁸⁶⁸⁰
- Pixels : DimensionOrder⁸⁶⁸¹
- Pixels : ID⁸⁶⁸²
- Pixels : Interleaved⁸⁶⁸³
- Pixels : PhysicalSizeX⁸⁶⁸⁴
- Pixels : PhysicalSizeY⁸⁶⁸⁵

⁸⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁶⁷⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

- Pixels : SignificantBits⁸⁶⁸⁶
- Pixels : SizeC⁸⁶⁸⁷
- Pixels : SizeT⁸⁶⁸⁸
- Pixels : SizeX⁸⁶⁸⁹
- Pixels : SizeY⁸⁶⁹⁰
- Pixels : SizeZ⁸⁶⁹¹
- Pixels : Type⁸⁶⁹²
- Plane : PositionX⁸⁶⁹³
- Plane : PositionY⁸⁶⁹⁴
- Plane : TheC⁸⁶⁹⁵
- Plane : TheT⁸⁶⁹⁶
- Plane : TheZ⁸⁶⁹⁷

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*⁸⁶⁹⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁶⁹⁹
- Channel : SamplesPerPixel⁸⁷⁰⁰
- Image : AcquisitionDate⁸⁷⁰¹
- Image : ID⁸⁷⁰²

⁸⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁶⁹⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁸⁷⁰³
- Pixels : BigEndian⁸⁷⁰⁴
- Pixels : DimensionOrder⁸⁷⁰⁵
- Pixels : ID⁸⁷⁰⁶
- Pixels : Interleaved⁸⁷⁰⁷
- Pixels : SignificantBits⁸⁷⁰⁸
- Pixels : SizeC⁸⁷⁰⁹
- Pixels : SizeT⁸⁷¹⁰
- Pixels : SizeX⁸⁷¹¹
- Pixels : SizeY⁸⁷¹²
- Pixels : SizeZ⁸⁷¹³
- Pixels : Type⁸⁷¹⁴
- Plane : TheC⁸⁷¹⁵
- Plane : TheT⁸⁷¹⁶
- Plane : TheZ⁸⁷¹⁷

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](#)⁸⁷¹⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁷¹⁹

⁸⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁷¹⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : Name⁸⁷²⁰
- Channel : SamplesPerPixel⁸⁷²¹
- Experimenter : ID⁸⁷²²
- Experimenter : LastName⁸⁷²³
- Image : AcquisitionDate⁸⁷²⁴
- Image : ExperimenterRef⁸⁷²⁵
- Image : ID⁸⁷²⁶
- Image : Name⁸⁷²⁷
- Pixels : BigEndian⁸⁷²⁸
- Pixels : DimensionOrder⁸⁷²⁹
- Pixels : ID⁸⁷³⁰
- Pixels : Interleaved⁸⁷³¹
- Pixels : PhysicalSizeX⁸⁷³²
- Pixels : PhysicalSizeY⁸⁷³³
- Pixels : SignificantBits⁸⁷³⁴
- Pixels : SizeC⁸⁷³⁵
- Pixels : SizeT⁸⁷³⁶
- Pixels : SizeX⁸⁷³⁷
- Pixels : SizeY⁸⁷³⁸
- Pixels : SizeZ⁸⁷³⁹
- Pixels : Type⁸⁷⁴⁰
- Plane : PositionX⁸⁷⁴¹
- Plane : PositionY⁸⁷⁴²
- Plane : PositionZ⁸⁷⁴³
- Plane : TheC⁸⁷⁴⁴
- Plane : TheT⁸⁷⁴⁵

⁸⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁸⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁸⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

⁸⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁸⁷⁴⁶
- Plate : Columns⁸⁷⁴⁷
- Plate : Description⁸⁷⁴⁸
- Plate : ExternalIdentifier⁸⁷⁴⁹
- Plate : ID⁸⁷⁵⁰
- Plate : Name⁸⁷⁵¹
- Plate : Rows⁸⁷⁵²
- PlateAcquisition : ID⁸⁷⁵³
- PlateAcquisition : MaximumFieldCount⁸⁷⁵⁴
- PlateAcquisition : WellSampleRef⁸⁷⁵⁵
- Well : Column⁸⁷⁵⁶
- Well : ID⁸⁷⁵⁷
- Well : Row⁸⁷⁵⁸
- WellSample : ID⁸⁷⁵⁹
- WellSample : ImageRef⁸⁷⁶⁰
- WellSample : Index⁸⁷⁶¹

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](#)⁸⁷⁶². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁸⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Columns

⁸⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Description

⁸⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ExternalIdentifier

⁸⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_ID

⁸⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Name

⁸⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Plate_Rows

⁸⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_ID

⁸⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#PlateAcquisition_MaximumFieldCount

⁸⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSampleRef_ID

⁸⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Column

⁸⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_ID

⁸⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#Well_Row

⁸⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_ID

⁸⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImageRef_ID

⁸⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/SPW_xsd.html#WellSample_Index

⁸⁷⁶²<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats PerkinElmer format reader:

- Channel : EmissionWavelength⁸⁷⁶³
- Channel : ExcitationWavelength⁸⁷⁶⁴
- Channel : ID⁸⁷⁶⁵
- Channel : SamplesPerPixel⁸⁷⁶⁶
- Image : AcquisitionDate⁸⁷⁶⁷
- Image : ID⁸⁷⁶⁸
- Image : InstrumentRef⁸⁷⁶⁹
- Image : Name⁸⁷⁷⁰
- Instrument : ID⁸⁷⁷¹
- Pixels : BigEndian⁸⁷⁷²
- Pixels : DimensionOrder⁸⁷⁷³
- Pixels : ID⁸⁷⁷⁴
- Pixels : Interleaved⁸⁷⁷⁵
- Pixels : PhysicalSizeX⁸⁷⁷⁶
- Pixels : PhysicalSizeY⁸⁷⁷⁷
- Pixels : SignificantBits⁸⁷⁷⁸
- Pixels : SizeC⁸⁷⁷⁹
- Pixels : SizeT⁸⁷⁸⁰
- Pixels : SizeX⁸⁷⁸¹
- Pixels : SizeY⁸⁷⁸²
- Pixels : SizeZ⁸⁷⁸³
- Pixels : Type⁸⁷⁸⁴
- Plane : DeltaT⁸⁷⁸⁵
- Plane : ExposureTime⁸⁷⁸⁶

⁸⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁸⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁸⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁷⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁷⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁷⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸⁷⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

- Plane : PositionX⁸⁷⁸⁷
- Plane : PositionY⁸⁷⁸⁸
- Plane : PositionZ⁸⁷⁸⁹
- Plane : TheC⁸⁷⁹⁰
- Plane : TheT⁸⁷⁹¹
- Plane : TheZ⁸⁷⁹²

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](#)⁸⁷⁹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁷⁹⁴
- Channel : SamplesPerPixel⁸⁷⁹⁵
- Image : AcquisitionDate⁸⁷⁹⁶
- Image : ID⁸⁷⁹⁷
- Image : Name⁸⁷⁹⁸
- Pixels : BigEndian⁸⁷⁹⁹
- Pixels : DimensionOrder⁸⁸⁰⁰
- Pixels : ID⁸⁸⁰¹
- Pixels : Interleaved⁸⁸⁰²
- Pixels : SignificantBits⁸⁸⁰³

⁸⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁸⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁷⁹³<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁷⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁸⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁸⁸⁰⁴
- Pixels : SizeT⁸⁸⁰⁵
- Pixels : SizeX⁸⁸⁰⁶
- Pixels : SizeY⁸⁸⁰⁷
- Pixels : SizeZ⁸⁸⁰⁸
- Pixels : Type⁸⁸⁰⁹
- Plane : TheC⁸⁸¹⁰
- Plane : TheT⁸⁸¹¹
- Plane : TheZ⁸⁸¹²

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*⁸⁸¹³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁸¹⁴
- Channel : SamplesPerPixel⁸⁸¹⁵
- Image : AcquisitionDate⁸⁸¹⁶
- Image : ID⁸⁸¹⁷
- Image : Name⁸⁸¹⁸
- Pixels : BigEndian⁸⁸¹⁹
- Pixels : DimensionOrder⁸⁸²⁰

⁸⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁸¹³<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID⁸⁸²¹
- Pixels : Interleaved⁸⁸²²
- Pixels : SignificantBits⁸⁸²³
- Pixels : SizeC⁸⁸²⁴
- Pixels : SizeT⁸⁸²⁵
- Pixels : SizeX⁸⁸²⁶
- Pixels : SizeY⁸⁸²⁷
- Pixels : SizeZ⁸⁸²⁸
- Pixels : Type⁸⁸²⁹
- Plane : TheC⁸⁸³⁰
- Plane : TheT⁸⁸³¹
- Plane : TheZ⁸⁸³²

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](#)⁸⁸³³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁸³⁴
- Channel : SamplesPerPixel⁸⁸³⁵
- Image : AcquisitionDate⁸⁸³⁶
- Image : ID⁸⁸³⁷

⁸⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁸³³<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : Name⁸⁸³⁸
- Pixels : BigEndian⁸⁸³⁹
- Pixels : DimensionOrder⁸⁸⁴⁰
- Pixels : ID⁸⁸⁴¹
- Pixels : Interleaved⁸⁸⁴²
- Pixels : SignificantBits⁸⁸⁴³
- Pixels : SizeC⁸⁸⁴⁴
- Pixels : SizeT⁸⁸⁴⁵
- Pixels : SizeX⁸⁸⁴⁶
- Pixels : SizeY⁸⁸⁴⁷
- Pixels : SizeZ⁸⁸⁴⁸
- Pixels : Type⁸⁸⁴⁹
- Plane : TheC⁸⁸⁵⁰
- Plane : TheT⁸⁸⁵¹
- Plane : TheZ⁸⁸⁵²

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*⁸⁸⁵³. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁸⁵⁴

