WonderLookPro

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Introduction

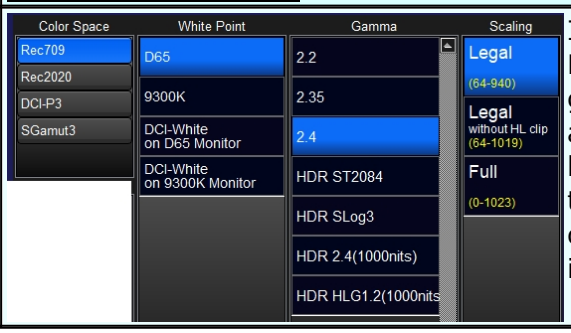
Functions

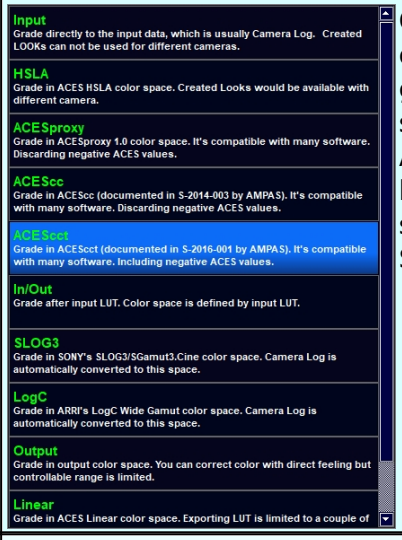
General Explanation

WonderLookPRO manages color spaces in very accurate way, and by communicating with outside world in LUT form, it will support motion picture making workflow in color management aspect. It is the best solution for all of them who pursue better quality of color reproduction of the image.
Core Engines
WonderLookPRO achieves various functions using following core engines. These engines are originally developed by Fujifilm and brush upped by WOWOW.

Core Engine	Contents
Internal Color Management Engine	Supports CameraLOG, Monitor Color Spaces and ACES Color Spaces. Achieve color space conversion of every color space to another.
	Various color correction algorithm : Adding to ASC-CDL, versatile tone curve, color temperature, precise iris emulation, vector 12 colors hue/saturation/brightness
Film Look	Various motion picture negative film, posi film are measured as profiles to be used as rendering for film look
LUTBOX coontrol	No only our products IS-mini and IS-miniX but also teradek COLR, FSI BoxIO, ASTRO DESIGN SB-4024 are controlable
LUT file input/ output	Various LUT file format can be input or output.
Monitor Calibration	Making accurate calibration LUT by using small number of color patch measurement

Basic FunctionsColor Management / Control functions
This table shows basic functions of color management of WonderLookPro.

functions	contents
Camera's Color Spaces	More than 70 types of camera's profile was measured and providing them as transform through CloudLUT function. It can be used for camera to camera conversion, camera independent color correction, which brings flexibility and accuracy of motion picture color making.
Monitor's Color Spaces	 It supports RGB primary of Rec709, DCI, and Rec2020, SDR gamma and HDR gamma of HLG and PQ. Including HLG, they can be used forward and inverse transform, which means these color spaces can be used both input and output.

Grading Space	 Color Correction should be performed unified color space, but because there is no perfect grading space, we have to select proper color space. It suppots ACES linear compatible ACESproxy, ACEScc, ACEScct and HSLA which has high quality bit resolution original color space, and camera log space like SLOG3/ SGAMUT3 or LogC.
Mapping function	When you convert from Rec2020 to Rec709, or HDR to SDR, which is wide color space to narrower space, you can select preset mapping transforms which avoid hard clipping. You can do your own mapping without using these preset transform.
Quick setup function	Just selecting neutral object achieve instant neutralizing to get gray ballaced image. You can select specific color to convert to target color to match skin color. These quick setup functions assists matching of different type of cameras.
Various Color Correction	It supports Tone/Simple/LGG/SOP/Vector/CCU interfaces to do color correction. You can edit system tone curve directly to get proper tone curve transform in grading space.
Numerical Calcuration	It provides the method to create gray scale table or 3D color table as input data sets to calculate current entire transform to confirm by number. The result can be copied to use spread sheet like Excel.

LUT Management functions

This table shows LUT related functions. It includes, LUT providing service(CloudLUT), LUT file import/export, and LUT conversions.

functions	contents
CloudLUT service	You can download more then 70 types of camera IDTs, ACES RRT, more than 20 kinds of film look through CloudLUT service on Internet.
Import LUT file format	Support DaVinci ,cube, Trulight or many other format
LUT file conversion	Imported LUT can be converted to "for other camera log space LUT" and /or "for other monitor color space LUT".
LUT file combination	Two different LUT file can be imported as input LUT and output LUT. You can export combined LUT in any format.
CTL support	Color Transform Language(CTL) is supported. It can be imported as 64^3 cube internally.
LUT export	Any created Looks or LUT combinations can be exported to LUT file in DaVinci, Trulight or many other format. Not only exporting one LUT for the entire transform, it can be divided into input transform to grading space, color correction in grading space, output transform to grading space so on. Multiple Looks can be exported at the same time to be saved with still image and meta data to create HTML report which has a link to LUT, images and graphs.

※WonderLookPro has a plan to expand LUT management functions as one independent

function.

LUT Device Control functions

	LUT Device	内容
LUT Devices	IS-mini	USB/LAN connection、send LUT,、save LUT in flash memory, bypass mode, color patch generation（rectangle only: input format or 59.94i）,get TimeCode, get GenLock status, OSD overlay(256x64pix 1 color), firmware update
	IS-miniX	(adding to IS-mini） frame capture(including ancillary information）、internal still image、still image ggeneration(input format,1.5G 59.94i,3G-A 59.94p, 3G-B 59.94p)、LUT on/off wiping, Live/still image wiping, FrameLine display(center cross and three type of rectangle), background still image composite by chroma-key, still image composite by alfa channel, animation overlay
	teradek COLR	LAN/WiFi connection, send LUT, save LUT in flash memory
	FSI BoxIO	LAN/WiFi connection, send LUT
	ASTRO SB-4024	LAN connection, send LUT、use internal saved preset LUT, converter setting(HD/4K conversion)
LUT Device Management	naming	Assign your custom name to each specific device to be shown on the device list
	grouping function	You can make groups of the same type devices. The members of the group will be sent the same LUT by one action. You can use 4K control by using the group of four devices. IS-miniX is capable of capturing 4K image by using 4 units group.
	Look Sync function	You can create common Look for the different LUT settings of plural devices or groups. One action will create different LUTs but the same Look and send them respectively.
	Lock function	To avoid unintentional color change, you can lock any operation to change the color, the function is called "Lock" function.
Scalability	number of units	Basically there is no limit for the number of devices if the system resource allows. The maximum number of the controllable devices are limited by kind of the license. Entry License: up to 3 units, Standard License: upto 5 units, Corporate License: ライセンス 20台。オプションにより増台可能。

Color Correction functions

カテゴリー	機能	内容
Manual Color Correction	Tone Curve	Upto 32 points can be used to generate custom curve. The curves can be made for RGB common or RGB independently. You can edit system tone curve to generate proper tone curve in grading space.
	Simple	The easy to use interface for the color correction beginners. Color Ballance, Color Temperature, iris emulation, saturation, harden/ soften, knee at highlight are available. You can exclude them from look sync to keep the device dependent adjustment.
	LGG/SOP	The control for the generation of ASC CDL parameters.Lift/Gain/ Gamma(Shadow/Middle/Highlight) or Slope/Offset/Gamma.
	Vector	Adjust hue, saturation and brightness for 12 angle of hue colors. Adding to global control, you can target high/ low brightness colors, or high/low saturated colors respectively.

	CCU	Emulation of CCU of system camera. It includs R/B ballance and shadows, pedestrial, knee, gamma, iris controls.
Automatic Color Adjustment	Neutralize	The functions to adjust RGB balance automatically to neutralize for the selected color of captured or loaded image. If IS-miniX is available, it capture the live image and apply on the fly for the neutralization.
	Color Matching	Automatic hue/saturation matching of selected color to pre-memorized target color. It uses Vector color adjustment algorithm. It's very effective to match skin tone for two different type of cameras.
	Color Shifting	Automatic color balance adjustment of selected color to pre-memorized target color. The purpose is the same as Neutralize function but it's useful when the neutral object is not available.

Look Management functions

	機能	内容
Look Management	Save Look	Created Look can be sabed with LUT settings. If timeCode is available for LUTBOX, the Look was saved with timeCode. If the device is IS-miniX, captured image and mleta data on SDI will be saved with the Look. If you are using still image viewing, the rendered thumbnail will be created for the Look.
	Apply Look	Saved Look can be applied just one click on the Look List, which triggers to create LUT and send it to the LUTBOX instantaneously. You can select the range of the application from Look only, with LUT replacement, or update of monitor settings savend in the Look.
	Gradual Look Apply	When applying the Look, instead of applying instantaneously, the Look can be applied gradually during the period of time you set. Smoothness is depend on the type of the LUTBOX and communication speed.
	Re-grading Look	
	Title/ Comment /Rank	You can set title, comments, or rank from OK/NG/HOLD for the Look. "Title" can be set consecutively by f2 and return key for the quick input.
	Folder Management	Looks can be saved in the folders labeled with date and sub-indexes. Move/Copy/Paste of the Looks are available for the different folders.
	Load/ Save Look List	Load/Save Look List which contains multiple Looks are supported. The file contains LUTs which are used in the Look so you can move entire setting to other PC by just copying one file.
Assist for Look Creation	System Tone Curve Display	The system tone curve which represents the characteristics of current entire input/output transform of gray tone scale, is available and update real time. The initial system tone curve, without color correction, is shown to confirm the degree of color correction all the time.
	Color Hexagon Display	6 representative color change from input to output can be shown in hexagon graph. You can confirm the direction and amount of the hue/ saturation of the created look in real time.
	Exposure shift value	The amount of the brightness change of the created look is calculated in exposure index and is shown in EV step.
	Image Preview	The still image which is captured(IS-miniX) or loaded from local file can be process by the LUT/Look in real time to view the result. The position of the mouse cursor, or rectangle selected by the mouse on the image is used to calculate and show the color values of input image(OCV),

		ACES value(If IDT is available), and output image(MCV) If you are using IS-miniX, WonderLookPro can show the live images which varies real time for the preview and pixel value confirmation.
	Graph function	Histgram, Wave Form or Vector scope graphs are generated and shown from the processed image in real time. The pixel value of the mouse cursor or selected rectangle is shown on the graph. Wave Form and Histogram graph have "nits" scale in monitor color space(supports HDR).
	Warning function	The pixels of outside Rec709, over 400nits or 1000nits of HDR can be shown in extreme color for warning.
	Undo/ Redo	WonderLookPro records color correction operation upto 1000 steps to be used for undo. You can re-do the "un-do"ed operation.

Available Color Pipeline

カテゴリー	機能の入り口	パイプライン	内容
Color Managed Workflow (use ACES color space)	CloudLUT	IDT ⇒ LMT ⇒ Rendering ⇒ ODT	IDT and Rendering can be downloaded by CloudLUT service. It is completely device independent workflow. LMT can be appliable for any camera and any monitor color spaces. Rendering can be selected from bunch of variation including film look or gradation amount.
	Local LUT	IDT ⇒ LMT ⇒ LUT' ⇒ ODT	If you can define the LUT's input/output color space, it can be the equivalent workflow with CloudLUT. The LUT can be used for any camera and any monitor color spaces.
	Local LUT	LMT ⇒ LUT' ⇒ ODT	If you can define the LUT's output color space only, you can change the monitor color space in the pipeline. LMT is camera dependent and can not be used for other camera.
	Color Space Conversion	InvODT ⇒ LMT ⇒ ODT IDT ⇒ LMT ⇒ InvIDT IDT ⇒ LMT ⇒ ODT	Color space conversion with color correction on the ACES color space. It is equivalent with "No Rendering" of CloudLUT workflow.
No Color Management	Local LUT	LMT ⇒ LUT	Without defining LUT property, just create Look on the input signal. No color management. To use created LMT for other camera is difficult. To apply other monitor is difficult.
	Local LUT	LUT1 ⇒ LMT ⇒ LUT2	Prepare tow LUTs, LUT1 is for input, LUT2 is for output, and make look after LUT1 process. The color management is rely on the system which create LUT1 and LUT2.
	No LUT	LMT	Create entire Look and rendering just only by LMT, without using LUT.

Abbreviation	Original expression	Explanation
IDT	Input Device Transform	The transform from Camera's 10bi transform of the signal processing
InvIDT	Inverse Input Device Transform	Inverse transform of IDT.
LMT	Look Modification Transform	Color Correction in the same color
Rendering	Rendering	Conversion of scene referred color preferable color transform to be vi
ODT	Output Device Transform	The transform from device indepen code values.(10bit,12bit,16bit) It may include mapping to fit into t
InvODT	Inverse Output Device Transform	Inverse transform of ODT

Still Image Related functions

カテゴリー	機能	対応機器の制約	内容
Input	Load Image		supports DPX, JPEG, BMP, PNG, TIFF
	Capture Image	only IS-miniX	Capture image as 10bitRGB
	Use CG		Create gray gradation, SMPTE color bar or color patches
Output	Save Image		supports DPX and JPEG format. The image can be before LUT processing or after LUT processing.
	Play out Image	only IS-miniX	Send image as before/after LUT processing chain. It also supports wiping with live image, color correction while showing image. SDI stream will be the same format with input signal, but it can create 1.5G 59.94i, 3G-A 59.94p or 3G-B 59.94p without input signal.
	Chroma-key	only IS-miniX	After sending background image, you can composite by using chroma-key by picking color from captured image.
	alpha channel composite	only IS-miniX	By using PNG image with alpha channel, the live image and still image can be composited with half transparency.
Analysis	get the pixel value		The color value of the position of mouse cursor or average of selected rectangle,can be shown in OCV(original 10bit value), ACES, and MCV(output 10bit value). You can copy them to clipboard to be pasted on spread sheet, not only average value but also each pixel values respectively.
	Histgram		Before or after the LUT process. Real time update by color correction. Showing the equivalent position of the position of the mouse on the image by yellow bar. The graph can be copied to clipboard.
	WaveForm		Before or after the LUT process. Real time update by color correction.The graph shows %, 10bit and nits scale. Showing the equivalent position of the position of the mouse on the image by white circle. The graph can be copied to clipboard.
	Vector Scope		Before or after the LUT process. Real time update by color correction.Showing the equivalent position of the position of the mouse on the image by white circle. The graph can be copied to clipboard.

Shooting Condition Confirmation/ Decision Assist functions

Category	function	Restriction	Explanation
IDT Related	IDT Tone Curve		The graph of the camera's input/output characteristic measurement result. You can confirm the dynamic range of the camera response.
	CV information		The various numeric values of the camera: Minimum CV(shadow), Maximum CV(highlight saturation),dynamic range value(in EV and %), normal exposure's 18% gray value
	Warning funciton		Labeling the close value pixels from camera's minimum or maximum CV, which means dynamic range limit.
Live Image Analysis	Wave Form Graph	only IS-miniX	By using IS-miniX's live viewing function, you can confirm specific point of pixel values on WaveForm graph by white circle.
	Histogram	only IS-miniX	By using IS-miniX's live viewing function, you can confirm specific point of pixel values on Histogram graph by yellow line.
Emulation	Exposure control		By using exposure control (iris emulation), you can preview the result of exposure adjustment.

Monitor Calibration Related functions

機能	内容
supported Probes	XRite i1pro, i1pro2, i1display OEM version Klein K-10A / Photo Research PR-655/PR-670 JETI Specbox1211/1201 (Window Only) Konica Minolta CS-200(Window Only), CA-210(Window Only), CS-2000 Colormetric Research CR-100, CR-250
supported LUTBOX	IS-mini, ISminiX (need color patch generation function)
number of color patches for profiling	select from 165(default) 、769 and 4136
evaluation function	Automatic evaluation measurement and showing results in graph
Automatic measurement	Gray gradation or basic color sets can be measured automatically and results can be used in spread sheet

Use Cases

Camera Log Preview

On-set Preview of LOG Camera

Welcome

Thank you for downloading WonderLookPro.
WonderLookPro is a brand-new software added and improved many useful functions to Fujifilm's IS-miniManager. This software can control not only existing IS-mini, but also third party's LUT BOX, like Teradek's COLR or FSI's BoxIO. Please use it for color management and making creative Looks on motion picture production.

Real Time control of LUTBOX devices

WOWLookPro supports IS-mini, Teradek's COLR and FSI's BoxIO. Available devices are different for licenses. You can create Looks while observing real time output of image with looks you created right now. The number of LUTBOX devicese you can control simultaneously is different for licenses.

Providing LUTs which supports more than 50 types of Cameras

We are providing many Look Up Tables which are made based on ACES standard by WOWLOOKpro Software through internet. These LUTs are using profiles made by high precision measurement of real cameras and it enables you to apply camera independent workflow. These camera information can be copied to clipboard to be pasted on Excel sheet. You can confirm and compare camera performance by using this function.
"Rendering" which means to convert scene reffered image to output reffered image with preffered color reproduction, we are providing not only ACES standard RRT but also Print Film Emulation (FUJIFILM and KODAK), 15 kinds of negative film looks and gamma and gamut variation. These renderings are targeting not only Rec709 SDR monitor but also wide gamut like Rec2020 or wide dynamic range HDR display space.

Managing existing LUTs

You can use LUTs made by other software with very sofisticated way. No only supporting many type of formats, but also you can change output target color space if you can designate the LUT's output spcae. For example, if you have a LUT for Rec709/gamma 2.2, you can use it for DIC-P3/ gamma 2.6 in a very somple procedure. For example, you can use a LUT targeted for Rec709/ gamma2.2 as a LUT targeted for Rec2020 / HDR.

Color Correction

WOWLookPro provides you simple and powerful method of color correction, which enable you to grade on-set smoothly and with high quality. The method for the color correction consists not only standard ASC-CDL, but also 12 kinds of colors of hue, saturation, brightness independent controls (Vector) ,CCU emulation and tone curve manupilation. These colors are controled by not only mouse or keyboard, but also Tangent Panels, Wave, Element and Ripple. You can use still image file to create looks. The results can be confirmed on the PC monitor even without LUT Boxes. Waveform or Vector scope of the image can be confirmed simultaneously. The interface which enables multiple device control was improved. Adding to existing grouping function, Look Sync function enables multiple groups color correction which may differ output. IS-TOWER function gives you table like interface which is suitable for dozens of deveices control.

Simple selection of output color space

Emerging of Rec2020 and HDR brings us wide variety of the output color space selection. WOWLookPro provide you simple method for converting to desired color space by just selecting from candidates. We supports both HLG and PQ for HDR. You can choose just converting the color space without using LUTs. Even in this case, you can make color correction at desired grading space.

Powerful Exporting function

The looks you created can be exported to LUT file which can be used by other applications. You can export not only to whole connversion LUT which converts camera output directly to monitor output, but also to input LUT, color correction LUT and output LUT(includes rendering) with additional information like timecode, comments or other metadata.

Monitor Calibration

You can do monitor calibration by using probes like XRite's i1pro2. Monitor calibration process is very easy and requres no special knowledge of color management, makes your monitor more precise close to mastering monitor. This monitor calibration can be done not only output of IS-mini device but also PC display. It can be used for still image color correction to achieve emulation environment of mastering monitor by your PC monitor.

What's new

Following functions are added to or expanded from Fujifilm's IS-miniManager.

Supports other LUT BOXes

Adding to IS-mini, WOWLookPro supports Teradek's COLR and Flanders Scientific's BoxIO and Fujifilm's IS-100.

Full support of HDR

Regarding HDR support, WOWLookPro provides HDR selection of output color space, HDR target selection of rendering, HDR target selection for monitor calibration. As the example of the use case, you can do color correction simultaneously for HDR output and SDR output by using two IS-mini and look sync function. Color space conversion function was merged to color correction function. It enables you to do color correction with color space conversion. You can use warning function to tell the pixels of outside Rec709 gamut or over 1000nits brightness to help to decide lighting or color correction.

Camera Information

Adding to measured CameraLog curve, you can confirm noise level and color gamut information to compare different cameras. You can download and use test image captured by specific camera. Numerical information of camera can be copied to clipboard so as to paste on excel sheet to analyze the data.

Still image support

You can select still image on the color correction window and confirm the result of color correction instantly. The still image can be selected from local disk, from internet WOWOW provided, or capturing supported devices, like IS-100. The result of the color correction can be confirmed by on screen Wave Form, Vector Scope or Histgram. Look information can be saved with thumbnail image.

Expansion of Export Functions

Multiple LOOKs can be exported at one time. If the image is saved with the LOOK, before and after procecessing image would be created to be used at post-production.

IS-TOWER function (dozens of cameras)

Dozens of cameras which contains differect types can be controlled by IS-TOEWR interface. At music live or sports events, you can create special LOOKs which can be applied to all of the cameras.

Licenses

Free License

Almost all functions can be confirmed under Free License. Even if you don't have LUT Devices, you can start the program with the number parameter which emulates the number IS-mini are virtually connected.

To activate Free License, you have to register your email address. Please follow the instructions.
Free License has following restrictions.

1. You can use only one real LUT device at one time.
2. You can not save LUT on the Flash memory (Non-volatile memory). It means the LUT information would disappear when you restart the device.
3. You can save upto 3 LOOKs.
4. Other LUT device than IS-mini can be used for one month.
5. Inport/Export LUT format is limited only for DaVinci cube format. Export is limited to 17^3 grid count.
6. Only one camera LUT is allow to download.

Entry License

Entry License is suitable for small sized productions, freelance DP/DIT, or those who need monitor calibration.
Compared to Free License,

1. You can use two real LUT boxes at one time.
2. You can save LUT on the Flash memory.
3. You can save unlimited number of LOOKs.
4. Other LUT device than IS-mini can be used.
5. Any format of LUT files can be imported/ exported. But the export LUT's grid number is limited to 17^3.
6. Up to three camera LUTs can be downloaded one year.

You can purchase the license from deales, or buy online through the program which enables immediate activation.

Standard License

Standard License is suitable for the project which contains post production process.
Compared to Entry License,

1. You can use upto five real LUT boxes at one time.
2. No restrictions for LUT import/ export. Grid number of export LUTs can be 66^3.
3. All of cameras LUTs can be downloadable.

Corporate License

Corporate License is suitable for a production which have more than a couple of users, broadcasters, post productions. One license can activate 5 PC, and you can increase the number by optional license. You can request USB dongles to activate the client as an optional service, which means you can use this software whichever PC upto the number of USB dongles.
For live broadcasting and big projects, it enables you to control upto 20 units of LUTBOXes and you can increase the number by an optional request. You can use special interface called IS-TOWER which is targeted for controlling dozens of devices.

Compared to Standard License,

1. You can activate upto 5 PC and request more by optional request.
2. You can request USB dongle service which allows you to activate any PC upto the number of USB dongles.
3. You can control upto 20 units of devices simultaneously. Optional request allows you to use unlimited number of devices.
4. You can use IS-TOWER user interface to contorl dozens of devices.

System requirements

Supported Operating Systems

Windows7 SP1, Windows8, Windows10, Mac OSX 10.8 or later

Requred Hardware Specs

Display : more than 1280 x 720 resolution
Memory : more than 2GB requiured. It decides how many devices you can use.
Storage : more than 5GB required
CPU : Faster the better. It affects the response of the resulf of color correction

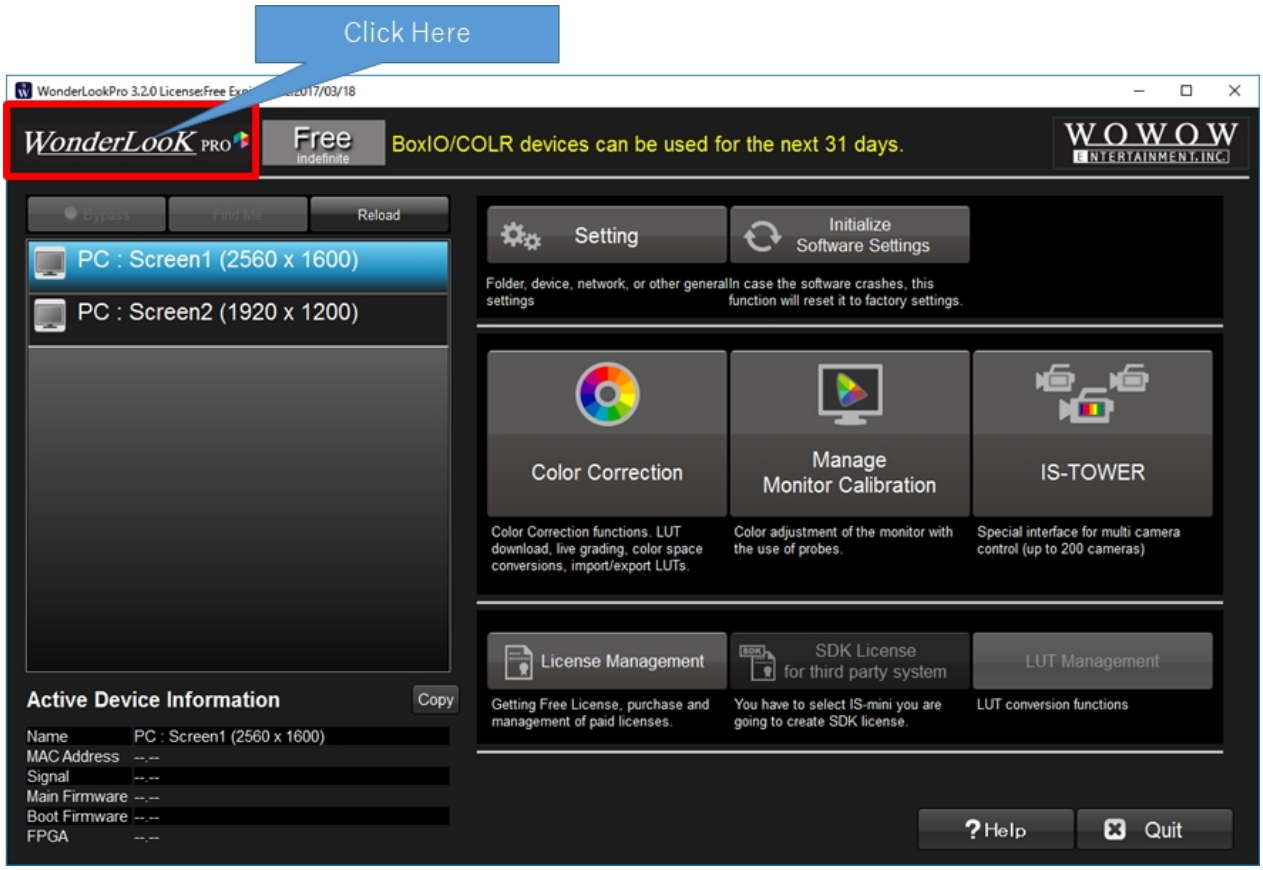
Libraries

How to Use

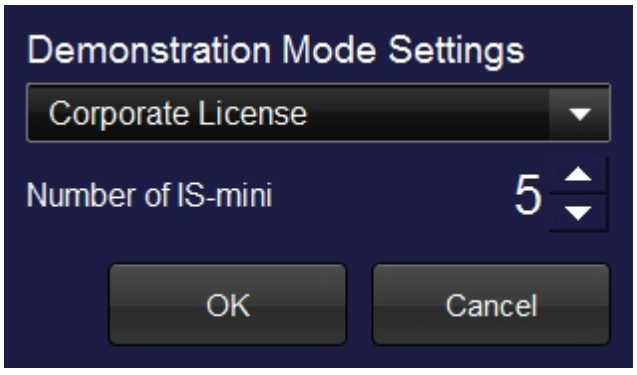
Demonstration Mode

How to start demonstration mode

If you have Free License or paid license, you can go into demonstration mode.
The demonstration mode achieve to connect any number of virtual IS-mini, any type of license, so you can confirm functionality for any licenses.
Please click WonderLookPro logo first.



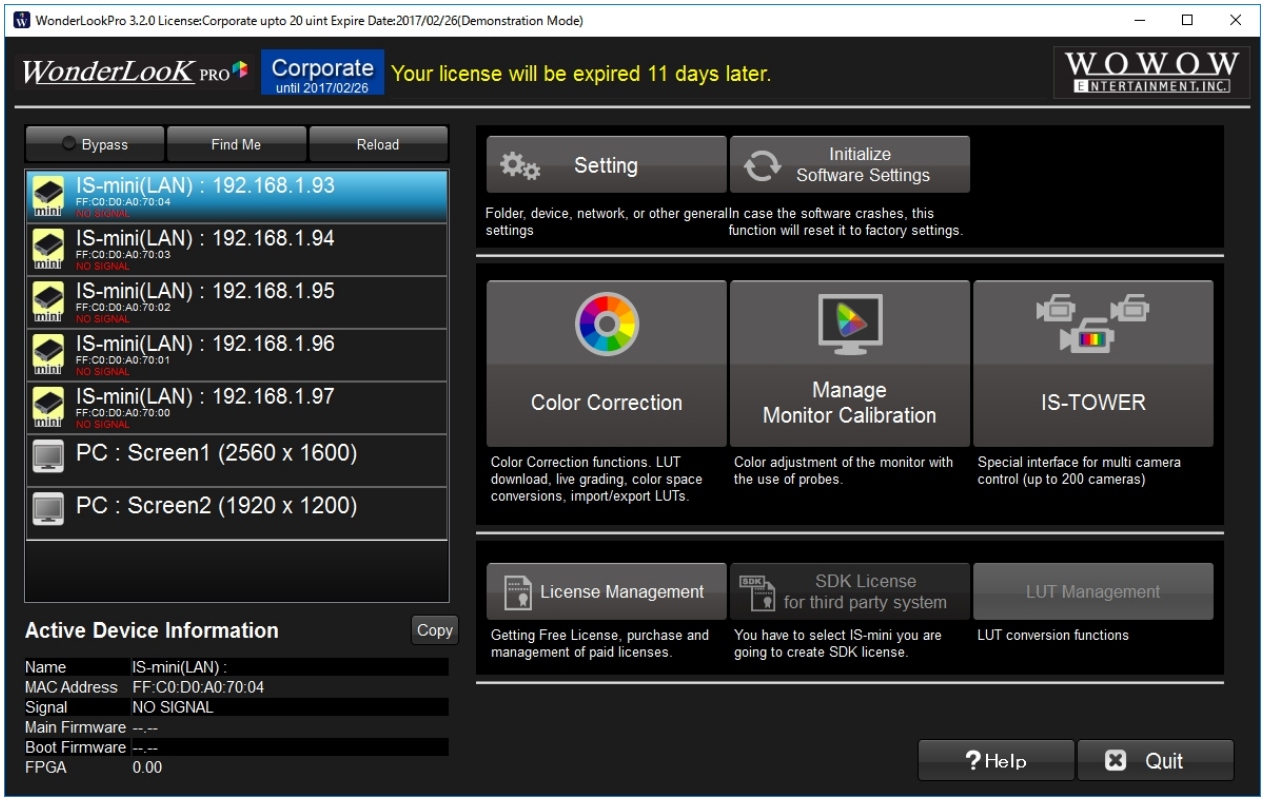
Following dialog will popup, and please select license type and number of units.



As you see, Corporate License was given and 5 IS-minis are connected throught Ethernet virtually.

Restrictions are,
1. It won't support real device. Even if you connected IS-mini to the PC, this software won't recognize it until it starts again.
2. Export function can not be used. You can confirm export setting screen but you can not export LUTs in this mode.

Other functions are almost available. Please try to experience WonderLookPro functions.



HDR settings

HDR Setting

WonderLookPro has a variety of function which supports HDR. You have to make software settings properly depend on the purposes.

1. On-set viewing for HDR shooting
2. Create LOOKs for HDR
3. Simultaneous creation of HDR and SDR contents (including live broadcasting)
4. Convert HDR contents to SDR and use it for SDR contents
5. Convert SDR contents to HDR color space and use it with other HDR contents
6. Calibrate the bright monitor as HDR monitor

HDR Viewing

On-set viewing for HDR shooting

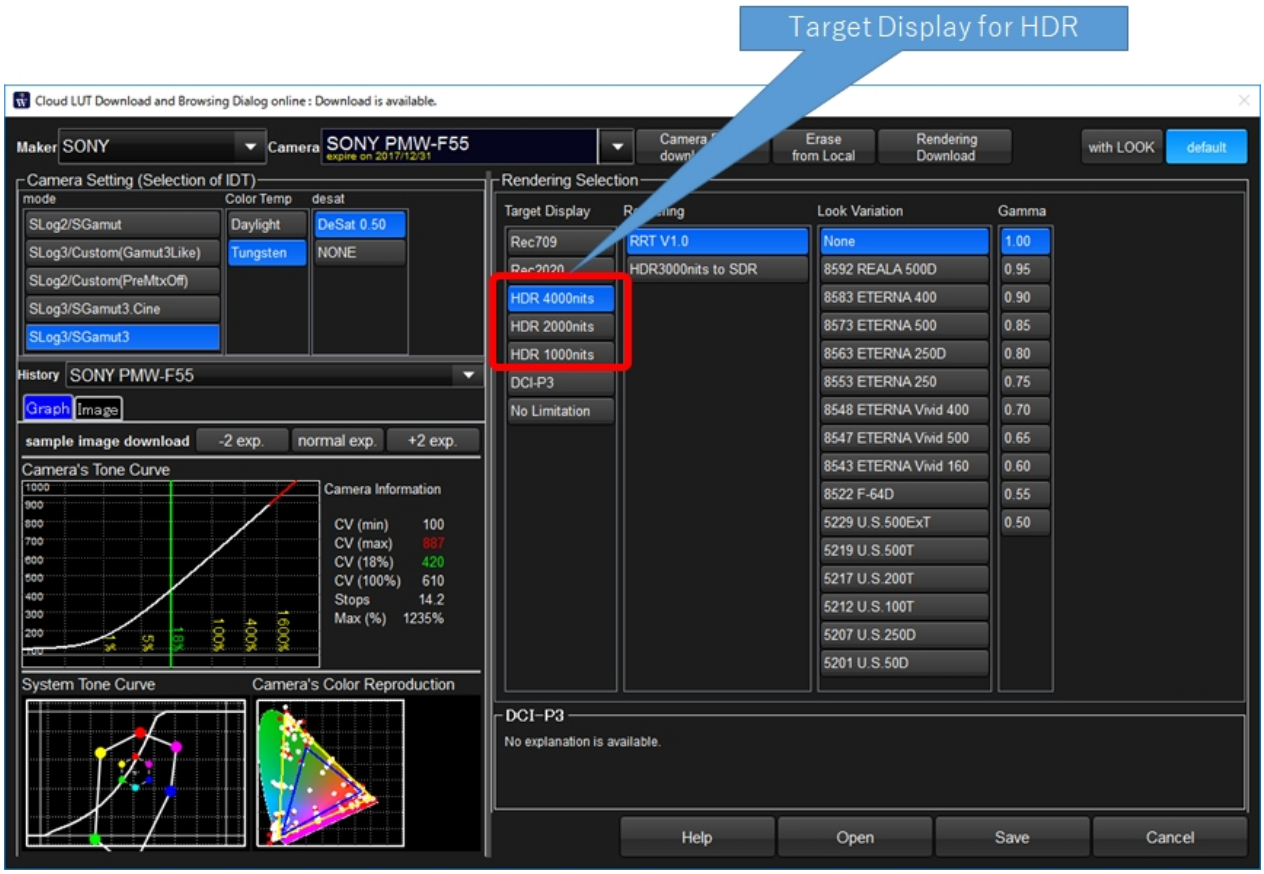
To create HDR contents,
a. Camera Setting and WonderLookPro's input setting
b. Selection of Rendering (including no rendering)
c. ODT(monitor) setting

you should set the camera as wider the dynamic range, as wider the color gamut as possible to capture all of the information of the scene.
If the camera has LOG mode, you should select LOG, color space should be Rec2020 or native, not Rec709 or DCI.

WonderLookPro has two method to create HDR output image. One is to use ACES Rendering (RRT), another is just converting the color space.

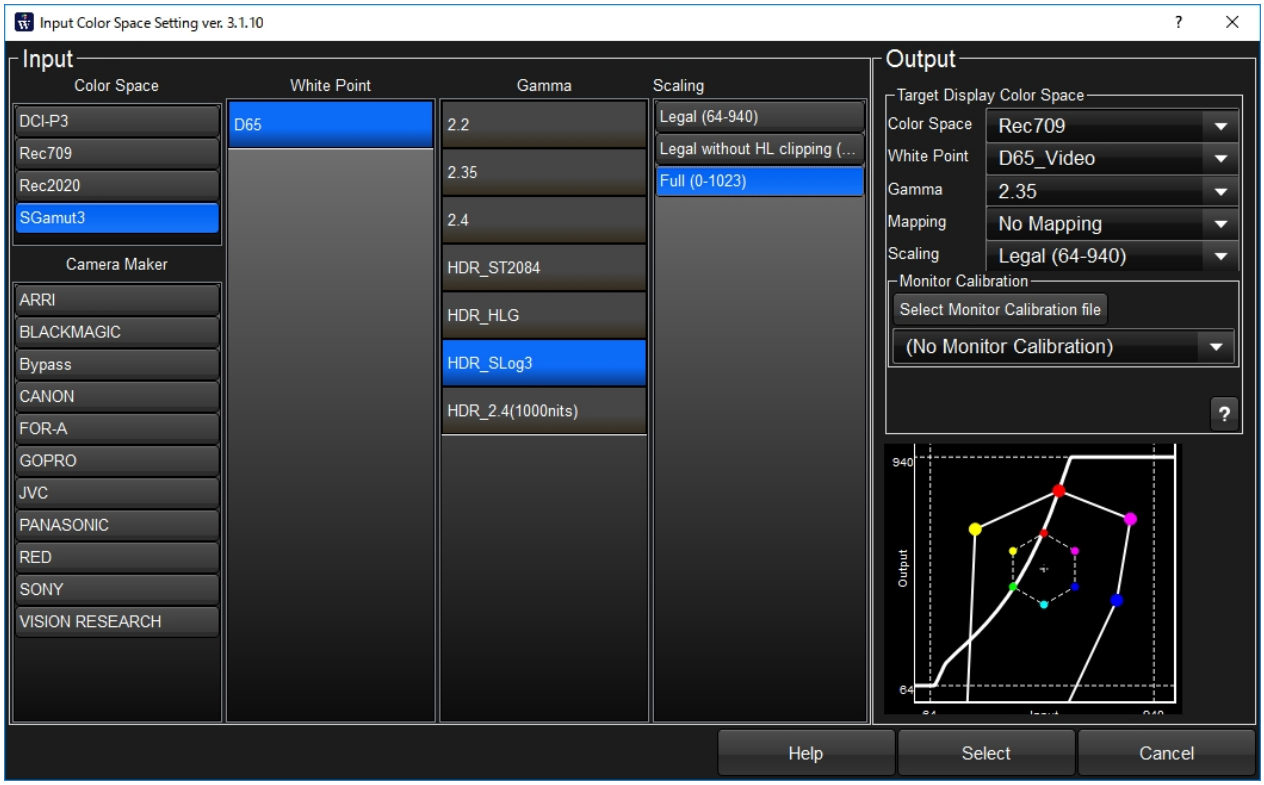
If you are going to use ACES Rendering, click "Cloud LUT" button, download the camera LUTs, (explanation is here)

- Set the proper camera setting (following example is SLog3/SGamut3
- Set to HDR4000nits (or 2000nits, 1000nits) for Target Display of Rendering.
- "Rendering" has to be "RRT V1.0" and other settings can be selected as your wish.



If you use simple color space conversion, click "Color Space" button and set input color space. (explanation is here)
In this case, the system do not provide rendering, just provide the platform of the color correction you can do at your decision.

Following example shows selecting SGamut3/SLog3 form preset color space.
You can select from Camera Maker sections. The important thing is it has to be matched with real camera setting.



When you are using color space conversion, you can set ODT(monitor) setting in the right side of this screen or in the color correction screen after closing this screen.
At last, confirm the OCT settings. ODT settings are to create 10bit code value for the monitor. It have to be decided by the setting of viewing monitor, or color space specification the project is targeting to.

That's all for the preparation. Please make color correction if required.

Other HDR Explanation's links are here.

1. On-set viewing for HDR shooting
2. Create LOOKs for HDR
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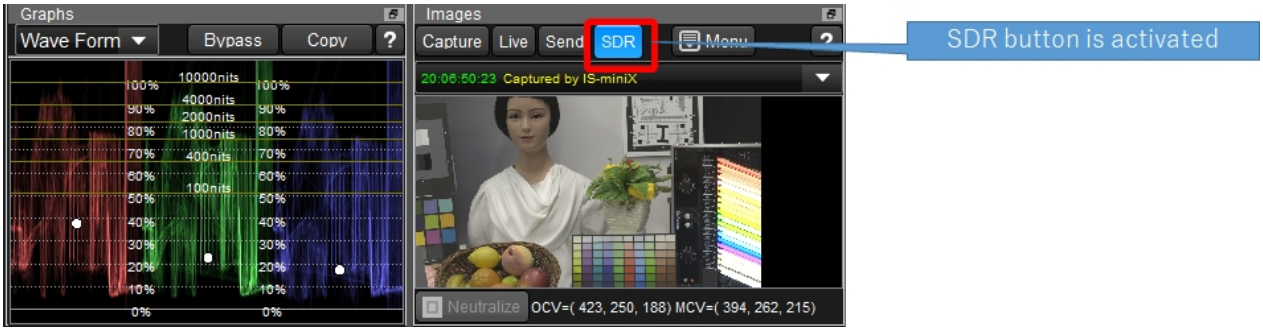
5. Convert SDR contents to HDR color space and use it with other HDR contents
6. Calibrate the bright monitor as HDR monitor

HDR Grading

②Create LOOKs for HDR

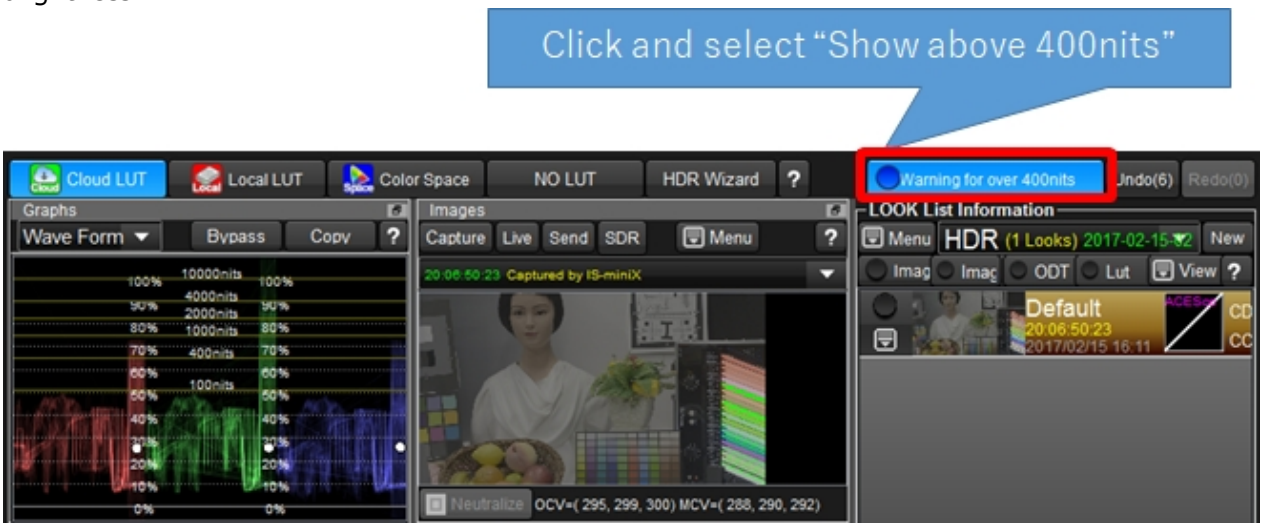
Firstly, prepare as the instruction of "1. On-set viewing for HDR shooting".
Next recommendation is to prepare the proper image for wave form analysis. If you are using IS-miniX, you can capture or show live image. Select "Wave Form" for the Graph.

Confirm the Wave Form graph is HDR mode. This example is for PQ curve so 100% is quivalent to 10,000nits.
Image are also processed for HDR target. The image seems dull and we can not tell how the exposure level is or color reproduction is.
WonderLookPro provides simple method to confirm image and graph on PC screen, "SDR Gamma View" function.
By selecting SDR button, HDR target gamma is converted to SDR 2.4 and the image and graphs are updated by this conversion.
It helps to confirm exposure level roughly. It won't send LUTs to IS-mini. Just only for screen display.

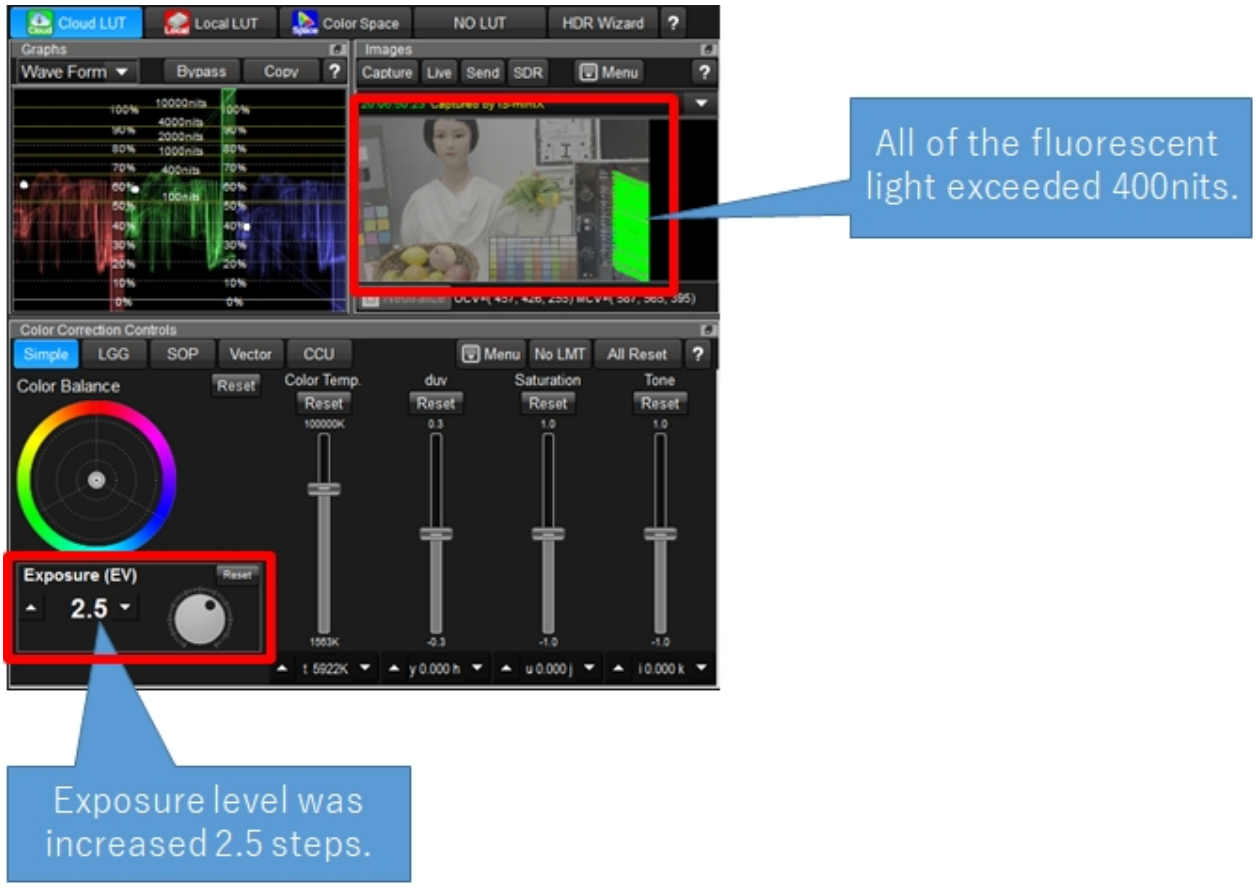


Next explanation is warning function. Click "Warning" button and select "Show above 400nits".
It will mark 400nits or brighter pixels by green color. It will affect to IS-mini's output to confirm the result by monitors.

Following example shows marking on part of the fluorescent light which has over 400nits brightness.



Here is the simple experiment.
Adjust exposure shift parameter on Simple Color Correction to +2.5EV. It is equivalent to open lens iris for 2.5 steps.
Almost all of the fluorescent lights changed to green and we can easily recognize that these are above 400nits.



以上の機能を活用しながらHDR向け映像の色調整を行うことができます。

Other HDR Explanation's links are here.

1. On-set viewing for HDR shooting
2. Create LOOKs for HDR
3. Simultaneous creation of HDR and SDR contents (including live broadcasting)
4. Convert HDR contents to SDR and use it for SDR contents
5. Convert SDR contents to HDR color space and use it with other HDR contents
6. Calibrate the bright monitor as HDR monitor

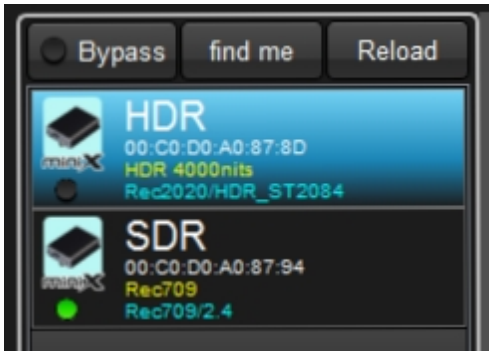
HDR/SDR Simultaneous

③Simultaneous creation of HDR and SDR

Here is the explanation of how to create HDR and SDR contents simultaneously.

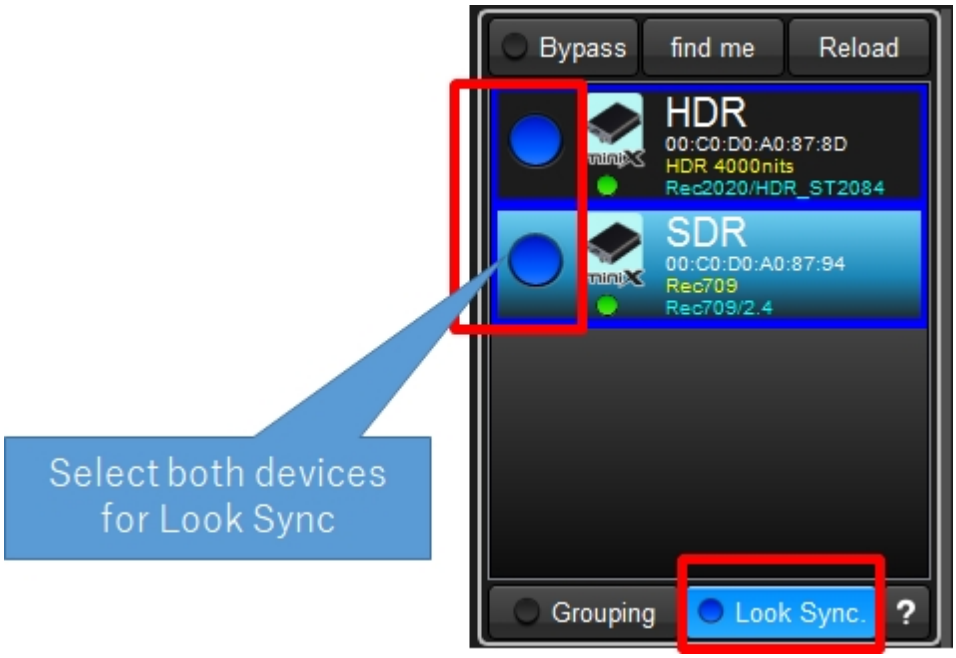
Prepare one IS-mini for HDR (you can use 4 units of IS-mini for 4K), one IS-mini for SDR.

ODT setting is, Rec2020/ST2084 for HDR, Rec709/2.4 for SDR.
Rendering target parameter is, HDR4000nits for HDR, Rec709 for SDR.



Is you connected more than two IS-minis, you will find the notation which shows the difference of the settings between IS-minis.
In this case, the difference of rendering is shown in yellow characters, which means other than target parameters are matched.
The difference of ODT setting is shown in blue characters, which says Rec2020/ST2084 for HDR, Rec709/2.4 for SDR, these are correct.

Next is the setting of Look Sync function. Click "Look Sync" button for the selection, and select both devices.



Next, we have to match HDR and SDR visually for the starting point. It is not necessary to basically match, or to find the best image for each is another option.
We set HDR first here. Please decide the exposure and lighting settings by viewing HDR image. IS-mini's settings are default. No color correction so far.
After the exposrue condition decided, keeping the IS-mini for HDR default, we will adjust the IS-mini for SDR by exposure shift control on Simple Color Correction.
Before color correction, click "set for Look Sync Exception" on Simple Color Correction. This setting eliminate Simple Color Correction parameters for Look Synching.
In general, HDR image is proffered to be brighter, so we need to close a little bit iris for SDR. Here is the example -1.0EV adjustment.

That is all set. If you do color correction on LGG/SOP/Vector/CCU, which means other than Simple Color Correction, you can grade HDR/SDR simultaneously which keeping visual matching.

Other HDR Explanation's links are here.

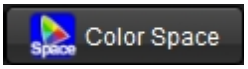
1. On-set viewing for HDR shooting
2. Create LOOKs for HDR
3. Simultaneous creation of HDR and SDR contents (including live broadcasting)
4. Convert HDR contents to SDR and use it for SDR contents
5. Convert SDR contents to HDR color space and use it with other HDR contents
6. Calibrate the bright monitor as HDR monitor

HDR to SDR

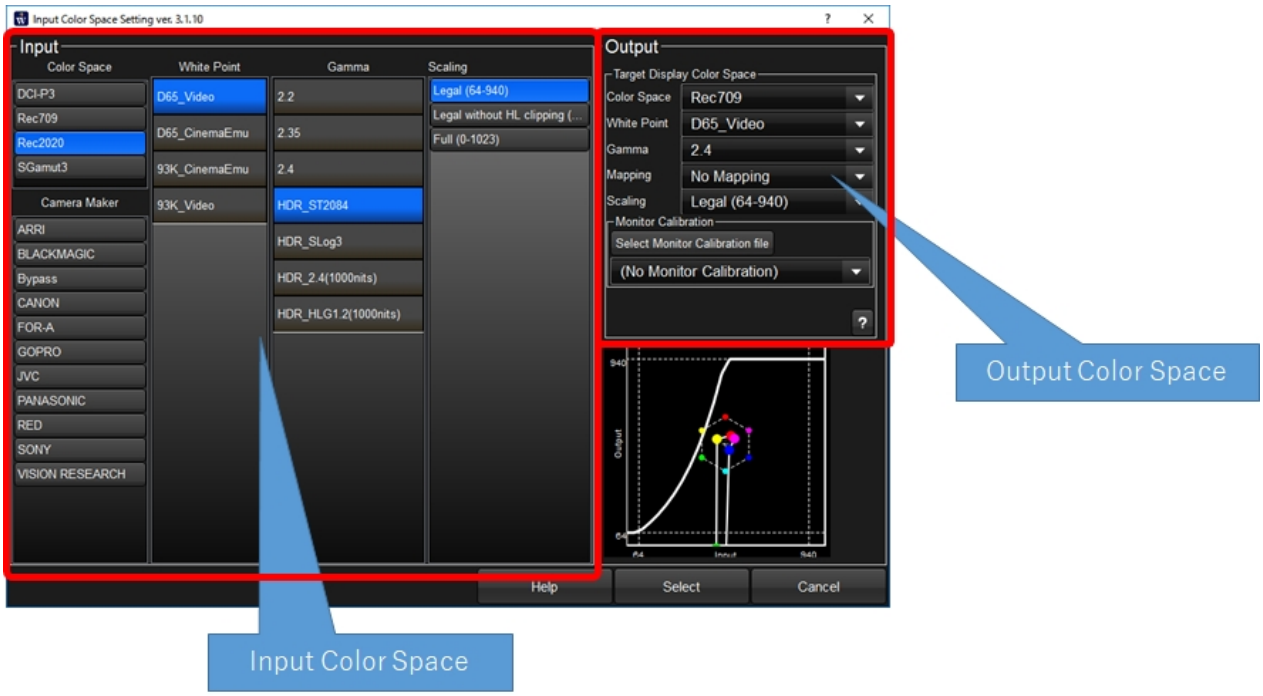
④ Convert HDR contents to SDR and use it for SDR contents

Here is the case that HDR complete contents have to be used for SDR project.

In this case, the conversion is between color space specification, so we should use Color Space Converter function.

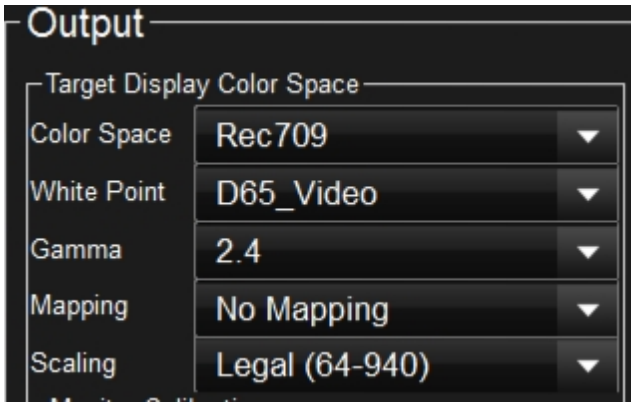
Click 

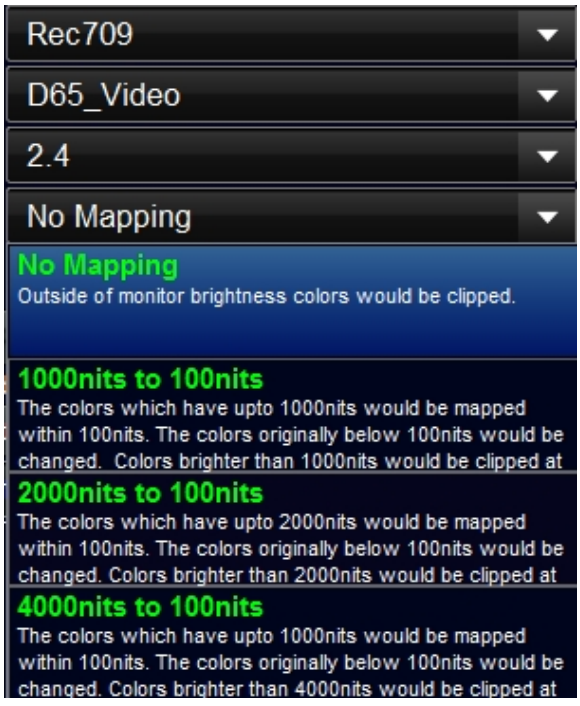
button, and Color Space Converter screen will appera.
We will use Rec2020/ST2084 as input, Rec709/2.4 for output.



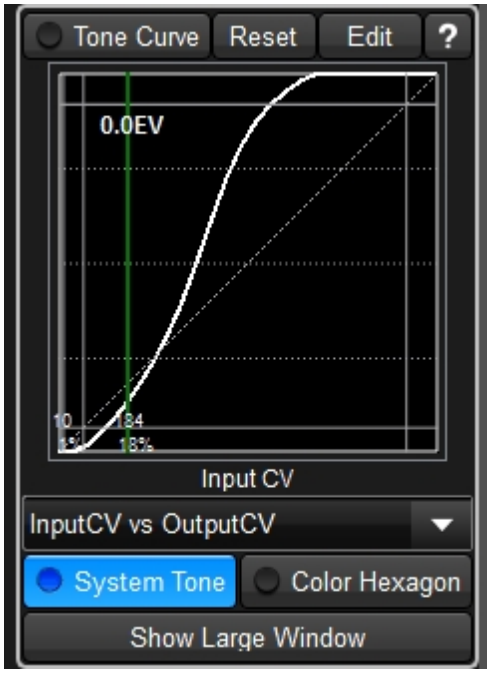
This setting may solve the objective, but this conversion is from big color space to small, so the colors which were outside of output color space have to be discarded.
It brings lost of detail and partially no tone reproduction. If you prefer detail expression to correct color reproduction, you can use "mapping" technology.
"Mapping" is not discarding outside gamut colors but mapping into inside of color space keeping detail reproduction. It has a merit but has a demerit that saturation and contract decrease of the colors which were inside of the gamut so you have to use it with care.
WonderLookPro have a couple of mapping functions and can use them just selecting it.

Bright colors above white point can be preserved by mapping parameter in "Outside settings".





You can set how bright you'd like to preserve detail by selecting from 1000nits to 4000nits. Here is the example for selection of 1000nits.
Below is the System Tone Graph which shows total input and output relationship. In highlight, no mapping curve reach to the maximum in a straight line,
on the other hand, 1000nits mapping has S shape to reach to the maximum in a soft curve.
It shows mapping preserve from 100nits to 1000nits reproduction.



Adding to that, there is another mapping function which convert Rec2020 to Rec709.

Other HDR Explanation's links are here.

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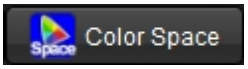
SDR to HDR

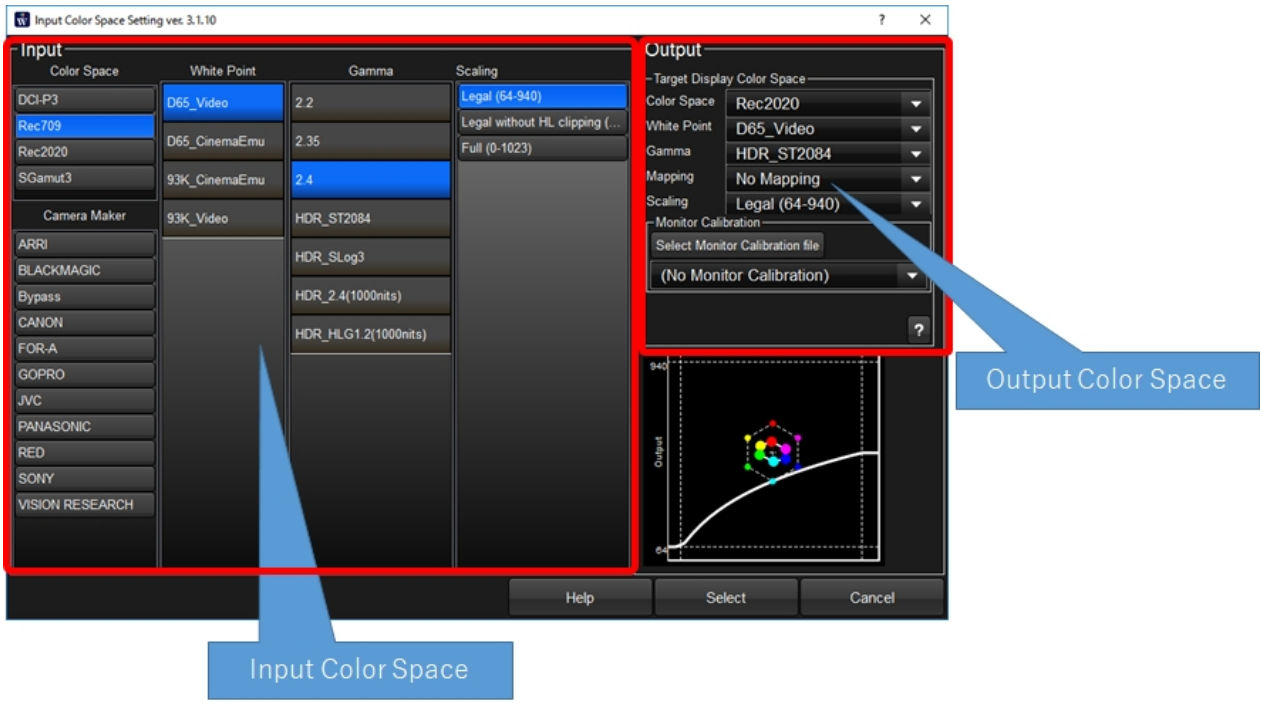
⑤ Convert SDR contents to HDR color space and use it with other HDR contents

Here is the case that SDR existing contents have to be used with HDR contents targeting HDR project.

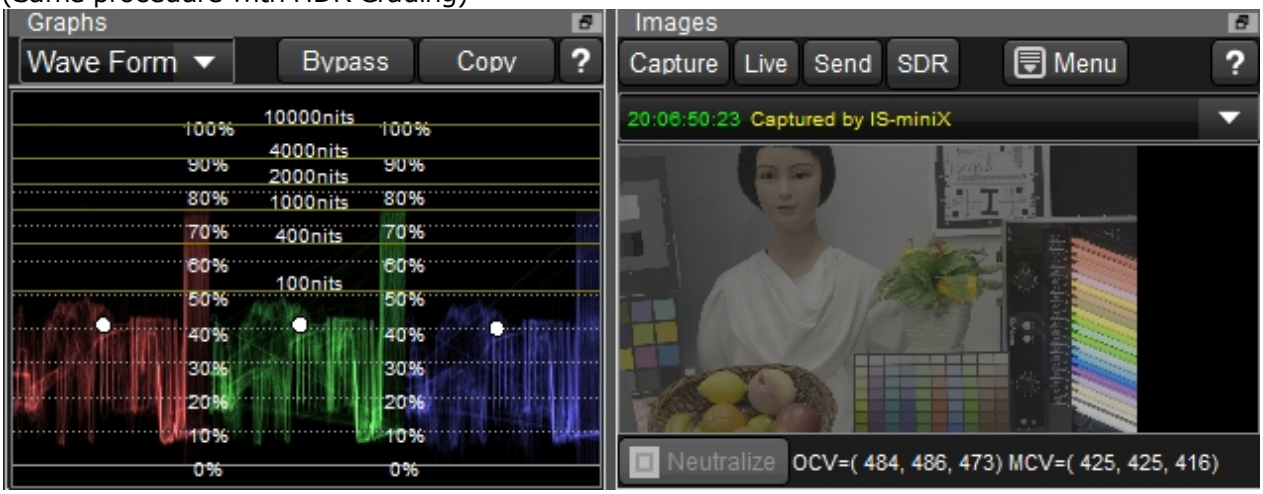
In this case, same as ③'s HDR/SDR conversion, the conversion is between color space specification, so we should use Color Space Converter function.

Click 

button, and Color Space Converter screen will apper.
We will use Rec709/2.4 as input, Rec2020/ST2084 for output.



Next recommendation is to prepare the proper image for wave form analysis. If you are using IS-miniX, you can capture or show live image. Select "Wave Form" for the Graph.
(Same procedure with HDR Grading)



Confirm the Wave Form graph is HDR mode. This example is for PQ curve so 100% is quivalent to 10,000nits.
Image are also processed for HDR target. The image seems dull and we can not tell how the exposure level is or color reproduction is.
WonderLookPro provides simple method to confirm image and graph on PC screen, "SDR Gamma View" function.
By selecting SDR button, HDR target gamma is converted to SDR 2.4 and the image and graphs are updated by this conversion.
It helps to confirm exposure level roughly. It won't send LUTs to IS-mini. Just only for screen display.

Please check "Color Pipeline" on the top of the screen.

LMT is placed between "ODTinv" which is input transform, and "ODT" which is output transform, and the grading space is set to "ACEScc".
In this setting, input color space "Rec709/2.4" will be converted to "ACEScc", which has a huge gamut and brightness of color space, and apply necessary color correction,
and finally generate code value for the HDR monitor. You can create colors which have above brightness of SDR white.
Please do proper color correction while comparing native HDR contents.

Other HDR Explanation's links are here.

