

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

Camera Setup Guide:	GoPro 11 12 13
Colour Space:	Rec709 gamma 2.4
Target Exposure:	ETTR
LUT Version:	Pro 4
Guide Version:	2025.01.01

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 three devices. For use with more devices, 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.

REQUIREMENTS

1. GoPro 11 12 13 series camera.
2. Spectrally neutral white or grey card, for white balancing the camera.
3. Leeming LUT Pro 4 – GoPro 11 12 13.

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 prior to applying the LUT in post.

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.

	GP-Log ¹	Standard Flat	Wide Gamut 400 ²
Color	GP-Log	Flat	Flat (WIDE)
White Balance	Auto / Preset	Auto / Preset	Auto / Preset
Resolution	5.3K	5.3K	5.3K
Sharpness	Low	Low	Low
LOGB Value ²	N/A	N/A	400
Bit Depth	10bit	10bit	10bit

¹ GoPro 12 / 13 only

² Labs firmware only

FULL CAMERA SETUP GUIDE GoPro 12 / GoPro 13

Based on the GoPro 13 Black. Your camera may not have all the same features so adjust as necessary.

1. Start the camera and make sure you are in Video mode, then swipe down from the top of the screen to enter the Settings menus. Swipe to the last page and **set Controls to PRO**. I usually set the Screen Lock ON to avoid changing settings by accident, but it's up to you.
2. Tap on Preferences, then scroll down to Video, then set **Bit Rate to HIGH**, **Bit Depth to 10-Bit**, and Anti-Flicker as needed. Exit the Preferences menu.
3. Now tap on the Video Mode button on the main screen and you'll see Video Presets. Tap the settings icon to the right of the profile name to enter the main adjustments area.
4. **Set Profile to GP-Log (this is my recommended profile as of the latest firmware) or Standard**. Set Aspect Ratio as desired, Resolution as desired (I recommend 5.3K when available), Frame Rate as desired (I recommend 24p for cinematic footage). Set your Lens as desired (L+ may be greyed out depending on other settings, I normally recommend L for a Linear image), HyperSmooth as desired.
5. In the ProTune section, set Shutter as needed (Auto is default), EV Comp as desired to protect highlight information (you can set this lower if your footage is often clipping the whites), **White Balance Auto or one of the preset temperatures (NOT Native)**, ISO Min and Max as needed (I recommend ISO 800 as max unless you are ok with noisier looking footage), Sharpness as desired **(I strongly recommend LOW and then adding sharpening to taste in post for better image quality)**, **Color to FLAT (if using Standard)**, RAW Audio as needed, Wind as needed (AUTO as default), Media Mod as needed.
6. Set your On-Screen Shortcuts as desired, then Save As a Custom profile if desired.
7. You can repeat the video settings and save more shortcut profiles if desired.
8. Set Date and Time as needed. Once finished, exit the menus.

FULL CAMERA SETUP GUIDE GoPro 11

Based on the GoPro 11 Black. Your camera may not have all the same features so adjust as necessary.

1. Start the camera and make sure you are in Video mode, then swipe down from the top of the screen to enter the Settings menus. Swipe to the last page and **set Controls to PRO and Video Mode to HIGHEST**. I usually set the Screen Lock ON to avoid changing settings by accident.
2. Tap on Preferences, Video, General, set Anti-Flicker as needed. Exit the menus.
3. Now tap on the Video Mode button on the main screen and you'll see Video Presets. Tap the settings icon to the right of the profile name to adjust parameters.
4. Set Aspect Ratio as desired, Resolution and Framerate as desired (I recommend 5.3K and 24p for cinematic footage). Set your Lens as desired (I recommend L for a Linear image), HyperSmooth ON **(note: Boost is not reliable with Labs firmware so I don't recommend it)**.
5. In the ProTune section, set **10-Bit ON**, **Bit Rate HIGH**, Shutter as needed (Auto is default), EV Comp as desired to protect highlight information (you can set this lower if your footage is often clipping the whites), **White Balance Auto or one of the preset temperatures (NOT Native)**, ISO Min and Max as needed (I recommend ISO 800 as max unless you are ok with noisier looking footage), Sharpness as desired **(I strongly recommend LOW and then adding sharpening to taste in post)**, **Color FLAT**, RAW Audio as needed, Wind as needed (AUTO as default), Media Mod as needed.
6. Set your On-Screen Shortcuts as desired, then Save As a Custom profile if desired.
7. Set Date and Time as needed. Once finished, exit the menus.