⁸⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁸⁵³<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

- Channel : SamplesPerPixel⁸⁸⁵⁵
- Image : AcquisitionDate⁸⁸⁵⁶
- Image : ID⁸⁸⁵⁷
- Image : Name⁸⁸⁵⁸
- Pixels : BigEndian⁸⁸⁵⁹
- Pixels : DimensionOrder⁸⁸⁶⁰
- Pixels : ID⁸⁸⁶¹
- Pixels : Interleaved⁸⁸⁶²
- Pixels : PhysicalSizeX⁸⁸⁶³
- Pixels : PhysicalSizeY⁸⁸⁶⁴
- Pixels : SignificantBits⁸⁸⁶⁵
- Pixels : SizeC⁸⁸⁶⁶
- Pixels : SizeT⁸⁸⁶⁷
- Pixels : SizeX⁸⁸⁶⁸
- Pixels : SizeY⁸⁸⁶⁹
- Pixels : SizeZ⁸⁸⁷⁰
- Pixels : Type⁸⁸⁷¹
- Plane : TheC⁸⁸⁷²
- Plane : TheT⁸⁸⁷³
- Plane : TheZ⁸⁸⁷⁴

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](#)⁸⁸⁷⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁸⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁸⁷⁵<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 : ID⁸⁸⁷⁶
- Channel : SamplesPerPixel⁸⁸⁷⁷
- Image : AcquisitionDate⁸⁸⁷⁸
- Image : ID⁸⁸⁷⁹
- Image : Name⁸⁸⁸⁰
- Pixels : BigEndian⁸⁸⁸¹
- Pixels : DimensionOrder⁸⁸⁸²
- Pixels : ID⁸⁸⁸³
- Pixels : Interleaved⁸⁸⁸⁴
- Pixels : SignificantBits⁸⁸⁸⁵
- Pixels : SizeC⁸⁸⁸⁶
- Pixels : SizeT⁸⁸⁸⁷
- Pixels : SizeX⁸⁸⁸⁸
- Pixels : SizeY⁸⁸⁸⁹
- Pixels : SizeZ⁸⁸⁹⁰
- Pixels : Type⁸⁸⁹¹
- Plane : TheC⁸⁸⁹²
- Plane : TheT⁸⁸⁹³
- Plane : TheZ⁸⁸⁹⁴

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)*

- ⁸⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁸⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁸⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁸⁸⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁸⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁸⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁸⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁸⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁸⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁸⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁸⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁸⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁸⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁸⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁸⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁸⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁸⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁸⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁸⁸⁹⁴http://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](#)⁸⁸⁹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁸⁹⁶
- Channel : SamplesPerPixel⁸⁸⁹⁷
- Image : AcquisitionDate⁸⁸⁹⁸
- Image : ID⁸⁸⁹⁹
- Image : Name⁸⁹⁰⁰
- Pixels : BigEndian⁸⁹⁰¹
- Pixels : DimensionOrder⁸⁹⁰²
- Pixels : ID⁸⁹⁰³
- Pixels : Interleaved⁸⁹⁰⁴
- Pixels : SignificantBits⁸⁹⁰⁵
- Pixels : SizeC⁸⁹⁰⁶
- Pixels : SizeT⁸⁹⁰⁷
- Pixels : SizeX⁸⁹⁰⁸
- Pixels : SizeY⁸⁹⁰⁹
- Pixels : SizeZ⁸⁹¹⁰
- Pixels : Type⁸⁹¹¹
- Plane : TheC⁸⁹¹²
- Plane : TheT⁸⁹¹³

⁸⁸⁹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁹⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁸⁹¹⁴

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*⁸⁹¹⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : EmissionWavelength⁸⁹¹⁶
- Channel : ID⁸⁹¹⁷
- Channel : Name⁸⁹¹⁸
- Channel : SamplesPerPixel⁸⁹¹⁹
- Detector : ID⁸⁹²⁰
- Detector : Type⁸⁹²¹
- Detector : Zoom⁸⁹²²
- DetectorSettings : Gain⁸⁹²³
- DetectorSettings : ID⁸⁹²⁴
- DetectorSettings : Offset⁸⁹²⁵
- Image : AcquisitionDate⁸⁹²⁶
- Image : ID⁸⁹²⁷
- Image : InstrumentRef⁸⁹²⁸
- Image : Name⁸⁹²⁹
- Instrument : ID⁸⁹³⁰

⁸⁹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁹¹⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁸⁹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁸⁹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁸⁹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁸⁹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁸⁹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁸⁹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁸⁹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Offset

⁸⁹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁸⁹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

- Laser : ID⁸⁹³¹
- Laser : Power⁸⁹³²
- Microscope : Model⁸⁹³³
- Objective : Correction⁸⁹³⁴
- Objective : ID⁸⁹³⁵
- Objective : Immersion⁸⁹³⁶
- Objective : LensNA⁸⁹³⁷
- Objective : Manufacturer⁸⁹³⁸
- Objective : NominalMagnification⁸⁹³⁹
- ObjectiveSettings : ID⁸⁹⁴⁰
- Pixels : BigEndian⁸⁹⁴¹
- Pixels : DimensionOrder⁸⁹⁴²
- Pixels : ID⁸⁹⁴³
- Pixels : Interleaved⁸⁹⁴⁴
- Pixels : PhysicalSizeX⁸⁹⁴⁵
- Pixels : PhysicalSizeY⁸⁹⁴⁶
- Pixels : SignificantBits⁸⁹⁴⁷
- Pixels : SizeC⁸⁹⁴⁸
- Pixels : SizeT⁸⁹⁴⁹
- Pixels : SizeX⁸⁹⁵⁰
- Pixels : SizeY⁸⁹⁵¹
- Pixels : SizeZ⁸⁹⁵²
- Pixels : TimeIncrement⁸⁹⁵³
- Pixels : Type⁸⁹⁵⁴
- Plane : DeltaT⁸⁹⁵⁵
- Plane : PositionX⁸⁹⁵⁶

⁸⁹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁸⁹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁸⁹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁸⁹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁸⁹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁸⁹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁸⁹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁸⁹³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁸⁹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁸⁹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁸⁹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁸⁹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁸⁹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁸⁹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

- Plane : PositionY⁸⁹⁵⁷
- Plane : PositionZ⁸⁹⁵⁸
- Plane : TheC⁸⁹⁵⁹
- Plane : TheT⁸⁹⁶⁰
- Plane : TheZ⁸⁹⁶¹

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](#)⁸⁹⁶². Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁹⁶³
- Channel : SamplesPerPixel⁸⁹⁶⁴
- Image : AcquisitionDate⁸⁹⁶⁵
- Image : Description⁸⁹⁶⁶
- Image : ID⁸⁹⁶⁷
- Image : Name⁸⁹⁶⁸
- Pixels : BigEndian⁸⁹⁶⁹
- Pixels : DimensionOrder⁸⁹⁷⁰
- Pixels : ID⁸⁹⁷¹
- Pixels : Interleaved⁸⁹⁷²
- Pixels : PhysicalSizeX⁸⁹⁷³

⁸⁹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁸⁹⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁸⁹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁹⁶²<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁸⁹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁸⁹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁸⁹⁷⁴
- Pixels : SignificantBits⁸⁹⁷⁵
- Pixels : SizeC⁸⁹⁷⁶
- Pixels : SizeT⁸⁹⁷⁷
- Pixels : SizeX⁸⁹⁷⁸
- Pixels : SizeY⁸⁹⁷⁹
- Pixels : SizeZ⁸⁹⁸⁰
- Pixels : Type⁸⁹⁸¹
- Plane : TheC⁸⁹⁸²
- Plane : TheT⁸⁹⁸³
- Plane : TheZ⁸⁹⁸⁴

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*⁸⁹⁸⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁸⁹⁸⁶
- Channel : SamplesPerPixel⁸⁹⁸⁷
- Image : AcquisitionDate⁸⁹⁸⁸
- Image : ID⁸⁹⁸⁹
- Image : Name⁸⁹⁹⁰

⁸⁹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁸⁹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁸⁹⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁸⁹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁸⁹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁸⁹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁸⁹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁸⁹⁸⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁸⁹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁸⁹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁸⁹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁸⁹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁸⁹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Pixels : BigEndian⁸⁹⁹¹
- Pixels : DimensionOrder⁸⁹⁹²
- Pixels : ID⁸⁹⁹³
- Pixels : Interleaved⁸⁹⁹⁴
- Pixels : SignificantBits⁸⁹⁹⁵
- Pixels : SizeC⁸⁹⁹⁶
- Pixels : SizeT⁸⁹⁹⁷
- Pixels : SizeX⁸⁹⁹⁸
- Pixels : SizeY⁸⁹⁹⁹
- Pixels : SizeZ⁹⁰⁰⁰
- Pixels : Type⁹⁰⁰¹
- Plane : TheC⁹⁰⁰²
- Plane : TheT⁹⁰⁰³
- Plane : TheZ⁹⁰⁰⁴

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](#)⁹⁰⁰⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁰⁰⁶
- Channel : SamplesPerPixel⁹⁰⁰⁷

⁸⁹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁸⁹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁸⁹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁸⁹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁸⁹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁸⁹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁸⁹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁸⁹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁸⁹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁰⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁰⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁰⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁰⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁰⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁰⁰⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁰⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁰⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁹⁰⁰⁸
- Image : Description⁹⁰⁰⁹
- Image : ID⁹⁰¹⁰
- Image : Name⁹⁰¹¹
- Pixels : BigEndian⁹⁰¹²
- Pixels : DimensionOrder⁹⁰¹³
- Pixels : ID⁹⁰¹⁴
- Pixels : Interleaved⁹⁰¹⁵
- Pixels : PhysicalSizeX⁹⁰¹⁶
- Pixels : PhysicalSizeY⁹⁰¹⁷
- Pixels : SignificantBits⁹⁰¹⁸
- Pixels : SizeC⁹⁰¹⁹
- Pixels : SizeT⁹⁰²⁰
- Pixels : SizeX⁹⁰²¹
- Pixels : SizeY⁹⁰²²
- Pixels : SizeZ⁹⁰²³
- Pixels : Type⁹⁰²⁴
- Plane : TheC⁹⁰²⁵
- Plane : TheT⁹⁰²⁶
- Plane : TheZ⁹⁰²⁷

