

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

Camera Setup Guide:	Canon C Series
Based On:	Canon C70 (firmware 1.0.1.1)
Colour Space:	Rec709 gamma 2.4
Target Exposure:	ETTR
LUT Version:	Athena III & Pro III
LUT Release Date:	2021.09.20
Guide Version:	2021.09.20

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. Canon C Series camera with BT.709, C-Log2/RAW, C-Log3, HDR-PQ or HLG 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 the Canon C 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. Not all profiles are available on all cameras.

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.

	BT.709	C-Log2/RAW	C-Log3	HDR-PQ	HLG
Zebras (ETTR) ¹	100%	75%	85%	70%	95%
Zebras (18% grey) ²	65 ±5%	50 ±5%	55 ±5%	45 ±5%	55 ±5%
Zebras (skin tone) ²	85 ±5%	65 ±5%	75 ±5%	60 ±5%	80 ±5%
Canon Log	OFF	ON	ON	OFF	OFF
HDR-PQ	OFF	OFF	OFF	ON	OFF
Highlight Tone Priority	OFF	OFF	OFF	D+	OFF
Picture Style	OFF	OFF	OFF	OFF	OFF
Sharpness	0	0	0	N/A	N/A
Contrast	N/A	N/A	N/A	N/A	N/A
Saturation	0	0	0	N/A	N/A
Hue	0	0	0	N/A	N/A
Color Tone	N/A	N/A	N/A	N/A	N/A
Gamma	Wide DR	Canon Log 2	Canon Log 3	PQ	HLG
Color Space	BT.709	C.Gamut	C.Gamut	BT.2020	BT.2020
Color Matrix	Neutral	Neutral	Neutral	Neutral	Neutral

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

² Using Zebra1 range 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

Menu setup based on the Canon C70. Your camera may not have all the same features so adjust as necessary.

1. Press the Menu button to enter the main menus. Each top menu section has a title and number (eg Camera Setup 1) and the guide is laid out the same way. Use the little joystick to navigate left or right through the sections and use the down function to get into each section's individual pages (use it now to get into the Camera Setup section).
2. Camera Setup 1 – Set Extended ND Range as desired (image quality may suffer if this is turned on due to using two physical ND filters in the optical path). I recommend keeping this OFF.
3. Camera Setup 2 – Set Shutter Mode and ISO options as desired. I recommend Shutter Mode to ANGLE.
4. Camera Setup 3 – Set Shockless WB to ON to help smooth shifts in auto white balance.
5. **Custom Picture 1** – Here you can choose the color profiles you wish to use. For 10bit 4:2:2 recordings I recommend C-Log2 as it maximises dynamic range. Select CP File C2:LOG2 to choose this with the correct presets.

6. Recording/Media Setup 1 – Here you can set your System Frequency and Framerate as desired, along with Rec Format and Bitrate. I recommend XF-AVC YCC422 10bit for Rec Format and Resolution/Bitrate as desired considering your SD cards' capabilities.
7. Audio Setup – You can set your parameters as desired in this section.
8. Monitoring Setup – Here you can set various functions to do with the onboard and HDMI monitoring. Note that the LUT:LCD option on page 6 of this section does not have the facility to use a custom LUT so this should be set to OFF.
9. Assistance Functions 2 – I recommend Peaking: LCD to ON using Peaking 1 to help if you are using manual focusing lenses.
10. Assistance Functions 5 – Set Zebra: LCD to ON using Zebra 2. Set Zebra 2 level as per the setup guide table on the previous page depending on the profile you have selected.
11. Assistance Functions – Adjust the markers and waveform functions as desired.
12. Assignable Buttons – Set these as desired.
13. System Setup – You can set various functions here as desired.
14. My Menu – Here you can add any functions you wish to access quickly.
15. You can exit the menus now. On the touchscreen there is a small box bottom left of the screen. Tap this to open the first level touch options where you can adjust white balance, ND level, F-stop etc. With this menu open there is a second level touch menu tap zone top left of the screen. If you tap that you get quick access to functions such as sensor mode, record format, framerate etc. Swipe left or right to access the different pages, or tap the X to close back to the first level, then tap bottom left X to close all touch menus. You also have physical buttons mapped to various functions. I recommend familiarising yourself with the custom white balance function (default Button 2) and the Custom WB options A and B (in the first level touch menu) as this will give you the best starting points for the LUTs.

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

HARDWARE / SOFTWARE QUIRKS AND BUGS

1. Canon RAW uses the C-Log2 profile so the same LUT will work for both profiles.

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 10.6+) 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 Pro III LUTs applied and active in the Ninja V.

	BT.709	C-Log2/RAW	C-Log3	HDR-PQ	HLG
Zebra LUT On (ETTR)	95%	100%	105%	80%	75%
Zebra LUT Off (ETTR)	105%	90%	100%	75%	95%
Zebra (18% grey)	N/A	N/A	N/A	N/A	N/A
Log/HDR	OFF	ON	ON	OFF	OFF
Camera	Standard	Canon	Canon	Standard	Standard
Gamma	Rec709	C-Log2	C-Log3	Rec709	Rec709
Gamut	Rec709	Canon Cinema	Canon Cinema	Rec709	Rec709
HDR Auto	OFF	OFF	OFF	OFF	OFF
Legalize	OFF	N/A	N/A	ON	ON
HDMI Trigger	ON	ON	ON	ON	ON
Timecode	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.

	BT.709	C-Log2/RAW	C-Log3	HDR-PQ	HLG
Data Levels	Auto	Full	Full	Auto	Auto

GUIDE CHANGELOG

2021.09.20 Initial release.