

# L e e m i n g L U T P R O

Camera Setup Guide:	Fujifilm X Series
Based On:	Fujifilm X-T3 (firmware 3.21)
Target Colour Space:	Rec709 gamma 2.4
Target Exposure:	ETTR
LUT Version:	Pro II & Athena
LUT Release Date:	2020.04.25
Guide Version:	2020.07.25

## 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. Fujifilm X series camera with F-Log, HLG, Eterna Cinema or Pro Neg Std profiles.
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 Fujifilm X 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.

	F-Log	HLG	Eterna	Pro Neg Std
Zebras (ETTR)	100%	100%	100%	100%
Zebras (18% grey)				
Zebras (skin tone)				
Highlight Tone	0	0	0	0
Shadow Tone	0	0	0	0
Color	N/A	-4	-4	-4
Sharpness*	-4	-4	-4	-4
Noise Reduction*	-4	-4	-4	-4
Dynamic Range	DR100	DR100	DR100	DR100

\* These settings won't affect your colorimetry or luma curves but they will affect overall picture quality if altered.

## 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.

1. Set the camera mode dial to Movie mode, the shutter dial to T (to use the scroll wheel to set shutter speed) and the front focus mode switch to M.
2. Press the MENU button to enter the menu system and use the four-way directional buttons to navigate the menus. Go down to the Movie tabs.
3. Movie tab page 1 – Set your resolution and framerate as desired. Set 200Mbps for recording datarate (this is so we can use H.265 as the recording format).
4. H.265(HEVC)/H.264 – Set it to H.265(HEVC) to use 10bit 4:2:0 and 4:2:2 modes.
5. Movie Compression – Set it to LongGOP unless you are specifically intending to shoot for the ALL-Intra mode.
6. Full HD High Speed Rec – Leave the default of OFF but this is where you can set high speed recording options as desired.
7. Film Simulation – Set this to either Pro Neg Std or Eterna Cinema if F-Log or HLG modes aren't being used or available (F-Log is my recommendation for best dynamic range if you have it on your camera).
8. White Balance – Set to Custom 1 and use a spectrally neutral white balance card to get the correct white balance.
9. Movie tab page 2 – **Dynamic Range – Leave this at DR100** as it does weird things to the curve if you choose the other options. The LUTs are designed for DR100.
10. **Set Highlight Tone and Shadow Tone to 0.**

11. **Set Color to -4.** Set Sharpness and Noise Reduction to -4.
12. 4K Interframe NR – Set to OFF.
13. F-Log/HLG Recording – Select your preferred combination of SD card and HDMI options. I recommend F-Log over HLG in most cases but both are good profiles. In either use case, I recommend using the same profile for both SD and HDMI.
14. Movie tab page 3 – MF Assist – Set to PEAK - Focus Peak Highlight – Red(High). You may choose another colour if it suits you better. Set Focus Check to ON.
15. 4K Movie Output – Set both SD and HDMI to 4K unless your equipment is 1080p.
16. Full HD Movie output – Set both SD and HDMI to FHD.
17. Movie tab page 4 – HDMI Output Info Display – Set to OFF unless you wish to see the menu overlays from the camera on your HDMI connected external monitor. Set HDMI Rec Control to ON.
18. Zebra Setting – Choose Zebra Right or Zebra Left. **Set Zebra Level to 100%.**
19. Audio Setting – Set your audio as desired.
20. Time code Setting – Set Time Code Display to ON, then set Start Time Setting to either Manual Input or Current Time depending on your needs. Set Count Up Setting to Free Run or Rec run depending on your needs. Set HDMI Time code Output to ON.
21. Tally Light – Set it as desired (I use Front OFF Rear ON).
22. Movie tab page 5 – Movie Silent Control – Set as desired (I have mine set to OFF).
23. Set Up tab – Sound Set-Up – Set AF Beep Vol. To OFF, Operation Vol. To OFF, Shutter Volume to OFF.
24. Screen Setting – Set your EVF and LCD options as desired (I leave everything at the defaults). Set Image Display to OFF. On the sub-page 2, Preview Exp/WB to Exp/WB. Natural Live View to OFF, Framing Guideline as desired.
25. Display Custom Setting – Framing Guideline ON, Focus Frame ON, Histogram OFF, Shooting Mode ON, Aperture/S-Speed/ISO ON, Information Background ON, Focus Mode ON, Photometry ON, Shutter Type ON, Flash ON, White Balance ON, Film Simulation ON, Dynamic Range ON, Boost Mode ON, Frames Remaining ON, Image Size/Quality ON, Movie Mode & Rec Time ON, Mic Level ON, Battery Level ON. The rest can be set as desired (as can the ones above if you prefer).
26. Button/Dial Setting – Set as desired but for me, I like to make sure the top Fn1 button is mapped to WB for easy access. Set Shoot Without Lens to ON for manual lenses.
27. Power Management – Set Auto Power Off to OFF to prevent the camera from sleeping. Set Performance to Normal.
28. Save Data Set-Up – Choose how you want to record to the dual card slots and add your Copyright Info as desired.
29. My Menu – Set your favourite shortcuts here for quick access.
30. Set the Metering dial as desired and set your Shutter Dial to T when using manual lenses. You can then use the Thumb Dial to adjust Shutter Speed.

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. There is superwhite highlight detail recording above 100% zebra indications with most profiles, but it can distort the colorimetry of the profile in use if set as the absolute exposure limit, so **please note that 100% zebras should be treated as the ETTR limit**. The LUTs have been built using the in-camera 100% zebras as the ETTR baseline and will look their best when shot this way.

## 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**.

	F-Log	HLG	Eterna	Pro Neg Std
Zebras (ETTR)	100%	100%	100%	100%
Zebras(18% grey)				
Zebras (skin tone)				
Log/HDR	OFF	OFF	OFF	OFF
Camera	Standard	Standard	Standard	Standard
Gamma	Rec709	Rec709	Rec709	Rec709
Gamut	Rec709	Rec709	Rec709	Rec709
HDR Auto	OFF	OFF	OFF	OFF
Legalize	ON	ON	ON	ON
HDMI Trigger	ON	ON	ON	ON
Timecode	HDMI Timecode	HDMI Timecode	HDMI Timecode	HDMI Timecode

## 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.

	F-Log	HLG	Eterna	Pro Neg Std
Data Levels	Full	Full	Full	Full

## GUIDE CHANGELOG

- 2020.07.25 Made the Film Simulation profile choice text a little clearer in point 7.
- 2020.07.16 Added note about not having a viewing LUT active in the Atomos when selecting Legalize options.
- 2020.05.13 Added Atomos zebras and top dial to T for shutter speed.
- 2020.04.25 Initial release.