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](#)⁹⁰²⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁹⁰⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁰⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁰¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁰¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁰¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁰¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁰¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁰¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁰¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁰¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁰¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁰¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁰²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁰²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁰²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁰²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁰²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁰²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁰²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁰²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁰²⁸<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 : ID⁹⁰²⁹
- Channel : SamplesPerPixel⁹⁰³⁰
- Image : AcquisitionDate⁹⁰³¹
- Image : Description⁹⁰³²
- Image : ID⁹⁰³³
- Image : Name⁹⁰³⁴
- Pixels : BigEndian⁹⁰³⁵
- Pixels : DimensionOrder⁹⁰³⁶
- Pixels : ID⁹⁰³⁷
- Pixels : Interleaved⁹⁰³⁸
- Pixels : PhysicalSizeX⁹⁰³⁹
- Pixels : PhysicalSizeY⁹⁰⁴⁰
- Pixels : SignificantBits⁹⁰⁴¹
- Pixels : SizeC⁹⁰⁴²
- Pixels : SizeT⁹⁰⁴³
- Pixels : SizeX⁹⁰⁴⁴
- Pixels : SizeY⁹⁰⁴⁵
- Pixels : SizeZ⁹⁰⁴⁶
- Pixels : Type⁹⁰⁴⁷
- Plane : TheC⁹⁰⁴⁸
- Plane : TheT⁹⁰⁴⁹
- Plane : TheZ⁹⁰⁵⁰

⁹⁰²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
⁹⁰³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
⁹⁰³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
⁹⁰³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
⁹⁰³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁹⁰³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁹⁰³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁹⁰³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁹⁰³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁹⁰³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁹⁰³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁹⁰⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁹⁰⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁹⁰⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁹⁰⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁹⁰⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁹⁰⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁹⁰⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁹⁰⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁹⁰⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁹⁰⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁹⁰⁵⁰http://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](#)⁹⁰⁵¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁰⁵²
- Channel : SamplesPerPixel⁹⁰⁵³
- Image : AcquisitionDate⁹⁰⁵⁴
- Image : Description⁹⁰⁵⁵
- Image : ID⁹⁰⁵⁶
- Image : Name⁹⁰⁵⁷
- Pixels : BigEndian⁹⁰⁵⁸
- Pixels : DimensionOrder⁹⁰⁵⁹
- Pixels : ID⁹⁰⁶⁰
- Pixels : Interleaved⁹⁰⁶¹
- Pixels : PhysicalSizeX⁹⁰⁶²
- Pixels : PhysicalSizeY⁹⁰⁶³
- Pixels : SignificantBits⁹⁰⁶⁴
- Pixels : SizeC⁹⁰⁶⁵
- Pixels : SizeT⁹⁰⁶⁶
- Pixels : SizeX⁹⁰⁶⁷

⁹⁰⁵¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁰⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁰⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁰⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁰⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁰⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁰⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁰⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁰⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁰⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁰⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁰⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁰⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁰⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁰⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁰⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁰⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

- Pixels : SizeY⁹⁰⁶⁸
- Pixels : SizeZ⁹⁰⁶⁹
- Pixels : Type⁹⁰⁷⁰
- Plane : TheC⁹⁰⁷¹
- Plane : TheT⁹⁰⁷²
- Plane : TheZ⁹⁰⁷³

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](#)⁹⁰⁷⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁰⁷⁵
- Channel : SamplesPerPixel⁹⁰⁷⁶
- Detector : ID⁹⁰⁷⁷
- Detector : Type⁹⁰⁷⁸
- DetectorSettings : Binning⁹⁰⁷⁹
- DetectorSettings : ID⁹⁰⁸⁰
- Image : AcquisitionDate⁹⁰⁸¹
- Image : ID⁹⁰⁸²
- Image : InstrumentRef⁹⁰⁸³
- Image : Name⁹⁰⁸⁴

⁹⁰⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁰⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁰⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁰⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁰⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁰⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁰⁷⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁰⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁰⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁰⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹⁰⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁹⁰⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁹⁰⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹⁰⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁰⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁰⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁹⁰⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Instrument : ID⁹⁰⁸⁵
- Pixels : BigEndian⁹⁰⁸⁶
- Pixels : DimensionOrder⁹⁰⁸⁷
- Pixels : ID⁹⁰⁸⁸
- Pixels : Interleaved⁹⁰⁸⁹
- Pixels : PhysicalSizeX⁹⁰⁹⁰
- Pixels : PhysicalSizeY⁹⁰⁹¹
- Pixels : SignificantBits⁹⁰⁹²
- Pixels : SizeC⁹⁰⁹³
- Pixels : SizeT⁹⁰⁹⁴
- Pixels : SizeX⁹⁰⁹⁵
- Pixels : SizeY⁹⁰⁹⁶
- Pixels : SizeZ⁹⁰⁹⁷
- Pixels : TimeIncrement⁹⁰⁹⁸
- Pixels : Type⁹⁰⁹⁹
- Plane : DeltaT⁹¹⁰⁰
- Plane : TheC⁹¹⁰¹
- Plane : TheT⁹¹⁰²
- Plane : TheZ⁹¹⁰³

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](#)⁹¹⁰⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁹⁰⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹⁰⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁰⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁰⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁰⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁰⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁰⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁰⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁰⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁰⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁰⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁰⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁰⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁰⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁹⁰⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹¹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁹¹⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹¹⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹¹⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹¹⁰⁴<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 : ID⁹¹⁰⁵
- Channel : SamplesPerPixel⁹¹⁰⁶
- Detector : ID⁹¹⁰⁷
- Detector : Model⁹¹⁰⁸
- Detector : Type⁹¹⁰⁹
- DetectorSettings : Binning⁹¹¹⁰
- DetectorSettings : ID⁹¹¹¹
- Image : AcquisitionDate⁹¹¹²
- Image : Description⁹¹¹³
- Image : ID⁹¹¹⁴
- Image : InstrumentRef⁹¹¹⁵
- Image : Name⁹¹¹⁶
- Instrument : ID⁹¹¹⁷
- Objective : ID⁹¹¹⁸
- Objective : Immersion⁹¹¹⁹
- Objective : NominalMagnification⁹¹²⁰
- Pixels : BigEndian⁹¹²¹
- Pixels : DimensionOrder⁹¹²²
- Pixels : ID⁹¹²³
- Pixels : Interleaved⁹¹²⁴
- Pixels : PhysicalSizeX⁹¹²⁵
- Pixels : PhysicalSizeY⁹¹²⁶
- Pixels : SignificantBits⁹¹²⁷

⁹¹⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹¹⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹¹⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹¹⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹¹⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁹¹¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁹¹¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹¹¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹¹¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹¹¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹¹¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁹¹¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹¹¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹¹¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁹¹¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁹¹²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁹¹²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹¹²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹¹²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹¹²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹¹²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹¹²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹¹²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁹¹²⁸
- Pixels : SizeT⁹¹²⁹
- Pixels : SizeX⁹¹³⁰
- Pixels : SizeY⁹¹³¹
- Pixels : SizeZ⁹¹³²
- Pixels : Type⁹¹³³
- Plane : ExposureTime⁹¹³⁴
- Plane : TheC⁹¹³⁵
- Plane : TheT⁹¹³⁶
- Plane : TheZ⁹¹³⁷

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](#)⁹¹³⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹¹³⁹
- Channel : SamplesPerPixel⁹¹⁴⁰
- Image : AcquisitionDate⁹¹⁴¹
- Image : ID⁹¹⁴²
- Image : Name⁹¹⁴³
- Pixels : BigEndian⁹¹⁴⁴

⁹¹²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹¹²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹¹³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹¹³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹¹³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹¹³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹¹³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁹¹³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹¹³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹¹³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹¹³⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁹¹³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹¹⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹¹⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹¹⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹¹⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹¹⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

- Pixels : DimensionOrder⁹¹⁴⁵
- Pixels : ID⁹¹⁴⁶
- Pixels : Interleaved⁹¹⁴⁷
- Pixels : SignificantBits⁹¹⁴⁸
- Pixels : SizeC⁹¹⁴⁹
- Pixels : SizeT⁹¹⁵⁰
- Pixels : SizeX⁹¹⁵¹
- Pixels : SizeY⁹¹⁵²
- Pixels : SizeZ⁹¹⁵³
- Pixels : Type⁹¹⁵⁴
- Plane : TheC⁹¹⁵⁵
- Plane : TheT⁹¹⁵⁶
- Plane : TheZ⁹¹⁵⁷

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*⁹¹⁵⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹¹⁵⁹
- Channel : SamplesPerPixel⁹¹⁶⁰
- Image : AcquisitionDate⁹¹⁶¹

⁹¹⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹¹⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹¹⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹¹⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹¹⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹¹⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹¹⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹¹⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹¹⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹¹⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹¹⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹¹⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹¹⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹¹⁵⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁹¹⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹¹⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹¹⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

- Image : ID⁹¹⁶²
- Image : Name⁹¹⁶³
- Pixels : BigEndian⁹¹⁶⁴
- Pixels : DimensionOrder⁹¹⁶⁵
- Pixels : ID⁹¹⁶⁶
- Pixels : Interleaved⁹¹⁶⁷
- Pixels : PhysicalSizeX⁹¹⁶⁸
- Pixels : PhysicalSizeY⁹¹⁶⁹
- Pixels : SignificantBits⁹¹⁷⁰
- Pixels : SizeC⁹¹⁷¹
- Pixels : SizeT⁹¹⁷²
- Pixels : SizeX⁹¹⁷³
- Pixels : SizeY⁹¹⁷⁴
- Pixels : SizeZ⁹¹⁷⁵
- Pixels : Type⁹¹⁷⁶
- Plane : TheC⁹¹⁷⁷
- Plane : TheT⁹¹⁷⁸
- Plane : TheZ⁹¹⁷⁹

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](#)⁹¹⁸⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁹¹⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹¹⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹¹⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹¹⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹¹⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹¹⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹¹⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹¹⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹¹⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹¹⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹¹⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹¹⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹¹⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹¹⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹¹⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹¹⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹¹⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹¹⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹¹⁸⁰<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Truevision Targa format reader:

- Channel : ID⁹¹⁸¹
- Channel : SamplesPerPixel⁹¹⁸²
- Image : AcquisitionDate⁹¹⁸³
- Image : Description⁹¹⁸⁴
- Image : ID⁹¹⁸⁵
- Image : Name⁹¹⁸⁶
- Pixels : BigEndian⁹¹⁸⁷
- Pixels : DimensionOrder⁹¹⁸⁸
- Pixels : ID⁹¹⁸⁹
- Pixels : Interleaved⁹¹⁹⁰
- Pixels : SignificantBits⁹¹⁹¹
- Pixels : SizeC⁹¹⁹²
- Pixels : SizeT⁹¹⁹³
- Pixels : SizeX⁹¹⁹⁴
- Pixels : SizeY⁹¹⁹⁵
- Pixels : SizeZ⁹¹⁹⁶
- Pixels : Type⁹¹⁹⁷
- Plane : TheC⁹¹⁹⁸
- Plane : TheT⁹¹⁹⁹
- Plane : TheZ⁹²⁰⁰

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.