ADDITIONAL CAMERA SETUP GUIDE (Labs Firmware)

I recommend this firmware as the best option for maximising your camera's image quality.

1. To begin with you need to download and install the Labs firmware for your camera from this link (instructions are included on the website):

<https://gopro.github.io/labs/>

2. Once the Labs firmware has been installed, start the camera and make sure you are in Video mode.
3. Download the companion QR Control app for your smartphone from the following link:


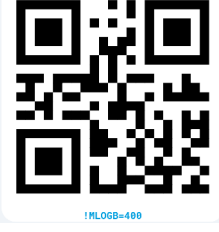
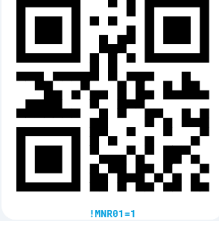


<https://gopro.github.io/labs/control/>




4. A detailed list of all features available for your camera can be found here:

<https://gopro.github.io/labs/control/extensions/>

5. You can use either the app **(the recommended method so you can customise your settings)**, or my pre-built QR codes below, which are all set to 'permanent' where relevant so that they survive a reboot. Use them top to bottom to ensure the correct order of operations. **Items marked in yellow are REQUIRED for the Wide Gamut 400 LUT to work properly.** Other items are optional.

6. I recommend the GP-Log profile (with Labs tweaks) when using the GoPro 12 or 13 individually, and the Wide Gamut 400 profile when using either the GoPro 11 or both GoPro 11 and 12 / 13 together, since the Wide Gamut 400 profile produces the same image output across all camera models.
7. Simply point the camera at the QR code and you should see a QR logo with tick on screen once it has registered the setting. Be sure to only expose one QR code at a time, to avoid confusing the camera.

 <p>!MWIDE=1</p>	<p>WIDE Gamut Color Profile: ON (Only activate this if you are using the Wide Gamut 400 profile)</p>
 <p>!MLOGB=400</p>	<p>Log Base: 400 (Only activate this if you are using the Wide Gamut 400 profile)</p>
 <p>!MNR01=1</p>	<p>Noise Reduction: Minimum (better to handle the noise reduction in post as the in-camera option destroys too much of the image)</p>
 <p>!MEXPX=48</p>	<p>Maximum Shutter Speed when using Auto Shutter: 1/48th (based on using 24p as your framerate)</p>
 <p>!MEXPX=8000</p>	<p>Minimum Shutter Speed when using Auto Shutter: 1/8000th</p>

 <p>!M24HZ=1</p>	<p>Proper 24.00p framerate: ON (useful when shooting for cinema distribution – affects only the 24p setting)</p>
 <p>!MB1TR=190</p>	<p>Recording Bitrate: 190Mbps (check your SD card can handle the speed first using a computer benchmarking tool)</p>
 <p>!MEXPS=1</p>	<p>Show ISO and Shutter Speed along the bottom of the screen: ON</p>

8. Once you have finished applying the QR codes, reboot your camera and you should see a brief summary of applied settings on bootup, as well as the extra overlays if you chose to add them, like ISO/Shutter info.
9. In post, be sure to apply noise reduction in the chroma range (I recommend keeping luma noise to avoid plastic-looking images) for best results from these settings.
10. If you have any issues with the Labs firmware, you can always flash back to the normal firmware to remove any Labs settings.

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. I recommend using the Labs firmware as it provides the option for adjustable noise control, the Wide Gamut colour profile (if not using Log), along with many more tweaks for customising your camera functionality. With Labs firmware the camera is truly in a class of its own in the field of action cameras.
2. I recommend using Auto White Balance or one of the preset temperatures. Do NOT use Native WB as it causes issues with colour quality.
3. I recommend shooting a white balance target in the first second or so of your clip so that you can use the WB picker function of your editing software to quickly and accurately set this in post. The regular AWB or preset temps don't require it but I still recommend tweaking white balance in post and shooting a white balance card in the initial seconds of your clip for later use in post.
4. Note that AWB can shift during the shot, so if your lighting conditions are changing significantly, you may wish to set one of the preset temperatures to avoid this, or use the WBLK (White Balance Lock) function available in Labs firmware QR app.
5. Labs firmware is currently NOT reliable with the HyperSmooth AutoBoost stabilisation function, so I recommend using the normal HyperSmooth only, otherwise your recordings may end up truncated and unusable.
6. Do not the HDR profile as it continuously adjusts the luma curve to fit more dynamic range in, making a LUT for it impossible.

GUIDE CHANGELOG

2025.01.01 Initial release.