1. On-set viewing for HDR shooting
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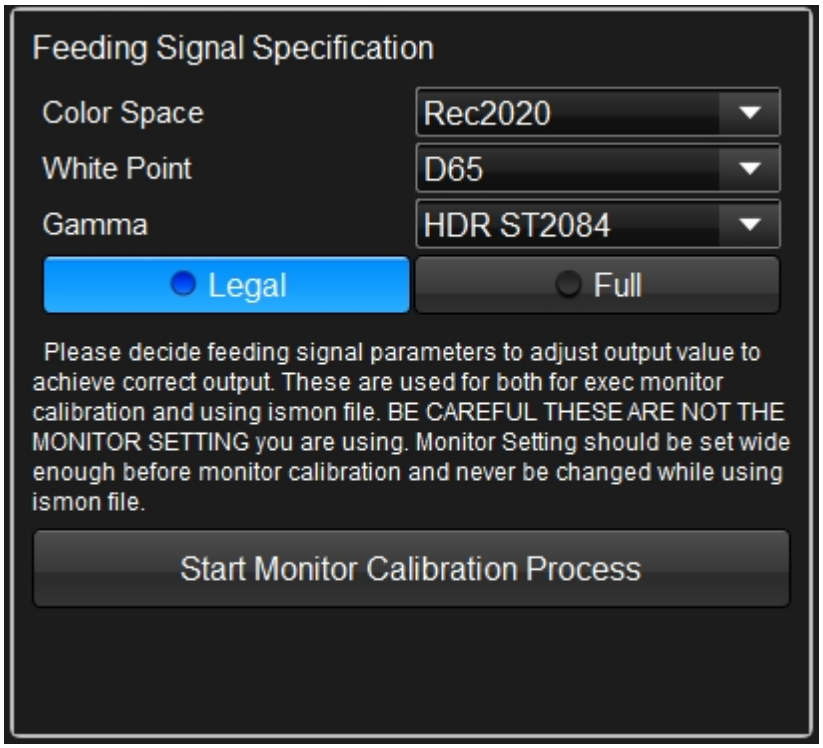
Monitor Calibration for HDR

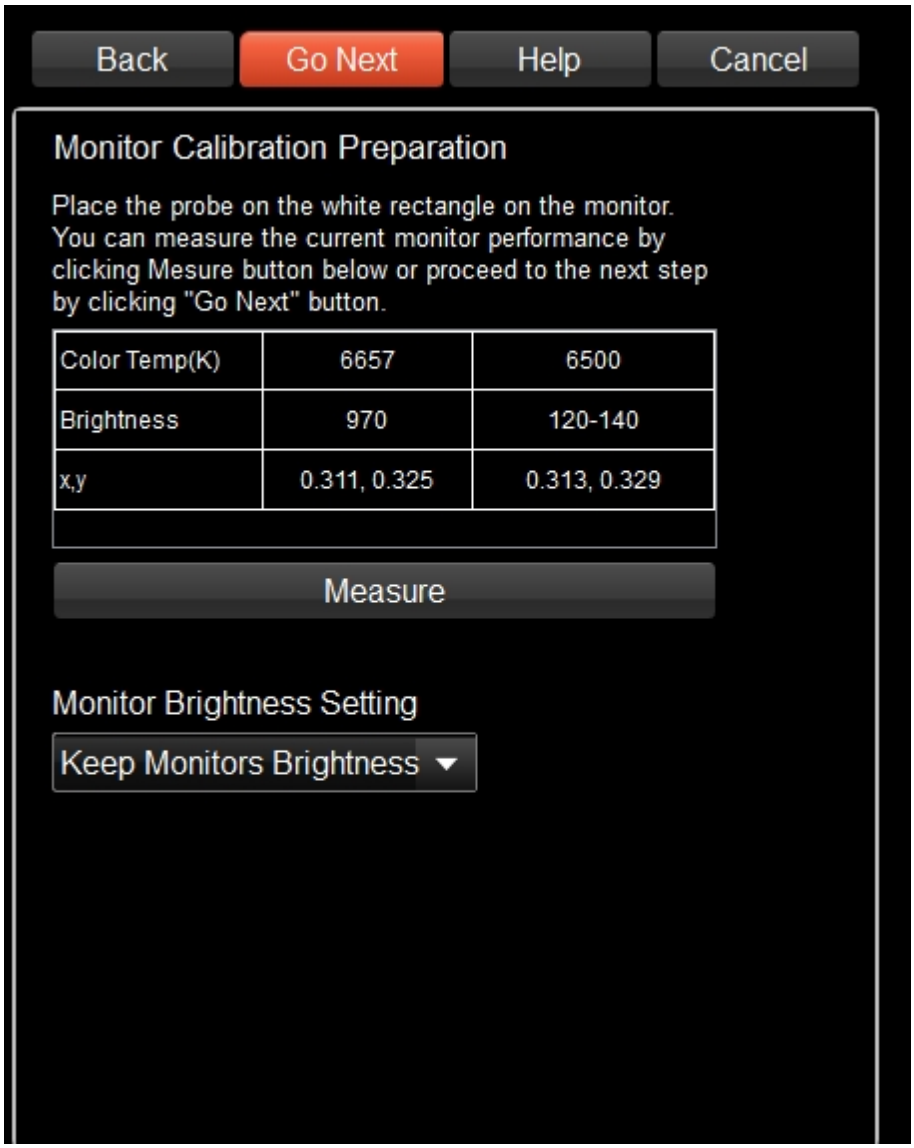
⑥ Calibrate the bright monitor as HDR monitor

There are monitors which has enough brightness for HDR reproduction but has no HDR setting, low accuracy because of consumer produts.
These monitors can be used as mastering monitor by calibrating with WonderLookPro and IS-mini.
Detailed explanation of Monitor Calibration is here. We will show you HDR specialized explanation.

On Manage Monitor Calibration Screen, please make setting for the target. We use Rec2020/ ST2084 here.



On the preparation process of monitor calibration, there is a screen on which you can measure white patch of the monitor.
Please measure white patch here and confirm the monitor setting is correct. Here is the example of measuring SONY's BVM X-300 ST2084 mode. The brightness was 970nits and Color Temperature was 6667K. These are close to the target and we can tell the monitor is correctly set.
"Monitor Brightness Setting" is set to "Monitor Brightness". This setting utilize monitor's brightness in maximum. But more bright pixels than monitor brightness would be clipped to the monitor maximum and it would not be correct reproduction. This calibration would not use mapping for better reproduction like consumer TV sets. Please check it by using warning function.



Other HDR Explanation's links are here.

1. On-set viewing for HDR shooting
2. Create LOOKs for HDR
3. Simultaneous creation of HDR and SDR contents (including live broadcasting)
4. Convert HDR contents to SDR and use it for SDR contents
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Export LUTs

Export LUTs

The Looks or conversions WonderLookPRO created can be exported to various format of LUTs.
Export function can be used at a couple of places and suitable export procedures are available in a short steps.

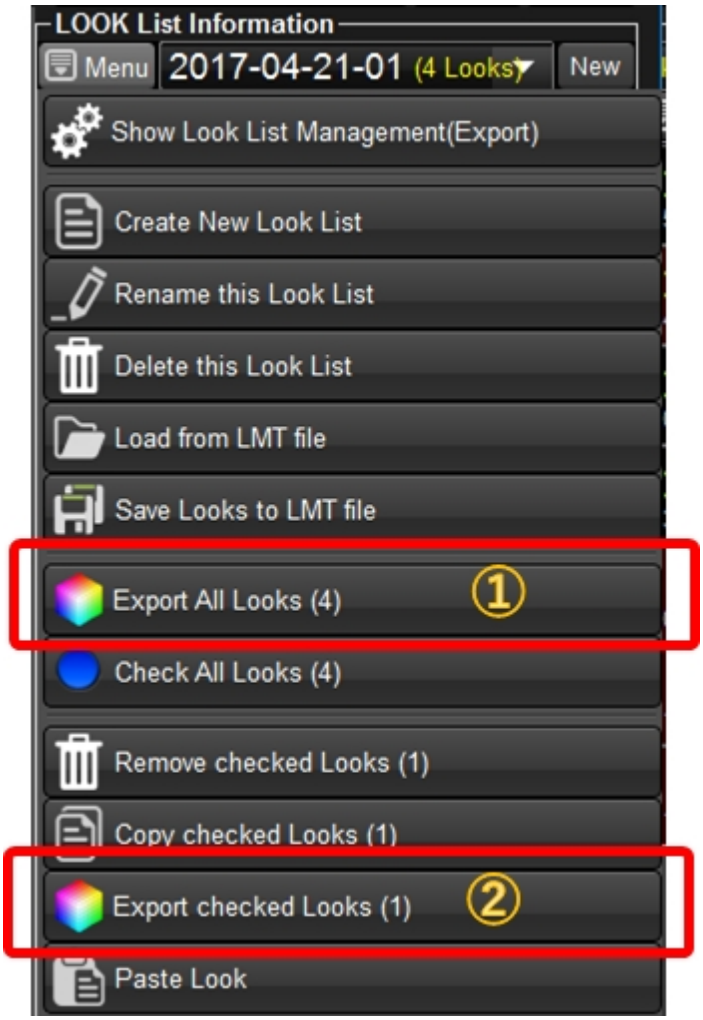
1.Quick Export of Current Look

You can export currently using transform on LUTBOX by short steps procedures.
As the below picture shows, click "Current Look/LUT Export" button and select "Export Current Look as LUT" menu.
Please refer here to look the explanation of export setting dialog.

2.Export from LOOK List

You can export from current LOOK List. All of the LOOKS on the list or selected LOOKs can be exported.
First, click the menu button on top of the Look List.

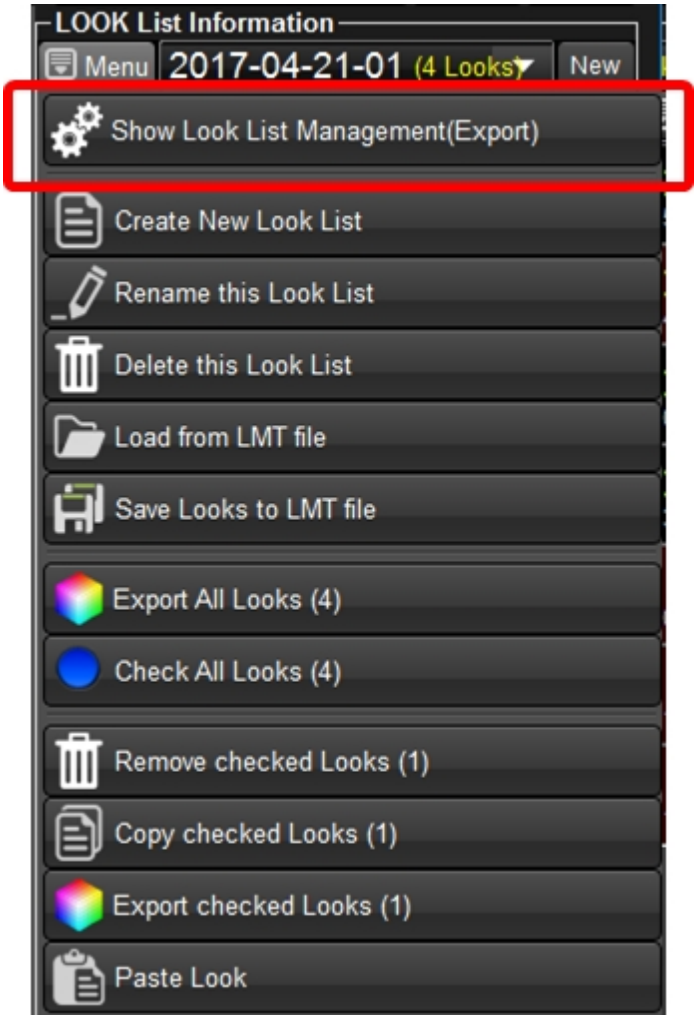
You will see following popup menu.
①"Export All Looks" menu is to export all of the current Looks on the Look List.
②"Export checked Looks" is to export only the checked Looks on the Look List.
After selecting the menu, the export setting dialog will be shown.



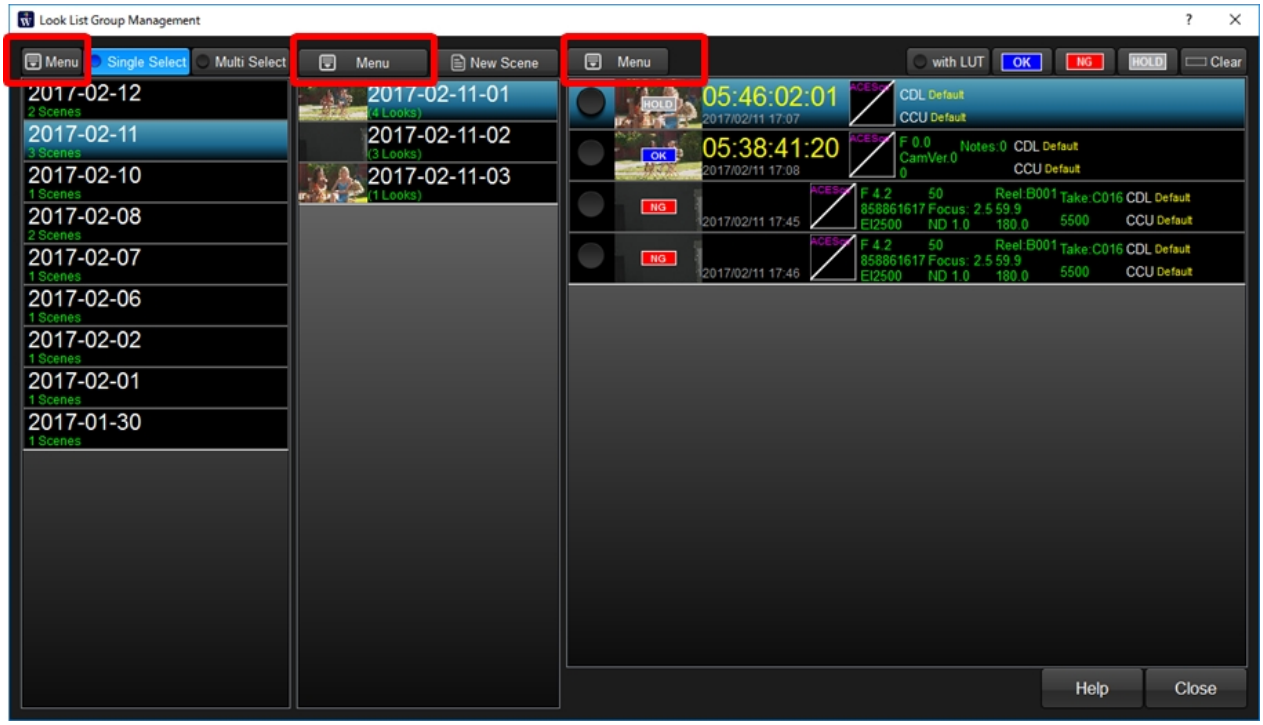
3.Export from Look List Dialog

You can do more flexible export form Look List management dialog.
Look List Dialog can be shown by following method.

You will see following popup menu.
Selecting "Show Look List Management(Export)" triggers to show Look List Management Dialog.

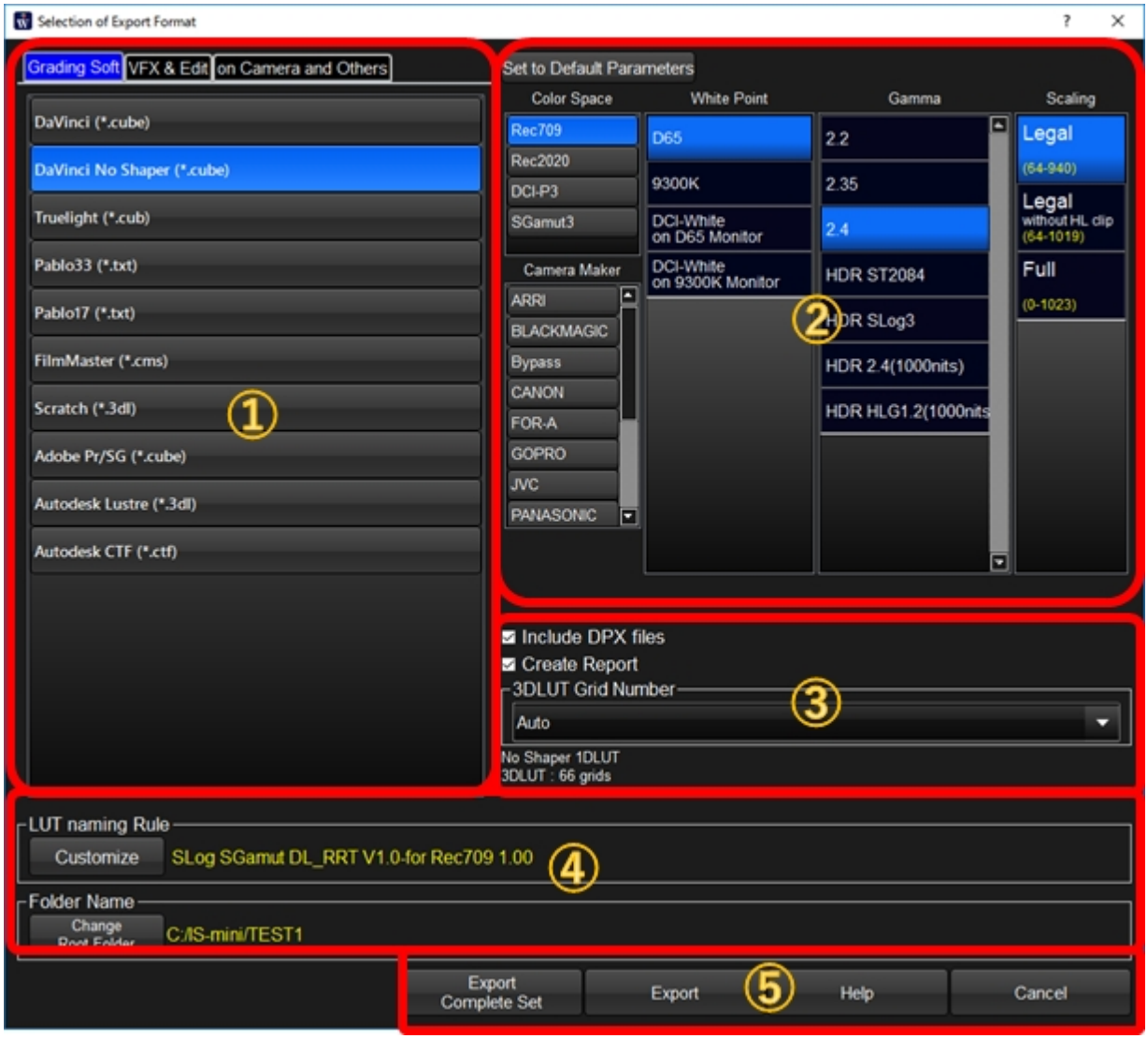


You can export by showing popup menu which is shown by clicking red rectangle menu button.
The target looks for export can be selected from selected LOOKs, selected groups, dates or OK labeled looks.
Please refer to Look List Management Dialog.



Export Setting Dialog

Export Setting Dialog



①Selection of LUT format

Please select LUT format first. Formats are categorized by the tabs.

②Selection of Output Color Space

Please select output color space parameters. If you want to use current LUTBOX setting, click "Set to Default" button on the top.
These selections appear when ODT is available. If ODT is not available, refer to here.

③Grid number of 3DLUT or other settings

You can select the number of grids of 3dLUT. The maximum number of grids are dependent on the format, and it will be shown on the below of section ③.
We confirmed that this maximum number of grids availability but there is no guarantee the LUT can be usable on the target software if you select the grid number exceed the maximum number.
And when report output is available, you can select doing report or not, or saving DPX image which was created with LOOKs or not.

④LUT's naming rule and the folder of export

You can set LUT naming rule and the folder LUT would be saved on this area. To change the rule of the naming, please click "Customize" button. The yellow color text is the filename based on the current naming rule.
Current target folder is shown in yellow characteres on the Folder Name area. If this folder is available, there would be no folder selection dialog and LUTs will be created instantly. If you want to change the target folder, please click "Change Root Folder" button.

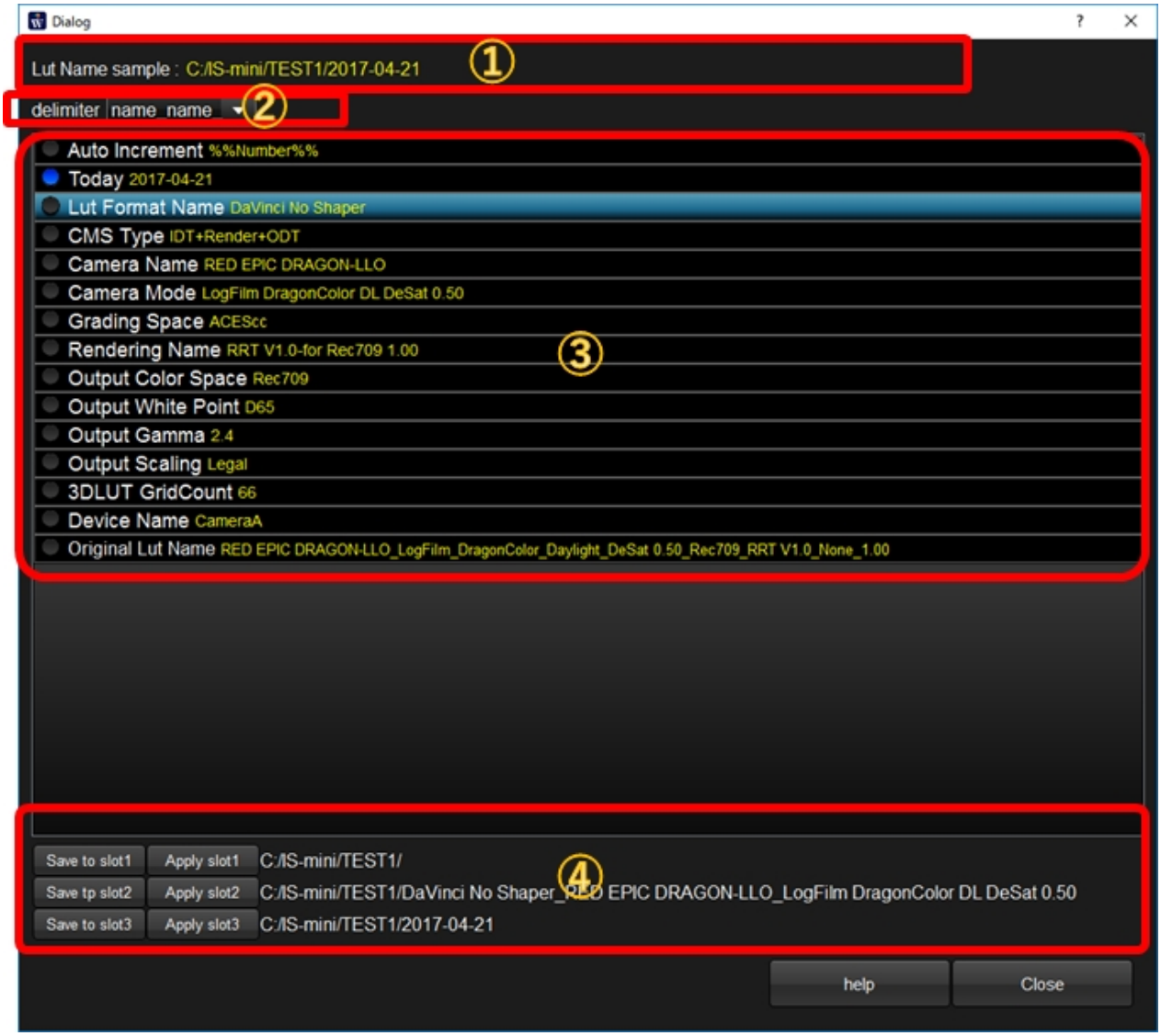
⑤Execution of Export

Clicking "Export Complete Set" or "Export" button triggers exporting LUTs. If current grading space is "Input" or "Output", you can not use "Export Complete Set".
"Export" button triggers the export which creates only one LUT file, converting from input to output.
"Export Complete Set" triggers the export which creates multiple LUTs, which includes, input LUT converting from input to grading space, output LUT converting grading space to output like that.
The variations of LUTs are shown in the following table.

LUT naming rule dialog

LUT/Lut saving folder's naming rule setting dialog

On this dialog, you can make naming rule of LUTs or folders for LUTs.
You can select rules from LUT filename or metadata of the LOOK to make not too long but understandable LUT file name.



①LUT name sample of current naming rules

Here shows the sample LUT name or Folder name under the current naming rule.

②How to combine the rules

You can select how to combine the parameters to make complete name.

③Items usable to make name

This is the list of items which is usable for the naming. Only the checked items are used for naming.
You can change the order of the items by drag and drop after selecting items.

④Saving and loading naming rules

You can save or load the naming rules you created. You can manage upto three rules here.

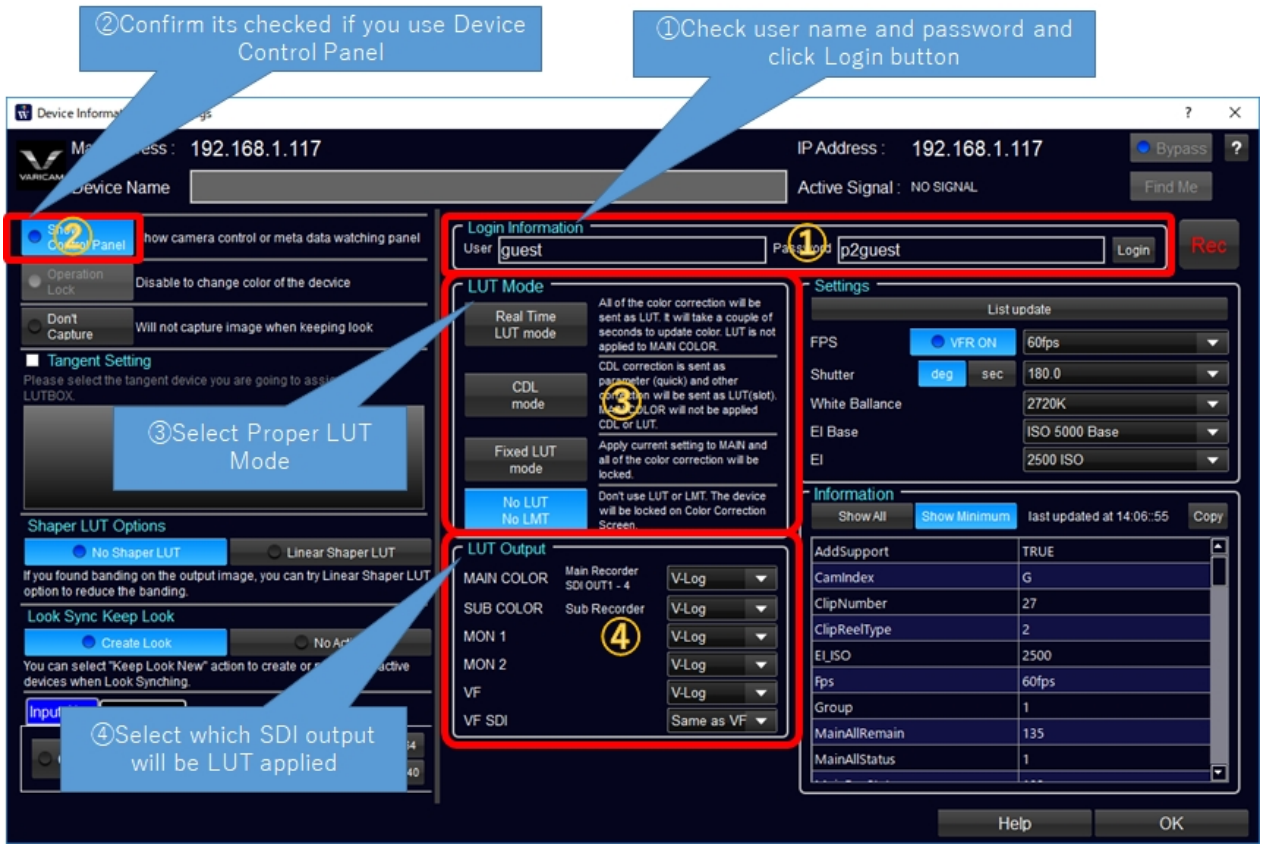
How to use Varicam

How to use with Varicam

WonderLookPro can communicate with Panasonic's camera Varicam series to send LUT or camera settings or receive camera information.
We will explain about initial settings for on camera grading.
Initial state of Color Correction Screen
After connecting Varicam and WonderLookPro with the same network, please start WonderLookPro and go to Color Correction Screen without any special settings(default).
If the Varicam was connected to the same network with WonderLookPro, it will be found automatically and be shown on the device list.

On the device list, Varicam will appear like ①. Device Control Panel will be shown on the middle of the screen like ②, as an floating window.
If Varicam's username and password are default, the communication will be started immediately and White Balance, EI and Shutter values are retrieved from the camera and values are shown on the Device Control Panel. Under this condition, you can not use color correction function for Varicam, you only can watch metadata.

To make settings for Varicam, please click Varicam icon on ① or ②, or click "Device Setting" button on Device Control Panel②, to show Device Information Dialog.



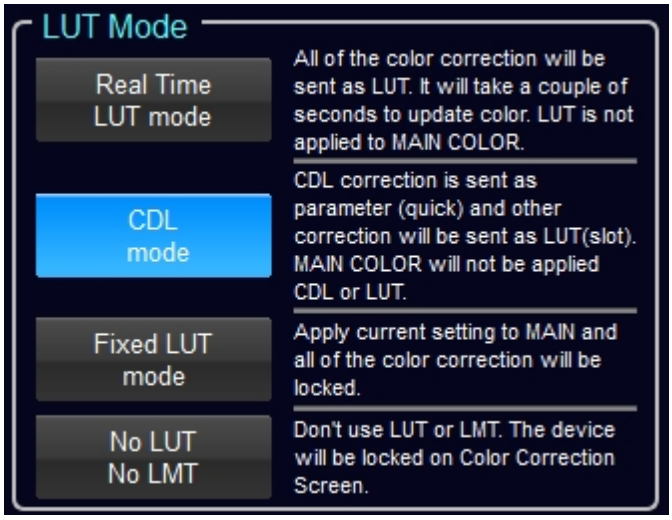
①Login Information

If you don't change the Varicam setting, you don't need to input these values. If you changed the Varicam setting, please input new username and password and click Login button. If buttons on LUT Mode(③) are active, it means login was succeeded.

②Show Device Control Panel

Next confirm the setting of Showing Device Control Panel. It enables recording control, exposure parameter control and watching of metadata.

③Selection of LUT Mode



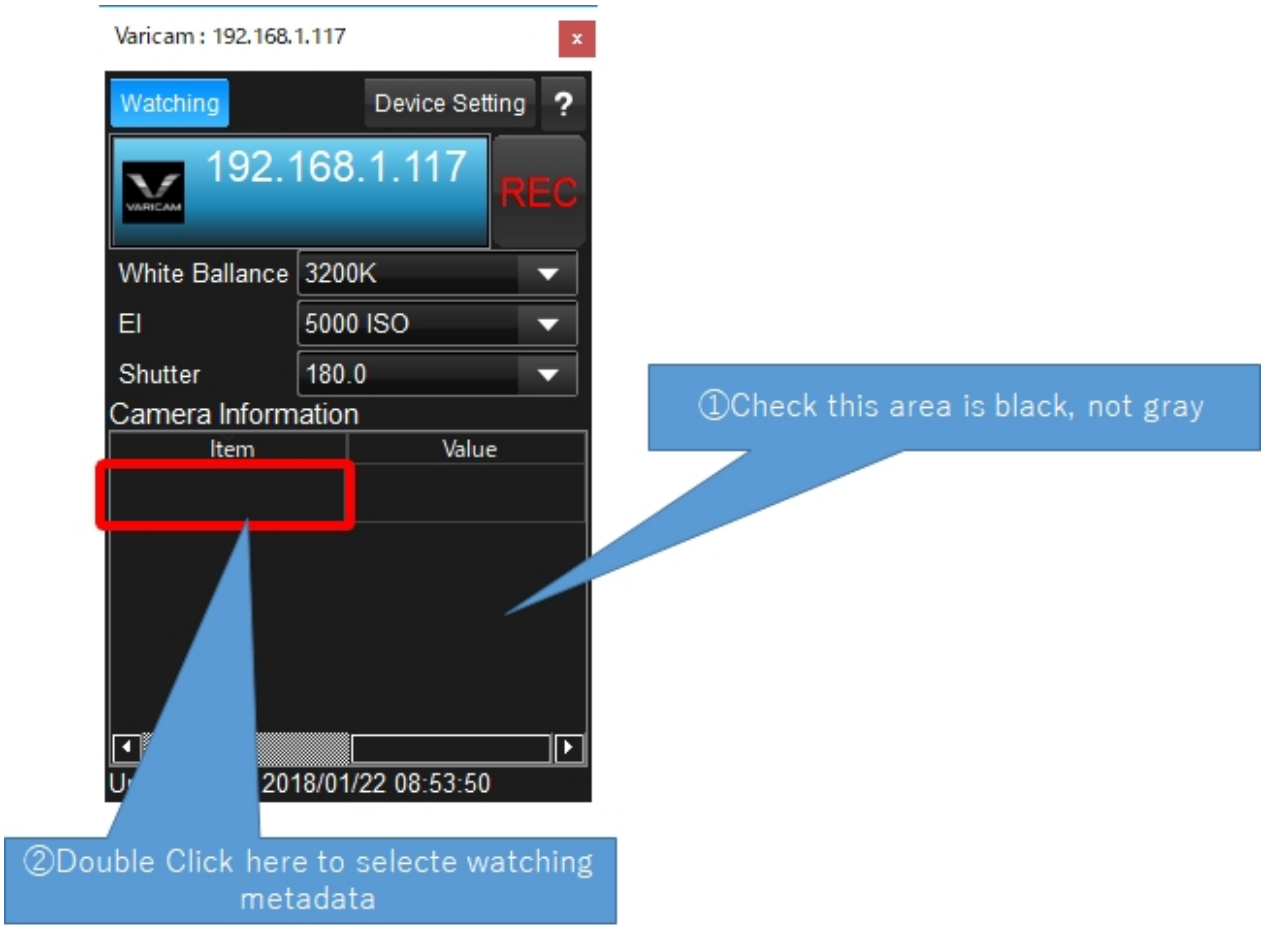
Next please select proper LUT Mode. In default, "No LUT/No LMT" was selected and color correction functions are disabled. Please refer here to select proper mode. If you select "Real Time Lut mode" or "CDL mode", color correction function is enabled. On this example, considering the CDL parameters response time, select "CDL mode".

④Selection of LUT processing for each SDI output

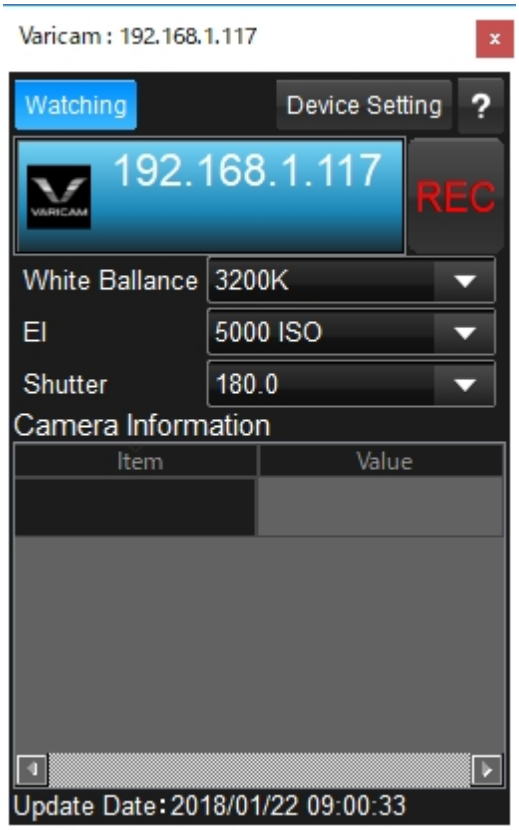
You can select each SDI for applying LUT or not. If you'd like to apply LUT, please select "Grading". On above example, Sub Recorder and MON1 are set to "Grading" to record and viewing with LUT applied image.

Close this dialog by clicking "OK" button on the bottom left.

Confirmation of Device Control Panel and settings
Please confirm Device Control Panel on color correction screen. If the background of the table is black and the update date on the bottom is refreshing, the communication between WonderLookPro and Varicam is going on.
Please double click the ②area to select the metadata to watch.



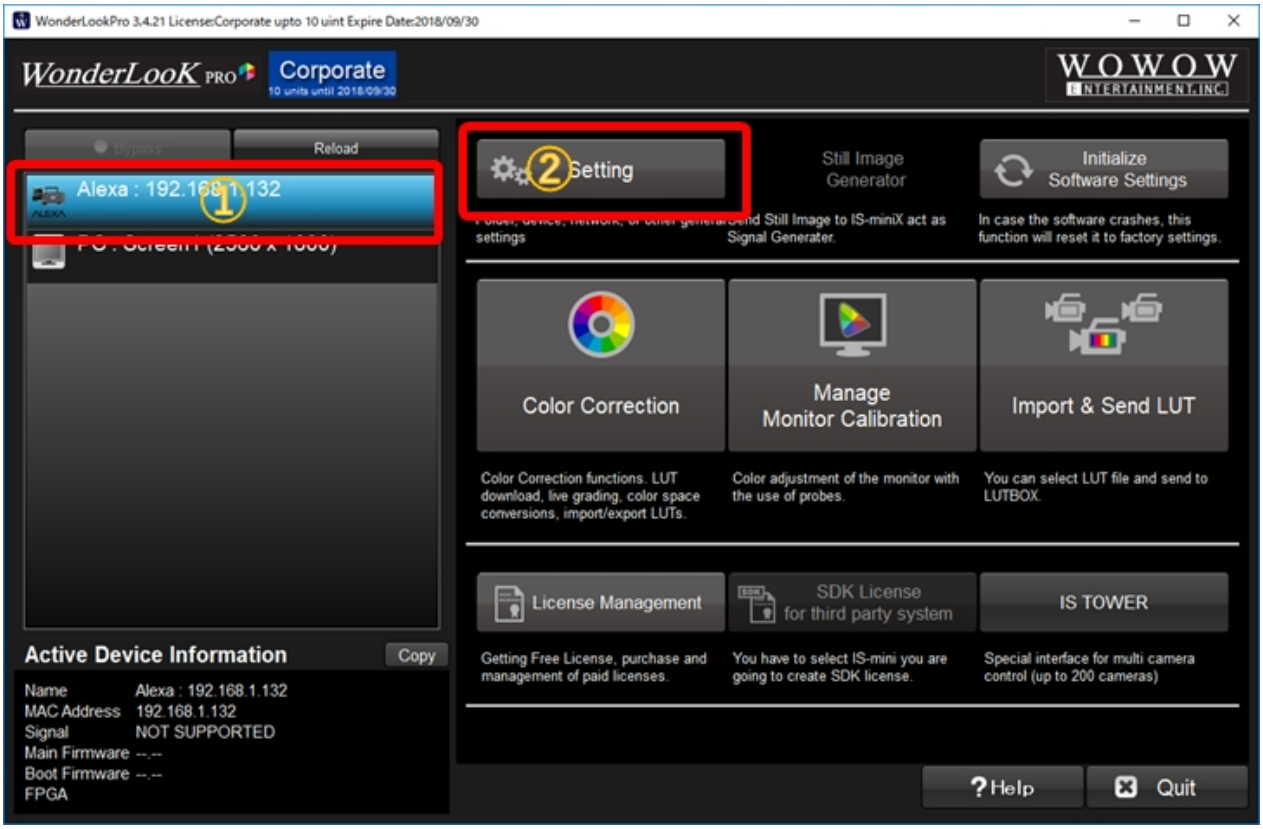
If the color of the table is gray like below, it means the information was not refreshed for a period of time.
The communication is lost or something is wrong with Varicam. Please check the network and camera status.



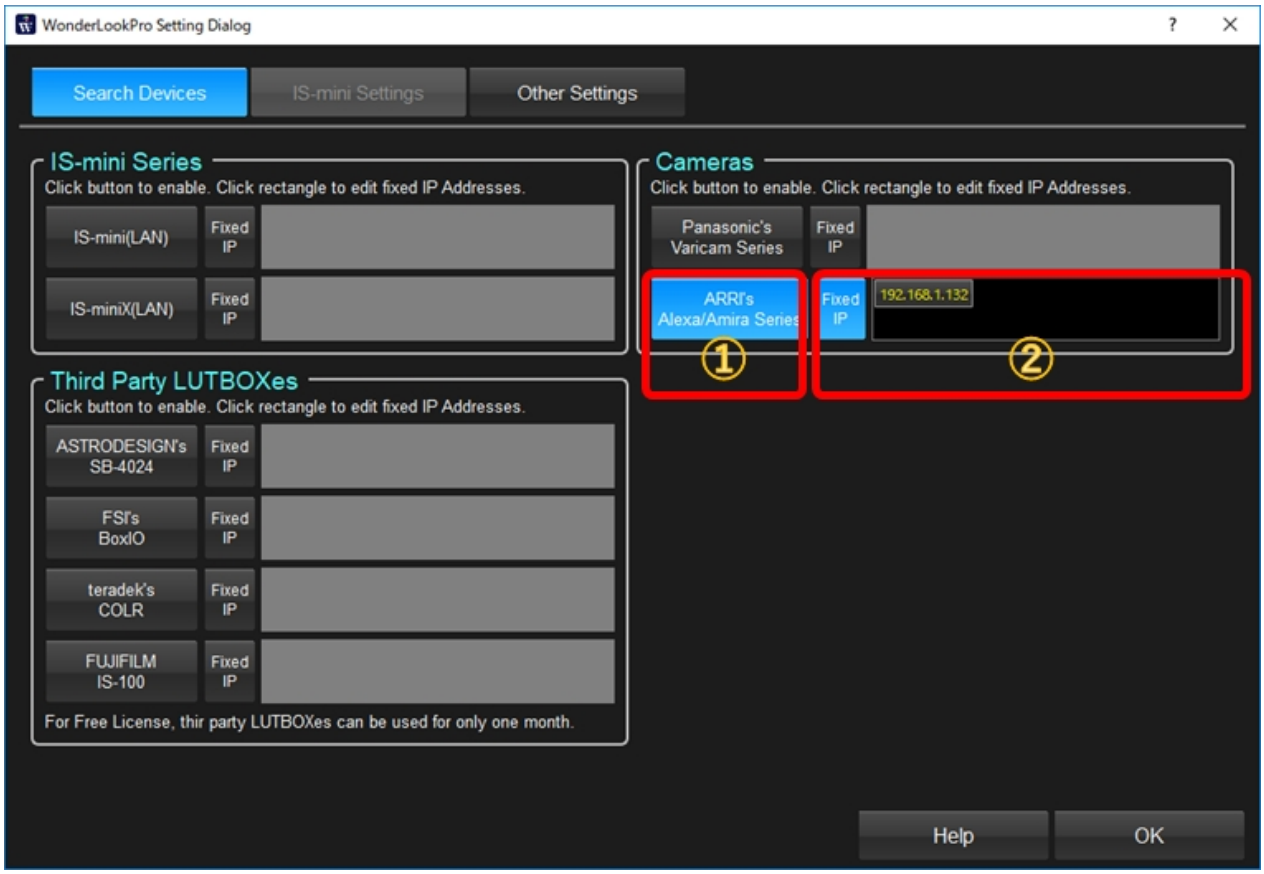
How to use Alexa / Amira

How to use with Alexa/Amira

WonderLookPro can communicate with Panasonic's camera Varicam series to send LUT or camera settings or receive camera information.
We will explain about initial settings for on camera grading.
Preparation for the camera
Please check Camera Access Protcol's "CAP Server Enabled" and set Password.
Initial state of Color Correction Screen
Connect the Alexa mini on the same network with WonderLookPro. WonderLookPro will find Alexa mini automatically and show the camea on the device list(①). If you can not find Alexa mini on the list, click Settin button(②) to confirm device settings.



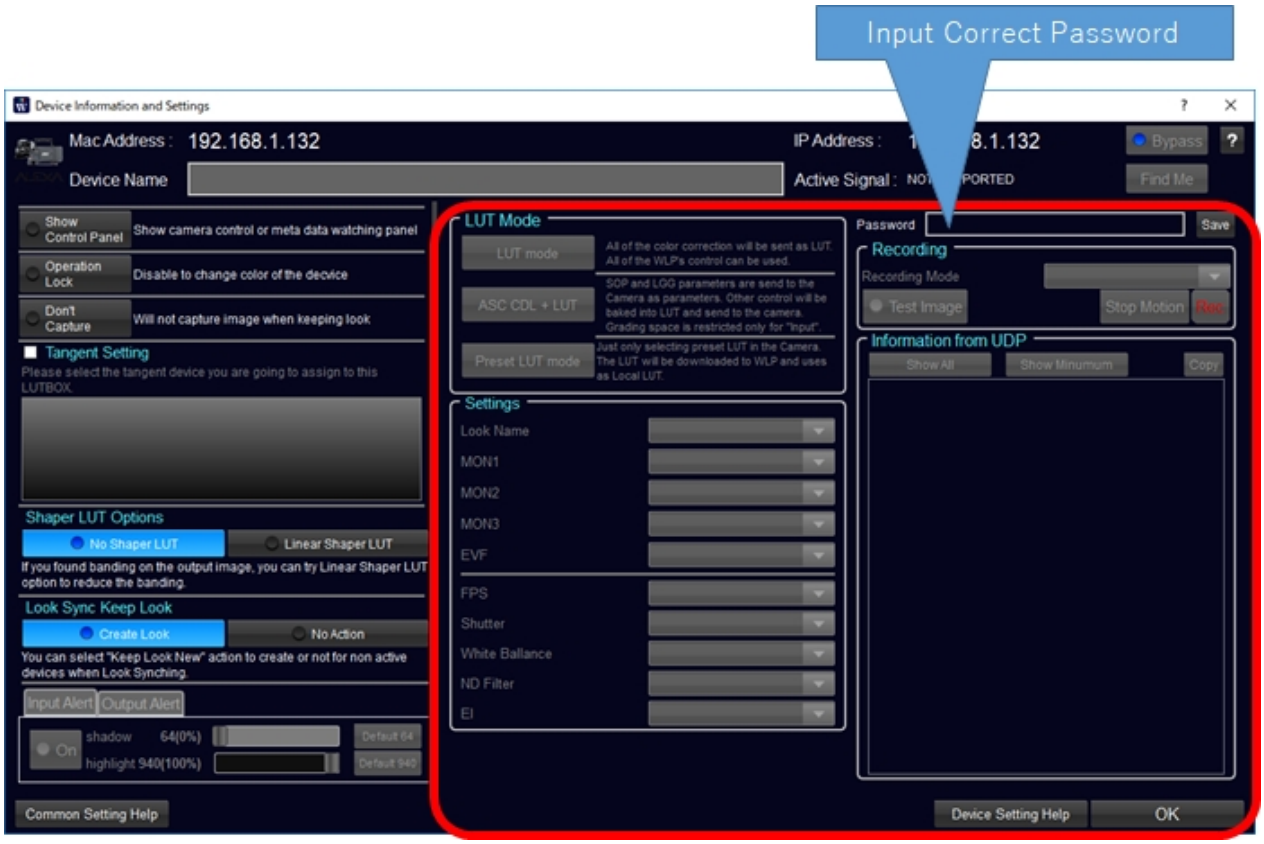
Setting
On the setting dialog, please click "Search Devices" button on the top and confirm "ARRI's Alexa/ Amira Series" button(①) is in blue. If it's gray, click the button to be blue. You can input fixed IP Address to make prioritized search. Please confirm "Fixed IP" button is in blue.



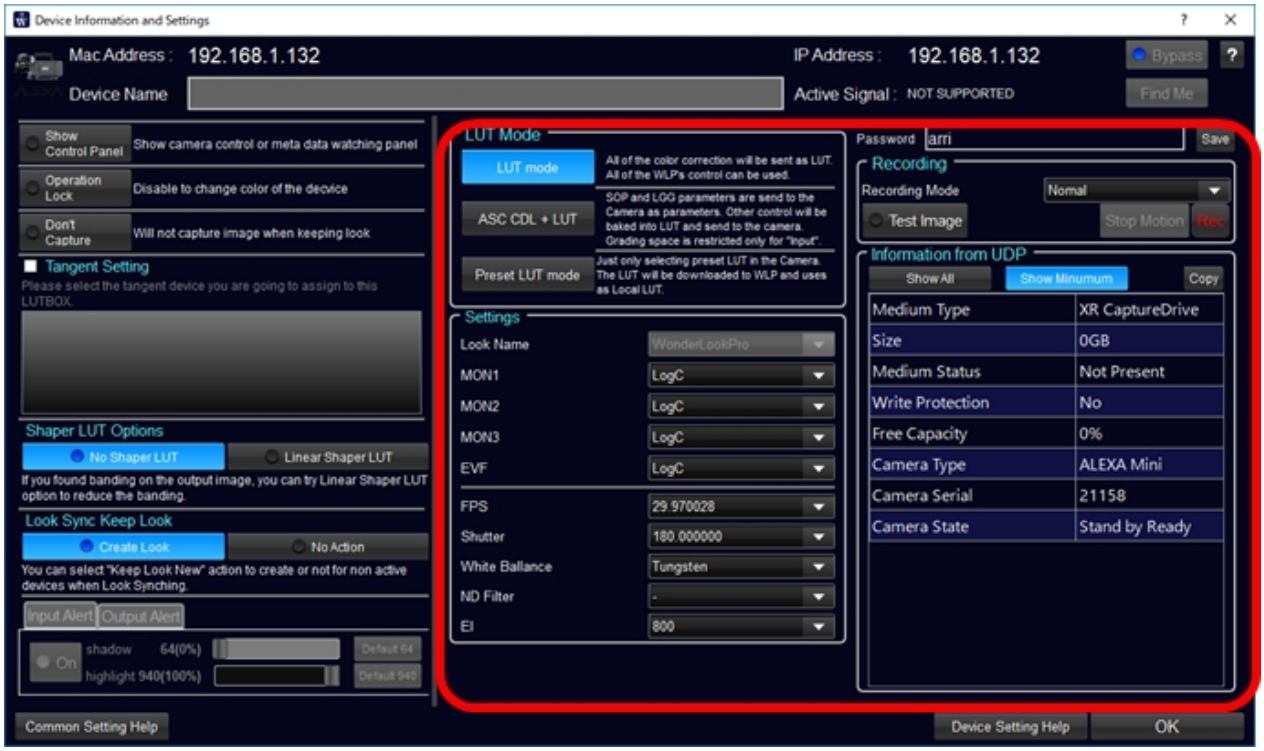
Show Device Information Screen

Close the setting dialog to back to the main window, and click Alexa iron on the device list to show Device Information screen.

In default, all of the camera settings are disabled like following screen.
Please input password set to the camera, and click "Save" button.



If login succeeded, all of the setting are enabled like following screen shot.
Please make settings referring to this help.



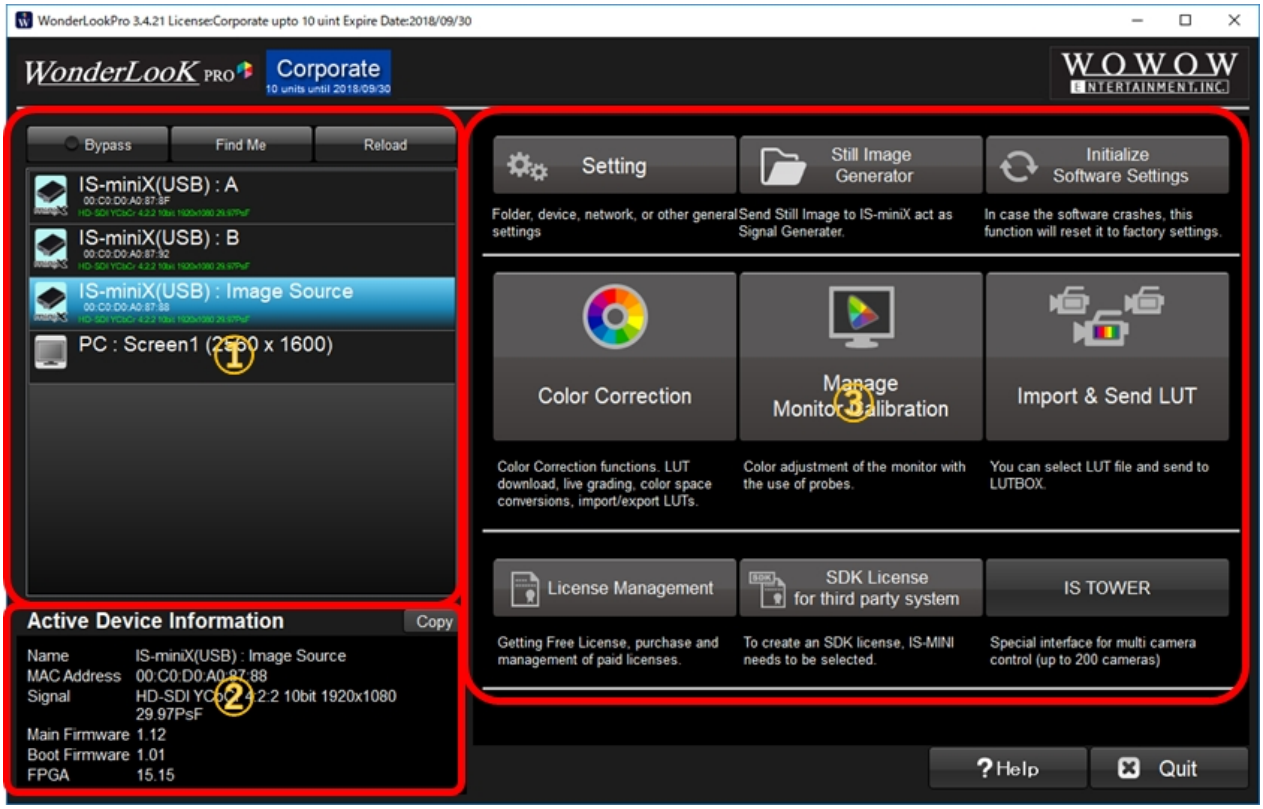
If login succeeded, all of the setting are enabled like following screen shot.
Showing Device Control Panel
"Device Control Panel" can provide you to control camera and watching metadata of the camera while color correction.

Please refer to this page to show the panel. How to use the "Device Control Panel" is here.

MainWindow

Main Window

When you started WonderLookPro, you will see this screen. (one of the example)
If you have not registered license, the license management dialog would appear.

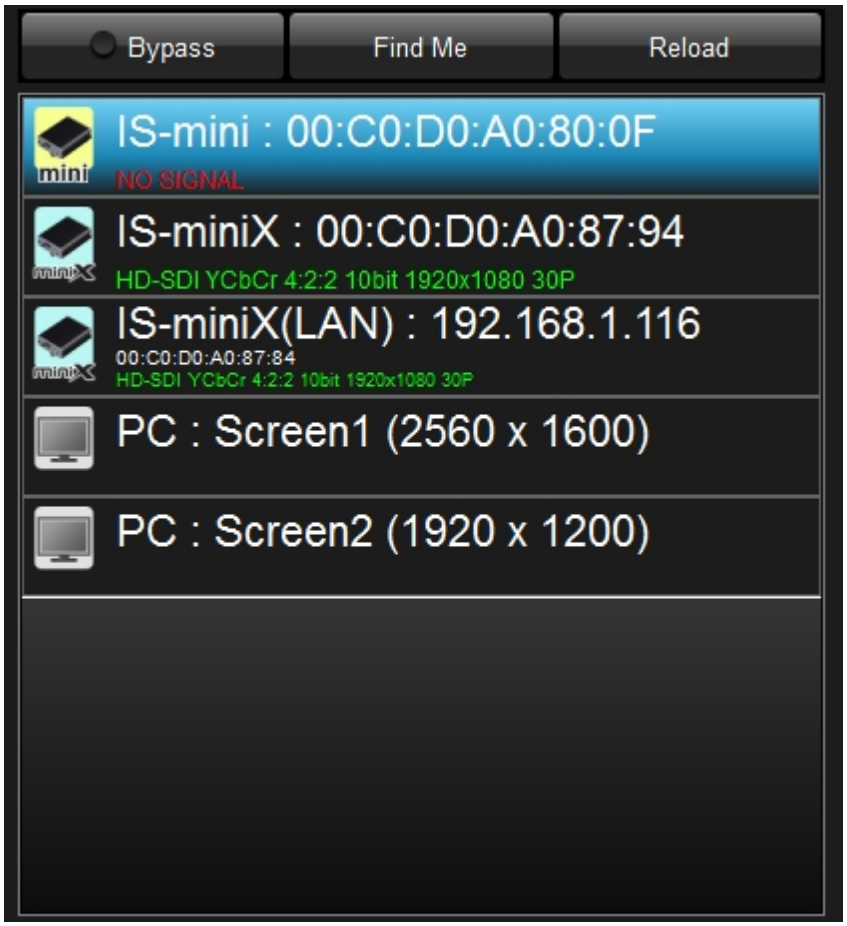


1	Device List Selection Area	The devices currently connected are shown in the list. In default, only screen, the devices connected by Ethernet can be scanned. PC conne
2	Selected Device Information Area	The information aquired from selected device on the Device List is sho
3	Buttons for starting functions	To trigger the WonderLookPro's various functions. Some of the functio

Device List Selection

Device List Selection Area

The devices currently connected are shown in the list. In default, only USB connected devices are scanned but by the setting on Setting screen, the devices connected by Ethernet can be scanned.
For IS-mini or IS-miniX, if the video signal is coming, the video format will be shown in green characters.
If the device was connected through Ethernet, the IP address is displayed.
PC connected monitors are also in the list as the monitor calibration target.

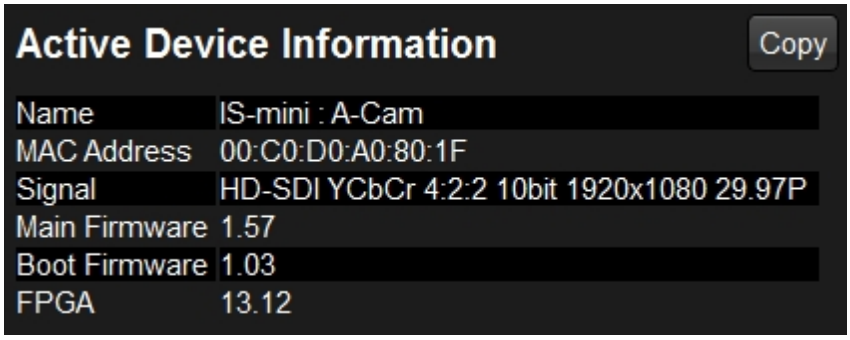


Bypass: Temporally send neutral LUT to the device to confirm input image.
Find Me: Output white rectangle while pushing down the button. (it's only available for supported devices)
Reload: To scan the bdevices when you could not find the device.

Device Information

Selected Device Information Area

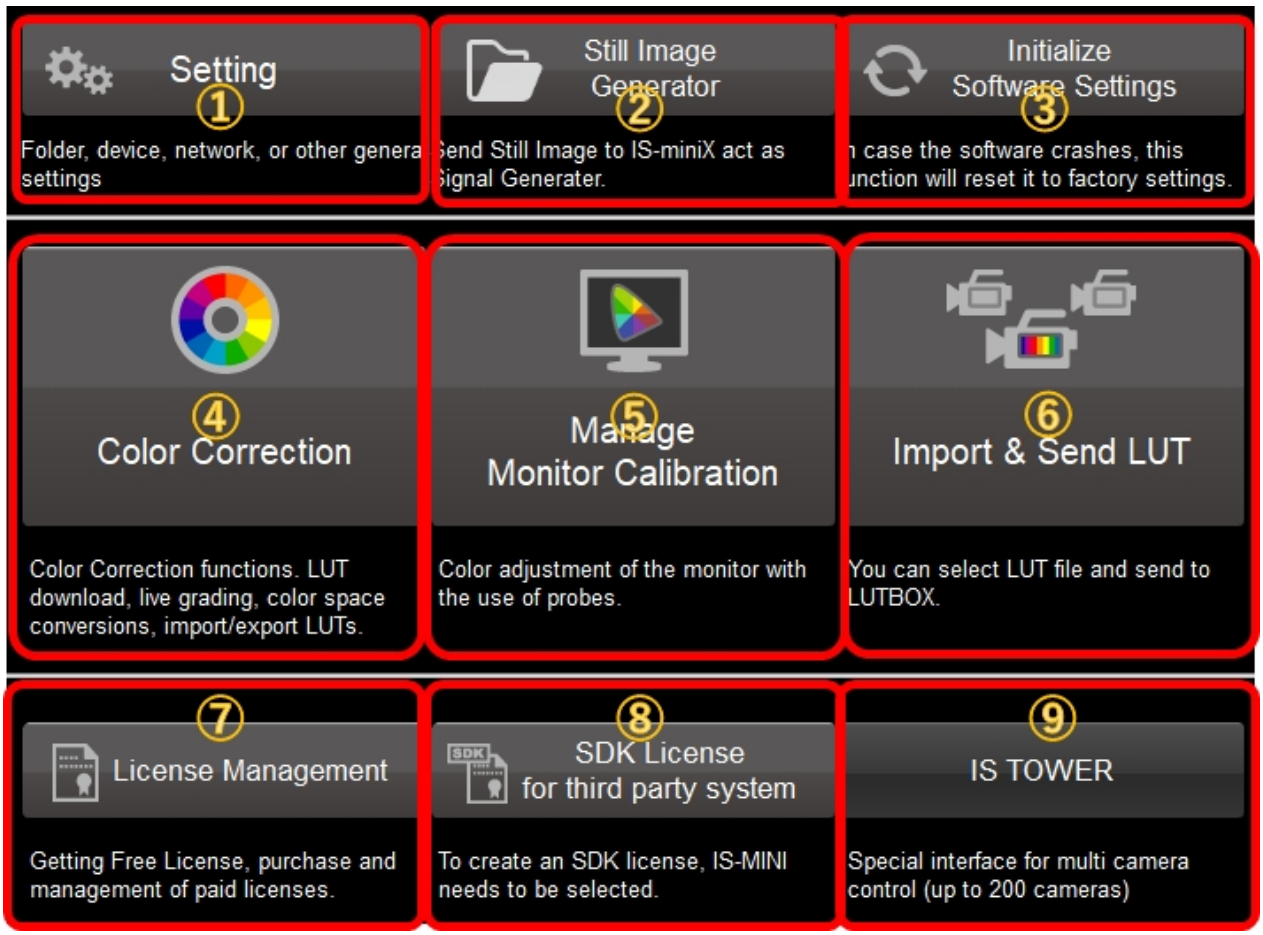
The information aquired from selected device on the Device List is shown in table.



"Copy button copies information to the clipboard. You can use this function to report the suppor center.

Function Buttons

Buttons for starting functions



Number	Title	内容
①	Setting	Seteing parameters which affects entire application. To utilize various LUTBOX is done here.
②	Still Image Generator	It is for IS-miniX only. By selecting image, you can send it to IS-miniX and make IS-miniX output the still image. Act as signal generator.
③	Initialize Software Setting	Clear the setting for the software. If it crashes often, try this function.
④	Color Correction	Start Color Correction screen. Color Correction is main function of WonderLookPro and you can use various color correction method and color management scheme.
⑤	Manage Monitor Calibration	Start Monitor Calibration function. This function uses one IS-mini which was selected in the device list. You have to selecte the device before clicking this button. You can select PC display for the target device.
⑥	Import & Send LUT	You can select LUT file and immediately send the LUT to LUTBOX. When exiting the dialog, LUT will be saved in flash memory if the LUTBOX supported it.
⑦	License Managemen	It starts software license management. To activate license, you need internet connection and email address.

	t ライセンスの管理	We provide offline activation method for paid license.
⑧	SDK License for third party system SDKライセンスの発行	We are providing IS-mini license for third party system. You need Free License or paid license with email address to use this function.
⑨	IS-TOWER	It provides special interface suitable for dozens of cameras control. It can control upto 242 units restricted by Ethernet local network. This function was restricted by the licenses, only Corporate License user can use whole function of IS-TOWER. Other uses are restricted for saving various settings, but can experience almost all functions.

Still Image Generator

Still Image Generator(for IS-miniX only)

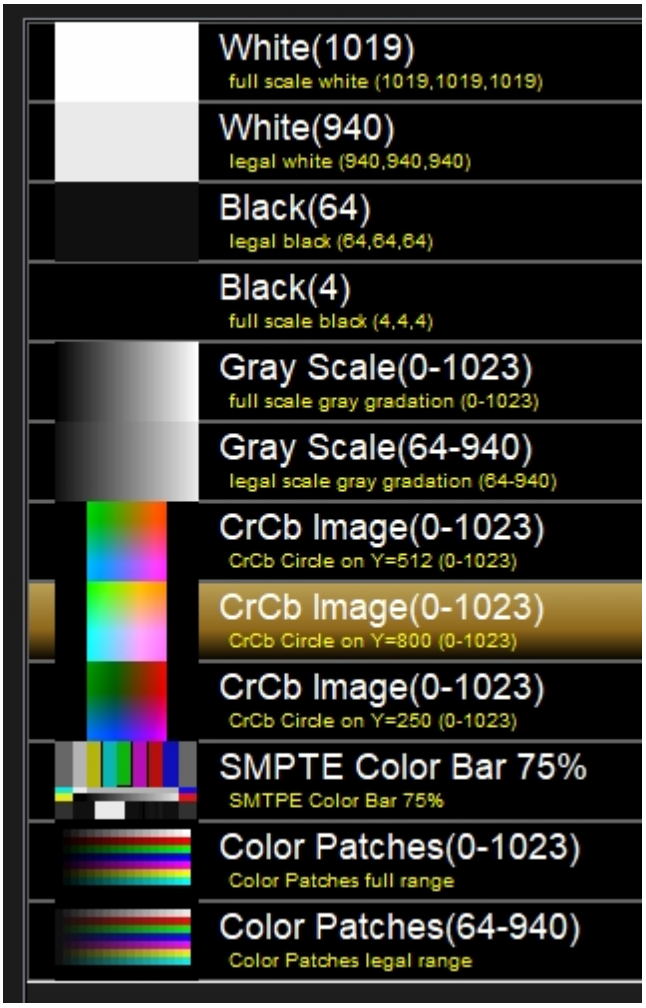
IS-miniX can generate still image video stream by sending still image from WonderLookPro.
Following 4 format is availale.

mode	function
input	The same format with input signal
1.5G	1.5G-SDIの　YCrCb 4:2:2 10bit 1920 x 1080 59.94i
3G-A	3G-SDI Level A YCbCr 4:2:2 10bit 1920x1080 60P
3G-B	3G-SDI Level B-DL YCbCr 4:2:2 10bit 1920x1080 60P

①Switch the place to find the still image

You can select the method to decide the image to send to IS-miniX from local files or software generated images.
Above is "Local Files" selected example.

If you selected "Preset CG", you will find following candidate in No.3 region.



②Selection of the folder to search the image files

Please select the fold you are going to find the image to send. By seleting the fold, you will find the list of the images in the fold in No.3 region.

③List of the found images

Please select the fold you are going to find the image to send. By seleting the fold, you will find the list of the images in the fold in No.3 region.

④Buttons for change the order of the image list

You can change the order of the image list by seleting these buttons.

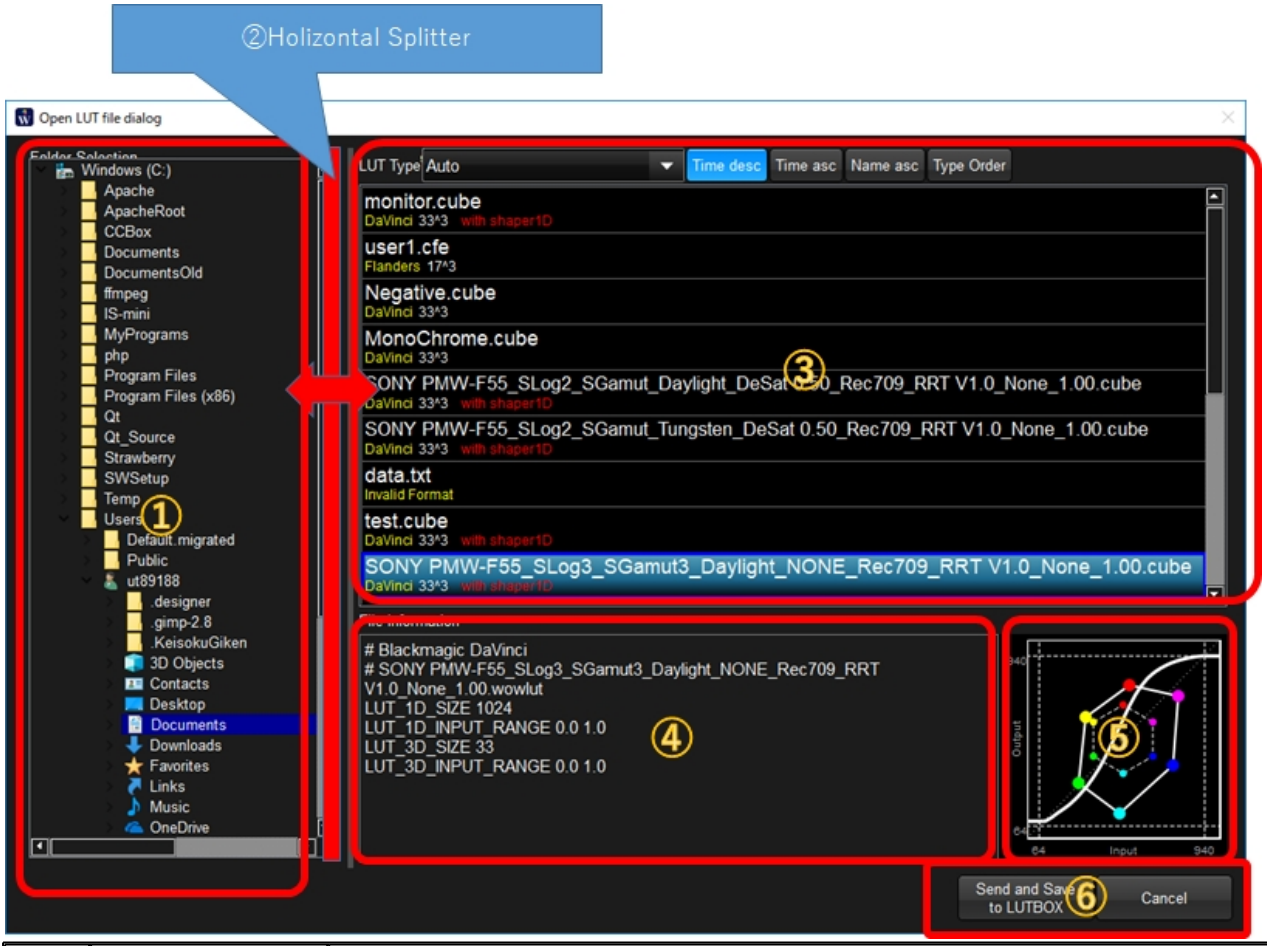
⑤Selection of the format of video output

Select the format of the video for the still image. If you select "Input", if the input signal can not be locked, IS-miniX will not output any video signal. Please check the input signal when using "Input" selection.

