Canon

PUB. DIE-0507-001

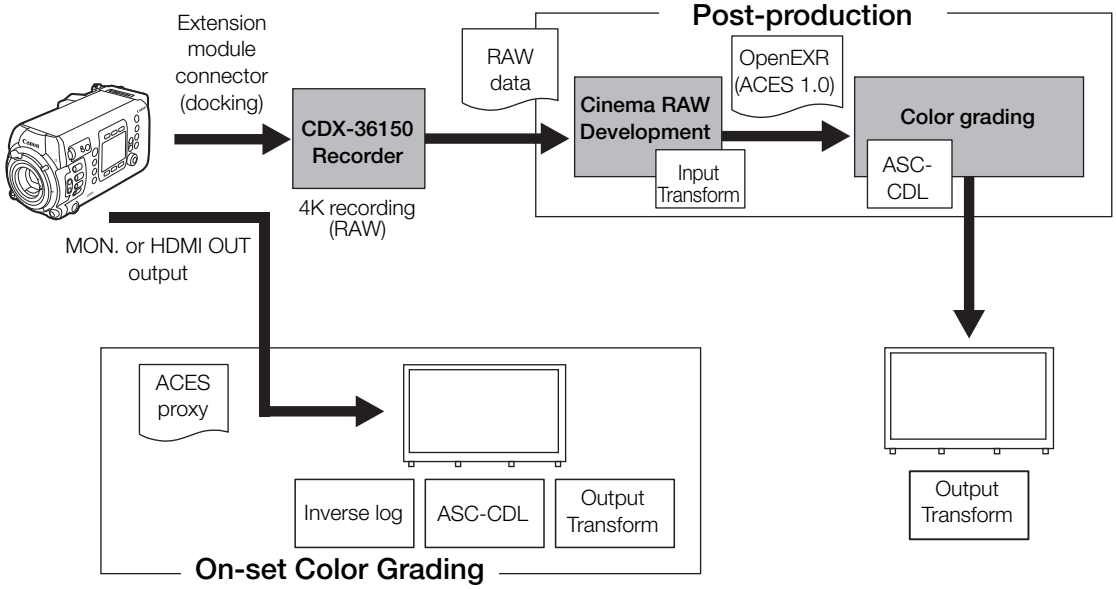
EOS C700
EOS C700 PL
EOS C700 GS PL
EOS C700 FF
EOS C700 FF PL

Digital Cinema Camera

Firmware ver. 1.0.5.1.00 (C700 C700 PL)
ver. 1.0.3.1.00 (C700 GS PL)
ver. 1.0.0.0.00 (C700 FF C700 FF PL)

ACES Workflow
Introduction

Color Grading with the ACES Workflow



ACESproxy: ACESproxy video data that is output from the MON. terminals or HDMI OUT terminal when performing on-set color grading. Select the [ACESproxy] option for the LUT setting of the appropriate terminal (📖 3) to enable ACESproxy output.

Input Transform: Refers to the table used for converting color information of the input device to ACES2065-1 color space.

Output Transform: Refers to the table used for mapping ACES2065-1 color space information to the specific color information scheme used by the display device.

ASC-CDL: Refers to the list that contains color grading adjustment data. This step requires equipment compatible with ASC-CDL.

Applying a LUT to Video Outputs

While recording using special gamma curves, you can apply a LUT to video output from the VIDEO terminal (optional viewfinder), SDI OUT terminals, MON. terminals or HDMI OUT terminal. When a LUT is applied, the displayed image will look as if a standard gamma curve and color space were used, making it easier to check the image on the monitoring device used. To check the image on an external monitor, you will need a monitor that is compatible with the selected color space.

Available preset LUT options by gamma curve and color space

Available LUTs depend on the combination of gamma curve and color space used, whether it was set through one of the preset color settings or through the individual main settings in the custom picture file.

[Gamma]	[Color Space]	Available LUTs						
		[BT.709]	[BT.2020]	[DCI]	[ACESproxy]	[HDR-PQ] (OOTF On/Off)	[HDR-HLG]	[HDR 1600%/400%] (OOTF On/Off)
[Canon Log 2]/ [Canon Log 3]	[Cinema Gamut]	●	●	●	●*	●	●	●
	[BT.2020 Gamut]	●	●	–	–	●	●	●
	[DCI-P3 Gamut]	●	–	●	–	–	–	–
	[BT.709 Gamut]	●	–	–	–	–	–	–
[Canon Log]	[BT.709 Gamut]	●	–	–	–	–	–	–
[Wide DR]	[BT.2020 Gamut]	●	–	–	–	–	–	–

* Only when **HOME** ▸ [COLOR] ❯ [CP MAIN] ❯ [Preset] is set to [Canon Log 2 : C.Gamut] or [Canon Log 3 : C.Gamut].

