

# ARRI Look Creator

## 1.0.0 Beta 30

QUICK GUIDE

Date: 3 December 2013

# Introduction

Since ALEXA Software Update Packet (SUP) 4.0, ARRI ALEXA cameras can apply userdefined looks to customize the rendering of video images.

The user can choose if the camera should apply an ARRI Look File only to the monitoring outputs (non-destructive mode) or if the look file shall be baked into the recorded image (destructive mode).

Either way, the look file is embedded as metadata in the recorded QuickTime ProRes or DNxHD MXF clip as well as in the header of every ARRIRAW frame.

This document shall give you an overview on the ARRI Look Creator for the creation of ARRI Look Files.

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## 1. Installation requirements

ARRI Look Creator is an OS X application and can be installed under Mac OS X Snow Leopard (10.6.x), Lion (10.7.x) and Mountain Lion (10.8.x).

Please note that OSX Mavericks (10.9.x) is and will not be supported within the Look creator. If you are using Mavericks please refer to the ARRIRAW Converter for ongoing support.

This paper refers to ARRI Look Creator Version 1.0.0.b30.

## 2. ARRI Look Files

ARRI Look Files allow changing the parameters that control the rendering of images for the video output. Look files can be created using the ARRI Look Creator (ALC), as well as other tools from third-party manufacturers. Using the ALC, a look is created based on a Log C DPX grab taken from an ALEXA camera. Creating looks based on ARRIRAW can be achieved using ARRIRAW Converter 3.0 or later.

### 2.1. Look File Controls

An ARRI Look File contains a set of parameters specific to the ALEXA camera.

- Color saturation value (called Saturation)
- RGB offsets (called PrinterLight)
- A mono free form curve applied to all RGB channels (called ToneMapLut)
- The three primitives of the ASC Color Decision List (CDL), separate for each R, G, and B channel (called SOP Node – Slope Offset Power)

This set of transforms provides enough room for a wide range of creative choices.

### 2.2. The Processing Path

The color transforms are applied at different stages of the camera's image processing path. Printer light offsets are applied to the image while it is still Log C, whereas the ASC CDL transform is applied to the image once it is converted to video (REC 709) using the tone map LUT.

Please note:

- The ALEXA saturation parameter differs from the ASC CDL saturation.
- We limited the range of possible ASC CDL parameters since we do not consider extreme values to be useful in a camera.

### 2.3. Converting an ARRI Look File into a 3D LUT

The ARRI Look Files can be converted into 3D LUT files using the ARRI LUT Generator at <http://www.arrydigital.com/technical/luts>. Using the 'Look' tab of the LUT generator allows the user to upload a Look File to the LUT Generator. The resulting 3D LUT incorporates the Look File's adjustments to the standard conversion from Log C to video.

### 2.4. Using 3D LUTs from other tools to control ALEXA

Only ARRI Look Files can be loaded into ALEXA cameras. 3D LUTs can not be loaded into the camera. A conversion of 3D LUT files, however they have been made, into ARRI Look Files is not possible. ARRI Look Files have to be created by using the ARRI Look Creator, ARRIRAW Converter or other dedicated tools, such as Pomfort Silverstack SET ([www.pomfort.com](http://www.pomfort.com)). There are others to follow soon.

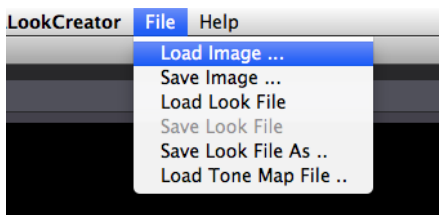
### 3. Functions of ARRI Look Creator

#### 3.1 Loading a picture and matching EI of ALEXA and ARRI Look Creator

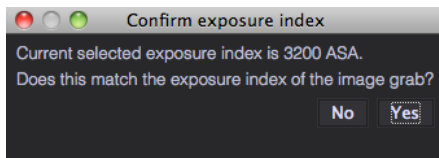
Getting started:

- For grabbing the image REC OUT on ALEXA needs to be set to Log C.
- Make a note of the exposure index setting of the camera chosen while grabbing the picture: You will need this value while loading the grab into the ARRI Look Creator.
- The ARRI Look Creator does not deliver any useful settings when the picture is not taken by an ALEXA camera.
- It can not create looks based on a Quicktime file or any other file format than DPX.
- The file should be loaded into ARRI Look Creator exactly as captured; it should not be processed by any other software -- in any way whatsoever.
- The picture grab will be performed in Extended Range levels. If you workflow is based on REC Out in Legal Range (for example recording on Sony SRW-1 tape deck) there will be a mismatch between created look and recorded image in case you baked in the look.