Import and Send Lut

Import & Send LUT function

This function is to send existing LUT in a simple method.



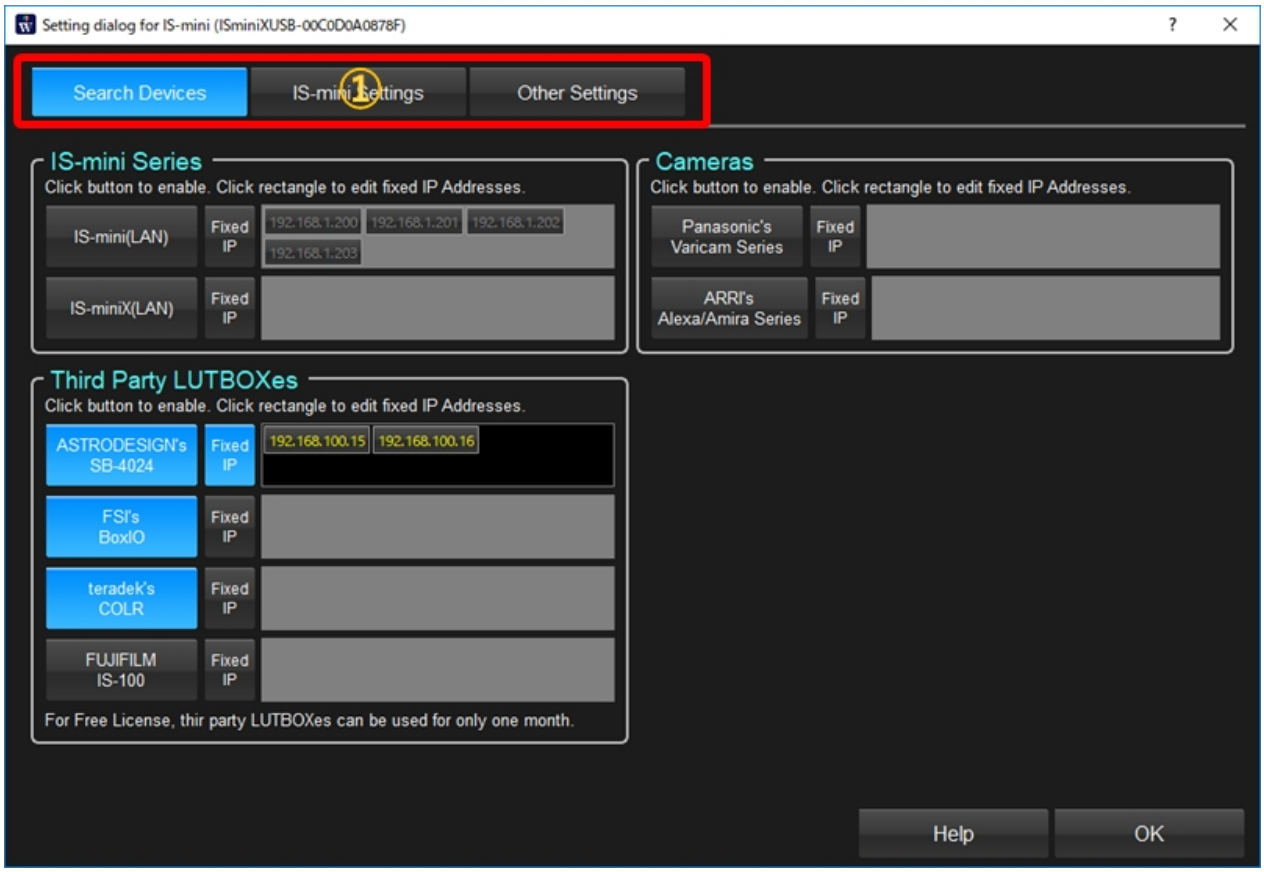
Number	Title	内容
①	Folder View	Please browse and select the folder LUT are saved.
②	Splitter	You can adjust the width of folder view and LUT List by moving left and right.
③	LUT List	LUT list will be shown after you selected folder. By clicking the LUT, it will be sent to LU LUT header and system tone curve will be updated.
④	LUT header	LUT header will be shown by clicking LUT file on the LUT list.
⑤	System Tone Curve Graph	System tone curve will be shown by clicking LUT file on the LUT list.
⑥	Send and Save to LUTBOX button	By clicking this button, the LUT was saved to flash memory (only supported LUTBOX) the dialog.

Setting

Setting Screen

This screen provides you to set parameters which affects entire software and usable after restart the program.
The screen consits from three pages and the buttons below ① triggers to change the pages.

Archive function for downloaded LUTs is move to CloudLUT selection screen.



Search Devices

This page is to select devices to control. When connecting through LAN, you can input the IP Addresses here.

IS-mini Hardware Settings

This page is to make settings for IS-mini.
There are IP address setting, OSD setting and firmware update functions.

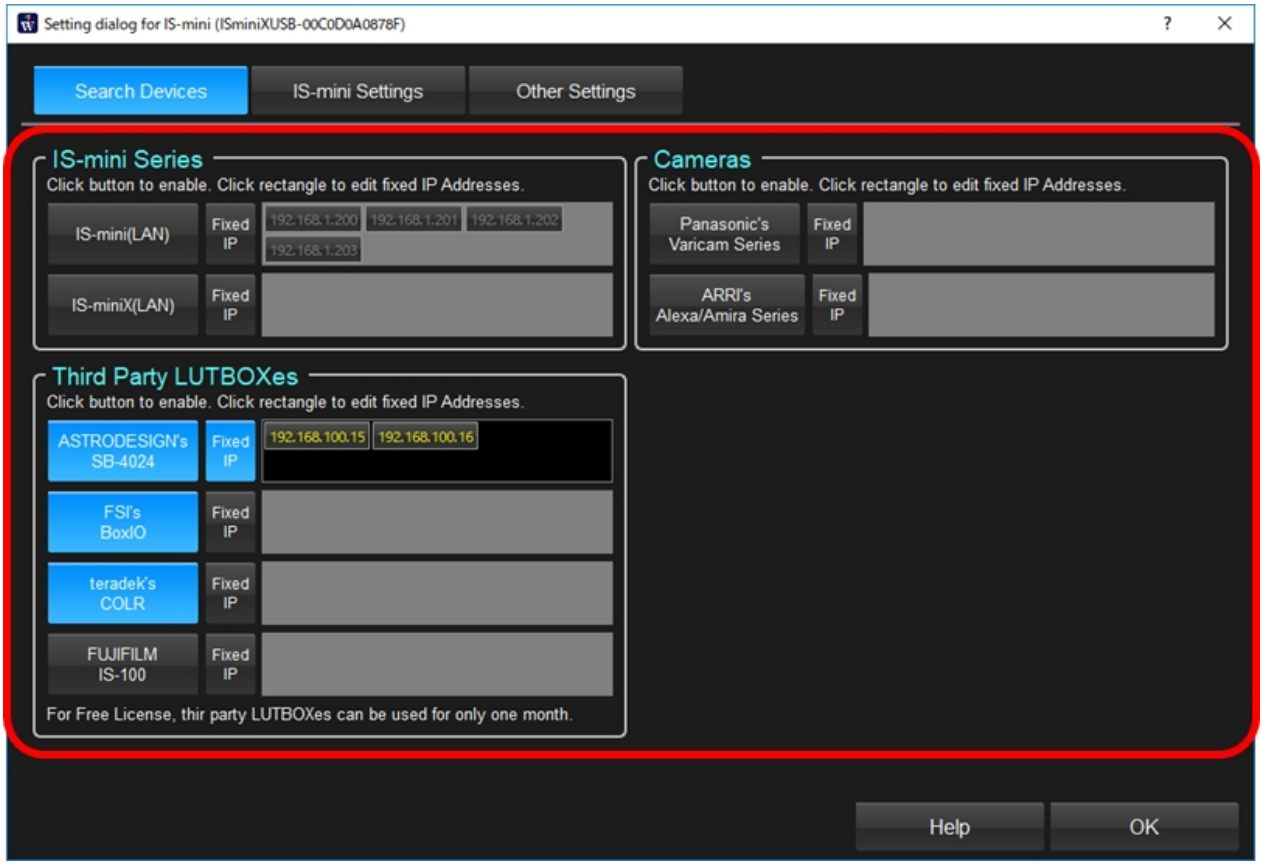
Other Settings

This page is to make other common settings.
There are selection of tangent controls, clipping of SDI output, monitor calibration of PC screen.

Search Devices

Search Devices

This page is to select devices to control. When connecting through LAN, you can input the IP Addresses here.
Please refer to Setting Dialog explanation too.



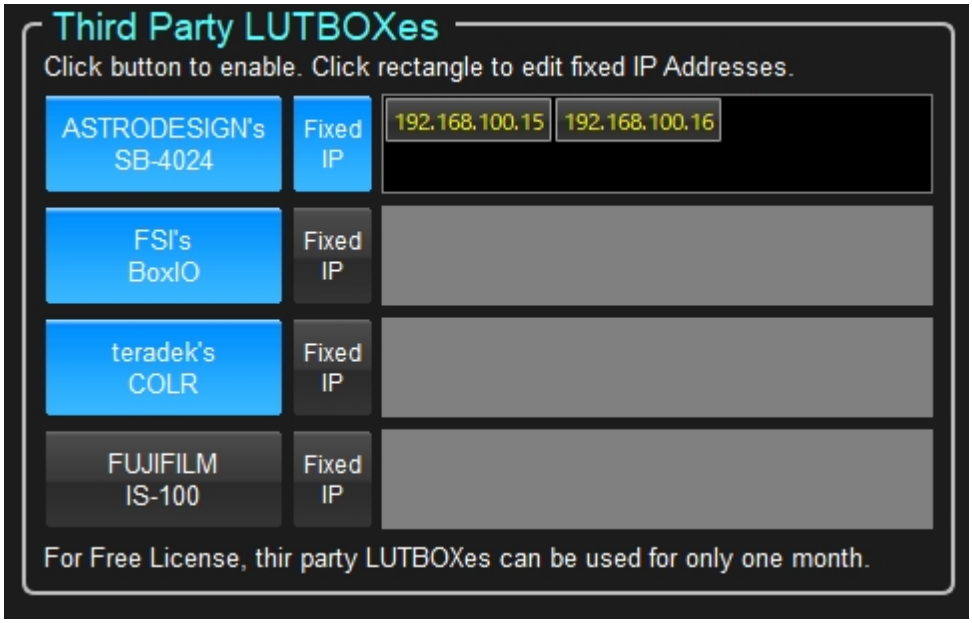
Setting of IS-mini Series

You can set whether to use LAN connected IS-mini series or not.
If you use IS-mini connected by LAN, please click device name button to be selected in blue color.
If you use fixed IP address adding to automatic searching, please click area③ to input ip address and make "Fixed IP" button(②) sekected.
Above setting is,

Searching IS-mini on LAN is enabled and IP Addresses 192.168.1.200 to 192.168.1.203 will be used without finding the device.

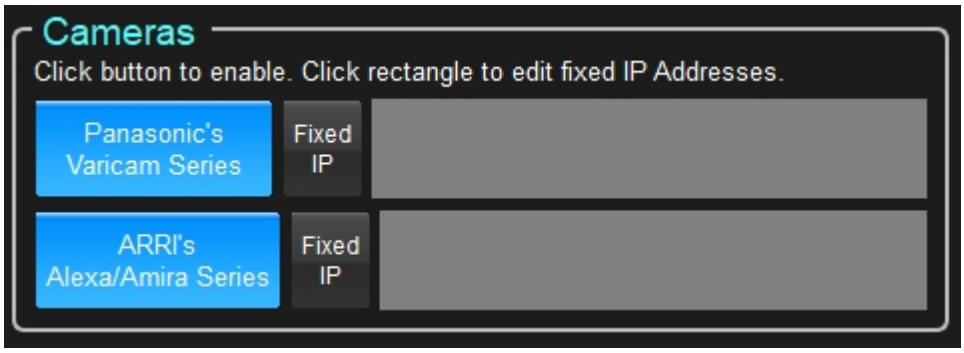
Searching IS-miniX on LAN is enabled and only found IS-miniXes are active.

Third party LUTBOXes



You can set third party's LUTBOXes.
The method to make settings is the same as IS-mini.
ASTRODESIGN's SB-4024 and FUJIFILM's IS-100 requires Corporate License.
For Free License, you can use BoxIO or CLOR only for one month after the activation.

Cameras

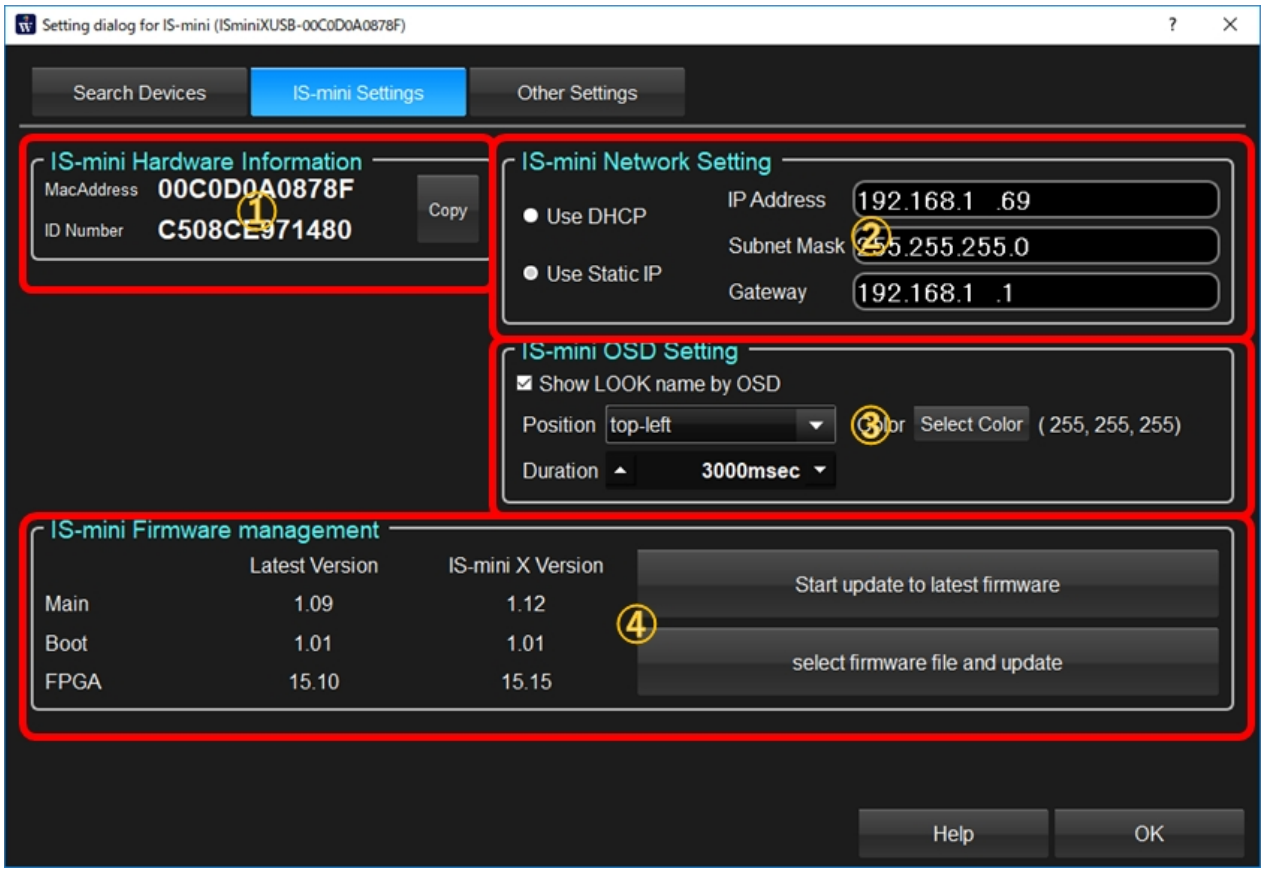


Latest version supports Panasonic's Varicam and ARRI's Alexa/Amira to send LUT directory or control these cameras by the software.
You can select the camera and set the fixed IP addresses without searching.

IS-mini Hardware Settings

IS-mini Hardware Settings

On this page, you can make setting to IS-mini hardware and confirm hardware information.
Please refer to Setting Dialog explanation too.



①IS-mini Device Information

MacAddress and ID Number are shown. You can copy them to clipboard.

②IS-mini Network Setting

This is the settings for IS-mini network connection. You have to selecte DHCP or fixed IP address.
If you selected Static IP, you have to input IP Address information correctly.
To use IS-mini through ethernet, you have to set checked "Search from Local Network" on Software's Device Settings page.

③IS-mini On Screen message Setting

If you check this setting, you can observe the name of LUT or LOOK on the output image of IS-mini. You should set the place and duration of OSD.

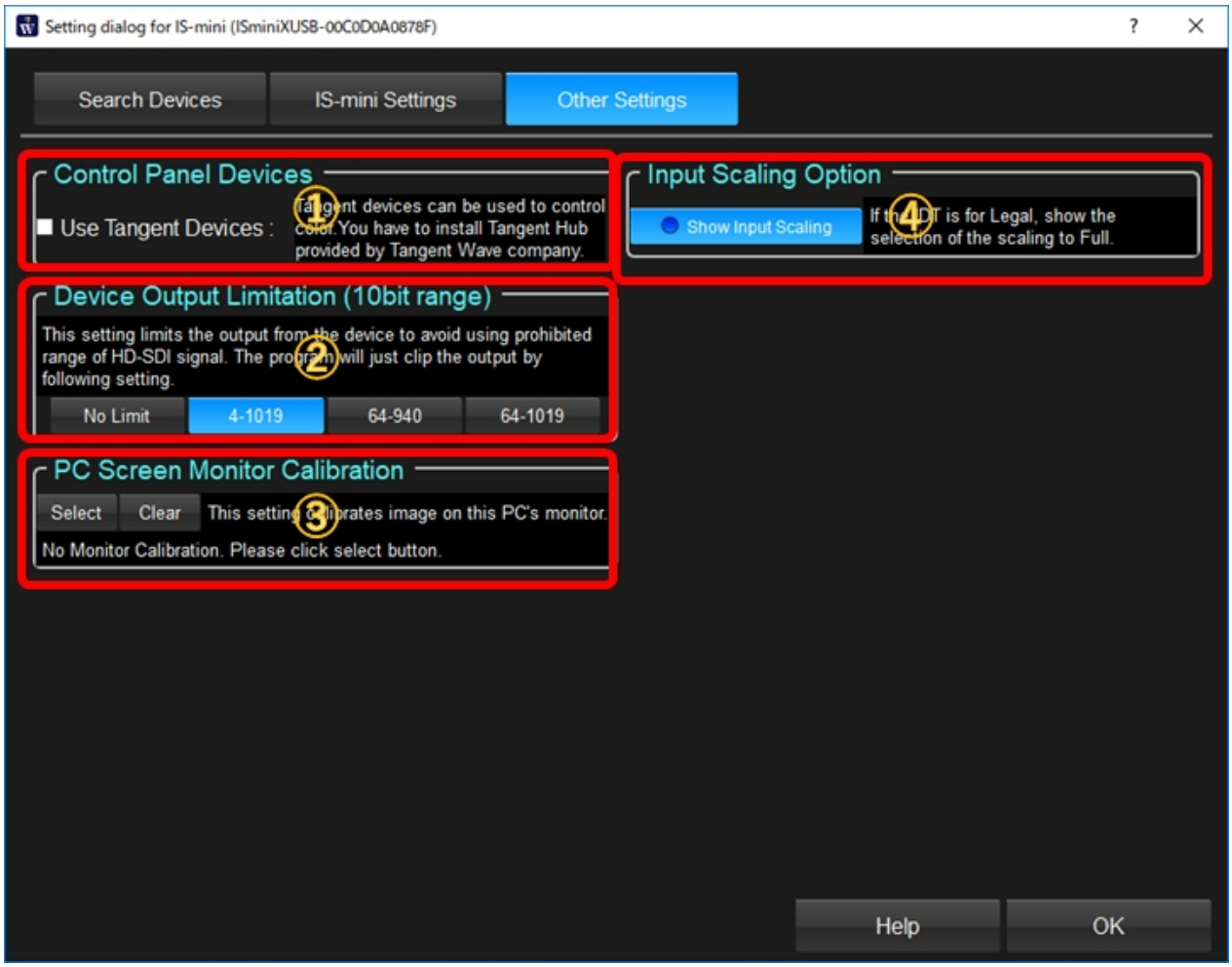
④IS-mini Firmware management

Under the internet connection, the latest firmware will be downloaded automatically and inform you the update if necesarry.
Once the software downloaded the lastest firmware, you can update it to other IS-mini under offline emvironment.
Please click "Start update to latest firmware" button.

Other Settings

Other Settings

This page is to make other common settings.
There are selection of tangent controls, clipping of SDI output, monitor calibration of PC screen.
Please refer to Setting Dialog explanation too.



①Selection of Control Panel Devices

Use Tangent Devices

Please check this when you are going to use Tangent Control Devices. You have to install Tangent Hub.

②Device Output Limitation

If the output value exceed the specification of the standard, the deveices receiving HD-SDI signal might do mulfunction. To avoid that, you can limit the range of the LULTBOX output. 4-1019 is the recommended setting.

③PC Screen Monitor's Calibration

By selecting the ismon file which is created by monitor calibration of PC screen monitor, you can adjust the still image color to correct color reproduction as mastering monitor.

④Use Input Scaling Option

If this setting is on, you can select input signal scaling(Legal to Full or Full to Legal) for all of the workflow.
Even if this setting is off, the selection will be automatically available so please keep it off in normal cases.

Color Correction Window

Color Correction Screen

WonderLookPro provides you the method to create high quality LOOKs in high precision in a quick and simple manner by using various color correction controls and background color management technology. Preset LUTs WOWOW is providing have two kind of information based on ACES standard, one is IDT(Input device transform) which was generated by measured camera profile, another is rendering which converts scene color to output color including preferred color reproduction. By utilizing these information, you can apply ideal workflow which is independent from specific camera, portable LOOK information which can be re-usable for other projects.

This screen's layout can be customized. The layout information is saved and restore by the system automatically. You can save 2 kind of layouts and load them by the menu.
Please refer to "Layout Management".

Some of the functions can be controlled by keyboard. Please refer to this page.

Number	Item Name	Contents
1	Device	This ares show the list of found devices and provide the means to select and

	Information Area	manage them.
2	LUT management Area	This area is to download preset LUTs, load LUTs and select the colorspace for the conversion. It's the basic setting to start color correction.
3	Still Image Display Area	You can load still image and confirm the result of color correction with processed image and graphs.
4	Graph Diaplay Area	This area shows Camera profile grpah and image analysis graphs. Camera Tone Curve (on IDT selection), Histgram, Wave From, Vector Scope can be selected by the combobox.
5	Color Correction Control	This area is to make color correction other than tone curve method.There are LGG/SOP controls top create ASC-CDL parameters, Vector controls to adjust specific colors and system camera's CCU emulation methods.
6	Tone Curve Information Control	This area is to confirm the characteristics of the total rendering and control tone curve for color correction.
7	Look List Area	This area is to manage and select the Look Information. Clicking one of the looks applies the Look to the active device.
8	Function Buttons	On the bottom of color correction screen, there are a couple of buttons assigned to frequent and important functions.
9	Warning functions	You can use various Warning functions.

Layout Management

On color correction screen, you can customize the layout.

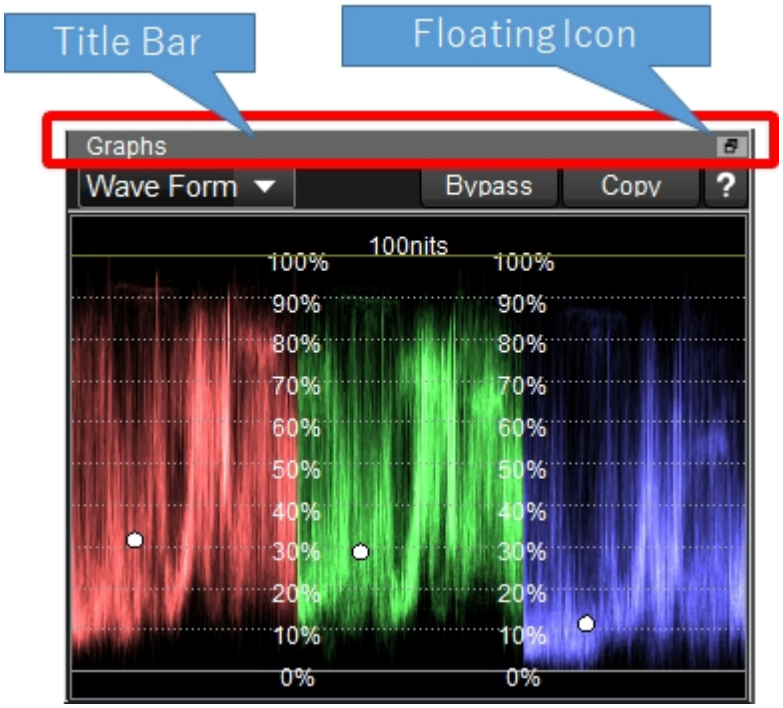
The screen shot shows yellow line which can be movable up and down, red line which can be movable left and right, to adjust the graph, still image and color correction control area.

1.Layout adjustment in screen

The screen shot shows yellow line which can be movable up and down, red line which can be movable left and right, to adjust the graph, still image and color correction control area.

2.Use of Floating window

Graph, Still image, color correction control area can be floating window, by double clicking title bar or clicking floating icon located on the right side of the bar.
If you changed to the floating window, you can change the size or position of the window as you like.

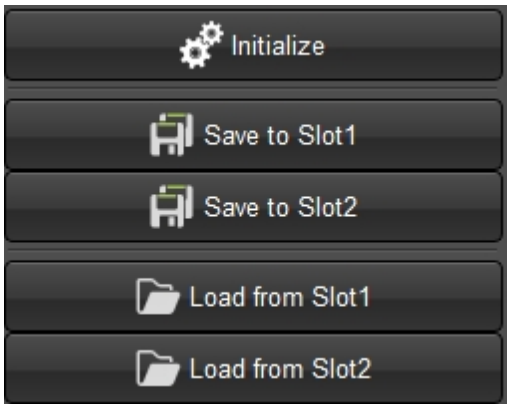


Example of the floating windows

3.Save and load of the layout setting

The layout currently using is automatically saved and automatically recalled when you start the program again.
Two kind of layout information can be saved manually and load when you needed.
By clicking the "Layout" button at the bottom right shows the popup menu.

The layout currently using is automatically saved and automatically recalled when you start the program again.
Two kind of layout information can be saved manually and load when you needed.
By clicking the "Layout" button at the bottom right shows the popup menu.

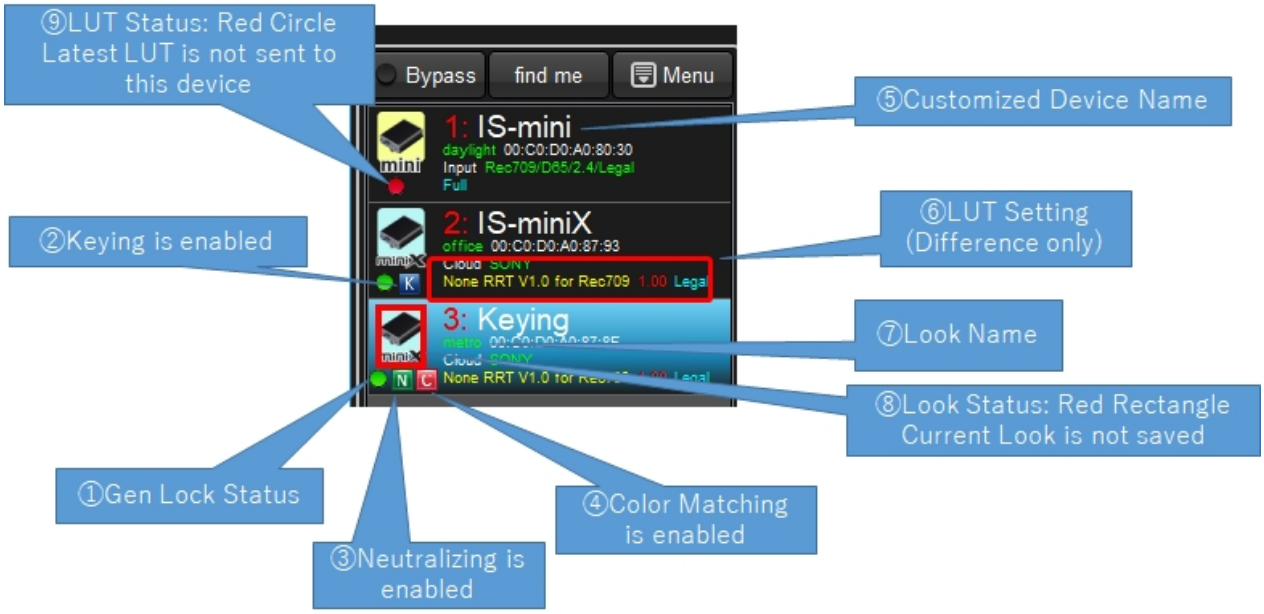


Initialize	Initialilzen the layout.
Save to Slot1 / Save to Slot2	Save current layout to Slot1 or SLot2.
Load from Slot1/ Slot2	Load the layout information form Slot1 or Slot2 and apply it.

Device Information Panel

Device Information Area/Project Management

This ares show the list of found devices and provide the means to select and manage them.
And you can save the entire project settings or load the project settings from local file.



Number	Title	内容
①	Gen Lock Status	It shows Gen Lock State for IS-mini/IS-miniX.
②	Keying Icon	It shows Chroma-key status for IS-miniX.
③	Neutralize	If the device is using Neutralize function, the N mark will be shown.

	Icon	
④	Color Matching Icon	If the device is useing Color Matching function, the C mark will be shown.
⑤	Device Name	If you set your device name for the LUTBOX, the name will be shown.To set the device name, please refer to following section 1.
⑥	LUT setting	If you are using more than two LUTBOXes, the difference of the settings of these LUTBOXes are shown here.
⑦	Look Name	It is the name of the Look associated with this device. If the name of the look can not be found on the look list, the display will be blank.
⑧	Look Status (Alert)	The red rectangle on the device icon means the device look is not saved on the look list. By clicking "Keep Look New" or "Keep Look Overwrite", the current look will be saved on the look list and the red rectangle will disappear.
⑨	LUT Status (Alert)	When you are using "Batch Send" mode and you changed the look by color correction, the latest LUT will not be sent until the click of "Send Lut" button. Red circle means the LUT should be updated by clicking send LUT button.

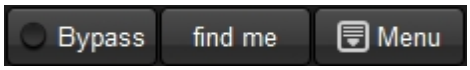
1.Device Selection and Device Information

Clicking other than icon regeon change the active device. You can only create colors for active device or active group.

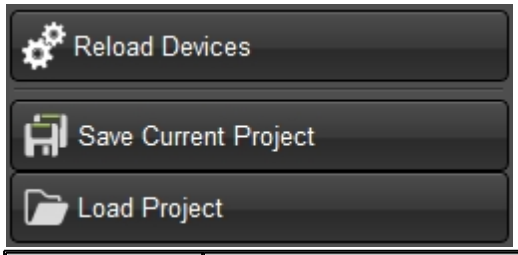
Clicking icon or double clicking anyware shows you the device information management screem. (detailed explanation)

You can change the order of the devices by drag & drop the item. The software remember the order to reproduce the order after re-started the program.

2.Confirmation of the Device / Bypassing the process



Bypass : Only when selected status, the device output bypassed image (without LUT processing)
find me : Output rectangle while pushing the button to show the output of the device.
Menu : Research the devices and project management menu.



ボタン名	動作
"Reload Devices"	Search the devices from USB connection and Ethernet connection (depends on the setting)
"Save Current Project"	You can save the project settings into one file(.wlp). The file will include, each device's settings, each device's LUT and LOOK settings, Look List information and related image files.
"Load Project"	Load project information form project file(.wlp). This action will make current project settings lost so please save it beforehand if necessary.

3.Grouping (link to detailed explanation)

Grouping enables you to make groups of devices and to control the devices in the group simultaneously with the complete same parameters.

4.Look Sync(link to detailed explanation)

Look Sync is to synchronize the LOOK you created with selected device or group which might have different camera IDT or different monitor settings.

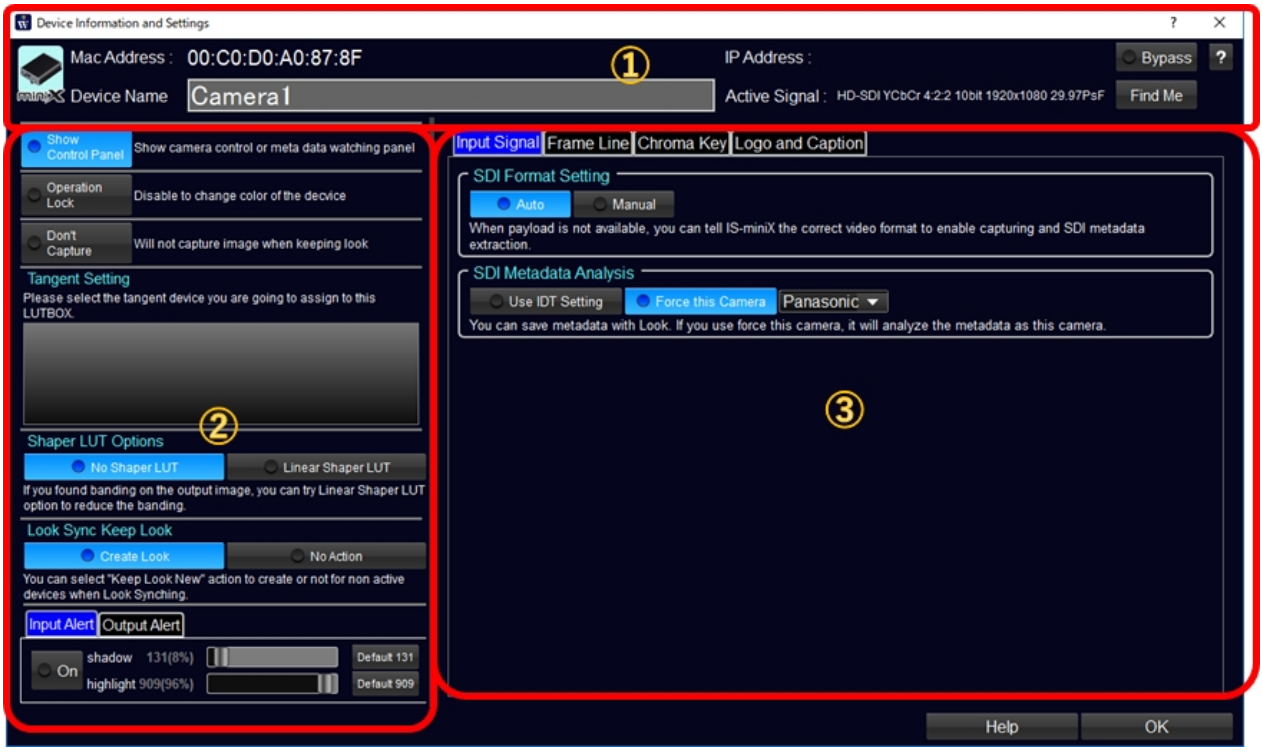
DeviceInformation

Device Information Setting Screen

On this screen, you can make various settings to the selected device. There are common settings which can be set for all devices, and device specific settings which varies by device type. Top(①) and Left pane(②) is for common settings and right pane(③) is for specific settings.

Device specific settings help are available below.

メーカー	機種名	内容
WOWOW	IS-mini	Manual setting of SDI Format
WOWOW	IS-miniX	Input signal setting, frame line, chroma key, logo and caption overlay settings
Panasonic	Varicam	LUT Mode setting, LUT apply setting for each SDI output, camera exposure setting, display of metadata
ARRI	Alexa SX/T, AlexaMINI, Amira	LUT Mode setting, LUT apply setting for each SDI output, camera exposure setting, display of metadata
FSI	BoxIO	
ASTRO	SB-4024	



① Your own name for the Device

You can input the name of the device to the right side of "Device Name" label. The software remember it as the display name of the device.
"Return" key triggers
Adding to that, there are buttons to bypsss LUTs, make the devices output white rectangle to confirm which device is under setting.

②Common Settings for all devices

Show Control Panel

To show floating device control widget on color correction screen. For camera devices, it enables recoding start and stop, setting parameters and watching metadata the camera is outputing through UDP. For IS-miniX, it watches metadata on SDI and show the selected items and output the change on OSD.

Operation Lock

To inhibit the color control of color correction screen to avoid unintended sending LUTs.
If the selected device is camera, the setting might be Locked automatically depends on the camera mode.

Don't Capture

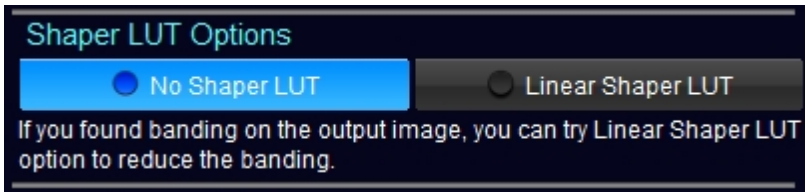
This setting is to avoid capturing frame grab on "Keep Look". o inhibit the color control of color correction screen to avoid unintended sending LUTs.
If the selected device is camera, the setting might be Locked automatically depends on the camera mode.

Tangent Setting

You can select the tangent controls to assign to the specific LUTBOX device. You have to install tangent HUB beforehand. If you un-check the checkbox on top left, it will disable the tangent devices for all of the devices.
You can assign different tangent controller to different LUTBOX devices, or one LUTBOX device.
After you connected the Tangent Control, when you touch the track ball or buttons of the control, communication parameters are shown on the item of the list. You can find the correct tangent control by this function and click the item to assign with the LUTBOX. If you'd like to

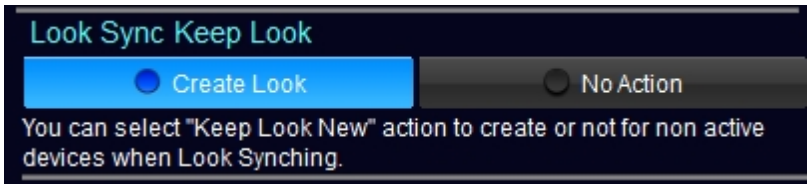
control active LUTBOX only by tangent device, please uncheck all of the tangent devices for all LUTBOXes. The tangent device will change colors of active LUTBOX only.
Tangent Hub can be download from here.

Shaper LUT Options



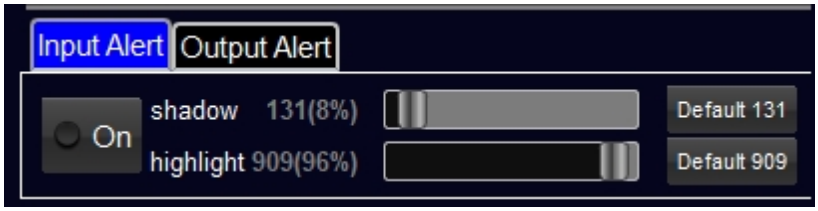
If you are using 1DLUT capable device, the software can automatically create and send the shaper LUT.
It will improve the accuracy of the 3DLUT to reduce the interpolation error like banding. But it will take time to create shaper LUTs, so the response time will be longer.

Look Sync Keep Look



In default, when using Look Sync to correct multiple device colors, created Looks for all devices are saved on the click of "Keep Look".
When set "No Action" on this setting, the look of this device will not be saved on "Keep Look". If the device is no need for keeping look, you can avoid to save non-usable looks.

Range Alert



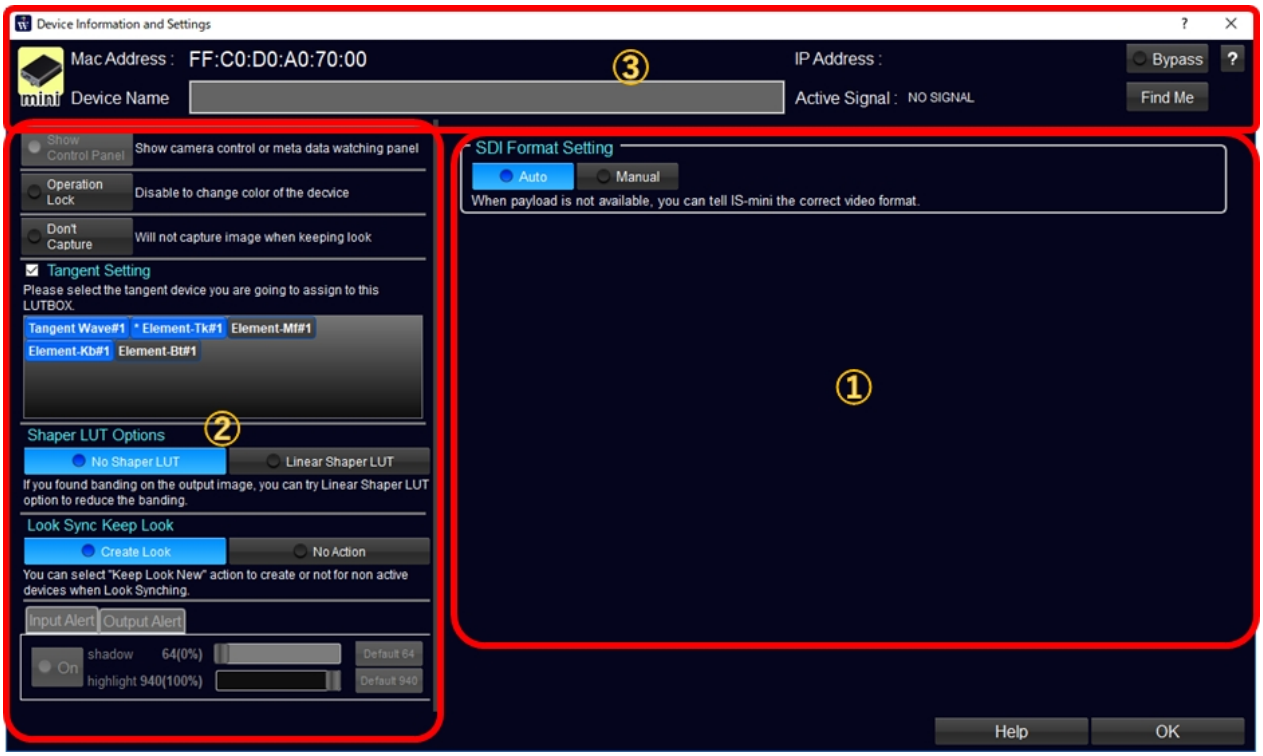
カメラの入力レンジ外の警告、モニタのリーガル領域外の警告、などを設定することができま

This is the setting for the alert for camera input range, monitor's legal range, to confirm the signals are within the safe range.
Please refer to this page.

IS-mini Setting

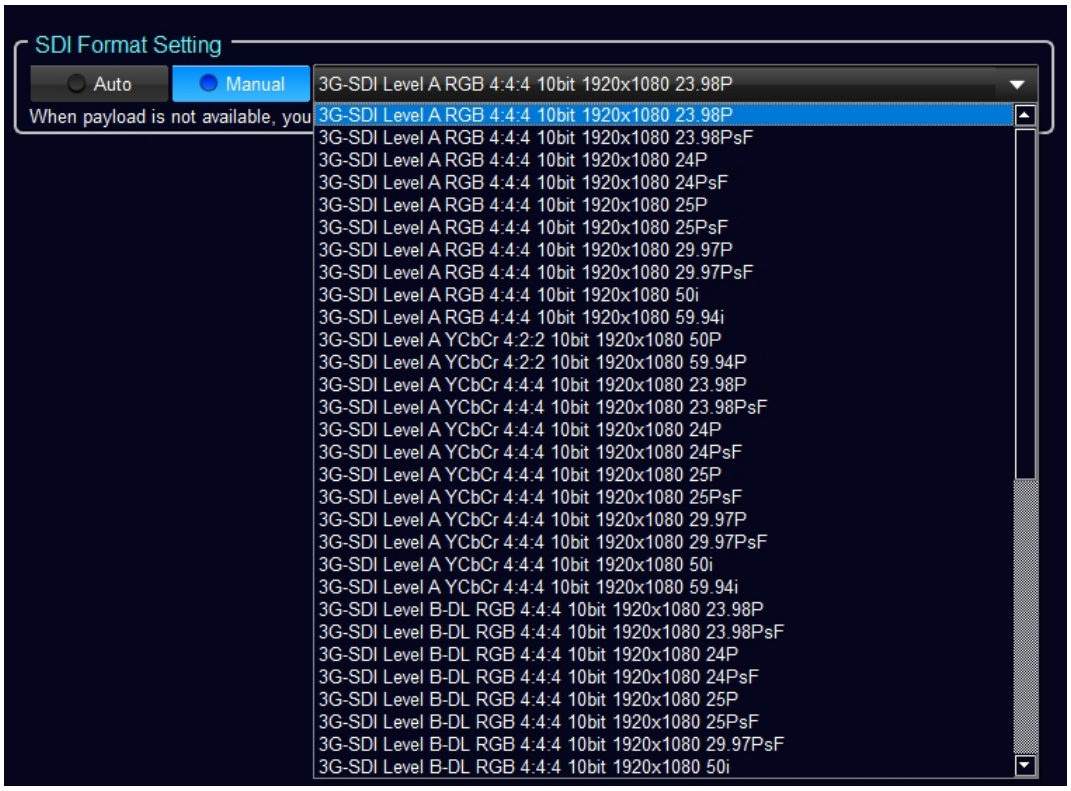
IS-mini Setting Screen

On this screen, you can set common device settings (area②) and IS-mini specific setting(area①) .
On "Device Name" input on area ③, you can input your own name for the device. "Return" key save the input name and close this screen.



SDI Format Setting

In usual cases, you should select "Auto" if there is no problem for the output.
When feeding the signal with no payload information, sometimes IS-mini can not process correctly with no output. In such cases, you can tell IS-mini the correct format to process properly. Please selecte correct format from the combobox.

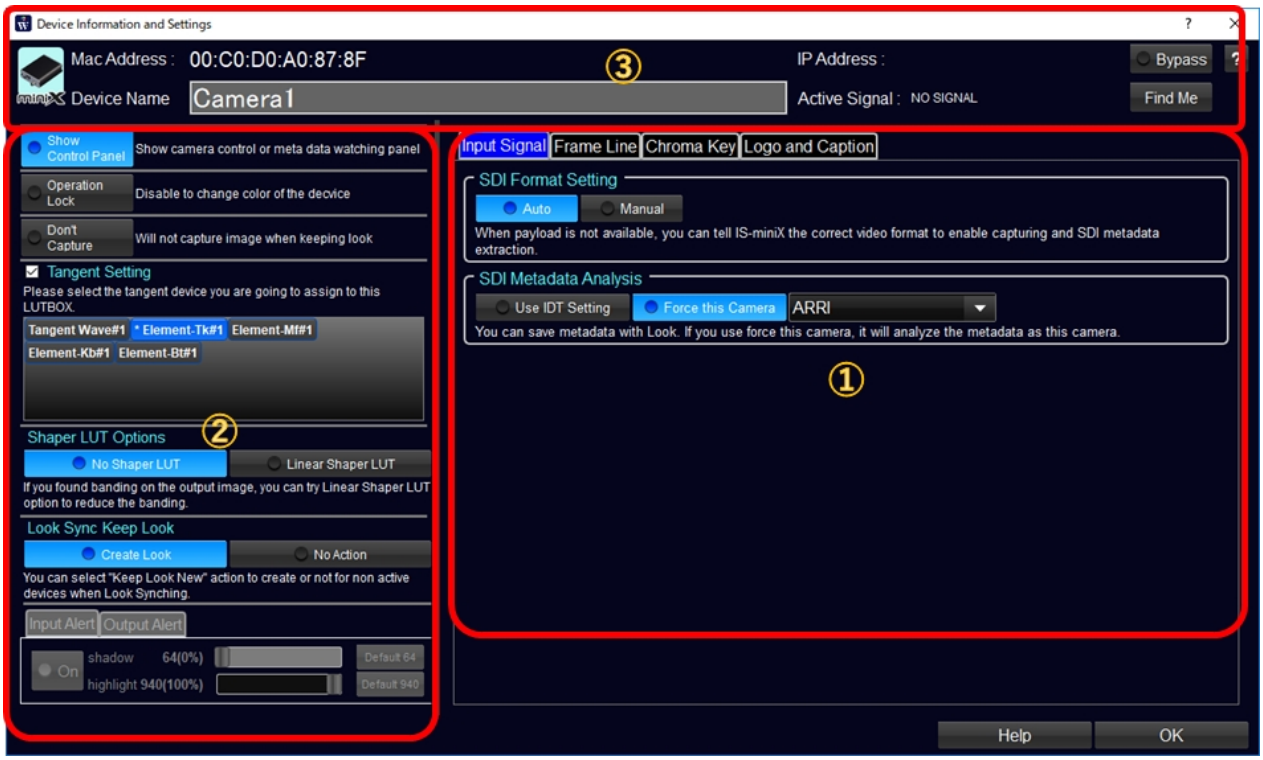


IS-miniX Setting

IS-miniX Setting Screen

On this screen, you can set common device settings (area②) and IS-miniX specific setting(area①) .
On "Device Name" input on area ③, you can input your own name for the device. "Return" key save the input name and close this screen.

番号	項目名	内容
1	Input Signal	signal format manually for no payload signal, or camera maker name setting for metadata acquisition
2	Frame Line	center mark and three kind of frame lines
3	Chroma Key	Keying color and background still image setting for chroma-keying
4	Logo and Caption	The setting for logo image and caption overlay



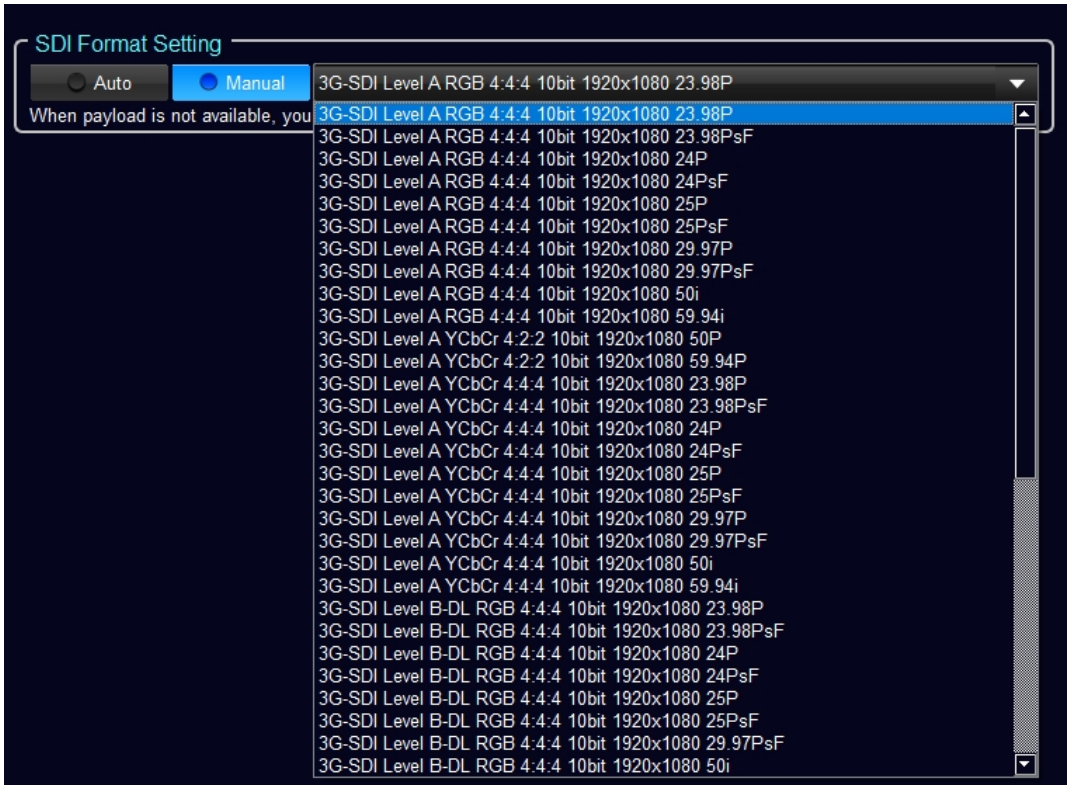
IS-miniX Input Signal

IS-miniX Input Signal

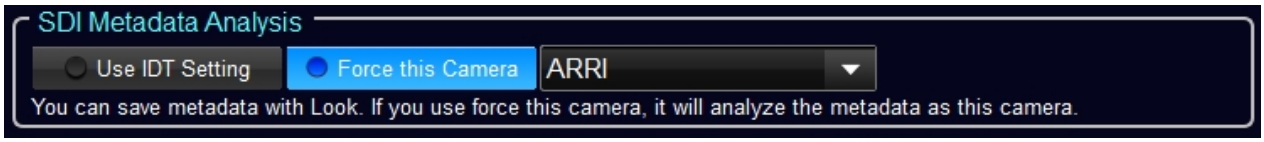
On this tab, you can set signal format manually for no payload signal, or camera maker name setting for metadata acquisition.

SDI Format Setting

In usual cases, you should select "Auto" if there is no problem for the output.
When feeding the signal with no payload information, sometimes IS-mini can not process correctly with no output. In such cases, you can tell IS-mini the correct format to process properly. Please selecte correct format from the combobox.



SDI Metadata Analysis

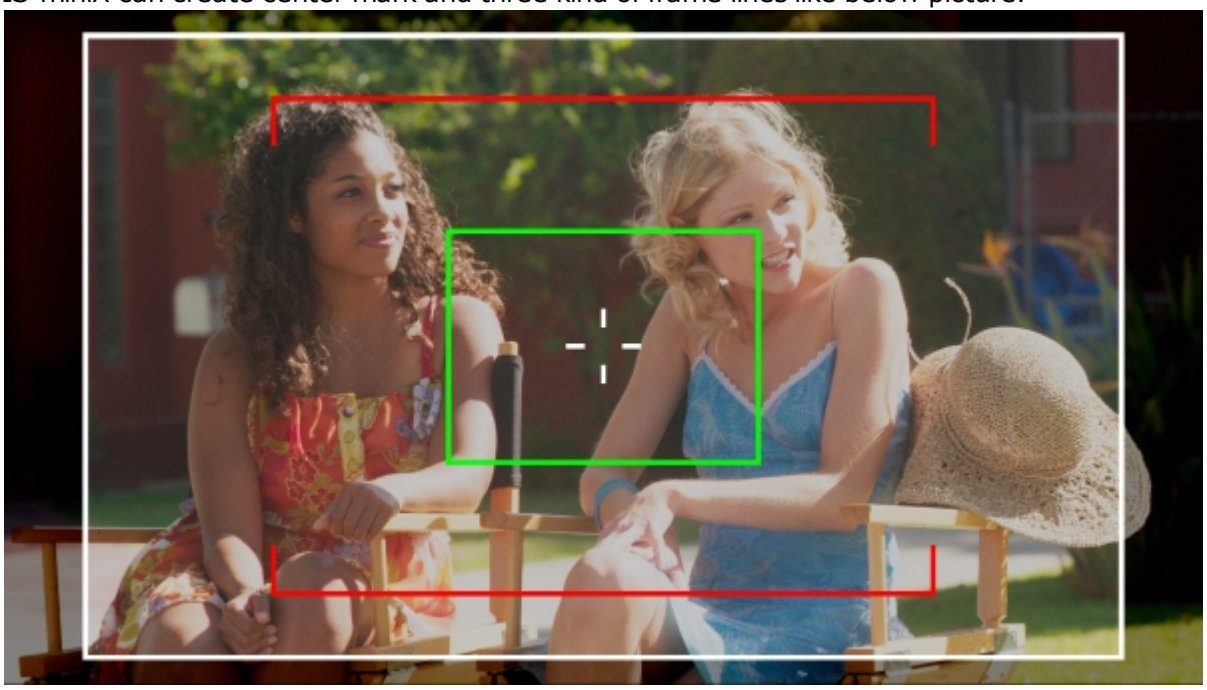


IS-miniX is capable of obtaining metadata on SDI on Device Control Widget or Keep Look function. If you are using IDT on CloudLUT, the software will use the maker name in it so you can just select "Use IDT Setting". If you are not using IDT, please select "Force this Camera" and find the camera make you are going to use. V3.5 supports ARRI, SONY and Panasonic.

FrameLine

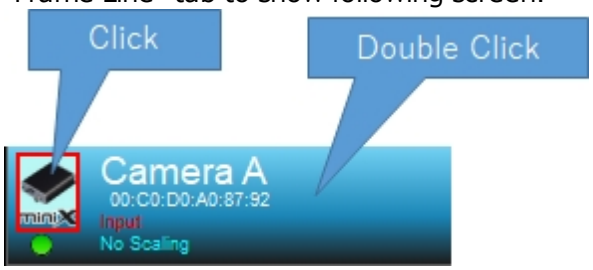
Setting of Frame Lines

IS-miniX can create center mark and three kind of frame lines like below picture.

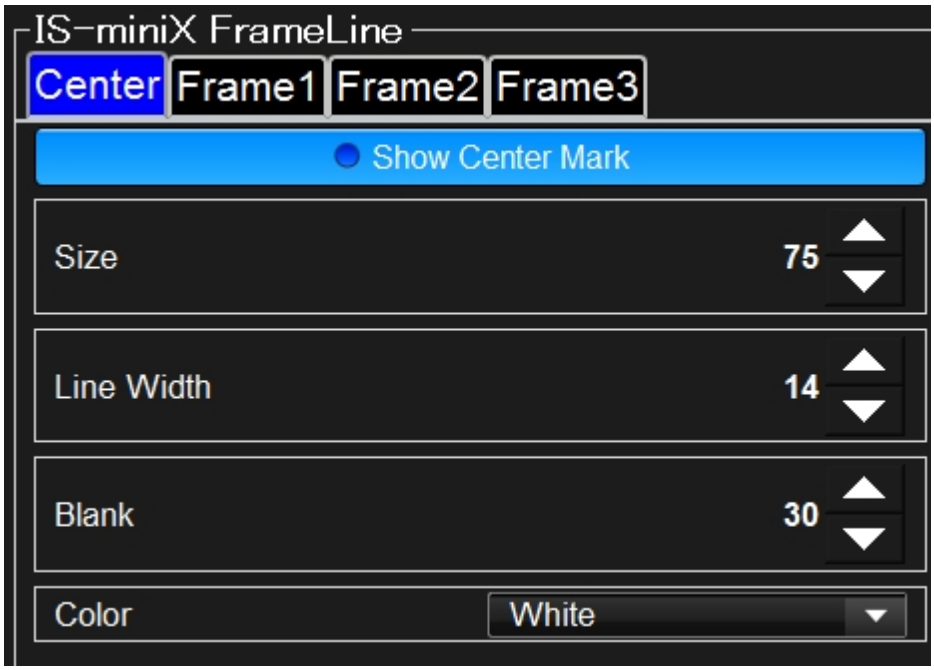


Move to Frame Line Setting

Click the device iron or double click the item area to show device information screen. Next click "Frame Line" tab to show following screen.

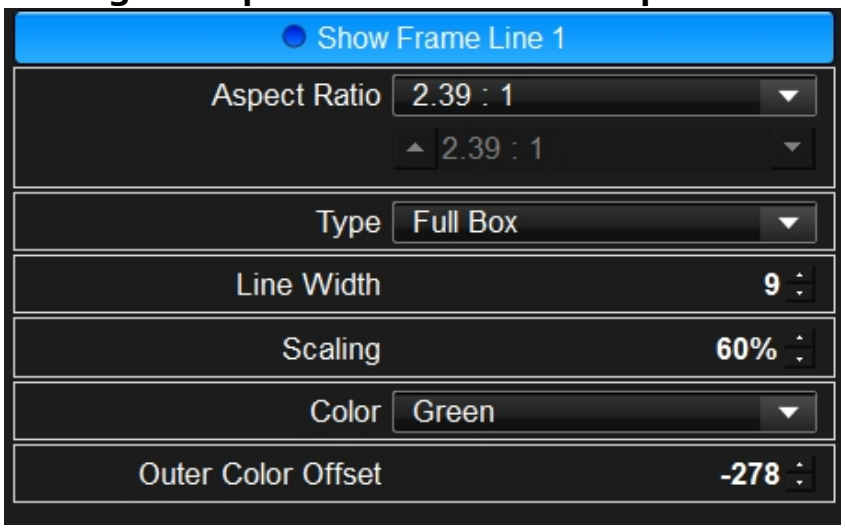


Setting of Center Mark
You can set the parameters for Center Mark which shows the position of the image center.
"Blank" parameter is the length of not drawing from the center point.
Here is the example of the setting and output from IS-miniX.

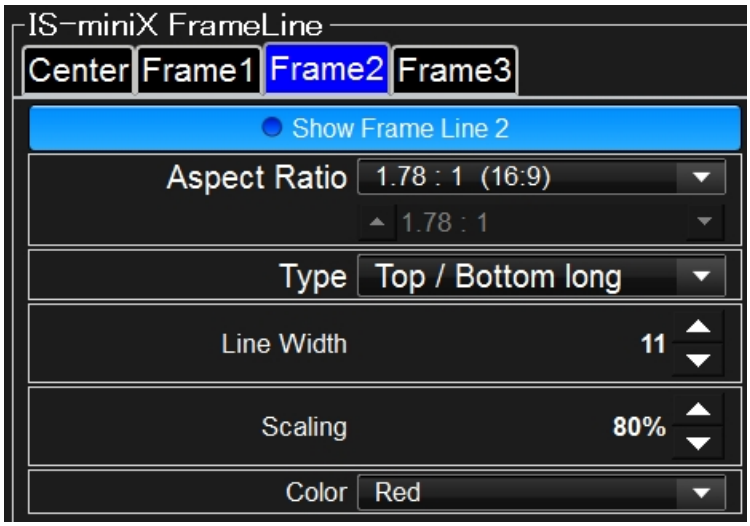


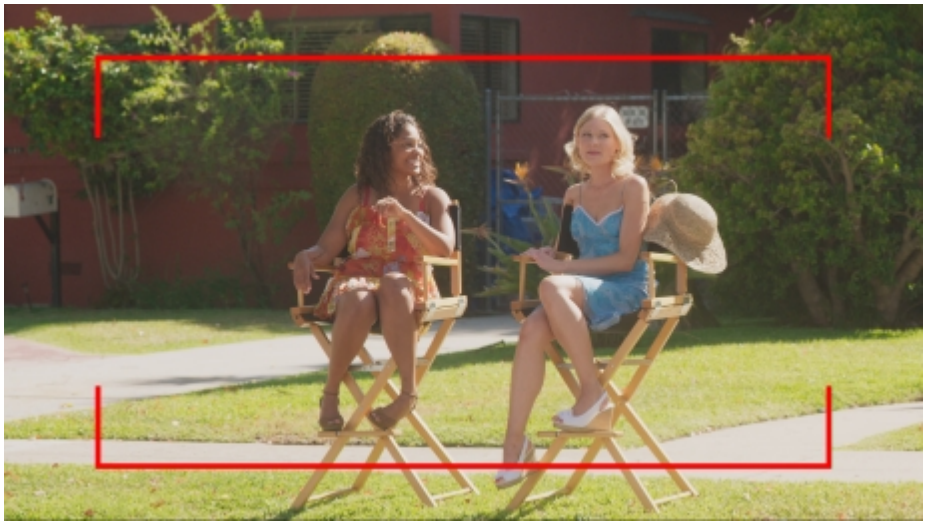
Setting of Frame1/Frame2/Frame3
Three types of frame lines can be set. Parameters are, aspect ratio, type, line width , scale factor and line color. Only frame1 has a function to darken colors outside of the frame. "Other Color Offset" parameter decides the level.

Setting example of frame1 and output from IS-miniX



Setting example of frame2 and output from IS-miniX

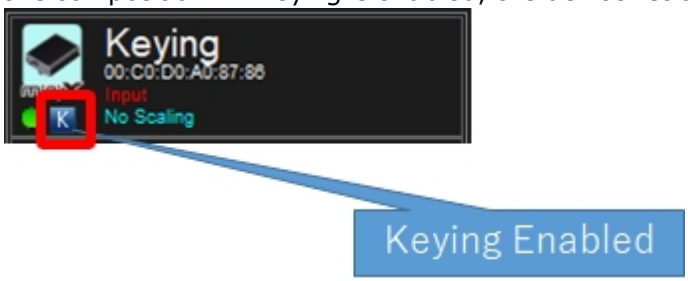

IS-miniX FrameLine
Center
Frame1
Frame2
Frame3
Show Frame Line 2
Aspect Ratio
1.78 : 1 (16:9)
1.78 : 1
Type
Top / Bottom long
Line Width
11
Scaling
80%
Color
Red



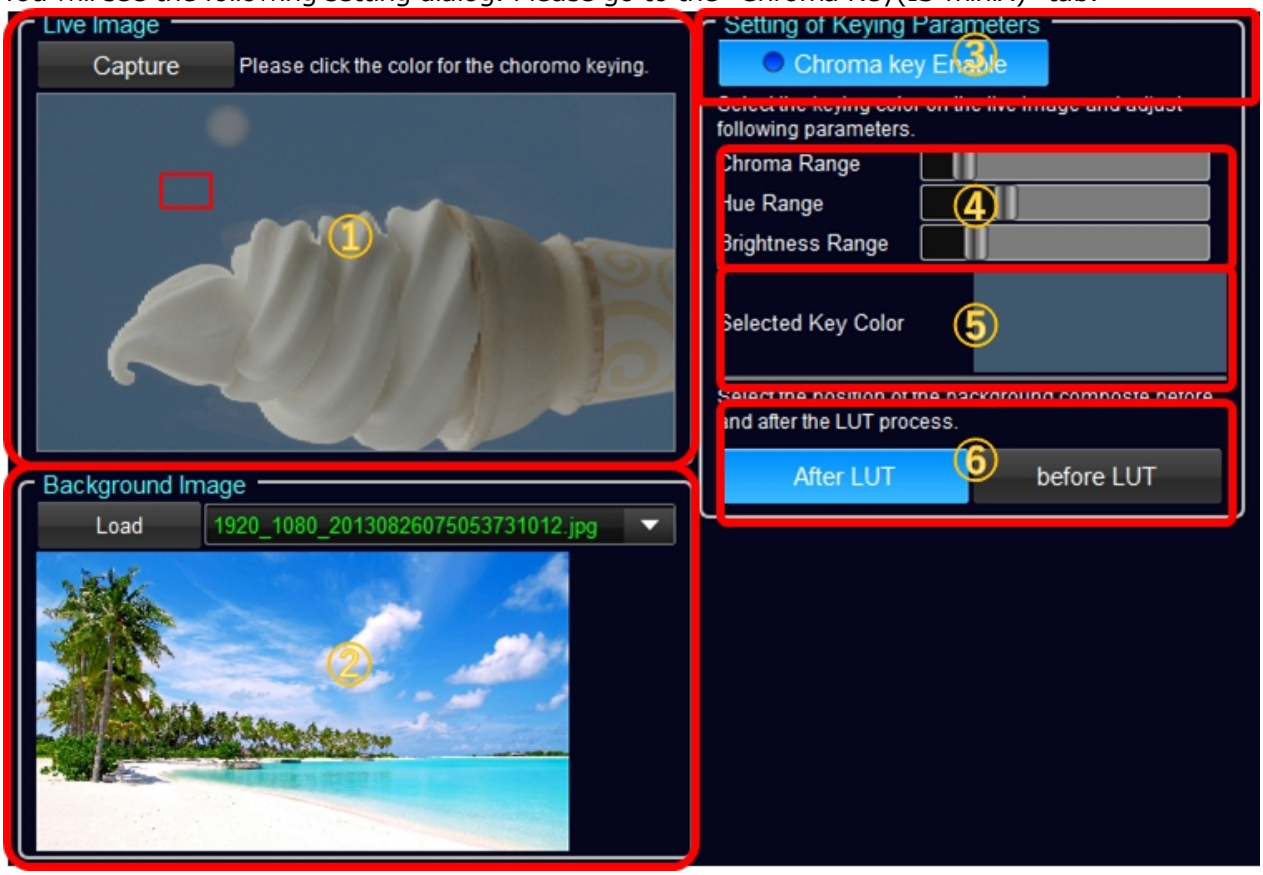
Chroma Key

Chroma key composite function

If you are using IS-miniX, you can replace the green screen or blue screen to the still image you created and output composited video signal from IS-miniX. You can make color correction keeping this composition. If keying is enabled, the device list on color correction screen has K mark.