- ⁹¹⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
- ⁹¹⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
- ⁹¹⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁹¹⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description
- ⁹¹⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁹¹⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁹¹⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁹¹⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁹¹⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁹¹⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁹¹⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁹¹⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁹¹⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁹¹⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁹¹⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁹¹⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁹¹⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁹¹⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁹¹⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁹²⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

These fields are from the [OME data model](#)⁹²⁰¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹²⁰²
- Channel : SamplesPerPixel⁹²⁰³
- Image : AcquisitionDate⁹²⁰⁴
- Image : ID⁹²⁰⁵
- Image : Name⁹²⁰⁶
- Pixels : BigEndian⁹²⁰⁷
- Pixels : DimensionOrder⁹²⁰⁸
- Pixels : ID⁹²⁰⁹
- Pixels : Interleaved⁹²¹⁰
- Pixels : SignificantBits⁹²¹¹
- Pixels : SizeC⁹²¹²
- Pixels : SizeT⁹²¹³
- Pixels : SizeX⁹²¹⁴
- Pixels : SizeY⁹²¹⁵
- Pixels : SizeZ⁹²¹⁶
- Pixels : Type⁹²¹⁷
- Plane : TheC⁹²¹⁸
- Plane : TheT⁹²¹⁹
- Plane : TheZ⁹²²⁰

⁹²⁰¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹²⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹²⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹²⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹²⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹²⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹²⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹²⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹²⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹²¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹²¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹²¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹²¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹²¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹²¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹²¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹²¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹²¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹²¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹²²⁰http://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](#)⁹²²¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹²²²
- Channel : SamplesPerPixel⁹²²³
- Image : AcquisitionDate⁹²²⁴
- Image : Description⁹²²⁵
- Image : ID⁹²²⁶
- Image : Name⁹²²⁷
- Pixels : BigEndian⁹²²⁸
- Pixels : DimensionOrder⁹²²⁹
- Pixels : ID⁹²³⁰
- Pixels : Interleaved⁹²³¹
- Pixels : PhysicalSizeZ⁹²³²
- Pixels : SignificantBits⁹²³³
- Pixels : SizeC⁹²³⁴
- Pixels : SizeT⁹²³⁵
- Pixels : SizeX⁹²³⁶
- Pixels : SizeY⁹²³⁷

⁹²²¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹²²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹²²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹²²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹²²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹²²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹²²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹²²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹²²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹²³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹²³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹²³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁹²³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹²³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹²³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹²³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹²³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁹²³⁸
- Pixels : TimeIncrement⁹²³⁹
- Pixels : Type⁹²⁴⁰
- Plane : TheC⁹²⁴¹
- Plane : TheT⁹²⁴²
- Plane : TheZ⁹²⁴³

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](#)⁹²⁴⁴. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹²⁴⁵
- Channel : SamplesPerPixel⁹²⁴⁶
- Experiment : ID⁹²⁴⁷
- Experiment : Type⁹²⁴⁸
- Image : AcquisitionDate⁹²⁴⁹
- Image : ID⁹²⁵⁰
- Image : Name⁹²⁵¹
- Pixels : BigEndian⁹²⁵²
- Pixels : DimensionOrder⁹²⁵³
- Pixels : ID⁹²⁵⁴

⁹²³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹²³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁹²⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹²⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹²⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹²⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹²⁴⁴<http://www.openmicroscopy.org/site/support/ome-model/>

⁹²⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹²⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹²⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_ID

⁹²⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experiment_Type

⁹²⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹²⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹²⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹²⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹²⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹²⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁹²⁵⁵
- Pixels : SignificantBits⁹²⁵⁶
- Pixels : SizeC⁹²⁵⁷
- Pixels : SizeT⁹²⁵⁸
- Pixels : SizeX⁹²⁵⁹
- Pixels : SizeY⁹²⁶⁰
- Pixels : SizeZ⁹²⁶¹
- Pixels : Type⁹²⁶²
- Plane : ExposureTime⁹²⁶³
- Plane : TheC⁹²⁶⁴
- Plane : TheT⁹²⁶⁵
- Plane : TheZ⁹²⁶⁶

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](#)⁹²⁶⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹²⁶⁸
- Channel : SamplesPerPixel⁹²⁶⁹
- Image : AcquisitionDate⁹²⁷⁰
- Image : Description⁹²⁷¹

⁹²⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹²⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹²⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹²⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹²⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹²⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹²⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹²⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹²⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁹²⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹²⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹²⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹²⁶⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁹²⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹²⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹²⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹²⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

- Image : ID⁹²⁷²
- Image : Name⁹²⁷³
- Pixels : BigEndian⁹²⁷⁴
- Pixels : DimensionOrder⁹²⁷⁵
- Pixels : ID⁹²⁷⁶
- Pixels : Interleaved⁹²⁷⁷
- Pixels : PhysicalSizeX⁹²⁷⁸
- Pixels : PhysicalSizeY⁹²⁷⁹
- Pixels : SignificantBits⁹²⁸⁰
- Pixels : SizeC⁹²⁸¹
- Pixels : SizeT⁹²⁸²
- Pixels : SizeX⁹²⁸³
- Pixels : SizeY⁹²⁸⁴
- Pixels : SizeZ⁹²⁸⁵
- Pixels : Type⁹²⁸⁶
- Plane : TheC⁹²⁸⁷
- Plane : TheT⁹²⁸⁸
- Plane : TheZ⁹²⁸⁹

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](#)⁹²⁹⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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%).

⁹²⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹²⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹²⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹²⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹²⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹²⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹²⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹²⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹²⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹²⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹²⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹²⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹²⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹²⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹²⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹²⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹²⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹²⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹²⁹⁰<http://www.openmicroscopy.org/site/support/ome-model/>

Supported fields

These fields are fully supported by the Bio-Formats Trestle format reader:

- Channel : ID⁹²⁹¹
- Channel : SamplesPerPixel⁹²⁹²
- Image : AcquisitionDate⁹²⁹³
- Image : ID⁹²⁹⁴
- Image : Name⁹²⁹⁵
- Image : ROIRef⁹²⁹⁶
- Mask : Height⁹²⁹⁷
- Mask : ID⁹²⁹⁸
- Mask : Width⁹²⁹⁹
- Mask : X⁹³⁰⁰
- Mask : Y⁹³⁰¹
- Pixels : BigEndian⁹³⁰²
- Pixels : DimensionOrder⁹³⁰³
- Pixels : ID⁹³⁰⁴
- Pixels : Interleaved⁹³⁰⁵
- Pixels : SignificantBits⁹³⁰⁶
- Pixels : SizeC⁹³⁰⁷
- Pixels : SizeT⁹³⁰⁸
- Pixels : SizeX⁹³⁰⁹
- Pixels : SizeY⁹³¹⁰
- Pixels : SizeZ⁹³¹¹
- Pixels : Type⁹³¹²
- Plane : TheC⁹³¹³
- Plane : TheT⁹³¹⁴

⁹²⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹²⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹²⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹²⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹²⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹²⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁹²⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Height

⁹²⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹²⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Width

⁹³⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_X

⁹³⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Mask_Y

⁹³⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹³⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹³⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹³⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹³⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹³⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹³⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹³⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹³¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹³¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹³¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹³¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹³¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁹³¹⁵
- ROI : ID⁹³¹⁶

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](#)⁹³¹⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹³¹⁸
- Channel : SamplesPerPixel⁹³¹⁹
- Image : AcquisitionDate⁹³²⁰
- Image : ID⁹³²¹
- Image : Name⁹³²²
- Pixels : BigEndian⁹³²³
- Pixels : DimensionOrder⁹³²⁴
- Pixels : ID⁹³²⁵
- Pixels : Interleaved⁹³²⁶
- Pixels : SignificantBits⁹³²⁷
- Pixels : SizeC⁹³²⁸
- Pixels : SizeT⁹³²⁹
- Pixels : SizeX⁹³³⁰
- Pixels : SizeY⁹³³¹

⁹³¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹³¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁹³¹⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁹³¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹³¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹³²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹³²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹³²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹³²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹³²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹³²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹³²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹³²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹³²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹³²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹³³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹³³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁹³³²
- Pixels : Type⁹³³³
- Plane : TheC⁹³³⁴
- Plane : TheT⁹³³⁵
- Plane : TheZ⁹³³⁶

