

## Exiv2 - Feature #992

### Better raw file support and test

18 Sep 2014 05:36 - Robin Mills

<b>Status:</b> Assigned	<b>Start date:</b> 18 Sep 2014
<b>Priority:</b> Normal	<b>Due date:</b>
<b>Assignee:</b> Robin Mills	<b>% Done:</b> 0%
<b>Category:</b> testing	<b>Estimated time:</b> 0.00 hour
<b>Target version:</b> 0.28	
<b>Description</b>	
See topic: 1817	
New lens identifications by using Lensfun's RAW database. <a href="http://dev.exiv2.org/boards/3/topics/1817">http://dev.exiv2.org/boards/3/topics/1817</a>	
<b>Related issues:</b>	
Related to Exiv2 - Bug #867: Lens not detected on Olympus E-1	<b>Assigned</b> 10 Nov 2012
Related to Exiv2 - Support #995: Writing Exif to TIFF-like Hasselblad RAW *.3fr	<b>Closed</b> 04 Nov 2014
Related to Exiv2 - Feature #1076: Detect raw image size in Fuji RAF	<b>New</b> 10 May 2015
Related to Exiv2 - Bug #1081: Read XMP values from CR2 raw file when stored i...	<b>Closed</b> 15 May 2015
Related to Exiv2 - Feature #1176: Validate HUGE file support	<b>New</b> 31 Mar 2016
Related to Exiv2 - Bug #770: Exif.CanonFi.FileNumber value is always (0)	<b>New</b> 18 May 2011
Related to Exiv2 - Patch #1179: Update Fujifilm Filmmode tag	<b>Closed</b> 17 Apr 2016
Related to Exiv2 - Bug #1182: Exiv2 is unable to update any Exif.SubImageN.xx...	<b>Closed</b> 02 May 2016
Related to Exiv2 - Feature #668: "TIFF-safe" setExifData variant	<b>Closed</b> 03 Jan 2010
Related to Exiv2 - Feature #1048: Add support for webm video format.	<b>New</b> 27 Mar 2015
Related to Exiv2 - Bug #1189: Updating time changes Makernote	<b>Closed</b> 29 May 2016
Related to Exiv2 - Patch #1197: Add support for Sigma 150-500 on Canon with 1...	<b>Closed</b> 19 Jul 2016 09 Aug 2016
Related to Exiv2 - Feature #1245: Better I/O implementation when EXV_HAVE_MMA...	<b>Assigned</b> 17 Oct 2016

### History

#### #1 - 07 Oct 2014 20:53 - Robin Mills

- Tracker changed from Bug to Feature

#### #2 - 29 Jan 2015 00:23 - Robin Mills

Forum discussion 1873: <http://dev.exiv2.org/boards/3/topics/1873>

#### #3 - 25 Apr 2015 12:26 - Robin Mills

I've linked this report to [#995](#) Writing Exif to TIFF-like Hasselblad RAW \*.3fr

I've also discovered this site which has sample images for many raw formats: <http://www.rawsamples.ch/index.php/en/>

Thanks to Tuan's webready code, we will be able to read the metadata from those files without copying them locally.

```
1268 rmills@rmillssmbp:~/Downloads $ exiv2 -pS RAW_NIKON_D5300.NEF
```

```
STRUCTURE OF TIFF FILE: RAW_NIKON_D5300.NEF
```