1 Open the LUT selection submenu.

HOME screen: **HOME** ▸ [COLOR] ❯ [LUT]
Monitoring menu: **EVF** ▸ [Monitoring Setup] (⌨) ❯ [LUT]

2 Select the desired terminal and then press SET.

- Using the control display, you can also select [SD XF-AVC] to apply a LUT to sub recording (XF-AVC Proxy) clips when the simultaneous sub recording is activated. From the monitoring menu select the LUT for XF-AVC Proxy clips with the **EVF** ▸ [Rec/Media Setup] ❯ [Sub Rec (XF-AVC)] ❯ [Apply LUT] setting instead.

3 Select the desired LUT and then press SET.

- Repeat steps 2 and 3 as necessary to select the LUT applied to other output terminals.
- The gamma curve and color space of the video output will change.
- If a LUT is not needed, select [Off].

Options

Applied LUT	Output Settings with LUT applied		Description
	Gamma curve	Color space	
[BT.709]	Wide DR	BT.709	LUT for viewing on the optional viewfinder and external monitors compatible with BT.709 specifications.
[BT.2020][1]	Wide DR	BT.2020	LUT for viewing on external monitors compatible with ITU-R BT.2020 standards, which define parameters for ultra-high-definition television (4K/8K).
[DCI][1]	DCI	DCI-P3	LUT for viewing on external monitors that support color spaces and gamma curves that follow the guidelines established by DCI (Digital Cinema Initiatives).
[ACESproxy][1]	ACESproxy	ACESproxy	LUT for viewing on external monitors compatible with the ACESproxy standard established by ACES (Academy Color Encoding System). The signal output will use full range coding.
[HDR-PQ (OOTF On)][1, 2, 3]	[PQ (OOTF On)]	BT.2020	LUT for viewing HDR (high dynamic range) images on external monitors compatible with the PQ standard defined by ITU-R BT.2100 standards. The signal output will use narrow range (video range) coding. Select [PQ (OOTF On)] for deeper blacks and higher contrast.
[HDR-PQ (OOTF Off)][1, 2, 3]	[PQ (OOTF Off)]		
[HDR-HLG][1]	Hybrid Log-Gamma	BT.2020	LUT for viewing HDR images on external monitors compatible with the HLG standard defined by ITU-R BT.2100 standards. The signal output will use narrow range (video range) coding.
[HDR 1600% (OOTF On)][3, 4] [HDR 1600% (OOTF Off)][3, 4]	Original gamma curve	BT.709	LUT for viewing HDR (high dynamic range) images on the optional viewfinder and other monitoring devices. The LUT follows the ITU-R BT.2100 transfer function to convert a brightness range of 1600% or 400% respectively into a linear brightness scale. Select [(OOTF On)] for deeper blacks and higher contrast.
[HDR 400% (OOTF On)][3, 4] [HDR 400% (OOTF Off)][3, 4]			
[Off]	–	–	No LUT applied.

1 Not available for the VIDEO terminal (optional viewfinder).
2 For the HDMI OUT terminal, this option is only available when MENU ▸ [System Setup] ❯ [Term. Output Setup] ❯ [HDMI Max Res.] is set to [1920x1080].
3 "OOTF" refers to the opto-optical transfer function defined by the ITU-R BT.2100 standard.
4 Only available for the VIDEO terminal (optional viewfinder).

ⓘ NOTES

- When you apply the [ACESproxy] LUT to the SDI OUT terminals, MON. terminals or HDMI OUT terminal, the selected terminal will output ACESproxy video data. Using a compatible monitor*, you can perform on-set color grading and check the image after color correction as you continue shooting (📖 2).
  * When using the HDMI OUT terminal, a monitor that supports full range YCbCr quantization is required.
- If you set an assignable button to [LUT], you can press the button to turn on and off the LUTs applied to all video outputs at once.
- If you change the [Gamma] or [Color Space] settings in the custom picture file, all the LUT settings will be reset to [Off].

The information in this document is verified as of June 2018. Subject to change without notice.
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