Load the image in the application by clicking File > Load Image and select the desired grab. The picture appears in the viewer window.

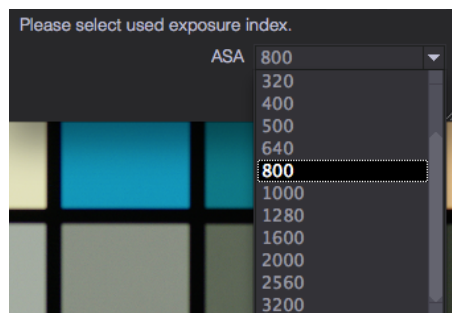


A dialogue will pop up and request that the current setting of the exposure index matches the used EI of the ALEXA camera.



This is important to load the correct Tone Map Curve. The differences between the single LUTs are subtle, but they can lead to clipping when the wrong one is used. Confirm with "Yes" if the exposure index of the image grab matches the displayed value.

If it does not match the displayed value click "No", then you have the possibility to adjust the ARRI Look Creator to the EI value of the grab.



## 3.2 Viewing, zooming and measuring a picture

### 3.2.1. VIEWING Section

To set up your personal viewing, use the buttons in the VIEWING section of the button bar. If a button is active it appears in blue:



By clicking the *Log C* button the dpx will be shown without any processing.

By clicking *Rec709* the dpx will be shown converted to Rec709, but without any look displayed.

By clicking *Look* the dpx will be shown converted to Rec709, with the standard Log C to Rec709 conversion modified by the Look being created.. This is the default setting.

### 3.2.2. ZOOM Section

Here you can select Zoom in, Zoom Out, 100% and Fit to Screen.



### 3.2.3. RGB Section

In the RGB section you can select the single R, G or B channels or the full RGB image.



### 3.2.4. IMAGE section:

The IMAGE buttons switch a Histogram, the Horizontal Profiler/Waveform and Vertical Profiler/Waveform, each on/off toggle.



The Horizontal and Vertical Profiler/Waveform displays show the RGB values underneath the corresponding white lines. To move the white lines, select and drag them while holding down the right mouse button.