To do the setting of keying, please do double click the device list or just click the icon on the device list.
You will see the following setting dialog. Please go to the "Chroma Key(IS-miniX)" tab.



①Capture Live Image and picking keying color

Click "Capture button to show the live image. Next click or select rectangle of the color to be the key. Selected color will be shown on area ⑤ on the right side.

②Select the background image to be composited

Select the background image to replace from green screen or blue screen. You can select from local disk by clicking LOAD button.
Or you can select from history by selecting from combobox.

③Start/Stop Chroma key composite mode

By clicking "Chroma Key Enable" button, you can start or stop chroma key composite mode.
This selection is kept after closing this dialog.

This chroma key function can not be used simultaneously with device control, logo composite, caption overlay functions. If you are using these functions, the alert will show up and stop the function.

④Adjust the chroma key parameters

You can control the composite result by adjusting chroma, hue, brightness range parameters. The result might be dependent to the scene, please find the best result by tuning these parameters.

⑤Showing Keying color

Show the color selected for the key.

⑤Selecting the position of composition of still image

ボタン名	動作
before LUT button	Composite is done before LUT processing. Color correction is applied to the background image, too.
before LUT button	Composite is done after LUT processing. Background image is clean to any color correction.

Logo and Caption(IS-miniX)

Logo and Caption Setting(IS-miniX)

IS-miniX can overlay logo image or caption text on the live image output from IS-miniX.
This function can not be used with chroma-key, still image viewing or wiping.
And Caption display function and logo image overlay function can not be used simultaneously.
"Caption Enable" button and "Logo Image Enable" button are exclusively selected.

①Input Caption

You can input caption text in this area. You can use multiple lines for the text.

②Display settings of the caption

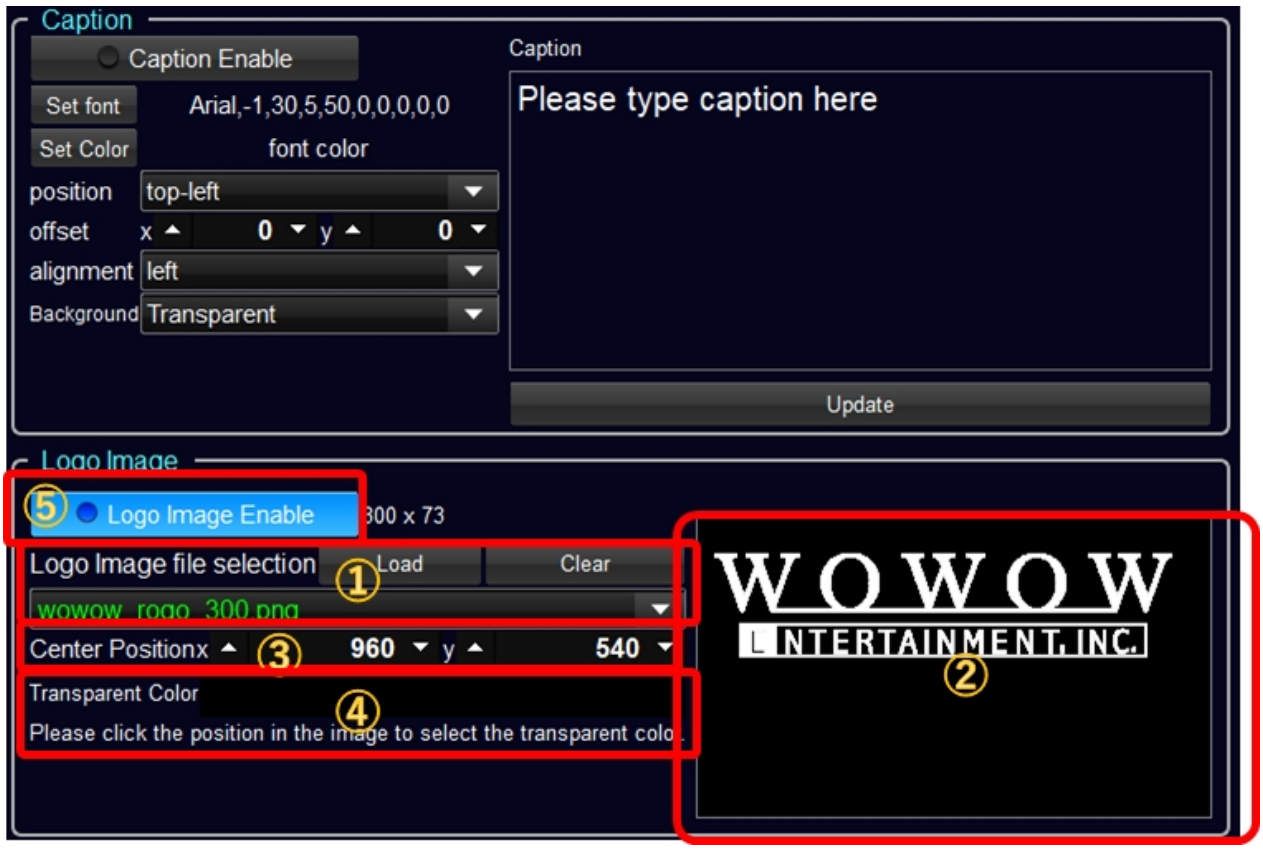
You can set caption's font, including size, color, place, offset of the place, alignment and background color.

③Update the caption

By sending all of the current settings, caption will be updated. The parameters are sent when it changes, so in usual cases, you don't need to use this button, but if the caption displays seems incorrect, please push this button to update.

④Start and Stop caption display

This button start /stop logo image overlaying function.
This function can not be used wtih device control, keying, caption display. These function will be stopped when you started logo image function.
Showing Logo Image



①Selection of Logo image

By clicking "Load" button, you can select the logo image. You can select from the selected history on the combobox.
Selected image will be shown on No.2 area.

②Showing selected logo image and selection of the transparent color

In this area, selected logo image will be shown.
By clicking somewhere in the image, the color was picked for the transparent color and the color will be shown in No.4 area.

③Setting of the position of the Logo

You can adjust the position of the logo image. The number is the center of the logo image.

④Showing of transparent color

The transparent color selected by clicking the image will be shown here.

⑤Start and Stop of Logo overlaying function

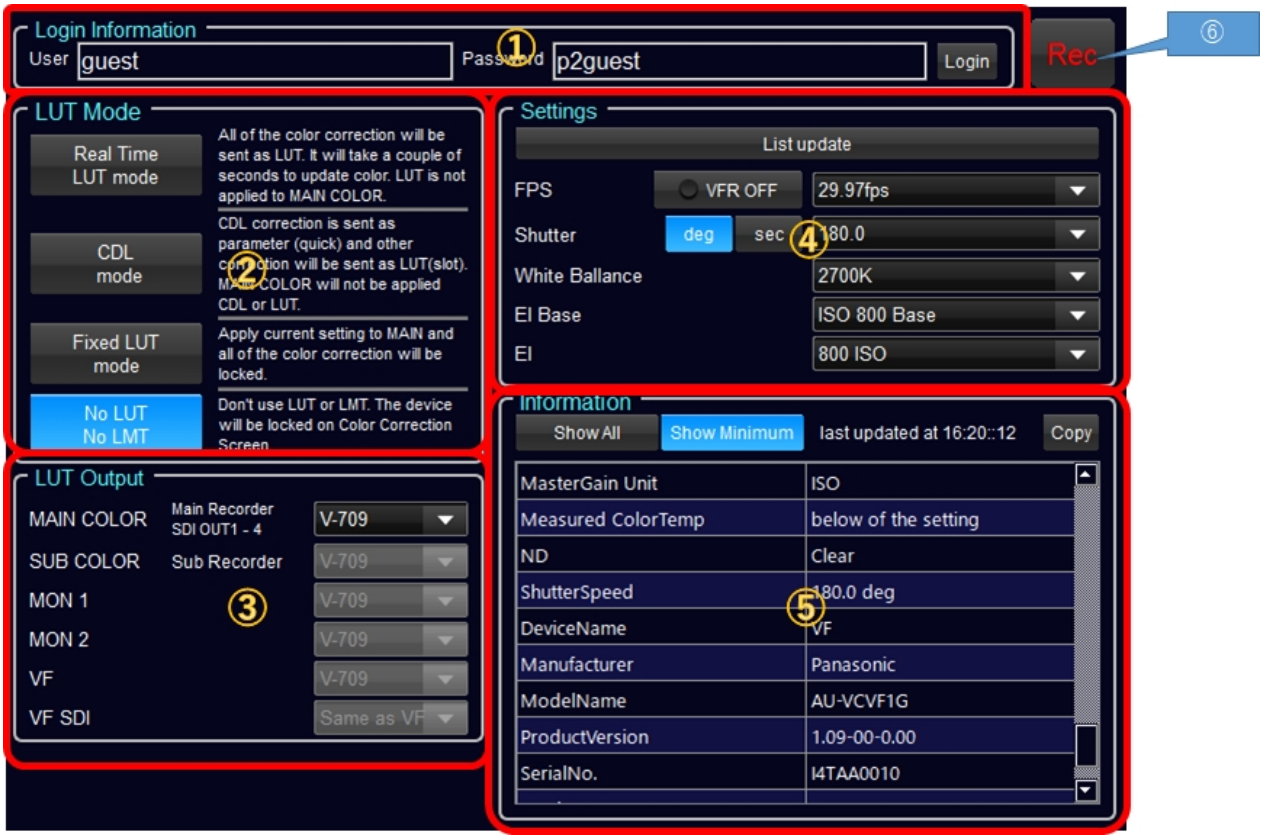
This button start /stop logo image overlaying function.
This function can not be used wtih device control, keying, caption display. These function will be stopped when you started logo image function.

Varicam Setting

Varicam Setting Screen

On this screen, you can set Varicam settings. In the default setting, user name and password are set to default value, and LUT mode is set to No "LUT/No LMT" and color correction screen is operation locked.
You have to make proper settings on this screen to use Varicam functions.

Please refer to the instruction of Varicam as well.

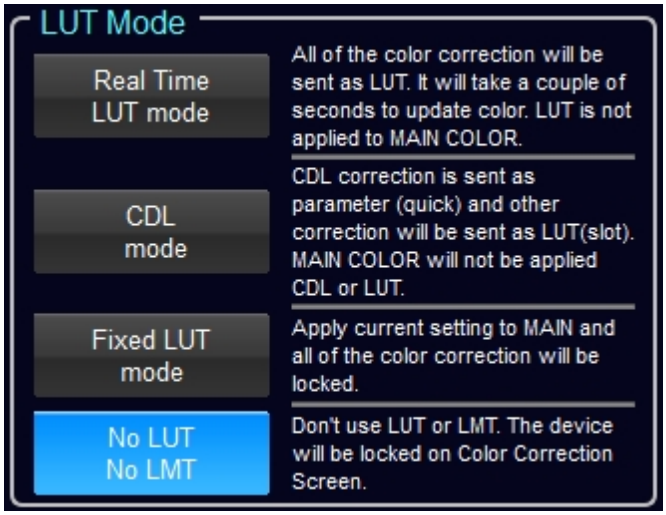


番号	項目名	内容
①	Login Information	User name and password for login to Varicam
②	LUT Mode Setting	Varicam's setting for LUTs process
③	LUT Output Setting	Setting of LUTs for each SDI output
④	Camera Setting	Camera settings related to exposure condition
⑤	Meta data Table	Table of metadata obtained from Varicam

①Login Information

User name and Password which is necessary to login to Varicam can be set. If you don't change them on the camera, you don't need to input them.

②Setting of LUT Mode



You have to select LUT mode to use Varicam. Every mode has pros and cons so please select suitable one for your workflow.

モード名	内容	レスポンス	ACES support	MAIN Color への適用
Real Time LUT mode	All of the color correction will be sent as LUT. It will take a couple of seconds to update color. LUT is not applied to MAIN COLOR.	slow	possible	impossible
CDL mode	CDL correction is sent as parameter (quick) and other correction will be sent as LUT(slot). MAIN COLOR will not be applied CDL or LUT.	CDL is fast others are slow	impossible	impossible
Fixed LUT mode	Apply current setting to MAIN and all of the color correction will be locked.	no correction	possible	possible
No LUT/NO LMT	Don't use LUT or LMT. The device will be locked on Color Correction Screen.	no correction	impossible	impossible

③LUT Output Setting

You can select each SDI for applying LUT or not. If you'd like to apply LUT, please select "Grading".

④Camera Settings

Varicam's FPS, Shutter, White Ballance, EI Base and EI can be set from this control.
If the candidates will not be shown on the combobox, please click "List update" button and wait for a while before selecting.

⑤Meta data Table

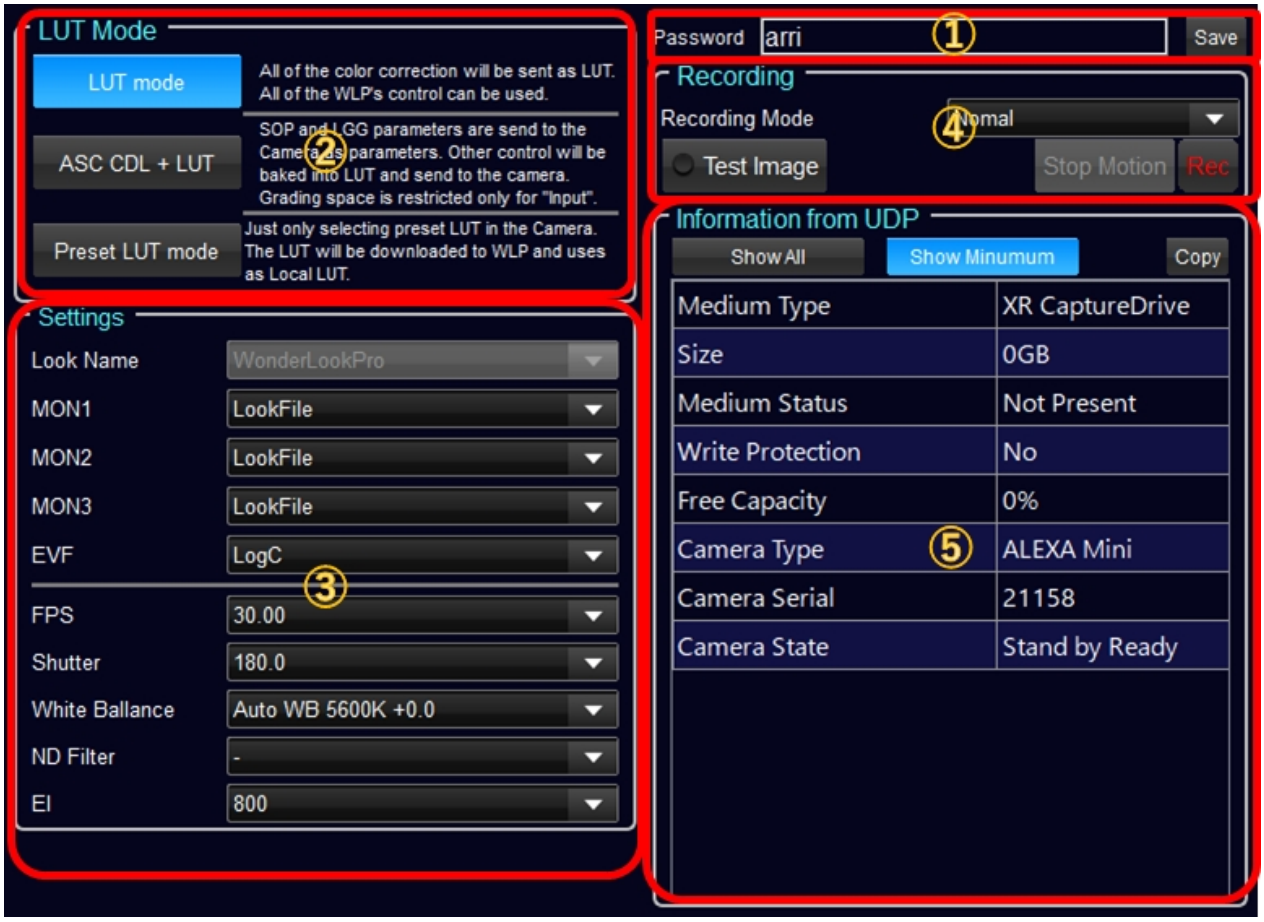
This table is showing meta data obtained from Varicam. If "Show Minimum" is selected, the data

which has 0 or null character was deleted, and only the items which have valid value were on the table. Copy button can be used to copy the table to paste to spread sheet like Excel.

ARRI Setting

Varicam Setting Screen

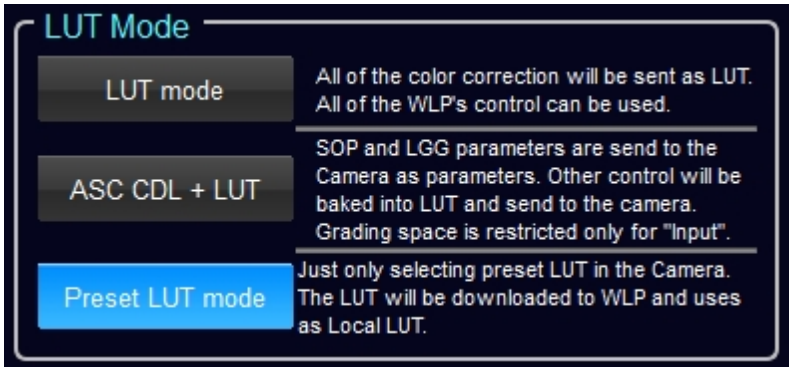
On this screen, you can set ARRI camera's settings.



①Password input

Please input the password you set on the camera. Clicking "Save" button enables the controls.

②LUT Mode

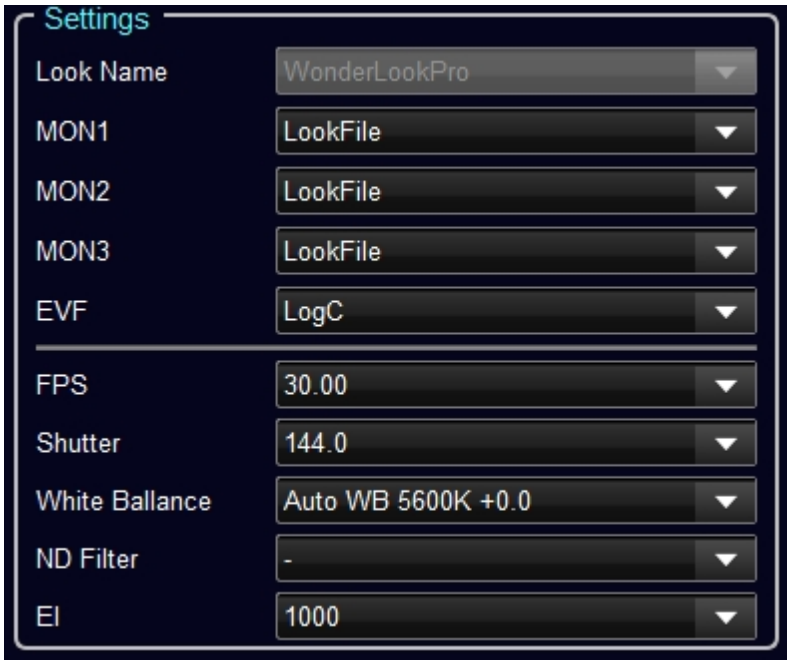


You have to select LUT mode of the camera.
※ASC CDL + LUT mode is now under developing.

mode name	explanation	Response	ACES対応
LUT mode	All of the color correction will be sent as LUT. All of the WLP's control can be used.	a little bit slow	possible
ASC CDL + LUT	SOP and LGG parameters are send to the Camera as parameters. Other control will be baked into LUT and send to the camera. Grading space is restricted only for	CDL is fast. Other are a little bit	imposibble

	"Input".	slow	
Preset LUT mode	Just only selecting preset LUT in the Camera. The LUT will be downloaded to WLP and uses as Local LUT.	no correction	-

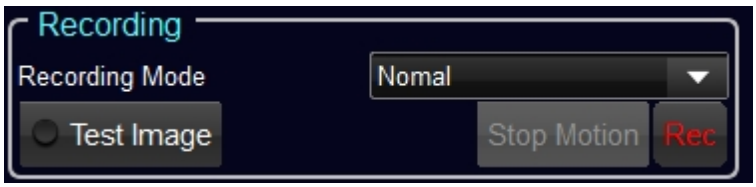
③Settings



Each SDI output can be selected to apply LUT or not. If you are going to do on-camera grading, please select "LookFile".
Adding to that, FPS, Shutter, White Ballance, ND Filter and EI can be set here.

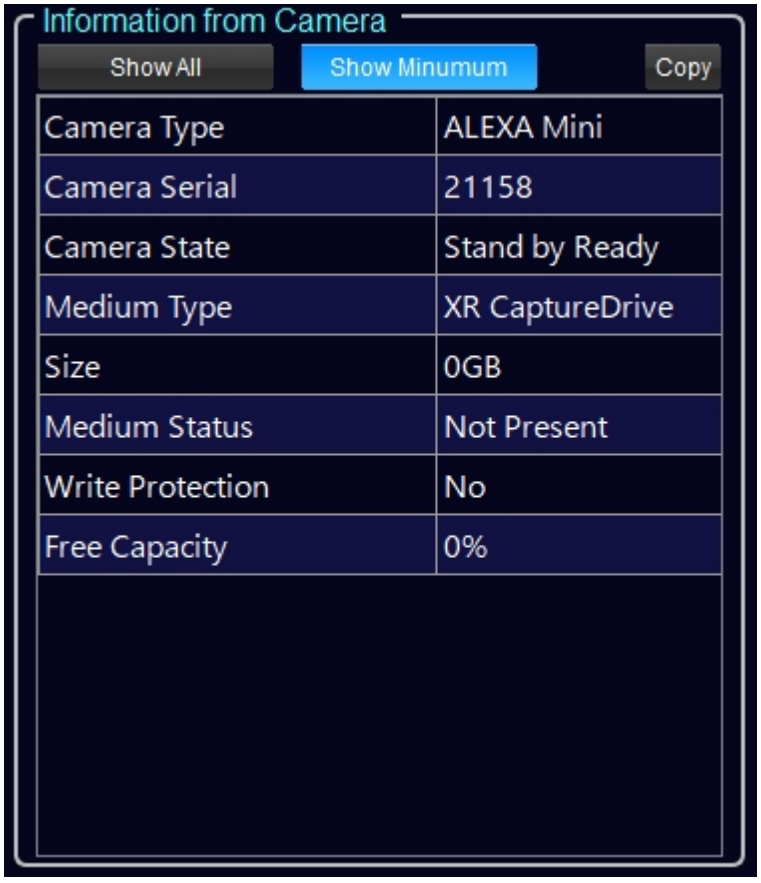
If you selected "Preset LUT mode", Look Name combobox is activated.
The candidate for the Look Name combobox can be generated by "Save to Flash" button on color correction screen. You can name the Look when saving.

④Management of Recording



You can select from Normal / PreRec / Interval / Stop Motion for the recording mode.
"Test image" button triggers to output test image form the camera.
Rec button is used to start/stop the recording.

⑤Meta data Table

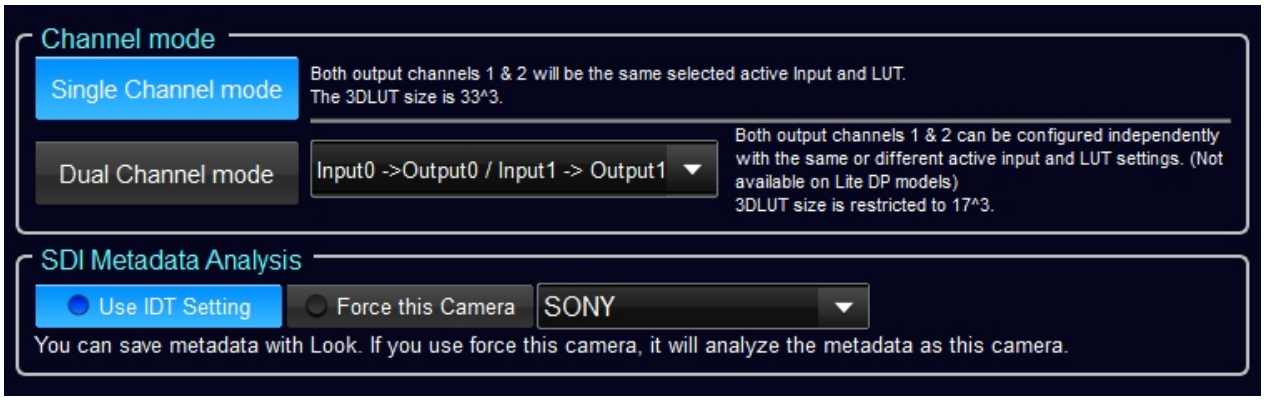


This table is showing meta data obtained from the camera. If "Show Minimum" is selected, the data which has 0 or null character was deleted, and only the items which have valid value were on the table. Copy button can be used to copy the table to paste to spread sheet like Excel.
There metadata is saved with Look when keep look on color correction screen. These can be used for making filename of the exporting LUTs and will be available on the report of export function.

BoxIO Setting

BoxIO Setting Screen

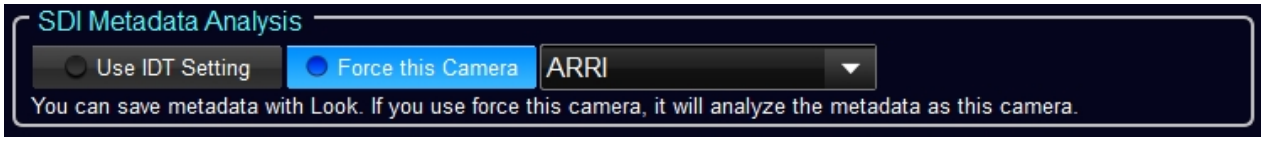
On this screen, you can make BoxIO settings.



Channel Mode

You can select "Single Channel mode" or "Dual Channel mode" for BoxIO.
For Single channel mode, the grid count of the LUT is 33.
For Dual Channel mode, the grid count of the LUT is 17.
You can select rooting of 2ch input/output by the combobox.

SDI Metadata Analysis



BoxIO is capable of obtaining metadata on SDI on Device Control Widget or Keep Look function.
If you are using IDT on CloudLUT, the software will use the maker name in it so you can just select "Use IDT Setting". If you are not using IDT, please select "Force this Camera" and find the camera make you are going to use. V3.5 supports ARRI, SONY and Panasonic.

ASTRO Setting

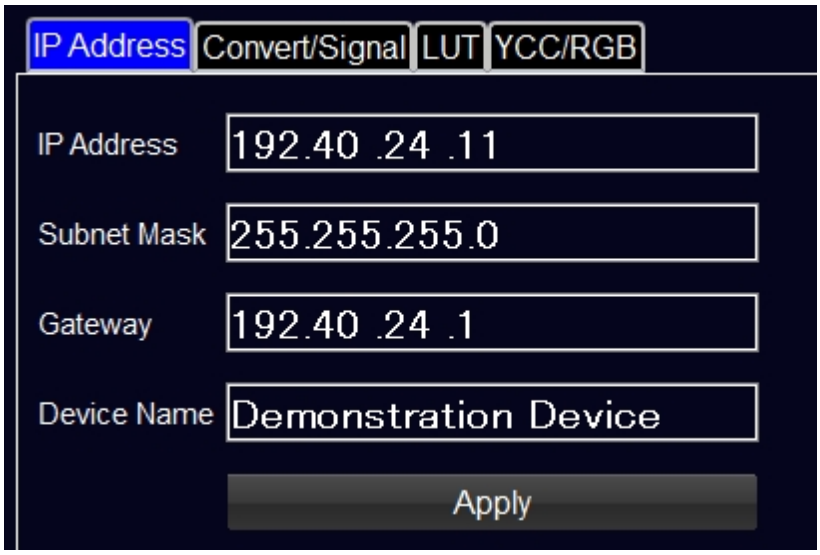
ASTRODESIGN SB-4024 Setting Screen

On this screen, you can make ASTRODESIGN's SB-4024 settings.

Tab Name	Contents
IP Address	Change of IP Address, setting of device name
Convert/Signal	Setting of convertion, input / output signal settings
LUT	LUT setings, CDL parameter settings
YCC/RGB	YCC/RGB matrix setting

ASTRO IPAddress

ASTRO SB-4024 IP Address Setting



You can change the IP Address of SB-4024 and change the name of the device.

ASTRO Convert Signal

ASTRO SB-4024 Convert and Signal Setting

The page is for converter setting and input/output signal setteings.

① Converter Setting

This is the setting for conversion between 4K and HD.

② Input Setting

You have to select proper input format. Adding to that, you can set Phase parameters or set the amount of delay.

③ Output Setting

You can select output signal format. Some restriction may exist depends on the input signal.
You can define specific PID values on the output signal

ASTRO LUT

ASTRO SB-4024 LUT Setting

The page is for the setting of LUT processing of SB-4024.

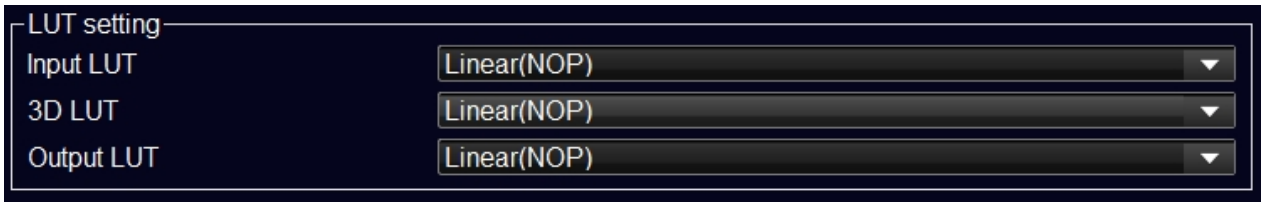
① Working Mode

If you select "Use WonderLook Color Correction" on the left side, it enables color correction on WonderLookPro.

②③ controls of this screen are disabled.

If you select "Use SB-4024 Preset" on the right side, it enables ②③ controls which are the controls for selection of the preset conversion inside SB-4024.
On this mode, color correction functions of WonderLookPro is locked.

②LUT Setting of SB-4024 inside



You can select LUT setting of SB-4024 inside. Please refer to the mannual of SB-4024.

③Color Ballance Setting of SB-4024 inside

When you are using SB-4024 preset LUT, you can make simple color correction by CDL parameters and Knee parameters.Please refer to the mannual of SB-4024.

ASTRO YCCRGB

ASTRO SB-4024 Matrix Setting

The page is for the setting of input/output TCC/RGB conversion matrix.

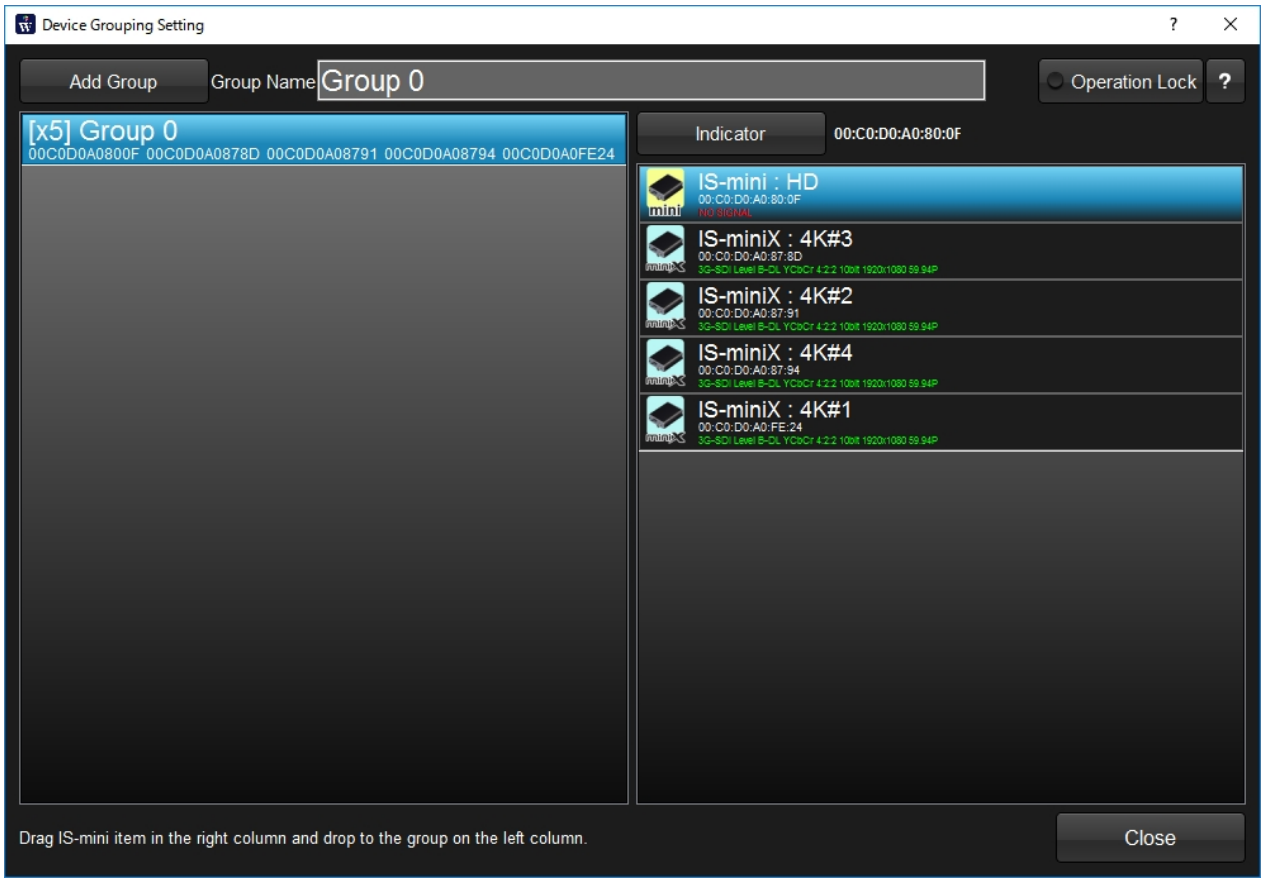
You can select preset matrix for Rec709/Rec2020 or choose "Custom" and input any values for the matrix.

Grouping

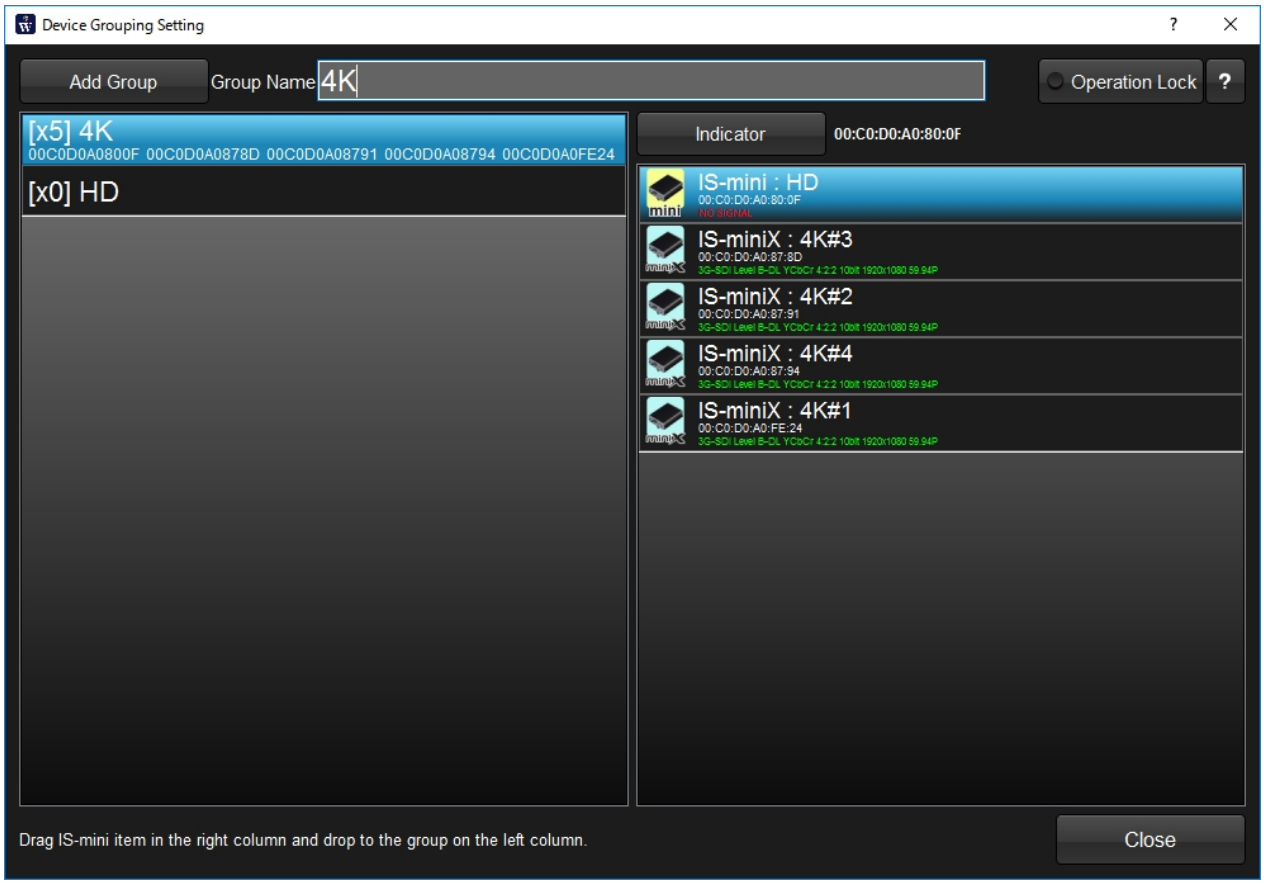
Grouping

By grouping function, you can make groups for multiple devices and the devices in the same group can be controlled simultaneously.
This function sends create LUTs to all of the devices in the same group, so the same type of devices can be in the same group.

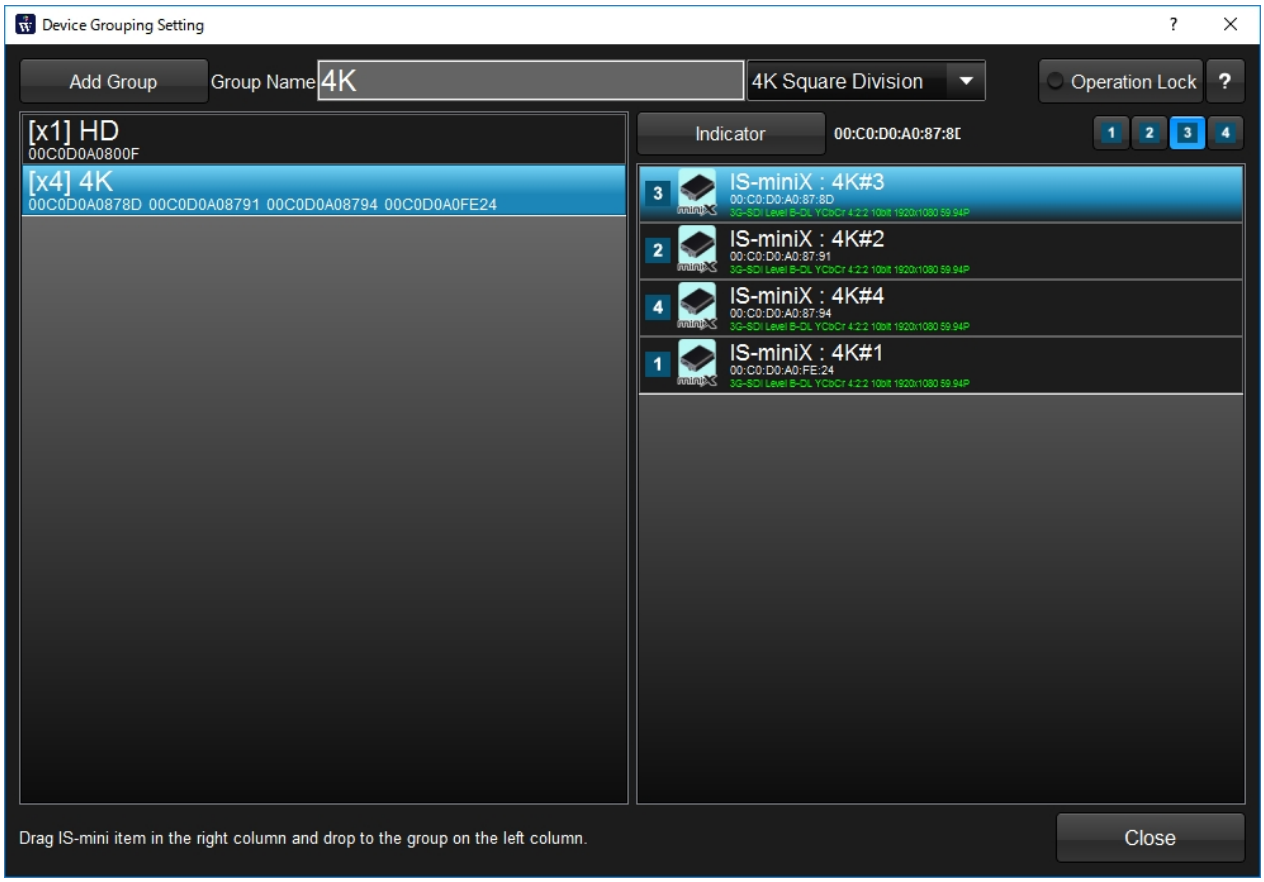
In default, the same type of devices are grouped in one group.



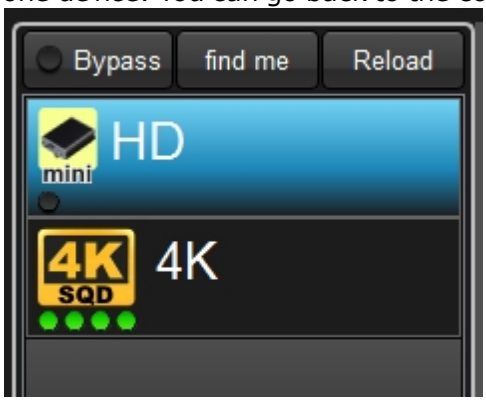
Firstly, click "Add Group" button to make new groups, and give the name to them. ("4K" and "HD")



Next, drag and drop the device named "IS-mini : HD" to the group named "HD".
IS-miniX 4K#1,#2,#3,#4 should be labeled from 1 to 4 by selecting device and clicking the number respectively.
Please use "Indicator" button to identify the position of the device.
Finally, select 4K Square Division of the combobox on the top.



You can confirm that the group named "4K" contains 4 devices, the group named "HD" contains one device. You can go back to the color correction screen by clicking "Close" button.



Now than you can select either "HD" group or "4K" group to make various settings and color correction.
You can confirm the number of the devices and signal status by the small circle in green or black under the group icon.
If you made a 4K group by IS-miniX, it was labeled by 4K-SQD like above picture. In this status, this group is capable of 4K image capturing or live viewing.

Look Sync

Look Sync function

To control looks for multiple devices, there is "grouping" function, but the grouping function is targeting exactly the same setting devices control, so it can not be applied to different camera devices, or different display setting devices. "Look Sync" function enables simultaneous color correction for different camera devices or different display setting devices, like one for SDR and one for HDR.
The explanation of the device panel is available here.

1.Selection of Look Sync devices

To start Look Sync, click "Look Sync" button. Clicking "Look Sync A" triggers to start Look Sync mode.

①Look Sync Slot

You can use 5 slots from A to E of Look Sync. In default, slot A is selected and (0) means there is no selected devices.

②Selection of Devices for slot A

If you are going to add a device to current slot A, click the circle switch in area② of the device.

③Selection of Devices for slot B

To select devices for slot B, please clock B button on the area① first, and click the circle switch in area②.
The device can not belong to different slots at the same time. The last slot you selected is the slot the device belongs.

The figure is the example for,

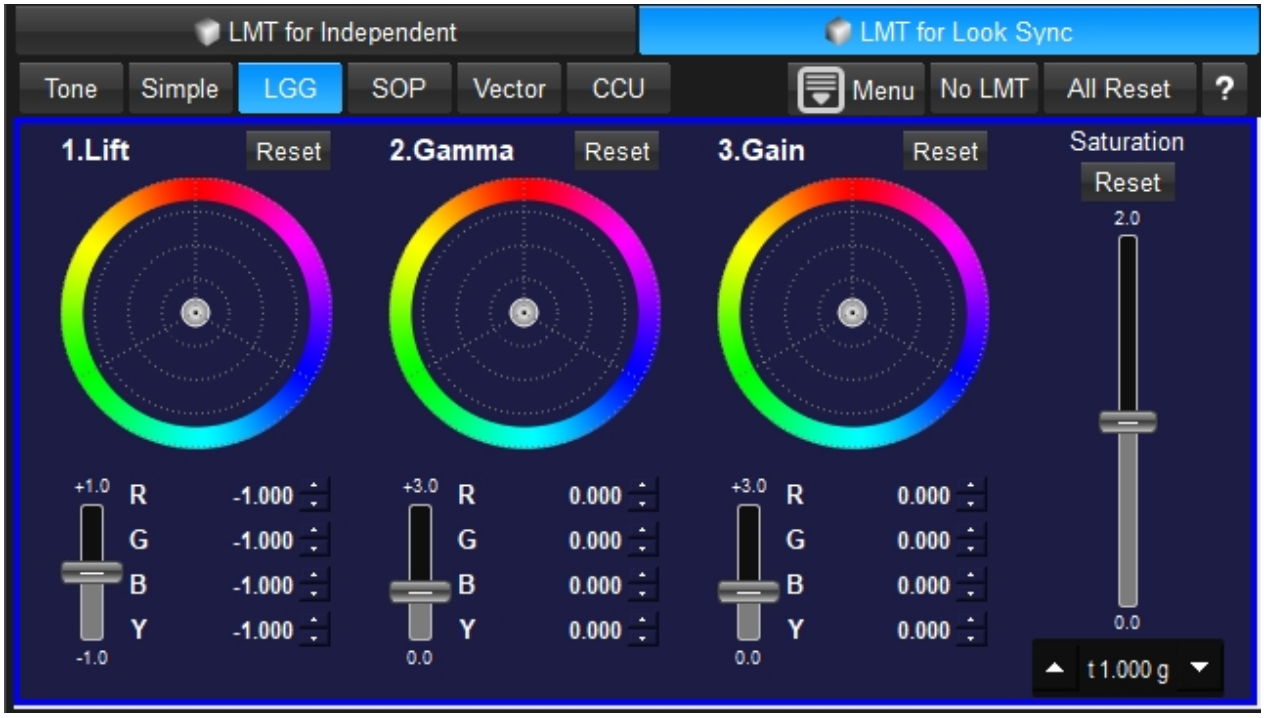
Slot A : Camera A Camera B
Slot B : Camera C
Slot C: Cmaera D, Camera E

Currently, slot A is active and Camera A and Camera B which are in slot A are surrounded by blue rectangle. These two devices colors are simultaneously corrected.

You can change the active slot by clicking A～E buttons or select the deactivated device of the different slot.

2.Color correction of Sync Mode

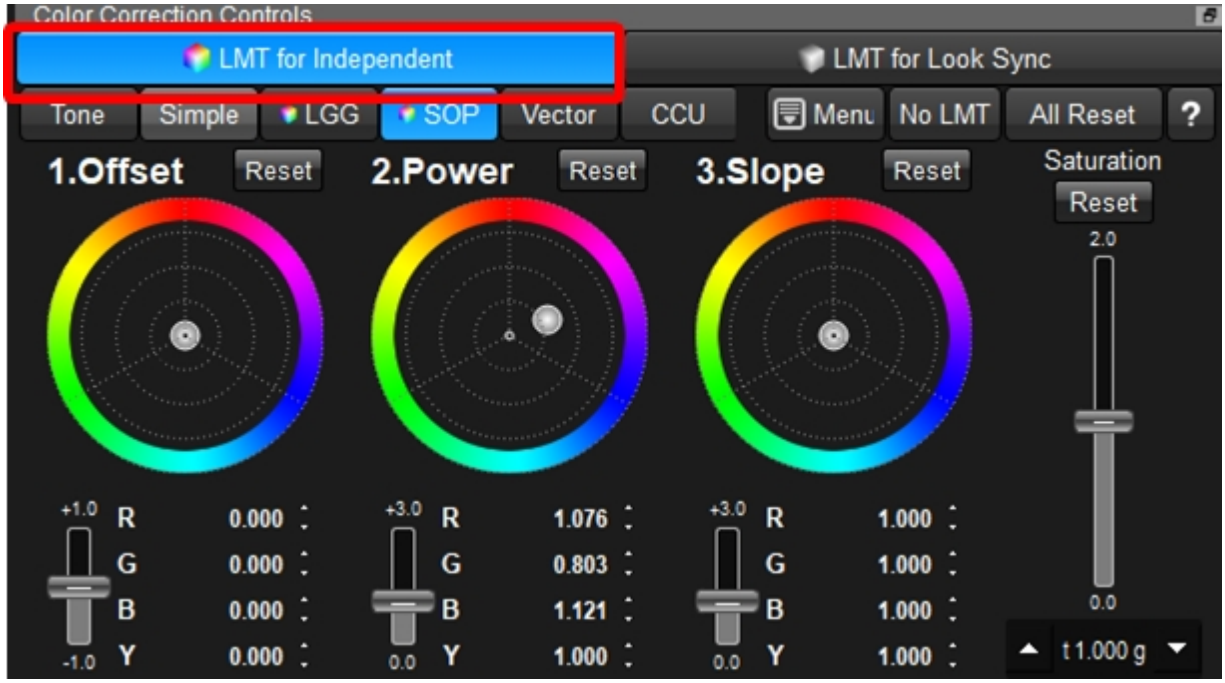
To synchronize the color correction, please select "LMT for Look Sync" button. These buttons will show up when it is look sync mode.
Under this condition, the look will be applied to the devices you selected at 1, and the respective LUTs are generated and sent to the selected devices.
Under the "LMT for Look Sync" being selected, the background of the control is dark blue, and control area is surrounded by blue line so that you can understand it's in the synchronizing color correction mode.



3.Independent Color correction under Look Sync Mode

You can do color correction not synchronizing on this look sync mode. Please select "LMT for Independent" as following screen shot. Under this condition, the color correction will be applied only for the active device. The color correction will not be applied to other devices which is set to be synchronized.

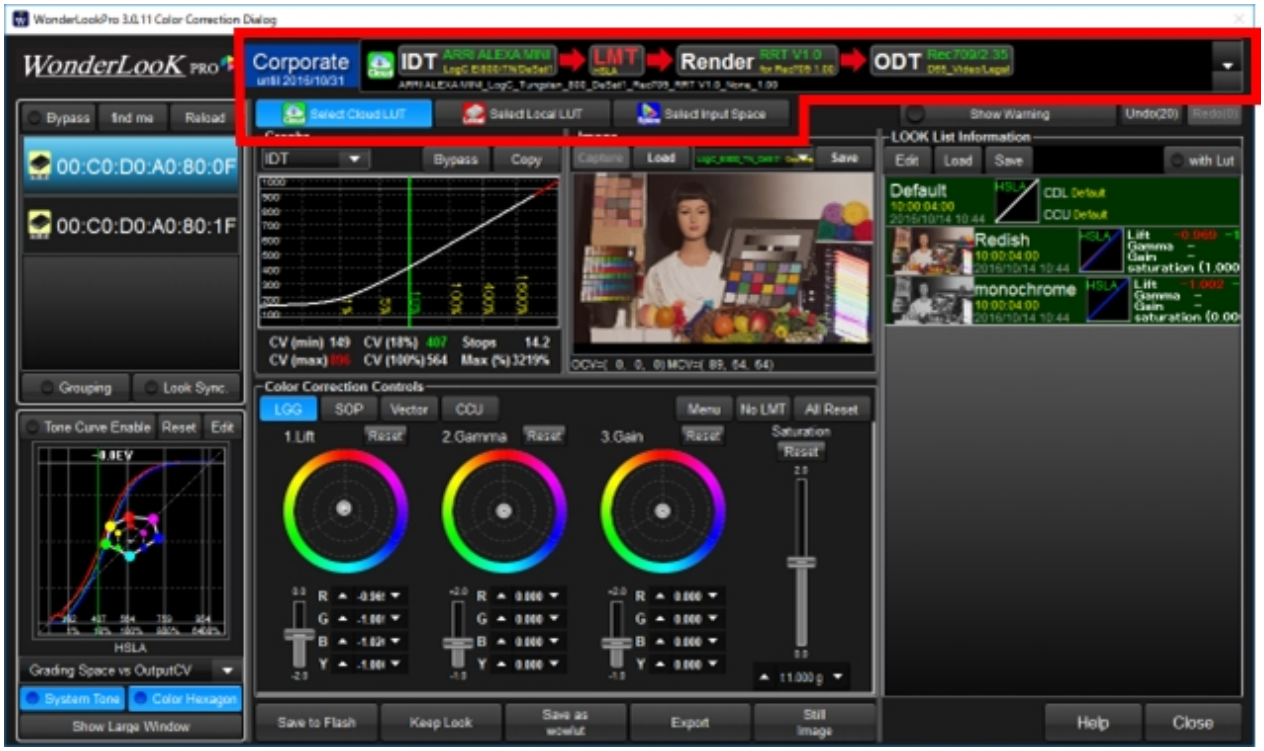
In "LMT for Independent", the background is normal color and there is no blue surroundings.



LUT Management

LUT management Area

Red surrounded area is to download preset LUTs, load LUTs and select the colorspace for the conversion. It's the basic setting to start color correction.



1.LUT selection, setting of color space conversion

Following three buttons are trigger to these functions along with showing current selection in the blue background.

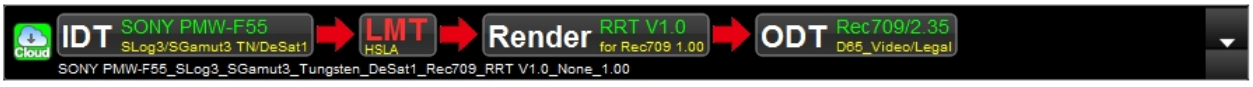
Click the button with icon to jump the explanation page.

モード	内容
Cloud LUT	Select from various LUTs including the support for more than 60 types of camera through internet
Local LUT	Select from various LUTs including the support for more than 60 types of camera through internet
Color Space	Select from various LUTs including the support for more than 60 types of camera through internet

2. Color Pipeline and trigger to the setting

Top of the screen lies the display of color pipeline which shows the order of the processing, parameters of each transform and the name of the LUT. Clicking every reageon triggers to show the setting dialog for every process.

2-1. The example of using Cloud LUT



In this example, the pipeline is,

IDT(Camera dependent transform) --> LMT(color correction) --> Render(rendering with intent) --> ODT(output monitor setting)

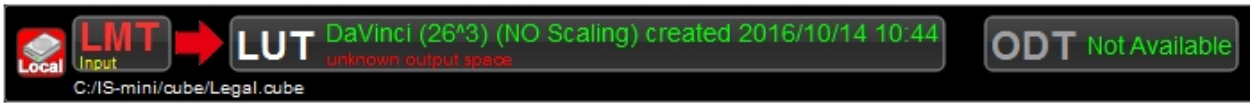
The icon on the top

means this pipeline is consisted from the preset LUT downloaded from Cloud servies provided by WOWOW.

The name of LUT file are shown lower side.

Color correction is performed after IDT. It means you can create camera independent LOOK usable for other cameras.

2-2. Example of Local LUT (DaVinci format)

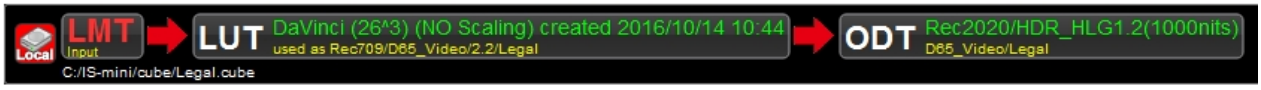


In this example, the pipeline is,

LMT(color correction) --> LUT(selected Davinci format LUT)

means it is using LUT loaded from local disc.

The right side of the pipeline shows "ODT Not Available" with gray character. It means in this setting you can not user output monitor setting.
In the LUT reageon, "unknown output space" means that you didn't designate output space of the LUT when loading so the process uses LUT as it is without conversion.



In this example, it shows the pipeline you selected target color space when loading LUT. You designated "Rec709/D65/2.2/Legal", and ODT is enabled which means you can change the output setting different from the original target. Above example is converting to Rec2020/HLG.

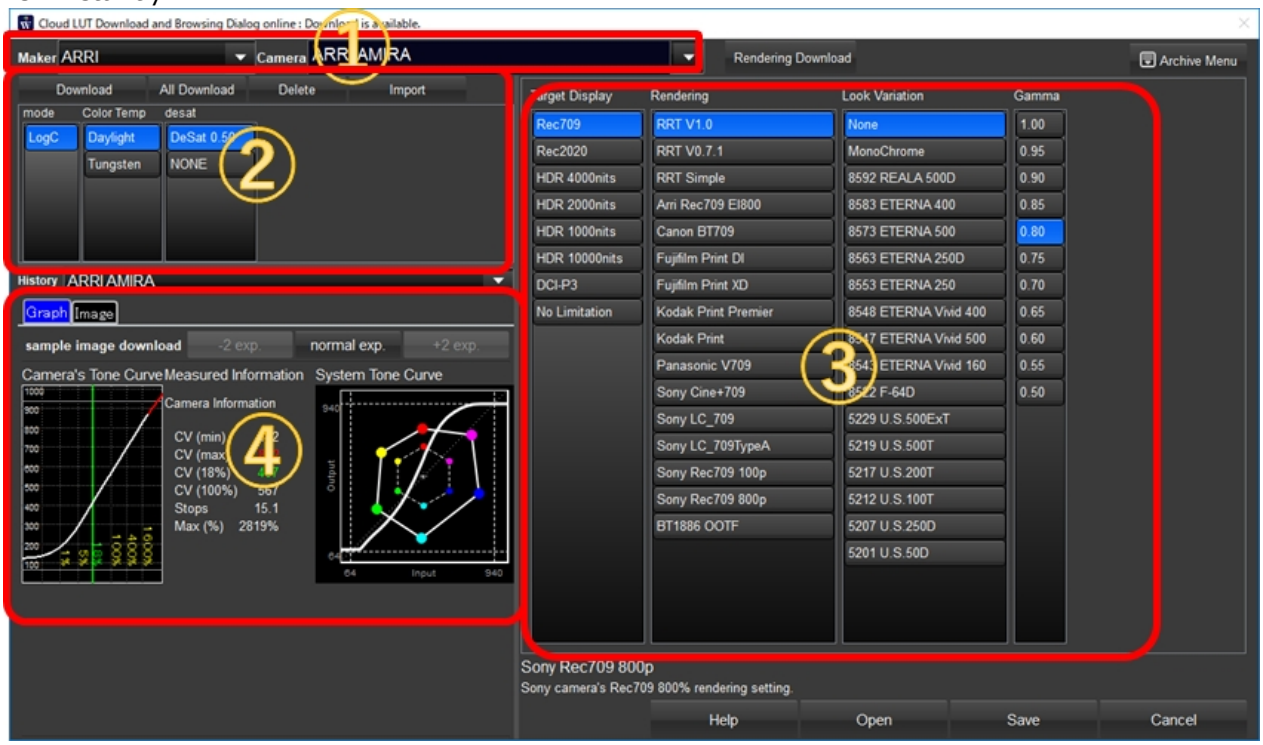
2-3. The example of Converion of Color Space

In this example, it show the input color space "Rec709/D65/2.4" is converted to "DCI-P3/D60/2.6" after color correction in ACES proxy grading space.
This function enables you converting color space along with necessary color correction.

Select Cloud LUT

Cloud LUT selection and download dialog

In this screen, you can download, browse and select LUTs provide by WOWOW through internet. Once you download LUTs, you can browse and select without internet connection. When you are using LUTBOX device, the selected LUT is immediately sent to it to confirm the transform of the LUT instantly.



①Camera Selection

You can select maker and camera. Camera selection shows expire date. If the LUTs you are using had expired or when the new LUTs are available, the "Download" button blinks to inform you the necessity of new download.
By clicking "All Download" button, all camera IDTs are downloadable by just one action.

②Camera Setting Area

After selected the camera, it show the camera setting candidate depending on the camera type. You have to select properly to match the actual camera setting.
Only "DeSat" selection is not camera setting. It is the selection of the de-saturation pre-process. DeSat1 avoid the saturation for high saturated / high brightness colors by decreasing the saturation of the camera output. High brightness, high saturation LED lights could make camera sensor's saturation and brights artifact. In such cases, deSat1 setting is helpful to reduce the artifact. When shooting under nature light or ordinary studio lights, you don't need to select "DeSat1". Please just select "NONE".

③Rendering Selection Area

The "Rendering" means the creation of colors with intent from scence color to output color, independe from the camera type.
Currently this section provide you four kind of parameters.

1. Target Display

To select the target color space of the project. The rendering is defined within this target color space by using mapping technology. You have to select proper target, especially if you are targeting HDR.

2. Rendering

Main component of this setting/ RRT(Reference Rendering Transform) is the transform AMPAS's ACES standard reccomends and it is suitable for most cases.
Other than RRT, you can select from print film simulation or camera maker's standard reproductions.

3. Look Variation

You can select from 14 kind of negative film looks.

F-64D	Higher tone scale and intensity than ETERNA 500. It reproduces images with great color contrast and vividness. Overall higher scale tone and saturation. Significantly reproducing images with precise and vividness.
ETERNA Vivid160	Slightly higher tone scale and contrast than ETERNA 500. It significantly enhances yellow tone reproduction.
ETERNA Vivid500	Reproduces a lower tone scale and higher saturation images than ETERNA 500.
ETERNA 250	Reproduces slightly higher saturated images than ETERNA 500.
ETERNA 500	FUJIFILM's standard negative recording film. It reproduces images with moderate contrast and saturation.
ETERNA 400	Reproduces lower contrast and saturation images with soft tone than ETERNA 500.
REALA 500D	Reproduces equivalent contrast and clear color saturated images as ETERNA 500.
ETERNA Vivid 400	Reproduces lower and clearer saturation images than ETERNA 500 overall. This is a digital rendering of a theoretical film type.

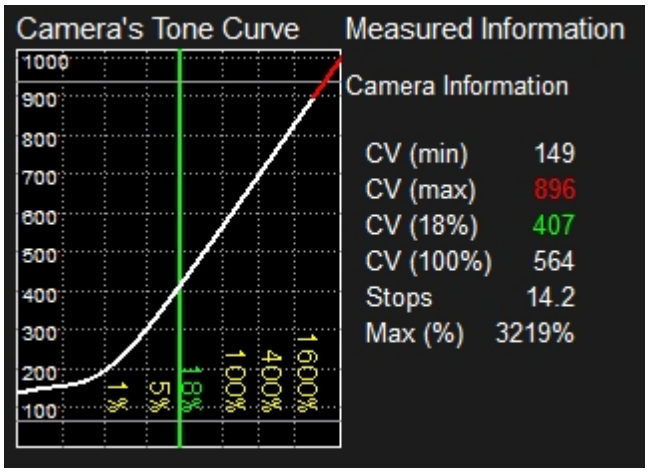
4. Gamma

You can select total system hardness from 1.0 to 0.5. 1.0 is the standard gamma suitable for digital cinema. For TV broadcasting, 1.0 is a little bit harder so aournd 0.8 is preffered.

④LUT Information, Image example area

This area includes graphs for camera measurement and LUT system tone curve. Part of camera's test image is available for download.
In the image tab, you can preview the LUT processed result image.

1.Camera measurement Result

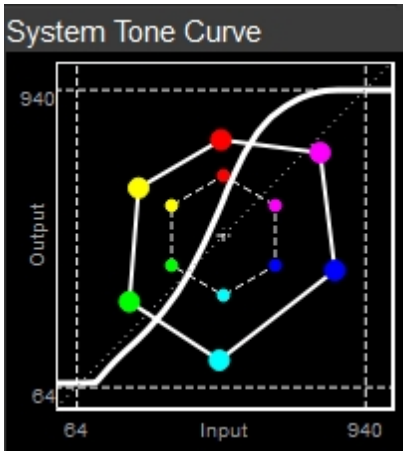


This graph shows the result of camera tone curve measurement. Holizontal axis is log exposure, vertical axis is 10bit output of camera, white increasing curve is the camera response. The red regeon on this curve means it is outside of camera reproduction despite of log curve difinition of extension is defined. In other words, this is out of camera's dynamic range.

Line graph in red, green, blue is the noise property of the camera. (not all of the camera measurement provide this data)

The table on the right of the graph shows numerical characteristic of the camera measurement. CV means code valu in 10bit (0-1023). Stops and Max shows dynamic range of the camera but it contains errors because of automatic calcuration.

2. System Tone Curve



This graph shows system tone curve of the selected LUT, which is combined with camera's input transform, rendering process and monitor transform.
Holizontal and vertical axis are both 10bit 0-1023. 6 colors hexagon show how the colors transformed by this LUT. Center is gray and dotted lined colors are input colors and outside solid lined colors are processed colors.

③Archive and Restore Downloaded LUT files

You can move the download files like Cloud LUTs to other PC. Firstly, by clicking "Archive files" button, you can archive download files to one zip file. Then copy it to other PC and click "Restore

file" button and select the zip file.

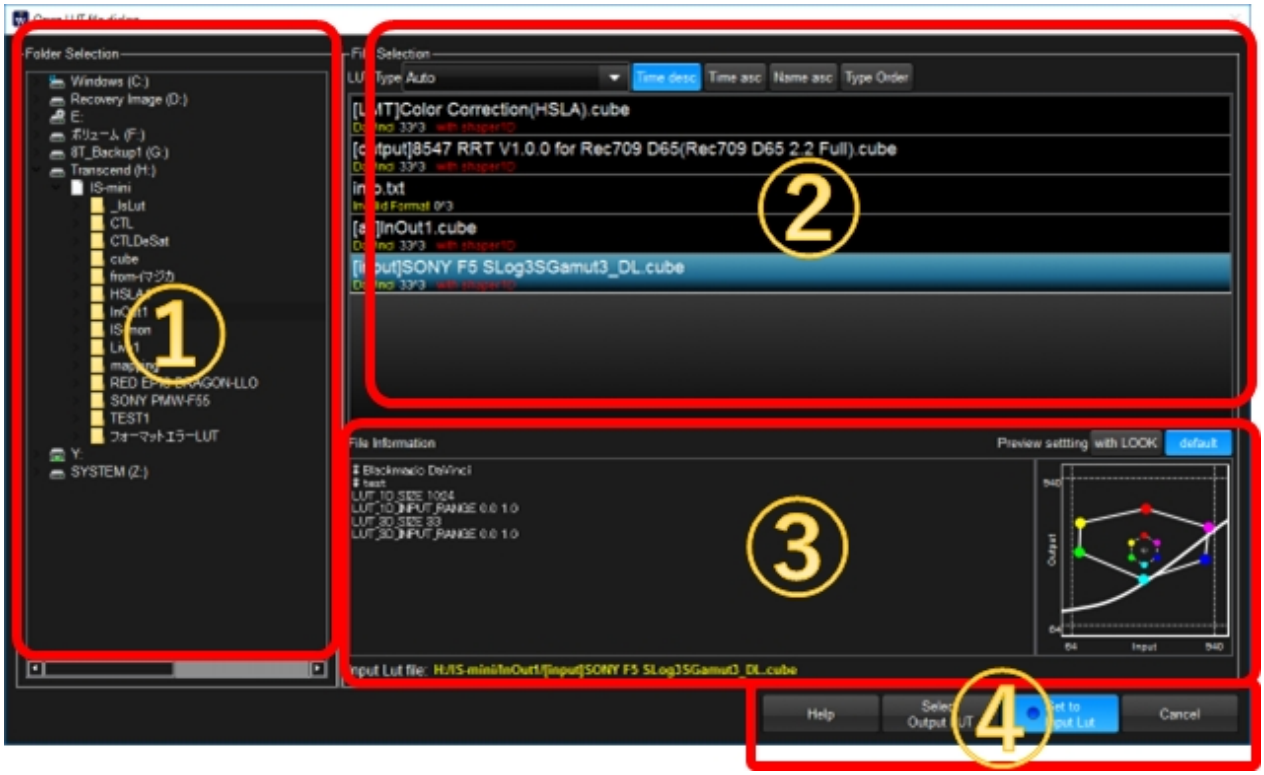
Supported Cameras

Supported Cameras

Select Local LUT

Local LUT selection screen

On this screen, you can select the LUT while confirming the content of the LUT by viewing headers and color reproduction graphs. LUT format would be automatically detected but you can forcefully designate the format to load.



①Folder Selection

Please select the folder the LUT file exits you are going to use.

②LUT file List

The list of the LUTs in the selected folder would be shown. LUT type can be auto as a default but you can select specific format when you need to designate the format by selected from the combobox. By clicking the LUT file, LUT information in the regeon of ③ would be updated and LUT would be sent to the device if you connected it.

