

RAW Viewer

Help

Software Version 5.0

RWV-10

Table of Contents

Overview	5
Main Window	7
Menu Bar	8
Mac Menus	8
Windows Menus	8
Configuration Menu	8
Window Menu	11
Window Operations	12
Changing the Window Size	12
Tab Windows	12
Floating Windows	12
Clip Browser	13
Tree Area	14
Clip List Area	16
Metadata List Area	19
Catalog PDF Settings	20
Clip Viewer	23
Selecting the Display Method	23
Flip Setting	24
Resolution Setting	24
De-squeeze Display Setting	25
Quality Setting	25
Zoom Setting	25
Waveform Display Setting	26
Navigator Setting	26
Marker Display Setting	26
Scaling and Marker Settings	26
Time Codes	28
FPS Display	29
Position Bar	29
Control Buttons	29
Poster Frame	30
Overwrite M01.XML File	30
Waveform	32
Histogram	33
Vector	34
Parameter Setting	36

RAW Workflow	36
Parameter Template	40
Parameter Control	40
Input Settings	42
Linear Gain	44
ICVFX Mode	45
ASC-CDL.....	48
Viewer Settings	50
Adding User LUT	51
Export.....	52
Supported Formats	52
Export Template	53
Export Control	53
Task Queue.....	62
Task Operations	63
EDL	64
Managing an EDL.....	65
Editing/Previewing an EDL	65
Importing an EDL and Linking Clips.....	66
Linking Clips to EDLs	67
Verifying Linked Clips	69
Gamma Editor.....	70
Editing Gamma.....	70
Gamma List Area	71
Operation Selection Buttons	71
Operation Settings	72
Parametric Mode.....	73
Parametric Mode (CvpFileEditor-compatible).....	74
Free Edit Mode	76
Gamma File Export	77
ART Generator	80
Appendix	82
Tangent Element Controls	82
Tangent element-Tk.....	82
Tangent element-Kb	83
Tangent element-Mf	84
Tangent Wave Panel	85
LUT File Formats.....	87
1D LUT Files	87
3D LUT Files	90

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 Trademarks 91

Overview

RAW Viewer is application software that allows you to view RAW/X-OCN/XAVC/SStP/ProRes files recorded using the F65/PMW-F55/PMW-F5/NEX-FS700/MPC-3610 (VENICE/CineAltaV)/MPC-3626/MPC-3628 (VENICE 2/CineAltaV 2)/MPC-2610 (BURANO/CineAltaB) unit, or a combination of the unit with the SR-R4/AXS-R5/AXS-R7 portable memory recorder. You can view and perform basic color grading on files transferred to your computer using an SRPC-5/SRPC-4 data transfer unit or files stored on memory cards inserted into an SR-D1/AXS-CR1/SBAC-US30/AXS-AR1 drive unit.

In addition, you can export RAW, X-OCN, XAVC, SStP, or ProRes files to DPX, OpenEXR, SStP, XAVC, or ProRes¹⁾ format to facilitate file-based post-production workflow.

1) Mac only

This application supports the following file formats.

File format		Extension
RAW	F65RAW	MXF
	F55RAW	MXF
	F5RAW	MXF
	FS700RAW	MXF
	MPC-3610 (VENICE/CineAltaV) RAW	MXF
X-OCN	F55 X-OCN	MXF
	F5 X-OCN	MXF
	MPC-3610 (VENICE/CineAltaV) X-OCN	MXF
	MPC-3626, MPC-3628 (VENICE 2/CineAltaV 2) X-OCN	MXF
	MPC-2610 (BURANO/CineAltaB)	MXF
XAVC		MXF
SStP		MXF
ProRes		MOV/MXF
DPX ¹⁾		DPX
OpenEXR ¹⁾		EXR

1) If there are WAV files with the same base name as DPX or OpenEXR files in the same folder, the files are handled as clips with audio.

The resolutions supported for each format are as follows.

Resolution	SStP	XAVC
4096×2160	No	Yes
3840×2160	No	Yes
2048×1556	No	No
2048×1080	No	Yes
1920×1080	Yes	Yes
1280×720	No	No

1) Interlaced (50i/59.94i) files are not supported.

Main Window

The main window consists of the following parts.

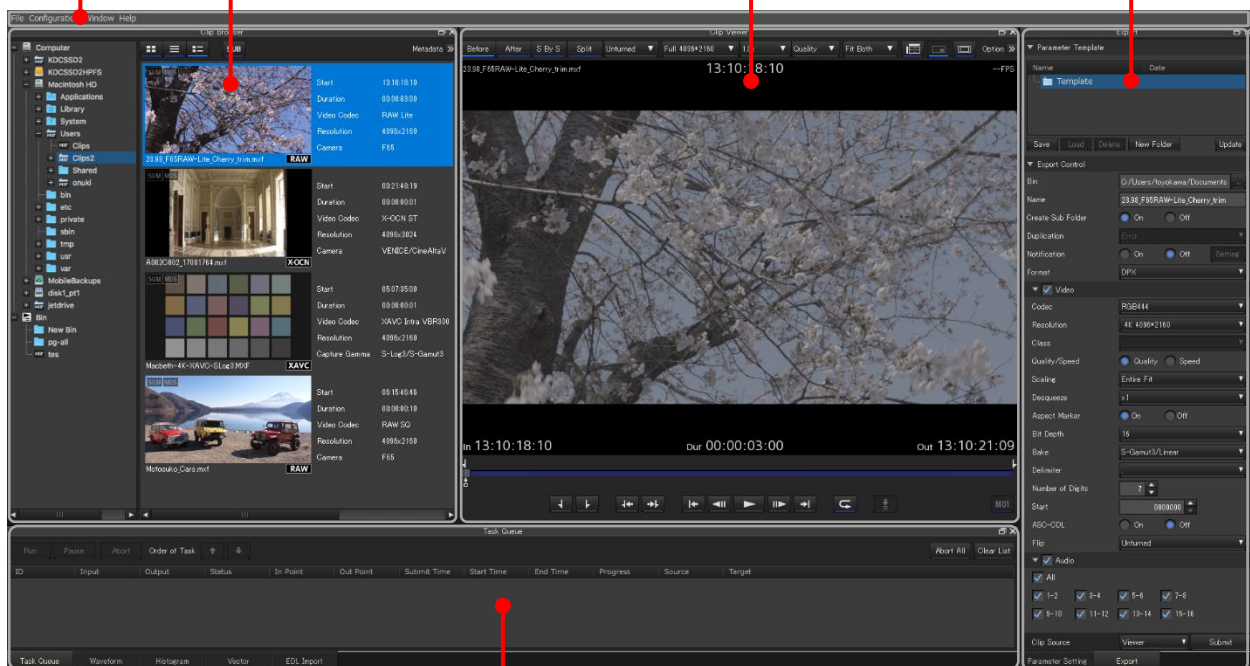
The content of the Parameter Setting/Export window and Task Queue/Waveform/Histogram/Vector/EDL window display in the main window changes depending on the selected tab.

Menu bar

Clip

Clip Viewer

Parameter Setting
Export



Task Queue/Waveform/Histogram/
Vector/EDL

Menu Bar

Mac Menus



RAW Viewer menu

- About RAW Viewer: Displays version information.
- Services: Executes various commands provided by the Mac OS.
- Hide RAW Viewer: Minimizes RAW Viewer.
- Hide Others: Hides other applications.
- Show All: Shows all applications.
- Quit RAW Viewer: Exits RAW Viewer.

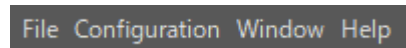
Configuration menu

For details, see "Configuration Menu" (page 8).

Window menu

For details, see "Window Menu" (page 11).

Windows Menus



File menu

- Exit: Exits RAW Viewer.
- Hide: Minimizes RAW Viewer.

Configuration menu

For details, see "Configuration Menu" (page 8).

Window menu

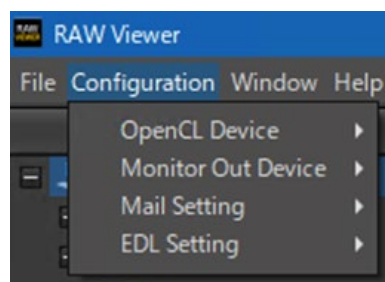
For details, see "Window Menu" (page 11).

Help menu

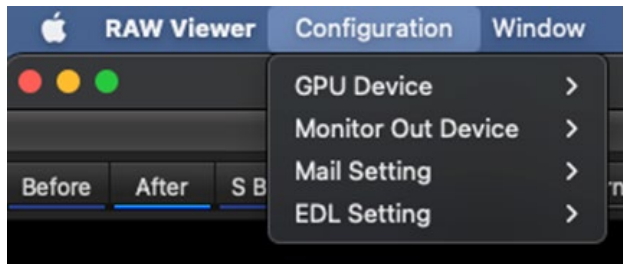
- About RAW Viewer: Displays version information.

Configuration Menu

Windows menu



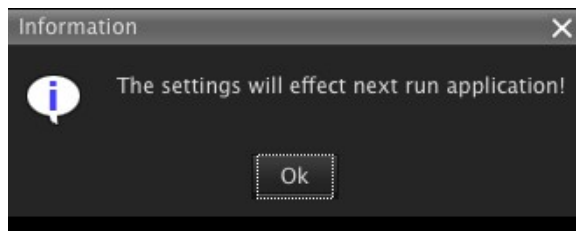
Mac menu



OpenCL Device (Windows version)

You can specify whether to use the OpenCL device of the GPU during RAW development. If a GPU that supports OpenCL exists, it will be selected by default.

1. Select your desired setting in the list that appears in the [OpenCL Device] menu.
When you select [Auto (Experimental)], the optimal resource allocation will be selected automatically for image processing. This allows high-speed image processing in multi-CPU/-GPU environments.
The following dialog box appears when you select a setting.



2. Click the [OK] button. The OpenCL device settings configured here will be applied after you restart the application.
When you restart the application for the first time after selecting [Auto (Experimental)], the startup process may take some time, as the optimal resource allocation is determined. The startup time will depend on the number of CPUs and GPUs installed on the computer.
If you change the CPU/GPU configuration, the resource allocation must be recalculated and startup will take some time again.

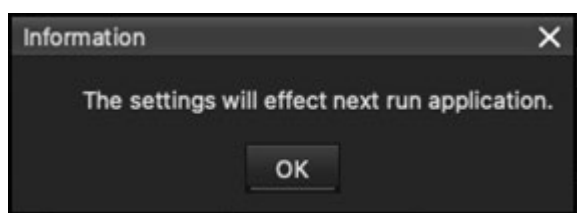


Note: The high-speed image processing resulting from the [Auto (Experimental)] setting will only affect playback and not affect export operations.

GPU Device (Mac version)

You can specify whether to use the Metal device of the GPU during RAW development. If a GPU that supports Metal exists, it will be selected by default.

1. Select your desired setting in the list that appears in the [GPU Device] menu.
The following dialog box appears when you select a setting.



2. Click the [OK] button. The GPU device settings configured here will be applied after you restart the application.

Monitor Out Device

When devices with external monitors connected are connected to the computer, the names of the connected devices are displayed, and you can select one device and format pair you want to use. When a device and format are selected, the video will be displayed on both the Clip Viewer and the external monitor.

Selecting [Update] refreshes the display of the device names.

We recommend the UltraStudio series and DeckLink series devices made by Blackmagic Design.



Note: To verify the video on an external monitor, match the output format selected in [Monitor Out Device] with the input signal configured on the external monitor.

Mail Setting

You can enable email notifications on the status of export tasks performed in the Task Queue window.

1. Select [Mail Account] in the [Mail Setting] menu, and configure the originating email account.
 2. Select [Add Mail Address] in the [Mail Setting] menu, and add destination email addresses.
- To use this function, you must also enable the [Notification] setting in the Export window.



Note: The use of SSL/TLS communication is strongly recommended to prevent leakage of password information on the outgoing mail server. To enable SSL/TLS communication, place a check mark in [SSL] under [Mail Account].

EDL Setting

Configures the EDL window operation settings. These settings allow you to control file links and to change the format of the EDL file for export.

- **Format:** Selects the format of EDL files handled in the EDL window.
- **Use Clip Name of Comment as Reel:** Select to display clip names in the [Reel] column of the EDL window when importing EDL files. If this is not selected, the reel names will appear.

Window Menu

Layout

Configures settings for the layout of each of the RAW Viewer tool windows.

- **Default:** Restores the factory default layout settings.
- **(layout name):** Loads a layout saved using [Add Layout].
- **Add Layout:** Saves the current positions and sizes of each tool window under a specified name.
- **Manage Layout:** Allows you to manage and delete stored layouts.

ART Generator

Launches ART Generator.

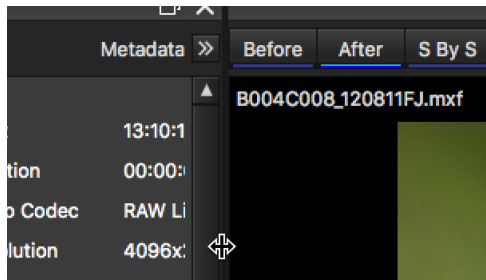
Clip Browser, Clip Viewer, Parameter Setting, Export, Task Queue, Waveform, Histogram, Vector, EDL, Gamma Editor

Displays/hides each of the tool windows.

Window Operations

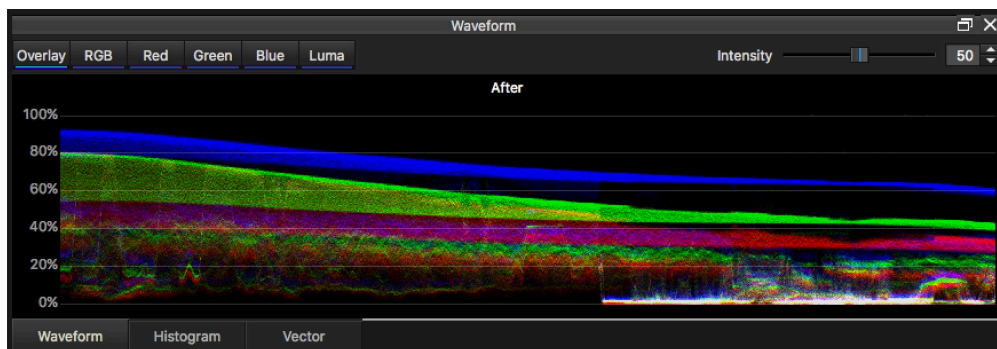
Changing the Window Size

You can adjust the size by dragging the edge of each window.



Tab Windows

You can switch the display in the bottom window by selecting the tabs.

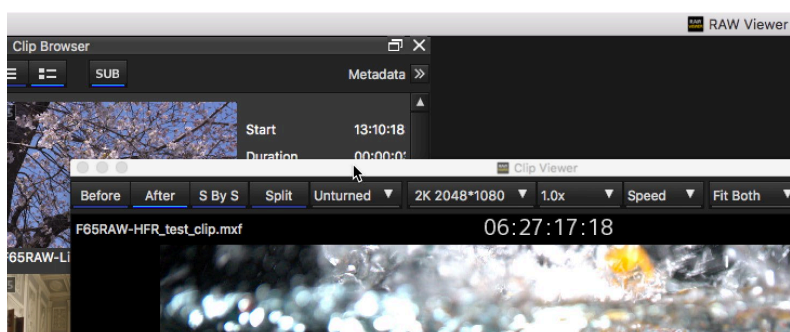


Floating Windows

You can display some windows separately from the main window as floating windows.

To make a tool window into a floating window, double-click the title bar of the window or drag & drop the window near the center of the main window. To display the window as a tab window, drag & drop the title bar of the floating window onto the title bar of another tool window in the main window.

To dock the window with other tool windows, drag & drop the title bar of the floating window to the desired location between the title bars of other tool windows.



Clip Browser

The Clip Browser window allows you to navigate through folders containing MXF files and check clip metadata.

Folder tree area Clip list area Metadata list area

The screenshot shows the Clip Browser interface with three main sections:




- Folder tree area:** A sidebar on the left showing a hierarchy of folders. The 'Clips4Manual' folder is selected.
- Clip list area:** A central area displaying thumbnails of video clips. The first clip is '23.98_F65RAW-Lite_Cherry_trim.mxf' (RAW format). Below it is 'A002C002_17081764.mxf' (X-OCN format), followed by 'Macbeth-4K-XAVC-SLog3.MXF' (XAVC format), and 'Motosuko_Cars.mxf' (RAW format).
- Metadata list area:** A table on the right showing metadata for the selected clip. The table has two columns: 'Start' and 'Duration' on the left, and 'Format FPS', 'Exposure Index', 'ISO Sensitivity', 'White Balance', and 'Creation Date' on the right.

Start	Duration	Format FPS	Exposure Index	ISO Sensitivity	White Balance	Creation Date
13:10:18:10	00:00:03:00	23.98p	800	800	5500	2012-04-05 12:25:23
00:21:48:19	00:00:00:01	23.98p	500	500	5500	2017-08-18 00:26:26
05:07:35:00	00:00:00:01	23.98p	1250	1250	3200	2013-08-02 13:47:37
06:15:46:46	00:00:00:10	59.94p	800	800	5500	2015-01-11 11:23:21

Tree Area

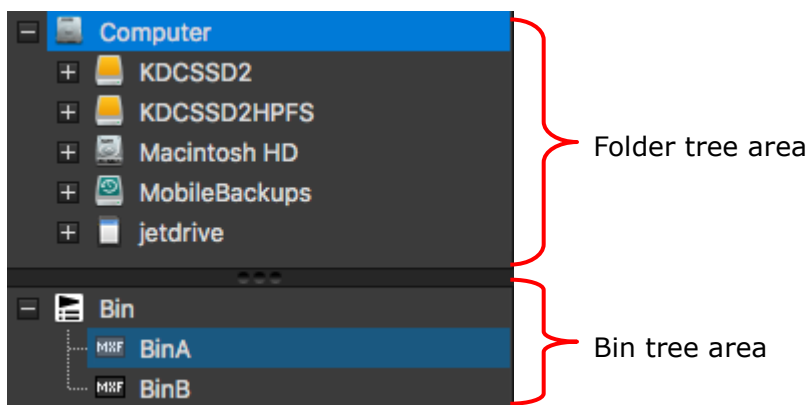
The tree area displays folders stored on the computer and the mounted drives in the folder tree area, and folders (bins) containing clip shortcuts in the bin tree area.

Folder tree area

Displays a tree structure of local folders and drives. If MXF files are stored in subfolders, the  icon (Windows) or  icon (Mac) is displayed on the folder. If there are MXF files in the subfolders of the selected folder, the respective subfolders will be displayed in gray. If there are MXF files located directly under the folder, the files will be displayed using the  icon.

Bin tree area

Displays bins for saving clip shortcuts. You can save shortcuts for multiple clips, located in folders or mounted drives, together in a bin and then perform batch operations on all the clips. You can add bins to Bin Manager, the top-level bin, which is displayed by default. Drag-and-drop clips from the clip list area to add the clips to the bins.



Folder tree area context menu

The following commands are available in the context menu for folders in the folder tree area.

- Update: Updates the display of the selected folder and its subfolders.
- Generate M01: Generates M01 files for the MXF files for the clips in the selected folder.
- Change Format FPS: Generates MXF files with changed frame rate (FPS) for the MXF clips in the selected folder.
- Generate PDF: Generates catalog files (PDF) for the clips in the selected folder.
- Generate CSV: Generates catalog files (CSV) for the clips in the selected folder.
- Generate MD5: Generates MD5 files for the MXF files for the clips in the selected folder.
- Check SRSum: Compares the SRSum files with the MXF files for the clips in the selected folder.
- Check MD5: Compares the MD5 files with the MXF files for the clips in the selected folder.
- Check SRSum & Generate MD5: Compares the SRSum files with the MXF files for the clips in the selected folder, and generates MD5 files.

- Add to EDL: Adds the clips in the selected folder to an EDL.
- Add to BIN: Adds the clips in the selected folder to a bin.

