

# L e e m i n g L U T



Camera Setup Guide:	Sony A Series
Based On:	Sony A7III (firmware 3.10)
Target Colour Space:	Rec709 gamma 2.4
Target Exposure:	ETTR
LUT Version:	Pro II & Athena
LUT Release Date:	2020.07.01
Guide Version:	2020.08.17

## INTRODUCTION

Thank you for purchasing Leeming LUT Pro™, the most accurate and professional Look Up Tables (LUTs) for your camera.

The LUTs have been carefully developed to get the maximum dynamic range and colour accuracy out of the supported profiles, giving you unparalleled Rec709 precision as well as perfect camera matching with other supported cameras in the Leeming LUT Pro™ range. Use them in conjunction with ETTR shooting principles and you will get the highest possible quality images out of the camera every time.

I am confident you will find these the most accurate LUTs for your camera. Anything less and I wouldn't have put my name on them!

Enjoy :)

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## LICENCE

You are granted a personal licence to use Leeming LUT Pro™ on two computers. For use with more computers, please contact Visceral Psyche Films for bulk discount pricing. You may not upload the LUTs anywhere, share them with other people or incorporate them into other LUTs for derivative use (i.e. making creative LUTs using Leeming LUT Pro™ as the underlying base), whether they be for sale or not. Please respect the work that has gone into the LUTs and support those supporting you.

## COMPATIBILITY

Leeming LUT Pro™ is compatible with any software or hardware device that supports a 33x33x33 cube LUT. For a full list, please see the website.

## REQUIREMENTS

1. Sony A series camera with Picture Profile or Creative Style support.
2. Spectrally neutral white or grey card, for white balancing the camera (eg. the white balance side of an X-Rite Colorchecker Passport is designed for this).
3. Leeming LUT Pro™ for Sony A series.

**NOTE:** Items highlighted in yellow have an adverse effect on LUT accuracy if changed away from the recommended values in this guide.

## QUICK REFERENCE OF IMPORTANT CAMERA SETTINGS

The settings below are recommended for the LUTs to work properly, in conjunction with an accurate white balance and using the ETTR zebras to show where the highlights of an image are clipping.

If you deviate from these settings, your colorimetry and luma curves won't match precisely to Rec709 and you may get other errors in your footage. You can find the details of how to set these in the next section.

	Ntrl / Std	Cine2	S-Log2	S-Log3	HLG	HLG3
Zebras (ETTR) <sup>2</sup>	100+	92+	107+	95+	100+	100+
Zebras (18% grey) <sup>3</sup>	44	46	74	72	66	66
Zebras (skin tone) <sup>3</sup>	78	74	94	86	87	87
Picture Profile	OFF	PP1	PP2	PP3	PP4	PP5
Gamma	N/A	Cine2	S-Log2	S-Log3	HLG	HLG3
Color Mode / Style	Neutral or Standard	Still	S-Gamut3. Cine	S-Gamut3. Cine	BT.2020	BT.2020
Saturation	-3	0	0	0	0	0
Black Level	N/A	0	0	0	0	0
Detail <sup>1</sup>	N/A	-7	-7	-7	-7	-7
Contrast	0	N/A	N/A	N/A	N/A	N/A
Sharpness <sup>1</sup>	-3	N/A	N/A	N/A	N/A	N/A

<sup>1</sup> These settings won't affect your colorimetry or luma curves but they will affect overall picture quality if altered.

<sup>2</sup> Using Lower Limit+ zebra option.

<sup>3</sup> Using Std+Range ±2 option. **Advisory only numbers! ETTR should be the main method used for exposure.** 18% grey is based on 42 IRE as standard and skin tone is based on the 70-75 IRE range.

## FULL CAMERA SETUP GUIDE

Based on the camera listed on the title page of this guide. Your camera may not have all the same features so adjust as necessary.

Due to the plethora of menus and sub-menus, the location of each setting will be referred to by their section name first in **BLUE**, then the respective menu page within that section, as shown at the top of each menu page of the camera.

