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|  | TIFF 6.0 Specification Coverage The library is capable of dealing with images that are written to follow the 5.0 or 6.0 TIFF spec. There is also considerable support for some of the more esoteric portions of the 6.0 TIFF spec. |

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| *Core requirements* | Both "MM" and "II" byte orders are handled. Both packed and separated planar configuration of samples. Any number of samples per pixel (memory permitting). Any image width and height (memory permitting). Multiple subfiles can be read and written. Editing is **not** supported in that related subfiles (e.g. a reduced resolution version of an image) are not automatically updated.  Tags handled: ExtraSamples, ImageWidth, ImageLength, NewSubfileType, ResolutionUnit. Rowsperstrip, StripOffsets, StripByteCounts, XResolution, YResolution |
| *Tiled Images* | TileWidth, TileLength, TileOffsets, TileByteCounts |
| *Image Colorimetry Information* | WhitePoint, PrimaryChromaticities, TransferFunction, ReferenceBlackWhite |
| *Class B for bilevel images* | SamplesPerPixel = 1  BitsPerSample = 1  Compression = 1 (none), 2 (CCITT 1D), or 32773 (PackBits)  PhotometricInterpretation = 0 (Min-is-White), 1 (Min-is-Black) |
| *Class G for grayscale images* | SamplesPerPixel = 1  BitsPerSample = 4, 8  Compression = 1 (none) 5 (LZW)  PhotometricInterpretation = 0 (Min-is-White), 1 (Min-is-Black) |
| *Class P for palette color images* | SamplesPerPixel = 1  BitsPerSample = 1-8  Compression = 1 (none) 5 (LZW)  PhotometricInterpretation = 3 (Palette RGB)  ColorMap |
| *Class R for RGB full color images* | SamplesPerPixel = 3  BitsPerSample = <8,8,8>  PlanarConfiguration = 1, 2  Compression = 1 (none) 5 (LZW)  PhotometricInterpretation = 2 (RGB) |
| *Class F for facsimile* | (*Class B tags plus...*)  Compression = 3 (CCITT Group 3), 4 (CCITT Group 4)  FillOrder = 1 (MSB), 2 (LSB)  Group3Options = 1 (2d encoding), 4 (zero fill), 5 (2d+fill)  ImageWidth = 1728, 2048, 2482  NewSubFileType = 2  ResolutionUnit = 2 (Inch), 3 (Centimeter)  PageNumber, XResolution, YResolution, Software, BadFaxLines, CleanFaxData, ConsecutiveBadFaxLines, DateTime, DocumentName, ImageDescription, Orientation |
| *Class S for separated images* | SamplesPerPixel = 4  PlanarConfiguration = 1, 2  Compression = 1 (none), 5 (LZW)  PhotometricInterpretation = 5 (Separated)  InkSet = 1 (CMYK)  DotRange, InkNames, DotRange, TargetPrinter |
| *Class Y for YCbCr images* | SamplesPerPixel = 3  BitsPerSample = <8,8,8>  PlanarConfiguration = 1, 2  Compression = 1 (none), 5 (LZW), 7 (JPEG)  PhotometricInterpretation = 6 (YCbCr)  YCbCrCoefficients, YCbCrSubsampling, YCbCrPositioning  (*colorimetry info from Appendix H; see above*) |
| *Class "JPEG" for JPEG images (per TTN2)* | PhotometricInterpretation = 1 (grayscale), 2 (RGB), 5 (CMYK), 6 (YCbCr)  (*Class Y tags if YCbCr*)  (*Class S tags if CMYK*)  Compression = 7 (JPEG) |

In addition, the library supports some optional compression algorithms that are, in some cases, of dubious value.

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| *Compression tag value* | *Compression algorithm* |
| 32766 | NeXT 2-bit encoding |
| 32809 | ThunderScan 4-bit encoding |
| 32909 | Pixar companded 11-bit ZIP encoding |
| 32946 | PKZIP-style Deflate encoding (experimental) |
| 34676 | SGI 32-bit Log Luminance encoding (experimental) |
| 34677 | SGI 24-bit Log Luminance encoding (experimental) |

Note that there is no support for the JPEG-related tags defined in the 6.0 specification; the JPEG support is based on the post-6.0 proposal given in TIFF Technical Note #2.

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|  | For more information on the experimental Log Luminance encoding consult the materials available at <http://www.anyhere.com/gward/pixformat/tiffluv.html>. |

The following table shows the tags that are recognized and how they are used by the library. If no use is indicated, then the library reads and writes the tag, but does not use it internally.