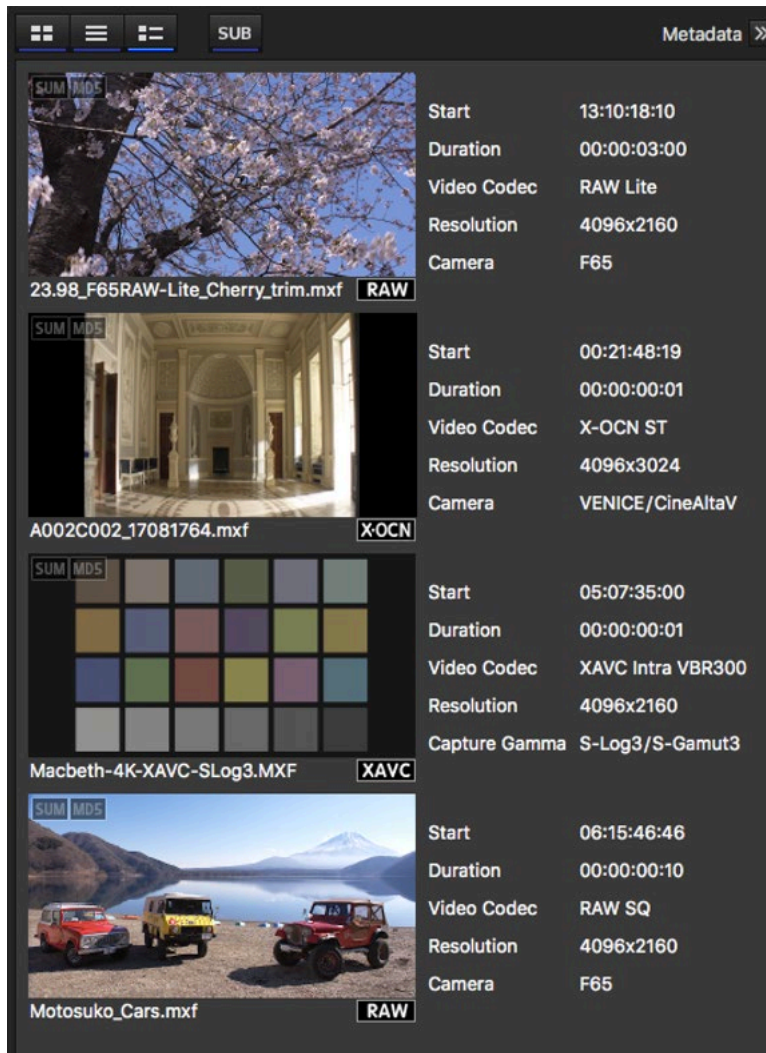
Bin tree area context menu

The following commands are available in the context menu for bins in the bin tree area.

- Update: Updates the display of the selected bin.
- New Bin: Creates a new bin.
- Rename Bin: Renames the selected bin.
- Delete Bin: Deletes the selected bin.
- Generate M01: Generates M01 files for the MXF files for the clips in the selected folder.
- Change Format FPS: Generates MXF files with changed frame rate (FPS) for the MXF clips in the selected bin.
- Generate MD5: Generates MD5 files for the MXF files for the clips in the selected folder.
- Check SRSum: Compares the SRSum files with the MXF files for the clips in the selected folder.
- Check MD5: Compares the MD5 files with the MXF files for the clips in the selected folder.
- Check SRSum & Generate MD5: Compares the SRSum files with the MXF files for the clips in the selected folder, and generates MD5 files.
- Add to EDL: Adds the clips in the selected folder to an EDL.

Clip List Area

The clip list area displays a list of clips stored in the folder, subfolder, or bin selected in the tree area.



You can select one of the following viewing modes.



Thumbnail view

Displays thumbnails of clips.



Text view

Displays names and properties of clips.



Thumbnail & text view

Displays thumbnails, names, and properties of clips.



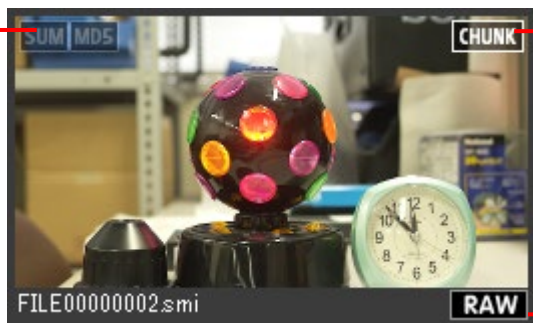
Show subfolders

When turned on, clips stored in subfolders are displayed. For a clip stored in a subfolder, the name of the subfolder is displayed together with the name of the clip.

Thumbnails

Icons that indicate the clip's status and attributes appear on the clip thumbnail.

SRSUM/MD5
icons



CHUNK icon

Format icon

SRSUM/MD5 icons

Indicates the check status of the SRSum file or MD5 file. The icons appear as follows depending on the status. The SRSUM icon is used as an example.

- : SRSum/MD5 files have been checked, and no warning occurred.
- : SRSum/MD5 files have been checked, and a warning occurred.
- : SRSum/MD5 files exist, but have not been checked.
- : SRSum/MD5 files do not exist.

CHUNK icon

This appears for a clip composed of multiple files due to chunk recording on the PMW-F55/PMW-F5. If a clip composed of multiple files is missing any files, the icon will be framed in a dotted line.

- : Chunk clip.
- : Chunk clip with missing files.

Format icon

Indicates the recording format of the file.

- : RAW file
- : RAW file
- : XAVC file
- : SStP file
- : ProRes file
- : DPX file
- : OpenEXR file

When a clip requires salvaging, its thumbnail will appear as follows. When you select such a clip and execute [Recover Clip] from its context menu, the clip will be salvaged.



Clip list area context menu

The following commands are available in the context menu for clips in the clip list area.

- Update: Updates the clip list to the current information.
- View: Changes the viewing mode of the clip list.
- Arrange Clips by: Changes the sort order of clips in the clip list.
- Generate M01: Generates an M01 file for the MXF file for the selected clip.
- Recover Clip: Salvages the selected clip.
- Change Format FPS: Generates MXF files with changed frame rate (FPS) for the selected MXF clips.
- Generate MD5: Generates an MD5 file for the MXF file for the selected clip.
- Check SRSum: Compares the SRSum file with the MXF file for the selected clip.
- Check MD5: Compares the MD5 file with the MXF file for the selected clip.
- Check SRSum & Generate MD5: Compares the SRSum files with the MXF files for clips in the selected bin, and generates MD5 files.
- Delete Clip in Bin: Deletes the selected clip shortcut.
- Add to EDL: Adds the clip to an EDL.
- Reveal: Opens the folder in which the clip is stored in Explorer (Windows) or Finder (Mac).

Metadata List Area

The metadata list area displays metadata for the clips selected in the clip list area.

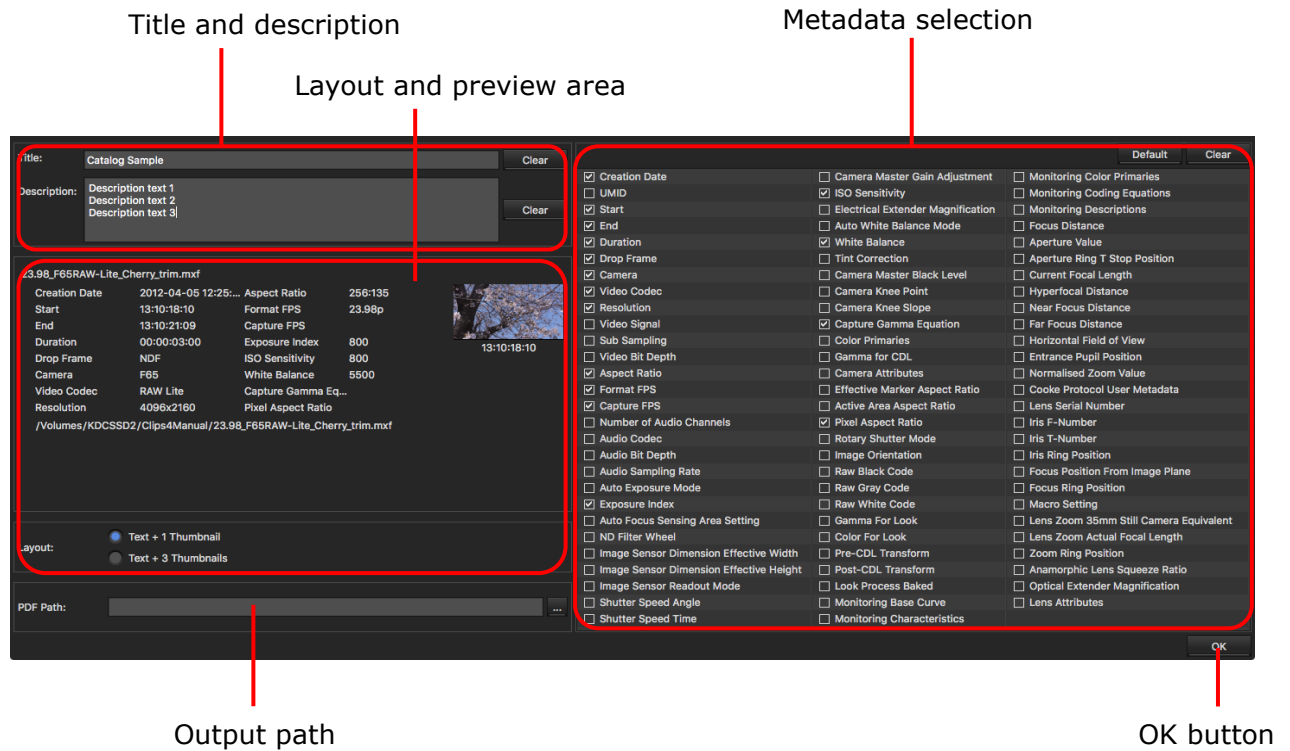
The [Value (MXF)] column displays metadata stored in the MXF file.

The [Value (M01)] column displays metadata stored in the M01.XML file associated with the MXF file. Metadata values in the [Value (M01)] column that begin with an asterisk (*) can be modified.

Name	Value (MXF)	Value (M01)
Creation Date	2012-04-05 12:24:45	2012-04-05 12:24:45
Last Update		2013-12-05 17:18:40
UMID	060A2B34010101050...	060A2B34010101050101...
Start	04:36:06:23	04:36:06:23
End	04:36:09:22	04:36:09:22
Duration	00:00:03:00	00:00:03:00
Poster Frame		
Drop Frame	NDF	NDF
Video Codec	F65RAW SQ	F65RAW SQ
Resolution	4096x2160	4096x2160
Aspect Ratio	256:135	256:135
Format FPS	23.98p	23.98p
Capture FPS		23.98p
Pixel Aspect		1:1
Flip		
Number of A...	16	16
Audio Codec	LPCM	LPCM
Audio Bit De...	24	24
Audio Sampli...	48000	48000
Exposure Ind...	800	800
ND Filter Wh...		
Image Sens...		
Shutter Spe...		
ISO Sensitivity	800	800
White Balance	5500	5500
Capture Ga...		
Gamma for ...	SceneLinear	SceneLinear
Camera Attri...	F65 10034	F65 10034
Effective Mar...	4096:2160	4096:2160
Rotary Shutt...	ON	ON
Raw Black C...	512	512
Raw Grav Co...	1504	1504

Catalog PDF Settings

You can generate a list of the clips in the specified directory and save the list as a PDF file. Selecting [Generate PDF] in the context menu of the folder tree area will display a screen for setting the content to generate as PDF.



Title and description

The configured title and description text are output in the PDF file as follows.

Page:1

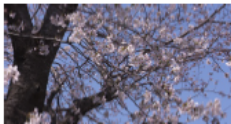
Catalog Sample

Description text 1
Description text 2
Description text 2

/Volumes/KDCSSD2/Clips4Manual/


Generated by RAW Viewer Version 3.2.0.10110 QA1 November/30/2018 14:43:05

23.98_F65RAW-Lite_Cherry_trim.mxf

Creation Date	2012-04-05 12:25:23	Aspect Ratio	256:135	
Start	13:10:18:10	Format FPS	23.98p	
End	13:10:21:09	Capture FPS		
Duration	00:00:03:00	Exposure Index	800	
Drop Frame	NDF	ISO Sensitivity	800	
Camera	F65	White Balance	5500	
Video Codec	RAW Lite	Capture Gamma Equation		
Resolution	4096x2160	Pixel Aspect Ratio		

/Volumes/KDCSSD2/Clips4Manual/23.98_F65RAW-Lite_Cherry_trim.mxf

A002C002_17081764.mxf

Creation Date	2017-08-18 00:26:26	Aspect Ratio	512:189	
Start	00:21:48:19	Format FPS	23.98p	

Metadata selection

Select the metadata for the clips to be output using the checkboxes. The maximum number of metadata items that can be output will vary depending on the output layout.

When [Text + 1 Thumbnail] is selected in the layout settings, the maximum number is 16. When [Text + 3 Thumbnails] is selected, the maximum number is 8. Check the output metadata items in the preview area.

Layout and preview area


Select a layout in [Layout] to display the PDF output layout and output metadata in the preview area. You can select the following layouts.

Text + 1 Thumbnail: Displays two columns of metadata with one thumbnail (Start point).

Text + 3 Thumbnails: Displays one column of metadata with three thumbnails (Start point, mid point, End point).

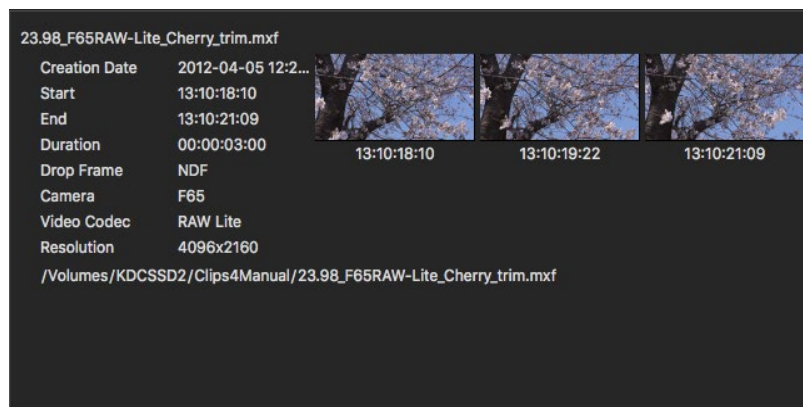
Text + 1 Thumbnail

23.98_F65RAW-Lite_Cherry_trim.mxf

Creation Date	2012-04-05 12:25:...	Aspect Ratio	256:135	
Start	13:10:18:10	Format FPS	23.98p	
End	13:10:21:09	Capture FPS		
Duration	00:00:03:00	Exposure Index	800	
Drop Frame	NDF	ISO Sensitivity	800	
Camera	F65	White Balance	5500	
Video Codec	RAW Lite	Capture Gamma Eq...		
Resolution	4096x2160	Pixel Aspect Ratio		

/Volumes/KDCSSD2/Clips4Manual/23.98_F65RAW-Lite_Cherry_trim.mxf

Text + 3 Thumbnails



Output path

Specifies the output path and file name of the PDF file.

OK button

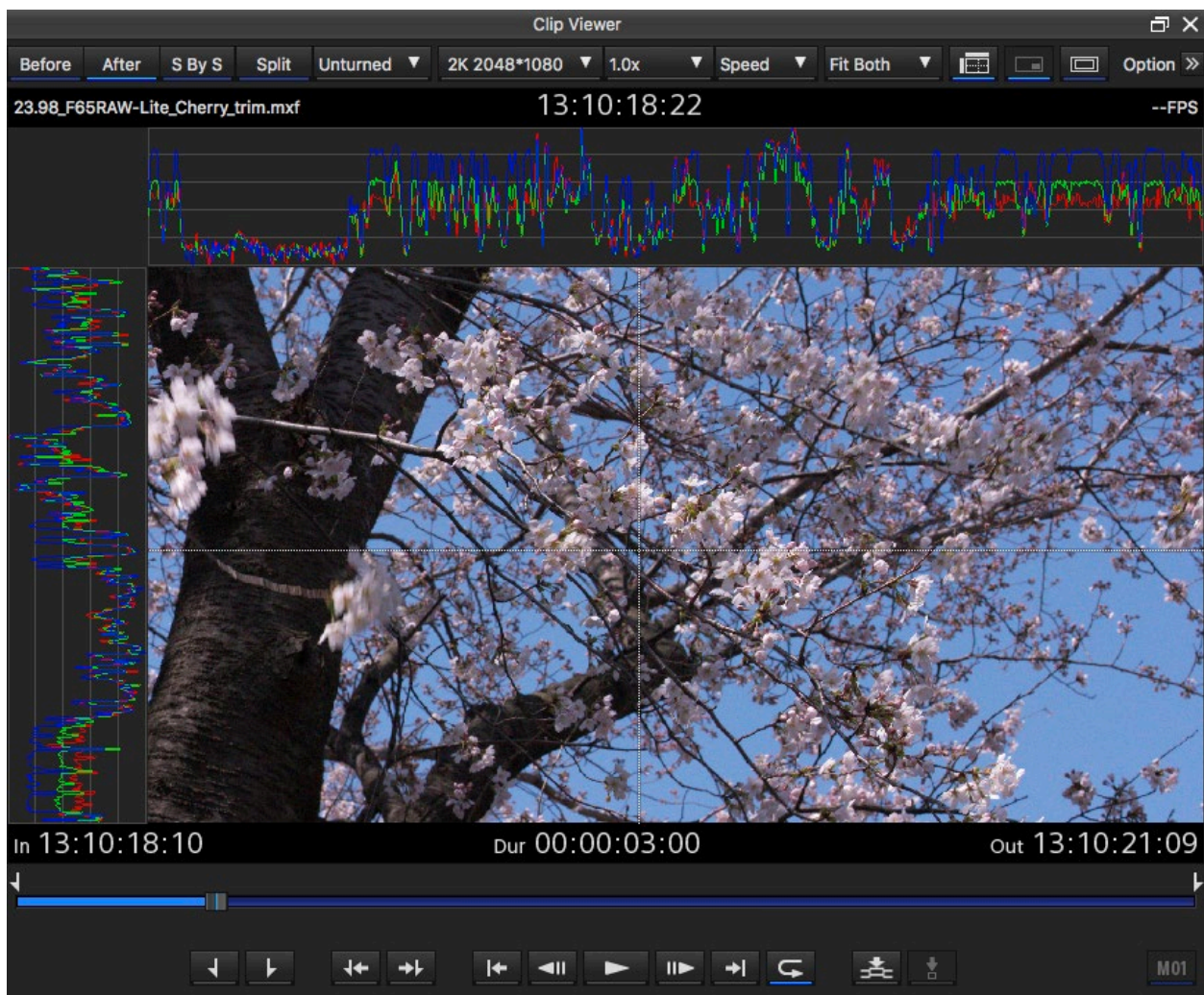
Outputs a PDF file containing the specified content.

Clip Viewer

The Clip Viewer window allows you to playback clips. When you double-click a clip in the clip list area of the Clip Browser window, the clip is displayed in the Clip Viewer window.

You can also specify vertical and horizontal lines on the screen and display their RGB levels as waveforms.

Double-click the screen to switch to full-screen mode. Double-clicking again returns the screen to normal display.



If there are invalid frames in a clip, those frames will be displayed as white images.

Selecting the Display Method

Click the following buttons to select the method in which clips are displayed.

- Before button (shortcut key "b")

Clips are played back with only the Grading Color Space, Color, Tone Curve, and Viewer Settings parameters of the Parameter Setting window applied.

- After button (shortcut key "a")
Clips are played back with the parameters of the Parameter Setting window applied.
- S By S button (shortcut key "c" toggles with Split mode)
Before and After versions of clips are shown side by side.
- Split button (shortcut key "c" toggles with S By S mode)
A split view of the Before and After versions of clips is shown.
The position of the split can be adjusted using a mouse.



Note: When [Monitor Out Device] is selected, the [S By S] and [Split] buttons cannot be selected.

Flip Setting

Unturned ▼

Flips the image display vertically or horizontally.

- Unturned: Displays the image without flipping.
- Flip H: Flips the left and right of the image.
- Flip V: Flips the top and bottom of the image.
- Flip HV: Flips the top, bottom, left, and right of the image.