1. **Setup7** - Setting Reset - Restore defaults before continuing further, to ensure no buried settings changes will affect the image quality.
2. **Setup2** - NTSC/PAL Selector as required, depending on your project. You may have to format your SD card after changing this so be sure you have backed up your footage! The guide is based on the NTSC option.
3. Rotate the top dial to MOVIE mode and the EXPOSURE dial to 0.

4. From here on in, the customisations will be done from left to right in the menu sections.
5. **Exposure2** - Exposure step 0.3EV.
6. **Color/WB/Img.Processing** - White Balance CUSTOM1, **DRO/Auto HDR OFF**, **Picture Effect OFF**. Temporarily turn Picture Profile OFF to set the Creative Style as follows.
7. **Set Creative Style NEUTRAL (preferred) or STANDARD (if your camera doesn't have the Neutral style) with Contrast 0, Saturation -3, Sharpness -3.** Note that this can only be adjusted with Picture Profiles set to OFF first if your camera has them. With Picture Profiles ON it will show as Std 0 0 0 on the monitor but it will not affect any of the Picture Profile settings. Sony "logic" for you!
8. **For Picture Profile supported cameras, turn Picture Profile ON, then select each Picture Profile in turn from PP1 – PP5 by pushing right on the control wheel to first RESET the Picture Profile slot, then adjust the settings as per the Quick Reference table on the previous page. This must be done regardless of whether or not you did the full camera settings reset as they otherwise remain what they were previously.**
9. **Focus Assist** - Peaking Setting – Peaking Display ON, Peaking Level HIGH, Peaking Color RED, or as desired.
10. **Movie1** - Exposure Mode MANUAL EXPOSURE, File Format XAVC S 4K, Record Setting 24p100M, S&Q Settings – Record Setting 50/60p, Frame Rate 50/60p.
11. **Movie2** - Audio Recording ON, Rec Level as needed, Audio Level Display ON.
12. **Movie3** - Audio Out Timing LIVE, Marker Display ON, Marker Settings as required.
13. **Shutter/SteadyShot** - SteadyShot ON, SteadyShot Settings as required.
14. **Display/Auto Review1** - Disp Button as required, **Zebra Setting - Display ON, Zebra Level CUSTOM2 – Type LOWER LIMIT to accurately show the ETTR overexposure limit. Don't forget to adjust the Zebras to match the Picture Profiles, otherwise the ETTR warning function of the zebras will not work as intended.**
15. **Custom Operation1** - For Custom Key (Movie) settings, I've found the following to be useful for video shooting, but you can adjust as you wish:
 

Custom Button 1	White Balance
Custom Button 2	Picture Profile
Custom Button 3	Zebra Level
Custom Button 4	SteadyShot Focal Length
Down Button	Peaking Display Selector
AF-ON Button	Focus Magnifier (for use with manual lenses)
16. **Custom Operation2** - MOVIE button ALWAYS.
17. **Network1** - Airplane Mode ON to save battery unless you are using the wireless functionality.
18. **Setup1** - **Gamma Disp. Assist OFF (the zebras are designed to function with this set to off, and may not behave as expected with it set to on).**
19. **Setup2** - Auto Pwr Off Temp HIGH, NTSC/PAL Selector as required, Touch Operation ON.
20. **Setup3** - HDMI Settings as required depending on your external recorder or monitor.

You are now ready to use Leeming LUT Pro™ with the maximum picture quality available. **Be sure to visit the website to read up on how to use ETTR (Expose To The Right) principles** to get the most dynamic range out of your sensor, as well as the associated Leeming LUT Pro™ LUT Installation Manual on how to apply the LUTs to your footage in post-production:

[www.LeemingLUTPro.com](http://www.LeemingLUTPro.com)