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*⁹³³⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹³³⁸
- Channel : SamplesPerPixel⁹³³⁹
- Image : AcquisitionDate⁹³⁴⁰
- Image : Description⁹³⁴¹
- Image : ID⁹³⁴²
- Image : Name⁹³⁴³
- Pixels : BigEndian⁹³⁴⁴
- Pixels : DimensionOrder⁹³⁴⁵
- Pixels : ID⁹³⁴⁶
- Pixels : Interleaved⁹³⁴⁷
- Pixels : PhysicalSizeX⁹³⁴⁸

⁹³³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹³³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹³³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹³³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹³³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹³³⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁹³³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹³³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹³⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹³⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹³⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹³⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹³⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹³⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹³⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹³⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹³⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

- Pixels : PhysicalSizeY⁹³⁴⁹
- Pixels : SignificantBits⁹³⁵⁰
- Pixels : SizeC⁹³⁵¹
- Pixels : SizeT⁹³⁵²
- Pixels : SizeX⁹³⁵³
- Pixels : SizeY⁹³⁵⁴
- Pixels : SizeZ⁹³⁵⁵
- Pixels : Type⁹³⁵⁶
- Plane : TheC⁹³⁵⁷
- Plane : TheT⁹³⁵⁸
- Plane : TheZ⁹³⁵⁹

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*⁹³⁶⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹³⁶¹
- Channel : SamplesPerPixel⁹³⁶²
- Image : AcquisitionDate⁹³⁶³
- Image : ID⁹³⁶⁴
- Image : Name⁹³⁶⁵

⁹³⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹³⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹³⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹³⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹³⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹³⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹³⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹³⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹³⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹³⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹³⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹³⁶⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁹³⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹³⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹³⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹³⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹³⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

- Pixels : BigEndian⁹³⁶⁶
- Pixels : DimensionOrder⁹³⁶⁷
- Pixels : ID⁹³⁶⁸
- Pixels : Interleaved⁹³⁶⁹
- Pixels : PhysicalSizeX⁹³⁷⁰
- Pixels : PhysicalSizeY⁹³⁷¹
- Pixels : PhysicalSizeZ⁹³⁷²
- Pixels : SignificantBits⁹³⁷³
- Pixels : SizeC⁹³⁷⁴
- Pixels : SizeT⁹³⁷⁵
- Pixels : SizeX⁹³⁷⁶
- Pixels : SizeY⁹³⁷⁷
- Pixels : SizeZ⁹³⁷⁸
- Pixels : Type⁹³⁷⁹
- Plane : PositionX⁹³⁸⁰
- Plane : PositionY⁹³⁸¹
- Plane : PositionZ⁹³⁸²
- Plane : TheC⁹³⁸³
- Plane : TheT⁹³⁸⁴
- Plane : TheZ⁹³⁸⁵

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](#)⁹³⁸⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of the image in microns) in a format-independent way.

⁹³⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁹³⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁹³⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁹³⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁹³⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
⁹³⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
⁹³⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
⁹³⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁹³⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁹³⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁹³⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁹³⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁹³⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁹³⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁹³⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX
⁹³⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY
⁹³⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ
⁹³⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁹³⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁹³⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
⁹³⁸⁶<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 : ID⁹³⁸⁷
- Channel : SamplesPerPixel⁹³⁸⁸
- Image : AcquisitionDate⁹³⁸⁹
- Image : ID⁹³⁹⁰
- Image : Name⁹³⁹¹
- Pixels : BigEndian⁹³⁹²
- Pixels : DimensionOrder⁹³⁹³
- Pixels : ID⁹³⁹⁴
- Pixels : Interleaved⁹³⁹⁵
- Pixels : SignificantBits⁹³⁹⁶
- Pixels : SizeC⁹³⁹⁷
- Pixels : SizeT⁹³⁹⁸
- Pixels : SizeX⁹³⁹⁹
- Pixels : SizeY⁹⁴⁰⁰
- Pixels : SizeZ⁹⁴⁰¹
- Pixels : Type⁹⁴⁰²
- Plane : TheC⁹⁴⁰³
- Plane : TheT⁹⁴⁰⁴
- Plane : TheZ⁹⁴⁰⁵

Total supported: 19

Total unknown or missing: 456

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *VG SAM*

⁹³⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID
⁹³⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel
⁹³⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
⁹³⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
⁹³⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
⁹³⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
⁹³⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
⁹³⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
⁹³⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
⁹³⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
⁹³⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
⁹³⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
⁹³⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
⁹⁴⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
⁹⁴⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
⁹⁴⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
⁹⁴⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
⁹⁴⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
⁹⁴⁰⁵http://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](#)⁹⁴⁰⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁴⁰⁷
- Channel : SamplesPerPixel⁹⁴⁰⁸
- Image : AcquisitionDate⁹⁴⁰⁹
- Image : ID⁹⁴¹⁰
- Image : Name⁹⁴¹¹
- Pixels : BigEndian⁹⁴¹²
- Pixels : DimensionOrder⁹⁴¹³
- Pixels : ID⁹⁴¹⁴
- Pixels : Interleaved⁹⁴¹⁵
- Pixels : SignificantBits⁹⁴¹⁶
- Pixels : SizeC⁹⁴¹⁷
- Pixels : SizeT⁹⁴¹⁸
- Pixels : SizeX⁹⁴¹⁹
- Pixels : SizeY⁹⁴²⁰
- Pixels : SizeZ⁹⁴²¹
- Pixels : Type⁹⁴²²
- Plane : TheC⁹⁴²³
- Plane : TheT⁹⁴²⁴

⁹⁴⁰⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁴⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁴⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁴⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁴¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁴¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁴¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁴¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁴¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁴¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁴¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁴¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁴¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁴¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁴²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁴²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁴²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁴²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁴²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

- Plane : TheZ⁹⁴²⁵

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*⁹⁴²⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁴²⁷
- Channel : SamplesPerPixel⁹⁴²⁸
- Image : AcquisitionDate⁹⁴²⁹
- Image : ID⁹⁴³⁰
- Image : Name⁹⁴³¹
- Pixels : BigEndian⁹⁴³²
- Pixels : DimensionOrder⁹⁴³³
- Pixels : ID⁹⁴³⁴
- Pixels : Interleaved⁹⁴³⁵
- Pixels : SignificantBits⁹⁴³⁶
- Pixels : SizeC⁹⁴³⁷
- Pixels : SizeT⁹⁴³⁸
- Pixels : SizeX⁹⁴³⁹
- Pixels : SizeY⁹⁴⁴⁰
- Pixels : SizeZ⁹⁴⁴¹

⁹⁴²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁴²⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁴²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁴²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁴²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁴³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁴³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁴³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁴³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁴³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁴³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁴³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁴³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁴³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁴³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁴⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁴⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

- Pixels : Type⁹⁴⁴²
- Plane : TheC⁹⁴⁴³
- Plane : TheT⁹⁴⁴⁴
- Plane : TheZ⁹⁴⁴⁵

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*⁹⁴⁴⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁴⁴⁷
- Channel : SamplesPerPixel⁹⁴⁴⁸
- Image : AcquisitionDate⁹⁴⁴⁹
- Image : ID⁹⁴⁵⁰
- Image : Name⁹⁴⁵¹
- Pixels : BigEndian⁹⁴⁵²
- Pixels : DimensionOrder⁹⁴⁵³
- Pixels : ID⁹⁴⁵⁴
- Pixels : Interleaved⁹⁴⁵⁵
- Pixels : SignificantBits⁹⁴⁵⁶
- Pixels : SizeC⁹⁴⁵⁷
- Pixels : SizeT⁹⁴⁵⁸

⁹⁴⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁴⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁴⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁴⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁴⁴⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁴⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁴⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁴⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁴⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁴⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁴⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁴⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁴⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁴⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁴⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁴⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁴⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

- Pixels : SizeX⁹⁴⁵⁹
- Pixels : SizeY⁹⁴⁶⁰
- Pixels : SizeZ⁹⁴⁶¹
- Pixels : Type⁹⁴⁶²
- Plane : TheC⁹⁴⁶³
- Plane : TheT⁹⁴⁶⁴
- Plane : TheZ⁹⁴⁶⁵

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*⁹⁴⁶⁶. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁴⁶⁷
- Channel : Name⁹⁴⁶⁸
- Channel : SamplesPerPixel⁹⁴⁶⁹
- Detector : ID⁹⁴⁷⁰
- Detector : Model⁹⁴⁷¹
- DetectorSettings : ID⁹⁴⁷²
- Image : AcquisitionDate⁹⁴⁷³
- Image : Description⁹⁴⁷⁴
- Image : ID⁹⁴⁷⁵

⁹⁴⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁴⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁴⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁴⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁴⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁴⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁴⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁴⁶⁶<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁴⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁴⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁹⁴⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁴⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹⁴⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁴⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹⁴⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁴⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁴⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

- Image : InstrumentRef⁹⁴⁷⁶
- Image : Name⁹⁴⁷⁷
- Instrument : ID⁹⁴⁷⁸
- Objective : Correction⁹⁴⁷⁹
- Objective : ID⁹⁴⁸⁰
- Objective : Immersion⁹⁴⁸¹
- Objective : NominalMagnification⁹⁴⁸²
- ObjectiveSettings : ID⁹⁴⁸³
- Pixels : BigEndian⁹⁴⁸⁴
- Pixels : DimensionOrder⁹⁴⁸⁵
- Pixels : ID⁹⁴⁸⁶
- Pixels : Interleaved⁹⁴⁸⁷
- Pixels : PhysicalSizeX⁹⁴⁸⁸
- Pixels : PhysicalSizeY⁹⁴⁸⁹
- Pixels : PhysicalSizeZ⁹⁴⁹⁰
- Pixels : SignificantBits⁹⁴⁹¹
- Pixels : SizeC⁹⁴⁹²
- Pixels : SizeT⁹⁴⁹³
- Pixels : SizeX⁹⁴⁹⁴
- Pixels : SizeY⁹⁴⁹⁵
- Pixels : SizeZ⁹⁴⁹⁶
- Pixels : Type⁹⁴⁹⁷
- Plane : DeltaT⁹⁴⁹⁸
- Plane : PositionX⁹⁴⁹⁹
- Plane : PositionY⁹⁵⁰⁰
- Plane : PositionZ⁹⁵⁰¹