Resolution Setting

Full 4096*3024 ▼

Selects the playback resolution. The selectable resolutions will differ depending on the video format.

- Full www*hhhh
- 1/2 www*hhhh
- 1/4 www*hhhh
- 1/8 www*hhhh

Creates an image with the specified resolution (above) while maintaining the aspect ratio of the original material. The "www*hhhh" values vary depending on the resolution of the material to display.

"FULL" enables pixel-by-pixel checking, and is suitable for checking image quality. "1/2", "1/4", and "1/8" can be selected for RAW and X-OCN files only. You can increase the playback speed on computers with low performance by reducing the resolution to "1/2", "1/4", or "1/8".

The size of the image displayed on a monitor is determined by this setting and the zoom setting.

- 8K 8192*4320
- 8KUHD 7680*4320
- 4K 4096*2160
- UHD 3840*2160
- 2K 2048*1080
- HD 1920*1080

Images are created at an appropriate resolution and then scaled to the specified resolution. For details about scaling, see “Scaling and Marker Settings” (page 26).

When [Monitor Out Device] is selected, images are displayed scaled to the resolution of the selected format.

De-squeeze Display Setting



Selects the factor for de-squeeze display. 1.0x, 1.25x, 1.3x, 1.5x, 1.65x, 1.8x, or 2.0x can be selected.

Quality Setting



Selects the playback quality. You can specify whether to prioritize [Quality] (image quality) or [Speed] (processing speed).

When the format is XAVC or SStP, this item does not appear.

When the format is RAW, [Quality] may not be selectable depending on the resolution.

Zoom Setting



Selects the size at which the video is displayed. The aspect ratio is always fixed.

- Fit Both: Automatically scale to fit inside the Clip Viewer window.
- Fit Width: Automatically scale to fit the width of the Clip Viewer window.
- Fit Height: Automatically scale to fit the height of the Clip Viewer window.
- 25%: Reduce to 25%.
- 50%: Reduce to 50%.
- 75%: Reduce to 75%.
- 100%: No scaling (pixel for pixel).
- 125%: Enlarge to 125%.
- 150%: Enlarge to 150%.
- 200%: Enlarge to 200%.
- 400%: Enlarge to 400%.
- 800%: Enlarge to 800%.

Waveform Display Setting



Displays/hides the waveforms.

When the button is enabled, a vertical dotted line and a horizontal dotted line appear on the clip, and waveforms that indicate the RGB levels on those lines appear above and to the left of the clip.

Clicking the button again hides the waveforms.

The dotted lines can be dragged using a mouse. Dragging the point where the vertical and horizontal lines intersect allows you to move both lines simultaneously.

The waveforms have an 8-bit display precision.

If the [S By S] or [Split] button is selected, you cannot display the waveforms.

Navigator Setting



Displays/hides the navigator. If the navigator display is enabled, it will automatically appear if the image is scaled such that it is too large to fit in the Clip Viewer window (i.e. larger than would result from a zoom setting of [Fit Both]).

- When the image does not fit in the Clip Viewer window, you can move the area shown.
- The area shown can be changed by dragging the blue frame in the navigator.
- The area shown can also be changed by dragging the image in the Clip Viewer window directly.

Marker Display Setting



Displays/hides the markers, when [Aspect Marker] or [Area Marker] are set to [ON] in the Option area. For details about displaying markers, see "Scaling and Marker Settings" (page 26).

Scaling and Marker Settings

Sets the scaling when standard resolution is selected in the Resolution setting, and sets the display method for marker display.

Click the  button to configure settings in the Option area.

Option area

Scaling

Selects the scaling method for standard resolutions.

- Entire Image Fit: Scales the material up/down so that the full area is contained within the output image. Margins are filled with black.
- Crop and Fit: Crops the material to the specified aspect ratio or the aspect ratio for output, and then scales the image up/down for the output resolution.

Aspect Mode

Selects the aspect ratio for aspect marker display and when the image is cropped. When [OFF] is selected, the aspect ratio is set by the output resolution.

- Aspect Mode: OFF



Scaling: Entire Image Fit

Scaling: Crop and Fit

- Aspect Mode: 2.39:1



Scaling: Entire Image Fit

Scaling: Crop and Fit

Aspect Marker

Displays/hides the aspect marker.

Line Thickness

Specifies the width of lines used to draw the aspect marker.

Line Intensity

Selects the brightness used to draw the aspect marker.

Aspect Mask

Selects the mask mode (processing method) for the part of the image outside the aspect marker.

- Half: Opacity of the mask is 50%.
- Black: Opacity of the mask is 100%.



Note: The [Aspect Mode], [Line Thickness], [Line Intensity], and [Aspect Mask] settings are also applied if drawing the aspect marker when exporting.

Area Marker

Displays/hides the area marker.

Area Size

Specifies the size of the area marker. Markers are displayed at the specified percentage, relative to the aspect marker.

Time Codes

The following time codes appear in the Clip Viewer window. You can select time code display or frame number display from the context menu. You can also click a time code and enter a value directly.

- Current Time
Shows the time code of the clip's current frame.
You can jump to a particular time code by entering the time code.






- **In Point Time**
Shows the time code of the clip's In point.
You can set the In point at a particular time code by entering the time code.
- **Out Point Time**
Shows the time code of the clip's Out point.
You can set the Out point at a particular time code by entering the time code.
- **Duration Time**
Shows the duration time code.
You can set the duration by entering a time code.

FPS Display

Displays the FPS value during playback.

Position Bar

Indicates the current playback position, the In/Out points, etc. relative to the start and end of a clip.

- : Indicates the playback position. You can scrub to change the display position.
- : Indicates In point positions.
- : Indicates Out point positions.
- : Indicates the separation between files in a chunk clip.
- : Indicates thumbnail positions if there is an M01 file.

Control Buttons

These buttons control clip playback.



Mark In (shortcut key "i")

Sets the In point to the current position.



Mark Out (shortcut key "o")

Sets the Out point to the current position.



Go to Mark In (shortcut key Shift+"i")

Jumps to the In point.



Go to Mark Out (shortcut key Shift+"o")

Jumps to the Out point.



Go to Start / Previous Clip (shortcut key "↑")

Jumps to the start of the clip. When playing an EDL, this jumps to the start of the previous clip.



Step Backward (shortcut key "←")

Steps backward one frame per click.

If this button is clicked while the Shift key is held down, the position steps backward one second per click.



Play / Still (shortcut key SPACE)

Plays the clip, or pauses playback.



Step Forward (shortcut key "→")

Steps forward one frame per click.

If this button is clicked while the Shift key is held down, the position steps forward one second per click.



Go to End / Next Clip (shortcut key "↓")

Jumps to the end of the clip. When playing an EDL, this jumps to the start of the next clip.



Loop Play

Enables/disables loop playback mode. In loop playback mode, the clip will loop back to the start repeatedly.



Insert in EDL (shortcut key ",")

Adds the clip to an EDL.

Poster Frame



Uses a still image of the timeline position as the clip's thumbnail.

This cannot be selected if there is no M01 file or if an EDL file was imported.

Overwrite M01.XML File



Selects whether to overwrite the M01.XML file. In overwrite mode, In/Out points, flip settings, de-squeeze display setting, and other settings are saved to the M01.XML file. The next time it is loaded in M01 mode in the Clip Viewer window, the values saved to the M01.XML files will

be used as the default values.

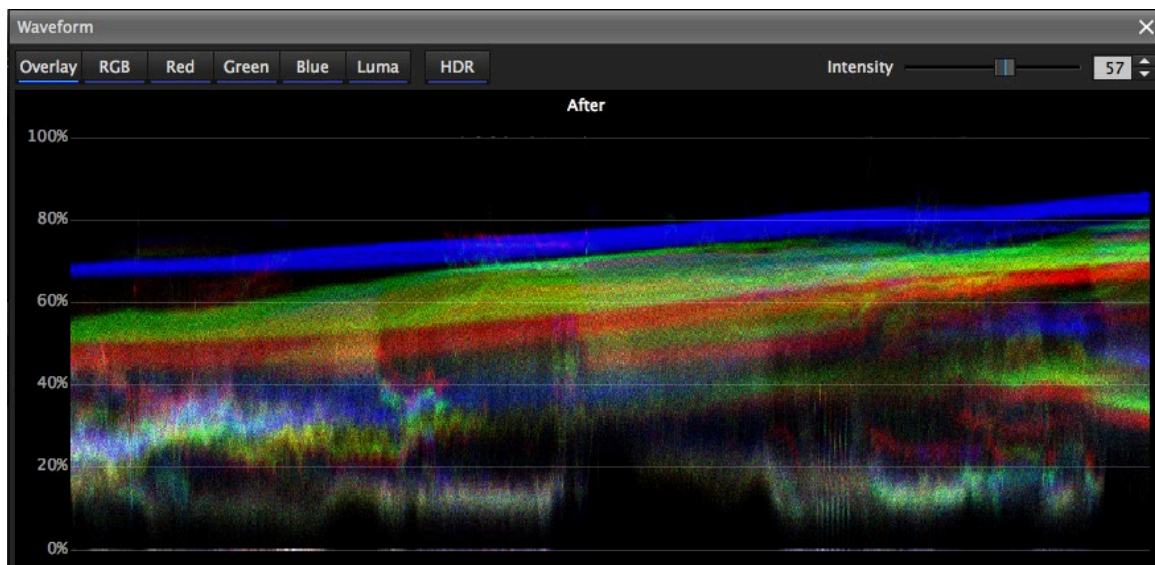
This cannot be selected if there is no M01 file or if an EDL file was imported.

Waveform

If a check mark is placed next to [Waveform] in the [Window] menu, a waveform monitor for the video displayed in the Clip Viewer window appears.

When the [Before] button or [After] button is selected in the Clip Viewer window, the waveform monitor of the displayed video appears. When the [S By S] button or [Split] button is selected, waveform monitors for both the “before” and “after” videos appear.

The waveform monitors have an 8-bit display precision.



Overlay button

Displays the red, green, and blue waveforms overlapping each other.

RGB button

Displays the red, green, and blue waveforms side by side from left to right.

Red button

Displays only the red waveform.

Green button

Displays only the green waveform.

Blue button

Displays only the blue waveform.

Luma button

Displays a waveform of the luminance level.

HDR button

If [Rec2020/S-Log3] is selected in [Grading Color Space], the luminance level scale changes to HDR output luminance level.

Intensity

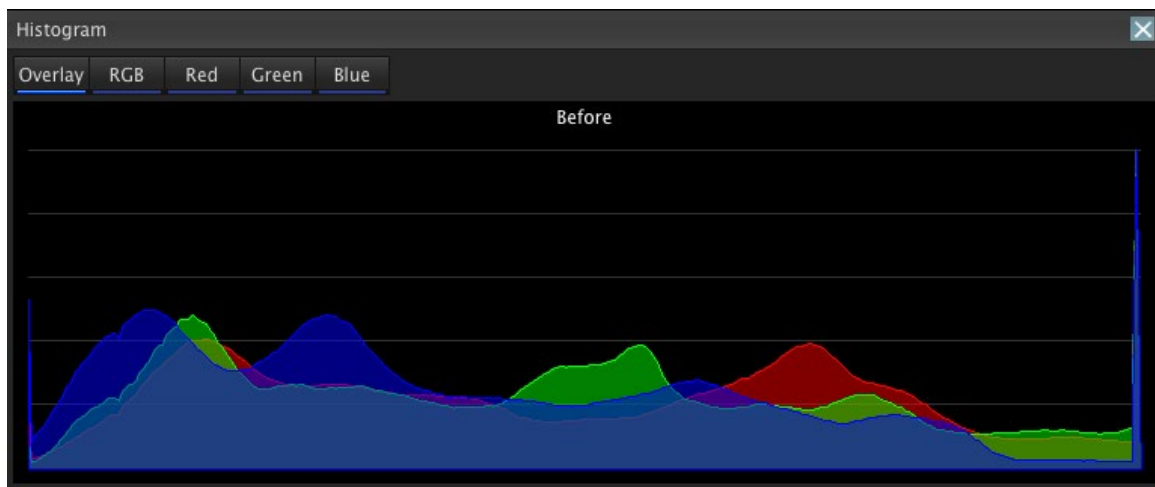
Adjusts the brightness of the waveform monitor.

Histogram

If a check mark is placed next to [Histogram] in the [Window] menu, histograms for the video displayed in the Clip Viewer window appear.

When the [Before] button or [After] button is selected in the Clip Viewer window, the histogram for the displayed video appears. When the [S By S] button or [Split] button is selected, histograms for both the “before” and “after” videos appear.

The histograms have an 8-bit display precision.



Overlay button

Displays the red, green, and blue histograms overlapping each other.

RGB button

Displays the red, green, and blue histograms side by side from left to right.

Red button

Displays only the red histogram.

Green button

Displays only the green histogram.

Blue button

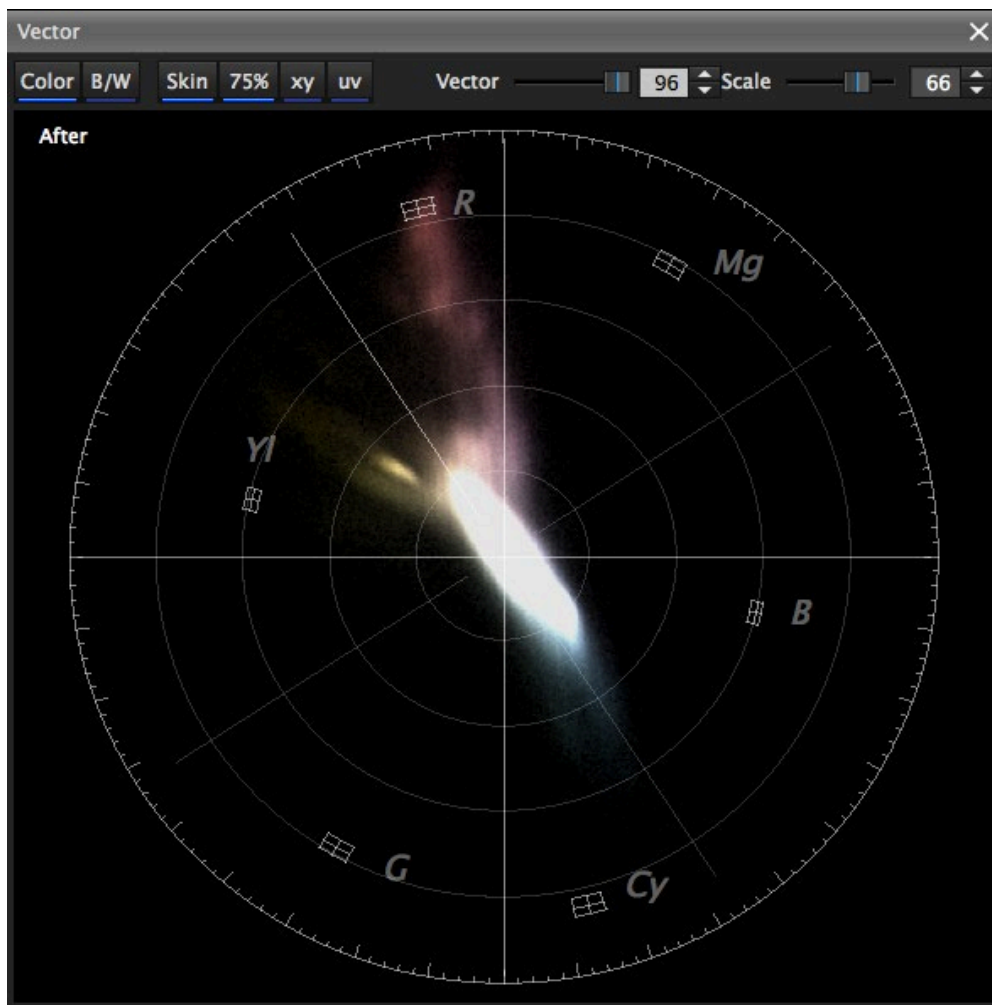
Displays only the blue histogram.

Vector

If a check mark is placed next to [Vector] in the [Window] menu, a vectorscope of the video displayed in the Clip Viewer window appears.

When the [Before] button or [After] button is selected in the Clip Viewer window, the vectorscope for the displayed video appears. When the [S By S] button or [Split] button is selected, a vectorscope for both the “before” and “after” videos appears.

The vectorscope has an 8-bit display precision.



Color button

Displays the plot in color.

B/W button

Displays the plot in black and white.

Skin button

Displays the skin tone indicator.

75% button

Displays the plot enlarged.

xy button

Displays the plot using xy coordinates.

uv button

Displays the plot using u'v' coordinates.

Vector

Adjusts the brightness of the plot.

Scale

Changes the brightness of the scale.

Parameter Setting

RAW Workflow

RAW files and X-OCN files store the output from Sony cinema cameras, such as the F65 and F55, preserving their wide latitude and color gamut.

RAW/X-OCN recording format

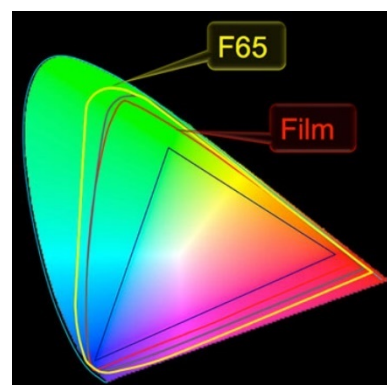
16-bit scene linear (Approx. 1300% latitude)

S-Gamut3 RGB chromaticity diagram

(same for S-Gamut)

Item	CIE x	CIE y
Red	0.730	0.280
Green	0.140	0.855
Blue	0.100	-0.050

Reference White CIE-D65 (0.3127, 0.329)



RAW Viewer supports the following workflows for the development and conversion of RAW files and X-OCN files without loss of its richness for integration with post-production color grading processes. With the different view modes, the Clip Viewer window can be used not only for viewing clips, but also for checking the original state of the RAW data or the expected color grading result with ASC-CDL and Monitor LUT applied at each stage in the pipeline.

Video Workflow

Workflow in which grading is performed in a 709 color space. Select the base color and tone in the Input Settings, and perform general adjustments using the tone curve editor or ASC-CDL.

S-Log Workflow

Pipeline ideal for existing cinematic grading workflows. In the Input Settings, perform S-Log2 or S-Log3 workspace conversion, and perform color adjustments using ASC-CDL or the tone curve editor. At this time, you can also use Monitor LUT to perform Log→Video conversion on the output. You can use a Sony Look Profile or a user 3D LUT in the Monitor LUT. In addition, you can select S-Gamut3.Cine as the grading color space for easy P3 and Rec709 grading.

S-Gamut3.Cine RGB chromaticity diagram points

Item	CIE x	CIE y
Red	0.766	0.275
Green	0.202	0.872
Blue	0.089	−0.087

Reference White CIE-D65 (0.3127, 0.329)

HDR Workflow

Selecting Rec2020/S-Log3 for the grading color space enables you to perform HDR grading based on S-Log3. However, it is recommended that an HDR-compatible master monitor (such as the BVM-HX310) be used, via an external monitor device, because the correct HDR display cannot be reproduced on a computer monitor screen.

In this case, BT.2100 viewing and file creation is possible because the HDR format conversion function can be used as the viewing setting.

ACES Workflow

ACES (Academy Color Encoding System) is a workflow proposed by the Academy of Motion Picture Arts and Sciences (AMPAS). You can perform the following based on ACES 1.2 in RAW Viewer.

- Converting camera content to ACES color space and exporting to ACES Container (OpenEXR)
- Color grading in ACES working space
- Monitoring and file output using ACES viewing pipeline

&delete;

Workspace Conversion

Provides a way to perform processing and workspace conversion that is independent from the above color processes, and to transfer to grading tools. You can select the following in [Bake] of Export Control.

S-Gamut3.Cine / S-Log3

Use in workflow with S-Log3 DPX. This allows operations that are highly compatible with past CineonLog workflows. This is also ideal when using 10-bit DPX.

S-Gamut / S-Log2

Use in workflow with S-Log2 DPX. This is also ideal when using 10-bit DPX.