These buttons control the order of the LUT showing.

Time desc	Descending order of updated time. Newer one come first.
Time asc	Ascending order of updated time. Older one comes first.
Name asc	Ascending order of alphabet.
Type Order	Grouping the same format.

The LUT is downloaded from Cloud, the format is wowlut. This file contains camera information

and rendering information in one file, and it shows each parameters.

This LUT is Film Master format. WonderLookPro recognize the format automatically and it shows "FilmMaster" in yellow character. 33^3 means grid number of the LUT.

The LUT is DaVinci format. WonderLookPro recognize the format automatically and it shows "DaVincir" in yellow character. 26^3 means grid number of the LUT. It contains 1D LUT in the same file, so it shows "with shaper1D" in red character.

③LUT file information / Input file selection information

It shows LUT file information you selected. Left side is header information, right side is the graph of system tone curve.
The lowermost side lies input LUT selection status. When selected, the file name was shown in yellow character. (plase refer to the explanaion at ④)

④Command Buttons

In usual cases, you can click "Open" to finish the selection and move to the next step.
If you want to use both inpout LUT and output LUT combined, you have to select inputLUT first and click "Set to Input LUT" button.
After it, select first LUT name was shown in yellow character and "Set to Input Lut" button was selected in blue.

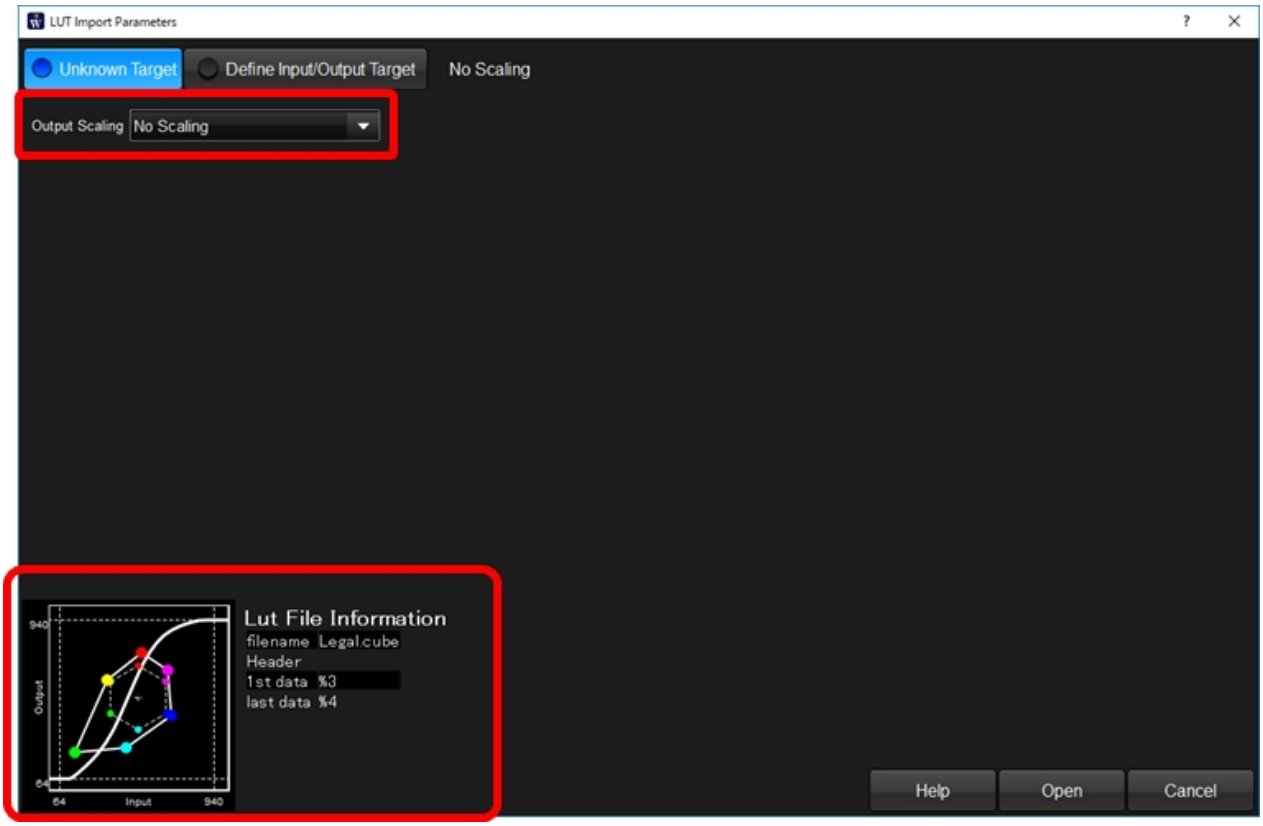
It shows input LUT was selected and ready for selection of output LUT. After selected output LUT, you can click "Select Output LUT" button to finish the selection and move to input/output LUT combination process. If you release the input LUT, you just need to ckick "Set to Input Lut" once more.

LUT Parameters

Local LUT Input/Output Color Space Setting

On this screen, you can set the output color space of selected LUT. If you set it, ODT setting would be enabled and you can change the target monitor which has different color space, gamma or white space.

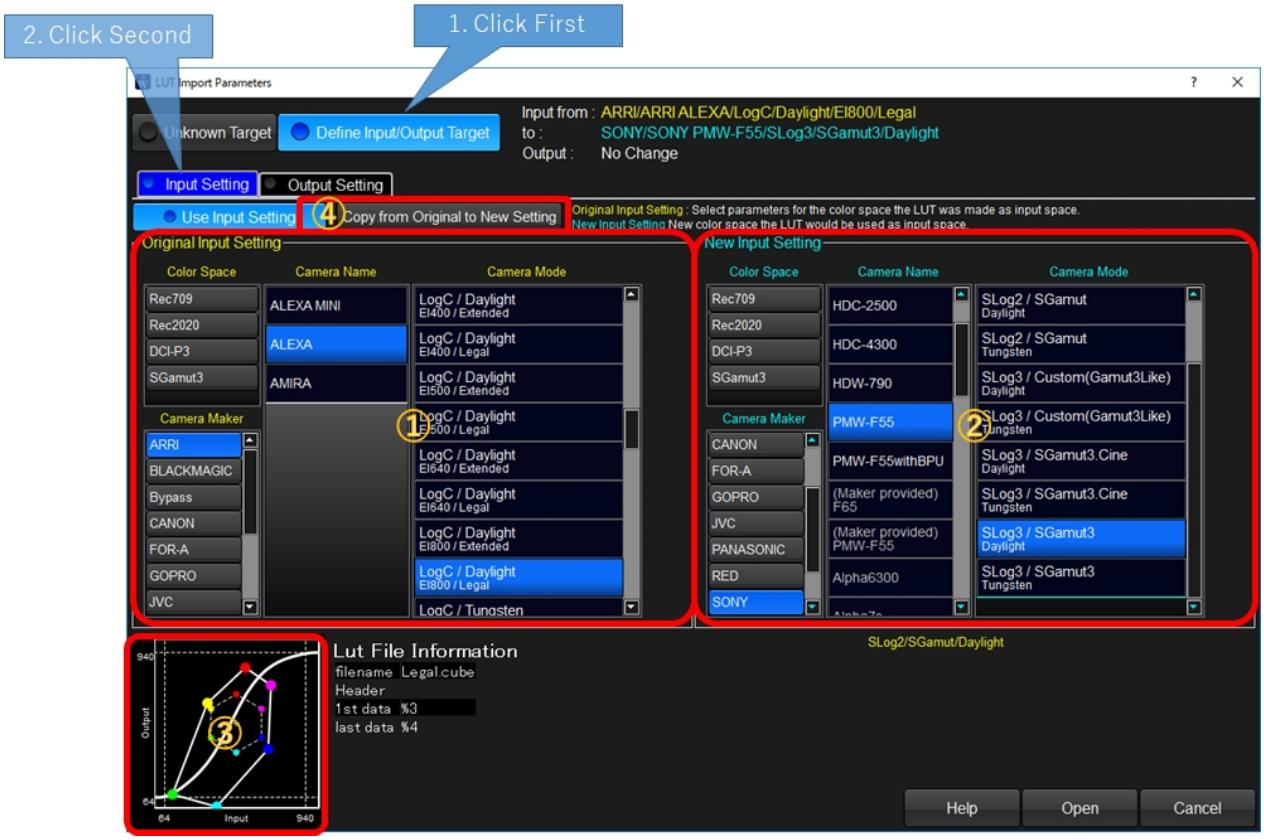
1.You can not tell what the LUT is targeting



Please select "Unknown Target" button. You can select proper scaling type from the combobox while confirming the tone curve on the bottom right graph.

2.When know which camera and mode is the target of the LUT

If you know the camera and mode of the LUT created, you can use this LUT for other camera or mode by setting these parameters.
Click "Define Input/Output Target" button, and click "Input Setting" tab to show Input Setting of the LUT.



①LUT's original input parameters

Left side of the screen is to input LUT's original input parameters.
You have to select exactly the correct parameters when created this LUT. If the input was camera signal, you can start selecting from maker, and select camera type and camera mode correctly. If the input signal was not camera signal but rendered to monitor color space signal, you can start selecting from color space and select white point, gamma and scaling.

②LUT's input new parameters

Right side of parameters used as new parameter set for input side of the LUT.
You can change later so it is a good choice to set the same setting for original and new settings, by clicking "Copy from Original to New Setting".

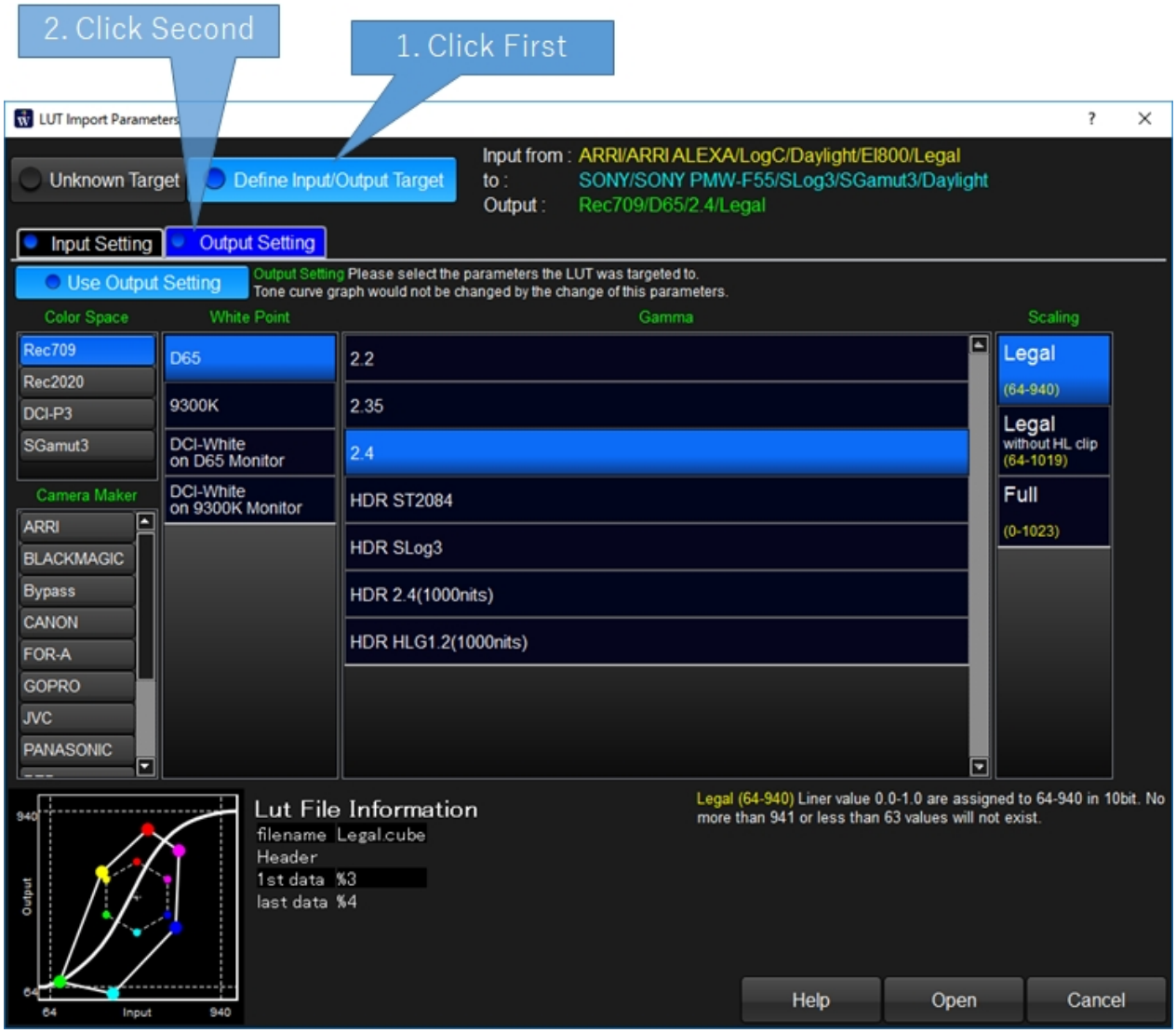
③New System tone curve

Based on the parameters both original and new, the system tone curve was re-calculated and shown on the graph.

3.When you know which monitor color space the LUT is targeting

If you know the target color space of the LUT's output, you can use the LUT for other color space if you select the parameters LUT were targeted.
Click "Define Input/Output Target" button, and click "Output Setting" tab to show Input Setting of the LUT.

されます。
This function enables, to use the Rec709 targeted LUT for Rec2020, or to use SDR targeted LUT for HDR.



Select Color Space

Color Space Setting Screen

This screen is for Color Space conversion function. Color Space conversion is the simple conversion which converts one color space to another. On this function, there is no rendering, but you can make color correction between the conversion to adjust the result.

①Input Color Space Region

Please select input color space. You can select from camera log as an input color space.

②Output Color Space setting

You can select output color space here. This setting was taking over from color correction screen, and if you changed these parameters, it will affect on color correction screen.
It's very convenient when you are going to emulate one camera to another camera which have different color reproduction.

③Explanation of the parameters

There shows the explanation of the parameter where mouse cursor is.

④Mapping parameters

From HDR to SDR and/or Rec2020 to Rec709 mapping can be selected.
If the contents have a lot of information above Rec709/100nits, you can get better result by selecting proper mapping parameters while confirming the output.

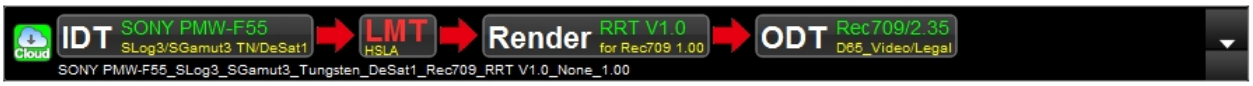
⑤System Tone Curve

The system tone curve which cascaded input color space conversion and output color conversion can be confirmed by the graph. Both holizontal and vertical axis are 10bit full range (0-1023) and when you matched input and output setting, it will be the straight line of 45 degree.
The curve reflects the parameters of mapping.

Color Pipeline Control

Color Pipeline diagram and trigger to the setting

The uppermost lies the color pipeline which shows transform order, parameters of each nodes and the name of LUT. You can recognize how it works in one glance. Each nodes is clickable to show setting dialog or popup menu.



The explanation of color pipeline is written here.
Every node, IDT, LMT, Render and ODT are clickable and when you click it, the dialog for each setting would be shown.
If you click other regeon, like red arrow or black regeon, it appears history of the color pipelines and you can select from these.
Selection of the Grading Space(on LMT)

If you click above LMT node regeon, the grading space selection menus are appeared. Please refer to here for detailed explanation.
Output Color Space (ODT) Setting

If you click above ODT node regeon output color space setting menus are appeared. Please refer to here for detailed explanation.

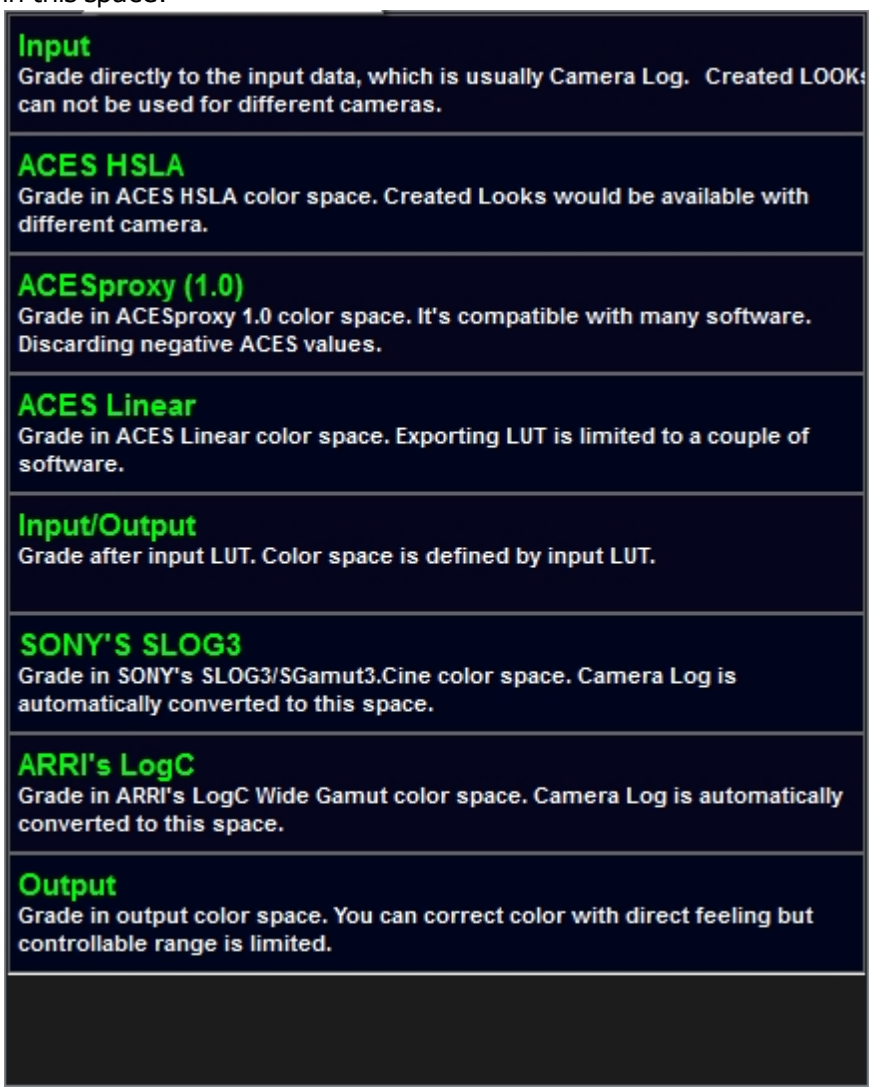
Color Pipeline Explanation

TBD

LMT Setting

Grading Space Setting

Clicking above area, it shows the selection of grading spaces, color correction would be performed in this space.



You have to select proper grading space fit to the project workflow.

ODT Setting

Output Color Space (ODT:Output Device Transform) Setting

By clicking above ODT regeon, output color space setting window appears.
This function is valid only when using preset LUTs or inported LUTs with designating output color space.

①Color Space Setting

Please select the color space of the monitor.
You can select from camera profile as an target color space. It can be used when you are going to convert from one camera to another.

②Explanation of the parameters

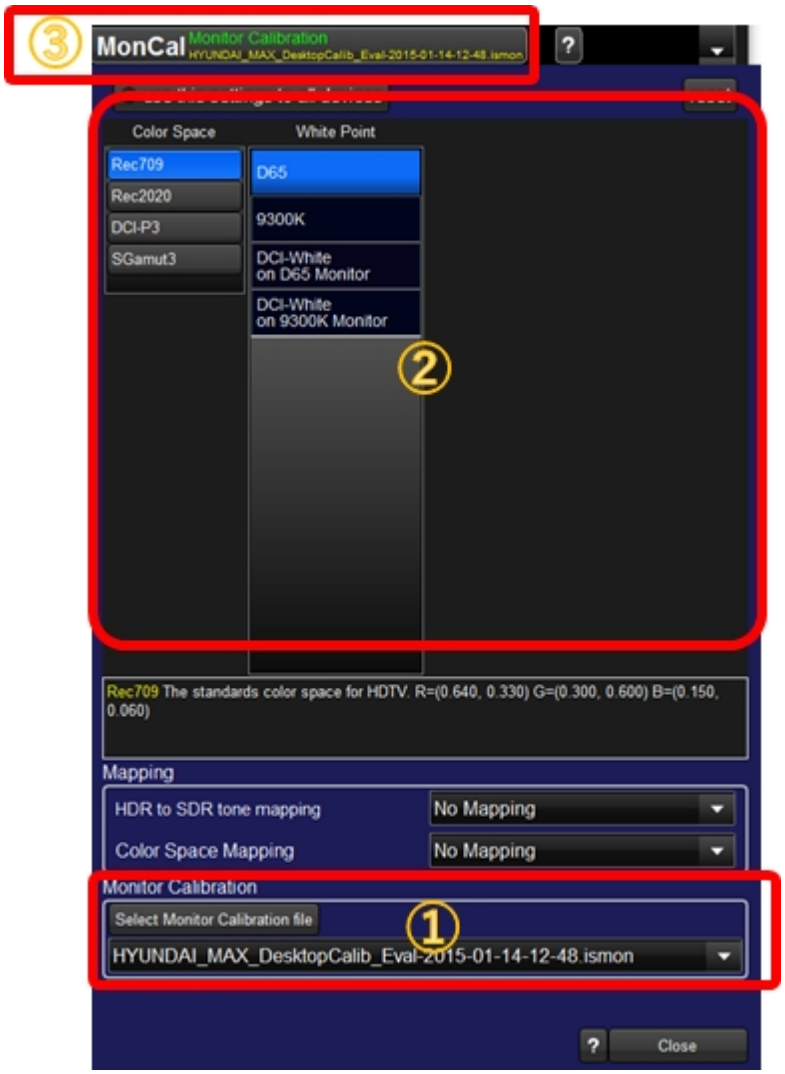
There shows the explanation of the parameter where mouse cursor is.

③Mapping parameters

From HDR to SDR and/or Rec2020 to Rec709 mapping can be selected.
If the contents have a lot of information above Rec709/100nits, you can get better result by selecting proper mapping parameters while confirming the output.

④Setting for monitor calibrationfile

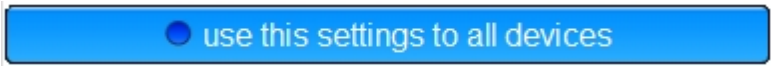
You can select monitor calibration file prepared beforehand to adjust the output to correct the monitor's error.



If you selected monitor calibration file on section 1, color space and white point are the only selectable parameters on section 2. And the display on color pipeline on sction 3 changed to "MonCal" from "ODT".

⑤Common output color space setting

複数のLUTBOXを使用している場合、それぞれ独立にターゲット色空間の設定を行うこともできますし、共通の色空間を使用することもできます。
共通の色空間を使用したい場合は、 user this settiongs to all deveices ボタンを有効にしてください。



This setting enables you to use the same output setting for multiple devices you are using.

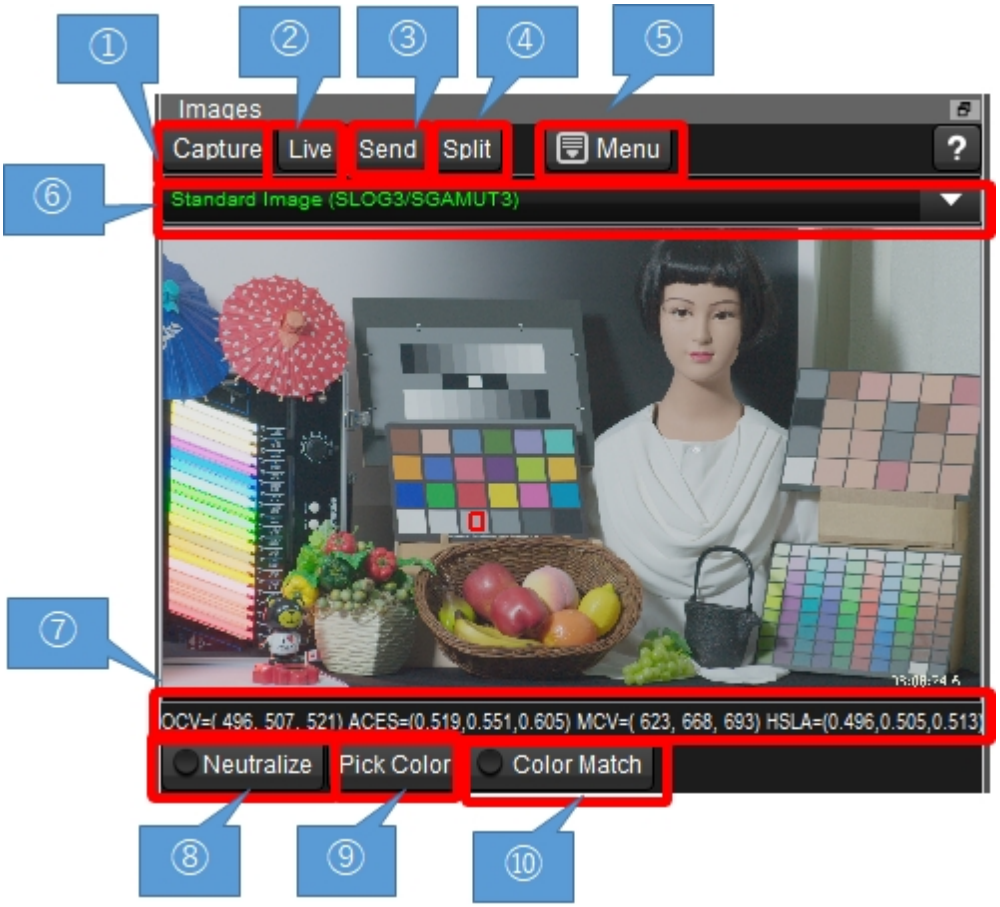
ImageViewing

Still Image Display Area

You can view still image by loading from local file, capturing by IS-miniX, live capturing by IS-miniX, as graded, rendered image. You can select the point or area in the image to view the pixel value or copy to clipboard.
You can save the image in full resolution, before and after LUT processing.

Gray balancing or adjusting to the picked color can be easily performed.
The image is managed by each LUTBOXes, so if you changed the active LUTBOX, the image will be changed to the LUTBOX's settings.

The viewing image is basically rendered by the same LUT which is used for currently active LUTBOX, but by the setting on the graph window, you can show the image before LUT processing.
And when using HDR output, you can select SDR conversion for the viewing the image on this window.



①Capture(IS-miniX)

IS-miniX is capable of capturing still image of from live video. Capture button is enabled and by clicking it the frame image is captured and shown on this area. The captured image was saved in the local disk with metadata as DPX file.
You can manage captured images by "Manage Captured images" function from Menu.

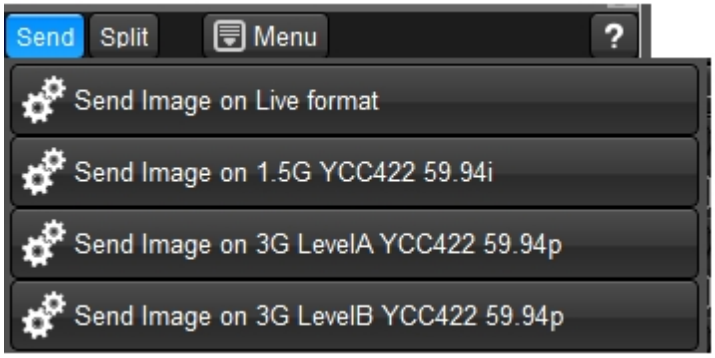
②Live Viewing(IS-miniX)

IS-miniX is capable of live image viewing for the confirmation of the image in real time. It depends on the emvironment but 5 to 10 frames per image is consecutively captured and shown on this area. You can make color correction while live viewing and the result was instantly appeared on

the live image. If you selected the area in the image, the average values are calculated and shown for every frame. If you are showing wave form graphs, the graphs are automatically updated and the position of the pixel values are shown. It is very useful for the confirmation of shooting condition.

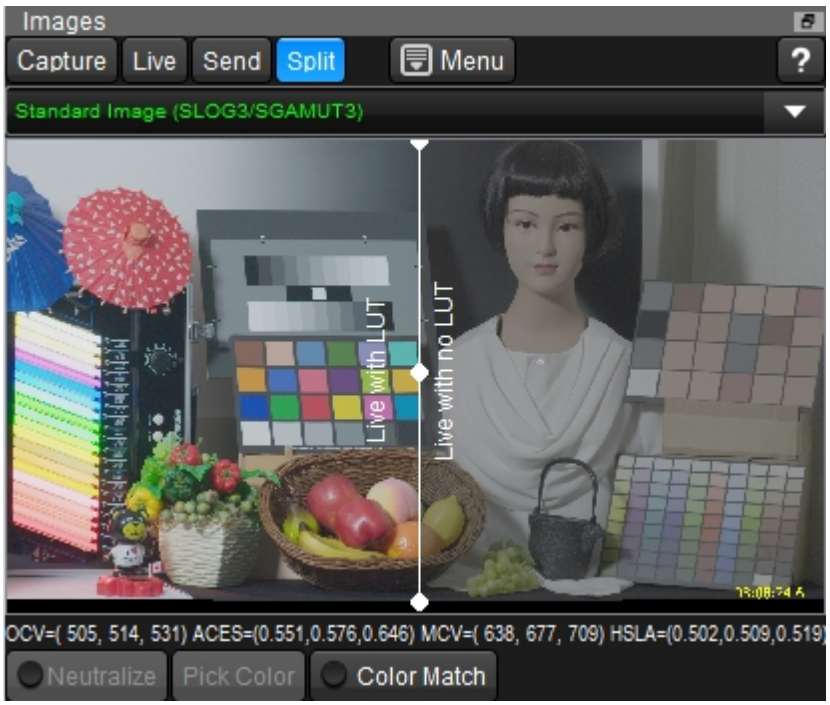
③Send Still Image(IS-miniX)

You can send still image to IS-miniX to output image instead of live motion picture. By clicking "Send" button, it will send the current selected image which was captured or load from local disk. If input signal is valid and gen-locked, IS-miniX will output the still image in the same format of the input.
If the input signal is not available, the following menu will appear and you can select the format from 1.5G, 3G-A and 3G-B.



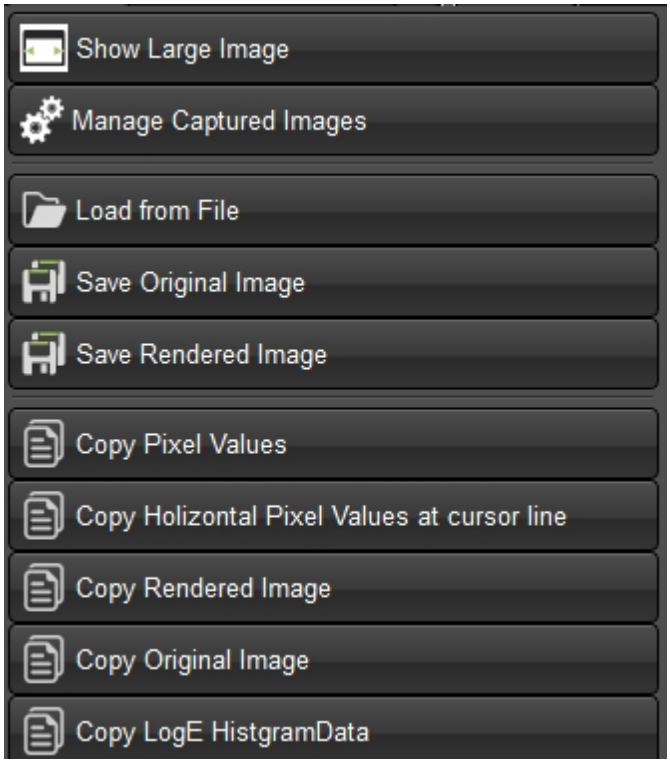
④Split viewing(IS-miniX)

You can slipt the image of IS-miniX's output.
When IS-miniX is running with normal live mode, it can split the image for with and without LUT processing. (following image)
You can change the area by moving or rotating the bar. Double clicking will swap the area of with and without LUT processing.



When IS-miniX is outputing still image, it will split live image and still image.(following image)
On this screen, live area is in black.

⑤Menu Button



Show Large Image

Open the new window for showing image. It's useful when using second monitor.

Manage Captured Images

Open the new window for showing image. It's useful when using second monitor. Please refer to this page.

Load from File / Save Original Image / Save Rendered Image

You can load or save images from/to local disk. The supported format for loading is DPX, jpg, png and tiff.
Supported format for saving is DPX 10bit and Jpeg. "Save Original Image" will save the image before LUT processing, "Save Rendered Image" will save LUT processed image.

Copy Pixel values

This function copy the pixel values currently selected to the clipborad, which can be pasted to splead sheet like Exlcel. Here is the example of the data.

x	y	R(OCV)	G(OCV)	B(OCV)	R(MCV)	G(MCV)	B(MCV)		R(OCV10)	G(OCV
78	10	0.5103	0.5181	0.5337	0.7942	0.8495	0.8812		522	
79	10	0.5073	0.5152	0.5288	0.7853	0.8407	0.8748		519	
80	10	0.5015	0.5103	0.5259	0.7616	0.8236	0.8722		513	
81	10	0.4995	0.5083	0.5239	0.7551	0.8171	0.8699		511	
82	10	0.4966	0.5054	0.521	0.7452	0.8072	0.8665		508	
83	10	0.4927	0.5005	0.5152	0.7355	0.7907	0.8505		504	
84	10	0.4868	0.4976	0.5152	0.7051	0.7804	0.8517		498	
85	10	0.4809	0.4907	0.5054	0.6894	0.758	0.8171		492	
86	10	0.479	0.4888	0.5034	0.6835	0.7512	0.8104		490	
87	10	0.478	0.4858	0.4985	0.6879	0.7413	0.7928		489	
88	10	0.4761	0.4839	0.4985	0.682	0.7336	0.7935		487	

Above table is the example pasted to Excel. R(OCV),G(OCV),B(OCV) columns are showing original image pixles values, R(MCV),G(MCV),B(MCV) columns are showing processed image pixel values, both in 0-1 scale. Further right colum's OCV10, MCV10 are showing the same pixels values in 0-1023 scale.

Copy Rendered Image / Copy Original Image

You can copy the image in 8bit bitmap format to the clipboard. It can be pasted to the other applications. "Copy Rendered Image" copies LUT processed image, "Copy Original Image" copies the image before LUT processing.

⑥Show select image dialog

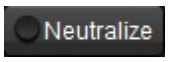
Clicking the combobox on the top of the image triggers to show select image dialog.
This dialog provide various means of selection of the images. Please refer to here.

⑦Pixel Values

When you move the mouse cursor, you can confirm the pixels values here.

OCV	The pixles values of origilan image in 10bit 0-1023 scale.
MCV	The pixles values of processed image in 10bit 0-1023 scale.

⑧Neutralize

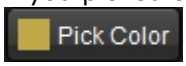


After selecting the rectangle area in the image, this button is enabled.
By clicking, the software calculate the parameter to adjust the gray balance of the area and apply to all area of the image. You can use gray chart or neutral color objects to make gray balance of the image.

If the neutralize is active, the button is in the active color and left side switch is on.
You can make the left side switch turn off to invalid the neutralize process temporally(right size button). Turning on the switch make recover the neutralize processing.

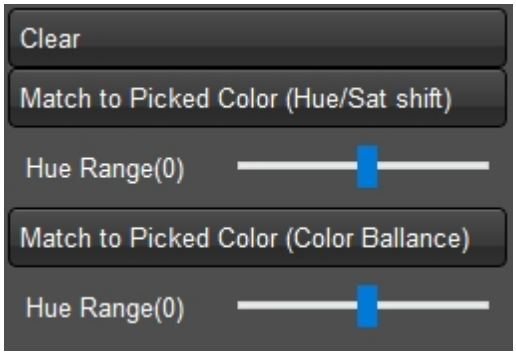
⑨Pick color as target color for color adjustment

After selecting the rectangle area in the image, this button is enabled.
The button is used to pick up color as the target of automatic color adjustment function.
If you picked the color, the button will change to like this.



The color in the button is came from the viewing image, but ACES linear color was picked as the target.
This target color selection is independent from LUTBOXes, it is only one color is used in the application.

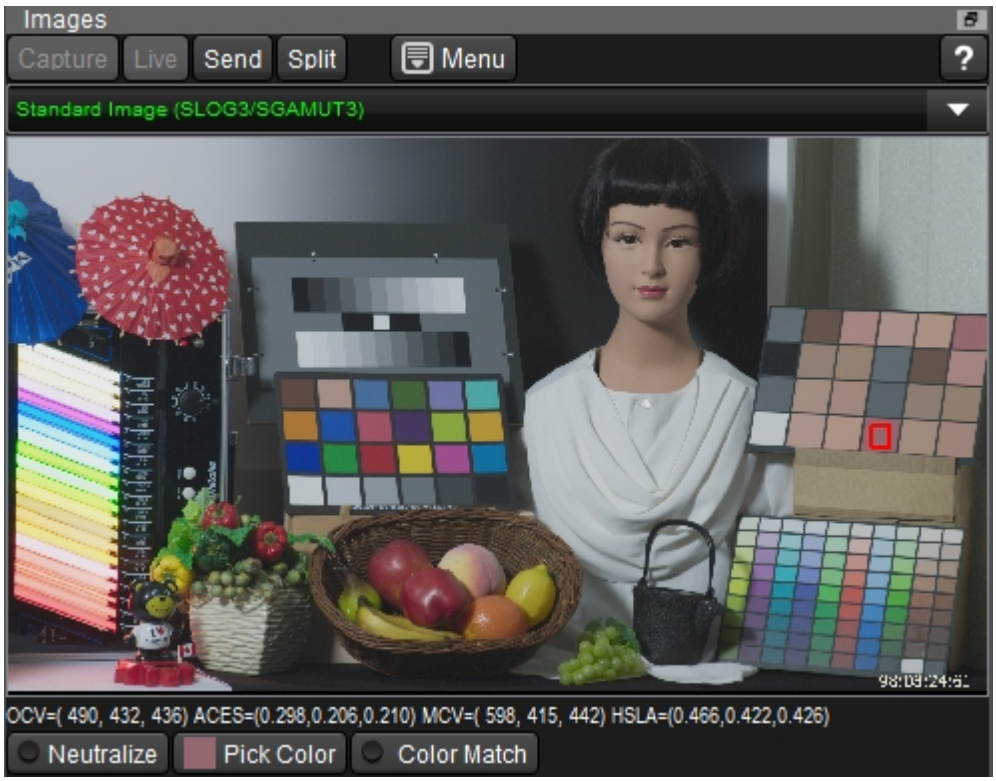
⑩Do color matching

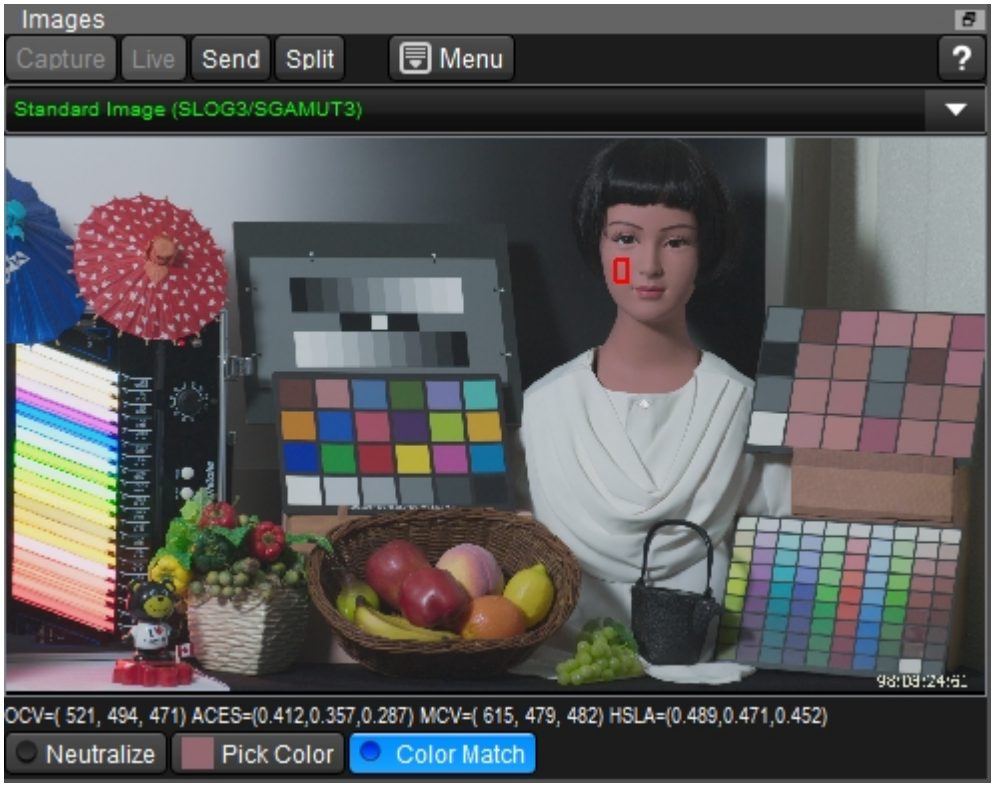


If the color was picked, and the area was selected in the image, "Color Match" button is enabled and by clicking the button, the above pop menu will appear.
By selecting "Match to Picked Color (Hue/Sat shift)", hue and saturation of the original image will be matched to the picked target color.
Hue range track bar is the control for the hue range of the adjusting color. This is the very good

method to adjust color because other color than the target will not changed by this processing.

By selecting "Match to Picked Color (Color Balance)", color balance of the original image will be matched to the picked target color.
Hue range track bar is the control for the hue range of the adjusting color. This is another good method to adjust color.





Left image is the example to select reddish skin tone chart to set the "Pick Color".
Right image is the example to adjust the doll's skin tone to Picked Color by selecting skin area and

clicking "Match to Picked Color (Hue/Sat shift)" menu under color match button.

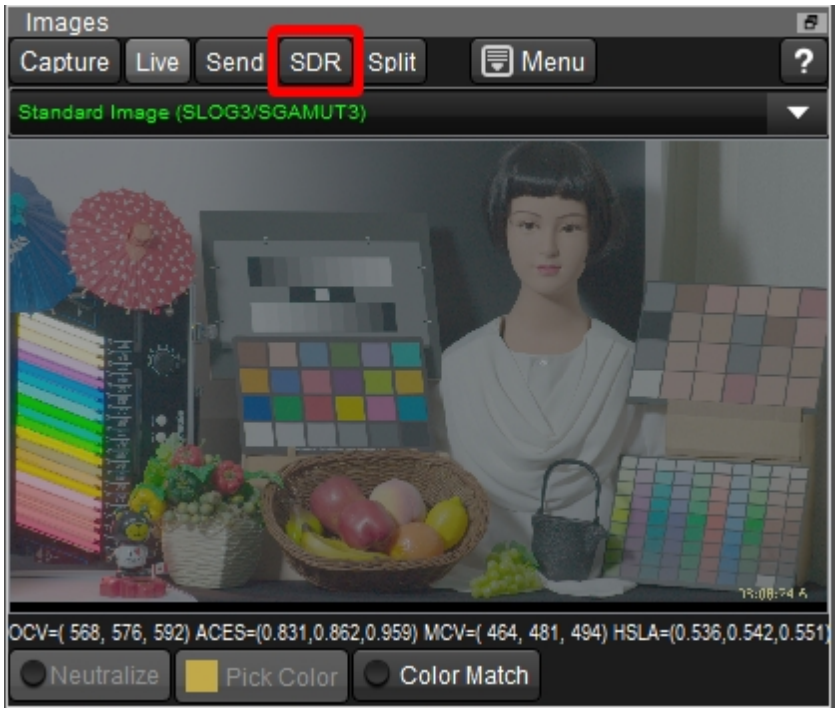
To clear the color matching, please click "Color Match" button and select "Clear".

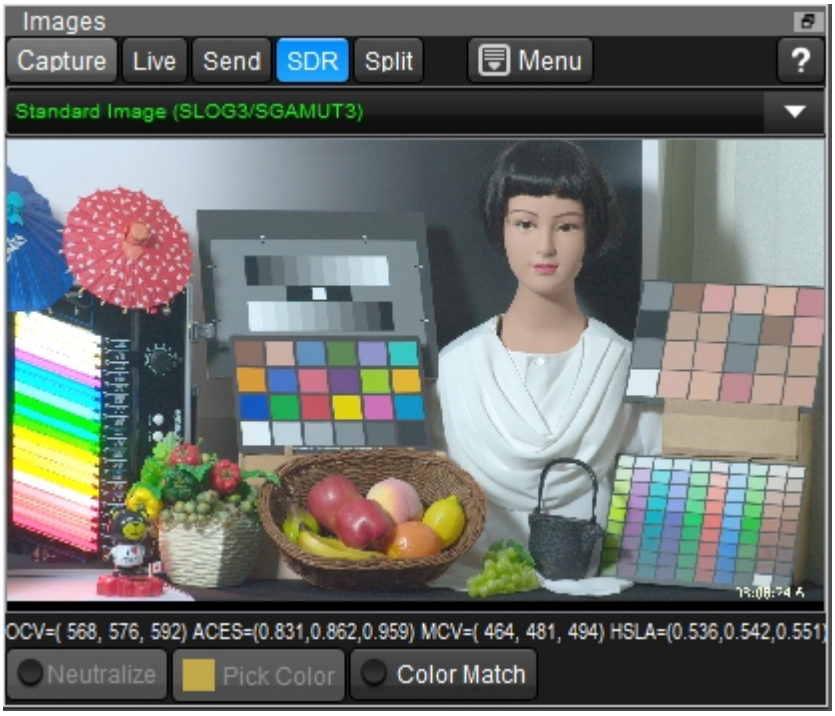
⑪Monitor Calibration

"MonCal" button appears if you selected PC Screen Monitor Calibration on Setting Screen. If it's selected, the image was processed by monitor calibration to reproduce correct color on PC display. You can turn off it by not selecting this button.

⑫HDR/SDR converted viewing

If HDR is using on the monitor setting, "SDR" button will appear in the image control(below left). If you click the button, it will transfer the image to Rec709/2.4 SDR to be suitable to view in the PC monitor(below right).



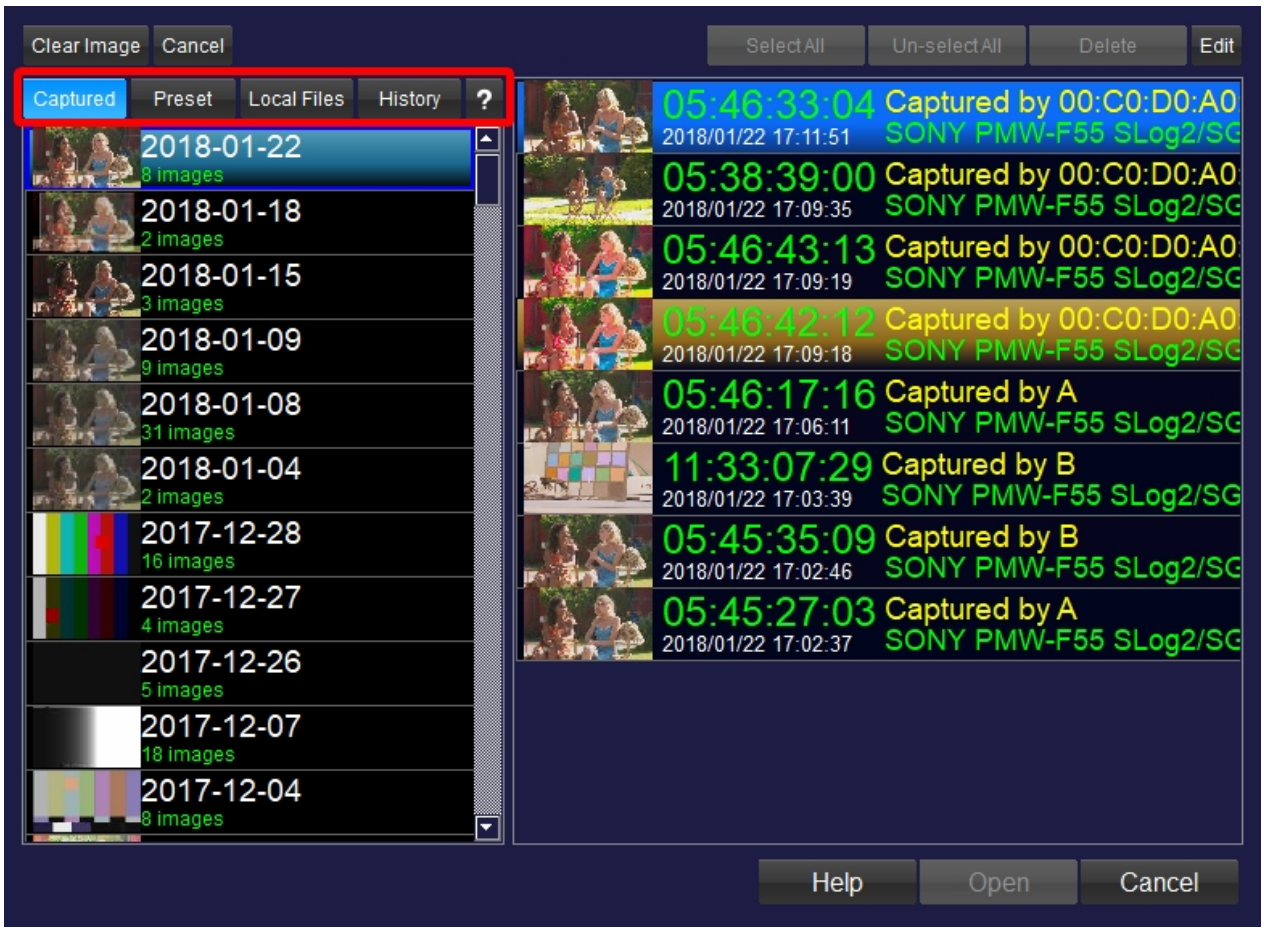


Select Image Dialog

Select Image Dialog

You can select image from, captured images, preset images including CG images for system evaluation, local image files or history of selected images.

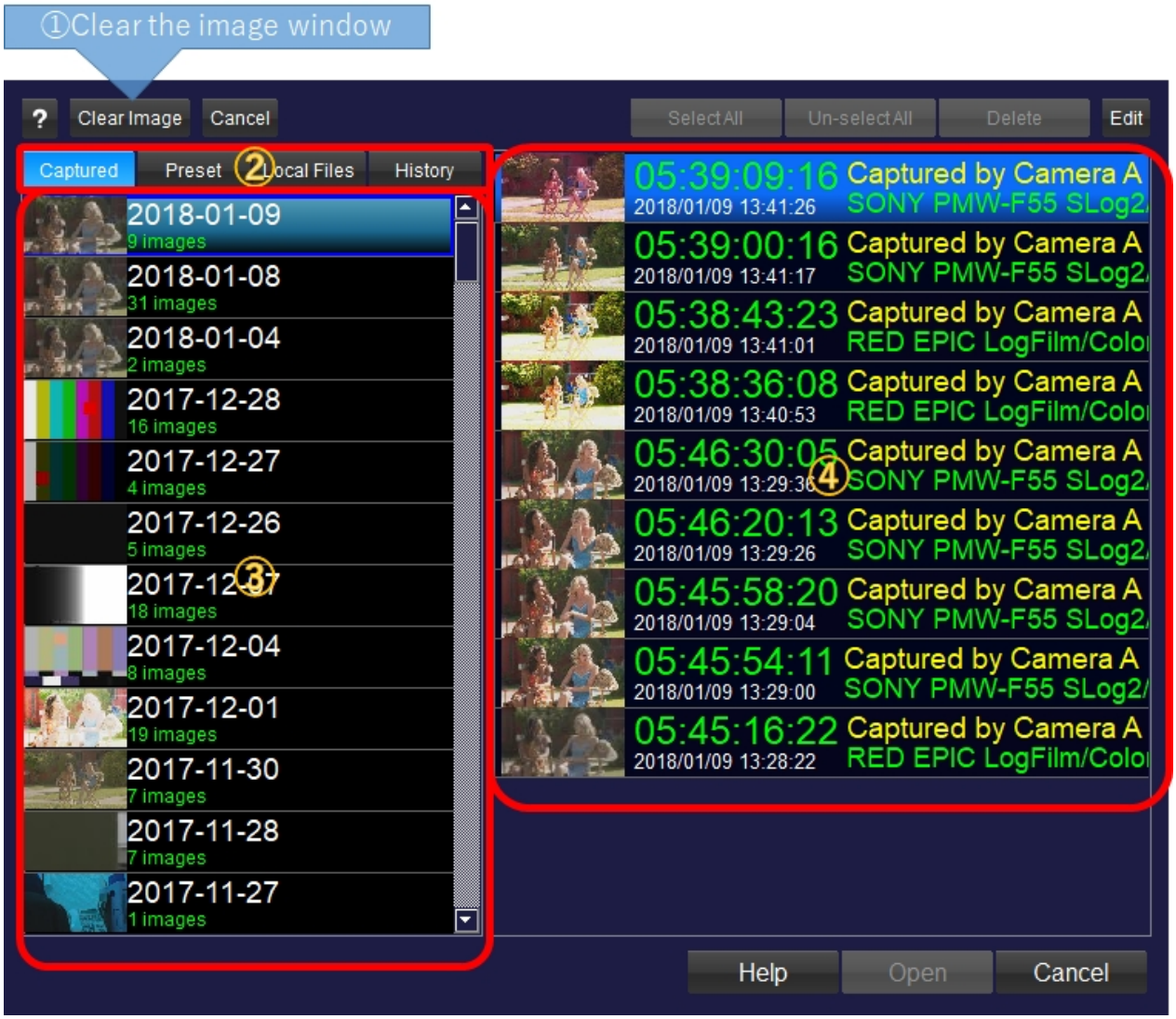
Number	ボタン名	機能
1	Captured	You can browse and select image from captured images.
2	Preset	WonderLookPro provides various computer generated images for the system evaluatio
3	Local Files	You can browse and select image from local files.
4	History	Here is the history of loaded images to re-load easily.



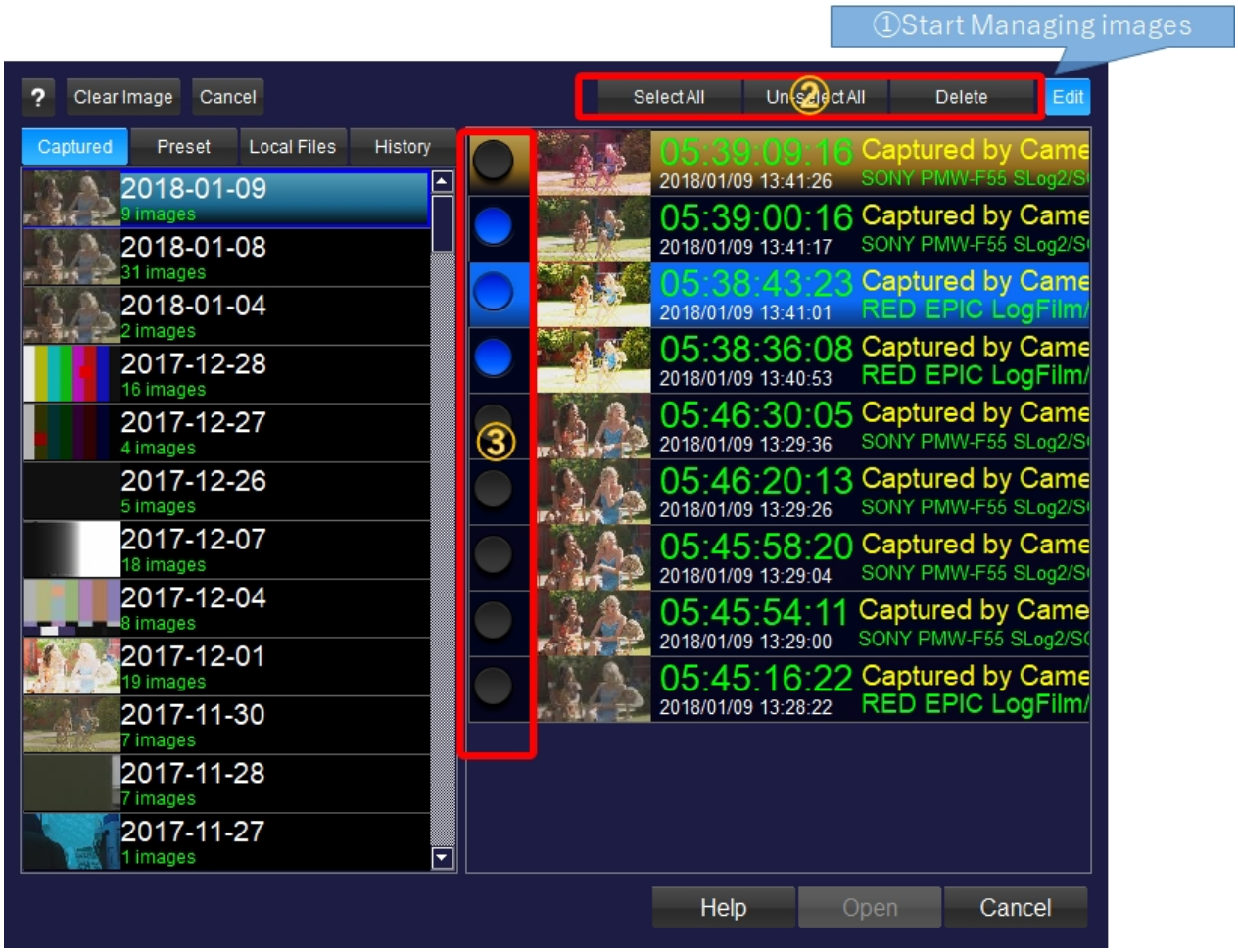
Captured Images

Image selection from captured images

By clicking "Capture" button in the area of ②, you can select image from captured images.
Area ③ shows the list of dates on which captured images are available. By selecting the date, the captured images on the date were shown in the right side of the dialog, area ④. By double cliking the image list or by clicking the Open button below after selecting image, you can load the image to the window.



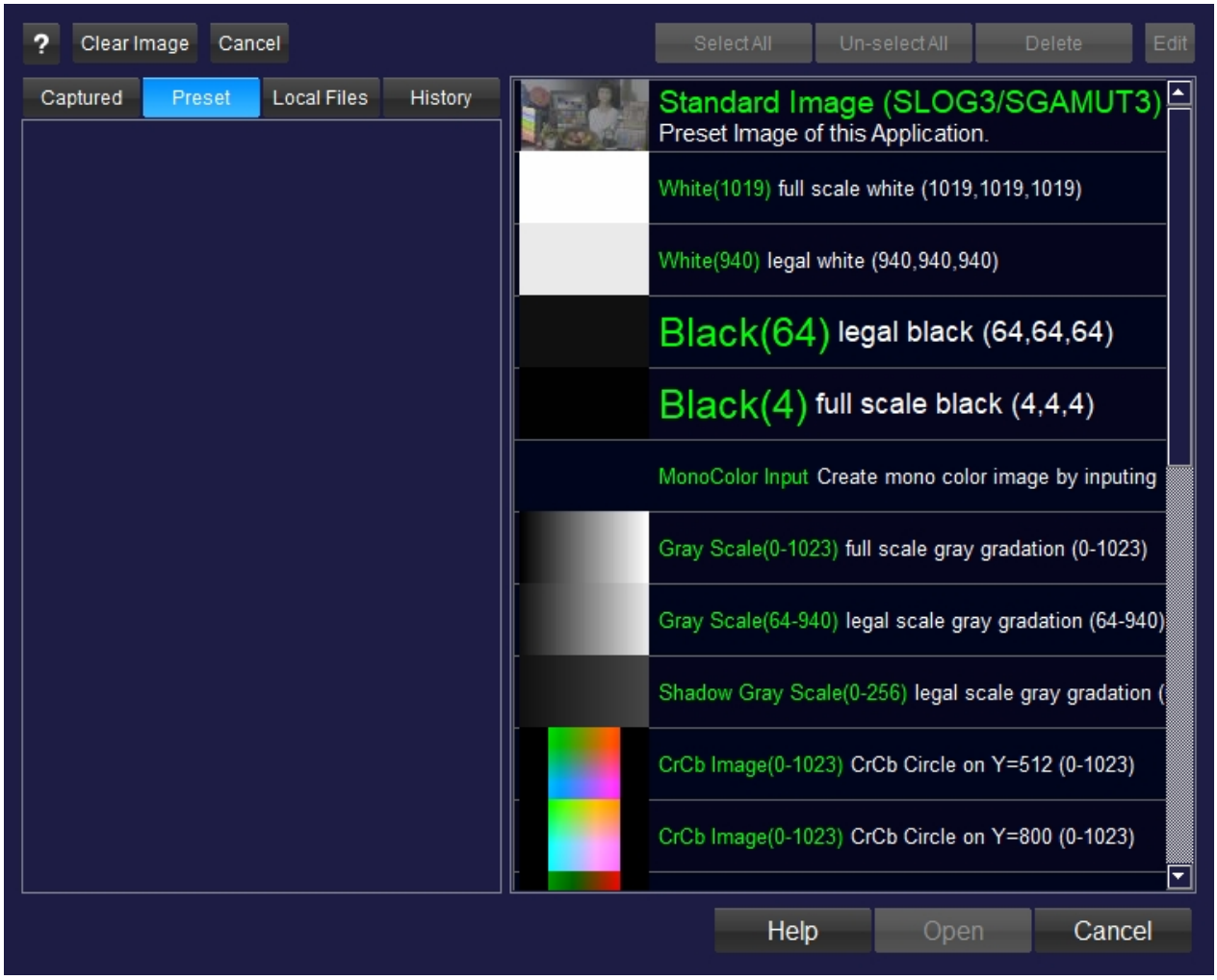
By clicking "Edit" button on the screen shot below, buttons of group ② are enabled and selection switch on each images will be shown(③).
Currently, you can only delete the selected images. After selecting the images, please click "Delete" button.


①Start Managing images
Clear Image
Cancel
Select All
Unselect All
Delete
Edit
Captured
Preset
Local Files
History
2018-01-09
9 images
2018-01-08
31 images
2018-01-04
2 images
2017-12-28
16 images
2017-12-27
4 images
2017-12-26
5 images
2017-12-07
18 images
2017-12-04
8 images
2017-12-01
19 images
2017-11-30
7 images
2017-11-28
7 images
2017-11-27
1 images
05:39:09:16 Captured by Came
2018/01/09 13:41:26 SONY PMW-F55 SLog2/S
05:39:00:16 Captured by Came
2018/01/09 13:41:17 SONY PMW-F55 SLog2/S
05:38:43:23 Captured by Came
2018/01/09 13:41:01 RED EPIC LogFilm/
05:38:36:08 Captured by Came
2018/01/09 13:40:53 RED EPIC LogFilm/
05:46:30:05 Captured by Came
2018/01/09 13:29:36 SONY PMW-F55 SLog2/S
05:46:20:13 Captured by Came
2018/01/09 13:29:26 SONY PMW-F55 SLog2/S
05:45:58:20 Captured by Came
2018/01/09 13:29:04 SONY PMW-F55 SLog2/S
05:45:54:11 Captured by Came
2018/01/09 13:29:00 SONY PMW-F55 SLog2/S
05:45:16:22 Captured by Came
2018/01/09 13:28:22 RED EPIC LogFilm/
Help
Open
Cancel

CGImages

Selection from preset images

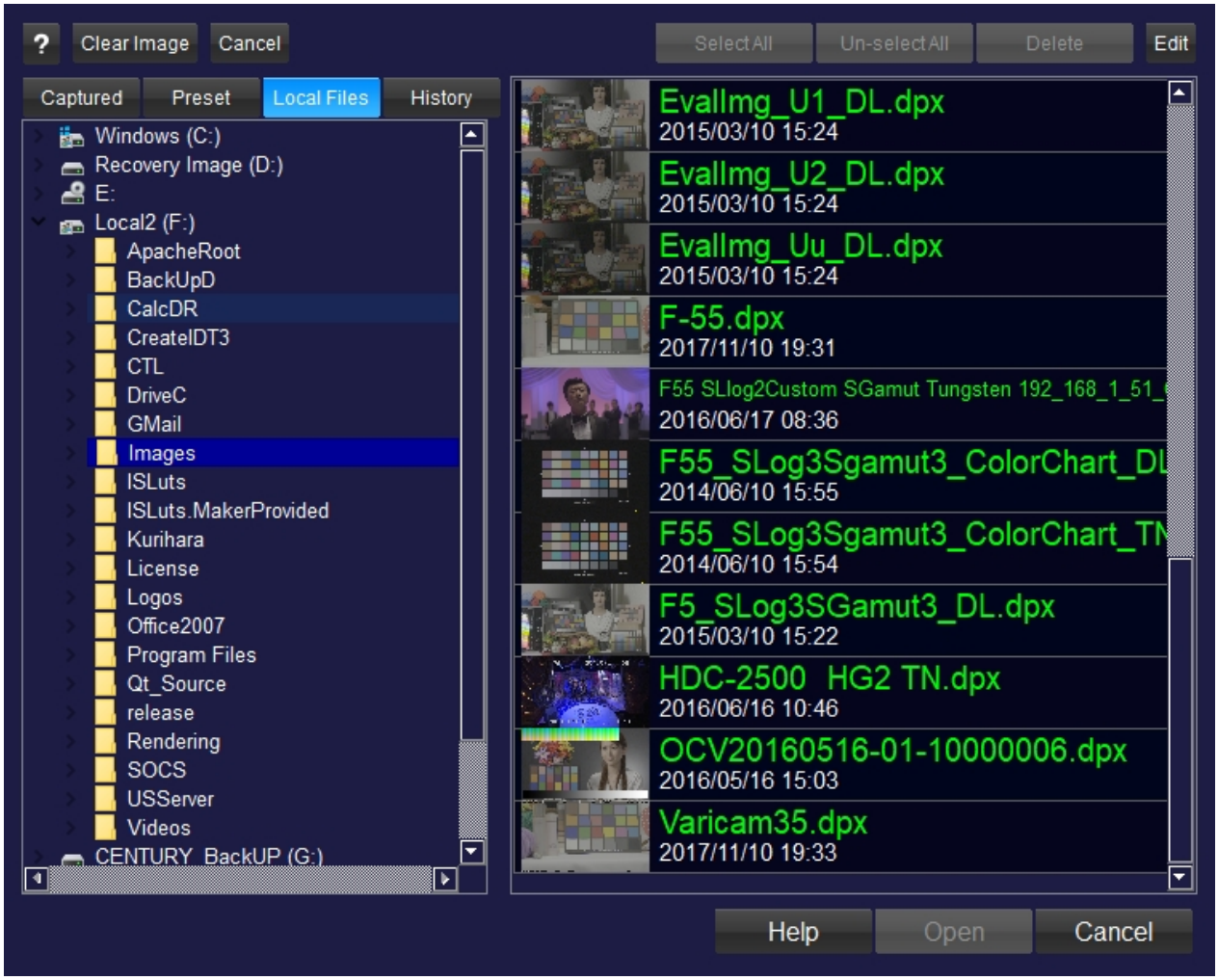
To select from preset images which are provided by this software, please click "Preset" button. Currently, you are available SLOG3 standard image and CG images including various gradations. We are planning to provide much variety of images in near future.