## HARDWARE / SOFTWARE QUIRKS AND BUGS

1. Be careful with S-Log2 and S-Log3 for 8bit 4:2:0 shooting as they have an increased risk of banding due to the lack of tonal precision in 8 bits (this is NOT the fault of the LUTs). I advise using one of the linear profiles for better image quality.
2. To Custom White Balance [rotate the TOP DIAL to M - not needed with newer cameras], press the C1 button (set earlier to Custom White Balance), choose Custom Setup and aim the target circle in the middle of the white balance card. Make sure the image is correctly exposed (no clipping but not too dark), then press OK to set the Custom White Balance. Then OK again to install it into the Custom slot. [Rotate the TOP DIAL back to MOVIE if using an older camera.]
3. Using the zebras, ETTR (Expose To The Right) until you see the clipping point of the zebras, then adjust your exposure down until the zebras just disappear. **IGNORE the EV meter for ETTR shooting** as it will give you a false sense of exposure. Similarly, ignore how the image looks on screen in terms of being "too bright". As long as your zebras aren't showing, you can expose brighter with no danger of overexposure.
4. The Creative Neutral, Standard and Cine2 zebras are set a bit lower than full clipping to maintain a good highlight rolloff, so they won't match the exact luma curve of the other profiles if doing an A-B comparison.
5. Stick with one Picture Profile when shooting for consistent colorimetry and luma. I recommend Cine2 or HLG3 for best results, or Creative Neutral for the A9 series.

## ATOMOS NINJA V RECORDER SETUP

The LUTs are compatible with external monitors and recorders which use the 33x33x33 cube format.

One issue which arises with using the camera's HDMI output is that it sometimes feeds the wrong levels the device is expecting. Using the Atomos Ninja V (with firmware 10.3+) as a guide, set the Legalize function as per the table below to correct this. **Make sure you DON'T have a viewing LUT active when setting this up, otherwise your Legalize setting will be greyed out and unavailable to change.** To ensure your externally recorded clips match both on screen and in post, **have the Athena LUTs applied and active in the Ninja V.**

	Ntrl / Std	Cine2	S-Log2	S-Log3	HLG	HLG3
Zebras (ETTR)	100%	100%	95%	95%	100%	100%
Zebras (18% grey)						
Zebras (skin tone)						
Log/HDR	OFF	OFF	OFF	OFF	OFF	OFF
Camera	Standard	Standard	Standard	Standard	Standard	Standard
Gamma	Rec709	Rec709	Rec709	Rec709	Rec709	Rec709
Gamut	Rec709	Rec709	Rec709	Rec709	Rec709	Rec709
HDR Auto	OFF	OFF	OFF	OFF	OFF	OFF
Legalize	ON	OFF	ON	ON	OFF	OFF
HDMI Trigger	ON	ON	ON	ON	ON	ON
Timecode	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI

## DAVINCI RESOLVE CLIP ATTRIBUTES FOR ATOMOS NINJA V FOOTAGE

When importing clips into Davinci Resolve and **NOT** using the Legalize ON option in the recorder, there exists the ability to adjust the Data Levels of the externally recorded footage between Full and Video using Clip Attributes. The following table lists what should be set for each profile to have the LUT work properly.

	Ntrl / Std	Cine2	S-Log2	S-Log3	HLG	HLG3
Data Levels	Full	Auto	Full	Full	Auto	Auto

**NOTE: Creative Neutral and Standard direct from camera also need Clip Attributes set to FULL**, otherwise they will be clipped in highlights and shadows and the LUTs won't work properly. All the other direct from camera profiles are fine with Auto set.

### GUIDE CHANGELOG

- 2020.08.17 Made note of the fact that you need to RESET each Picture Profile slot before adjusting the settings within, independently of the camera's full settings reset.
- 2020.07.16 Added the Black Level setting in the profile table as some of the Picture Profile presets from Sony have this set to numbers other than the recommended 0 for my LUTs. Also added the note for the Atomos recorders that Legalize can't be changed if a viewing LUT is active.
- 2020.07.01 Added the Standard style to the pack for those cameras which don't have the Creative Neutral option and noted that both Creative Styles need to have Clip Attributes set to FULL in resolve to work correctly.
- 2020.06.15 Altered the S&Q Settings to use 50/60p for both Record Setting and Framerate to take advantage of the higher 50Mbps recording bitrate.
- 2020.06.13 Added note about 18% grey and skin tone zebras being advisory only and that ETTR is still the best way to expose for perfect image, and lightened the text colour as an additional visual clue that it's not the main number to use. Also made it clear that Creative Style settings have no effect when any Picture Profile is selected ON and that they display Std 0 0 0 for some reason known only to Sony.
- 2020.06.12 Added in-camera zebra information for 18% grey and skin tone values.
- 2020.06.11 Initial release.