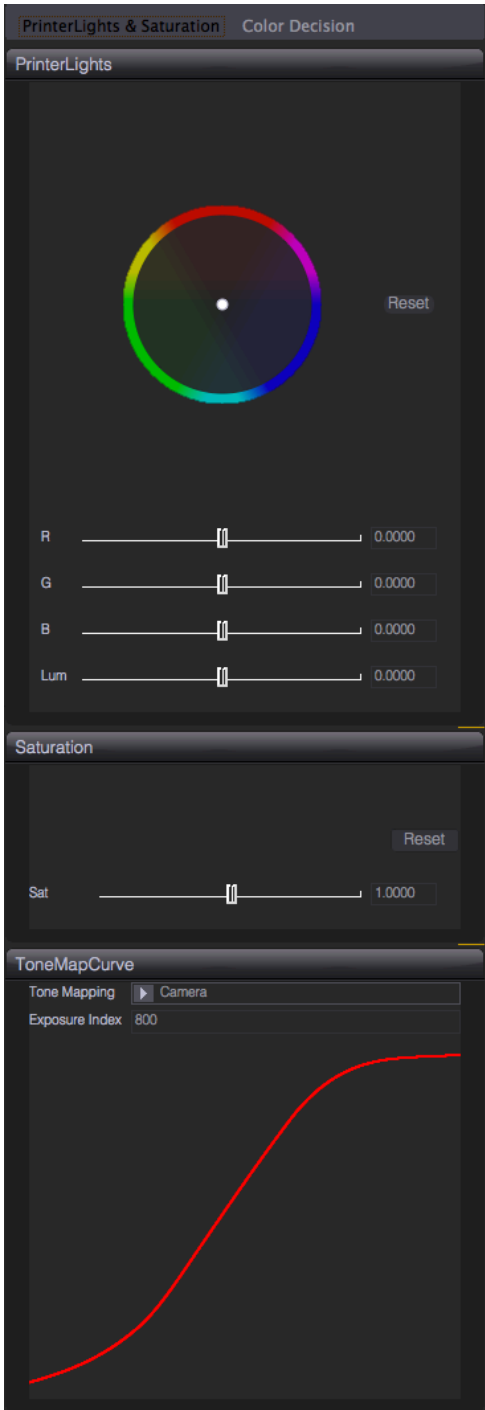
### 3.2.5. Reset All

The reset button resets all look relevant parameters, which are printer lights, saturation, tone map curve and all CDL values. The tone map curve will be reset to “Camera”.

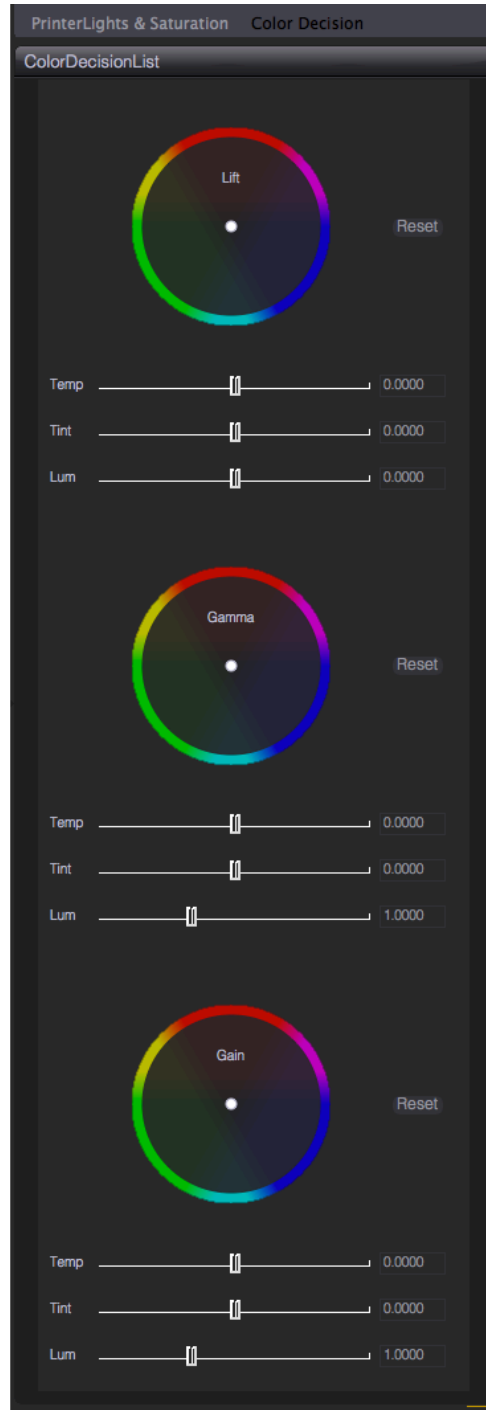


### 3.3 Creating a Look

On the right hand side of the GUI there are two different windows, which can be switched by clicking on the headers “PrinterLights & Saturation” or “Color Decision”.

