

ALEXA

ProRes 3.2K

WHITE PAPER

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Version History

Version	Author	Change Note
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Introduction

With ALEXA Software Update Packet SUP 11, ALEXA XT cameras and ALEXA Classic cameras with the XR Module upgrade can record in a new recording format: ALEXA ProRes 3.2K. ALEXA ProRes 3.2K allows the same easy up-sampling in post to 4K UHD deliverables as Open Gate ARRIRAW does to 4K Cine. These formats, combined with ALEXA's unsurpassed overall image quality, make ALEXA XT/XR cameras suitable for any type of production with any distribution requirements.

MENU>RECORDING>INTERNAL	
Format	ProRes
Setting	ProRes 4444
Resolution	HD (1920x1080)
Prerecord	2K (2048x1152)
Quick format	3.2K (3164x1778)

ALEXA ProRes 3.2K Description



Because of ALEXA's best overall image quality, and since up-sampling from 3.2K to 3.8K is a very small factor, the result looks as good if not better than the 4K UHD produced by other cameras. The 3.2K sensor area (blue in the image above) is slightly smaller than the Open Gate sensor area (green in the image above) and was chosen since it is the largest ALEXA sensor area that can still be covered by almost all Super 35 PL mount lenses. At data rates far below uncompressed ARRIRAW, ALEXA ProRes 3.2K provides the benefits of the well-established and efficient ProRes workflow. A straightforward up-sample from ALEXA ProRes 3.2K using standard post tools delivers 4K UHD images of the highest quality for broadband and broadcast.

ALEXA ProRes 3.2K Behavior

ALEXA ProRes 3.2K is a 16:9 format and can be recorded in all ProRes codecs running at a maximum recording frame rate of 30 fps. ALEXA ProRes 3.2K can be recorded onto XR Capture Drives, SxS PRO, SxS PRO+ and CFast 2.0 cards with some exceptions. It supports in-camera playback for ProRes 422 and 422 HQ at 30 fps, in-camera playback for ProRes 4444 at 24 fps, and does not support in-camera playback for ProRes 4444 XQ since the data rate is simply too high for the playback electronics. ALEXA ProRes 3.2K does not support EVF smooth mode.

ALEXA ProRes 3.2K QuickTime Container

For technical reasons, the ALEXA ProRes 3.2K QuickTime file container is 3200 X 1782 pixels sized, containing an active image area of 3164 x 1778 pixels. The active image area is noted in the file's metadata, and some players can display the file correctly (QuickTime Player 10) while others will show a thin black border around the image (QuickTime Player 7, Final Cut Pro 7, Final Cut Pro 10, Avid Media Composer, Resolve, Adobe Premiere, Baselight) that has to be cropped.

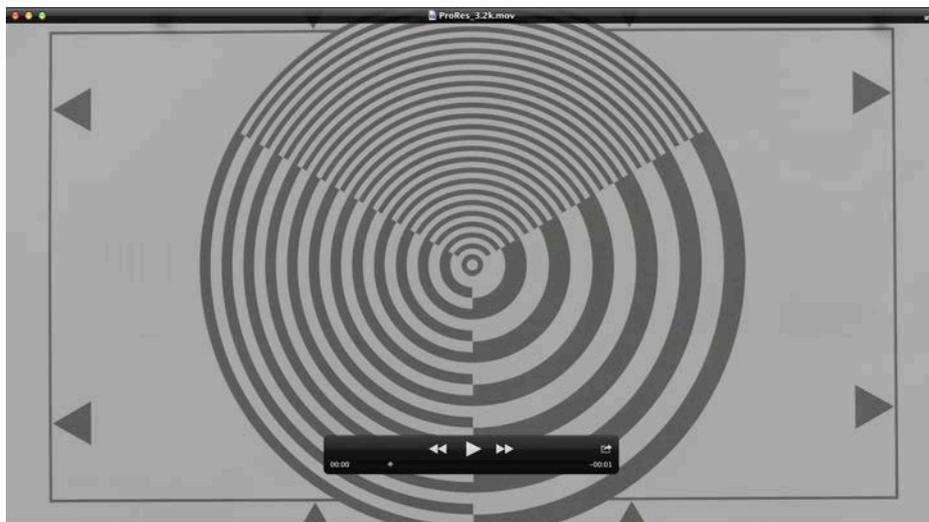
Image with black border

The screen shot below shows an ALEXA ProRes 3.2K ProRes image displayed in QuickTime Player 7. There is a 2 pixel black border on top and bottom and an 18 pixel border left and right.



Image without black border

To hide these black lines the camera stores in QuickTime specific metadata atoms the information to crop out the valid image area automatically. This automatic crop out is currently supported in QuickTime Player 10 only, but we are working with the software manufacturers so more players will gain this ability. For AVID Media Composer it will be available in version 8.3.1. The screen shot below shows in QuickTime Player 10 the identical ALEXA 3.2K ProRes image, but here the player has automatically cropped the none active image area.



Post Production Tools

The following table shows which post-production tools automatically can crop the ALEXA ProRes 3.2K container to show only the active image area.

Tool	Support	Note
QuickTime Player 7	NO	
QuickTime Player 10	YES	
FCP 7	NO	
FCP 10	NO	Planned for future release
NUKE 9.0	NO	
Resolve 11	NO	
Premier Pro CC 2014	NO	
AVID Media Composer	NO	Available in release 8.3.1 and higher

AMIRA ProRes 3.2K

Please note that this is slightly different from the AMIRA ProRes 3.2K, which is 3200 x 1800. While we would have very much liked to keep both formats exactly the same, it was technically not possible.

Sensor Calibration

While it is not mandatory, we recommend to have a sensor calibration done by an ARRI service center before using ProRes 3.2K to ensure full image fidelity in the Surround View area.

Contact

If you have any questions regarding ProRes 3.2K, please feel free to contact us via email at digitalworkflow@arri.de