⁹⁴⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁹⁴⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁴⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹⁴⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁹⁴⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁹⁴⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁹⁴⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁹⁴⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁹⁴⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁴⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁴⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁴⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁴⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁴⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁴⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁹⁴⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁴⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁴⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁴⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁴⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁴⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁴⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁴⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁹⁴⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁹⁵⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁹⁵⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

- Plane : TheC⁹⁵⁰²
- Plane : TheT⁹⁵⁰³
- Plane : TheZ⁹⁵⁰⁴

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](#)⁹⁵⁰⁵. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁵⁰⁶
- Channel : SamplesPerPixel⁹⁵⁰⁷
- Image : AcquisitionDate⁹⁵⁰⁸
- Image : Description⁹⁵⁰⁹
- Image : ID⁹⁵¹⁰
- Image : Name⁹⁵¹¹
- Pixels : BigEndian⁹⁵¹²
- Pixels : DimensionOrder⁹⁵¹³
- Pixels : ID⁹⁵¹⁴
- Pixels : Interleaved⁹⁵¹⁵
- Pixels : PhysicalSizeX⁹⁵¹⁶
- Pixels : PhysicalSizeY⁹⁵¹⁷
- Pixels : SignificantBits⁹⁵¹⁸

⁹⁵⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁵⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁵⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁵⁰⁵<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁵⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁵⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁵⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁵⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁵¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁵¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁵¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁵¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁵¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁵¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁵¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁵¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁵¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

- Pixels : SizeC⁹⁵¹⁹
- Pixels : SizeT⁹⁵²⁰
- Pixels : SizeX⁹⁵²¹
- Pixels : SizeY⁹⁵²²
- Pixels : SizeZ⁹⁵²³
- Pixels : Type⁹⁵²⁴
- Plane : TheC⁹⁵²⁵
- Plane : TheT⁹⁵²⁶
- Plane : TheZ⁹⁵²⁷

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*⁹⁵²⁸. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁵²⁹
- Channel : SamplesPerPixel⁹⁵³⁰
- Image : AcquisitionDate⁹⁵³¹
- Image : ID⁹⁵³²
- Image : Name⁹⁵³³
- Pixels : BigEndian⁹⁵³⁴
- Pixels : DimensionOrder⁹⁵³⁵

⁹⁵¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁵²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁵²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁵²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁵²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁵²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁵²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁵²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁵²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁵²⁸<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁵²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁵³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁵³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁵³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁵³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁵³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁵³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

- Pixels : ID⁹⁵³⁶
- Pixels : Interleaved⁹⁵³⁷
- Pixels : PhysicalSizeX⁹⁵³⁸
- Pixels : PhysicalSizeY⁹⁵³⁹
- Pixels : SignificantBits⁹⁵⁴⁰
- Pixels : SizeC⁹⁵⁴¹
- Pixels : SizeT⁹⁵⁴²
- Pixels : SizeX⁹⁵⁴³
- Pixels : SizeY⁹⁵⁴⁴
- Pixels : SizeZ⁹⁵⁴⁵
- Pixels : Type⁹⁵⁴⁶
- Plane : TheC⁹⁵⁴⁷
- Plane : TheT⁹⁵⁴⁸
- Plane : TheZ⁹⁵⁴⁹

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](#)⁹⁵⁵⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁵⁵¹
- Channel : SamplesPerPixel⁹⁵⁵²

⁹⁵³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁵³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁵³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁵³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁵⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁵⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁵⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁵⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁵⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁵⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁵⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁵⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁵⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁵⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁵⁵⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁵⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁵⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

- Image : AcquisitionDate⁹⁵⁵³
- Image : ID⁹⁵⁵⁴
- Image : Name⁹⁵⁵⁵
- Pixels : BigEndian⁹⁵⁵⁶
- Pixels : DimensionOrder⁹⁵⁵⁷
- Pixels : ID⁹⁵⁵⁸
- Pixels : Interleaved⁹⁵⁵⁹
- Pixels : PhysicalSizeX⁹⁵⁶⁰
- Pixels : PhysicalSizeY⁹⁵⁶¹
- Pixels : PhysicalSizeZ⁹⁵⁶²
- Pixels : SignificantBits⁹⁵⁶³
- Pixels : SizeC⁹⁵⁶⁴
- Pixels : SizeT⁹⁵⁶⁵
- Pixels : SizeX⁹⁵⁶⁶
- Pixels : SizeY⁹⁵⁶⁷
- Pixels : SizeZ⁹⁵⁶⁸
- Pixels : Type⁹⁵⁶⁹
- Plane : TheC⁹⁵⁷⁰
- Plane : TheT⁹⁵⁷¹
- Plane : TheZ⁹⁵⁷²
- StageLabel : Name⁹⁵⁷³
- StageLabel : X⁹⁵⁷⁴
- StageLabel : Y⁹⁵⁷⁵
- StageLabel : Z⁹⁵⁷⁶

Total supported: 26

Total unknown or missing: 449

Deprecated since version 5.1.5: See the Supported Metadata Fields links under *Zeiss Axio CSM*

- ⁹⁵⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate
- ⁹⁵⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID
- ⁹⁵⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name
- ⁹⁵⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian
- ⁹⁵⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder
- ⁹⁵⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID
- ⁹⁵⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved
- ⁹⁵⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX
- ⁹⁵⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY
- ⁹⁵⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ
- ⁹⁵⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits
- ⁹⁵⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC
- ⁹⁵⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT
- ⁹⁵⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX
- ⁹⁵⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY
- ⁹⁵⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ
- ⁹⁵⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type
- ⁹⁵⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁹⁵⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁹⁵⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ⁹⁵⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Name
- ⁹⁵⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_X
- ⁹⁵⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#StageLabel_Y
- ⁹⁵⁷⁶http://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](#)⁹⁵⁷⁷. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁵⁷⁸
- Channel : SamplesPerPixel⁹⁵⁷⁹
- Image : AcquisitionDate⁹⁵⁸⁰
- Image : ID⁹⁵⁸¹
- Image : Name⁹⁵⁸²
- Instrument : ID⁹⁵⁸³
- Objective : ID⁹⁵⁸⁴
- Objective : NominalMagnification⁹⁵⁸⁵
- ObjectiveSettings : ID⁹⁵⁸⁶
- Pixels : BigEndian⁹⁵⁸⁷
- Pixels : DimensionOrder⁹⁵⁸⁸
- Pixels : ID⁹⁵⁸⁹
- Pixels : Interleaved⁹⁵⁹⁰
- Pixels : SignificantBits⁹⁵⁹¹
- Pixels : SizeC⁹⁵⁹²
- Pixels : SizeT⁹⁵⁹³
- Pixels : SizeX⁹⁵⁹⁴
- Pixels : SizeY⁹⁵⁹⁵

⁹⁵⁷⁷<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁵⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁵⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁵⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁵⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁵⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁵⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹⁵⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁹⁵⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁹⁵⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁹⁵⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁵⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁵⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁵⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁵⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁵⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁵⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁵⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁵⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

- Pixels : SizeZ⁹⁵⁹⁶
- Pixels : Type⁹⁵⁹⁷
- Plane : TheC⁹⁵⁹⁸
- Plane : TheT⁹⁵⁹⁹
- Plane : TheZ⁹⁶⁰⁰

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*⁹⁶⁰¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁶⁰²
- Channel : SamplesPerPixel⁹⁶⁰³
- Image : AcquisitionDate⁹⁶⁰⁴
- Image : ID⁹⁶⁰⁵
- Image : Name⁹⁶⁰⁶
- Pixels : BigEndian⁹⁶⁰⁷
- Pixels : DimensionOrder⁹⁶⁰⁸
- Pixels : ID⁹⁶⁰⁹
- Pixels : Interleaved⁹⁶¹⁰
- Pixels : SignificantBits⁹⁶¹¹
- Pixels : SizeC⁹⁶¹²

⁹⁵⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁵⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁵⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁵⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁶⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁶⁰¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁶⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁶⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁶⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁶⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁶⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁶⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁶⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁶⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁶¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁶¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁶¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

- Pixels : SizeT⁹⁶¹³
- Pixels : SizeX⁹⁶¹⁴
- Pixels : SizeY⁹⁶¹⁵
- Pixels : SizeZ⁹⁶¹⁶
- Pixels : Type⁹⁶¹⁷
- Plane : TheC⁹⁶¹⁸
- Plane : TheT⁹⁶¹⁹
- Plane : TheZ⁹⁶²⁰

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](#)⁹⁶²¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : ID⁹⁶²²
- Channel : SamplesPerPixel⁹⁶²³
- Image : AcquisitionDate⁹⁶²⁴
- Image : ID⁹⁶²⁵
- Image : Name⁹⁶²⁶
- Pixels : BigEndian⁹⁶²⁷
- Pixels : DimensionOrder⁹⁶²⁸
- Pixels : ID⁹⁶²⁹

⁹⁶¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁶¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁶¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁶¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁶¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁶¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁶¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁶²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁶²¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁶²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁶²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁶²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁶²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁶²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁶²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁶²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁶²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

- Pixels : Interleaved⁹⁶³⁰
- Pixels : SignificantBits⁹⁶³¹
- Pixels : SizeC⁹⁶³²
- Pixels : SizeT⁹⁶³³
- Pixels : SizeX⁹⁶³⁴
- Pixels : SizeY⁹⁶³⁵
- Pixels : SizeZ⁹⁶³⁶
- Pixels : Type⁹⁶³⁷
- Plane : TheC⁹⁶³⁸
- Plane : TheT⁹⁶³⁹
- Plane : TheZ⁹⁶⁴⁰

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](#)⁹⁶⁴¹. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : LotNumber⁹⁶⁴²
- Arc : Manufacturer⁹⁶⁴³
- Arc : Model⁹⁶⁴⁴
- Arc : Power⁹⁶⁴⁵
- Arc : SerialNumber⁹⁶⁴⁶

⁹⁶³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁶³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁶³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁶³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁶³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁶³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁶³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁶³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁶³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁶³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁶⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁶⁴¹<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁶⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁶⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁶⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁶⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁹⁶⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

