



**ALEXA SXT / 65 / SXT W / LF**  
**AMIRA & Mini / LF**  
**ARRI META Extract 4.2.0.0 Beta (CMD)**

RELEASE NOTES

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## 1 Introduction

ARRI META Extract (AME) 4.1.0 is a utility to retrieve the static and dynamic camera metadata from ALEXA Mini LF SUP 6.0, ALEXA LF SUP 2.0, ALEXA SXT SUP 2.0, ALEXA XT SUP 11.0, ALEXA 65 SUP 2.0, AMIRA SUP 5.0, and ALEXA Mini SUP 5.0.

## 2 System Requirements

### Mac Systems:

- OS X 10.11
- OS X 10.12
- OS X 10.13
- OS X 10.14

### PC Systems:

- 64 bit Windows 7
- 64 bit Windows 8
- 64 bit Windows 10

### Linus Systems:

- 64 bit Ubuntu 14.04
- 64 bit Ubuntu 16.04
- 64 bit Ubuntu 18.04
- 64 bit CentOS 6
- 64 bit CentOS 7
- 64 bit SLES 11

## 3 Supported Input Formats

- ALEXA - QuickTime/ProRes
- ALEXA - MXF/DNxHD
- ALEXA LF, ALEXA & ALEXA 65 - ARRIRAW
- DPX files rendered with the ARRIRAW Converter 3.x higher
- AMIRA – QuickTime/ProRes
- ALEXA Mini - QuickTime/ProRes
- ALEXA Mini – MXF/ARRIRAW
- ALEXA LF - QuickTime/ProRes
- OpenEXR files rendered with the ARRIRAW Converter 3.x and higher
- ProRes files rendered with the ARRIRAW Converter 3.x and higher
- .arx Codex HDE (High Density Encoding) format
- ALEXA Mini LF – MXF/ARRIRAW
- ALEXA Mini LF – MXF/ProRes

## 4 Feature Overview and Bug Fixes

### 4.1 New Release

Version	Changes	Bug fixes
4.2	Extracting additional metadata for ALEXA Mini (LF) and AMIRA cameras (ColorOrder, Sharpness)	Several bug fixes

### 4.2 Past Changes

Version	Changes	Bug fixes
4.1	<ul style="list-style-type: none"> <li>Support of all new ALEXA Mini LF MXF/ARRIRAW recording formats: <ul style="list-style-type: none"> <li>ALEXA Mini LF Open Gate: 4.5K MXF/ARRIRAW</li> <li>ALEXA Mini LF 16:9: UHD MXF/ARRIRAW</li> <li>ALEXA Mini LF 2.39:1: 4.5K MXF/ARRIRAW</li> </ul> </li> <li>Support of all new ALEXA Mini LF MXF/ProRes recording formats: <ul style="list-style-type: none"> <li>ALEXA Mini LF Open Gate: 4.5K MXF/ProRes</li> <li>ALEXA Mini LF 2.39:1: 4.5K MXF/ProRes</li> <li>ALEXA Mini LF 16:9: UHD, 2K and HD MXF/ProRes</li> </ul> </li> </ul>	Several bug fixes
4.0	<ul style="list-style-type: none"> <li>Creation of 3D LUT formats with OpenColorIO (OCIO) No further Python dependencies. Supported 3DLUT Formats with OCIO: <ul style="list-style-type: none"> <li>Autodesk</li> <li>Autodesk Lustre</li> <li>Cinespace</li> <li>FilmLight</li> <li>Houdini</li> <li>Iridas</li> </ul> </li> <li>Metadata extraction for CODEX HDE format (High Density Encoding) Checks HDE packed .arx data with CRC checksum.</li> <li>Console output for metadata: The -q command can be used to extract metadata to the console.</li> <li>New output format XMP: The -o command can be used to extract metadata in XMP.xml format in addition to the.csv format</li> </ul>	Drop Frame Time Code. Automatically detection of Drop Frame TC and Non Drop Frame TC.
3.5.3	<ul style="list-style-type: none"> <li>Supporting of all ALEXA LF ARRIRAW recording formats</li> <li>Supporting of all ALEXA LF ProRes recording formats</li> </ul>	<ul style="list-style-type: none"> <li>AML: Apply clip target color space when there is no LUT format given</li> <li>Fixed: Occasionally missing AML output for RAW/MXF</li> <li>Fixed table header for --range option /</li> </ul>