address	tag	type	count	offset	value
10	0x00fe NewSubfileType	LONG	1	1	1
22	0x0100 ImageWidth	LONG	1	160	160
34	0x0101 ImageLength	LONG	1	120	120
46	0x0102 BitsPerSample	SHORT	3	328	
58	0x0103 Compression	SHORT	1	1	1
70	0x0106 PhotometricInterpret	SHORT	1	2	2
82	0x010f Make	ASCII	18	336	NIKON CORPORATION.
94	0x0110 Model	ASCII	12	356	NIKON D5300.
106	0x0111 StripOffsets	LONG	1	168448	37376
118	0x0112 Orientation	SHORT	1	1	1
130	0x0115 SamplesPerPixel	SHORT	1	3	3
142	0x0116 RowsPerStrip	LONG	1	120	120
154	0x0117 StripByteCounts	LONG	1	57600	57600
166	0x011a XResolution	RATIONAL	1	368	

```

178 | 0x011b YResolution | RATIONAL | 1 | 376 |
190 | 0x011c PlanarConfiguration | SHORT | 1 | 1 | 1
202 | 0x0128 ResolutionUnit | SHORT | 1 | 2 | 2
214 | 0x0131 Software | ASCII | 10 | 384 | Ver.1.00 .
226 | 0x0132 DateTime | ASCII | 20 | 396 | 2014:04:02 11:39:52.
238 | 0x014a SubIFDs | LONG | 3 | 416 |
250 | 0x0214 ReferenceBlackWhite | RATIONAL | 6 | 428 |
262 | 0x02bc XMLPacket | BYTE | 2048 | 476 | <?xpacket begin="..." id="W5M0Mp ..

274 | 0x8769 ExifTag | LONG | 1 | 2544 | 2544
286 | 0x8825 GPSTag | LONG | 1 | 167936 | 36864
298 | 0x9003 DateTimeOriginal | ASCII | 20 | 2524 | 2014:04:02 11:39:52.
310 | 0x9216 TIFFEPStandardID | BYTE | 4 | 1 | I*..
1269 rmills@rmillsmbp:~/Downloads $ exiv2 -pS http://www.rawsamples.ch/raws/nikon/RAW_NIKON_D5300.NEF
STRUCTURE OF TIFF FILE: http://www.rawsamples.ch/raws/nikon/RAW_NIKON_D5300.NEF
address | tag | type | count | offset | value
10 | 0x00fe NewSubfileType | LONG | 1 | 1 | 1
22 | 0x0100 ImageWidth | LONG | 1 | 160 | 160
34 | 0x0101 ImageLength | LONG | 1 | 120 | 120
46 | 0x0102 BitsPerSample | SHORT | 3 | 328 |
58 | 0x0103 Compression | SHORT | 1 | 1 | 1
70 | 0x0106 PhotometricInterpret | SHORT | 1 | 2 | 2
82 | 0x010f Make | ASCII | 18 | 336 | NIKON CORPORATION.
94 | 0x0110 Model | ASCII | 12 | 356 | NIKON D5300.
106 | 0x0111 StripOffsets | LONG | 1 | 168448 | 37376
118 | 0x0112 Orientation | SHORT | 1 | 1 | 1
130 | 0x0115 SamplesPerPixel | SHORT | 1 | 3 | 3
142 | 0x0116 RowsPerStrip | LONG | 1 | 120 | 120
154 | 0x0117 StripByteCounts | LONG | 1 | 57600 | 57600
166 | 0x011a XResolution | RATIONAL | 1 | 368 |
178 | 0x011b YResolution | RATIONAL | 1 | 376 |
190 | 0x011c PlanarConfiguration | SHORT | 1 | 1 | 1
202 | 0x0128 ResolutionUnit | SHORT | 1 | 2 | 2
214 | 0x0131 Software | ASCII | 10 | 384 | Ver.1.00 .
226 | 0x0132 DateTime | ASCII | 20 | 396 | 2014:04:02 11:39:52.
238 | 0x014a SubIFDs | LONG | 3 | 416 |
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298 | 0x9003 DateTimeOriginal | ASCII | 20 | 2524 | 2014:04:02 11:39:52.
310 | 0x9216 TIFFEPSStandardID | BYTE | 4 | 1 | I*..
1270 rmills@rmillsmbp:~/Downloads $

```

#### #4 - 23 May 2015 08:39 - Robin Mills

- Assignee deleted (Robin Mills)

#### #5 - 08 May 2016 19:16 - Robin Mills

I think this should be considered for GSoC 2017 for the following reasons:

- 1 The project is essentially "time-bounded". We can make a list of file formats to be considered. They are implemented and tested one-at-a-time. Everything achieved is useful. What can't be done in the time, doesn't defeat the project.
- 2 The level of supervision/mentoring is quite low.
- 3 It has no library, build or platform dependences
- 4 Development can proceed on Linux. The buildserver provides multi-platform build support.

There are a couple of issues relating to SubIFDs [#1182](#) and [#668](#) and these should be carefully considered in this project. Perhaps we need options in exiv2 which we can switch on/off at will. One could be "allow editing of SubImage IFDs".

We should consider adding webp and webm support [#1048](#)

The video code should be reviewed and brought into a better state. [#1068](#). However that's out of scope for [#992](#).

#### #6 - 13 Jun 2016 06:47 - Robin Mills

- Assignee set to Robin Mills

- Target version changed from 1.0 to 0.28

#### #7 - 19 Oct 2016 11:51 - Robin Mills

I have downloaded the 5Gbyte zip of the raw files available from: <https://www.rawsamples.ch/index.php/en/all-files-as-7z-archive> They are now available on the buildserver at testfiles/raw and on the web at: <http://exiv2.dyndns.org:8080/userContent/testfiles/raw/>

I am very happy to report that exiv2 can successfully read every file. A total of 322 files.

```
~/Jenkins/testfiles/raw $ for i in $(find . -type f); do exiv2 -pa --verbose --grep DateTimeDigitized $i 2>/dev/null ; done | grep File | wc
  322    966   13689
~/Jenkins/testfiles/raw $ (for i in $(find . -type f); do echo $i; done) | wc
  322    322   10469
~/Jenkins/testfiles/raw $
```