S-Gamut3 / S-Log3

S-Gamut3 / Linear

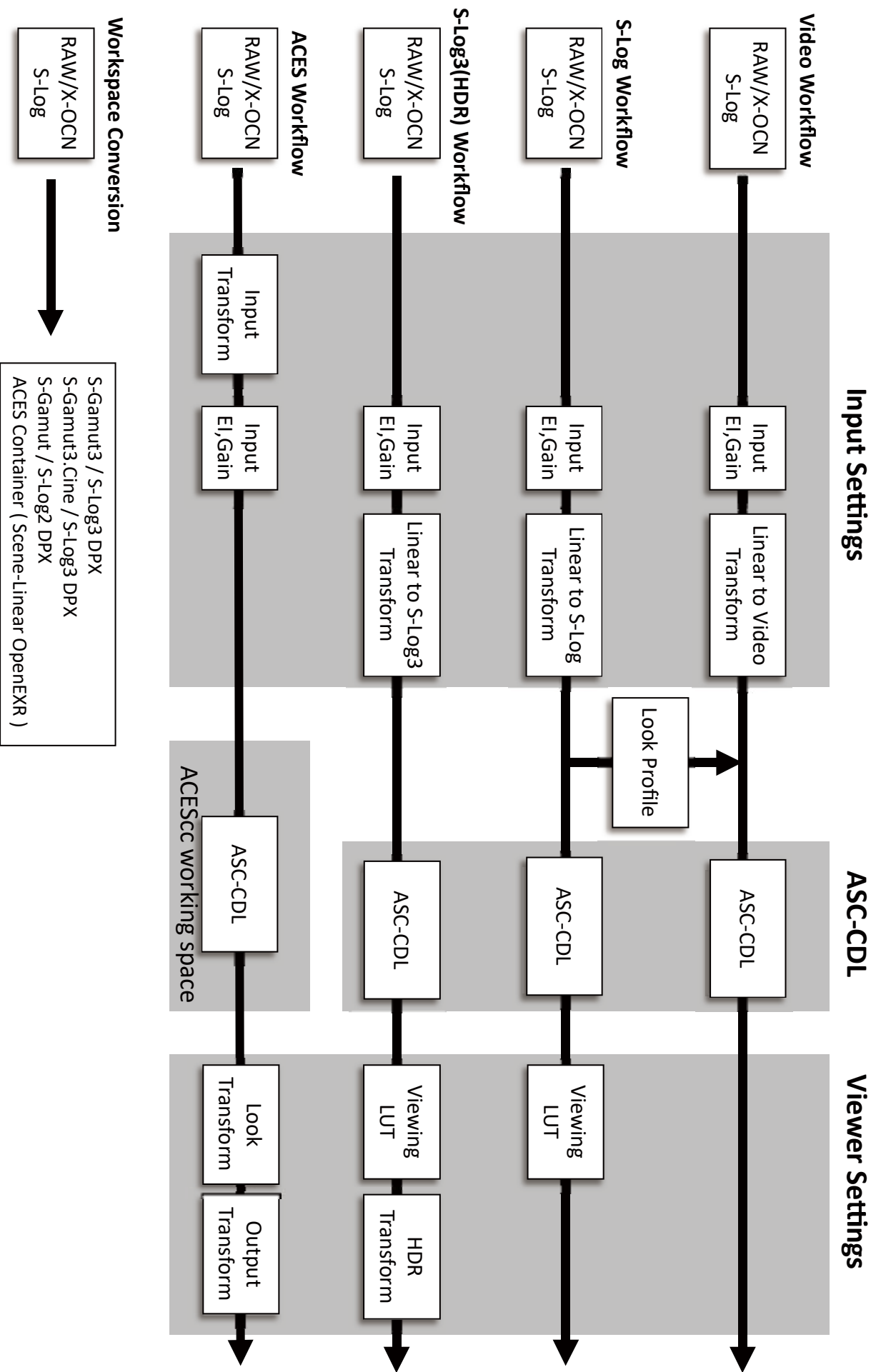
This conversion process is intended to maintain maximum faithfulness to the camera's precision recording. S-Log3 is ideal when using 10-bit DPX, while Linear is ideal when using 16-bit DPX.

RAW and S-Log2/S-Log3 code values

Chart reflectance	Video level [IRE]	Raw code value (16-bit)	S-Log2 code value (10-bit)	S-Log3 code value (10-bit)
0%	0%	512	90	95
18%	20%	1504	347	420
90%	100%	5472	582	598
1180%	1311%	65535	997	889

ACES

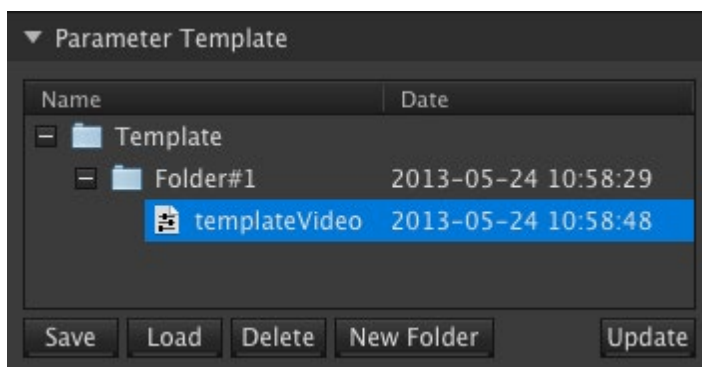
Media conversion for grading tools that support ACES. This supports conversion of camera content to ACES Container (OpenEXR).





Note: When you reselect a clip in the Clip Browser window, all parameter settings described in the following section will retain their current values. Values adjusted using the metadata of an MXF file as a base are retained for the Exposure and Kelvin parameters.

Parameter Template



You can save and then load templates based on a desired set of user preferences.

Clicking the [Save] button saves the settings that are valid at that point as a template. To load a saved template, select the template and then click the [Load] button. You can also create folders in which to save templates.

- Save button: Saves the current settings as a template in the selected folder.
- Load button: Loads the settings from the selected template.
- Delete button: Deletes the selected template or folder.
- New Folder button: Creates a new folder for storing templates.
- Update button: Updates the display in the Parameter Template area.

Parameter Control

All Reset button

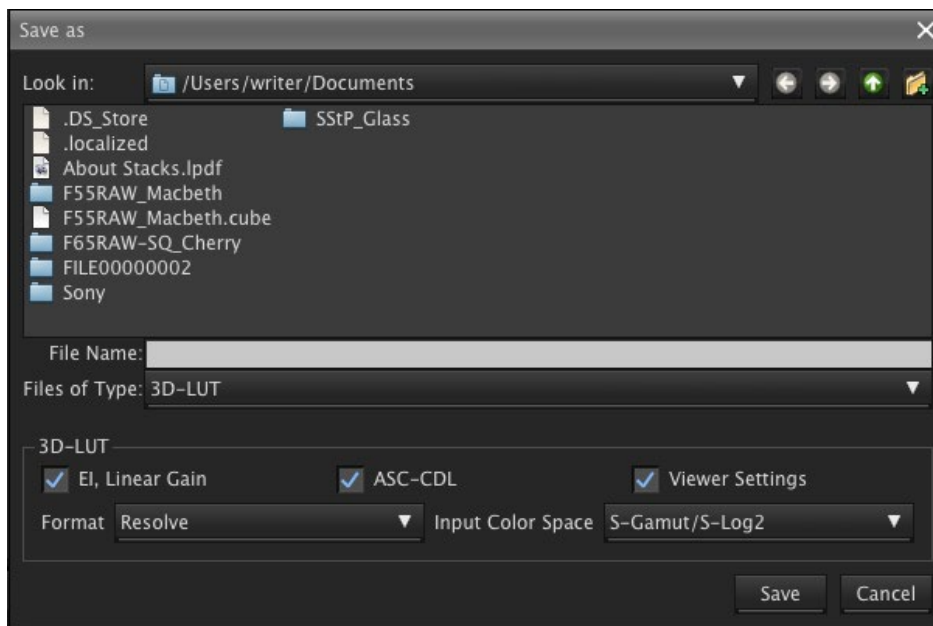
Resets all [Input Settings], [Linear Gain], tone curve editor, and ASC-CDL adjustment values.

Save as button

Saves the configured parameters to one of the following file formats.

- 3D-LUT
- ASC-CDL
- Camera LUT

When you click [Save as], a dialog box for specifying the file format and file name appears.



Select the file type for the saved file in [File of Type]. The items that can be configured differ depending on the file format.

3D-LUT

Select whether to include the setting values for the following items in the 3DLUT data.

- EI, Linear Gain (values for [Exposure Index] and [Linear Gain] of the Input Settings menu)
- ASC CDL (values for the ASC-CDL menu)
- Viewer Settings (values for the Viewer Settings menu)

Specify [Resolve] or [HDlink] as the 3DLUT format in [Format]. Files will be saved with the .cube extension for [Resolve] and .3dl for [HDlink]. In addition, select the color space of the input file for the 3DLUT generated in [Input Color Space].

The setting values for the [Color] and [Tone Curve] are always included in the 3DLUT data.

ASC-CDL

Encode all the parameters in the ASC-CDL menu of Parameter Control to ASC-CDL, and export them as a color decision list (*.cdl).

No setting items.



Note: When loading ASC-CDL files into an MPC-3610 (VENICE/CineAltaV), only files with the following CDL setting ranges can be loaded.

ASC-CDL setting ranges for loading into VENICE/CineAltaV

Slope: 0.000 to 3.999

Offset: -1.000 to 1.000

Power: 0.400 to 4.000

Saturation: 0.000 to 3.999

Camera LUT

Outputs Monitor LUT that is supported on the F65 or PMW-F55/PMW-F5.

Save the adjustment results of the tone curve editor found in the Input Settings. When [Look Profile] is set to a value other than [NoLUT] in the Input Settings, the camera LUT cannot be saved.

You can configure the following settings.

- Model: Selects the camera. You can select [F65] or [F55/F5].
- Media: Selects the media to which to save the file. When [Model] is [F65], you can select [MS] ("Memory Stick") or [SD] (SD memory card). When [Model] is [F55/F5], you can only select [SD].

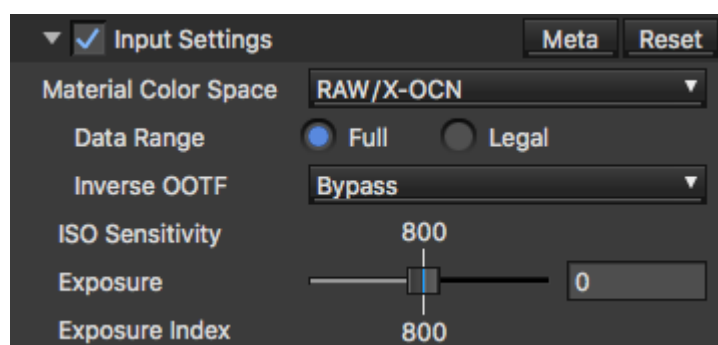
When you click the [Save] button, the file is saved to the following folder.

- For F65: MSSONY\PRO\CAMERA\F65 ("Memory Stick") or PRIVATE\SONY\PRO\CAMERA\F65 (SD memory card)
- For F55/F5: PRIVATE\SONY\PRO\CAMERA\PMWF55_F5 (SD memory card)

If the folder does not already exist on the specified media, it will be created automatically.

For user gamma creation and file output, use Gamma Editor.

Input Settings



The Exposure Index displays the EI value that was set at the time of shooting. If the EI value differs from the standard ISO sensitivity for shooting, push or pull processing is automatically applied. If you move the [Exposure] slider back to the ISO sensitivity of the time of shooting, you can view the content in its original recorded condition, without the application of push and pull processing.

The [ISO Sensitivity], [Exposure], and [Exposure Index] values vary in tandem.

Checkbox

Enables the specified value for each parameter when selected, or uses the default value when cleared.

Meta button

Returns settings to MXF file metadata values.

Reset button

Resets settings to default values.

Material Color Space

Indicates the color space of the displayed file.

When a file that is recorded with metadata other than S-Log metadata is displayed in Clip Viewer, you can specify the color space of the material.

When a file is not displayed in the Clip Viewer, you can select the color space of the file to be exported.

Data Range

Selects the data range of material when displaying files other than S-Log files. For 10-bit files, the standard range is 0 to 1023 when Full is specified and 64 to 940 when Legal is specified.

Inverse OOTF

Selects the OOTF used for color space conversion when HDR is specified for Material Color Space.

ISO Sensitivity

Indicates the ISO sensitivity of a camera, written into an MXF file.

Exposure

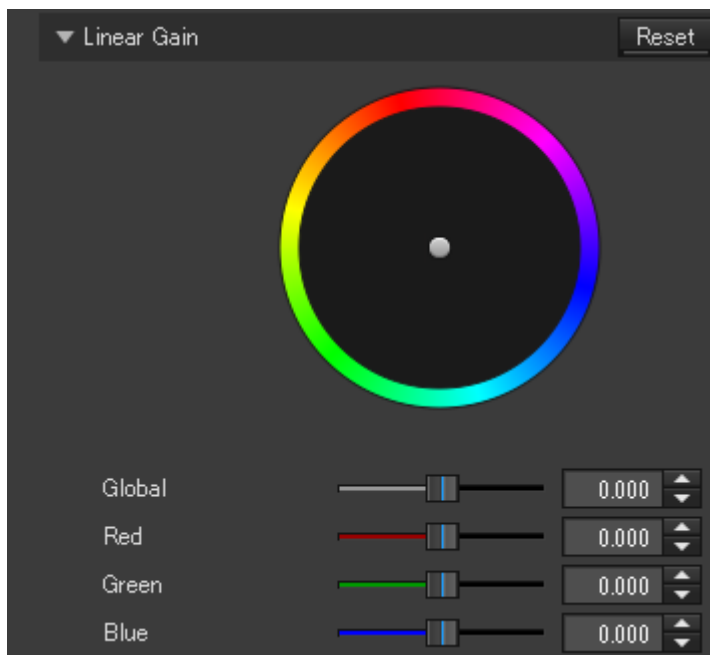
Adjusts brightness based on the original EI of the recording. The selectable brightness values are as follows (ISO Index).

(80, 100, 125, 160, 200, 250, 320, 400, 500, 640, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000, 5000, 6400, 8000, 10000, 12800, 16000, 25600, 32000)

Exposure Index

Indicates Exposure Index value of an MXF file. This shows the camera Sensitivity (EI value) setting used when the media recorded.

Linear Gain



Adjust the RGB of the gain using the color circle. When you perform adjustments, the red, green, and blue sliders will change accordingly.

This parameter is the gain of the Scene-Linear area immediately after image processing and before tone mapping is performed for Log and Video. It is equivalent to Printer Light of DI process. Use this for general color balance adjustments.

Reset button

Resets the [Linear Gain] adjustment value to default values.

Global

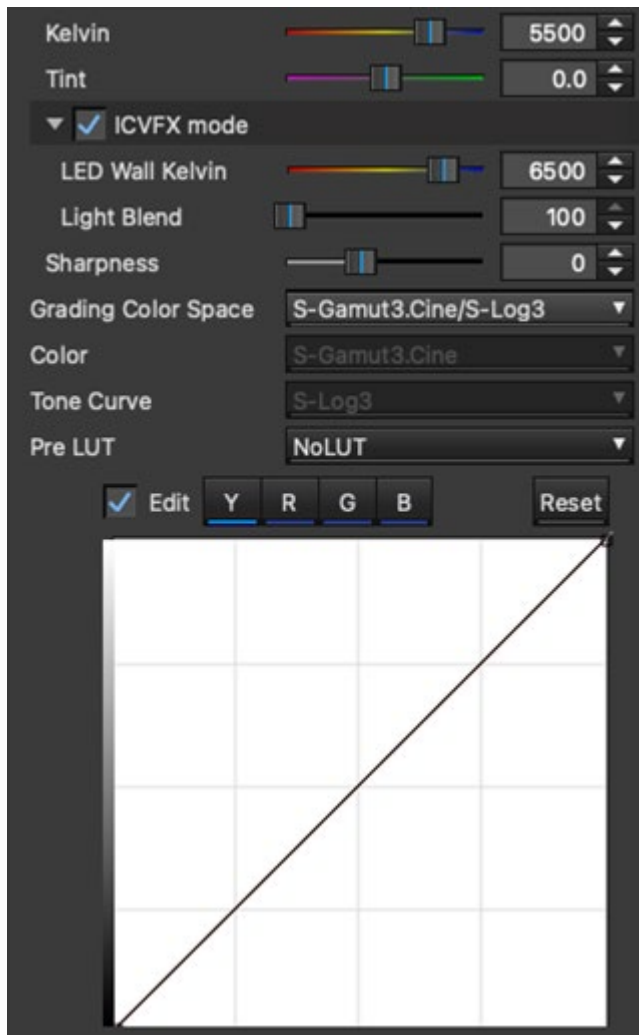
Allows you to perform total adjustments while maintaining RGB value relationships.

The range is from -2.000 to 2.000 , and the default is 0.000 .

Red, Green, Blue

Adjusts the RGB gain.

The range is from -2.000 to 2.000 , and the default is 0.000 .



Kelvin

Adjusts the color temperatures. This modifies red and blue gain based on a black-body radiation curve. The default value is the color temperature setting configured on the camera.

The range is 2000 to 15000.

Tint

Adjusts the color balance. Adjust the color to the normal direction of the black-body radiation curve. This complements the color temperature adjustment in Kelvin.

The range is from –100.0 to 100.0, and the default is 0.0.

ICVFX Mode

During in-camera VFX shooting in a virtual production workflow, the LED wall lighting in the background is mixed with the normal lighting for people in the foreground. You can set the color temperature of the LED wall and mixing ratio of each lighting type to make color adjustments, for example, to improve the color of skin tones.

Checkbox

Enables/disables color adjustment in ICVFX mode.

Available for selection only when opening RAW or X-OCN images shot with a camera that supports this function.

In this version, VENCE and VENICE 2 cameras are supported.

LED Wall Kelvin

Specifies the color temperature of the background LED wall lighting.

Light Blend

Specifies the mixing ratio of the normal lighting and LED wall lighting.

When 100 is specified, normal lighting only (equivalent to ICVFX mode disabled). When 0 is specified, LED wall lighting only.

Sharpness

Adjusts the resolution of RAW/X-OCN images. May not be available depending on the camera model and development settings.

The range is from –300 to 500, and the default is 0.

Grading Color Space

Selects the color space for grading. If a color space different from Material Color Space is specified, color space conversion is performed.

Select Rec2020/S-Log3 when performing HDR grading. This enables the HDR EOTF conversion function in Viewer Settings.

Select ACEScc when using the ACES workflow. In this case, the appropriate Input Transform for conversion from camera data to ACES color space is applied according to the MXF metadata.

- S-Gamut/S-Log2
- S-Gamut3/S-Log3
- S-Gamut3.Cine/S-Log3
- Rec2020/S-Log3
- ACEScc
- Custom

Color

When [Custom] is selected for [Grading Color Space], this selects the color gamut.

Tone Curve

When [Custom] is selected for [Grading Color Space], this selects the tone curve. The user imported 1D LUT will also appear.

Pre LUT

When [S-Gamut/S-Log2] or [S-Gamut3.Cine/S-Log3] is selected for [Grading Color Space], this selects the LUT.

If a 3D LUT was saved in MXF when shooting, you can display the image with the saved 3DLUT applied by selecting Embedded3DLUT.

Tone curve editor

Edits the tone curve.

Edit

When a check mark is placed, you can edit the results of the [Color] and [Tone Curve] selection.

When the check mark is cleared, the combined results of the curve selected for [Tone Curve] and the tone curve editor adjustment value will be displayed. When 3D LUT is selected for [Color], only the tone curve editor adjustment value will be displayed.

Y

Displays a luminance graph.