- Channel : AcquisitionMode⁹⁶⁴⁷
- Channel : Color⁹⁶⁴⁸
- Channel : EmissionWavelength⁹⁶⁴⁹
- Channel : ExcitationWavelength⁹⁶⁵⁰
- Channel : FilterSetRef⁹⁶⁵¹
- Channel : Fluor⁹⁶⁵²
- Channel : ID⁹⁶⁵³
- Channel : IlluminationType⁹⁶⁵⁴
- Channel : Name⁹⁶⁵⁵
- Channel : PinholeSize⁹⁶⁵⁶
- Channel : SamplesPerPixel⁹⁶⁵⁷
- Detector : AmplificationGain⁹⁶⁵⁸
- Detector : Gain⁹⁶⁵⁹
- Detector : ID⁹⁶⁶⁰
- Detector : LotNumber⁹⁶⁶¹
- Detector : Manufacturer⁹⁶⁶²
- Detector : Model⁹⁶⁶³
- Detector : Offset⁹⁶⁶⁴
- Detector : SerialNumber⁹⁶⁶⁵
- Detector : Type⁹⁶⁶⁶
- Detector : Zoom⁹⁶⁶⁷
- DetectorSettings : Binning⁹⁶⁶⁸
- DetectorSettings : Gain⁹⁶⁶⁹
- DetectorSettings : ID⁹⁶⁷⁰
- Dichroic : ID⁹⁶⁷¹
- Dichroic : LotNumber⁹⁶⁷²

⁹⁶⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_AcquisitionMode

⁹⁶⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁹⁶⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_EmissionWavelength

⁹⁶⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ExcitationWavelength

⁹⁶⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSetRef_ID

⁹⁶⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Fluor

⁹⁶⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁶⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_IlluminationType

⁹⁶⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁹⁶⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁹⁶⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁶⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_AmplificationGain

⁹⁶⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁹⁶⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹⁶⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁶⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁶⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁶⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Offset

⁹⁶⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁶⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁹⁶⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁹⁶⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁹⁶⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Gain

⁹⁶⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹⁶⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁹⁶⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

- Dichroic : Manufacturer⁹⁶⁷³
- Dichroic : Model⁹⁶⁷⁴
- Dichroic : SerialNumber⁹⁶⁷⁵
- Ellipse : ID⁹⁶⁷⁶
- Ellipse : RadiusX⁹⁶⁷⁷
- Ellipse : RadiusY⁹⁶⁷⁸
- Ellipse : Text⁹⁶⁷⁹
- Ellipse : X⁹⁶⁸⁰
- Ellipse : Y⁹⁶⁸¹
- Experimenter : Email⁹⁶⁸²
- Experimenter : FirstName⁹⁶⁸³
- Experimenter : ID⁹⁶⁸⁴
- Experimenter : Institution⁹⁶⁸⁵
- Experimenter : LastName⁹⁶⁸⁶
- Experimenter : MiddleName⁹⁶⁸⁷
- Experimenter : UserName⁹⁶⁸⁸
- Filament : LotNumber⁹⁶⁸⁹
- Filament : Manufacturer⁹⁶⁹⁰
- Filament : Model⁹⁶⁹¹
- Filament : Power⁹⁶⁹²
- Filament : SerialNumber⁹⁶⁹³
- Filter : FilterWheel⁹⁶⁹⁴
- Filter : ID⁹⁶⁹⁵
- Filter : LotNumber⁹⁶⁹⁶
- Filter : Manufacturer⁹⁶⁹⁷
- Filter : Model⁹⁶⁹⁸

⁹⁶⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁶⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁶⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁶⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁶⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁹⁶⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁹⁶⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁹⁶⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

⁹⁶⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

⁹⁶⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Email

⁹⁶⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_FirstName

⁹⁶⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁹⁶⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_Institution

⁹⁶⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_LastName

⁹⁶⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_MiddleName

⁹⁶⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName

⁹⁶⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁶⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁶⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁶⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁹⁶⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁶⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_FilterWheel

⁹⁶⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁹⁶⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁶⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁶⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

- Filter : SerialNumber⁹⁶⁹⁹
- Filter : Type⁹⁷⁰⁰
- FilterSet : DichroicRef⁹⁷⁰¹
- FilterSet : EmissionFilterRef⁹⁷⁰²
- FilterSet : ExcitationFilterRef⁹⁷⁰³
- FilterSet : ID⁹⁷⁰⁴
- FilterSet : LotNumber⁹⁷⁰⁵
- FilterSet : Manufacturer⁹⁷⁰⁶
- FilterSet : Model⁹⁷⁰⁷
- FilterSet : SerialNumber⁹⁷⁰⁸
- Image : AcquisitionDate⁹⁷⁰⁹
- Image : Description⁹⁷¹⁰
- Image : ExperimenterRef⁹⁷¹¹
- Image : ID⁹⁷¹²
- Image : InstrumentRef⁹⁷¹³
- Image : Name⁹⁷¹⁴
- Image : ROIRef⁹⁷¹⁵
- ImagingEnvironment : AirPressure⁹⁷¹⁶
- ImagingEnvironment : CO2Percent⁹⁷¹⁷
- ImagingEnvironment : Humidity⁹⁷¹⁸
- ImagingEnvironment : Temperature⁹⁷¹⁹
- Instrument : ID⁹⁷²⁰
- Laser : LotNumber⁹⁷²¹
- Laser : Manufacturer⁹⁷²²
- Laser : Model⁹⁷²³
- Laser : Power⁹⁷²⁴

⁹⁶⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_Type

⁹⁷⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁹⁷⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁹⁷⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁹⁷⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterSet_ID

⁹⁷⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁷⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁷⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁷⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁷¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁷¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ExperimenterRef_ID

⁹⁷¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁷¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁹⁷¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁷¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁹⁷¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_AirPressure

⁹⁷¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_CO2Percent

⁹⁷¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Humidity

⁹⁷¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ImagingEnvironment_Temperature

⁹⁷²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹⁷²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁷²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁷²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁷²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

- Laser : SerialNumber⁹⁷²⁵
- LightEmittingDiode : LotNumber⁹⁷²⁶
- LightEmittingDiode : Manufacturer⁹⁷²⁷
- LightEmittingDiode : Model⁹⁷²⁸
- LightEmittingDiode : Power⁹⁷²⁹
- LightEmittingDiode : SerialNumber⁹⁷³⁰
- Line : ID⁹⁷³¹
- Line : Text⁹⁷³²
- Line : X1⁹⁷³³
- Line : X2⁹⁷³⁴
- Line : Y1⁹⁷³⁵
- Line : Y2⁹⁷³⁶
- Microscope : LotNumber⁹⁷³⁷
- Microscope : Manufacturer⁹⁷³⁸
- Microscope : Model⁹⁷³⁹
- Microscope : SerialNumber⁹⁷⁴⁰
- Microscope : Type⁹⁷⁴¹
- Objective : CalibratedMagnification⁹⁷⁴²
- Objective : Correction⁹⁷⁴³
- Objective : ID⁹⁷⁴⁴
- Objective : Immersion⁹⁷⁴⁵
- Objective : Iris⁹⁷⁴⁶
- Objective : LensNA⁹⁷⁴⁷
- Objective : LotNumber⁹⁷⁴⁸
- Objective : Manufacturer⁹⁷⁴⁹
- Objective : Model⁹⁷⁵⁰

⁹⁷²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁷²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁷²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁷²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_Power

⁹⁷³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁷³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁹⁷³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁹⁷³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁹⁷³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁹⁷³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁹⁷³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁷³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁷³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁷⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Microscope_Type

⁹⁷⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_CalibratedMagnification

⁹⁷⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁹⁷⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁹⁷⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁹⁷⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Iris

⁹⁷⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁹⁷⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_LotNumber

⁹⁷⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Manufacturer

⁹⁷⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

- Objective : NominalMagnification⁹⁷⁵¹
- Objective : SerialNumber⁹⁷⁵²
- Objective : WorkingDistance⁹⁷⁵³
- ObjectiveSettings : CorrectionCollar⁹⁷⁵⁴
- ObjectiveSettings : ID⁹⁷⁵⁵
- ObjectiveSettings : Medium⁹⁷⁵⁶
- ObjectiveSettings : RefractiveIndex⁹⁷⁵⁷
- Pixels : BigEndian⁹⁷⁵⁸
- Pixels : DimensionOrder⁹⁷⁵⁹
- Pixels : ID⁹⁷⁶⁰
- Pixels : Interleaved⁹⁷⁶¹
- Pixels : PhysicalSizeX⁹⁷⁶²
- Pixels : PhysicalSizeY⁹⁷⁶³
- Pixels : PhysicalSizeZ⁹⁷⁶⁴
- Pixels : SignificantBits⁹⁷⁶⁵
- Pixels : SizeC⁹⁷⁶⁶
- Pixels : SizeT⁹⁷⁶⁷
- Pixels : SizeX⁹⁷⁶⁸
- Pixels : SizeY⁹⁷⁶⁹
- Pixels : SizeZ⁹⁷⁷⁰
- Pixels : Type⁹⁷⁷¹
- Plane : DeltaT⁹⁷⁷²
- Plane : ExposureTime⁹⁷⁷³
- Plane : PositionX⁹⁷⁷⁴
- Plane : PositionY⁹⁷⁷⁵
- Plane : PositionZ⁹⁷⁷⁶

⁹⁷⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁹⁷⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_SerialNumber

⁹⁷⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_WorkingDistance

⁹⁷⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_CorrectionCollar

⁹⁷⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁹⁷⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_Medium

⁹⁷⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_RefractiveIndex

⁹⁷⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁷⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁷⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁷⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁷⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁷⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁷⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁹⁷⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁷⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁷⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

⁹⁷⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁷⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁷⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁷⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁷⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁹⁷⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_ExposureTime