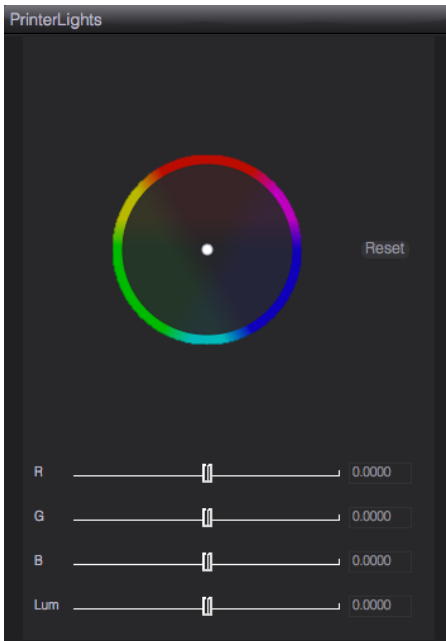


PrinterLights & Saturation Window



CDL Window

### 3.3.1. Printer Lights:

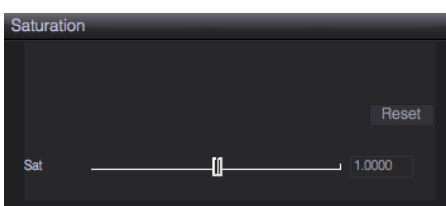


Here you can set RGB offsets (printer lights). You can grade using the individual color sliders or by dragging the color mark inside the color wheel. This will be often the main operator, as many color correction settings will be done with the Printer Lights operator only. Printer light offsets are rendered in Log C color space.

Please note that if a Look File is reloaded, the displayed values of RGB and Lum might change, as the Luminance value will not be written in the Look File. Of course the visual impression will stay the same. The Luminance slider is presented for convenience purposes for the grader.

The color wheel and the sliders have a limited range. You can type in higher values if needed.

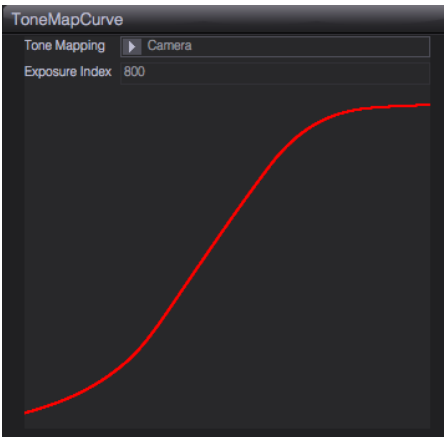
### 3.3.2. Saturation:



Saturation Slider with Reset Button

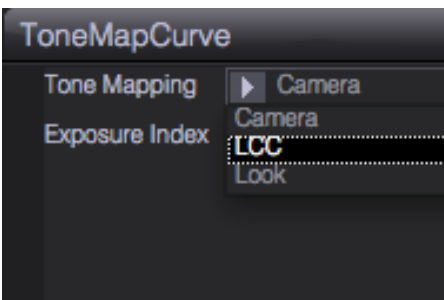


### 3.3.3. Displaying a Tone Map Curve



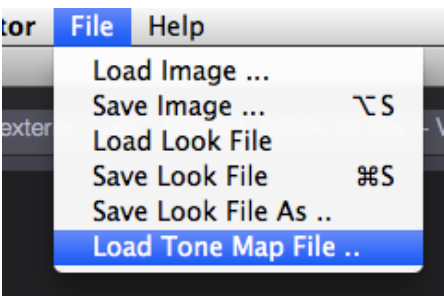
The ToneMapCurve is displayed and an indication appears in the selector field. “Camera” is displayed when the standard ALEXA tonemapping curve is used. “LCC” indicates that a low contrast curve is used – a custom tone map curve that creates a video image with lower contrast compared to the standard Rec 709 output. If “Look” is displayed, ARRI Look Creator indicates that a custom tone map file has been loaded. It also displays “Look” if you reload a Look File which had used the LCC curve.

### 3.3.4. Selecting a ToneMapCurve



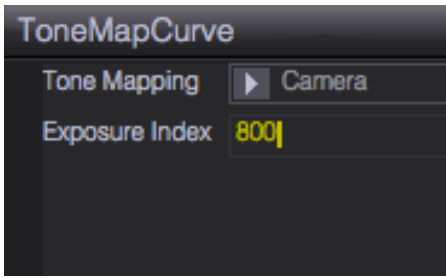
You can switch from the camera curve (the same processing as in the ALEXA camera), to a LCC (Low Contrast Curve) or to a custom curve.

### 3.3.5. Loading a ToneMapCurve



Load another tone map curve and select it then as described in 3.3.4.