R, G, B

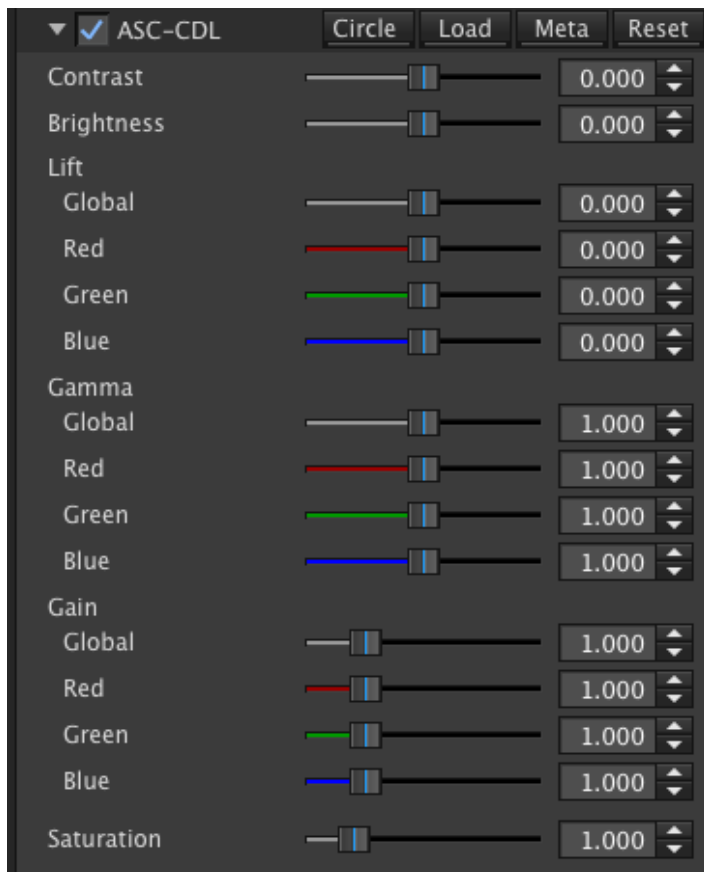
Displays RGB graphs.

Reset button

Resets tone curve editor adjustment results to default values.

ASC-CDL

All of the parameters in the ASC-CDL, including Contrast and Brightness, are ASC-CDL encoded and are applied during processing and viewing.



Checkbox

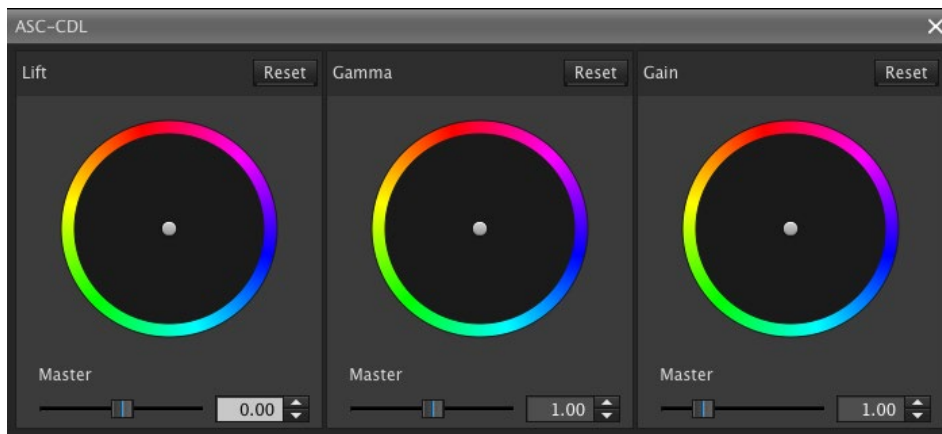
Selects whether to apply the ASC-CDL parameters.

Circle button

Displays the color circle window for adjusting the lift, gamma, and gain.

When you adjust the color circles, the red, green, and blue sliders for the ASC-CDL will change accordingly.

Using the [Master] slider allows you to perform adjustments while maintaining RGB value relationships.



Load button

Import ASC-CDL parameters from an external file.

The following file formats are supported.

- Color Decision List Format (*.cdl)
- Color Correction Collection Format (*.ccc)

Meta button

Resets ASC-CDL parameters to the metadata values of an MXF file.

Reset button

Resets ASC-CDL parameters to default values.

Contrast

Adjusts the tone curve while keeping it the center of luminance value. The adjustment results of the following [Brightness] parameter is reflected in the center of luminance.

The range is from -1.000 to 1.000 , and the default is 0.000 .

Brightness

Adjusts the brightness of the image by lifting the luminance.

The range is from -10.000 to 10.000 , and the default is 0.000 .

Lift

Adjust the black level while maintaining the white level.

The range is from -1.000 to 1.000 , and the default is 0.000 .

Gamma

Adjusts the gamma and the intermediate gradation.

The range is from 0.001 to 2.000 , and the default is 1.000 .

Gain

Adjusts the gain.

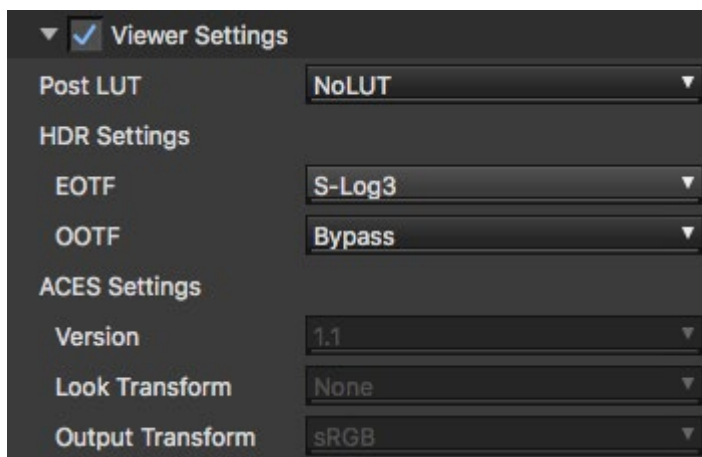
The range is from 0.000 to 4.000 , and the default is 1.000 .

Saturation

Adjusts the saturation.

The range is from 0.000 to 5.000 , and the default is 1.000 .

Viewer Settings



Checkbox

Selects whether to apply the Viewer Settings parameters.

Post LUT

Selects the LUT to use for the screen display.

If a 3D LUT was saved in MXF when shooting, you can display the image with the saved 3DLUT applied by selecting Embedded3DLUT.

HDR Settings

When [Rec2020/S-Log3] is selected for [Grading Color Space] in the Input Settings, this selects the conversion.

EOTF

Set to match the EOTF setting of the connected monitor. The “Look” of the displayed video is set using OOTF, not using EOTF.

OOTF

Selects the default “Look” for HDR display. When [Bypass] is selected, Scene Linear is displayed regardless of the EOTF selection. When [S-Log3(Live)] is selected, the appropriate tone curve for HDR display is applied.

EOTF/OOTF options and displayed “Look”

	EOTF	S-Log3	PQ	HLG Variable	S-Log3(Live)
OOTF					
Bypass		Scene Linear	Scene Linear	Scene Linear	
S-Log3(Live)		S-Log3(Live)	S-Log3(Live)	S-Log3(Live)	S-Log3(Live)
PQ		Rec2100 PQ	Rec2100 PQ		
HLG				Rec2100 HLG	

Supported monitor settings ¹⁾

Color Space	ITU-R BT.2020	ITU-R BT.2020	ITU-R BT.2020	ITU-R BT.2020
EOTF	S-Log3(HDR)	SMPTE ST 2084 (HDR)	ITU-R BT.2100(HLG) System Gamma: 1.2	S-Log3(Live HDR)
Transfer Matrix	ITU-R BT.2020	ITU-R BT.2020	ITU-R BT.2020	ITU-R BT.2020

1) Based on BVM-HX310 Ver. 1.1 menu settings.

ACES Settings

Configures the ACES viewing pipeline settings. It is enabled when [ACEScc] or [ACEScct] is selected for [Grading Color Space]. Material is output with the color and tone curve selected in [Output Transform]. When the [Viewer Settings] checkbox is cleared, ACESproxy or ACEScct output to an external monitor is enabled.

Version

Displays the ACES version.

Look Transform

Applies the "Look" of pre-released versions.

Output Transform

Selects the ACES output transform.

Adding User LUT

You can add a user defined LUT. You can add a 3D LUT (*.cube) or 1D LUT (*.lut).

1. Store the LUT file in the Documents/Sony/RAW Viewer/Data/LUT folder. LUT files stored in the same folder are automatically loaded and added to the LUT list when you launch RAW Viewer.

The Documents/Sony/RAW Viewer/Data/LUT folder is automatically created the first time you start RAW Viewer.

The 3D LUT will appear and can be selected under [Input Settings] > [Look Profile] or [Viewer Settings] > [Monitor LUT].

The 1D LUT will appear and can be selected under [Input Settings] > [Tone Curve].

Export

Supported Formats

MXF files can be exported to the following formats.

Video formats

Format	Resolution	Bit Depth
DPX ¹⁾	8192×4320 7680×4320 6144×3240 4096×2160 3840×2160 4096×1716 (4K Scope) 3996×2160 (4K Flat) 2048×1080 1920×1080 2048×858 (2K Scope) 1998×1080 (2K Flat)	16-bit integer 10-bit integer
OpenEXR ²⁾	8192×4320 7680×4320 6144×3240 4096×2160 3840×2160 4096×1716 (4K Scope) 3996×2160 (4K Flat) 2048×1080 1920×1080 2048×858 (2K Scope) 1998×1080 (2K Flat)	32-bit float 16-bit float
Trim	-	-
SStP	1920×1080	10-bit, 12-bit
XAVC Intra	4096×2160 3840×2160 2048×1080 1920×1080	10-bit
ProRes ³⁾	4096×2160 3840×2160 2048×1080 1920×1080	10-bit, 12-bit

1) DPX version 2 (Method A for 10-bit)

2) OpenEXR version 2

3) Mac only, mov only



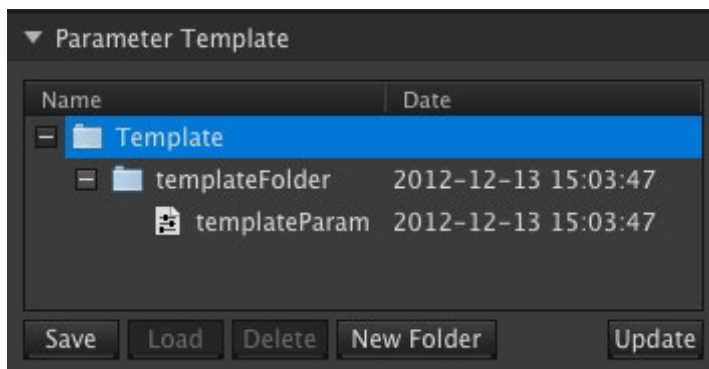
Notes:

- For Trim, if the positions of In/Out points are set such that the duration is the same as the source file, the UMID of the generated output file is identical to that of the source file.
- Trim cannot be exported for chunk clips.
- Depending on the video format, some resolutions may not be selectable.

Audio formats

Format	Sampling Rate	Bit Depth	Bit Rate
BWF	48 kHz	24-bit	2304 kbps

Export Template



You can save and then load templates based on a desired set of user preferences.

Clicking the [Save] button saves the settings that are valid at that point as a template. To load a saved template, select the template and then click the [Load] button. You can also create folders in which to save templates.

- Save button: Saves the current settings as a template in the selected folder.
- Load button: Loads the settings from the selected template.
- Delete button: Deletes the selected template or folder.
- New Folder button: Creates a new folder for storing templates.
- Update button: Updates the display in the Parameter Template area.

In addition to the functions above, you can rename a template from the context menu of the selected template.

Export Control

Before you export a clip, make export settings to determine the image processing parameters and output format. Once you complete the settings, click the [Submit] button to schedule an export of the clip. When you select a clip in the Clip Browser or EDL window, all parameter settings except name maintain the previous values.

Export Control

Bin: /Users/onuki/Documents

Name: A002C002_17081764

Create Sub Folder: ☐ On ☒ Off

Duplication: Sub Folder

Notification: ☐ On ☒ Off [Setting](#)

Format: DPX

Video ☒

Codec: RGB444

Resolution: 4K Scope 4096*1716

Class:

Quality/Speed: ☒ Quality ☐ Speed

Scaling: Entire Fit

Desqueeze: x2.0

Aspect Marker: ☐ On ☒ Off

Bit Depth: 16

Bake: ALL

Delimiter: .

Number of Digits: 5

Start: 00000

ASC-CDL: ☐ On ☒ Off

Flip: Unturned

Audio ☒

☒ All

☒ 1-2 ☒ 3-4 ☒ 5-6 ☒ 7-8

☒ 9-10 ☒ 11-12 ☒ 13-14 ☒ 15-16

Bin

Specifies the output folder.

On Windows, the default is C:\Users\[User]\Documents.

On Mac, the default is /Users/[User]/Documents.

Name

Specifies the output file name. Prohibited characters are shown below.

The default file name is the name of the clip displayed in the Clip Browser window (period and file name extension are added automatically).

Prohibited characters: / ? ! * : | " < > \

Create Sub Folder

When [On] is selected, a subfolder with the same name as the clip is automatically created, and the output files are stored in this subfolder.

The default is [On].

Duplication

Select the process to perform when a specified file name already exists in the folder.
This setting is disabled when [Create Sub Folder] is set to [On].
The default is [Error].

Error

Terminate the task in an error.

Over Write

Overwrite the file.

Sub Folder

Automatically create a subfolder, and store the file in the subfolder.

Example:

1. Duplication: Error

- sample.000100.dpx - sample.000199.dpx already exist.
- Submit a task to export sample.000050.dpx - sample.000250.dpx.
→ An error occurs when attempting to duplicate sample.000100.dpx - sample.000199.dpx.



Note: The leading "0" characters in the sequence number are not used for the duplication check.

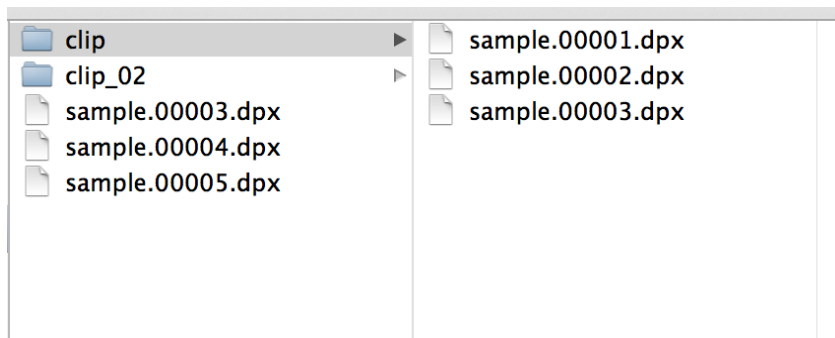
For example, sample.0010.dpx and sample.00010.dpx are handled as duplicate files.

2. Duplication: Over Write

- sample.000100.dpx - sample.000199.dpx already exist.
- Submit a task to export sample.000050.dpx - sample.000250.dpx.
→ sample.000050.dpx - sample.000099.dpx will be exported.
→ sample.000100.dpx - sample.000199.dpx will be overwritten.
→ sample.000200.dpx - sample.000250.dpx will be exported.

3. Duplication: Sub Folder

- sample.000003.dpx - sample.000005.dpx already exist.
- The clip name is "clip."
- Submit a task to export sample.000001.dpx - sample.000003.dpx.
→ The "clip" folder is created and sample.000001.dpx - sample.000003.dpx will be exported to that folder. If the "clip" folder already exists, a "clip_02" folder is created.

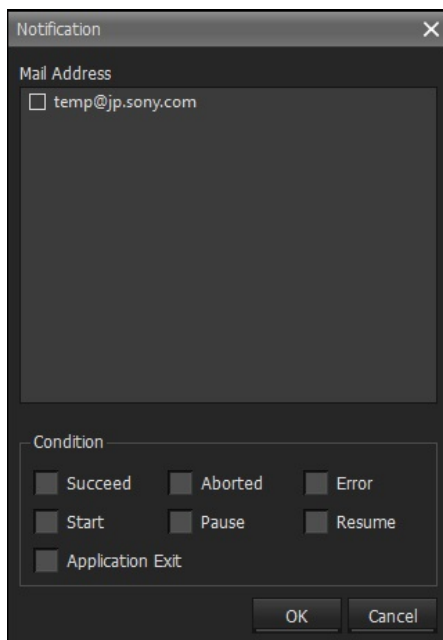


Notification

Select [On] to receive an email notification on the status of tasks in the task queue, and then enable the setting by clicking [Setting] button.

The default is [Off].

1. Click the [Setting] button. The following dialog box appears.



2. Select the email addresses for sending notifications.
3. Select the status conditions to include in notifications.

Status	Meaning
Succeed	Task completed successfully
Aborted	Task aborted by user clicking [Abort] or [Abort All] button
Error	Task error occurred
Start	Task started
Pause	Task paused
Resume	Task resumed
Application Exit	RAW Viewer exited

4. Click the [OK] button.

Format

Selects the output format.

The default is [DPX].

When you select [CSV] (Cooke Lens Meta), you can output Cooke Lens metadata as CSV files.

When you select [CSV] (Spirit Level Meta), you can output spirit level metadata from the camera as CSV files.

When OpenEXR (Inject Meta) is selected, MXF metadata can be written in the OpenEXR header.

Video

Specifies the output video format.

This is always enabled when [MXF] or [QuickTime] (Mac only) is selected for [Format].

Codec

Selects the codec used during output. The available options will differ depending on the output format.

When [Trim] is selected, the section between the In point and the Out point will be output in its original format.

Resolution

Selects the output resolution. The available options will differ depending on the output format.

When the output format is DPX or OpenEXR only, "Full" or "1/2" can be selected. When "Full" is selected, images are output at the same resolution as the original material.

When "1/2" is selected, images are output at half the resolution of the original material.

This setting is useful for combining multiple material with differing resolutions.

The default is 4096*2160.

Class

Selects the XAVC bit rate (Class). When the output resolution is 4096×2160 or 3840×2160, Class 300 or Class 480 can be selected.

Quality/Speed

Selects the RAW processing algorithm to apply (Quality priority or Speed priority).

Depending on the combination of the video format and resolution, this setting may be disabled.

The default is [Quality].

Scaling

Selects the process that is used when changing aspect ratio.

For details about specifying the aspect ratio, see "Scaling and Marker Settings" (page 26).

Entire Fit

Scales the image up/down so that the full region of the input image is contained within the output image. Margins are filled with black.

Crop and Fit

Crops the material to the specified aspect ratio or the aspect ratio for output, and then scales the image up/down for the output resolution.

Desqueeze

De-squeezes material shot with an anamorphic lens.

Aspect Marker

Draws the aspect marker on the output image.

For details about displaying markers, see "Scaling and Marker Settings" (page 26).

Bit Depth

Selects the output bit depth. The available options will differ depending on the output format.

Format	Bit Depth
DPX	10 / 16 (default)
OpenEXR	16 (default) / 32
SStP	10 / 12
XAVC	10
ProRes ¹⁾	10 / 12

1) Mac only

Bake

Selects video processing parameters to apply.

S-Gamut/Linear

Outputs S-Gamut/Linear.

S-Gamut/S-Log2

Outputs S-Gamut/S-Log2.

S-Gamut3/Linear

Outputs S-Gamut3/Linear.

S-Gamut3/S-Log3

Outputs S-Gamut3/S-Log3.

S-Gamut3.Cine/S-Log3

Outputs S-Gamut3.Cine/S-Log3.

ACES/Linear

Outputs ACES/Linear (ACES2065-1). The appropriate ACES Input Transform is automatically applied according to the metadata of the material. When ACES Container is output, the material is output in OpenEXR 16-bit.

Input Setting Only

Only the parameters under Input Settings are applied for the output. Since the processing occurs in Scene Linear, use this for push (or pull) processing and white balance adjustments in an S-Log workflow.

When [ACEScc] is selected in [Grading Color Space], ACES/Linear with applied push (pull) processing and white balance adjustments is output, enabling an ACES Container to be generated with the adjusted brightness and white balance.

ALL

This mode allows you to output images that are similar to the monitor display. All the parameters specified under Parameter Control will be applied. Be aware that color gamuts and latitudes originally held by the RAW files will be lost.