Local Images

Selection from local image files

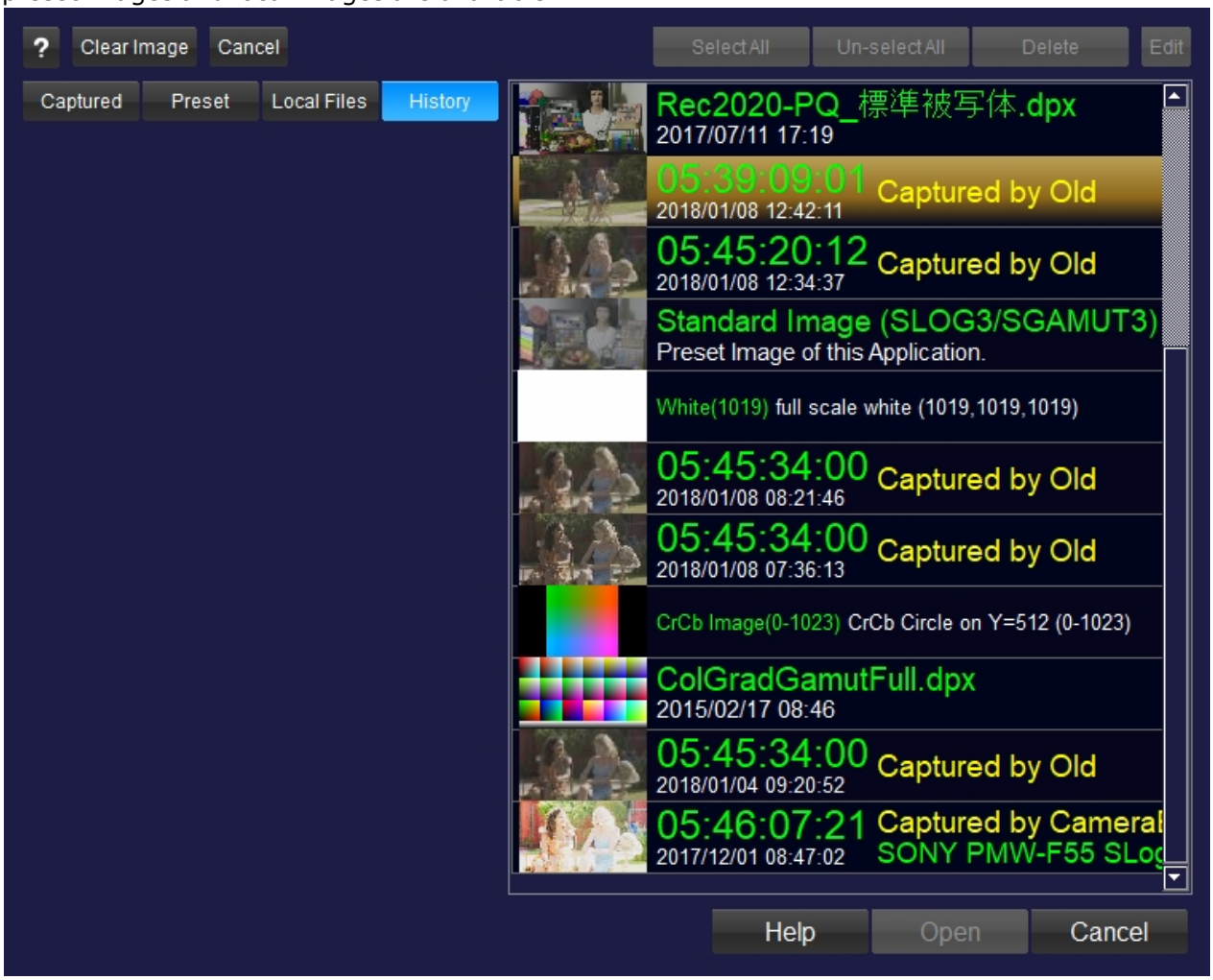
You can select the image from local disk. Currently we are supporting DPX, JPG, TIFF,PNG and BMP.



History Images

Selection from history

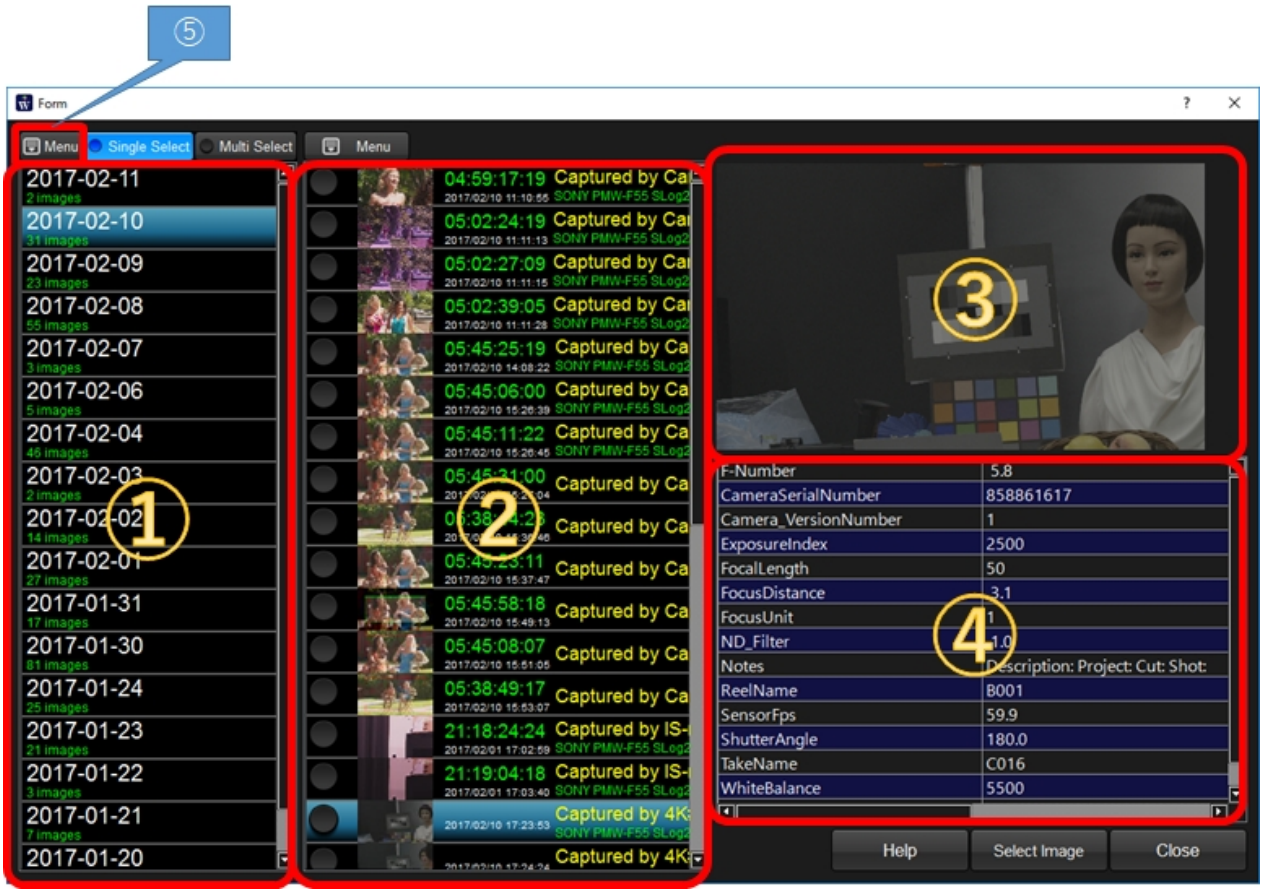
You can select images from history of loaded images. All of the images from captured iamges, preset images and local images are available.



Manage Captured Images

Manage Captured Image Screen

This screen manages captured images. You can not only confirm the content but also delete or backup the captured images.



①Captured Date

Selection of captured date. The images in the selected dates are listed in the middle of the box(②).

②Selection of images

Slected image's information is shown on ③ and ④. You can select multiple images for deletion or saving as DPX file.
If the captured images is used by LOOK, you will not be able to use full resolution image on LOOK management functions.

④Meta data table

Selected image's information is shown on ③ and ④. You can select multiple images for deletion or saving as DPX file.

⑤Archive and Restore

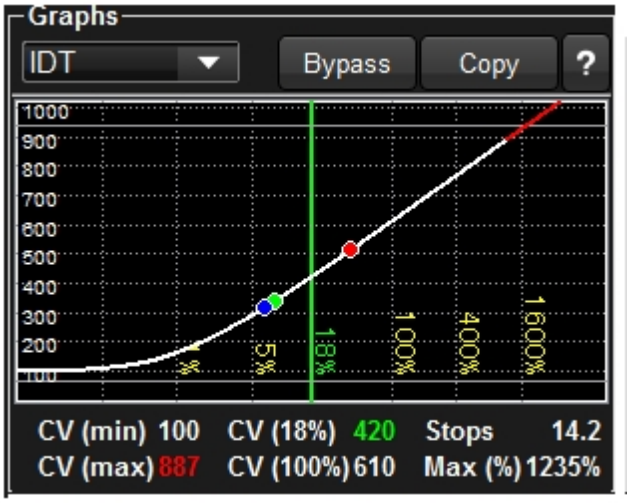
You can archive currently selected date's images into one zip file. It's useful when backuping or moving data to other PC.
Restore function is to unfold the zip file created by this function and add the data into capture image management function.

Graphs

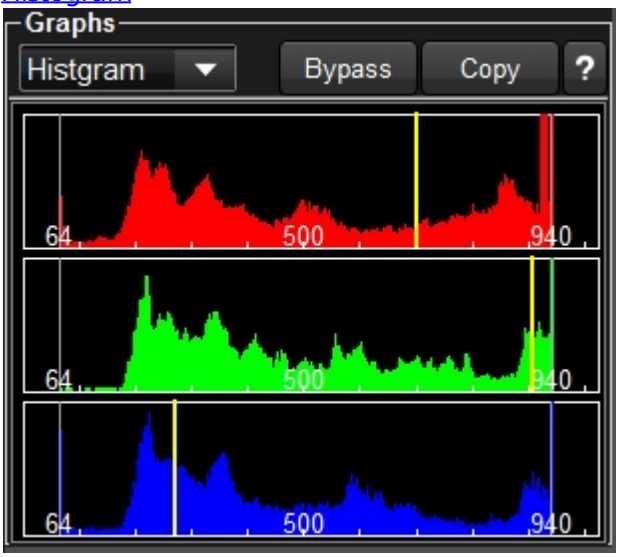
Graph Diaplay Area

This area shows Camera profile grpah and image analysis graphs.
Camera Tone Curve (on IDT selection), Histgram, Wave From, Vector Scope can be selected by the combobox.

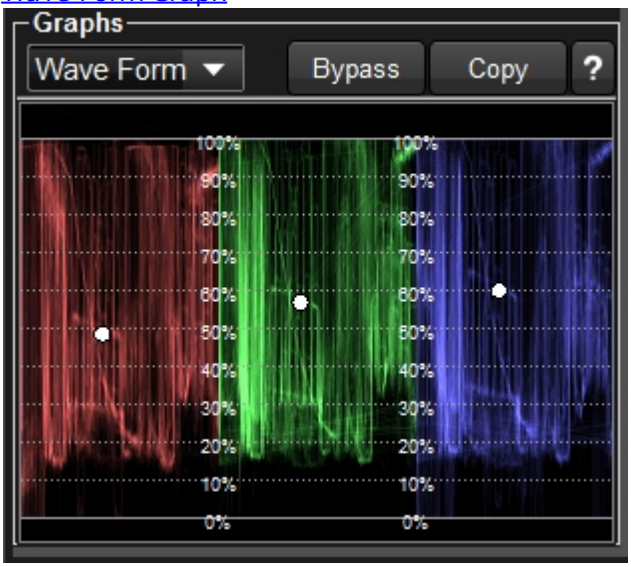
Camera Profile : IDT(Input Device Transform)



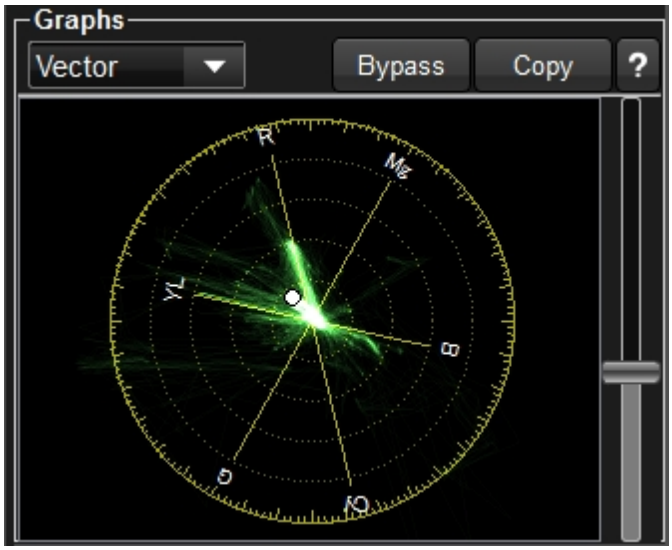
Histogram



Wave Form Graph

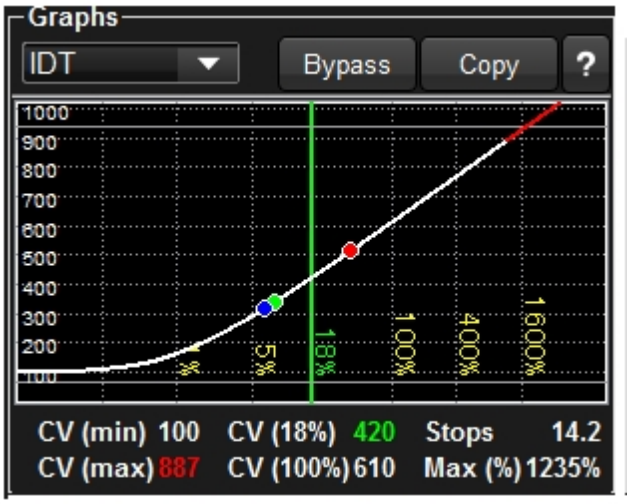


Vector Scope Graph



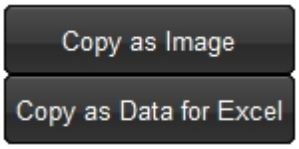
IDT

Camera Profile ：IDT(Input Device Transform)



This graph shows the result of camera's tone curve measurement. Holizontal is log scale exposure, vertical is 10bit output. Increasing white curve shows the characteristic of camera's response. The red curve at the highlight regeon is outside of camera's capability, the camera can not output these values even given extreme bright scene. The red, green blue circles shows the position of the pixel value where the mouse cursor on the still image.

The below of the graph lies the table which express camera characteristics in number. CV means code value in 10bit (0-1023) scale. Stops, Max are relate to dynamic range but these values contains errors because of automatical calcuration.



Copy button triggers the menu above. "Copy as Image" copies the graph as image data, "Copy as Data for Excel" copies the data which can be paste to Excel.
Here is the example of copied data.

SONY PMW-F55_SLog3_SGamut3_Tungsten_DeSat1_Rec709_RRT V1.0_None_1.00
[SONY][PMW-F55][SLog3_SGamut3_TN_DeSat1][rev2.0]_ImageView_N.jpg

CVmin	100	CVmax	887		
LogEmax	-3.2	LogEMin	1.1		
DRange	4.3	Stops	14.2	Maxmum White(%)	1235
DeltaE	0				

Matrix

0.73579	0.04642	0.01157
0.15492	0.95695	-0.00005
0.1093	-0.00336	0.98848

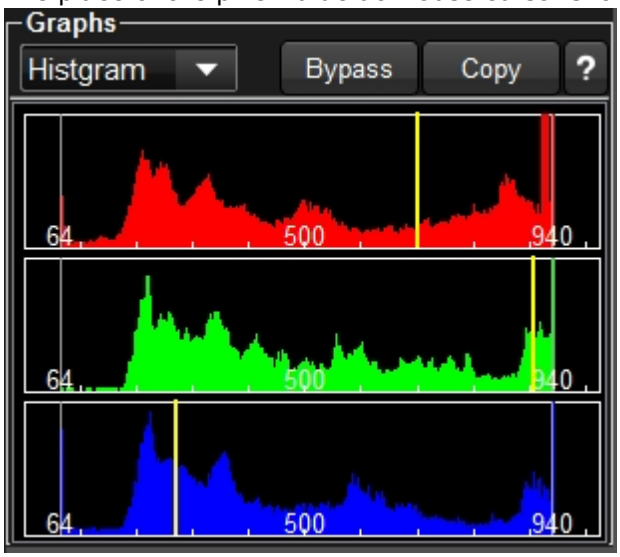
Tone Curve

CV	ACES Linear	index	ACES Linear	LogACES	OCV	measuredOCV
0	-0.01402	0	0.000316	-3.5	97.1444	97.1444
1	-0.01387	1	0.00032	-3.49462	97.171	97.171
2	-0.01371	2	0.000324	-3.48925	97.198	97.198
3	-0.01356	3	0.000328	-3.48387	97.2252	97.2252
4	-0.0134	4	0.000332	-3.47849	97.2528	97.2528
5	-0.01325	5	0.000336	-3.47312	97.2808	97.2808
6	-0.0131	6	0.000341	-3.46774	97.3091	97.3091
7	-0.01295	7	0.000345	-3.46237	97.3377	97.3377
8	-0.01279	8	0.000349	-3.45699	97.3667	97.3667
9	-0.01264	9	0.000353	-3.45161	97.396	97.396
10	-0.01249	10	0.000358	-3.44624	97.4257	97.4257
11	-0.01234	11	0.000362	-3.44086	97.4558	97.4558
12	-0.01219	12	0.000367	-3.43548	97.4862	97.4862
13	-0.01204	13	0.000371	-3.43011	97.517	97.517
14	-0.01189	14	0.000376	-3.42473	97.5482	97.5482
15	-0.01175	15	0.000381	-3.41935	97.58	97.58
16	-0.0116	16	0.000385	-3.41398	97.6123	97.6123
17	-0.01145	17	0.00039	-3.4086	97.645	97.645
18	-0.0113	18	0.000395	-3.40323	97.6781	97.6781
19	-0.01116	19	0.0004	-3.39785	97.7115	97.7115
20	-0.01101	20	0.000405	-3.39247	97.7454	97.7454
21	-0.01087	21	0.00041	-3.3871	97.7798	97.7798
22	-0.01072	22	0.000415	-3.38172	97.8145	97.8145
23	-0.01058	23	0.00042	-3.37634	97.8497	97.8497

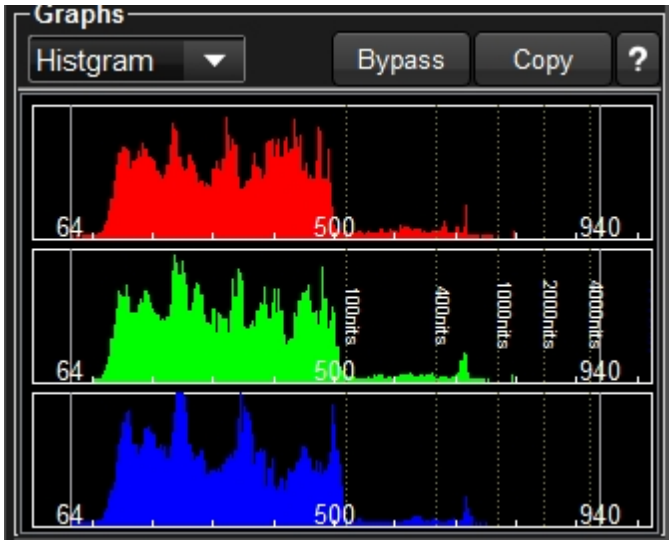
Histogram

Histogram

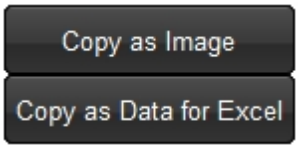
You can confirm pixels value distribution by histogram for currently viewing still image.
The place of the pixel value at mouse cursor shows yellow vertical line in the graph.



If you selected HDR in output color space, the position of 100nits, 400nits, 1000nits, 2000nits, 4000nits are shown in yellow dotted line.



Above graph is the example of HDR_ST2084 for the output color space setting. The distribution of the pixels values are dense under 100nits but there are a few pixels between 400nits and 1000nits.



Copy button triggers the menu above. "Copy as Image" copies the graph as image data, "Copy as Data for Excel" copies the data which can be paste to Excel.
Here is the example of copied data.

SONY PMW-

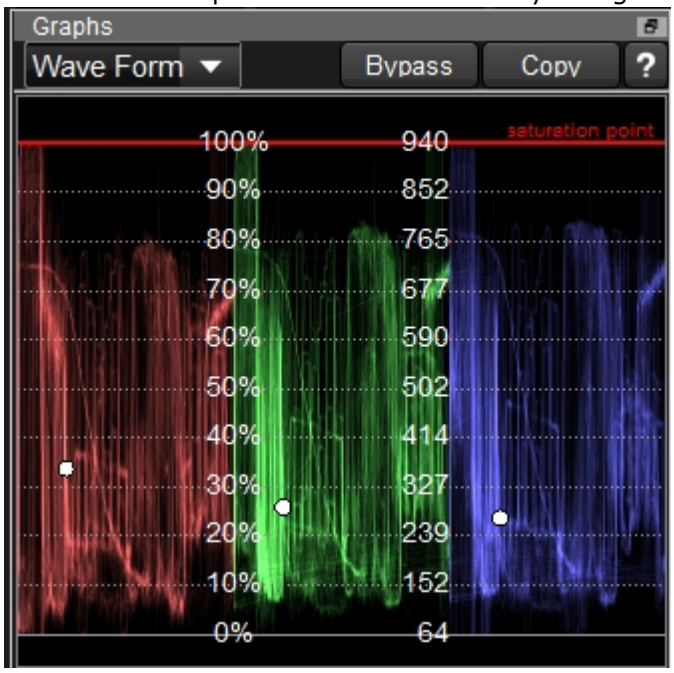
F55_SLog3_Custom(Gamut3Like)
_Tungsten_DeSat 0.26_HDR 4000nits_RRT
V1.0_None_1.00
F55_Slog3Sgamut3_DL.dpx

0	0	0	0
4	0	0	0
8	0	0	0
12	0	0	0
16	0	0	0
20	0	0	0
24	0	0	0
28	0	0	0
32	0	0	0
36	0	0	0
40	0	0	0
44	0	0	0
48	0	0	0
52	0	0	0
56	0	0	0
60	0	0	0
64	298	7	626
68	114	0	22
72	25	1	10
76	29	1	10
80	15	1	7
84	9	1	14
88	19	0	27
92	17	0	14
96	7	1	23

Wave Form Graph

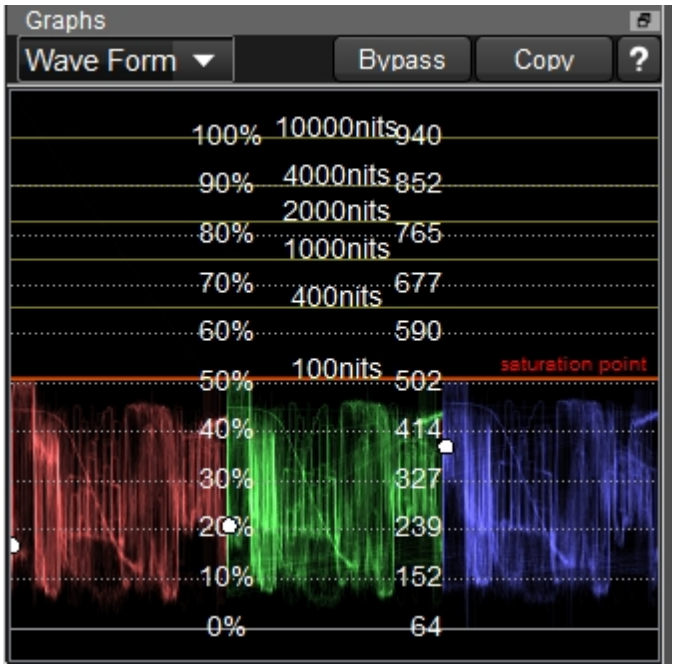
Wave Form Graph

You can confirm pixels value distribution by histogram for currently viewing still image.

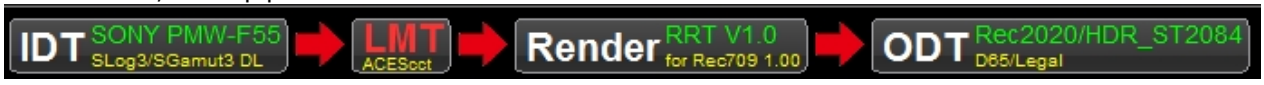


White circle shows the pixcel value position of the mouse cursor position or selected area average on the image.
Red line is the maximum value which can be created on the current setting. (saturation point)
On the above example, there is a red line around 100%, and it means you can saturate colors for white.

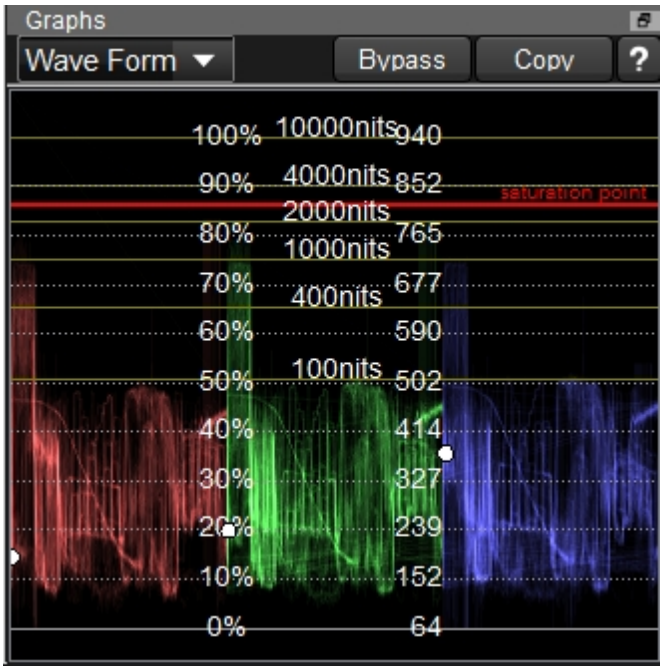
For example, if you set HDR in ODT setting, but rendering target is still Rec709, the saturation point remains around 100% like the graph below.



On this case, color pipline is below.



You can confirm the rendering target is still Rec709.
If you change the rendering target to 4000nits, you can get following graph.



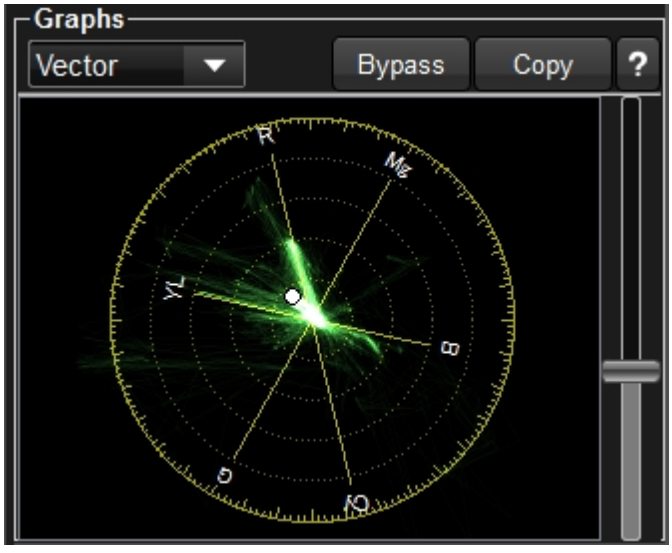
The saturation point red line rise up to about 3000nits and you can use above 100nits HDR brightness.

As you can see, when targeting HDR, it is very important to confirm the shape of the wave form and check the level of saturation point's red line to avoid the mistake.

Vector Graph

Vector Scopeグラフ

You can view the vector scope graph of the still image.



You can control the scale of the graph by moving the scrollbar on the right side.

Color Correction Panels

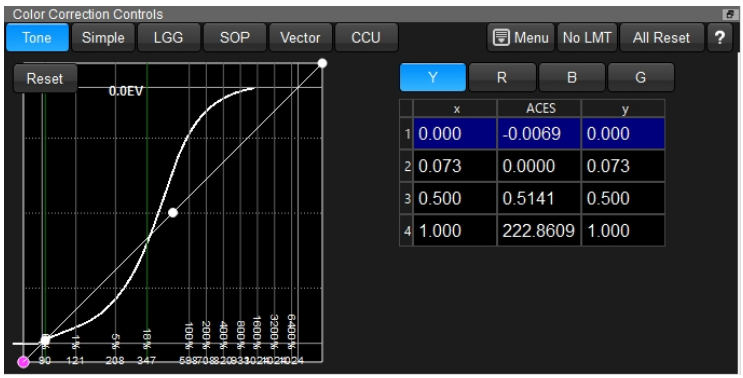
Color Correction Controls

This area is to make color correction with various method.There are tone curve, LGG/SOP controls top create ASC-CDL parameters, Vector controls to adjust specific colors and system camera's CCU emulation methods.

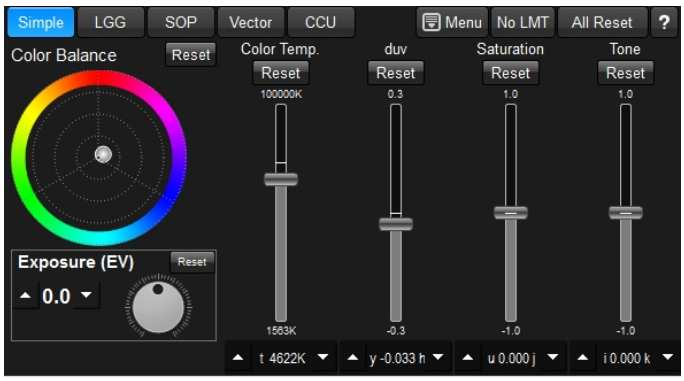
①Selection of Color Correction Controls

You can select from four controls, Tone/Simple/LGG/SOP/Vector/CCU. The area ③ would be changed.

Tone Curve : Tone Curve control (YRGB independent)

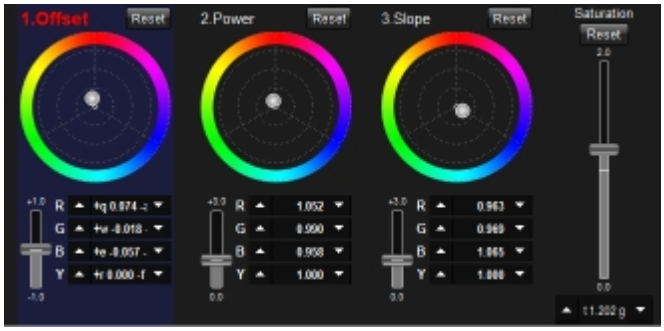


Simple : Color Balance, exposure, saturation and Gamma



LGG : Lift / gamma / Gain

SOP : Offset / Slope / Gamma



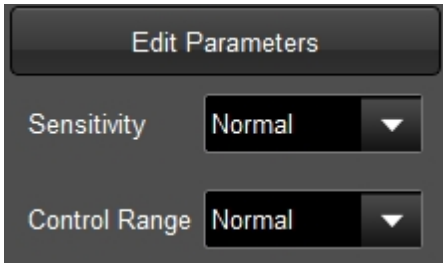
Vector :

CCU :

②Button Controls

1.Menu

By clicking menu button, following popup menu appears.



Edit Parameters	The dialog appears which enables numeral edit of parameters. You can input numbers, copy to clipboard, paste from clipboard.
Sensitivity	The sensitivity of the LGG/SOP color wheel can be selected from 5 step candidate.
Control Range	The range of LGG/SOP controls can be selected from 5 candidate.

2.No LMT

Apply wihtout color correction LUT while pushing this button to the active LUTBOX. If you release the button, color correction would be applied again. It is equivalent to click the "All Reset" button only when pushing "No LMT button".

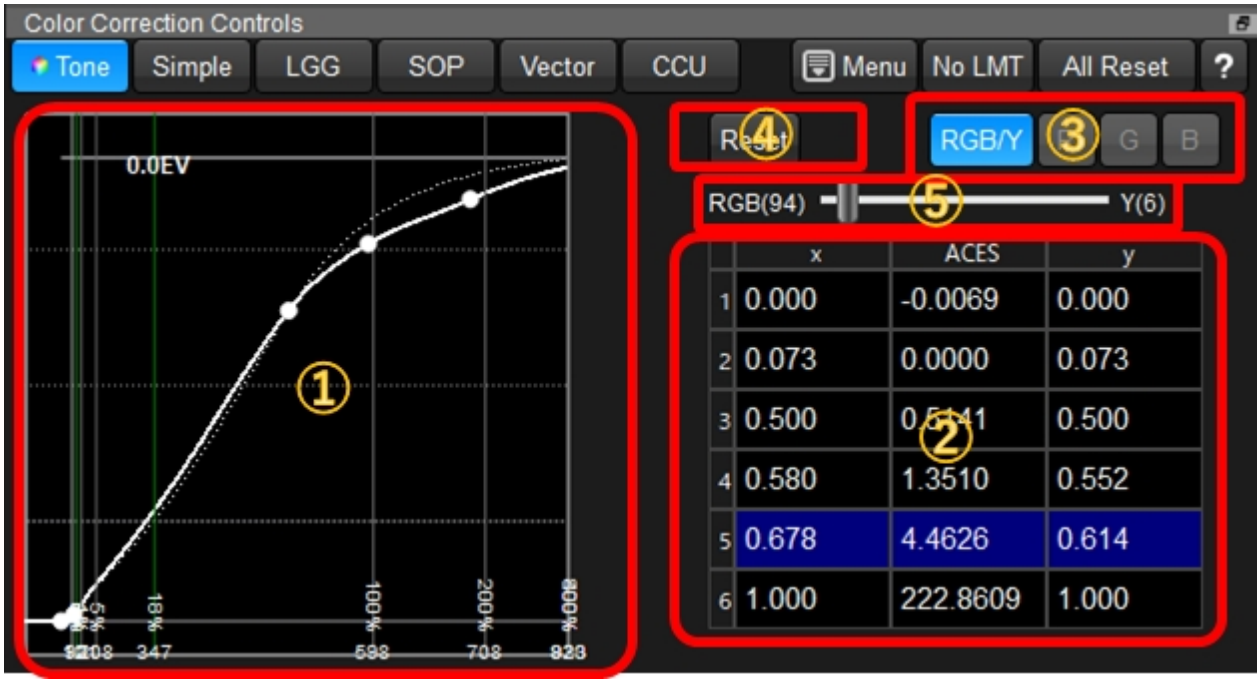
3.All Reset

Reset all of the parameter of color correction. Color correction is back to neutral. It resets tone curve, too.

Tone Curve

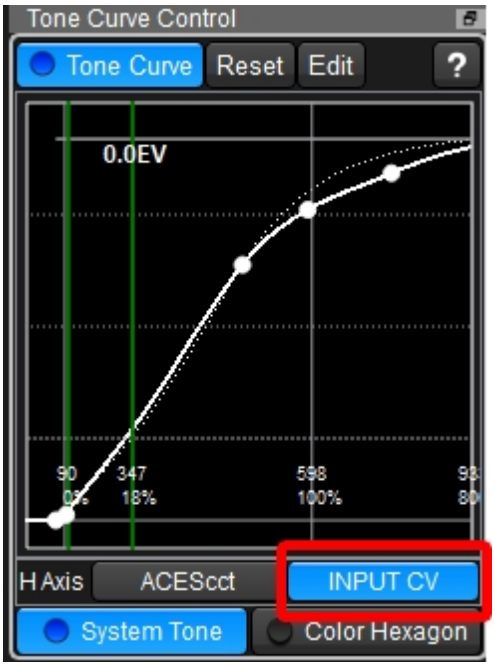
Tone Curve Color Correction

WonderLookPro v3.3 implemented Tone Curve corretion mode. As a result, enlarged tone curve from was deleted.
On this screen, you can adjust tone curve by using upto 32 control points. You can create not only Y tone which will affect RGB at the same time, but also RGB independent tone curve.
And you can adjust the tone curve numerically.
V3.4 enabled to edit System Tone Curve directly to create proper tone curve correction. It enables you to create highlight tone curve intuitively.
Adding to RGB color space tone control, it enabled YCC's Y space tone control which can be mixed with RGB tone control. It can be used to adjust proper saturation variation.



①Tone Curve Correction

You can do color correction by creating the tone curve on this control.
You can find how to use and what are showing in Tone Curve Panel explanation.
On V3.4, it enabled direct control of system tone curve. The control performance will be a little bit slow, but you can create the final curve directly. To use this function, you have to set "INPUT CV" on then tone curve panel on the bottom-left of the color correction screen.



②Tone Curve Parameter table

The numerical values of control points of the tone curve are shown in the table. By clicking the control point on the left graph, the table shows the selection of the row which correspond to the selected point.
Clicking the cell in the table triggers to show spin box to adjust the value of the cell by the wheel of the mouse. You can input the number directly to the cell.

③Selection of the channel for the Tone Curve

You can select the channel of the tone curve by clicking YRGB buttons on this region. RGB/Y works for RGB equivalently so the gray balance will be kept.
When you selected "RGB/Y", you can select the color space for tone curve control from RGB color space or YCC color space's Y.
⑤'s slider controls the ratio of these two components.

④Reset Button

Set the tone curve control to neutral.

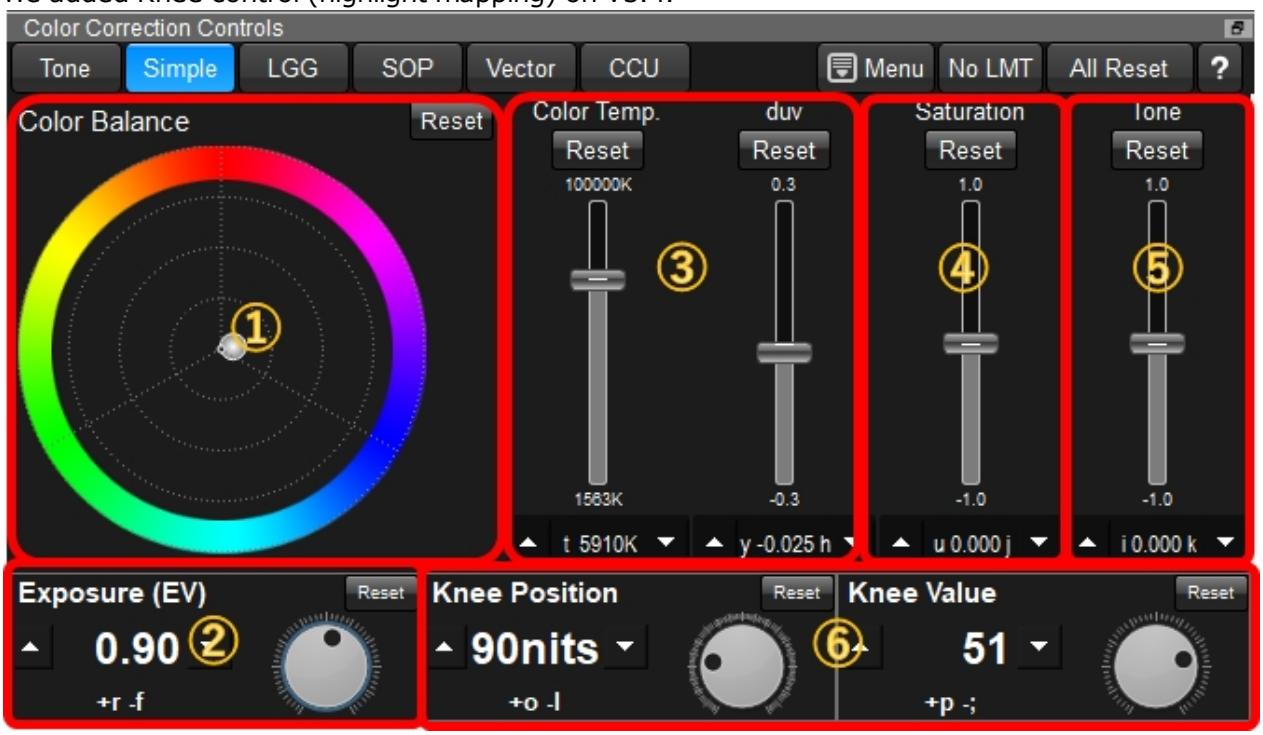
⑤RGB/Y ratio control

It controls the ratio of RGB color space control and YCC color space's Y component control.
If you set RGB 100%, the tone curve will be applied RGB respectively, so if you harden the curve, the saturation will increase, if you soften the curve, the saturation will decrease.
On the other hand, if you set Y 100% (RGB 0%), the tone curve will be applied Y component only, so the effect to the saturation will be decreased and the change of the saturation will be very small.
You can adjust this parameter to get better result for the color saturation which will be affected by the tone curve control.

Simple Color Correction

Simple Color Correction

WonderLookPro v3.2 implemented Simple Color Correction.
On this mode, you can correct color by color ballance, exposure lebel, saturation and gamma, which are basic parameters of color reproduction.
If the system can use IDT by the setting of LUTs, this correction is performed on ACES linear color space, so the color correction result is very similar with the camera operation, like lens setting or filter work.
We added Knee control (highlight mapping) on V3.4.



①Color Balance Correction

This is for color balance correction. The effect is equivalent to the color filters on the lens. But this correction keeps brightness so it won't be darker.
Color Temperature is automatically calculated and shown on the spinbox at the bottom of 3.
When it has focus, up/down/left/right key is effective. q/a keys are for Red, w/s keys are for Green, e/d keys are for Blue correction.

②Exposure Level Correction

This is for exposure level control. Parameters are shown in EV unit.It's equivalent to the iris control of camera lens.
When it has focus, up/down key is effective.
r/f keys are always usable for increase/decrease this parameter.

③Color Temperature Correction

This is for color balance correction by color temperature parameters. "Color Temp." slide bar corrects color balance in parallel direction of color temperature.
Default value is 6000K.
"duv" slide bar corrects color balance in perpendicular direction of color temperature. Default value is 0.
When it has focus, up/down key is effective.

t/g keys are always usable for increase/decrease color temperature parameter.
y/h keys are always usable for increase/decrease color temperature duv parameter.

④Saturation control

This is for color saturation control.
When it has focus, up/down key is effective.
y/h keys are always usable for increase/decrease saturation parameter.

⑤Tone Control

This is for linear tone control while keeping the brightness of 18% gray point.
When it has focus, up/down key is effective.
i/k keys are always usable for increase/decrease tone parameter.

⑥Knee Control (V3.4)

It can control the curve around highlight. You can set the position of the highlight by controlling "Position Control", which can be set in nits.
"Knee Value" controls the level of the curve. You can not only soften the curve but also harden the curve.

LGG/SOP

LGG/SOP Color Correction

Three color wheels can be controlled by dragging the white circle which lies at the middle of the wheel in default state.
R,G,B,Y values are shown respectively at the spin boxes below.
You can use keyboard to adjust R,G,B,Y spinboxes. When whether Lift, Gamma or Gain is active, the number and the name are shown in red character.

R: "q" is to increase, "a" is to decrease
G: "w" is to increase, "s" is to decrease
B: "e" is to increase, "d" is to decrease
Y: "r" is to increase, "f" is to decrease

The active control in Lift, Gmmna and Gain can be selected by tab key and inputing the number 1,2,or 3.
When number is not shown with Lift, Gamma and Gain caption, you can push tab key a couple of times until the numbers are shown.
ASC-CDL calcuration method on WonderLookPro

$$out = (i \times s + o)^p$$

i	Input signal. In this software, it is the pixel value in grading color space and defined between 0 and 1.0.
s	Slope parameter
0	Offset parameter
p	Power parameter
out	Output signal. In this software, it is new pixel value in grading color space. There is a possibility it exceeds the range of 0 to 1.0, but not clipped within this range at this stage.

The conversion from "Lift/Gain/Gamma" to "Offset/Slope/Power" is peformed by following equations.
Offset = Lift;
Power = Gamma + 1.0;
Slope = (1-Lift)^(Gain+1.0);
Lift/Gain/Gamma is the parameter which mainly affects shadow/middle/highlight respectively so that instinctive controll can be done.

Vector

Vector Control

To control specific colors, WonderLookPro provide vector control which enables 12 hue colors independent correction of hue, saturation and brightness.

①Hue and Saturation Control

Normal vector direction of the circle enables you to contol saturation.
Tangent vectro direction of the circla enables you to control hue.

②Hue and Saturation Control's scale control

You can adjust the scale of vector control by controlling the slide bar on No.2 regeon. It affects only visual controls not effect for the parameters themselves.

③Brightness control

You can adjust the brightness of the selected color by controlling normal vectro direction.
Toward center is to decrease the brightness, toward outside is to increase the brightness.

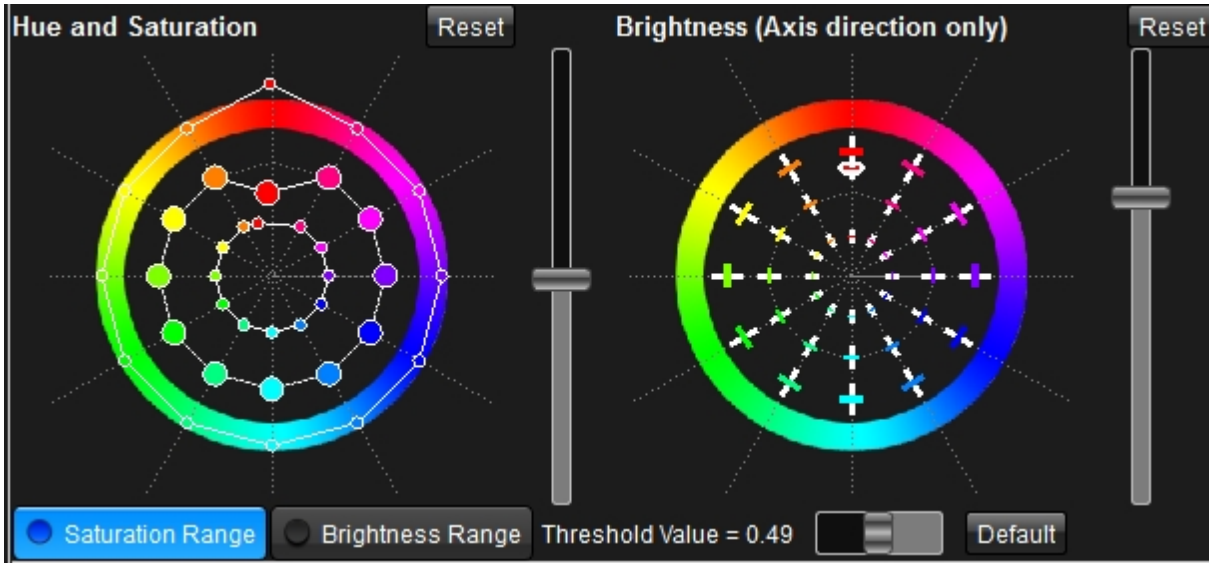
④Brightness controll's scale control

You can adjust the scale of vector control by controlling the slide bar on No.4 regeon. It affects only visual controls not effect for the parameters themselves.

⑤

1.Saturation Range Devided Control

Adding to entire saturation regeon control, you can divide high saturation/ low saturation regeon and control by in total 36 colors.
By clicking "Saturation Range" button starts to use this function.



Outside 12 colors are high saturation regeon, inside 12 colors are low saturation regeon. The saturation which devide high and low saturation can be controlled by the trackbar below.

2.Brightness Range Devided Control

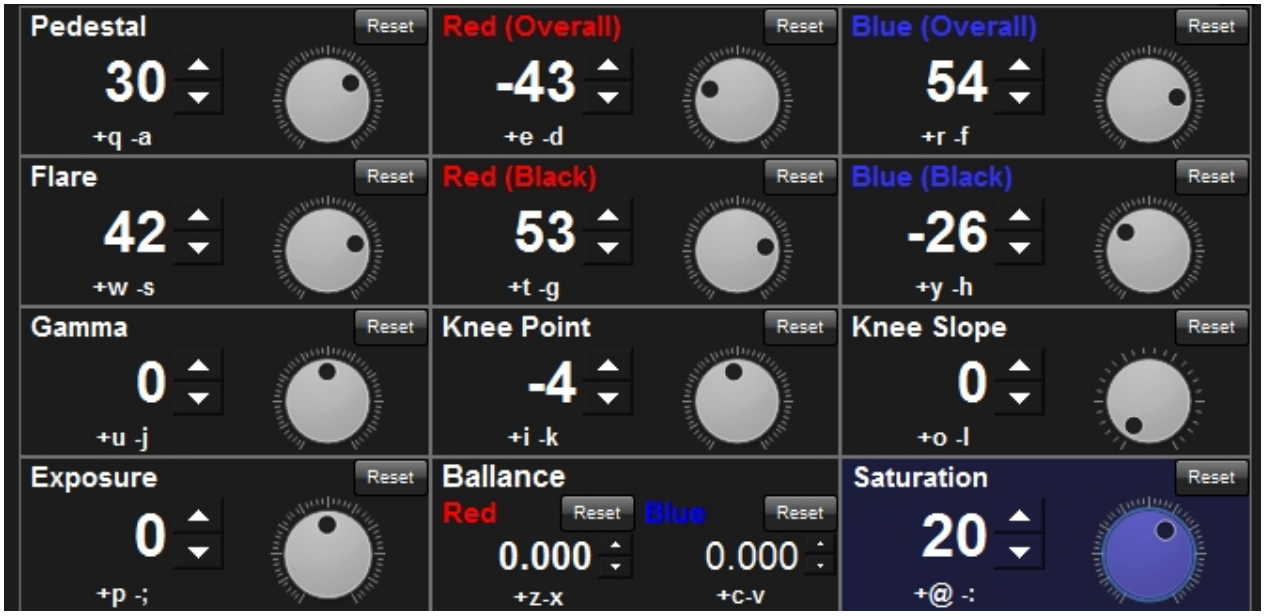
Adding to entire saturation regeon control, you can divide high brightness/ low brightness regeon and control by in total 36 colors.
The way to control is the same with Saturation Range Devided Control.

Saturation Range devided control and brighness range devided control can be co-existed. Both controls can be used simultaneously.

CCU

CCU emulated controls

CCU(Camera Control Unit) interface which is used along with Broadcasting camera, is provided for one of the color correction methods.

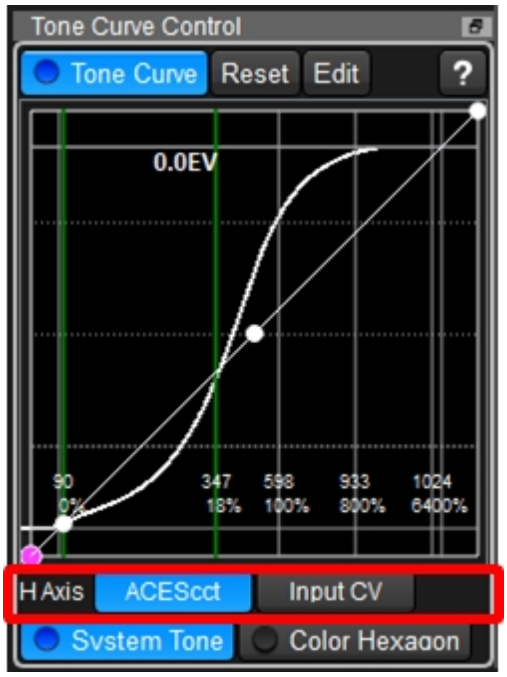


Exposure: If you are using presetLUT, it act as IRIS simuration, the result was the same with camera's real iris control.
Saturation: This control's saturation uses same value with LGG/SOP controls. (When you changed here, the same change was applied to LGG/SOP's saturation.)

Tone Curve Panels

Tone Curve Information Control

This area is to confirm the characteristics of the total rendering and control tone curve for color correction.
Bt double clicking the title bar, or by clicking the icon on the right side of the title bar, you can float this control and enlarge to use it.



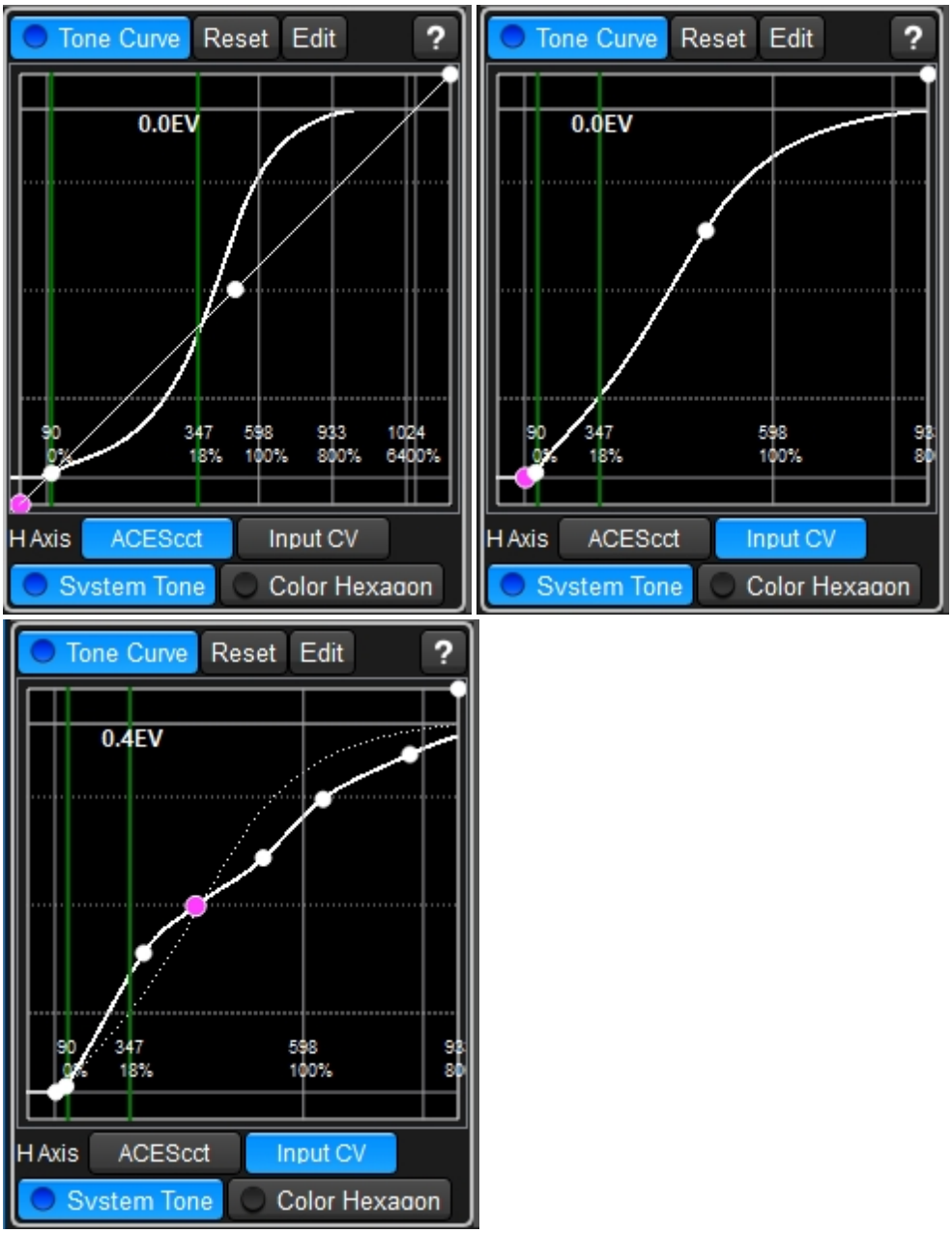
To activate tone curve, you can click "Tone Curve" button or just ckick the graph area. In default state, you can observe three white circle, shadow, middle and highlight position.
Selection of the horizontal axis
You can select the horizontal axis by the buttons inside the red rectangle above.
You can choose "Grading Space" or "Input CV" for the viewing system tone and controling of the tone curve.

1.Set the grading space as the horizontal axis

If you want to choose Grading Space as the horizontal axis, just click the left button, on which shows the name of the grading space.
Horizontal axis will be all the range of grading space. The straight line which has 45 degree slope is the default, which converts nothing.
Some of the grading spaces (HSLA, ACEScct) covers negative ACES values.

2.Set the input code value(CV) as the horizontal axis

To select the Input CV, click the Input CV button on the right of red rectangle.
On this mode, the default tone curve will be shown as System Tone Curve. You can edit the system tone curve directly to control tone of the image.
It means, you can edit over all tone property to create proper tone curve transform on the grading space.



Left graph is the default tone curve on the horizontal axis of grading space. The tone is 45 degree slope straight line.
Center graph is on the horizontal axis of Input CV. You can find the control points of the tone curve on the system tone curve. It means you can control system tone directly to create proper tone cuve on the grading space.
Right graph is the example of the edited tone curve on the horizontal axis of Input CV. Default system tone is shown in dot and you can easily confirm how much you changed from the starting point.

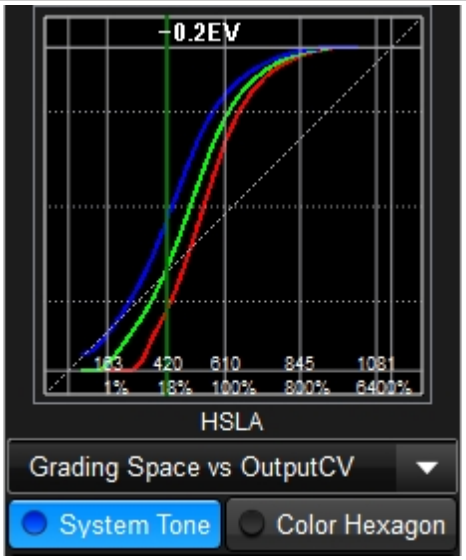
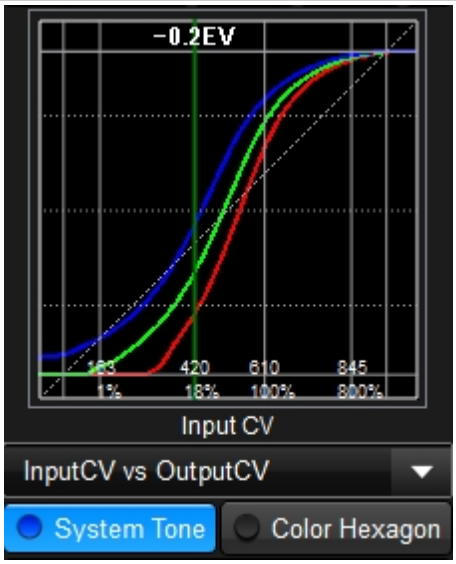
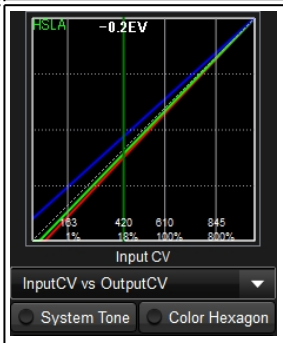
On the center and right graph, the left side control point is not on the origin of the graph.
It is caused by the offset value of grading space, when converted to input code value.

To move the points
To move the point, please move mouse cursor around the point, and push the mouse button when the cursor change to cross and drag whereever you want.
Creation of points
You can create points upto 32. To create a new point, please move the mouse cursor on the tone curve and click where the cursor turned to cross.
Delete of the point

To delete the point, please move the mouse cursor around the point, and double click the mouse when the cursor turned into cross.

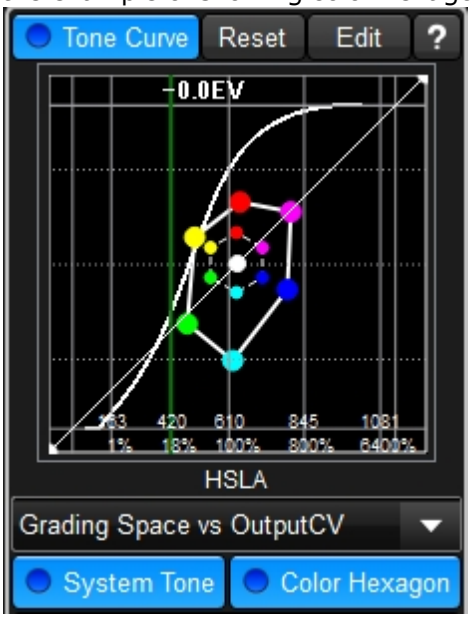
System Tone Curve

By clicking "System Tone" button, you can change the state of showing "System Tone Curve". If the system curve is not shown, ASC-CDL parameter's calcurated curve.

System ToneCuve Holizontal Axis is Grading Space	**System ToneCuve** Holizontal Axis is Code Value	**Showing ASC-CDL Cu** Holizontal Axis is always grading s
		

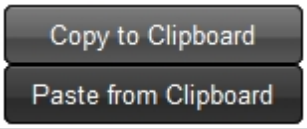
Color Hexagon

As well as System Tone Curve, you can show and off the "Color Hexagon". "Color Hexagon" is to show the color rendering characteristics by showing 6 represented color rendered result. Here is the example of showing color hexagon.



Edit Menu

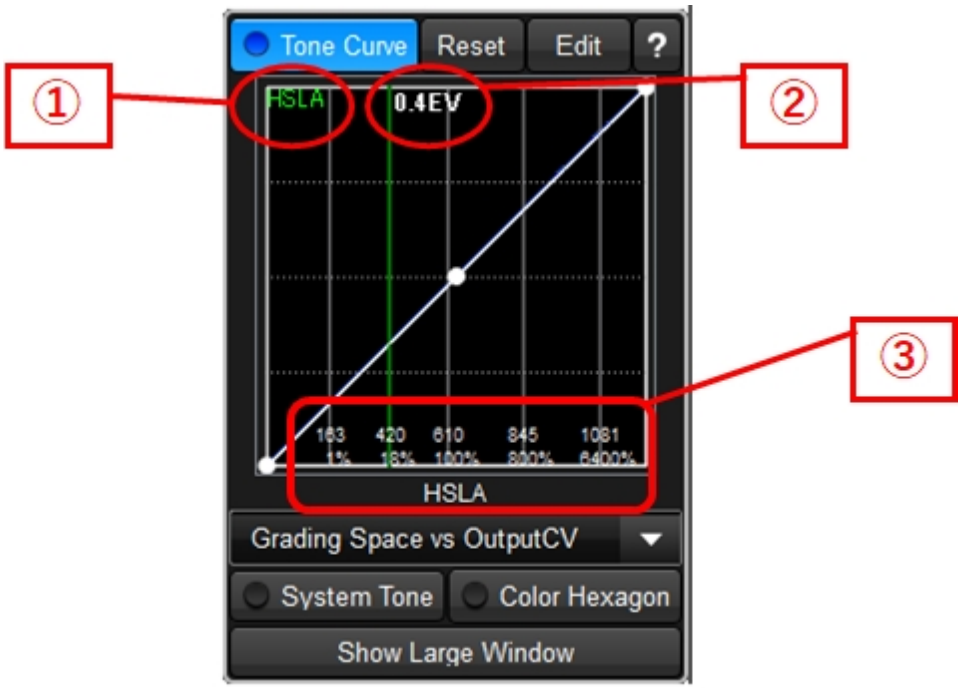
Edit button triggers to show following menu.



Copy To Clipboad	Copy current tone curve parameters to clipboard which can be pasted on excel sheet.

Paste from Clipboard	Paste tone curve information in the clipboard. You have to copy the clipboard first and after edited the parameter, copy the editted parameters to the clip board before calling this function.

Explanation about the other captions



①Grading Space

It shows current grading space name.

②Equivalent exposure shift of total color correction

It shows the amount of color correction by the exposure shift value at 18% gray. When it shows "+2.0EV", it means the total color correction brightens image at 18%gray point about 2 steps. It is available when you are using presetLUTs.

③Scene Brightness expression in holizontal axis

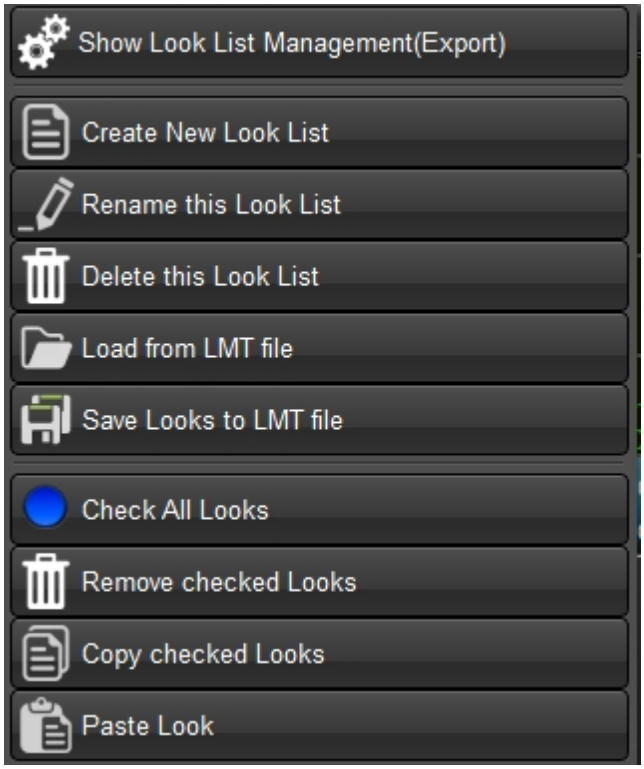
It shows the brightness of the scene in percent scale and 10 bit code value(CV).

Look List Information

Look List Area

This area is to manage LOOK lists you created.
By simply clicking the item, LOOK information is applied to the active LUTBOX device.
There are a lot of other functions here, manage LOOK list groups along with dates, exporting LUTs, delete and copy of LOOKs, confirmation or re-grading of LOOKs with images.
You can customize the order of the contents, show or not show of the contents, or height of the items by using customize function triggered by setting button(③).

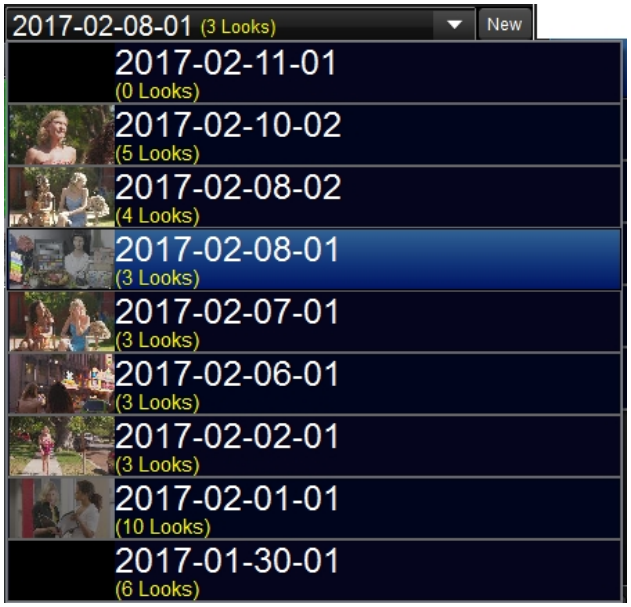
①Look List Main Menu



This is the menu for to control LOOK list.

When you export to LUTs, please select "Show Look List managerment". It will start Look List Management Dialog.
Look List can be saved to file. The LUTs are also save in one file so it's very useful to transfer entire information to other PC.

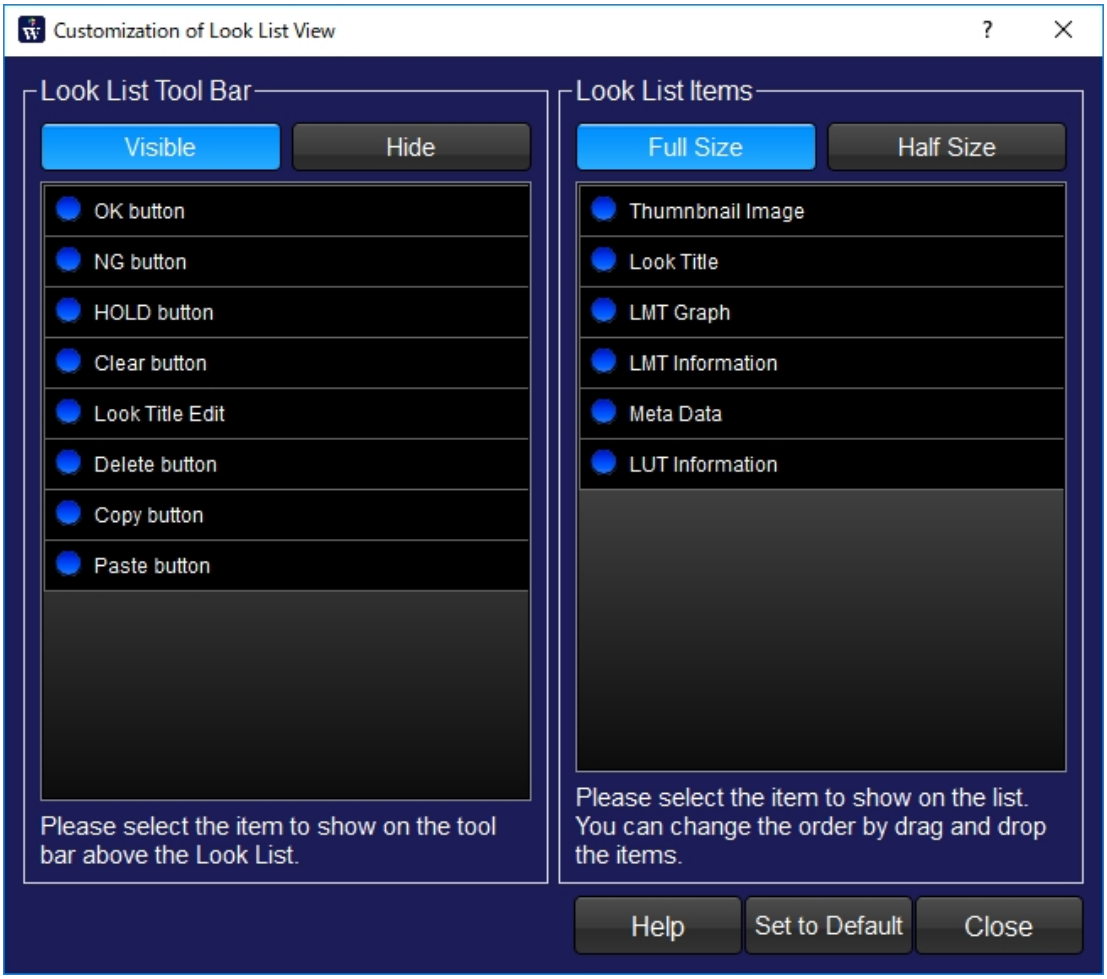
②Selection of Look List groups



By clicking this area, it will show you the list of groups on this PC and you can select one group from them.
New button triggers to create the new empty group. You can name the group when creation or change later.
LOOK can be copied and pasted between different groups.

