

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

Camera Setup Guide:	DJI Phantom 4 Pro
Based On:	Phantom 4 Pro (firmware 01.00.0128)
Colour Space:	Rec709 gamma 2.4
Target Exposure:	ETTR
LUT Version:	Athena III & Pro III
LUT Release Date:	2021.02.17
Guide Version:	2021.02.17

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 :)

Paul Leeming
Director / Writer / Cinematographer / Actor
Visceral Psyche Films
www.visceralpsyche.com

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. DJI Phantom 4 Pro or Advanced+ camera.
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 DJI Phantom 4 Pro.

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.

	D-Log	D-Cinelike
Zebras (ETTR)	ON	ON
Sharpness*	-2	-2
Contrast	0	0
Saturation	0	-2

* 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. Plug your phone or tablet into your remote controller and start the DJI GO 4 app, then press the Connect Aircraft button.
2. Tap on the three dots top right of screen to enter the App Menus.
3. MC Settings – set your max altitude and distance as well the Return to Home Altitude. You can also calibrate your gimbal and compass here, as well as unlocking Geo Zones etc. I recommend setting Signal Lost to Return To Home (make sure your RTH Altitude considers local heights of objects to avoid the drone crashing into them when on autopilot!).
4. Control – Choose your flight mode etc and Units as desired.
5. Adjust the other parameters as desired, then exit back to the main camera screen.
6. Tap on the Video/Photo toggle above the Record button and ensure you are in Video mode.
7. Tap on the Settings button under the Record button to enter the camera setup.
8. Tap on the Gear icon – Turn Histogram ON as desired, Overexposure Warning ON, Mechanical Shutter as desired, Head LEDs Auto Turn Off ON and the rest as needed. You can also format your SD card here.
9. Tap the Camera icon to the left of the Gear icon and choose your Video Size (I recommend 4096x2160 for cinema shooting and 3840x2160 for TV/online formats). Set Video Format to MOV and NTSC/PAL as needed for your project region (24p and 48p are only available when selecting NTSC).
10. Set Encoding Format to H264 (H265 doesn't have as many framerate options).
11. Set Color to either D-Log or D-Cinelike depending on what profile you wish to use.
12. Go into the Style sub-menu and set the Custom options: Sharpness -2 (I found this was the highest at which there was no edge enhancement), Contrast 0. For D-Log set Saturation 0. For D-Cinelike set Saturation -2. The LUTs are designed to use these values and will look wrong if you alter them away from the recommendation (only sharpness can be altered without affecting the LUTs). Exit the sub-menu.

13. Set White Balance to Custom and adjust to the correct Kelvin value. If you hold a white balance card in front of the drone when switching from Auto to Custom, the first custom value will be very close to neutral, so this is my recommended method for consistency and avoiding any colour shift during flight. You will need to tweak the white balance in post BEFORE applying the LUT, so I recommend shooting a few seconds of your white balance card before takeoff in the light you expect when flying, for best accuracy in post.
14. Tap on the Iris icon and switch the camera control mode to M (manual adjustment). Here you can set your ISO, Aperture and Shutter speed manually for greater control over your exposure. Use the Overexposure Warning zebras to avoid clipping and ETTR your shots. When shooting in D-Log the ISO is locked at ISO 500.
15. Exit the Settings back to the main camera screen. At the top right you can adjust your Auto Exposure, AF/MF options and focus point.

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. You MUST custom white balance in post, since the camera has no tint control or automatic custom white balance function to lock in the correct value. I highly recommend shooting a white card at the beginning of your shot to make this easy.
2. When shooting in D-Log the ISO is locked at ISO 500.
3. I have found that D-Log footage seems to have less colour smearing and more natural sharpness (perhaps due to less post-processing during recording), so even though it's only 8bit, it's worth using if you want the cleanest image for post. D-Log uses the full tonal range of the H264 container format so it's more forgiving than some cameras which have a constrained tonal range in log profiles.

GUIDE CHANGELOG

2021.02.17 Initial release.