Delimiter

Specify the characters to be used as separators between output file names and sequence numbers. You can select from periods (.), underscores (_), and hyphens (-). The default is periods (.).

Number of Digits

Specify the number of digits to include in the sequence numbers that are added to sequential files.

The range is from 4 to 10, and the default is 5.

Start

Specify the starting number of the sequence numbers that are added to sequential files.

The default is 00000.

Example:

When [Format], [Name], [Delimiter], [Number of digits], and [Start] are set as follows:

Format: DPX

Name: Sample

Delimiter: . (period)

Number of digits: 6

Start: 000001

The first output file name is Sample.000001.dpx.

ASC-CDL

Select [On] to encode all the parameters in the ASC-CDL menu of Parameter Control to ASC-CDL, and export them as a color decision list (*.cdl).

The version of the exported ASC-CDL data is V1.01.

The default is [Off].

Flip

Flips the image output vertically or horizontally.

- Unturned: Outputs the image without flipping.
- Flip H: Flips the left and right of the image.
- Flip V: Flips the top and bottom of the image.
- Flip HV: Flips the top, bottom, left, and right of the image.

Audio

Selects the audio channels for output.

When [MXF] or [QuickTime] (Mac only) is selected for [Format], all of the channels will always be selected.

Clip Source

Specifies the output file source.

- Viewer: Clips displayed in the Clip Viewer.
- Selected Clips: Clips selected in the clip list area.
- Bin: All clips in the selected bin.
- EDL: Clips linked to EDL files.

If you submit multiple clips when [Selected Clips], [Bin], or [EDL] is selected and In and Out points are saved on the M01.XML file, the section between the In point and the Out point will be output. If In and Out points are not saved on the M01.XML file or an M01.XML file does not exist, the section between the Start point and the End point will be output.



Note: If you submit multiple clips when [Selected Clips], [Bin], or [EDL] is selected and [Bake] is set to [Input Setting Only] or [ALL], the setting values configured at the time of submission will be applied to all submitted tasks. However, values adjusted using the metadata of each clip as a base will be applied for the Exposure and Kelvin parameters.¹⁾

For example, if Clip A with an EI value of 800 and Clip B with an EI value of 1600 are submitted at the same time with Exposure set to +1/3, the values applied at the time of the bake process will be as follows.

Clip A: 1000 (800 increased by 1/3)

Clip B: 2000 (1600 increased by 1/3)

1) When [Bake] is set to [Input Setting Only], the values for Input Settings will be applied. When it is set to [ALL], the values for Input Settings, ASC-CDL, and Viewer Settings will be applied.



Note: If the [Material Color Space] specified in [Parameter Setting] > [Input Settings] does not match the Material Color Space of a clip when submitting multiple clips at the same time with [Selected Clips], [Bin], or [EDL] specified, an error dialog box will appear and such clips will not be submitted. Only the clips for which the Material Color Spaces match will be submitted.

Submit button

When you click the [Submit] button, the task is registered to the task queue according to the Export settings. If there are any errors, an error dialog box appears.

Task Queue

The Task Queue displays a list of tasks registered by the Submit button of Export window. You can control task operations here.



ID	Input	Output	Status	In Point	Out Point	Submit Time	Start Time	End Time	Progress	Source	Target
1	FILE0000000...	FILE0000000...	Aborted	00:00:10:22	00:00:31:18	13:44:30	13:44:30	13:47:07	23.3%	smi	dpx+wav
2	f5.mxf	f5x05d.dpx...	Aborted	00:00:00:00	00:00:00:01	13:45:35	--	13:47:07	0%	mxmf	dpx+wav
3	A004C001_1...	A004C001_1...	Aborted	00:00:00:00	00:00:01:05	13:46:33	--	13:47:07	0%	mxmf	dpx+wav
4	A004C002_1...	A004C002_1...	Aborted	00:00:00:07	00:00:01:12	13:46:33	--	13:47:07	0%	mxmf	dpx+wav
5	A004C013_1...	A004C013_1...	Aborted	00:00:10:00	00:00:19:23	13:46:33	--	13:47:07	0%	mxmf	dpx+wav

The export tasks are processed one at a time in the order from top to bottom listed in the Task Queue window. You can change the order as desired. The output folder of tasks can be revealed by double clicking the desired task in the Task Queue.



Note: When you made the setting Sub Folder to Duplication in the Export window, a double-click reveals not the sub folder but the output folder.



Note: In case of exporting to DPX/OpenEXR, the characters displayed in the [Output] column are in the following format.

[Name].%0[Number of digits]d.[dpx/exr]

Example:

Format: DPX

Name: FILE34

Delimiter: . (period)

Number of digits: 5

--> [Output] display: FILE34.%05d.dpx

The following table explains the status that is displayed to Status column.

Status	Meaning
Running	Task running
Queued	Task queued
Paused	Task paused
Succeed	Task completed successfully
Aborted	Task aborted by clicking [Abort] or [Abort All] buttons
Error	Task is error for any reason

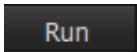


Note: The following events may cause an error:

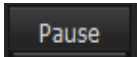
- Duplication is set to Error in the Export window, and a file with the same name as the output file already exists.
- There is not enough free space at the output destination.
- There is an incorrect frame in the source file.

Task Operations

The following operations can be performed in the Task Queue window.



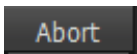
Processes the selected task that is "paused" or "queued."



Temporally stops processing the selected task processed.



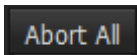
Note: This button is disabled for tasks for clips recorded in the SR-D1.



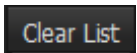
Aborts the selected task.



Rearranges the order of tasks.



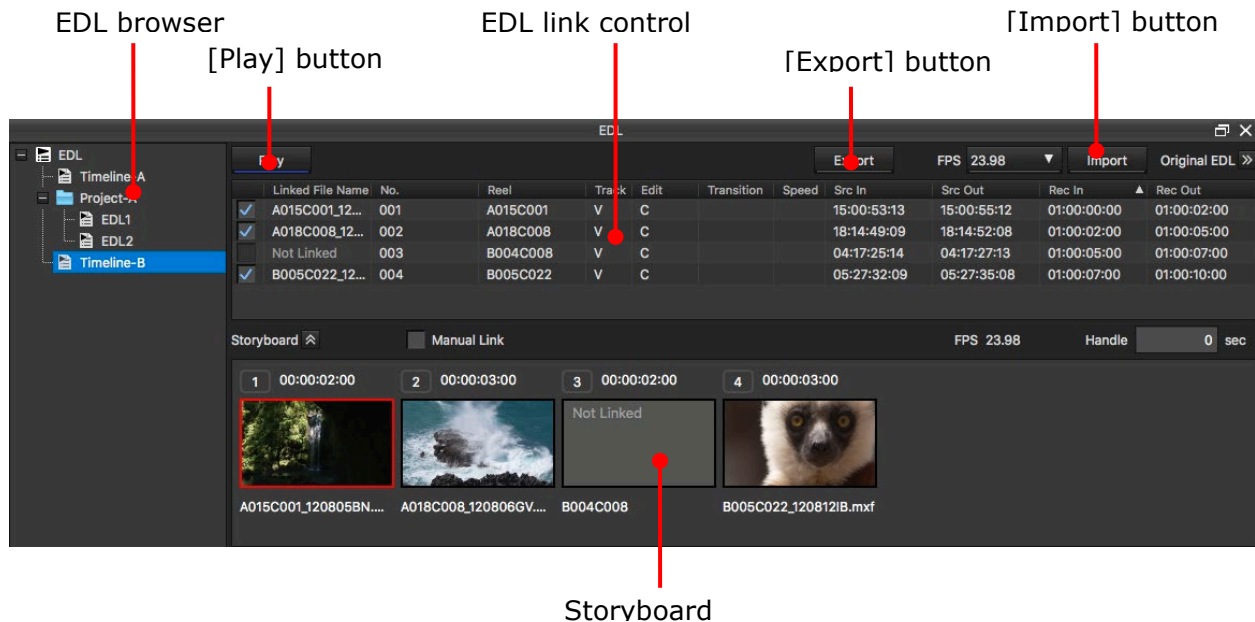
Aborts all tasks other than aborted, succeed and error tasks.



Clears all tasks other than running, queued and paused tasks.

EDL

In the EDL window, you can perform simple cut editing and preview with the storyboard using RAW/X-OCN material. You can import and preview an EDL created by an external application, and then export the edited result as an EDL. Then, you can transcode the required parts of each material according to the contents of the EDL using the Export window.



EDL browser

Displays newly created EDLs and imported EDLs.

EDL link control

Displays a list of edit points in EDL text format.

This is used to link imported EDLs with clips.

Storyboard

Displays a list of thumbnails of the edit points.

The displayed clip is the same as the content displayed in the EDL link control.

Here, you perform editing operations, such as registering/swapping clips and setting the In and Out points.

[Play] button

Starts continuous playback according to the EDL.

[Export] button

Exports the selected EDL as an EDL file (CMX3600 format).

[Import] button

Imports an EDL created externally.



Note: Only RAW/X-OCN material is supported in the EDL window.
Within an EDL, the shooting frame rate must be the same for all items.

Managing an EDL

The following operations are available in the EDL browser.

EDL single click

The contents of the selected EDL are displayed in the EDL link control and the storyboard.

EDL drag & drop

You can move the EDL to a specified folder.

Folder context menu

- Add Folder: Creates a new folder in the EDL browser.
- Add EDL: Creates a new EDL in a folder.
- Delete Folder: Deletes the specified folder.

EDL context menu

- Delete EDL: Deletes an EDL.
- Duplicate EDL: Duplicates an EDL.

Editing/Previewing an EDL

The following operations are available on the storyboard.

Add clip

Add a clip using one of the following methods.

- Select [Add to EDL] from the Clip Browser context menu.
- Drag & drop a clip displayed in the Clip Browser to the storyboard.
- Click the [Insert] button (shortcut key “,”) in the Clip Viewer.

Sort clips

Drag & drop thumbnails on the storyboard.

Delete clip

Drag & drop thumbnails on the storyboard to an area outside the storyboard.

Copy grading information

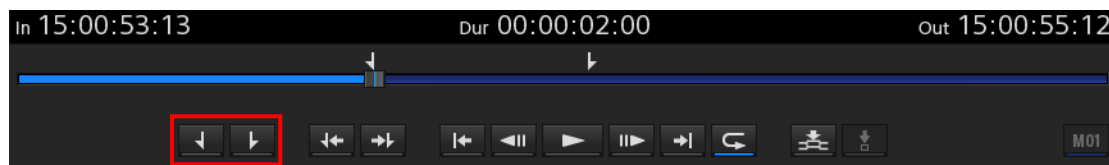
Select [Copy Settings] from the thumbnail context menu (shortcut key Ctrl+“C”).

Paste grading information

Select [Paste Settings] from the thumbnail context menu (shortcut key Ctrl+"V").

Set clip In point/Out point

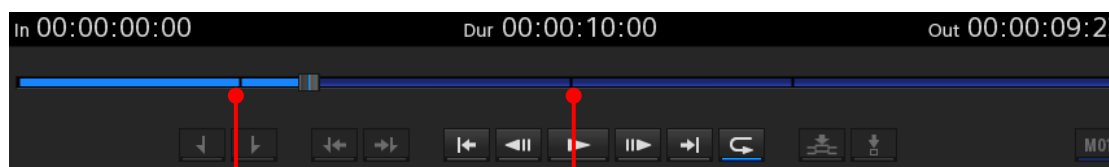
Double-click a thumbnail to display the selected clip in the Clip Viewer, and use the [Mark In] and [Mark Out] buttons in the Clip Viewer to set or change the In and Out points.



Preview edit results

Click the [Play] button in the EDL window to start continuous playback of the clips in the Clip Viewer based on the edit results. The edit points of each clip are displayed on the slider.

Clicking a thumbnail on the storyboard during continuous playback will cue-up the start of the corresponding clip.



Edit point

Edit point

Importing an EDL and Linking Clips

You can display the content of an imported EDL file and link each row of the EDL file to clips. To link clips, drag and drop clips from the Clip List Area of the Clip Browser to the EDL window. When you set Clip Source in the Export window to EDL and perform export afterward, an output file will be created according to content of the EDL file.

RAW Viewer supports the CMX3600 EDL format.

Play										Export	FPS 23.98	Import	Original EDL >>
Linked File Name	No.	Reel	Track	Edit	Transition	Speed	Src In	Src Out	Rec In	Rec Out			
<input checked="" type="checkbox"/> A015C001_12...	001	A015C001	V	C			15:00:53:13	15:00:55:12	01:00:00:00	01:00:02:00			
<input type="checkbox"/> Not Linked	002	A018C008	V	C			18:14:49:09	18:14:52:08	01:00:02:00	01:00:05:00			
<input checked="" type="checkbox"/> B004C008_12...	003	B004C008	V	C			04:17:25:14	04:17:27:13	01:00:05:00	01:00:07:00			
<input type="checkbox"/> Not Linked	004	B005C022	V	C			05:27:32:09	05:27:35:08	01:00:07:00	01:00:10:00			

Storyboard Manual Link FPS 23.98 Handle 0 sec

Click the [Import] button, and select the EDL file to import. When the EDL file is imported, the content of the EDL are displayed in a list.

If you click the [Original EDL<<] button, the content of the EDL is displayed as text on the right side of the EDL window.

FPS

Specifies the frame rate (FPS) of the EDL to be imported.

List display items

The following items included in the EDL are displayed in the list. The check boxes to the left will be selected for each row to which clips are linked. During EDL export, the selected rows will be submitted together.

Linked File Name: File name of linked clip

No.: Event number

Reel: Reel name

Track: Track type

Edit: Edit type

Transition: Duration of transition (displayed as number of frames)

Speed: FPS value when changing the speed

Src In: In point time code of the source

Src Out: Out point time code of the source

Rec In: In point time code of the recorder/master

Rec Out: Out point time code of the recorder/master

Manual Link

Select this check box when manually linking EDL rows to clips. When this is selected and you select a row and then drag and drop a clip onto the row, the clip is linked to the selected row.

Handle

Specifies the lengths of the overlaps to be added before and after In/Out points during EDL export.

Linking Clips to EDLs

There are two methods for linking: auto link and manual link.



Note: Clips cannot be linked in the following situations.

- The In/Out points of the EDL are not within the clip's time code range.
- The FPS value selected in the EDL window does not match the FPS value of the clip.

Auto link

When the name of the clip is identical to the name of a reel in the EDL, the clip will be linked. When you drag and drop a clip onto the EDL, the clip will link automatically to the row with the same reel name. You can drag and drop multiple clips at one time when using auto link.

If there are no rows with the same reel name, nothing will occur.

If the reel with the same name is already linked to another clip, a dialog allowing you to select which clip to link appears.

Examples: The following examples indicate the results when comparing clip names or reel names for matches.

- When comparing reel names (i.e., when [Use Clip Name of Comment as Reel] is disabled), the reel name is compared with the leading characters of the clip name that was dragged and dropped.

[Example 1]

When the Reel item is A001C001 and the Clip Name is A001C001_121218JZ.mxf: Match

[Example 2]

When the Reel item is A001 and the Clip Name is A001C001_121218JZ.mxf: Match

- When comparing clip names (i.e., when [Use Clip Name of Comment as Reel] is enabled), the clip name is compared with the clip name that was dragged and dropped (excluding their extensions).

[Example 1]

When the Reel item is A001C001_121218JZ.avi and the Clip Name is
A001C001_121218JZ.mxf: Match

[Example 2]

When the Reel item is A001C001_121218JZ and the Clip Name is
A001C001_121218JZ.mxf: Match

[Example 3]

When the Reel item is CLIP0001 and the Clip Name is Clip0001.MXF: Match

Manual link

The clip that you drag and drop is linked to the selected row displayed in blue, regardless of the reel name. You can only drag and drop one clip at a time when using manual link.

To perform manual linking, select the [Manual Link] check box.

Verifying Linked Clips

You can verify linked clips using one of the following two methods.

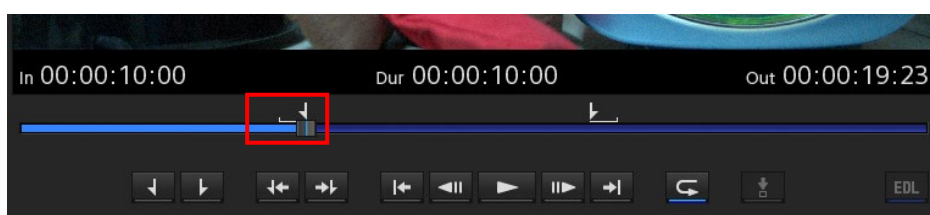
- Verify the In/Out points of the clip in the Clip Viewer.
- Verify the metadata or other information on the clip in the Clip Browser.

Verifying the In/Out points of the clip in the Clip Viewer

Double-click the selected row in the EDL window.

The In/Out points of the selected clip will be displayed in the Clip Viewer with the transition and speed changes applied.

If overlap settings were specified in Handle, white lines that indicate the Handle lengths appear before and after the In/Out points.



Note: If you change the In/Out points in the Clip Viewer, the In/Out points during EDL export will also change.

If the In/Out points are not as you expected due to speed changes, etc., change the In/Out points in the Clip Viewer.

Verifying the metadata or other information on the clip in the Clip Browser

Right-click the selected row in the EDL window, and select [Open In Clip Browser].

The linked clips appear in the Clip List Area of the Clip Browser, and you can verify the metadata and other information.

Gamma Editor

Gamma Editor is a tool that allows you to create a user gamma file for the MPC-3610 (VENICE/CineAltaV), MPC-3626 or MPC-3628 (VENICE 2/CineAltaV 2), or F65, an HDR user gamma file for the HDC series, or a CvpFileEditor-compatible SDR user gamma file for the HDC series. By importing the created user gamma file into a camera, that gamma can be applied to recorded material or the monitor output when shooting.

You can also export a created gamma characteristic as a 3D LUT for use when editing RAW/X-OCN recorded material or S-Log3 recorded material.

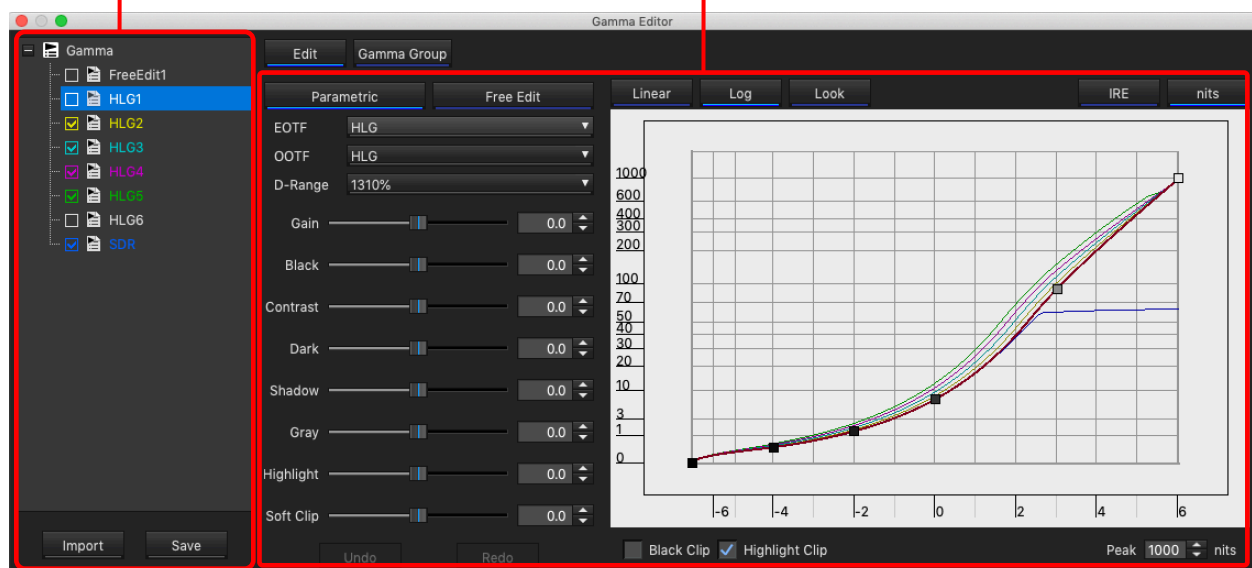
Editing Gamma

Gamma Editor is launched from the [Window] menu.