⁹⁷⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

⁹⁷⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionY

⁹⁷⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

- Plane : TheC⁹⁷⁷⁷
- Plane : TheT⁹⁷⁷⁸
- Plane : TheZ⁹⁷⁷⁹
- Polygon : ID⁹⁷⁸⁰
- Polygon : Points⁹⁷⁸¹
- Polygon : Text⁹⁷⁸²
- Polyline : ID⁹⁷⁸³
- Polyline : Points⁹⁷⁸⁴
- Polyline : Text⁹⁷⁸⁵
- ROI : Description⁹⁷⁸⁶
- ROI : ID⁹⁷⁸⁷
- ROI : Name⁹⁷⁸⁸
- Rectangle : Height⁹⁷⁸⁹
- Rectangle : ID⁹⁷⁹⁰
- Rectangle : Text⁹⁷⁹¹
- Rectangle : Width⁹⁷⁹²
- Rectangle : X⁹⁷⁹³
- Rectangle : Y⁹⁷⁹⁴
- TransmittanceRange : CutIn⁹⁷⁹⁵
- TransmittanceRange : CutInTolerance⁹⁷⁹⁶
- TransmittanceRange : CutOut⁹⁷⁹⁷
- TransmittanceRange : CutOutTolerance⁹⁷⁹⁸
- TransmittanceRange : Transmittance⁹⁷⁹⁹

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*

- ⁹⁷⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC
- ⁹⁷⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT
- ⁹⁷⁷⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ
- ⁹⁷⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ⁹⁷⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points
- ⁹⁷⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text
- 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#Polyline_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#ROI_Description
- ⁹⁷⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID
- ⁹⁷⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_Name
- ⁹⁷⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height
- ⁹⁷⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID
- ⁹⁷⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text
- ⁹⁷⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width
- ⁹⁷⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X
- ⁹⁷⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y
- ⁹⁷⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn
- ⁹⁷⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutInTolerance
- ⁹⁷⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOut
- ⁹⁷⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutOutTolerance
- ⁹⁷⁹⁹http://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](#)⁹⁸⁰⁰. Bio-Formats standardizes each format's original metadata to and from the OME data model so that you can work with a particular piece of metadata (e.g. physical width of 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 : Color⁹⁸⁰¹
- Channel : ID⁹⁸⁰²
- Channel : Name⁹⁸⁰³
- Channel : PinholeSize⁹⁸⁰⁴
- Channel : SamplesPerPixel⁹⁸⁰⁵
- Detector : AmplificationGain⁹⁸⁰⁶
- Detector : Gain⁹⁸⁰⁷
- Detector : ID⁹⁸⁰⁸
- Detector : Type⁹⁸⁰⁹
- Detector : Zoom⁹⁸¹⁰
- DetectorSettings : Binning⁹⁸¹¹
- DetectorSettings : ID⁹⁸¹²
- Dichroic : ID⁹⁸¹³
- Dichroic : Model⁹⁸¹⁴
- Ellipse : FontSize⁹⁸¹⁵
- Ellipse : ID⁹⁸¹⁶
- Ellipse : RadiusX⁹⁸¹⁷
- Ellipse : RadiusY⁹⁸¹⁸
- Ellipse : StrokeWidth⁹⁸¹⁹

⁹⁸⁰⁰<http://www.openmicroscopy.org/site/support/ome-model/>

⁹⁸⁰¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Color

⁹⁸⁰²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_ID

⁹⁸⁰³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_Name

⁹⁸⁰⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_PinholeSize

⁹⁸⁰⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Channel_SamplesPerPixel

⁹⁸⁰⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_AmplificationGain

⁹⁸⁰⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Gain

⁹⁸⁰⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_ID

⁹⁸⁰⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Type

⁹⁸¹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Detector_Zoom

⁹⁸¹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_Binning

⁹⁸¹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DetectorSettings_ID

⁹⁸¹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Dichroic_ID

⁹⁸¹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁸¹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸¹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸¹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusX

⁹⁸¹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_RadiusY

⁹⁸¹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

- Ellipse : Transform⁹⁸²⁰
- Ellipse : X⁹⁸²¹
- Ellipse : Y⁹⁸²²
- Experimenter : ID⁹⁸²³
- Experimenter : UserName⁹⁸²⁴
- Filter : ID⁹⁸²⁵
- Filter : Model⁹⁸²⁶
- Filter : Type⁹⁸²⁷
- Image : AcquisitionDate⁹⁸²⁸
- Image : Description⁹⁸²⁹
- Image : ID⁹⁸³⁰
- Image : InstrumentRef⁹⁸³¹
- Image : Name⁹⁸³²
- Image : ROIRef⁹⁸³³
- Instrument : ID⁹⁸³⁴
- Label : FontSize⁹⁸³⁵
- Label : ID⁹⁸³⁶
- Label : StrokeWidth⁹⁸³⁷
- Label : Text⁹⁸³⁸
- Label : X⁹⁸³⁹
- Label : Y⁹⁸⁴⁰
- Laser : ID⁹⁸⁴¹
- Laser : LaserMedium⁹⁸⁴²
- Laser : Model⁹⁸⁴³
- Laser : Type⁹⁸⁴⁴
- Laser : Wavelength⁹⁸⁴⁵

⁹⁸²⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Transform

⁹⁸²¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_X

⁹⁸²²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Ellipse_Y

⁹⁸²³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_ID

⁹⁸²⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Experimenter_UserName

⁹⁸²⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_ID

⁹⁸²⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁸²⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Filter_Type

⁹⁸²⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_AcquisitionDate

⁹⁸²⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Description

⁹⁸³⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_ID

⁹⁸³¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#InstrumentRef_ID

⁹⁸³²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Image_Name

⁹⁸³³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROIRef_ID

⁹⁸³⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Instrument_ID

⁹⁸³⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸³⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸³⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁹⁸³⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_Text

⁹⁸³⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_X

⁹⁸⁴⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Label_Y

⁹⁸⁴¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#LightSource_ID

⁹⁸⁴²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_LaserMedium

⁹⁸⁴³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ManufacturerSpec_Model

⁹⁸⁴⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Type

⁹⁸⁴⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Laser_Wavelength

- `LightPath : DichroicRef`⁹⁸⁴⁶
- `LightPath : EmissionFilterRef`⁹⁸⁴⁷
- `Line : FontSize`⁹⁸⁴⁸
- `Line : ID`⁹⁸⁴⁹
- `Line : StrokeWidth`⁹⁸⁵⁰
- `Line : X1`⁹⁸⁵¹
- `Line : X2`⁹⁸⁵²
- `Line : Y1`⁹⁸⁵³
- `Line : Y2`⁹⁸⁵⁴
- `Objective : Correction`⁹⁸⁵⁵
- `Objective : ID`⁹⁸⁵⁶
- `Objective : Immersion`⁹⁸⁵⁷
- `Objective : Iris`⁹⁸⁵⁸
- `Objective : LensNA`⁹⁸⁵⁹
- `Objective : NominalMagnification`⁹⁸⁶⁰
- `ObjectiveSettings : ID`⁹⁸⁶¹
- `Pixels : BigEndian`⁹⁸⁶²
- `Pixels : DimensionOrder`⁹⁸⁶³
- `Pixels : ID`⁹⁸⁶⁴
- `Pixels : Interleaved`⁹⁸⁶⁵
- `Pixels : PhysicalSizeX`⁹⁸⁶⁶
- `Pixels : PhysicalSizeY`⁹⁸⁶⁷
- `Pixels : PhysicalSizeZ`⁹⁸⁶⁸
- `Pixels : SignificantBits`⁹⁸⁶⁹
- `Pixels : SizeC`⁹⁸⁷⁰
- `Pixels : SizeT`⁹⁸⁷¹

⁹⁸⁴⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#DichroicRef_ID

⁹⁸⁴⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#FilterRef_ID

⁹⁸⁴⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸⁴⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸⁵⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁹⁸⁵¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X1

⁹⁸⁵²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_X2

⁹⁸⁵³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y1

⁹⁸⁵⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Line_Y2

⁹⁸⁵⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Correction

⁹⁸⁵⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_ID

⁹⁸⁵⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Immersion

⁹⁸⁵⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_Iris

⁹⁸⁵⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_LensNA

⁹⁸⁶⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Objective_NominalMagnification

⁹⁸⁶¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#ObjectiveSettings_ID

⁹⁸⁶²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_BigEndian

⁹⁸⁶³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_DimensionOrder

⁹⁸⁶⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_ID

⁹⁸⁶⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Interleaved

⁹⁸⁶⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeX

⁹⁸⁶⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeY

⁹⁸⁶⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_PhysicalSizeZ

⁹⁸⁶⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SignificantBits

⁹⁸⁷⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeC

⁹⁸⁷¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeT

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⁹⁸⁷²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeX

⁹⁸⁷³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeY

⁹⁸⁷⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_SizeZ

⁹⁸⁷⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_TimeIncrement

⁹⁸⁷⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Pixels_Type

⁹⁸⁷⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_DeltaT

⁹⁸⁷⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionX

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⁹⁸⁸⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_PositionZ

⁹⁸⁸¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheC

⁹⁸⁸²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheT

⁹⁸⁸³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#Plane_TheZ

⁹⁸⁸⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸⁸⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸⁸⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polygon_Points

⁹⁸⁸⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁹⁸⁸⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸⁸⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸⁹⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Polyline_Points

⁹⁸⁹¹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁹⁸⁹²http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#ROI_ID

⁹⁸⁹³http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_FontSize

⁹⁸⁹⁴http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Height

⁹⁸⁹⁵http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_ID

⁹⁸⁹⁶http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Shape_StrokeWidth

⁹⁸⁹⁷http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Width

- Rectangle : X⁹⁸⁹⁸
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- TransmittanceRange : CutIn⁹⁹⁰⁰
- TransmittanceRange : CutOut⁹⁹⁰¹

Total supported: 101

Total unknown or missing: 374

⁹⁸⁹⁸http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_X

⁹⁸⁹⁹http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ROI_xsd.html#Rectangle_Y

⁹⁹⁰⁰http://www.openmicroscopy.org/Schemas/Documentation/Generated/OME-2015-01/ome_xsd.html#TransmittanceRange_CutIn

⁹⁹⁰¹http://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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