3.5.0

- Supporting of ARRI Look File 2 (ALF-2) for HDR (High Dynamic Range) color spaces Since ALEXA Mini SUP 5.0 the ALF-2 Look can be defined for SDR and HDR Look Target Color Spaces. Therefore, are two new HDR color spaces Rec-2100 PQ and Rec-2100 HLG available.
- These new HDR Look target color spaces can be extracted and stored as HDR .aml ALF-2 Look file from MXF/ARRIRAW and ProRes recording formats. Command -l [--look] extract look file
- Extracting 3D LUT from ARRI Look File 2 (ALF-2 ): The embedded ALF-2 look can be extracted as 3D LUT in several LUT formats and mesh points sizes of all ARRIRAW, MXF/ARRIRAW and ProRes recording formats. This feature is only for Mac and Windows AME 3.5 CMD version available when Python 3.5 is installed. In the CMD version the 3D LUT export can be defined by additional 4 LUT parameters  
--lutformat arg > NAME MESHPOINTS COLORSPACE WITHCDL  
Two command samples for 3D LUT extraction:  
--lutformat Iridas 33 REC-709 false  
--lutformat "Blackmagic HDLink Pro" 17 REC-2020 true (LUT format Name with space characters in quotes)

NAME	MESHPOINTS	COLORSPACE	WITHCDL
Adobe After Effects	16 17 32 33 64 65	P3-D60	true
Apple Color	17 33	P3-D65	false
Assimilate Scratch	16 17 32 33	P3-DCI	
Autodesk	16 17 32 33	REC-2020	
Autodesk Lustre	17 33 65	REC-2100-HLG	
Blackmagic HDLink Pro	16 17 32 33	REC-2100-PQ	
CORTEX Dailies	17 33 65	REC-709	
Canon	9 17 33 65		
Cine-tal	16 17 32 33		
Codex Digital	17		
Colorfront	17 33 65		
DFT Luther	17 33 65		
DVS Clipster	17		
DaVinci Resolve	33		
Digital Vision Nucoda	17 33 65		
Eveon Fusion	33		
FilmLight	16 32 64		
Flanders	17		
Foundry Nuke	16 17 32 33 64 65		
Iridas	16 17 32 33 64 65		
Pandora	17 33		
Pomfort Silverstack	17 33 65		
Quantel	17		

- Extracting of camera roll & tilt info for Alexa Mini and Amira clips. For clips recorded with SUP 5.0 and higher the roll and tilt camera movement can be extracted as dynamic metadata.
- CRC Checksum calculation for MXF/ARRIRAW: With command -c [--crc ] the checksum verification for MXF/ARRIRAW files will be calculated during the metadata extraction as well. The CRC checksum is available only for clips recorded with ALEXA Mini SUP 4.1 and higher

- Calculation of LDS T-Stop value when no lens serial number is available.
- LDS Lag Value is set to 0 when LDS offset is corrected.
- Last frame of clip gets correct LDS value from overplus when extracting an image range.

3.4.0

- Support of new input file formats:
  - MXF/ARRIRAW files recorded with ALEXA Mini SUP 4.0 and higher
  - ProRes files rendered with ARRIRAW Converter 3.4 and higher
  - Open EXR files rendered with ARRIRAW Converter 3.4 and higher. OpenEXR files and ProRes clips rendered with ARC GUI or CMD version 3.4 containing the original ARRIRAW camera metadata information as well as ALF-2 Look information.
- Extracting ARRI Look File 2 (ALF-2) The new ALF-2 Look file format (3D LUT with CDL grading values) can be extracted from ALEXA Mini ProRes and MXF/ARRIRAW files and AMIRA ProRes files as .aml look file.
- Extracting of audio wave files from MXF/ARRIRAW clips with audio tracks
- New metadata fields for ALEXA Mini files:
  - Recorder Type (CDI30) only for MXF/ARRIRAW clips
  - Active Image Left offset (IDI06-1)