Select the created gamma in the gamma list area, and then edit it in the gamma editing area. The gamma adjustment result is displayed in realtime when viewing material in the Clip Viewer, allowing you to adjust the gamma while checking the actual picture on a PC monitor or external monitor. Consequently, set the color space for output to an appropriate setting in Parameter Setting > Color.

Gamma list area

Gamma editing area



Gamma List Area

Displays a list of the created gammas.

When you select a gamma to be edited, the parameters and a graph are displayed in the gamma editing area.

You can also display the graphs of other gammas for reference as well as the target gamma. Place a check mark in the checkbox for gammas in the gamma list area to display graphs as reference gammas in the gamma editing area. Up to five reference gammas can be displayed together with the target gamma to be edited.

The following commands are available in the context menu of the gamma list area by selecting the root ([Gamma]) of the gamma list.

- New Gamma: Creates a new gamma.
- New Gamma (Cvp): Creates a new gamma in CvpFileEditor-compatible edit mode.
- Library: Creates a new gamma from a CvpFileEditor-compatible curve library.

The following commands are available in the context menu of the gamma list area by selecting each gamma in the gamma list area.

- Duplicate Gamma: Duplicates a gamma.
- Delete Gamma: Deletes a gamma.

You can rename a gamma in the gamma list area by clicking it.

[Import] button

Imports a gamma file (.curve) previously saved using the [Save] button.

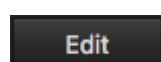
You can also select and import a 3D LUT file (.cube), converting the 3D LUT created for S-Log3 to a Free Edit mode gamma. When importing a 3D LUT file, set the EOTF and OOTF settings in the gamma editing area beforehand for the correct conversion.

Selecting a CvpFileEditor application file (.ce2) will convert a curve saved in CvpFileEditor to a Free Edit mode gamma and then load the gamma.

[Save] button

Saves a created gamma. Saved gamma files can be imported into other instances of RAW Viewer.

Operation Selection Buttons



Initiates gamma editing.

Gamma Group

Displays the gamma group management screen for exporting a created gamma as a user gamma file.

Parametric

Initiates Parametric mode for editing gamma by adjusting the values of each parameter. When a new gamma is created using [New Gamma], the edit screen supports SDR and HDR.

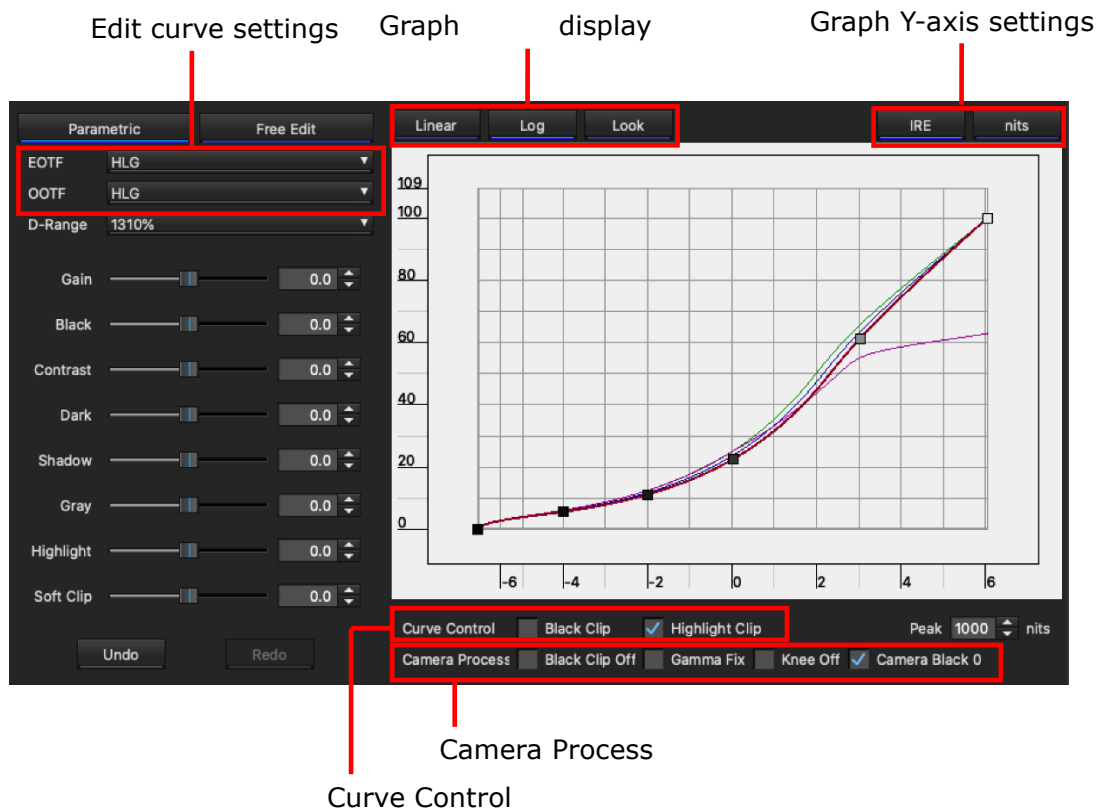
When a new gamma is created using [New Gamma (Cvp)], the edit screen supports SDR-only CvpFileEditor-compatible editing.

Free Edit

Initiates Free Edit mode for editing gamma by specifying the positions of nodes on a graph. When [Library] is selected in the gamma list area, Free Edit mode is initiated.

Operation Settings

The operation settings are common to both Parametric mode and Free Edit mode.



Edit curve settings

EOTF: Selects the EOTF of the gamma file to create.

OOTF: Selects the OOTF of the gamma file to create. For normal operation, this should be the same as the EOTF setting. If, for example, EOTF is set to HLG and OOTF is set to SDR, you can create a user gamma for HLG that has the OOTF characteristic of SDR.

Graph display modes

Linear: Displays the camera input signal on the X-axis (linear) and the output signal level (linear IRE) on the Y-axis.

Log: Displays the camera input signal on the X-axis (logarithmic display) and the output signal level (linear IRE) on the Y-axis.

Look: Displays the camera input signal on the X-axis (logarithmic display) and the linear signal before EOTF is applied on the Y-axis (logarithmic display).

Graph Y-axis settings

IRE: Displays the IRE value on the Y-axis.

nits: Displays the monitor display brightness on the Y-axis.

Curve Control

Black Clip

Clips the values lower than zero of the gamma curve that is output. This is applied regardless of the type of gamma file that is output.

Camera Process

Specifies the camera operation control options that are applied when outputting an SDR gamma file (Cvp Gamma) for the HDC series.

Black Clip Off

Turns off the Black Clip function for clipping the negative-side characteristic.

Gamma Fix

Disables the Gamma gain and step gain functions.

Knee Off

Turns off the knee function.

Camera Black 0

Sets the master black level of the camera to zero (fixed) for setting the black level correctly using Gamma.

Parametric Mode

This is the edit mode initiated when [New Gamma] is selected in the gamma list area.

Adjusts the gamma curve using the following controls.

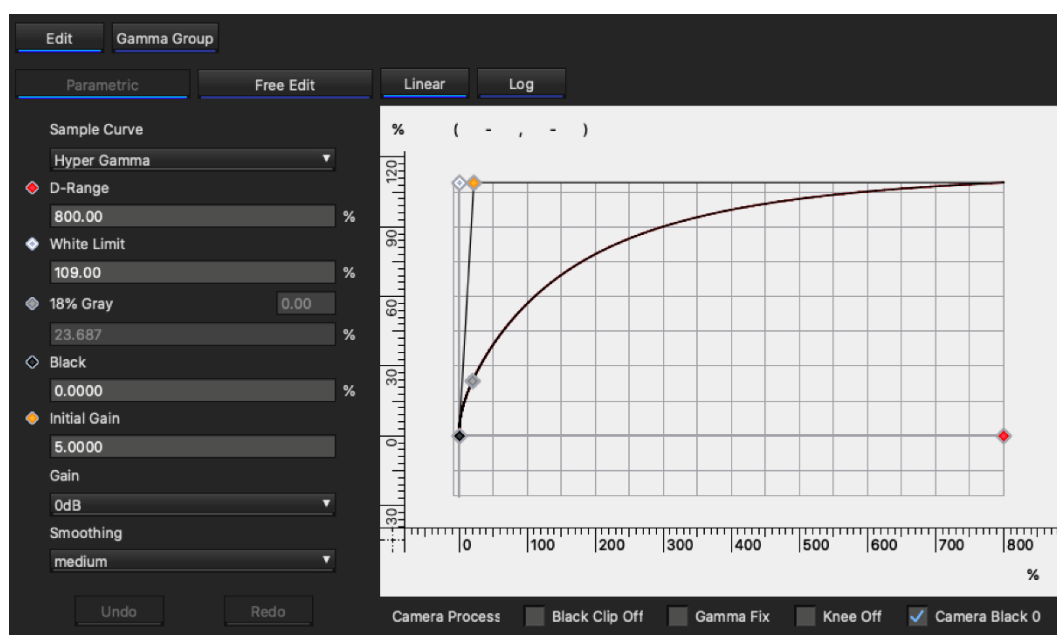
- Gain: Adjustment equivalent to the Master Gain of the camera [dB]
- Black: Adjustment equivalent to the Black Offset of the camera
- Contrast: Overall contrast adjustment
- Dark: Fine adjustment of the dark nodes closest to black
- Shadow: Fine adjustment of shadow nodes
- Gray: Fine adjustment of gray nodes
- Highlight: Fine adjustment of highlight nodes (disabled when EOTF is set to SDR)
- Highlight Clip: When enabled, limits the highlights to the Peak brightness setting
- Peak: Peak brightness setting [nits] when using Highlight Clip
- Soft Clip: Highlight rounding adjustment when using Highlight Clip

In Parametric editing mode, the positions of the nodes on the graph cannot be controlled directly.

Parametric Mode (CvpFileEditor-compatible)

When [New Gamma (Cvp)] is selected in the gamma list area, the edit screen is equivalent to CvpFileEditor.

A gamma created in this mode is an SDR-only gamma.

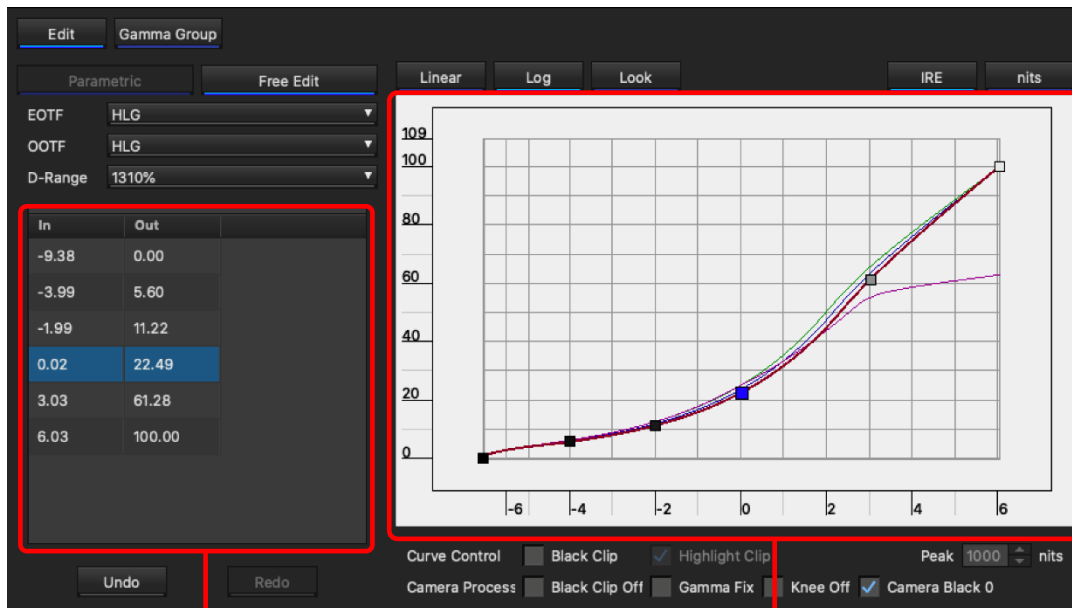


- Sample Curve: Selects the base characteristic of the curve.
- D-Range: Specifies how much of the subject's input light level (dynamic range) is used for output.
- White Limit: Sets the maximum value for high brightness output.
- 18% Gray: Changes the brightness of the midtones.
- Black: Specifies the black level of the subject (master black) to incorporate in the gamma.

- Initial Gain: Specifies the gradation representation of black areas.
- Gain: Reduces the overall level while maintaining the characteristic.
- Smoothing: Specifies the level of smoothing at the connection point between the initial gain and base characteristic curve.

Free Edit Mode

In this mode, you can edit a gamma curve by specifying the positions of nodes directly.



Coordinates area

Graph area

Coordinates area: Displays a list of the current node positions (X,Y coordinates). You can enter numeric values directly.

Graph area: Displays the nodes, which are movable. Drag a node with the mouse to move an existing node. You can delete an existing node by right-clicking it. You can create a new node by left-clicking the graph away from all other nodes.

When switching from Parametric mode to Free Edit mode, the adjustment results are inherited from Parametric mode. You can then continue editing.

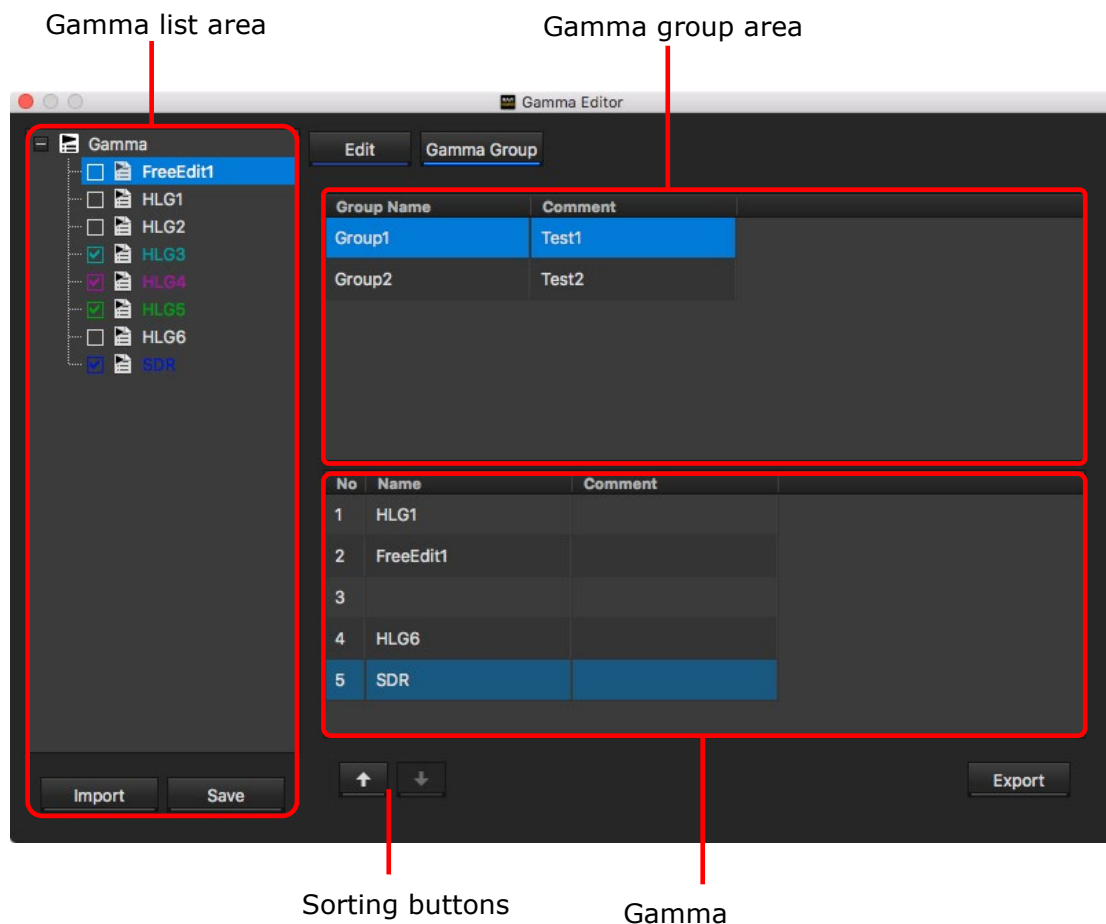
Switching from Free Edit mode to Parametric mode is not supported.

Gamma File Export

You can create gamma files and then import them into a camera.

Click the [Gamma Group] button to display the gamma group management screen.

You can create gamma groups and register up to five user gammas in each group. Then, you can import user gammas into a camera as a group.



Creating a gamma group

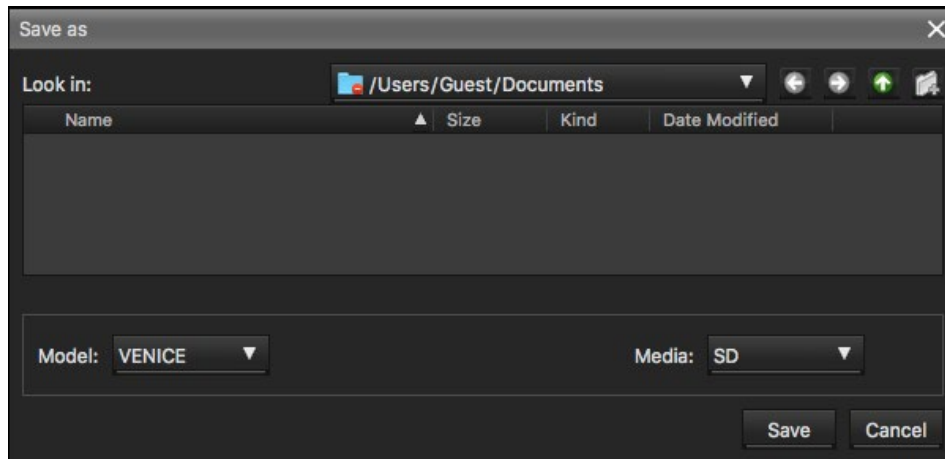
1. Right-click in the gamma group area, and select [New Group] from the context menu. You can also right-click a created gamma group, and select [Duplicate Group] from the context menu to duplicate a gamma group.
2. Select a gamma to add to the gamma group in the gamma list area, and drag & drop it into the gamma area.

To enter a comment for a gamma group or gamma, double-click the corresponding row.

To change the registration order of gammas, click the sorting buttons.

Exporting a gamma file

1. Select a gamma group to export on the gamma group management screen.
On the HDC series, you can export gamma files for multiple groups to the same folder.
Select the groups to export using Shift+click or Ctrl+click (Cmd+click on a Mac).
2. Click the [Export] button.
The export dialog appears.



3. Specify the following items in the export dialog.
 - Output folder
 - Model: Select the target camera (VENICE/VENICE 2/F65/HDC Series).
If multiple groups have been specified, only HDC Series can be selected.
 - Media: For the F65, select the media to which to save the file (SD/Memory Stick).
4. Click the [Save] button.

The group file and gamma files are saved.

The following folder in which the files are saved is created within the output folder.