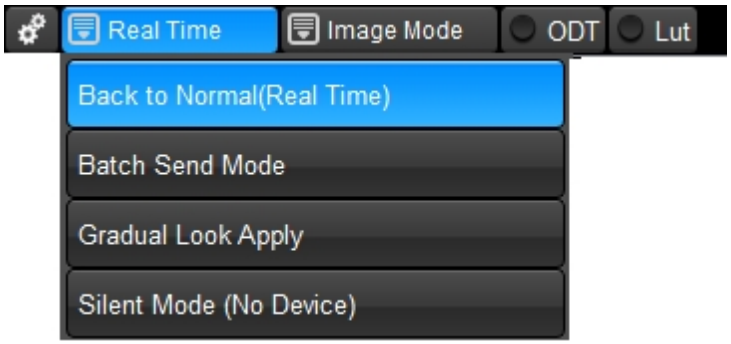
③Look List Customize

Clicking this button triggers to show the following dialog.



You can customize the view of the Look List. You can decrease the buttons, to narrow the height of the list item or re-arrange the order of the items in the look item.
Please refer to this page.

④Setting of the method of Look update

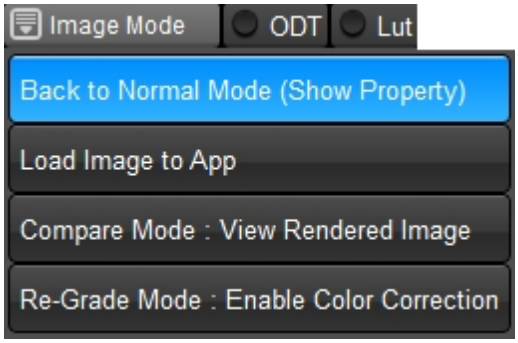


This button has two roles, one is to trigger the popup menu for the setting of the method of look update, another is to show the current mode of the look update.
Default setting is "Real Time", it update and send LUTS immediately after you selected LOOK or adjusted LOOK.

"Batch Send Mode" : It won't send LUT until you click "Send LUT button". The status the LUTs is not updated to the device can be confirmed by the GUI.
"Gradual Look Apply" : When you selected the LOOK, the dialog shows up to set the duration time to gradually apply the LOOK.

"Silent Mode" : Under this mode, the LUT will never be sent to the device. The setting of the each devices will be recovered after going back to the real time mode.

⑤Image Mode Menu



By clicking this button, above menus are shown. You can send still image saved with LOOKs to IS-miniX.

機能	内容
Back to Normal Mode(Show Property)	Going back to the normal mode. Clicking the thumbnail image triggers to show Look Property dialog.
Load Image to App	If the image was saved with the Look, clicking thumbnail image updates the image in Still Image Display Area.
Compare Mode : View Rendered Image	(IS-miniX only)This mode is to compare saved still image with LOOK to live image. You can not use color correction in this mode.Please refer to this to know more detail.
Re-Grade Mode: Enable Color Correction	(IS-miniX only)This mode is to make adjustment of the LOOK to existing LOOK. You can use color correction and save as overwriting or as new LOOK.Please refer to this to know more detail.

⑥ODT Button

If the ODT button is selected, the monitor settings are shown like red rectangle in the following picture.
When you click the LOOK, monitor setting is also applied.
You have to change the real monitor setting along with this selection, it won't be used in normal situation.

⑦LUT Button

If the LUT button is selected, LUT information would be shown on the list.(red rectangle)
The only different information compared to current selected LUT would be shown.

1st LOOK's LUT : Only IDT is different, Grading Space and Rendering are the same,
2nd LOOK's LUT : Only Rendering is different, IDT and Grading Space are the same,
3rd LOOK's LUT : Identical LUT

If you click the LOOK, not only color correction but LUT would be applied to current device.

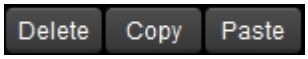
⑧Rank Buttons

These buttons are to set the rank to the current Look. The rank was shown on the thumbnail image. The right side button is to be used to clear the rank.
Here is the example.

⑨View and input of the Look Title

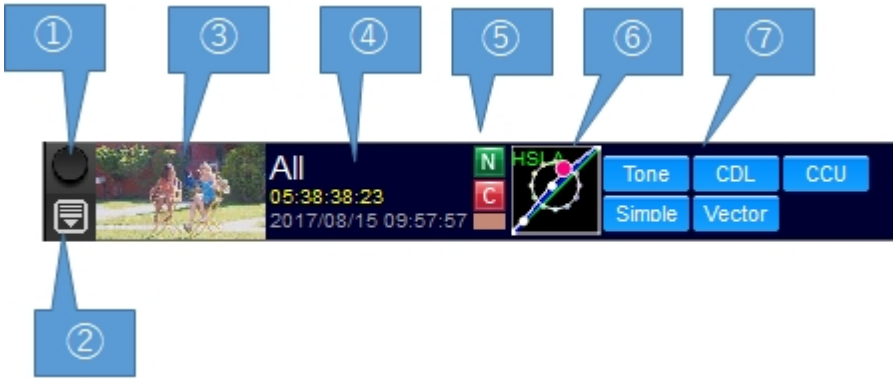
On this control, the title of the current look will be shown. It can be edit immediately.
To avoid sending lut to the device, you can move the mouse cursor on the look and hit f2 key to show the popup control to edit the title.
You can change the LUT update method to "Silent" before selecting the Look to be edit the title.

⑩Management of the Looks



You can copy, delete the current selected look or paste of the copied Look, just by one click.
If the screnn size is small, these buttons can be set to hide.

⑪Look information items



Each look has the above items, and has the following meanings. These items are customized for visible or not visible, and the order of the items.

①	To select the look	Selection can be used for copying, deletion, which uses multiple LOOKs at one operation.
②	Look Menu	Clicking this icon or right click can trigger to show this menu.
③	Thumbnail Image	By clicking this area, you can trigger various functions. In normal mode, Look Management Dialog will be shown. You can send the image to IS-mini for still image output or re-gradaing.
④	Look Information	TimeCode and/or Look Name are shown.
⑤	Matching function status	If this look is using neutralize function or color matching functon, N or C (including target color patch) icon will be shown. If you select the look which includes matching settings, you will find the confirmation dialog to use it or not before applying the look to the device.

⑥	Look Graph	You can confirm what kind of transform are included in the look by this graph.
⑦	Tabs of the Look	It shows tabs which are used to create this look. Default setting tab is shown in black, used tabs are shown in blue. If you click active tab icon, the look will be applied and color correction screen will be changed to the tab.

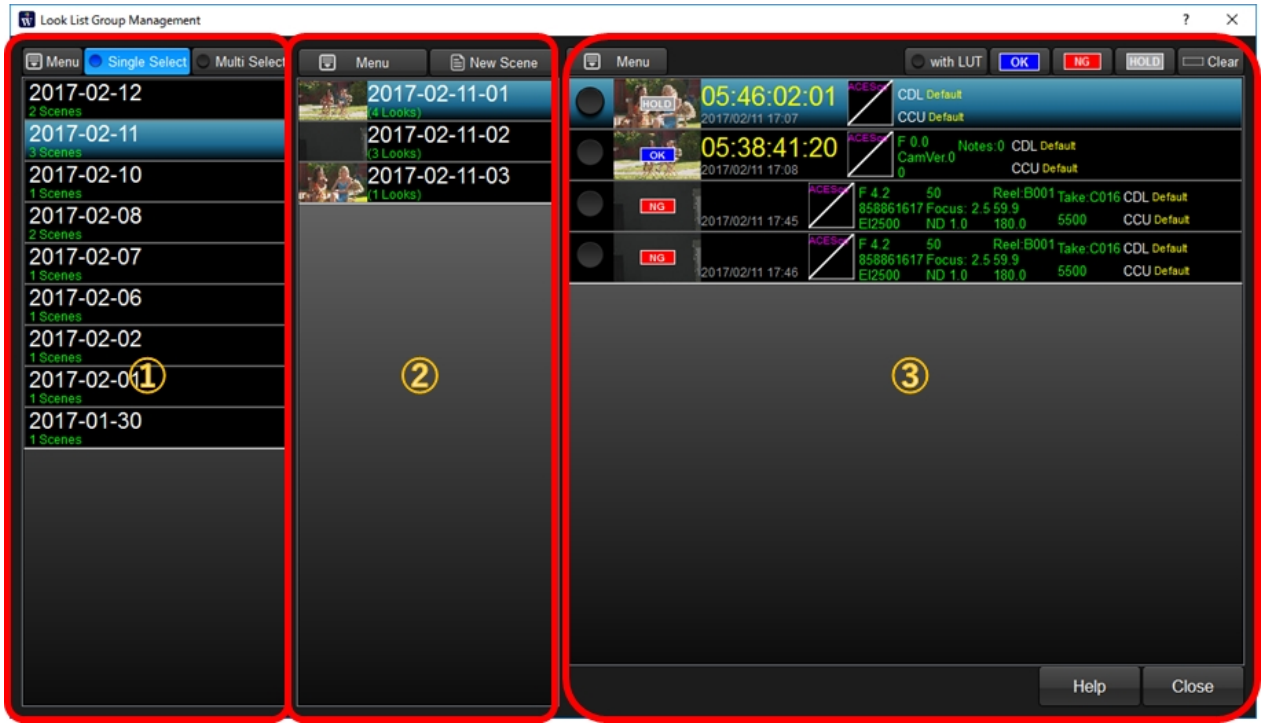
Look menu
By clicking ② area above, you will find following menu.

Show Management Dialog	To show Look Information Dialog. You can name to the LOOK or confirm other detailed information including metadata.
OK/NH/ HOLD/Clear Mark	You can set 3 kind of ranks. These are written in Report, or used to export only OK ranked LOOKs.
Re-Grade this Look	Start overwriting mode. If you adjust LOOKs after this selection, you can overwrite the change to this LOOK.
Remove this Look	It will delete this LOOK.
Copy/Paste	Copy and paste of LOOKs are available.

Management of Look List

Management of Look List Dialog

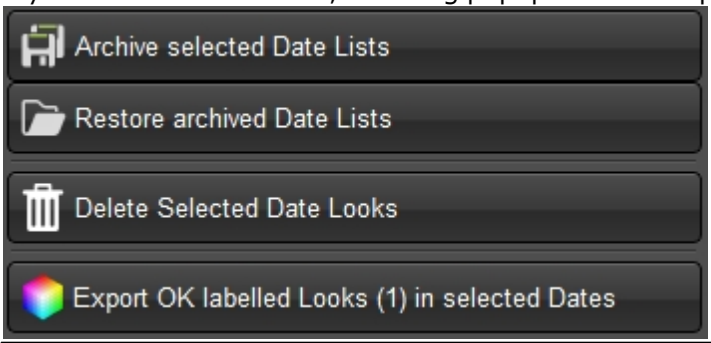
On this screen, you can browse Looks you are loading, save, append and delete them, export selected Looks altogether as set of LUTs.



①Selection of dates, archiving and export

First, select the date LOOK List created. If you selected the date, Look List Groups are shown in area 2.
If you check "Multi Selection", you can select multiple dates.

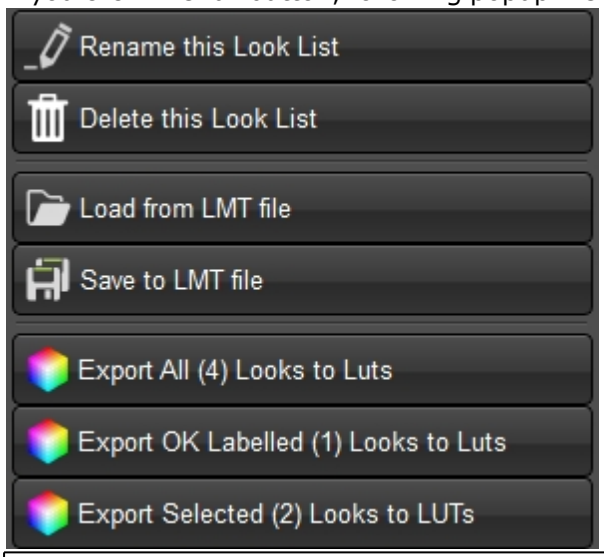
If you click "Menu" button, following popup menu will appear.



Archive selected Date Lists	Create zip file which include all of the LOOK information in the selected dates.
Resotre archived Date Lists	Import LOOK information contained in selected zip file.
Delete Selected Date Looks	Delete all of the LOOK information in the selected dates.
Export OK labeled Looks	Export all of the OK labeled LOOKs in the selected dates.

②Selection of groups, management and export

You can select one of the group in the list and it will show Look List of the group on area 3.
If you click "Menu" button, following popup menu will appear.

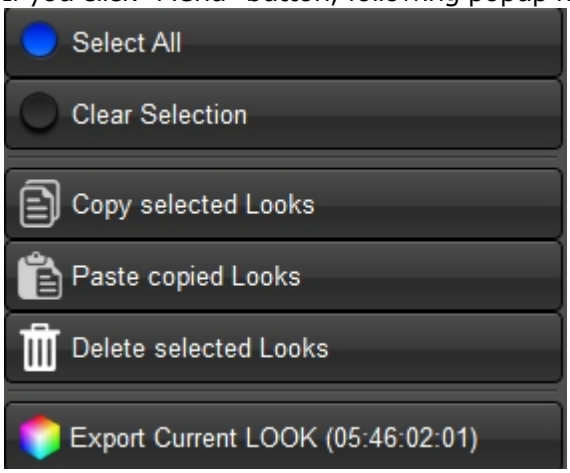


Rename/ Delete this Look List	Rename of delecte the group currently selected.
Load/Save LMT file	Save current group information or load from file to add look list.
Export	You can select three selections to make the list for the export. 1. All of the looks in the group 2. Only OK labeled looks 3. Only selected looks.

③Look List

This area shows list of LOOKs contained in the selecte group area 2.
You can set OK/NG/HOLD rank for the LOOK you currently active.
You can move selected LOOKs by drag and drop to other group in area 2.

If you click "Menu" button, following popup menu will appear.



You can select all of the LOOKs, clear the selection of all of the LOOKs, copy selected LOOKs to clipboard, delte selected LOOKs, paste copied LOOKs to current group, export current LOOK.

Look Information Dialog

Look information dialog

On this dialog, you can input the name of the Look, add comments to the Look, or confirm various information related the selected Look.

①	Input Look name and Caption	Look name would be shown on the list. Comments can confirm c
②	Rank	You can confirm or change OK/NG/HOLD ranks. Or clear rank.
③	Thumbnail	If you selected still image when created Look, it will be shown h
④	Look related information	The date, device, timecode information are shown.
⑤	System Tone and Hexagon	The system tone curve which combined LUT and Look is shown h
⑥	LUT information	When you were using LUT when created Look, the information c
⑦	Look Graph	ASC-CDL curve, created tone curve and vector graph are shown
⑧	Meta data	If SDI meta data is available, it will shown in this table.
⑨	Change LOOK	You can change LOOK by click these buttons in the current grou

Image Viewing Mode

How to use Image Mode(IS-miniX)

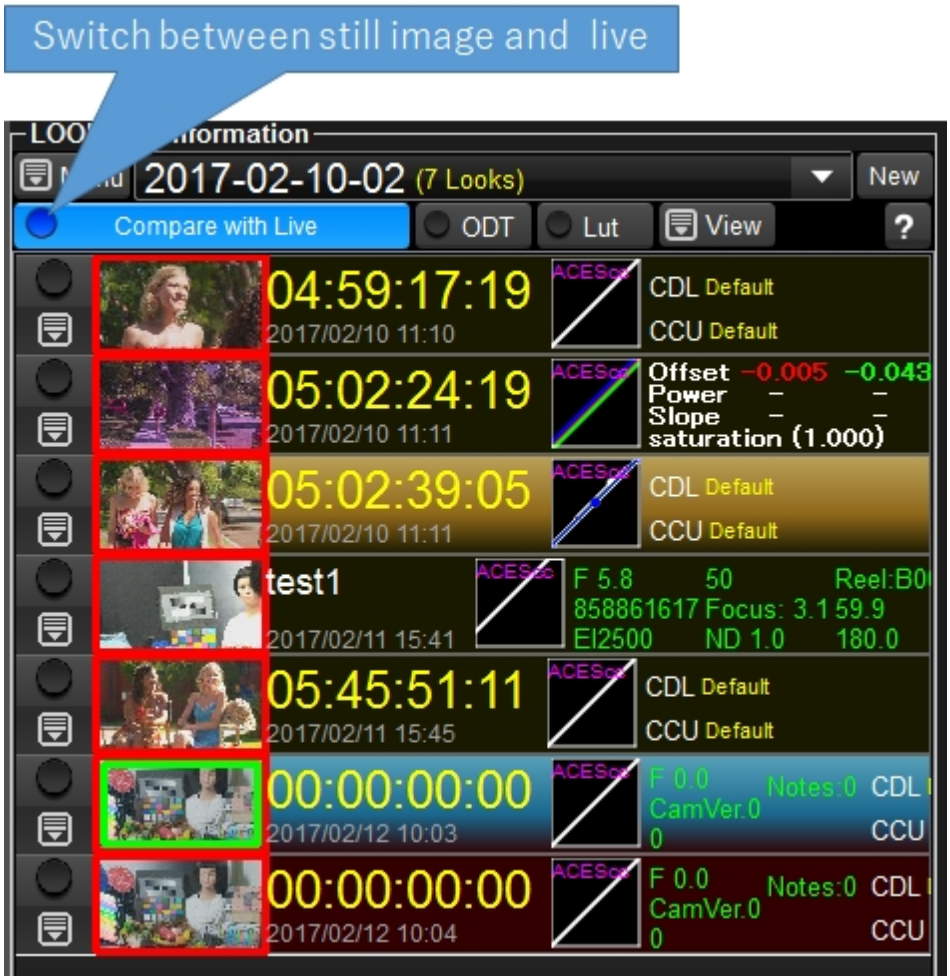
This page explains how to use IS-miniX's still image playing function.

①Replacement of Original image instead of live source

By clicking "Send" button, IS-miniX receives currently shown image and play it instead of live image. LUTs are kept same in IS-miniX.
You can use this function to confirm the LUT/LOOK result for different image captured with the same camera.

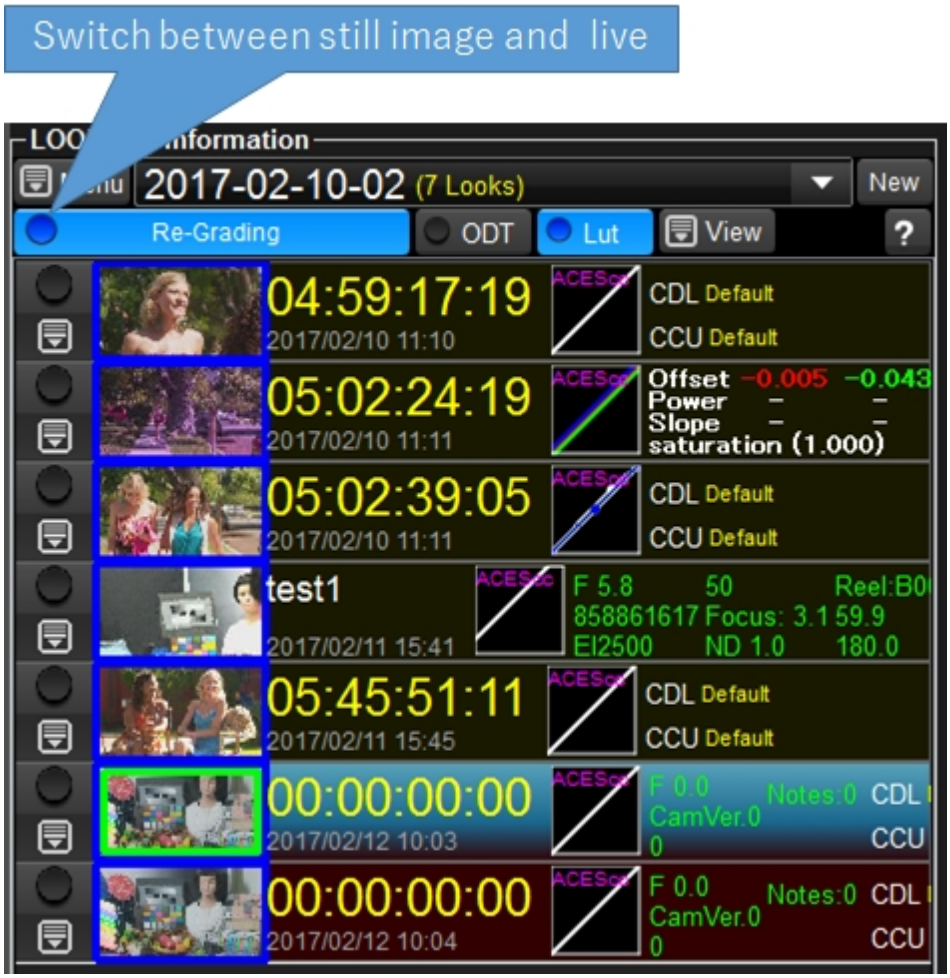
②Reproduce the image with the same color when saved LOOK

It reproduce the image with the LOOK when created and compare with other images or live image.
First, click "Image Mode" and select second item "Compare Mode".
Look Manage area changes to following image. By clicking the images in red rectangle, the image and LUTs are sent to IS-mini to reproduce the image with the LOOK when captured. Color correction and LUT selection are disabled to inhibit color change.
The round switch on the left side of "Compare with Live" button switches between still image and live image. When showing live image, LOOK and LULTs are currently editing one, not saved LOOK one.
Click "Compare with Live" button and select "Back to Normal" to finish this mode. LOOK and LUTs are recovered to the same setting before starting this comparison mode.



③Re-Grading the saved LOOK

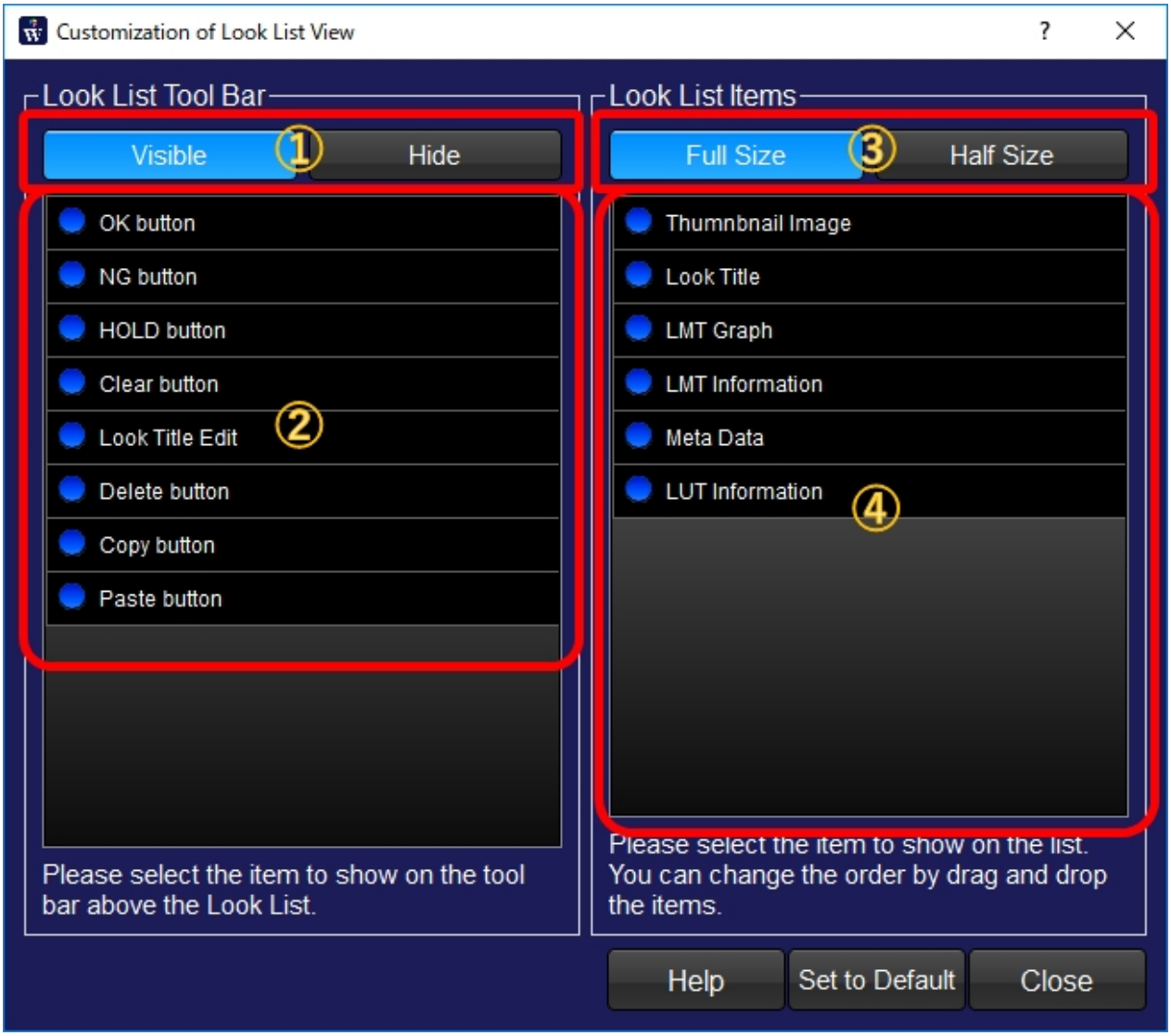
You can re-grade (re-edit) LOOK while confirming the image you captured when created LOOK.
Click "Image Mode" button and select "Re-Grade Mode".
The Look list area will change to following screen shot. By clicking the image in the blue rectangle, it will send the image and LUTs to reproduce the image with colors when created.
Color correction and LUT selection functions are enabled. You can change colors while still image playing. By clicking other LOOK with outside of image area, you can apply the LOOK while keeping the image same.
The round switch on the left side of "Re-Grading" button switches between still image and live image. When showing live image, LOOK and LULTs will not change. The same LUT will be applied both for still image and live image.
By clicking "Keep Look" button, the dialog to select "overwirte" or "create new" shows up and you can save re-graded LOOK with image.
Click "Re-Grading" button and select "Back to Normal" to finish this mode. LOOK and LUTs will not be changed, the same as re-grading, not recover to the setting before entering this function.



Customize of Look List Information

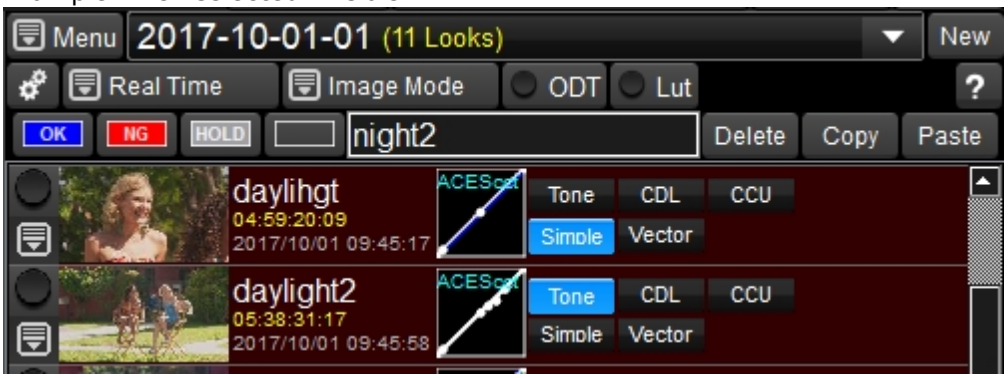
Customize of the Look List Area

On this screen, you can customize the display of the Look List.
On/Off of the tool bar, the selection of the buttons on the tool bar, the height of the look item, the order of the items in the look item can be customized.



①Show or not of the tool bar

You can select to display or not for the toolbar, which can access to the each items property or management.
Example when selected "Visible"

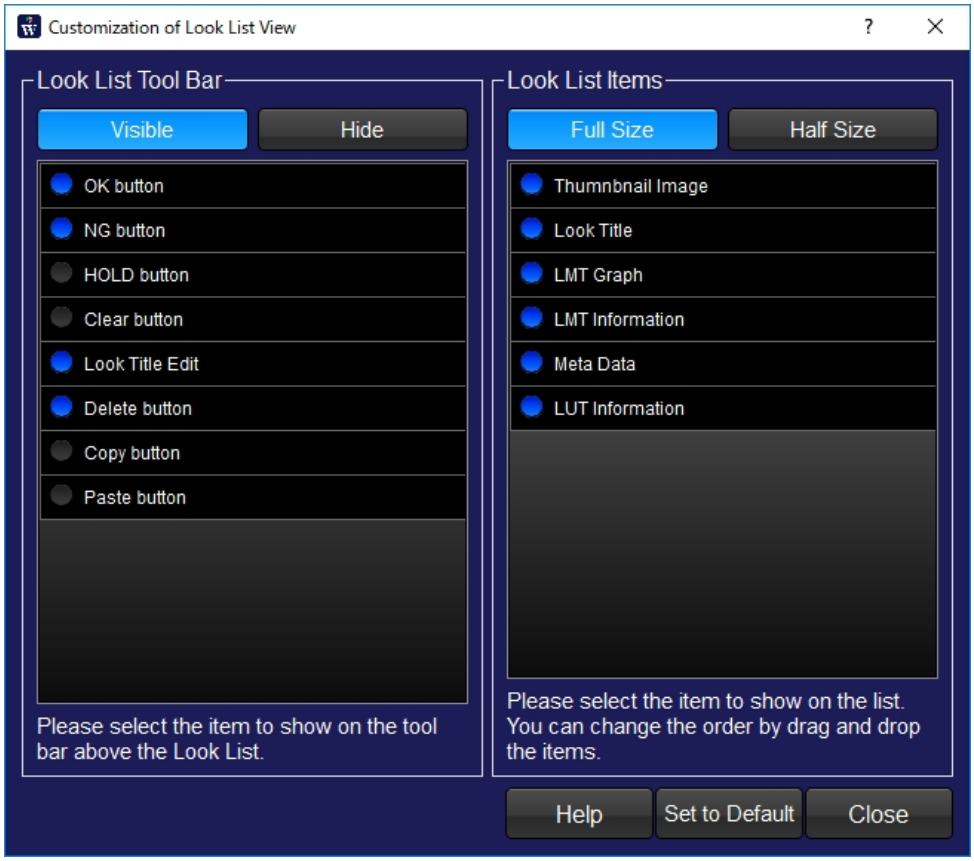


Example when selected "Hide"

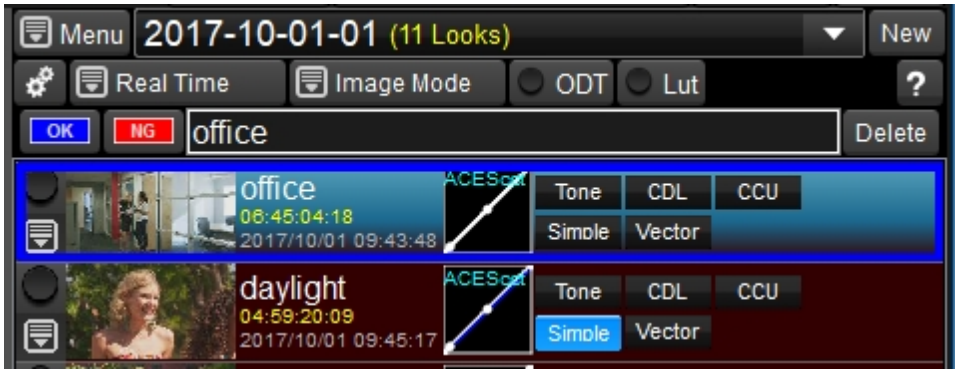
②Visibility of the controls on the tool bar

You can set the visibility of the controls on the tool bar.

The example shows "HOLD", "Clear", "Copy", "Paste" buttons are set to imvisible.



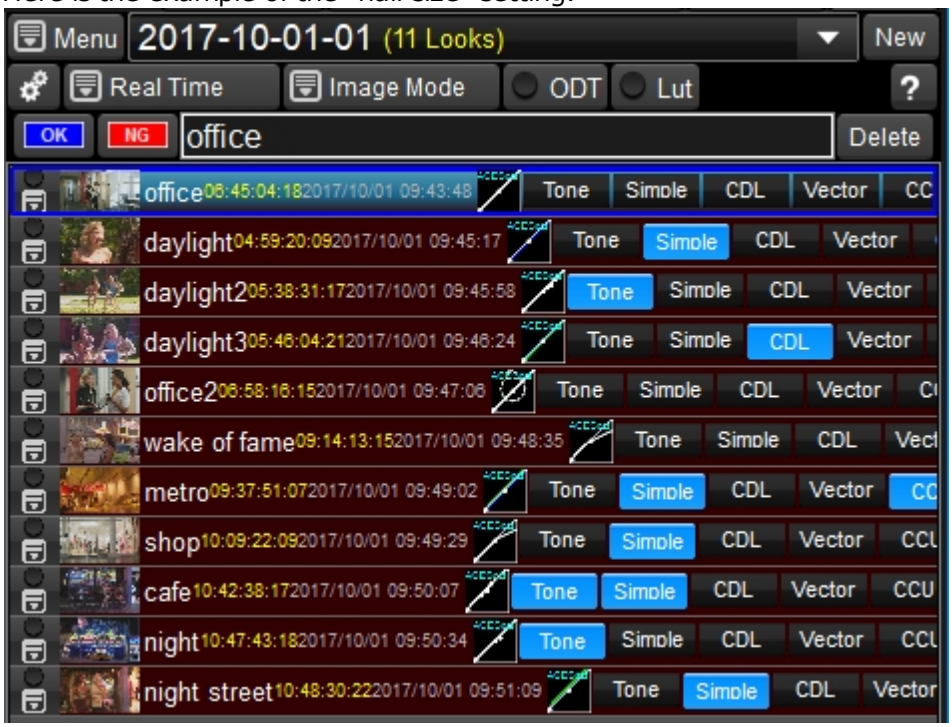
Only "OK", "NG","Delete" buttons and look title edit are shown.



③Setting of the height of the Look List Items

When you are handling quit a number of Looks, you want to show as many looks without scrolling. In such case, you can set the height of the look list item and increase the number of the look list items without scrolling.

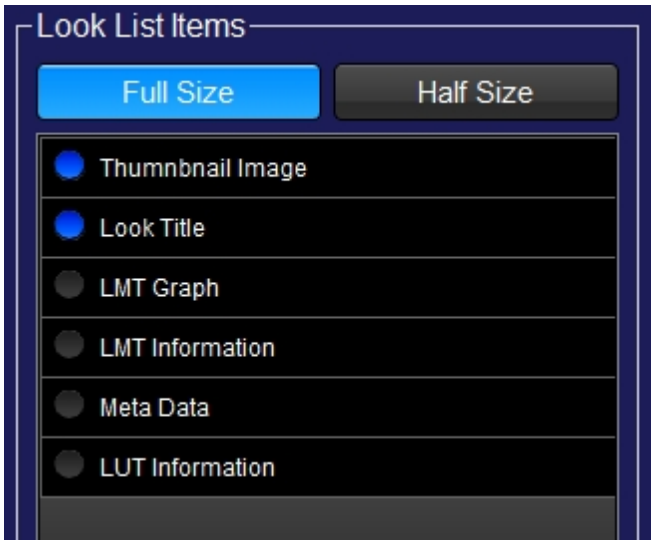
Here is the example of the "half size" setting.



④Customize of the Look List Item

You can customize the contents or order of the Look Item.
You can just un-check the item which is not need to be shown. You can also change the order of the contents by drag & drop the item. BY this function, important items can be shown on the left of the each item.

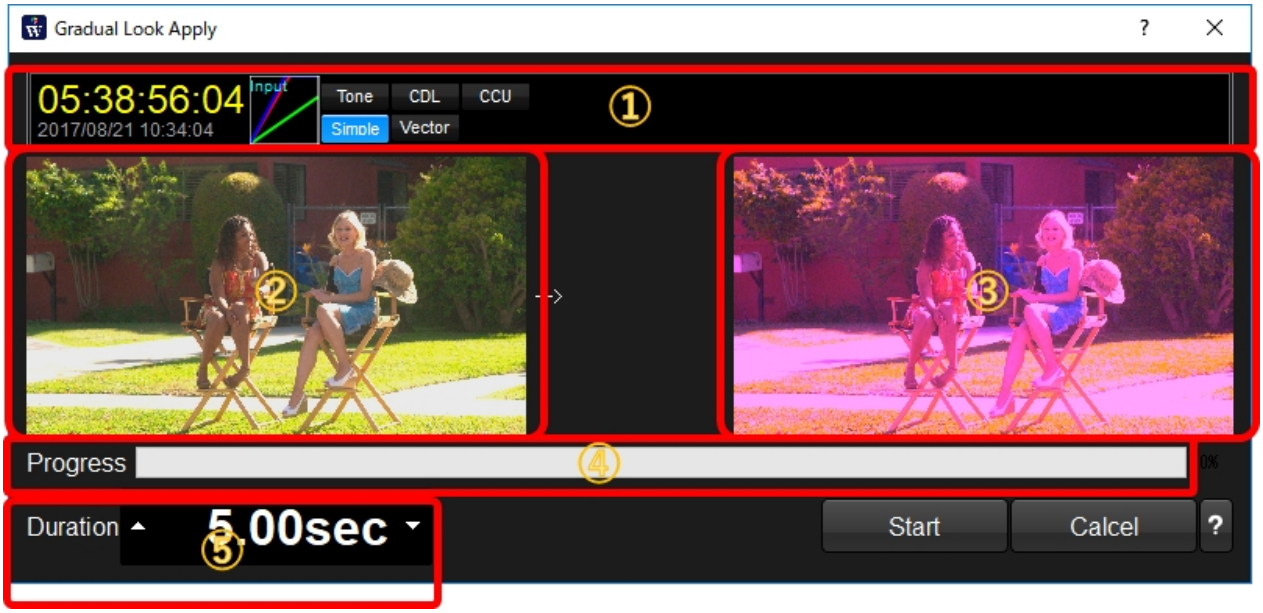
Here is the example only the thumbnail image and titles are shown.



Gradual Look Apply

Gradual Look Apply

The Look or LUT can be applied all at once but applied gradually using certain period of time.
It reduces the change of the look apply, so you can apply the look to the main stream of the live image.



①Look Information

Here is the basic information of the LOOK to be applied.

②The image which is applied current Look

Here is the image which was applied current Look.

③The image which is applied new Look

Here is the image which was applied new Look. By this image, you can confirm what kind of look you are going to apply.

④Progress of the look apply

It shows the progress of the look apply process.

⑤Duration of the look apply

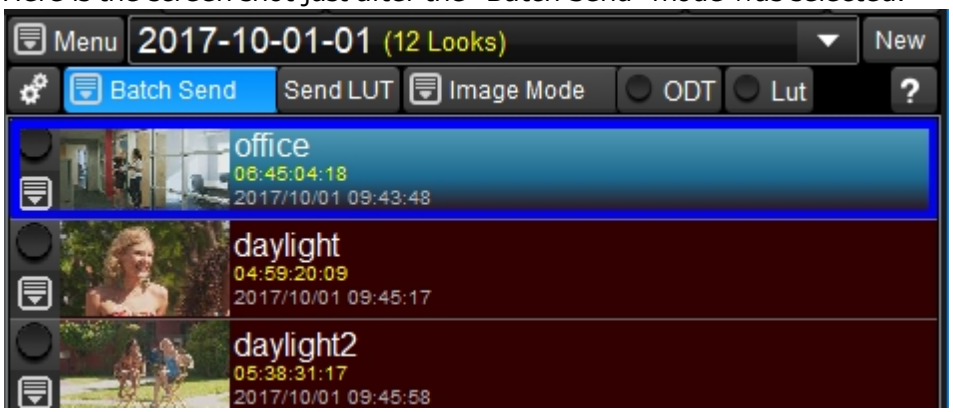
You can set the duration seconds here.

Batch Send Mode

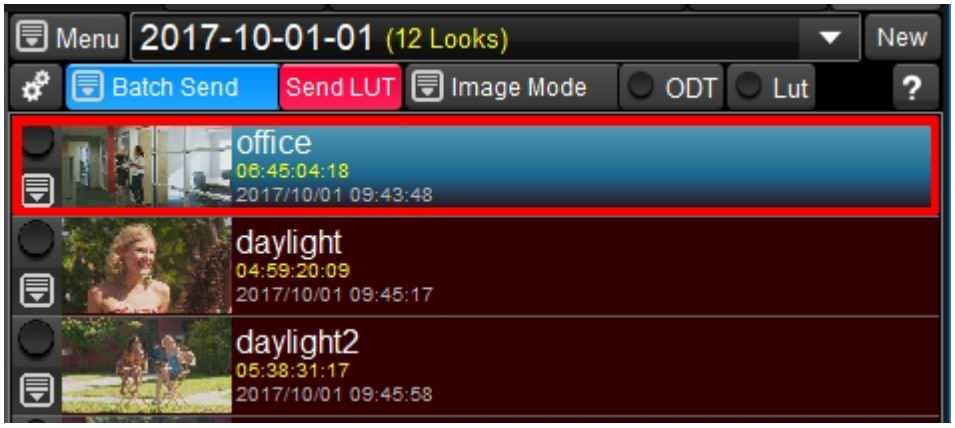
Batch send mode of LUT

On this mode, the LUT is not sent to the device real time, but after finished various settings, you can send LUT by clicking send LUT button.
It can be used to send LUT after confirming the result by the image on the screen.

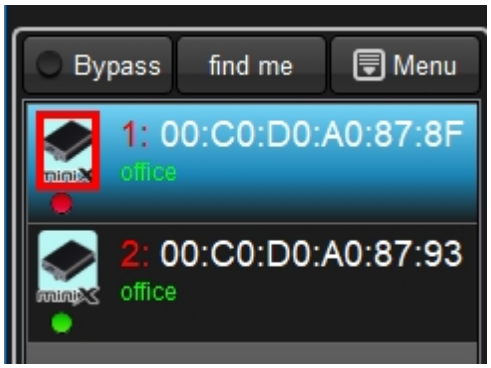
Here is the screen shot just after the "Batch Send" mode was selected.



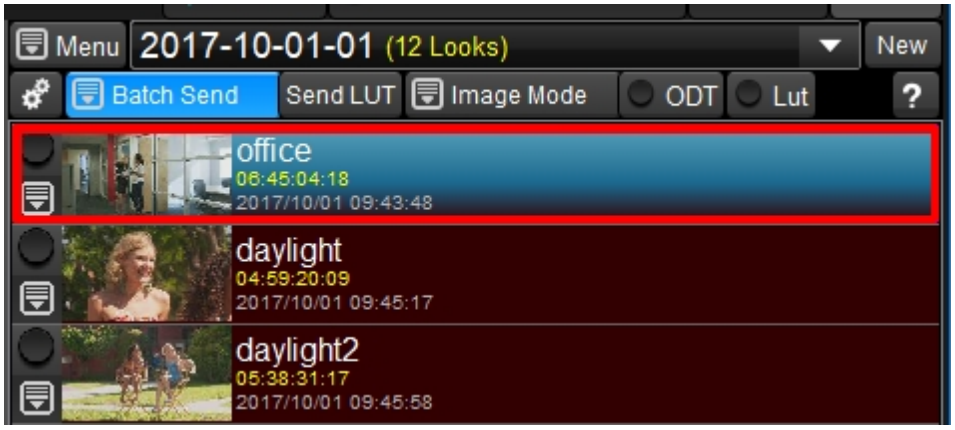
If you do color correction from here, the latest LUT is not sent to the device, and "Send LUT" button turns to red to show the LUT sending is needed.
And the Look currently associated with the device, it is the first LOOK "office" in this example, has the red rectangle boundary to show the current LOOK is different from the "office" LOOK on the Look List.



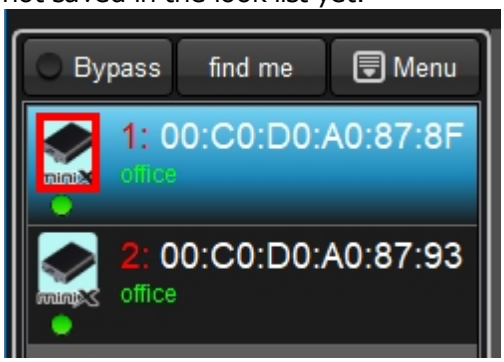
At the same time, on the device list control, the green circle which shows the signal is comming, turn to red, which means LUT sending is needed.
And you can see the red rectangle around the device icon, which shows the current LOOK is not saved in the associated Look List item, which is "office look" in this example.



At the same time, on the device list control, the green circle which shows the signal is comming, turn to red, which means LUT sending is needed.
And you can see the red rectangle around the device icon, which shows the current LOOK is not saved in the associated Look List item, which is "office look" in this example.



The red circle on the device list turned back to green, it means the LUT on the device is the sama as the LUT on this GUI.
But the icon of the device is still surrounded by the red rectangle, which means the current look is not saved in the look list yet.

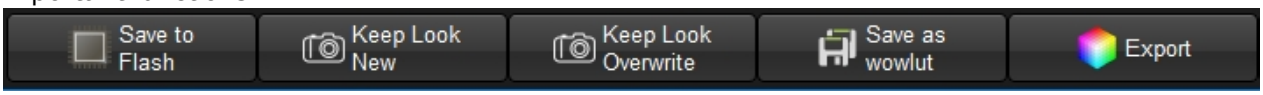


This is not related with the batch sending of LUT function, but you can clear this warning by clicking "Keep Look New" or "Keep Look Overwrite".

Function Buttons

Function Buttons

On the bottom of color correction screen, there are a couple of buttons assigned to frequent and important functions.



Save to Flash

Save current LUT and LOOK information to LUTBOX's flash memory. Flash memory is Non-volatile and it can be recovered current state after power off and on.
This function is disablef for the Free License.

Keep Look New

Save current Look and LUT information to the Look List. If the LUTBOX supports timecode, it will be saved with Look as the representative name.
If you are using still image, the rendered thumbnail image is saved with Look.
If you are using IS-miniX, one frame data is automatically aquired and still image and ancillary data are saved with Look information.

Keep Look Overwrite

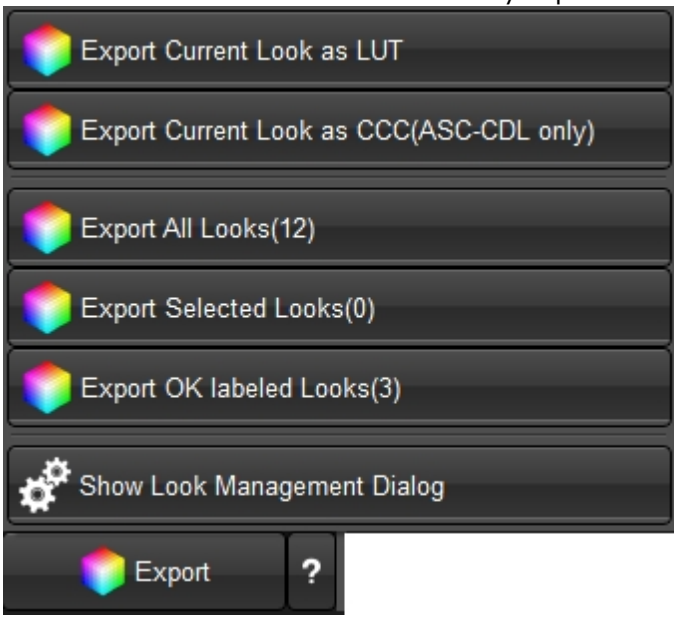
Current color correction information will be overwrite on the active look list item. Timecode, metadata and still image before LUT process will not be overwritten. It will re-generate the thumbnail image which is applied by the new look.

Save as wowlut

This function is usable only when you are using preset LUT. You can save current Look and LUT information into one file which has "wowlut" format.
The wowlut is very portable to transfer one Look to other place by using email or some other means.

Export

You can create various format of LUTs by Export function.



メニュー	内容

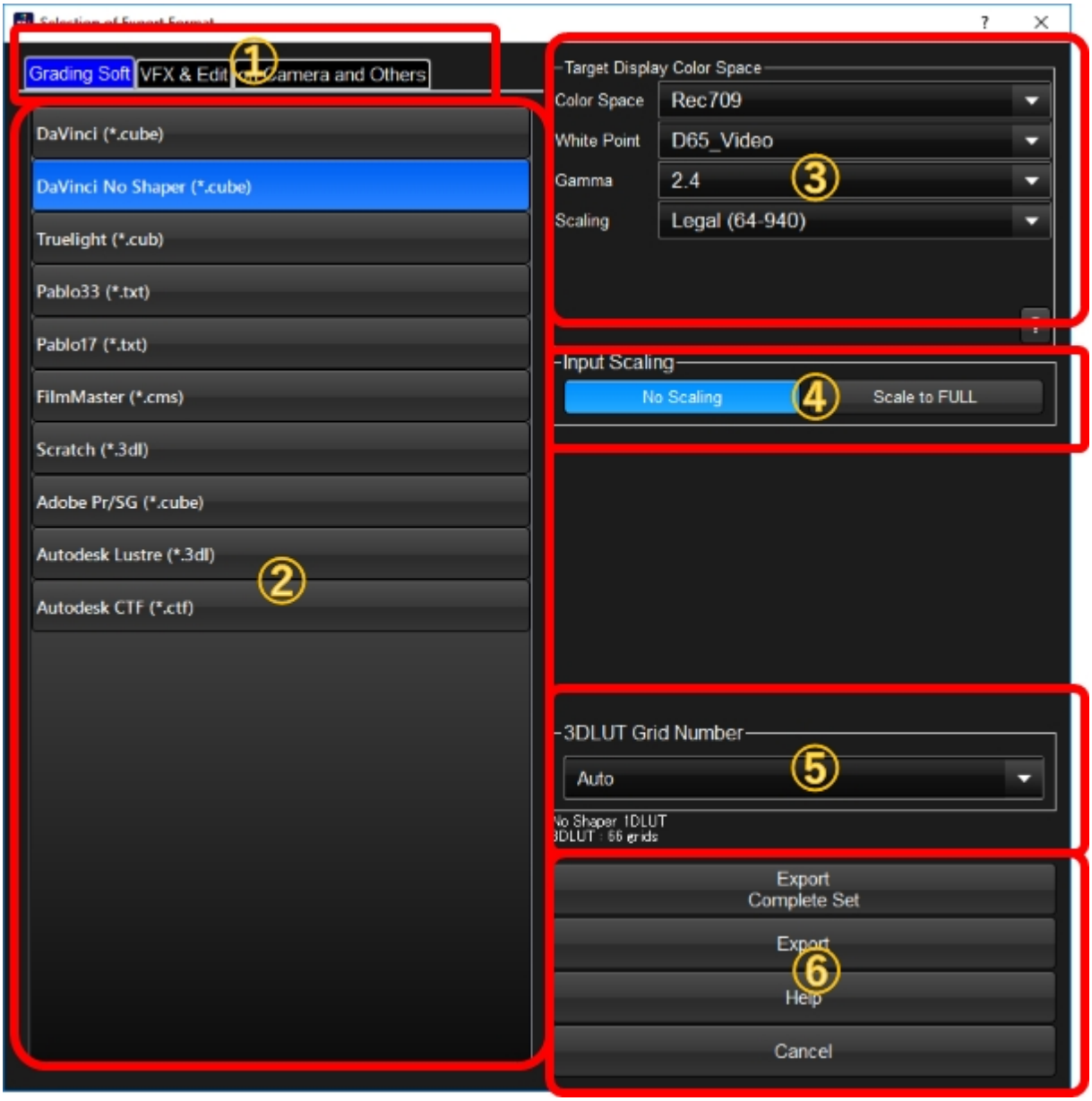
Export Current Look (One set of LUTs)	Export current Look.
Export Current Look as CCC(ASC-CDL only)	Create CCC file only for current ASC-CDL parameters.
Export All Looks	Export all of the looks on the look list with report.
Export Selected Looks	Export selected looks on the look list with report.
Export OK labeled Looks	Export OK labeled looks on the look list with report.
Show Look Management Dialog	Show Look Management Dialog

For more detail about export dialog, please refer here.

Export

Export function (Creation of LUTs)

By using created Looks and/or loaded LUT can be exported as LUT files by designating the format and parameters.



①Categories of the formats

To find the format you want, the control provides pages devided by the categories. You can search the format by switching the category you want.

②Target format list

The candidate of the formats are listed with application name and extensions. You have to select one format to export.

③Target Color Space parameters

When you are using preset LUT or imported LUT with target color space, you can select target color space for export LUT here. When you set different setting from color correction screen, the alert message triggers.

④Input Scaling

If you are using a camera type which output not FULL signal on HD-SDI, this selection appears. If

you are going to use the same scale with HD-SDI, please select "No Scaling". If you would develop the recorded material to Full range, please select "Scale to Full".

⑤Grid number of output 3DLUT

You can set the grid number of output 3DLUT here. The caption says the maximum number available for this format.

⑥Export Starting Buttons

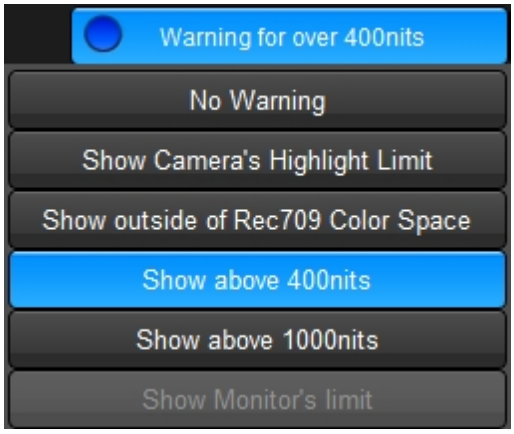
To start export, you can click "Export Complete Set" or "Export" button.

"Export Complete Set" is available only when you are using Preset LUT and grading space is set to "HSLA" or "ACESproxy". It will create, 1.Input LUT to cancel the camera characteristics, LMT LUT which defines color correction on grading space, output LUT which is merged with rendering and output monitor transform, and all LUT which converts original code value to final code value.

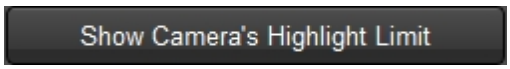
Warning

Warning functions

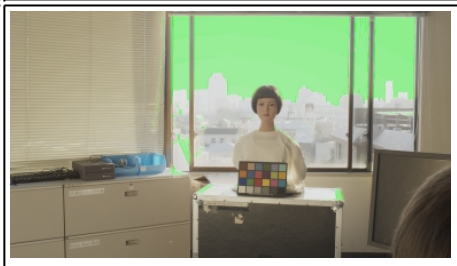
You can use various Warning functions. Clicking Warning button triggers to show following menu. If you are using Warninf function, you can set on/off the function by clicking left side circle. To clear the warning, please select "No Warning" menu.



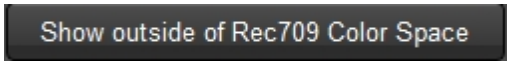
1. Camera's Highlight Warning



If you are using Preset LUT you can use camera's highlight saturation warning. It labels the pixels which have close code values (less than 5 digits) from highlight saturation point. When you have to avoid saturation with extremely bright object in the scene, it would be helpful.

No Warning	Camera's Highlight Limit Warning
	

2. Outside gamut of Rec709 Warning



It alerts outside of Rec709 gamut. (including boundary)
You can confirm clipped colors which originally had outside Rec709 colors. When you are targeting Rec2020 color space and monitors, you can confirm the pixels which can not be reproduced on Rec709 monitors.

No Warning	Rec709 outside gamut warning

3. HDR Brighness range Warning

When you are making HDR footage, you can alert above 400nits or 1000nits brightness pixel values. (Correctly speaking, not labeling above 400nits or 1000nits brightness pixels but labeling the pixel whichever code values in RGB has equivalent above 400nits or 1000nits) It would help you to grade within 400nits or 1000nits.

No Warning(Rendering is targeting to 4000nits)	Above 400nits Warning (A couple of fluorescent light were labeled)

4. Calibrated monitor's limit warning

This selection is enable when you are using monitor calibration. The monitor calibration file contains measured color gamut of the specific monit, and this function make labeling the pixel outside of the gamut. You can confirm the limitation of the calibrated monitor.

Keyboard Shortcut

Keyboard Shortcut

WonderLookPro supports keyboad shortcut.

1.Selection of Active LUTBOX

Pushing tab key a couple of times until the numerical expression in red character appears on the left side of LUTBOX name.
In this state, hitting number key changes the active LUTBOX. It is the same result with left clicking LUTBOX area by mouse.
You can drag and drop the LUTBOX to change the order, which changes the number key to activate.

2.Selection of Look

Pushing tab key a couple of times until the numerical expression in red character appears on the left side of Look List name.
In this state, hitting number key will trigger the LOOK apply of corresponding number of Look.
You can drag and drop the LOOKs to change the order, which changes the number key to activate.

3.Selection of Look

At this moment, WonderLookPro is underway to support whole control by keyboard shortcut. Currently active control will accept ↑ ↓→← key's control. If there are alphabet or sign for upward or downward directions, it can be controlled by these keys.
Regarding LGG and SOP, by hitting tab key a couple of times, the numbers are shown like following screen shot. You can change the active control by 1/2/3 key for Lift/Gamma/Gain.
For the active control within Lift/Gamma/Gain, you can change the numerical parameters of RGBY by q/a, w/s, e/d, r/f pairs.

4.Input of Look name(V3.4)

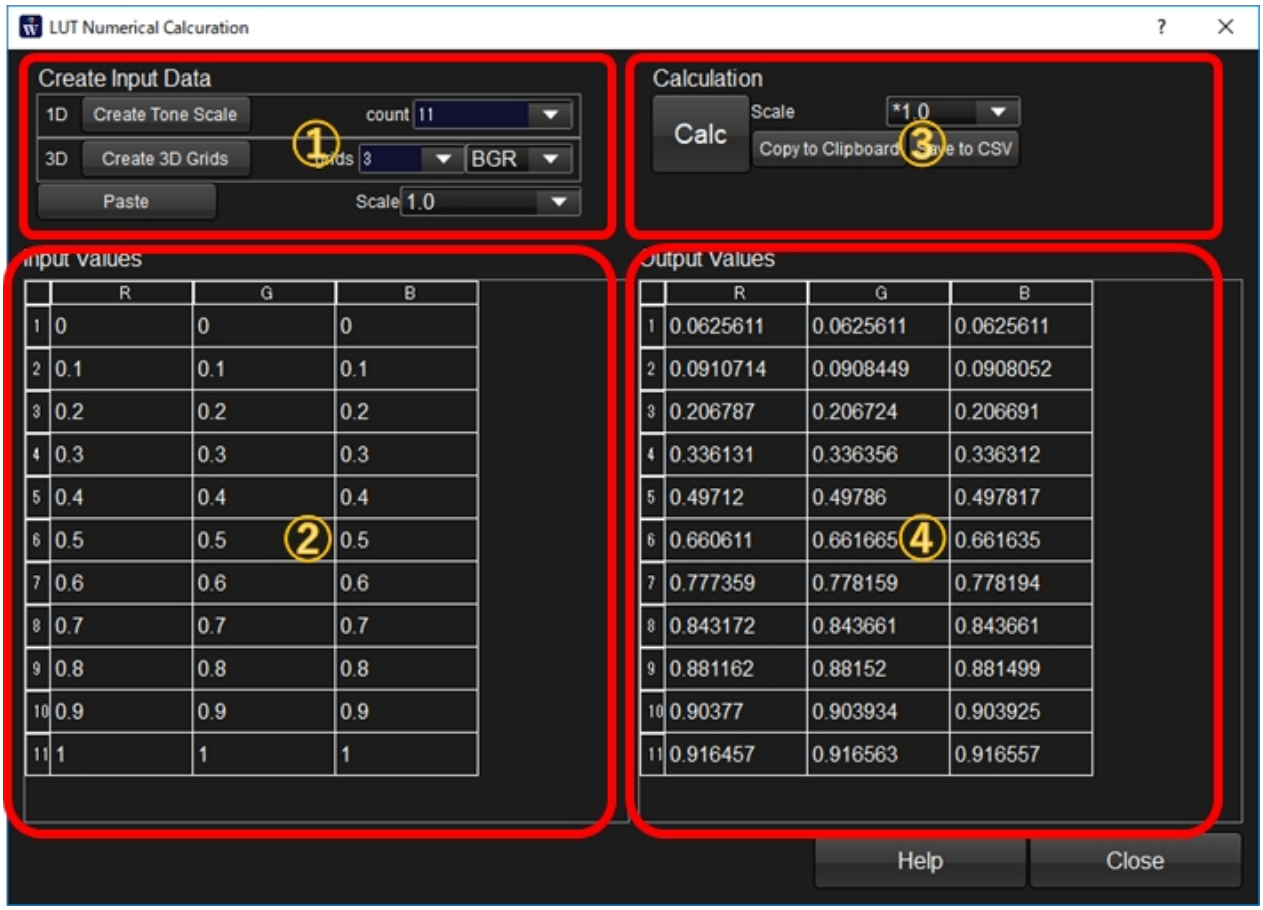
For the quick input of Look Name, you can use f2 key. Hover the mouse cursor on the look list (no need for clicking), and hit the f2 key. You will find the popup dialog for the look name input.
You can just input the look name and hit the return key to finish.
Just after "Keep Look", you do not need to hover the mouse, just hitting f2 key will trigger the popup dialog for the last look name you created right now.
While popuping the input dialog, you can not do other operations. To cancel the input, hit ESC key.
If you are going to input next Look name, hit f2 again just after close the dialog with return hit. You will find the dialog for the next look. This method enable you to input multiple Look names very quickly.

LUT Calculation

LUT Numerical Calculation

You can do numerical calculation of the current setting of the LUT and confirm the result on screen.
The result can be saved in csv file, or copied to clipboard so as to be paste on the spread sheet like Excel.

Click "LUT Calc" button in the red rectangle.



①Create Input Data

You can create input data set for the LUT calculation.
If you want to create gray scale which was the same value for R/G/B, input count combobox the number of step, click "Create Tone Scale" button.
If you want to create 3D LUT like input which has different RGB values, input grid number and click "Create 3D Grid" button. Too big grid number cause very long process time.
If the data is in the clipboard which has the specific format, you can paste the data in the clipboard.

The result were shown in the table on ②. You can edit the data here.

②Input Data

This table is used for the input data for the LUT calculation. You can edit the number in the table.

③Do calculation and manage the result

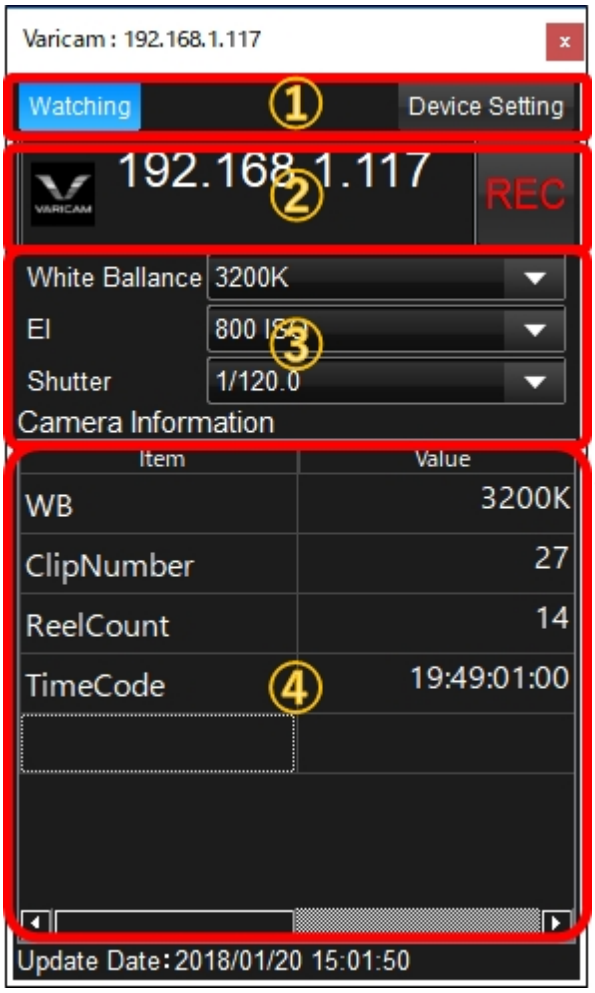
By clicking "Calc" button, the calculation is performed and the results were shown in table at ④.
By selecting scale combobox, you can change the scale of the result. Selecting "*1023" makes result in 10bit, ranged from 0 to 1023.
"Copy to Clipboard" button copies input and result into the clipboard so as to be paste to the spread sheet like excel.
"Save to CSV" button triggers dialog to save the result in csv file.

Device Control Panel

Device Control Panel

"Device Control Panel" is shown as floating window on color correction screen and used for metadata watching and camera control.
This windows position and size are controllable and remember the last position.To show this panel, you have to select "Device Control Panel" on the device information dialog. Here is the procedure to show this panel.
The available functions are different from device to device.

Maker	Type	Available Functions
WOWOW	IS-miniX	Metadata table, OSD output
Panasonic	Varicam	REC control, Camera parameter control, metadata table
ARRI	Alexa SX/T, AlexaMINI, Amira	REC control, Camera parameter control, metadata table
FSI	BoxIO	Metadata table



①Buttons

"Watching" button selection enables metadata continuous watching.By un-selecting the button, metadata watching will be stopped temporally. "Device Setting" button click triggers to show device setting dialog.

②Device Name and REC button

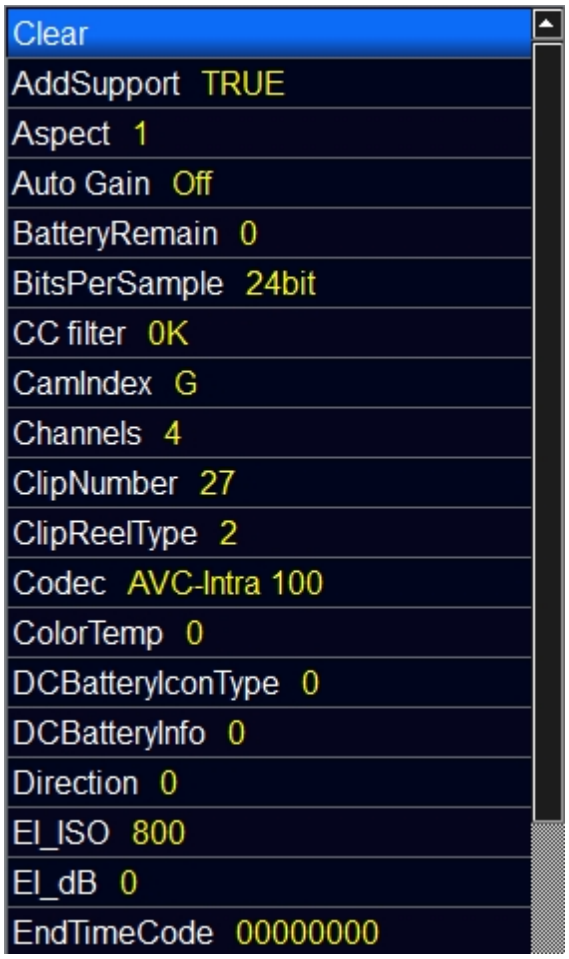
Device Name is shown on this area and REC button appears for supported devices.

③Camera Control

These control will be shown for supported camera. Exposure related parameters can be set.

④Metadata Table

Device Control Widget is continuously getting metadata from the camera. Selected metadata item can be shown on the table. For IS-mini, it can show the metadata value as OSD on output signal when watching metadata changes. To add the metadata to watch, double click the blank item area and select item from the menu list.