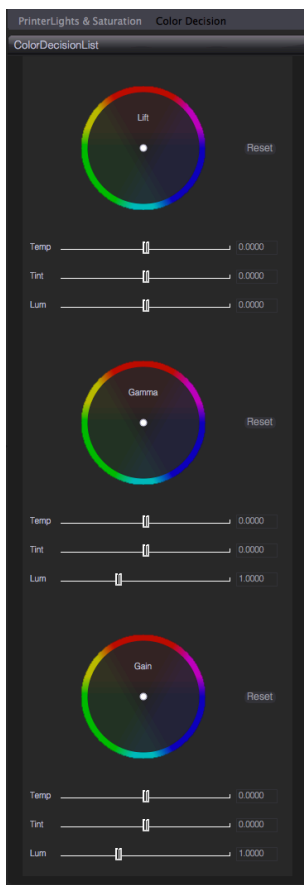
### 3.3.6. Selecting the correct Exposure Index



To use the appropriate Tone Map Curve ARRI Look Creator needs to know the used exposure index. You confirm the EI when loading the picture, as described in section 3.1.b.

In case you want to change the settings later, highlight the value and type in another regular EI value (160; 200; 250; 320; 400; 500; 640; 800; 1000; 1280; 1600; 2000; 2560; 3200) and confirm with the tab key.

### 3.4. Color Decision List



Each section Lift/Gamma/Gain consists of a color wheel and three sliders for temperature (blue/yellow), tint (green/magenta) and luminance. Even though these grade settings are stored as ASC CDL values in the resulting xml look file (RGB values for Slope/Power/Offset) the user interface was designed for the fastest and most efficient use on-set and to also attend to colorists who are used to grade in the three luminance sections lift (blacks), gamma (midtones), gain (highlights). The temperature sliders move the color wheel on the blue – yellow axis and the tint sliders move on the green – magenta axis as in common photo retouching software on the market.

The ASC CDL transforms are rendered to the image in video color space after conversion by the tone map LUT.

## 3.4 Saving the Look File and a rendered picture

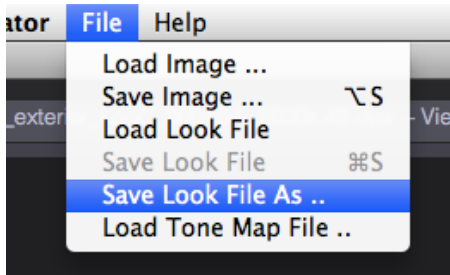
### 3.4.1. Saving the Look File

Please make sure that you have a SD card ready, which had been formatted in an ALEXA camera. To format a SD card in ALEXA you select

Menu>System>SD Card> PrepareSDCard or

Menu>System>SD Card>Format+PrepareSDCard.

“PrepareSDCard” creates a folder structure: ARRI/ALEXA/LookFile.

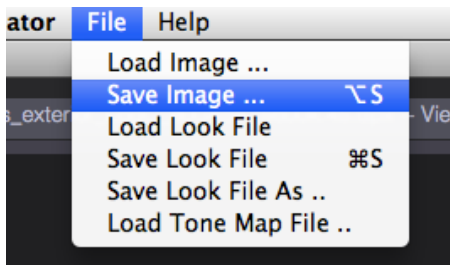


Back to ARRI Look Creator: To save the ARRI Look File, please select File > Save Look File As and select the folder ARRI/ALEXA/LookFile. The file will be saved as a XML file.

**Note: Do not use special characters in the filename!**

**Allowed characters: A-Z, a-z, 0-9, minus, underscore and dot.**

### 3.4.2. Saving the picture with applied look



To save the picture with applied look, select File > Save Image As and select the file format. It can be saved as .tif, .dpx, .cineon or jpeg.

## 4. Short Cuts

Save	CMD S
Save Image	ALT S
Log C	S
Rec709	D
Look	F
Zoom in	+
Zoom out	-
Fit Image to Window	CMD F
1:1	M
RGB	A
Red	R
Green	G
Blue	B

## 5. Open Beta

This is still a beta version of the ARRI Look Creator (version 1.0.0 Beta 30).

Please send all feedback to [digitalworkflow@arri.de](mailto:digitalworkflow@arri.de) with the subject "ALC Beta Feedback".

## 6. Contacts

You can reach the Digital Workflow Solutions group within ARRI at [digitalworkflow@arri.de](mailto:digitalworkflow@arri.de).