For F65

Memory Stick: MSSONY\PRO\CAMERA\F65

SD card: PRIVATE\SONY\PRO\CAMERA\F65

For VENICE

PRIVATE\SONY\PRO\CAMERA\MPC3610

For VENICE 2

PRIVATE\SONY\PRO\CAMERA\MPC3626 and PRIVATE\SONY\PRO\CAMERA\MPC3628

For HDC Series and Cvp Gamma

MSSONY\PRO\CAMERA\HD_CAM

Exporting a gamma characteristic as a 3D LUT

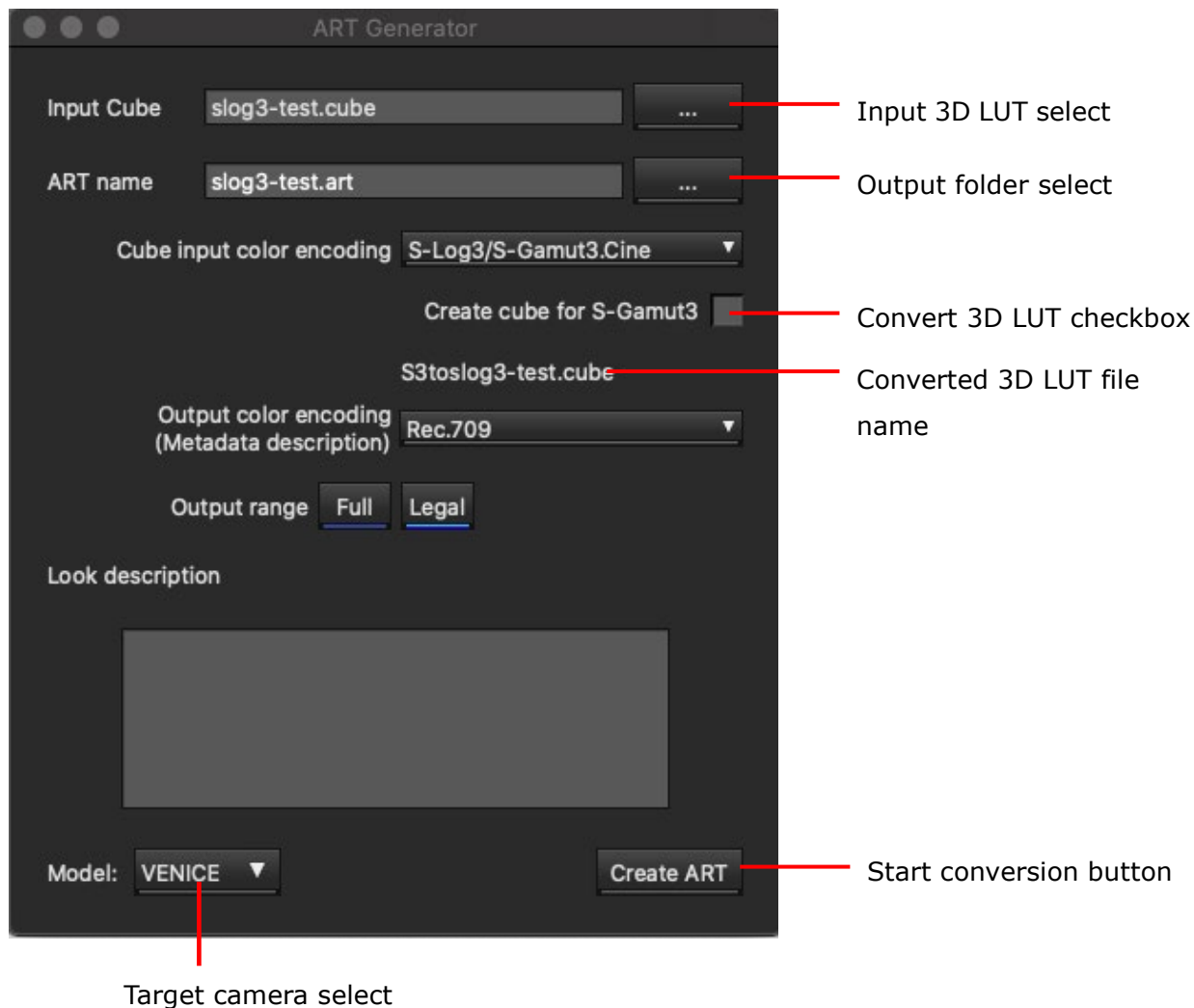
Use the following procedure to export a created gamma characteristic as a 3D LUT.

1. Exit Gamma Editor.
2. Set Parameter Setting > Grading Color Space to Custom, and set Color to the output color space.
3. Select the created gamma in Parameter Setting > Tone Curve.
4. Click the [Save as] button to display the save dialog, and set Files of Type to 3D-LUT and set Input Color Space to the input color space.
5. Specify the output folder and file name, and click the [Save] button.

ART Generator

ART Generator converts a cube-format 3D LUT file to an ART file for use on the MPC-3610 (VENICE/CineAltaV)/ MPC-3626 or MPC-3628 (VENICE 2/CineAltaV 2). An ART file provides higher image quality monitor output than can be achieved by loading a 3D LUT file directly into the camera.

Select [ART Generator] from the [Window] menu to display the [ART Generator] dialog.



Input Cube

Click the [...] button and select the 3D LUT to convert.

The following types of 3D LUT can be converted.

Input color space

- S-Log3/S-Gamut3
- S-Log3/S-Gamut3.Cine
- ACEScc
- ACEScct

Output signal range

Full range

CUBE size

16 to 129

ART name

Enter the export file name, click the [...] button, and select the destination folder.

Cube input color encoding

Selects the input color space of the 3D LUT to convert.

Create cube for S-Gamut3 (S-Gamut3.Cine)

Place a check mark in the checkbox if you want to create a 3D LUT for a different color space. Valid for S-Log3/S-Gamut3 or S-Log3/S-Gamut3.Cine color space. If the input color space is S-Gamut3, a 3D LUT for S-Gamut3.Cine will be created. If the input color space is S-Gamut3.Cine, a 3D LUT for S-Gamut3 will be created.

Output color encoding

Selects the output color space of the 3D LUT. The selection made here is set as metadata for the output signal.

Output range

Specifies whether the signal range of the camera SDI output is full range or legal range.

Look description

Use to enter a comment. The character string entered here is displayed when importing the ART file into a camera.

Model

Selects the target camera.

[Create ART] button

Click the button to create an ART file. If the [Create cube for S-Gamut3] checkbox has a check mark, a 3D LUT with color space conversion is also created.

The following folder in which ART files are saved is created within the output folder.

For VENICE

PRIVATE\SONY\PRO\CAMERA\MPC3610

For VENICE 2

PRIVATE\SONY\PRO\CAMERA\MPC3626 and PRIVATE\SONY\PRO\CAMERA\MPC3628

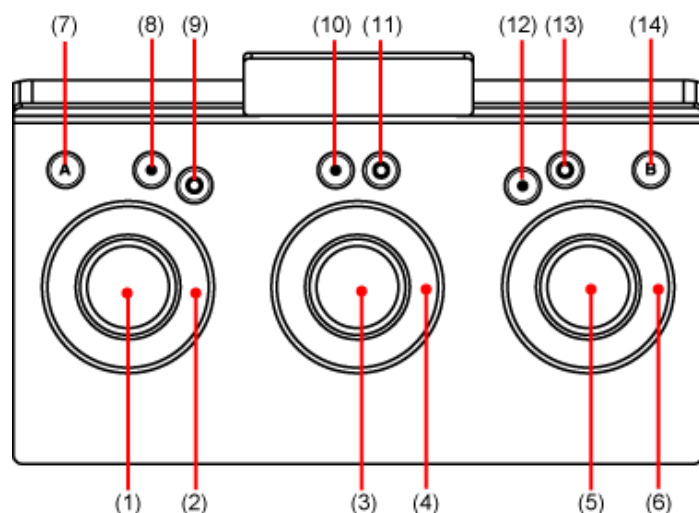
Appendix

Tangent Element Controls

You can connect Tangent Device control panels to the computer via USB, and use them to control color circles and other parameters. To enable control, Tangent Hub must be installed on the computer.

Tangent element-Tk

The following functions from [Parameter Setting] > [ASC-CDL] (page 48) are assigned to each of the controls on the element-Tk under default settings.

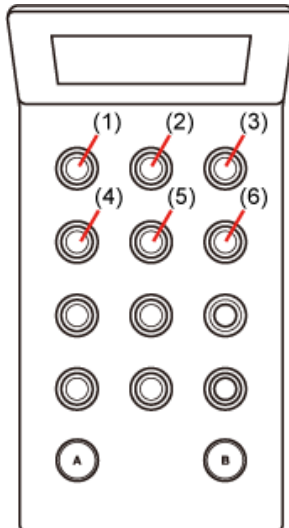


(1)	Adjusts the [Circle] > [Lift] color circle.
(2)	Adjusts the [Circle] > [Lift] > [Master] slider or the [ASC-CDL] > [Saturation] slider.
(3)	Adjusts the [Circle] > [Gamma] color circle.
(4)	Adjusts the [Circle] > [Gamma] > [Master] slider or the [ASC-CDL] > [Contrast] slider.
(5)	Adjusts the [Circle] > [Gain] color circle.
(6)	Adjusts the [Circle] > [Gain] > [Master] slider or the [ASC-CDL] > [Brightness] slider.
(7)	Switches the functions assigned to (2), (4), and (6).
(8)	Resets adjustments made for (1).
(9)	Resets adjustments made for (2).
(10)	Resets adjustments made for (3).
(11)	Resets adjustments made for (4).

(12)	Resets adjustments made for (5).
(13)	Resets adjustments made for (6).
(14)	Switches the functions assigned to (2), (4), and (6).

Tangent element-Kb

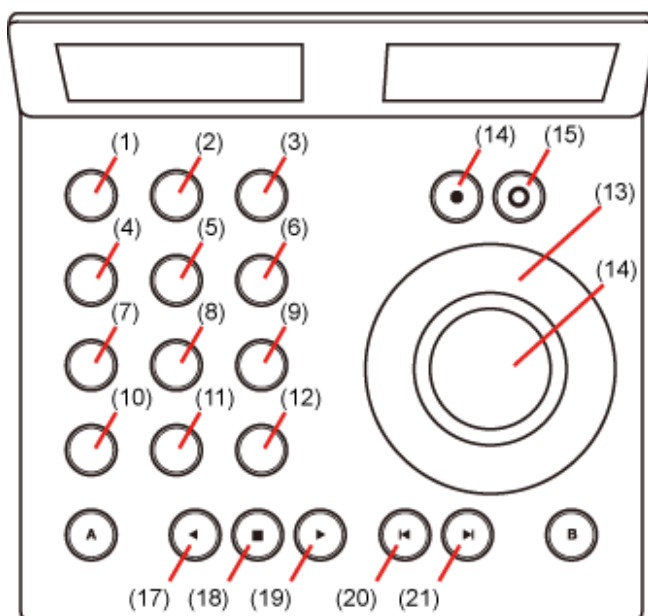
The following functions from the Parameter Setting window are assigned to each of the controls on the element-Kb under default settings.



(1)	Adjusts the [Exposure] slider for [Input Settings].
(2)	Adjusts the [Kelvin] slider in for [Input Settings].
(3)	Adjusts the [Tint] slider in for [Input Settings].
(4)	Adjusts the [Saturation] slider for [ASC-CDL].
(5)	Adjusts the [Contrast] slider for [ASC-CDL].
(6)	Adjusts the [Brightness] slider for [ASC-CDL].

Tangent element-Mf

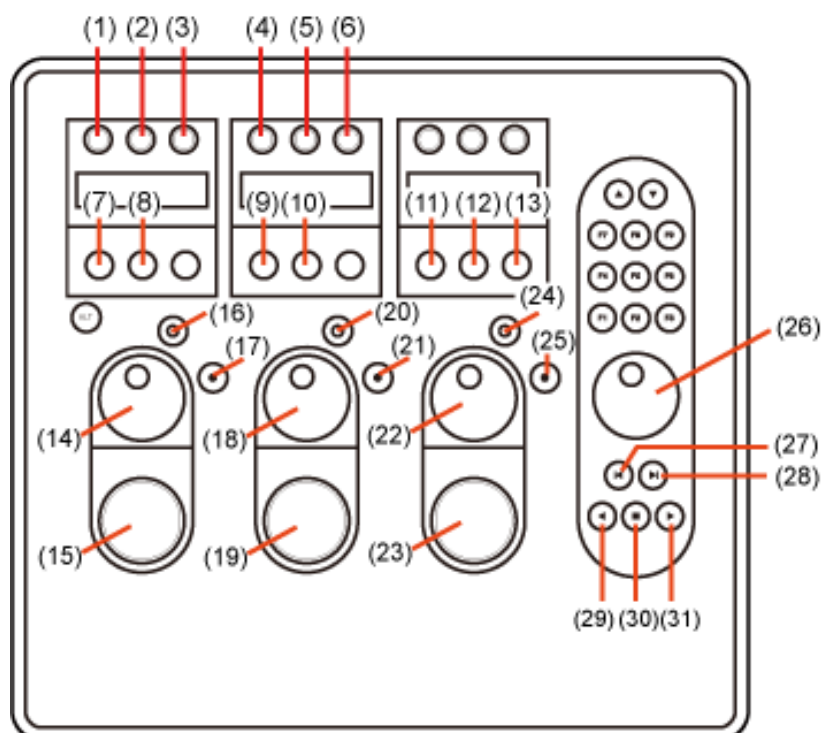
The following clip playback and gain adjustment functions are assigned to each of the controls on the element-Mf under default settings.



(1)	Jumps to the start point ([Go to Start] button).
(2)	Jumps to the end point ([Go to End] button).
(3)	Displays the "before" image ([Before] button).
(4)	Moves one frame backward ([Step Backward] button).
(5)	Moves one frame forward ([Step Forward] button).
(6)	Displays the "after" image ([After] button).
(7)	Jumps to the In point ([Go to Mark In] button).
(8)	Jumps to the Out point ([Go to Mark Out] button).
(9)	Starts EDL continuous playback ([EDL Play] button).
(10)	Sets the In point to the current time code ([Mark In] button).
(11)	Sets the Out point to the current time code ([Mark Out] button).
(12)	Inserts current clip in EDL ([Insert] button).
(13)	Performs jog playback. This also adjusts the [Global] slider for [Linear Gain].
(14)	Adjusts the color circle for [Linear Gain].
(15)	Resets adjustments made for [Linear Gain].
(16)	Resets adjustments made on the [Global] slider for [Linear Gain].
(17)	Reverse shuttle (shortcut key "J").
(18)	Stops playback (shortcut key "K").
(19)	Forward shuttle (shortcut key "L").
(20)	Jumps to start point or start of previous clip ([Go to Start]/[Previous Clip] button).
(21)	Jumps to end point or start of next clip ([Go to End]/[Next Clip] button).

Tangent Wave Panel

The following functions are assigned to each of the controls on the Tangent Wave panel under default settings



(1)	Adjusts the [Contrast] slider for [ASC-CDL].
(2)	Adjusts the [Brightness] slider for [ASC-CDL].
(3)	Adjusts the [Saturation] slider for [ASC-CDL].
(4)	Adjusts the [Exposure] slider for [Input Settings].
(5)	Adjusts the [Kelvin] slider in for [Input Settings].
(6)	Adjusts the [Tint] slider in for [Input Settings].
(7)	Displays the "before" image ([Before] button).
(8)	Displays the "after" image ([After] button).
(9)	Displays the "before" and "after" image side-by-side ([S By S] button).
(10)	Displays a split view of the "before" and "after" image ([Split] button).
(11)	Jumps to the In point ([Go to Mark In] button).
(12)	Jumps to the Out point ([Go to Mark Out] button).
(13)	Starts EDL continuous playback ([EDL Play] button).
(14)	Adjusts the [Master] slider for [ASC-CDL] > [Lift].
(15)	Adjusts the color circle for [ASC-CDL] > [Lift].
(16)	Resets adjustments made on the [Master] slider for [ASC-CDL] > [Lift].
(17)	Resets adjustments made for [ASC-CDL] > [Lift].
(18)	Adjusts the [Master] slider for [ASC-CDL] > [Gamma].
(19)	Adjusts the color circle for [ASC-CDL] > [Gamma].

(20)	Resets adjustments made on the [Master] slider for [ASC-CDL] > [Gamma].
(21)	Resets adjustments made for [ASC-CDL] > [Gamma].
(22)	Adjusts the [Master] slider for [ASC-CDL] > [Gain].
(23)	Adjusts the color circle for [ASC-CDL] > [Gain].
(24)	Resets adjustments made on the [Master] slider for [ASC-CDL] > [Gain].
(25)	Resets adjustments made for [ASC-CDL] > [Gain].
(26)	Performs jog playback.
(27)	Jumps to start point or start of previous clip ([Go to Start]/[Previous Clip] button).
(28)	Jumps to end point or start of next clip ([Go to End]/[Next Clip] button).
(29)	Reverse shuttle (shortcut key "J").
(30)	Stops playback (shortcut key "K").
(31)	Forward shuttle (shortcut key "L").

LUT File Formats



Note:

Line numbers ("Lx" in the tables below) do not appear in the actual LUT files.

1D LUT Files

Five types of lookup table (.lut) file formats supported by the software are described in the following examples.



Note:

This software handles 1D-LUT as conversion to Scene-Linear compatibility.

LUT file type 1: R, G, and B have the same value (the same curve)

"LUT: 1 1024" in the header indicates one output data block (common to R, G, and B) of the 10-bit (1024) input data. The bit depth of the output is determined by the maximum output value.

(This is an example of 10-bit input and 10-bit output.)

#	Comment
LUT:	1 1024
# (Line No,)	Output value
L1	0
L2	0
L3	1
	.
	.
	.
L1023	1023
L1024	1023

LUT file type 2: R, G, and B have individual values (individual curves) and are aligned vertically in the order of R, G, B

“LUT: 3 1024” in the header indicates three separate output data blocks (for R, G, and B) corresponding with the 10-bit (1024) input data.

The bit depth of the output is determined by the maximum output value. The output values on lines L1 to L1024 are R values, the values on lines L1025 to L2048 are G values, and the values on lines L2049 to L3072 are B values.

(This is an example of 10-bit input and 10-bit output.)

#	Comment
LUT:	3 1024
# (Line No,)	Output value
L1	0
L2	0
L3	1
	.
	.
	.
L1023	1023
L1024	1023
L1025	0
L1026	0
L1027	1
	.
	.
	.
L2047	1023
L2048	1023
L2049	0
L2050	0
L2051	0
	.
	.
	.
L3071	1022
L3072	1023

LUT file type 3: R, G, and B have individual values (individual curves) and are aligned horizontally

“LUT10” in the header indicates the bit depth of the output is 10 bits. The bit depth of the input is determined by the maximum number of lines.

(This is an example of 10-bit input and 10-bit output.)

# Comment				
LUT10				
# (Line No,)	Input value	Output R	Output G	Output B
L1	0	2	2	2
L2	1	2	2	2
L3	2	2	2	2
		.		
		.		
		.		
L1023	1022	1023	1023	1023
L1024	1023	1023	1023	1023

LUT file type 4: R, G, and B have individual values (individual curves) and are aligned horizontally

The bit depth is not indicated in the header. It is automatically determined by the number of lines and their values.

(This is an example of 10-bit input and 10-bit output.)

# Comment				
# (Line No,)	Input value	Output R	Output G	Output B
L1	0	2	2	2
L2	1	2	2	2
L3	2	2	2	2
		.		
		.		
		.		
L1023	1022	1023	1023	1023
L1024	1023	1023	1023	1023

LUT file type 5: R, G, and B have individual values (individual curves) and are aligned horizontally

The bit depth is not indicated in the header. It is automatically determined by the number of lines and their values.

There are no lines for input values.

(This is an example of 10-bit input and 10-bit output.)

# Comment			
# (Line No,)	Output R	Output G	Output B
L1	2	2	2
L2	2	2	2
L3	2	2	2
	.		
	.		
	.		
L1023	1023	1023	1023
L1024	1023	1023	1023

3D LUT Files

The 3D lookup table (.cube) file format supported by the software is described in the following example.



Notes:

- Input Setting 3DLUT is handled as a conversion to S-Log2 compatibility.
- Cube size up to 66 is supported.
- LUT files are loaded to the memory while the software is running, and this may affect memory usage conditions and software running time. Be aware of this when using multiple files.

```

# Comment
LUT_3D_SIZE 3
# (Line No,)      Output(R), Output(G), Output(B)
L1      0.000000 0.000000 0.000000
L2      0.500000 0.000000 0.000000
L3      1.000000 0.000000 0.000000
L4      0.000000 0.500000 0.000000
L5      0.500000 0.500000 0.000000
L6      1.000000 0.500000 0.000000
      .
      .
      .
L25     0.000000 1.000000 1.000000
L26     0.500000 1.000000 1.000000
L27     1.000000 1.000000 1.000000

```

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