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| *Tag Name* | *Value* | *R/W* | *Library's Use (Comments)* |
| NewSubFileType | 254 | R/W | none (called SubFileType in <tiff.h>) |
| SubFileType | 255 | R/W | none (called OSubFileType in <tiff.h>) |
| ImageWidth | 256 | R/W | lots |
| ImageLength | 257 | R/W | lots |
| BitsPerSample | 258 | R/W | lots |
| Compression | 259 | R/W | to select appropriate codec |
| PhotometricInterpretation | 262 | R/W | lots |
| Thresholding | 263 | R/W |  |
| CellWidth | 264 |  | parsed but ignored |
| CellLength | 265 |  | parsed but ignored |
| FillOrder | 266 | R/W | control bit order |
| DocumentName | 269 | R/W |  |
| ImageDescription | 270 | R/W |  |
| Make | 271 | R/W |  |
| Model | 272 | R/W |  |
| StripOffsets | 273 | R/W | data i/o |
| Orientation | 274 | R/W |  |
| SamplesPerPixel | 277 | R/W | lots |
| RowsPerStrip | 278 | R/W | data i/o |
| StripByteCounts | 279 | R/W | data i/o |
| MinSampleValue | 280 | R/W |  |
| MaxSampleValue | 281 | R/W |  |
| XResolution | 282 | R/W |  |
| YResolution | 283 | R/W | used by Group 3 2d encoder |
| PlanarConfiguration | 284 | R/W | data i/o |
| PageName | 285 | R/W |  |
| XPosition | 286 | R/W |  |
| YPosition | 286 | R/W |  |
| FreeOffsets | 288 |  | parsed but ignored |
| FreeByteCounts | 289 |  | parsed but ignored |
| GrayResponseUnit | 290 |  | parsed but ignored |
| GrayResponseCurve | 291 |  | parsed but ignored |
| Group3Options | 292 | R/W | used by Group 3 codec |
| Group4Options | 293 | R/W |  |
| ResolutionUnit | 296 | R/W | used by Group 3 2d encoder |
| PageNumber | 297 | R/W |  |
| ColorResponseUnit | 300 |  | parsed but ignored |
| TransferFunction | 301 | R/W |  |
| Software | 305 | R/W |  |
| DateTime | 306 | R/W |  |
| Artist | 315 | R/W |  |
| HostComputer | 316 | R/W |  |
| Predictor | 317 | R/W | used by LZW codec |
| WhitePoint | 318 | R/W |  |
| PrimaryChromacities | 319 | R/W |  |
| ColorMap | 320 | R/W |  |
| TileWidth | 322 | R/W | data i/o |
| TileLength | 323 | R/W | data i/o |
| TileOffsets | 324 | R/W | data i/o |
| TileByteCounts | 324 | R/W | data i/o |
| BadFaxLines | 326 | R/W |  |
| CleanFaxData | 327 | R/W |  |
| ConsecutiveBadFaxLines | 328 | R/W |  |
| SubIFD | 330 | R/W | subimage descriptor support |
| InkSet | 332 | R/W |  |
| InkNames | 333 | R/W |  |
| DotRange | 336 | R/W |  |
| TargetPrinter | 337 | R/W |  |
| ExtraSamples | 338 | R/W | lots |
| SampleFormat | 339 | R/W |  |
| SMinSampleValue | 340 | R/W |  |
| SMaxSampleValue | 341 | R/W |  |
| JPEGTables | 347 | R/W | used by JPEG codec |
| YCbCrCoefficients | 529 | R/W | used by TIFFReadRGBAImage support |
| YCbCrSubsampling | 530 | R/W | tile/strip size calculations |
| YCbCrPositioning | 531 | R/W |  |
| ReferenceBlackWhite | 532 | R/W |  |
| Matteing | 32995 | R | none (obsoleted by ExtraSamples tag) |
| DataType | 32996 | R | none (obsoleted by SampleFormat tag) |
| ImageDepth | 32997 | R/W | tile/strip calculations |
| TileDepth | 32998 | R/W | tile/strip calculations |
| StoNits | 37439 | R/W |  |

The Matteing and DataType tags have been obsoleted by the 6.0 ExtraSamples and SampleFormat tags. Consult the documentation on the ExtraSamples tag and Associated Alpha for elaboration. Note however that if you use Associated Alpha, you are expected to save data that is pre-multipled by Alpha. If this means nothing to you, check out Porter & Duff's paper in the '84 SIGGRAPH proceedings: "Compositing Digital Images".

The ImageDepth tag is a non-standard, but registered tag that specifies the Z-dimension of volumetric data. The combination of ImageWidth, ImageLength, and ImageDepth, defines a 3D volume of pixels that are further specified by BitsPerSample and SamplesPerPixel. The TileDepth tag (also non-standard, but registered) can be used to specified a subvolume "tiling" of a volume of data.

The Colorimetry, and CMYK tags are additions that appear in TIFF 6.0. Consult the TIFF 6.0 specification included in the **doc** directory and [online](http://docs.google.com/document.html).

The JPEG-related tag is specified in [TIFF Technical Note #2](http://docs.google.com/TIFFTechNote2.html) which defines a revised JPEG-in-TIFF scheme (revised over that appendix that was part of the TIFF 6.0 specification).

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