

How to Create an ALF4 Look File ALEXA 35

TECHNICAL NOTE

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Version History

Version	Author / Editor	Change Note
2022-02-10	Florian Martin	Version 1.0
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1. Introduction

This document is designed to help you to create a custom ALF4 look file to be used within the ALEXA 35 camera.

2. The new ARRI Look File ALF4

With the introduction of the ALEXA 35 camera in 2022, ARRI also introduced it's new look file ALF4.

While the previous ARRI look files combine creative intent and a dedicated target color space conversion (aka "video rendering"), the new look files for the ALEXA 35 camera contain only the creative intent, without a conversion into a target color space. The new ALF4 look files are "Log to Log", providing much greater flexibility in several areas (please also have a look at the diagramms in the next section):

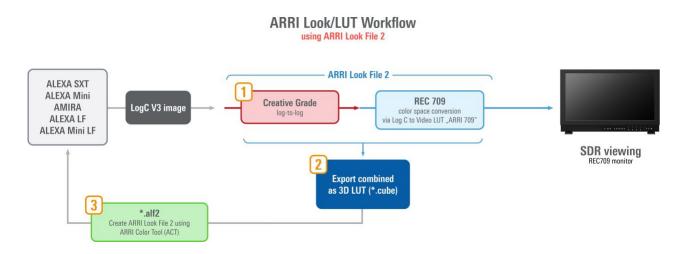
- In the camera a look can be choosen, and separately a transform into a target color space (like Rec 709 or Rec 2020) for the different SDI outputs. This means that the same look can be shown on one SDI output in SDR, and on another in HDR. This is a new, very useful and unique feature of the ALEXA 35 camera.
- During color grading in post, it is now much easier to use the look file stored in metadata as a starting point. Colorists can apply that look for multiple deliverables and different target color spaces (such as P3 or Rec 2100) with the click of a button.

Note: ALF-1 look files are used in ALEXA Classic and ALEXA XT. ALF-2 look files are used in AMIRA, ALEXA Mini, ALEXA SXT, ALEXA LF and ALEXA Mini LF. ALF4 files are used in the ALEXA 35 camera.

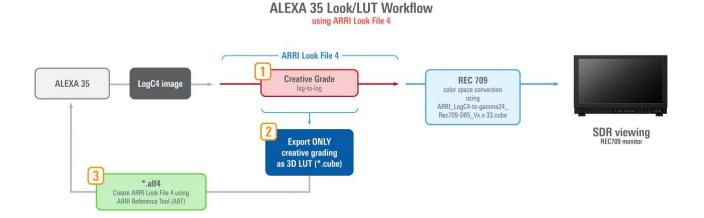
3. Differences between ALF-2 and ALF4

As mentioned above, an ALF-2 look file always incorporates the creative intent and a video rendering to a given color space. The new ALF4 look file on the other hand only incorporates the creative intent as a "Log to Log" transform and therefore can be used for multiple target color spaces.

The diagram below demonstrates the necessary steps to create an ALF-2 look file to be used with an ARRI ALEXA SXT, ALEXA Mini, AMIRA; ALEXA LF or ALEXA Mini LF:



The diagram below demonstrates the necessary steps to create a ALF4 look file for the ALEXA 35 camera. We will show this workflow inside DaVinci Resolve Studio in the next section:



4. Workflow for creating an ALF4 look file inside DaVinci Resolve Studio

Step 1 Project Setup

- a. Please open a new project inside DaVinci Resolve Studio.
- b. Open up the "Project Settings" and go to the "Color Management" page and set the "Color science", "Video monitor lookup table" and "3D lookup table interpolation" according to the screen shot below. (Resolve Version 17.4.3 was used for all screen shots.) We assume you are creating an ALF4 look file using a Rec 709 monitor on the SDI out of DaVinci Resolve Studio.

Note: By setting your video rendering as the "Video monitor lookup table" you will be able to see this on our SDI monitor but it will not be incorperated once you export your grading.

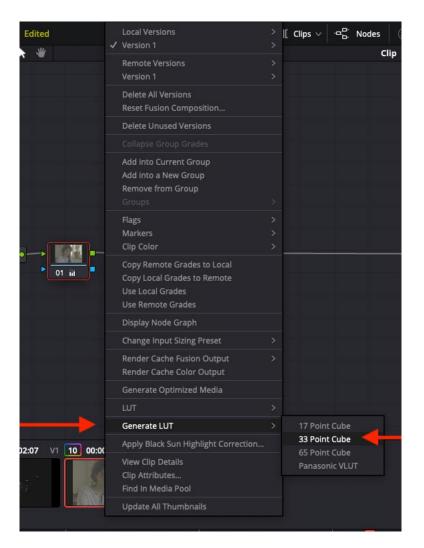
Project Settings: How to Crea	te a ALF4 look file inside DaVinci Resolve					
Presets	Color Space & Transforms					
Master Settings	Color science	DaVinci YRGB				
Image Scaling		Use separate color space and gamma				
Color Management	Timeline color space	Rec.709 Gamma 2.4 V				
General Options						
Camera RAW	Dolby Vision®					
Capture and Playback		_				
Subtitles		Enable Dolby Vision				
Fairlight	Dolby Vision version Mastering display	4.0 V 4000-nit, P3, D65, ST.2084, Full				
	Mastering display	Use external CMU				
	HDR10+					
	Enable HDR10+					
	Lookup Tables					
	Input lookup table	No LUT selected V +++				
	Output lookup table	No LUT selected v ····				
	Video monitor lookup table	ARRI_LogC4-to-gamma24_Rec709-D65 v ···				
	Color viewer lookup table	Use video monitoring selection v ····				
	Scopes lookup table	Use video monitoring selection v +++				
	3D lookup table interpolation	Tetrahedral V				
		Update Lists				
		Open LUT Folder				
	Broadcast Safe					
	Broadcast safe IRE levels	-20 - 120 🗸				
		Make broadcast safe				
		Cancel Save				

Step 1 Grade "Creative Intent"

- a. Load your footage into a timeline and
- b. Grade your desired custom look using all tools except spatial tools, since they can not be incorpareted inside a 3D LUT (spatial tools are shapes, blurs, denoise, grain,...).

Step 2 Export a 3D LUT

a. Right click on the clip in the thumbnail timeline you wish to export and choose "Generate LUT" and "33 Point Cube".



b. Name your 3D LUT.

Step 3 Convert the 3D LUT file into a ALF4 file using the ARRI Reference Tool (ART) Software

a. Load the 3D LUT you saved in the previouse step into ART.



CDL 3D LUT					Loaded: MyLookSample_3D-LUT-33mesh.cube		
Intensity 1.00	Select the target color space for the imported 3D LUT: Source Color Space LogC4		LogC4				

b. Save a ALF4 look file by using the menu ...

LogC AWG4	Video Rec 709-D65	Look	Þ		Ð	G +	.⇔
Export Look F	ile						
	MyLookCamera						
Output Directory	/Stick/ALEXA35/LOOKFILES						
	•	Save	Car	ncel			

Step 4 Load your custom ALF4 look file into the ALEXA 35 camera

- a. Place the ALF4 look file on a USB stick you formated inside the camera.
- b. Save the look file on your USB stick //ALEXA35/LOOKFILES/
- c. Load and select look file in camera
- d. The selected look will be saved in the file header of each captured file

5. Contact

In case you have questions or recommendations, please contact the Digital Workflow Solutions group within ARRI via email: <u>mailto:digitalworkflow@arri.de</u>