Several bug fixes

	<ul style="list-style-type: none"> <li>• Active Image Top offset (IDI06-2)</li> <li>• Active Image Width (IDI06-3)</li> <li>• Active Image Height (IDI06-4)</li> <li>• Full Image Width (IDI07-3)</li> <li>• Full Image Height (IDI07-4)</li> <li>• Lens Squeeze (ICI18)</li> <li>• Look Modified (ICI38-3)</li> <li>• Look Target Color Space (ICI34-10)</li> <li>• ND Filter Type (LDI07-1)</li> <li>• Frame Line File 1 (FLI03)</li> <li>• Frame Line Rectangle Frame Line 1A (FLI05) struct</li> <li>• Frame Line Rectangle Frame Line 1B (FLI06) struct</li> <li>• Frame Line Rectangle Frame Line 1C (FLI07) struct</li> </ul> <ul style="list-style-type: none"> <li>• New command option to select a frame range for extraction <span style="float: right;">With</span>  command -r a range of frames can be defined which should be extracted. <span style="float: right;">-r first</span>  &gt; for first  frame  -r last &gt; for last  frame  -r 5-17 &gt; for selecting frame range 5 to 17</li> </ul>	
3.3.1	<ul style="list-style-type: none"> <li>• Extract metadata info from ALEXA Mini ProRes files</li> <li>• Extract metadata info from ALEXA 65 ARRIRAW files New metadata fields for ALEXA image data checksum: When CRC Check bottom is ticked the checksum will be verified during the metadata extraction. Image Data CRC = OK &gt; A checksum is available (only in SUP 11 with ALEXA XT) and verification was successful. <ul style="list-style-type: none"> <li>• Image Data Checksum (ICI42)</li> <li>• Image Data CRC (ICI43)</li> </ul> </li> <li>• New metadata fields for ALEXA Frame Lines: In SUP 11 is it possible to store the metadata from up to 6 frame lines in the file header of ARRIRAW, QT and MXF ALEXA files. As frame line can be used the camera internal frame lines (ARRI 1.33 / ARRI 1.66/ ) or the frame line .xml files from the new ARRI Frame Line Composer 3. (AFLC 3) <a href="http://www.arri.com/camera/alexa/tools/alexa_frameline_composer/">http://www.arri.com/camera/alexa/tools/alexa_frameline_composer/</a> One frame line xml from the AFLC 3 can keep up to three different frame line aspect ratios (Format A/B/C). When the xml file is loaded into the ALEXA camera as Frame Line 1 (FLI03) it creates Frame Line 1A/1B/1C and loaded as Frame Line 2 (FLI04) it creates Frame Line 2A/2B/2C. In the Frame Line Type (FLI05-1) the Frame Line 1A (FLI05) is tagged as "Master" Frame Line. <ul style="list-style-type: none"> <li>• Version (FLI02)</li> <li>• Frame Line File 1 (FLI03)</li> <li>• Frame Line File 2 (FLI0A)</li> <li>• Frame Line Rectangle Frame Line 1A (FLI05) struct</li> <li>• Frame Line Rectangle Frame Line 1B (FLI06) struct</li> <li>• Frame Line Rectangle Frame Line 1C (FLI07) struct</li> <li>• Frame Line Rectangle Frame Line 2A (FLI08) struct</li> <li>• Frame Line Rectangle Frame Line 2B (FLI09) struct</li> <li>• Frame Line Rectangle Frame Line 2C (FLI20) struct Struct for every Frame Line rectangle: <ul style="list-style-type: none"> <li>• Frame Line 1A Type (FLI05-1) struct for 1A/1B/1C/2A/2B/2C</li> <li>• Frame Line 1A Name (FLI05-2) struct for 1A/1B/1C/2A/2B/2C</li> <li>• Frame Line 1A Left (FLI05-3) struct for 1A/1B/1C/2A/2B/2C</li> <li>• Frame Line 1A Top (FLI05-4) struct for 1A/1B/1C/2A/2B/2C</li> <li>• Frame Line 1A Width (FLI05-5) struct for 1A/1B/1C/2A/2B/2C</li> <li>• Frame Line 1A Height (FLI05-6) struct for 1A/1B/1C/2A/2B/2C</li> </ul> </li> </ul> </li> <li>• New metadata fields for AMIRA UTC offset and DST (day light saving time): The</li> </ul>	Several bug fixes

camera System Image Time is UTC ± UTC offset (- 12:00h to +14:00h) + DST (+1:00h)

- System Image Time Zone Offset (CDI09-1)
- System Image Time Zone DST (CDI09-2)
  - System Image Time Zone Offset (CDI09-1)
  - System Image Time Zone DST (CDI09-2)

## 5 Known Issues

- Extracting metadata values to the console with the -q command is not always consistent, sometimes displaying more metadata than requested.
- GUI and CMD Windows AME versions will not support checksum validation, is available only Mac OS and Linux.
- No ALF-2 Look Custom LUT name available for ARC 3.4.0 processed DPX and OpenEXR files.

## 6 Questions and Contact

If you have any questions about the application, please contact us via [digitalworkflow@arri.de](mailto:digitalworkflow@arri.de).