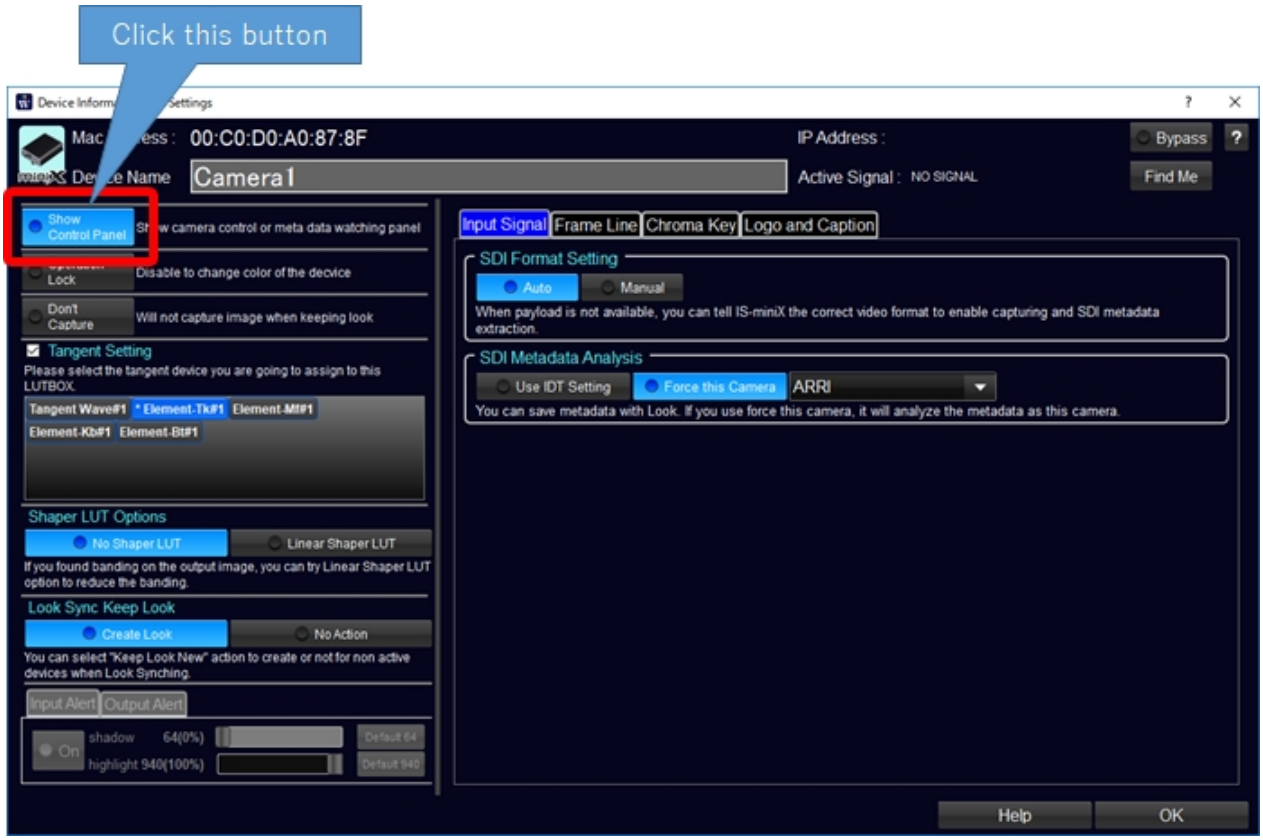
Above image is the example of metadata selection menu shown by double clicking the item name area of the table. White character is the name of the item and yellow character is the corresponding data obtained latest.
"Clear" menu on the top is to clear the current metadata item.

How to start Device Control Panel

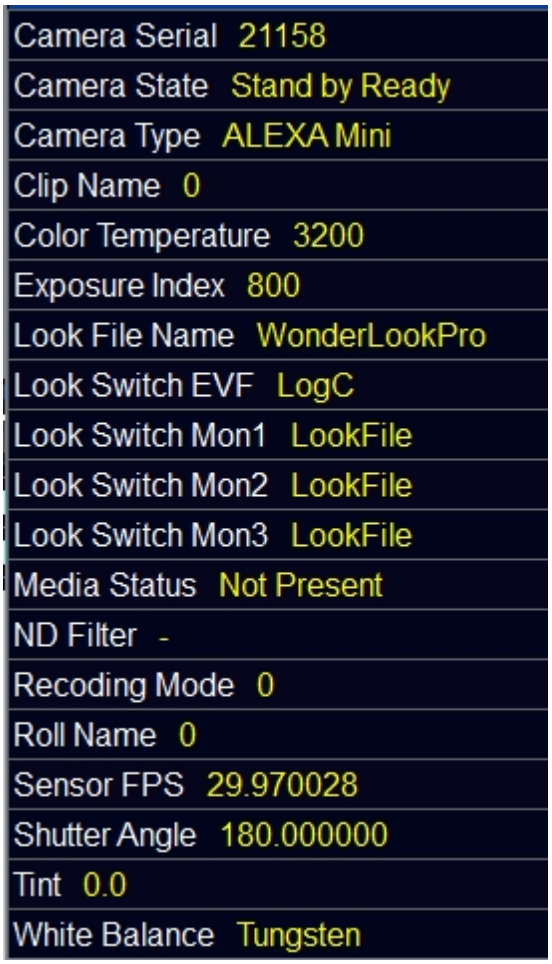
How to show the Device Control Panel

First, please click the device icon to show device information setting screen.

Next, click "Show Control Panel" button to be selected.
You will find Device Control Panel on the color correction screen.



ARRI camera's Device Control Panel



License Management

When you run the software for the first time

It will explain what you should do just after you installed the software and run it.

Purchase the License Online
You will see how to purchase Entry or Standard license online.

Purchase the License form dealer
You will see how to purchase Entry or Standard license from the dealer.

Move the License to other machine
Entry License and Standard License are capable of transferring the license to other machine.
Upgrade to Standard License from Entry License
You will see how to purchase Entry or Standard license from the dealer.

Approaching the period of the License
You will see what you should do when the license expiration time is approaching.

When emergency happened regarding the License
It will explain how you should do if you encountered emergency trouble about the license.

Purchase License for no Internet Connection Machine
You can purchase Entry/Standard License the machine which is not/ can not connect to the Internet.

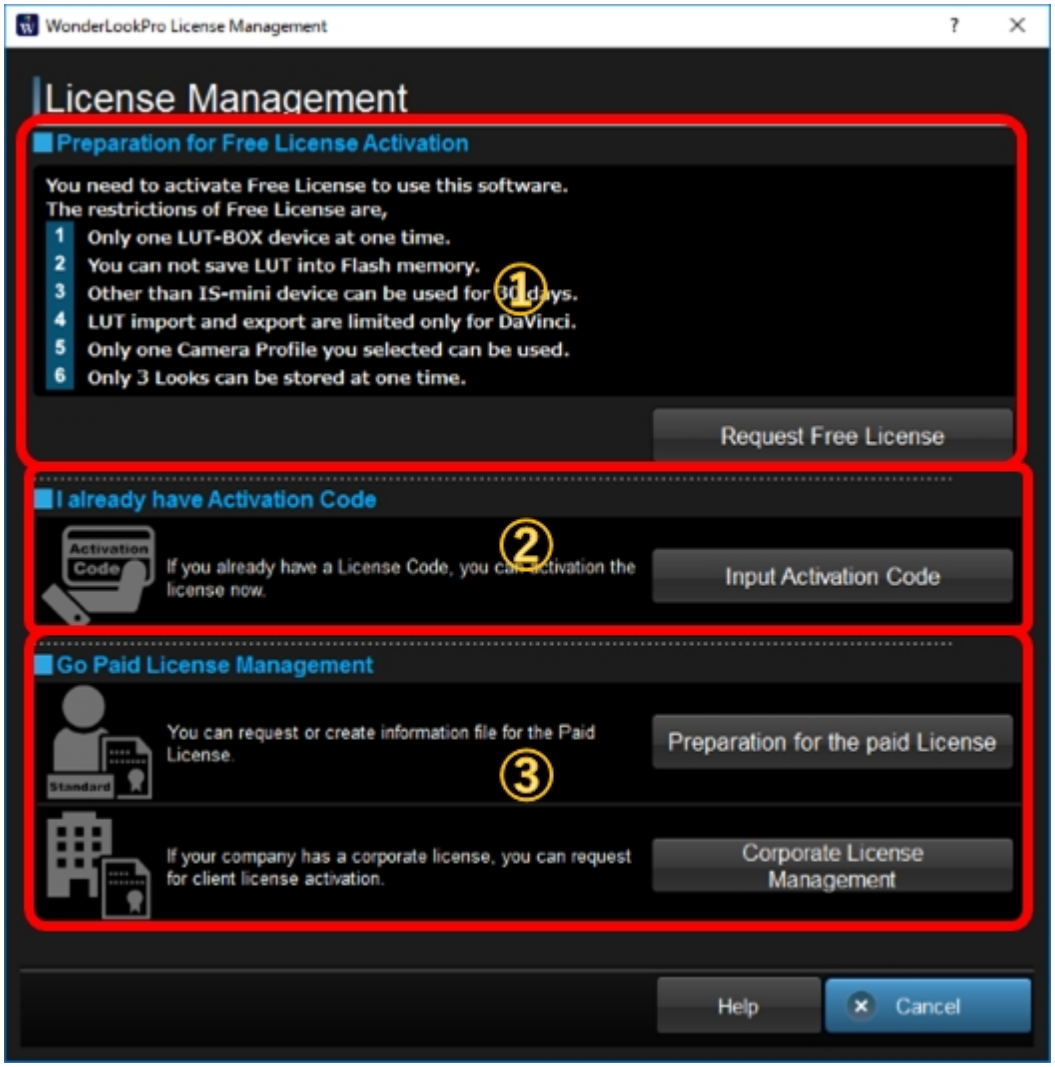
Change or Register mail address

Some of the functions related to license (depositing, online purchasing, third party SDK license) requires valid mail adress registration.
About Corporate License
It will explain how to do with the Corpoarte License.

License First Step

When you run the software for the first time

Following steps explain what you should do to activate Free License just after you installed the software and run it for the first time.



①Request Free License

If you are going to get Free License, please cliock "Request Free License" button. Next step explanation is here.

②Already purchased paid License

If you already purchased the paid license, you can go to next step for the activation.

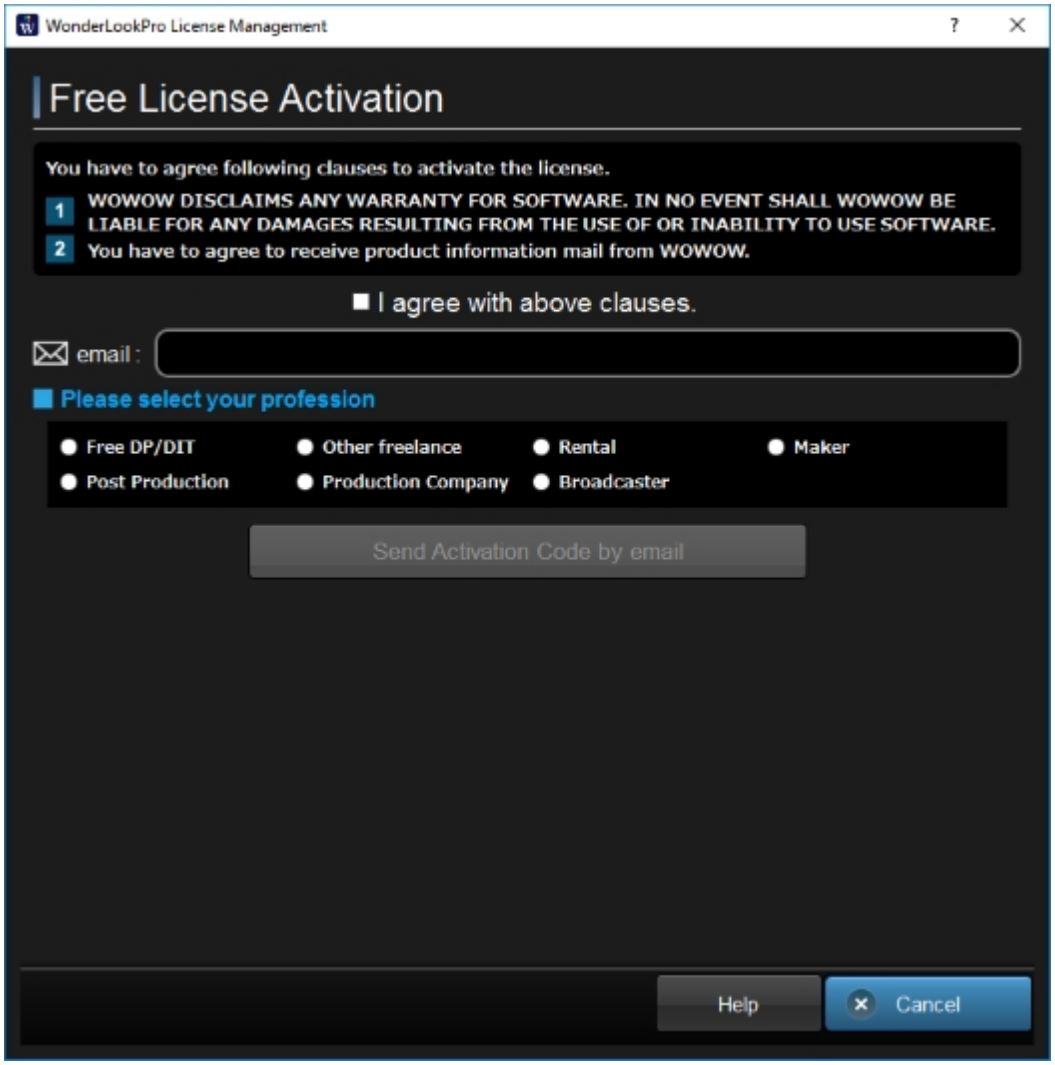
③Purchasing License / Corporate License Management

If you are going to purchase paid license, please click "Preparation for the paid License".
If you are going to activate Corporate License Client, please click "Corporate License Managment".

Free License

Free License Activation method

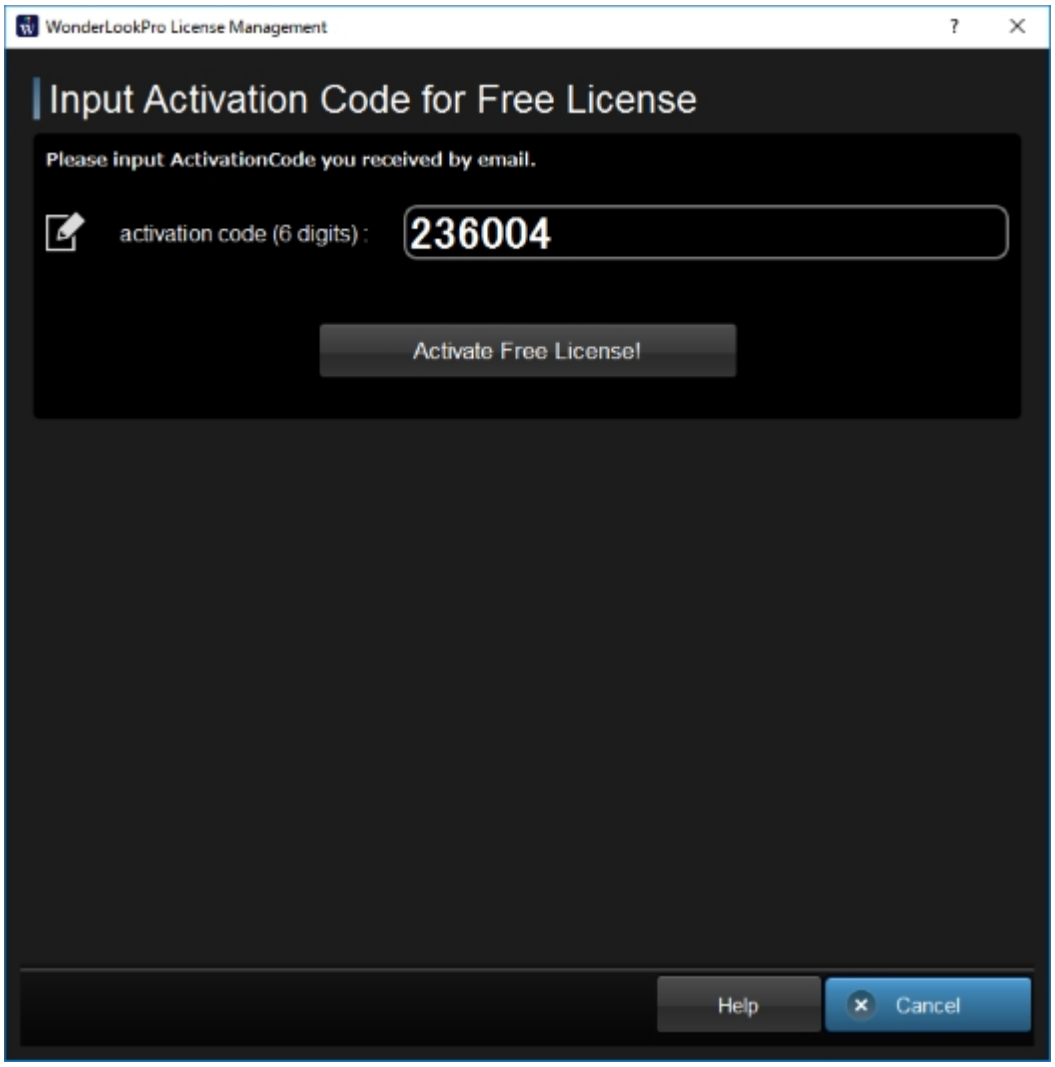
Here is the steps to get Free License and activate it.



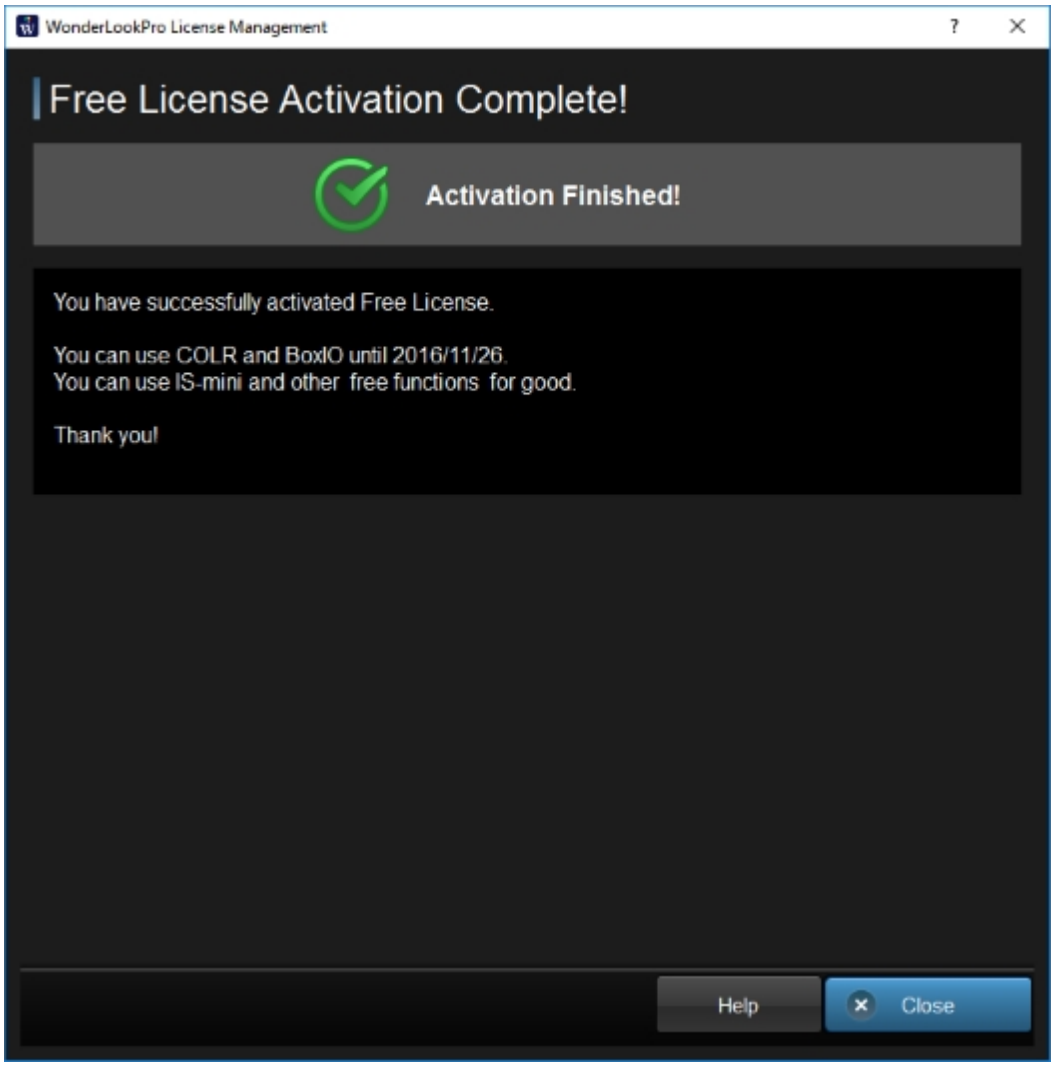
After you checked "I agree with above clauses, input email address nad selected the profession, you can click "Send Activation Code by email" button.
You will receive information mail to tell you the activation code.

Thank you for installing WonderLookPro. You've requested to activate Free Licsense. Here is the activation code for the license. Activation Code : 236004

You have to input this 6 figure number on the next screen.



After you click "Activate Free License" button, you will finish the process.

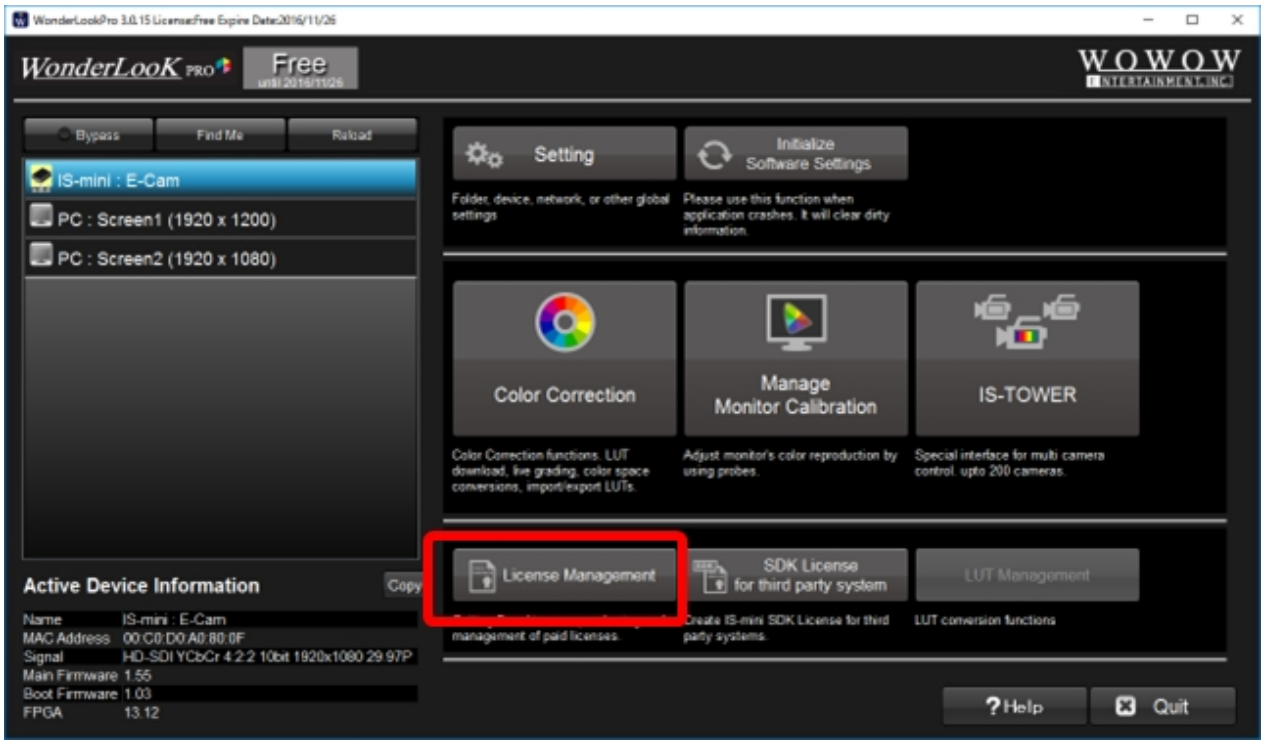


Purchase License Online

Purchase the License Online

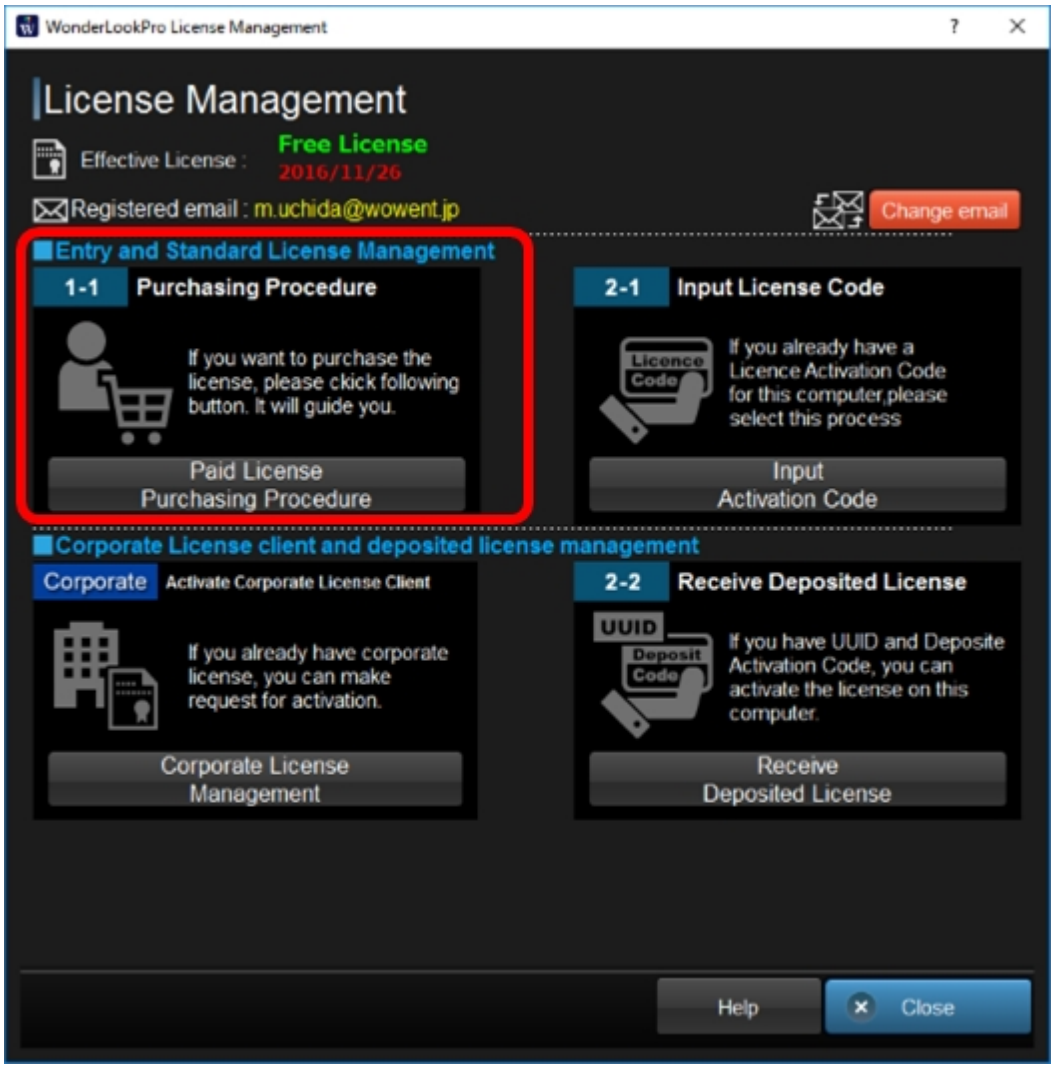
Following steps explain how to purchase Entry or Standard license online.

1. Go License Management DialogClick "License Management" button.



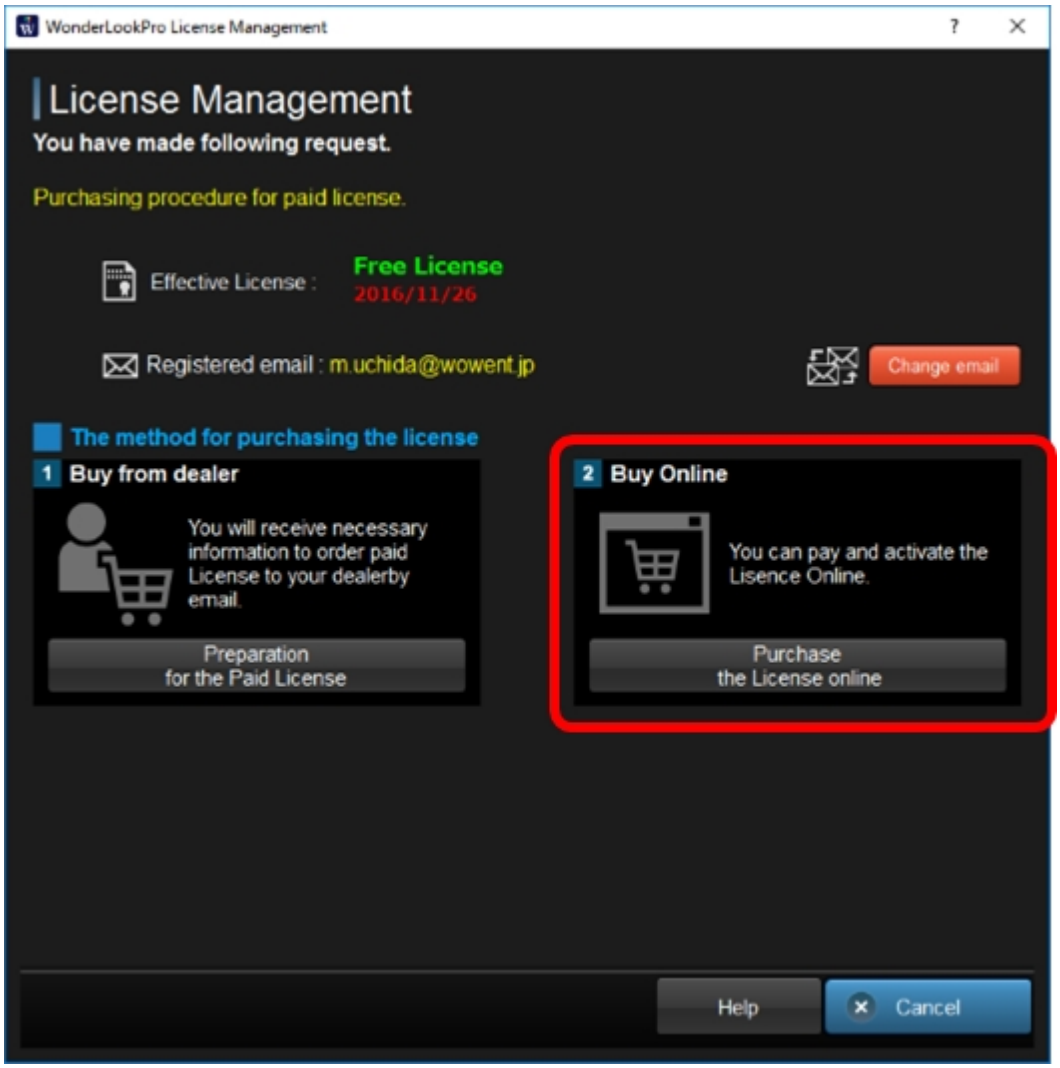
2. Go into Purchasing Procedure

Click "Paid License Purchasing Procedure" button.



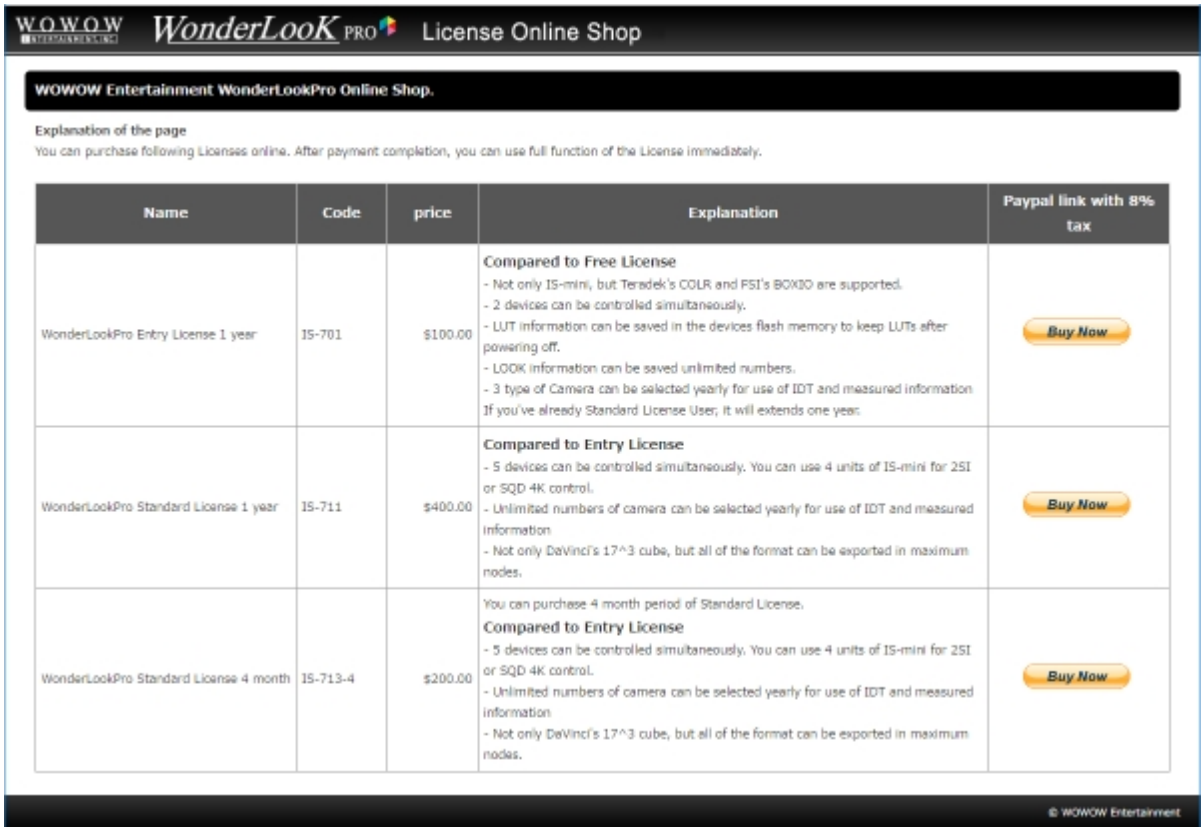
3. Move to Online Purchasing

Click "Purchase the License Online" to move to the online Purchasing screen.



4. Pay the bill at Paypal

Browser starts and shows paypal payment web page.



Please confirm the content of the licenses and click "Buy Now" button for the payment.

5. Receive the activation code by email

After payment, you would receive following email to the registered address at Paypal.

Dear WonderLookPro user,

Thank you for purchasing WonderLookPro Entry License. To activate this license, you have to input following activation code. Click "License Management" button on the top menu and go to input activation code function.

Activation Code : 618595

If you are going to activate the PC which do not connect to internet, you need attached file for the activation. Please move the file by USB memory or other means.

Here is the license information.

Transaction ID : 1P502515U2909235H
Payment date : 01:57:00+Nov+01,+2016+PDT
Product Number : IS-701

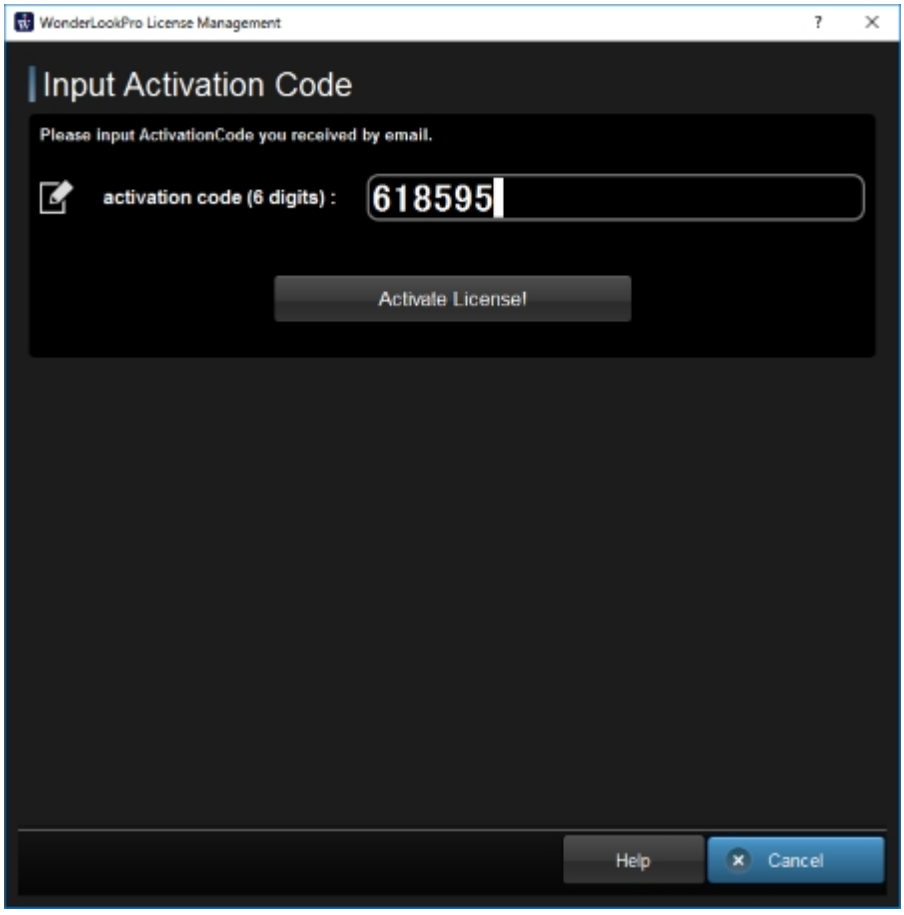
Licensed PC name : DESKTOP-39GO7F1
UUID: 1b0c6b36-0264-4e49-999e-23e90ecf4fac
Activation Code : 618595
Period : valid until 2017/11/01
MacAddress for License confirmation:
005043017544,005056C00001,005056C00008,9CEBE81B9533,DCFE07D34931

NOTE: Changing the network emvironment of your PC might cause de-activation of the license.

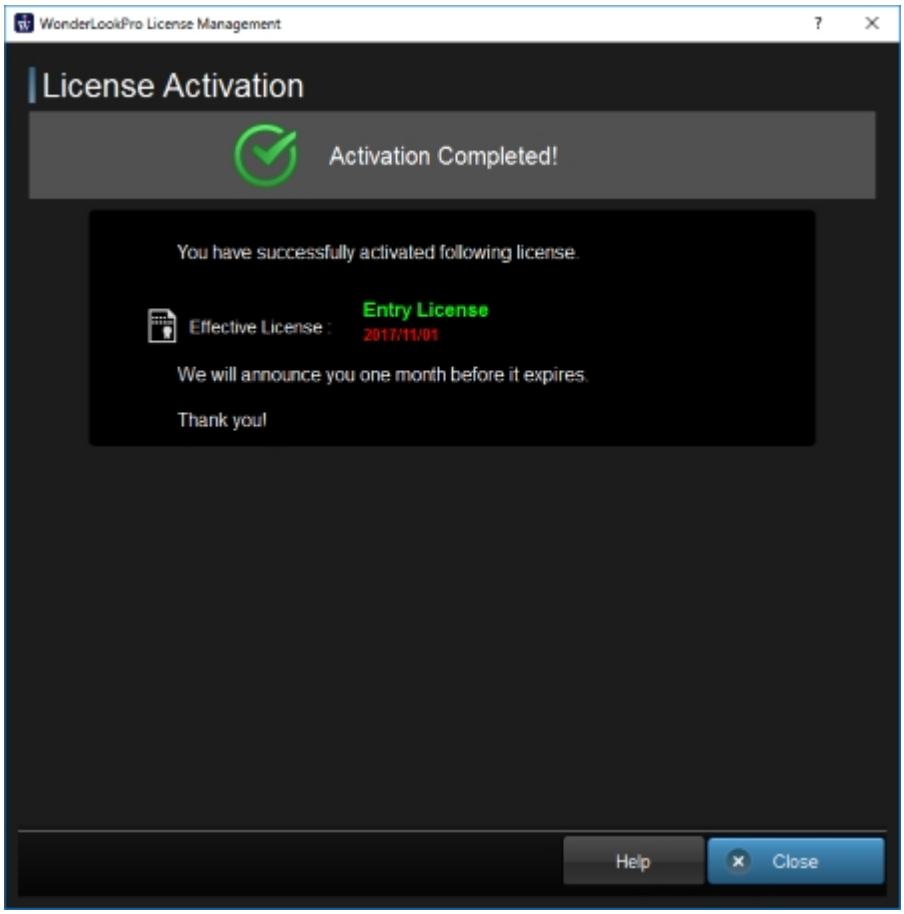
You can see the activation code is "618595" in this case.

6. Entering Activation Code

Enter the activation code you received.



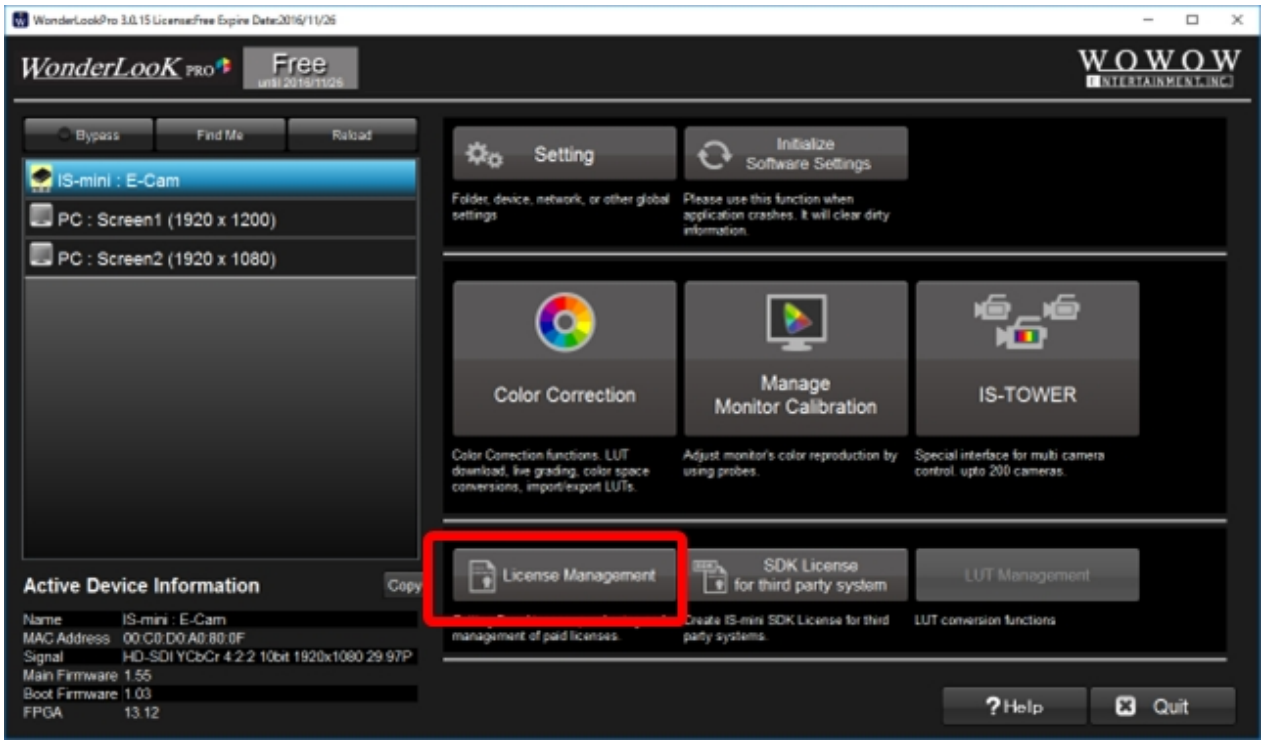
Input the activation code to finish the licensing procedure.



Purchase License from dealer

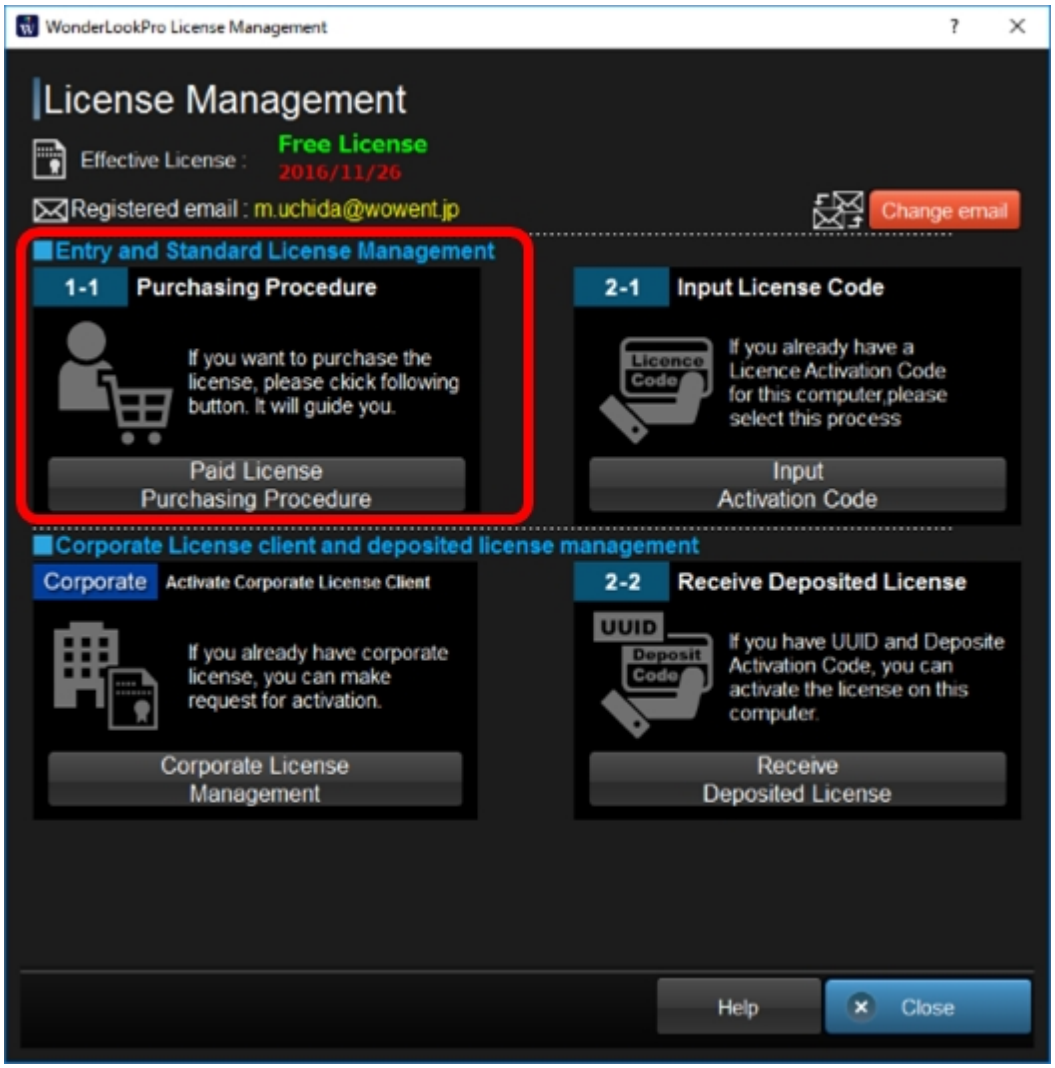
Purchase the License form dealer

1. Go License Management DialogClick "License Management" button.



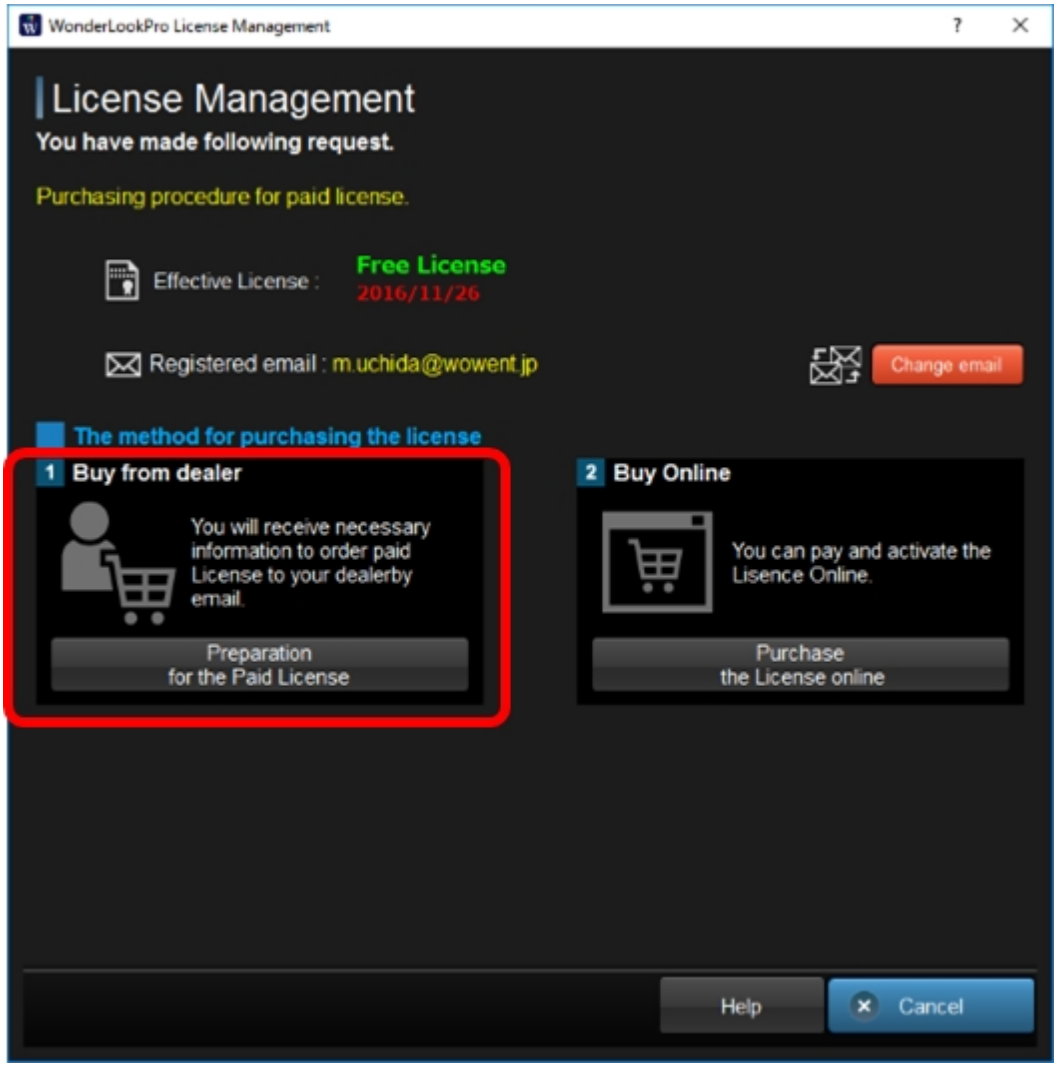
2. Go into Purchasing Procedure

Click "Paid License Purchasing Procedure" button.

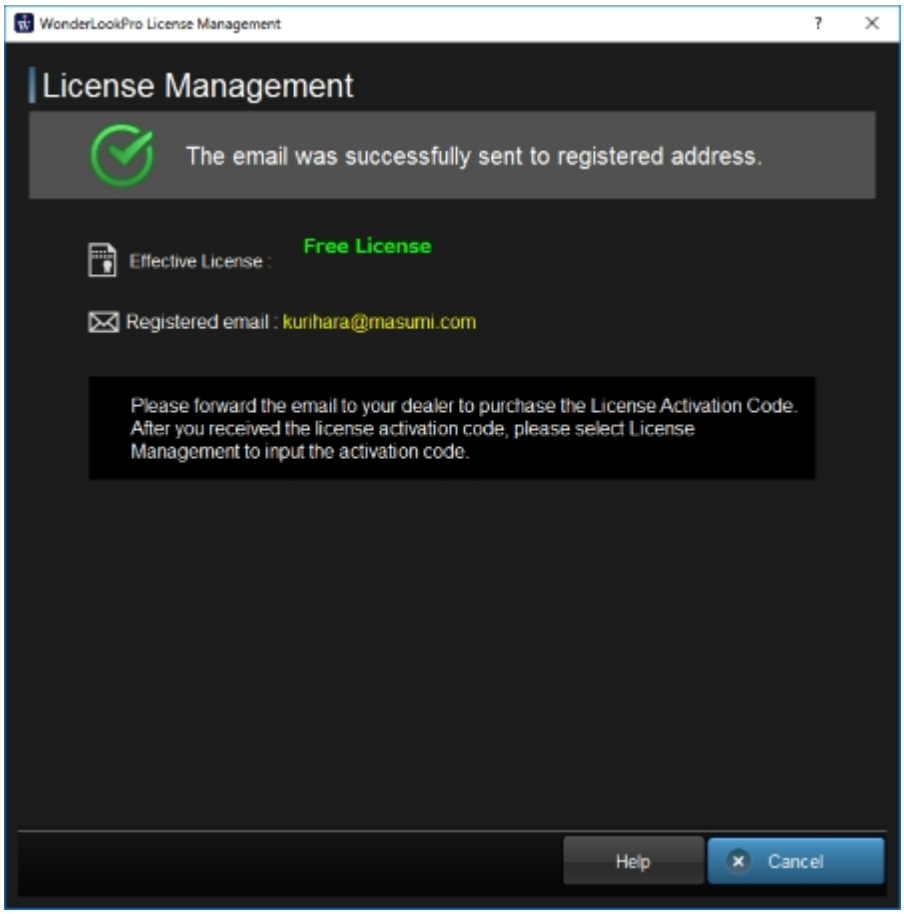


3. Move to Buy from Dealer

Click "Preparation for the Paid License" to move to buy from dealer procedure.



You will see following screen to confrim the information mail was sent.



4. Ask dealer to purchase the license

You will receive following email (example). You can order the license by transferring this mail to your dealer.

Dear WonderLookPro user,

From your registered computer, sending PC information necessary for purchasing paid license was requested. The information was in attached file. You can order the license by forwarding this mail to your dealer.

Licensed PC name : DESKTOP-39GO7F1
UUID: ed8a4f0c-421b-4e73-8777-3cb1a20182ad
MacAddress for License confirmation:
005043017544,005056C00001,005056C00008,9CEBE81B9533,DCFE07D34931

Purchasing License Kind : Entry(IS-701)/Standard(IS-711/IS-713)

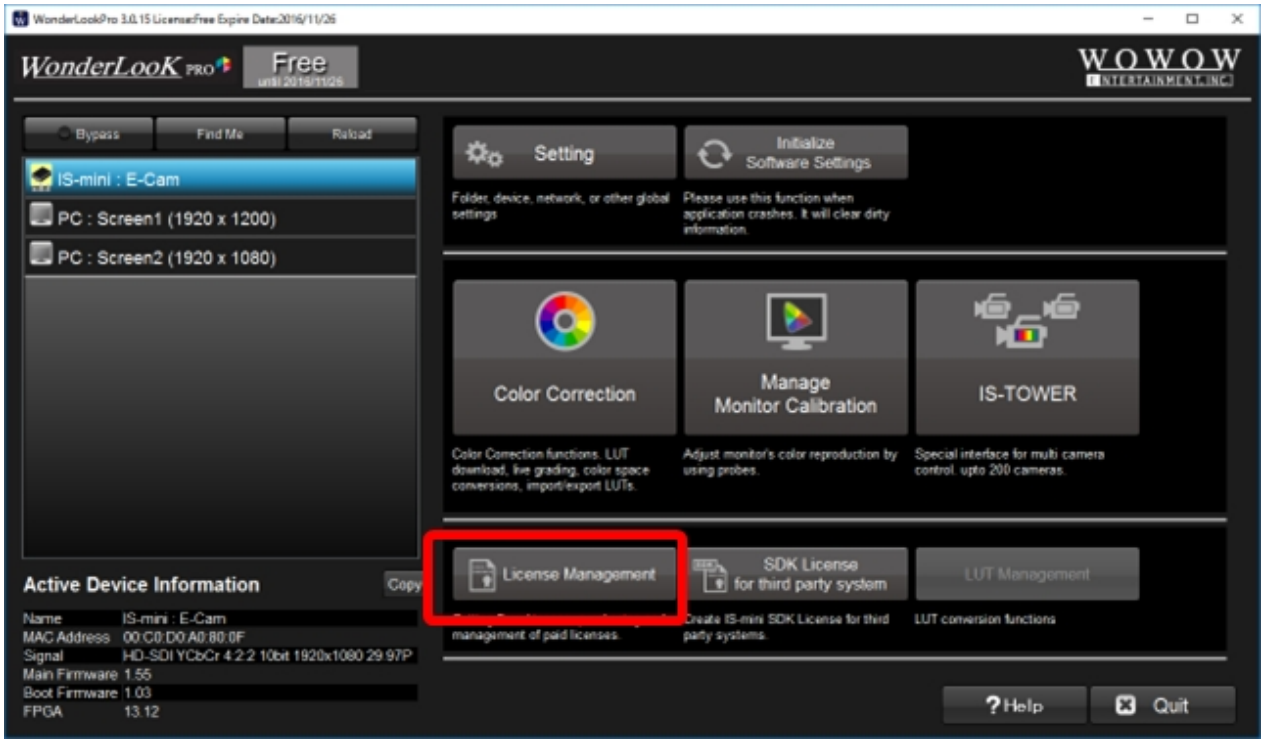
Current license information is follows.
Name of the License : Free License
Expire date: valid until indefinite period

IS-mini : http://wowowent.co.jp/imagingsolution/promotion_gl/index.html
WonderLookPro : http://wowowent.co.jp/imagingsolution/promotion_gl/wonderlook/index.html
---
Copyright(c) 2016 WOWOW Entertainment, inc. All rights reserved.

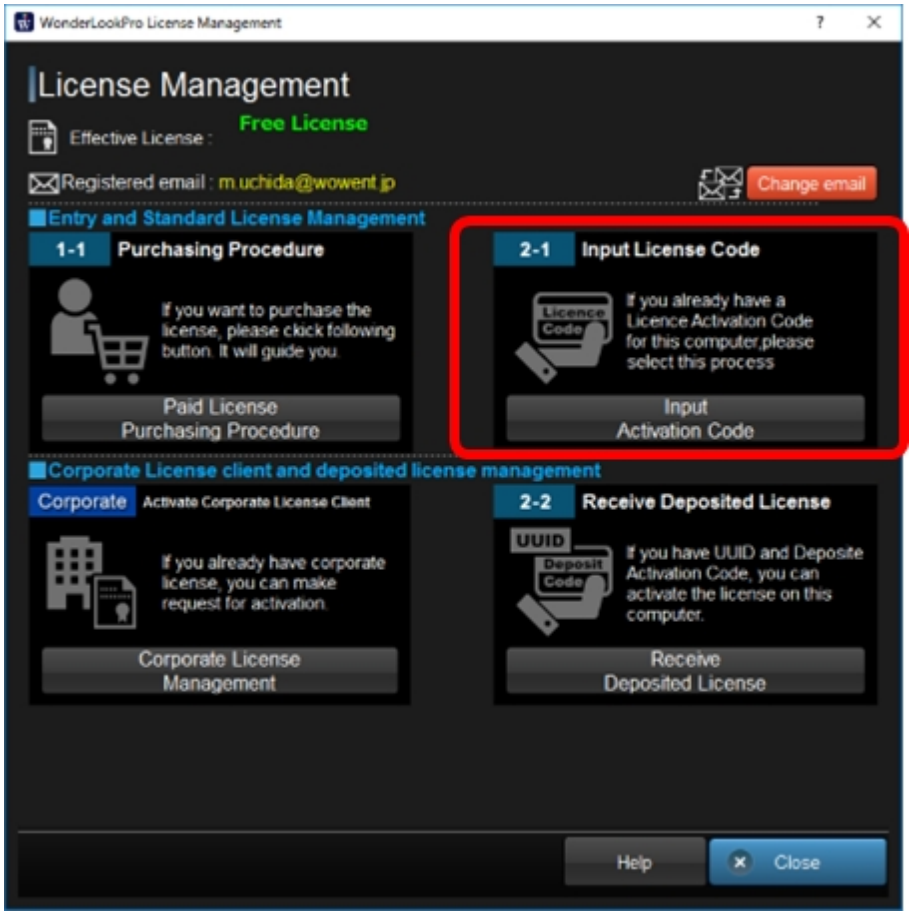
5. Input Activation Code

After the dealer finished the licensing process, you will receive the activation code from them. Please activate the license by inputting the code.

①. Go License Management DialogClick "License Management" button.

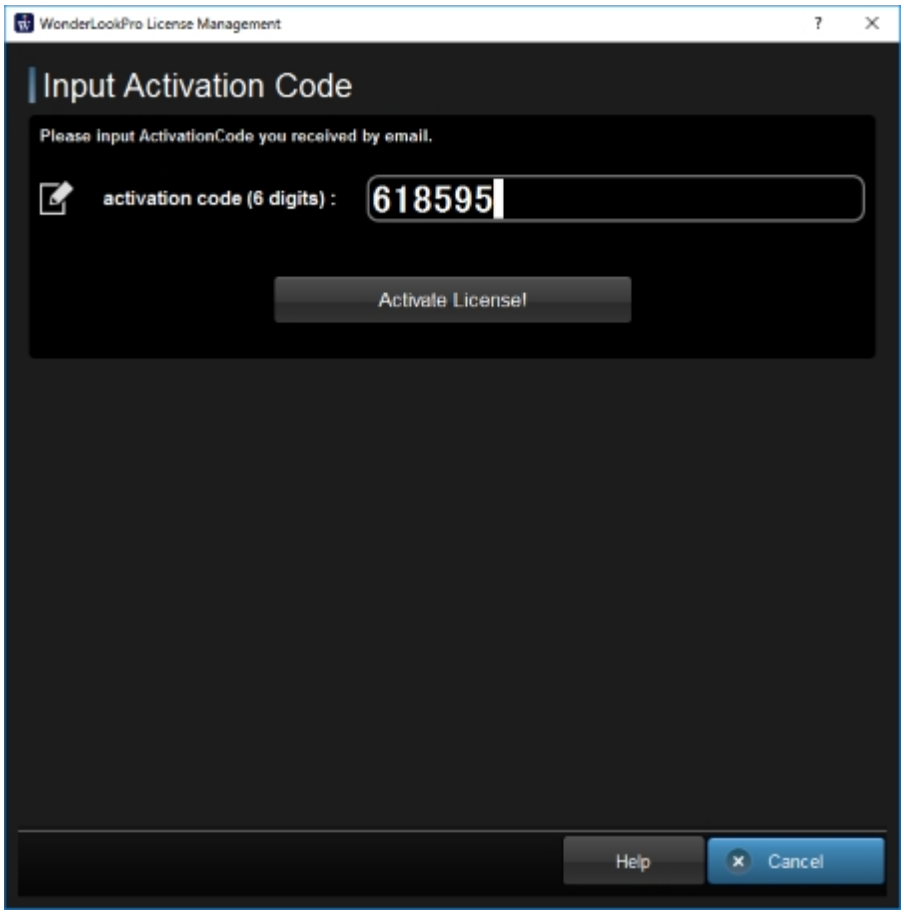


② Click Input Activation Code

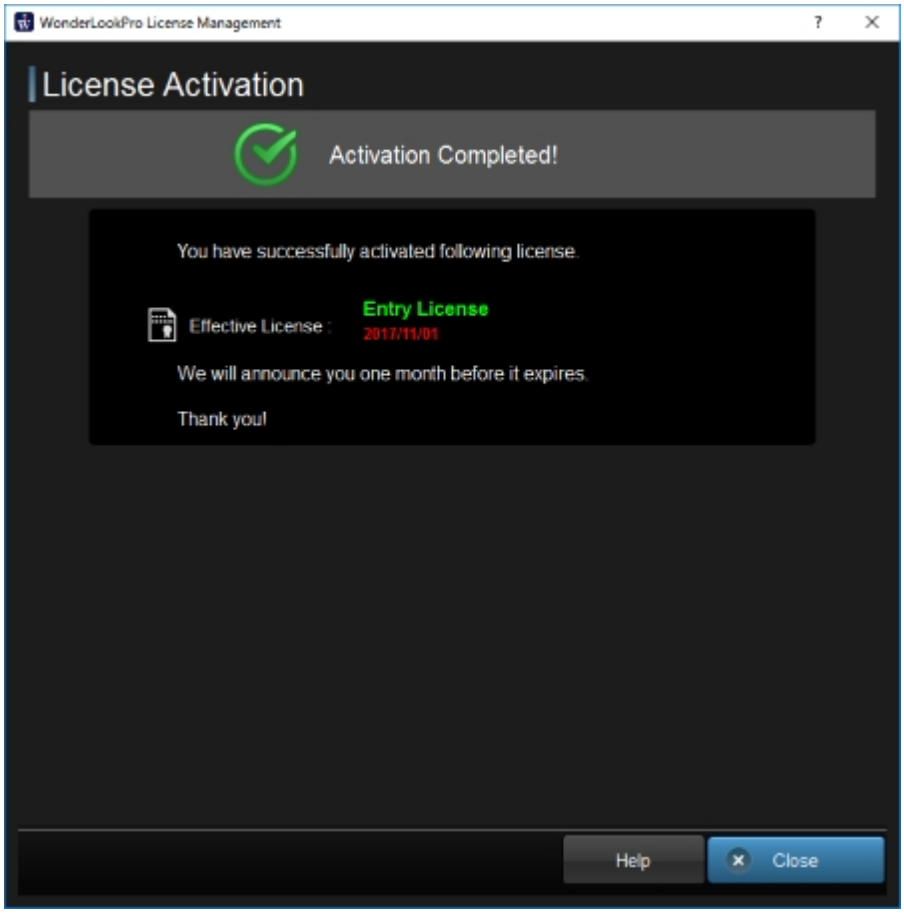


③ Entering Activation Code

Enter the activation code you received.



Input the activation code to finish the licensing procedure.



Purchase License for no Internet Connection Machine

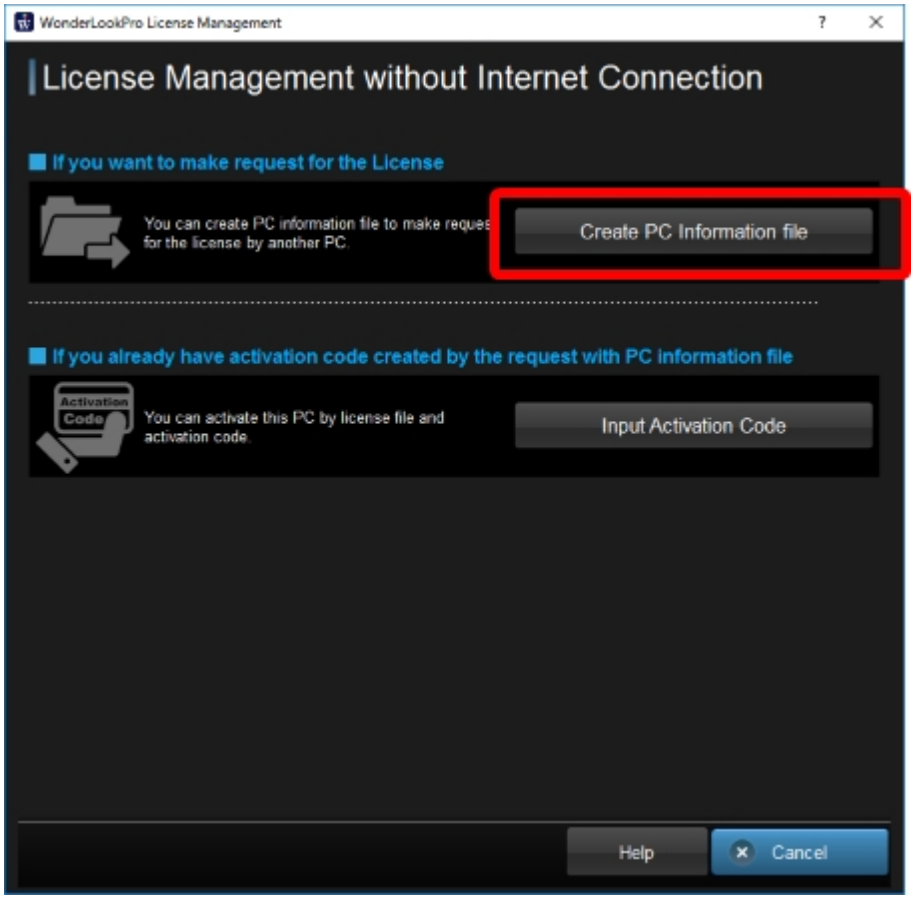
Purchase License for no Internet Connection Machine

You can purchase Entry/Standard License the machine which is not/ can not connect to the Internet.

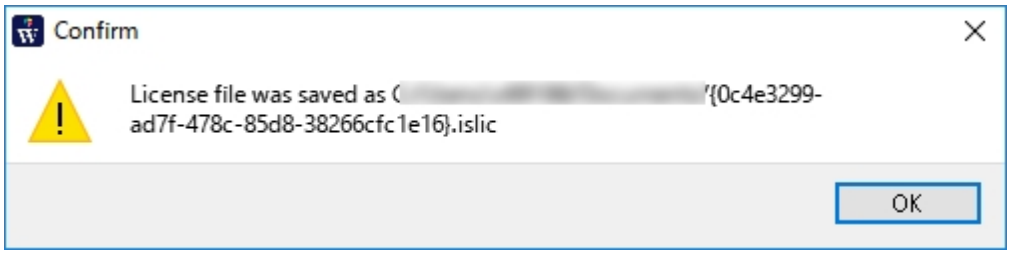
1.	Create the machine information file
2.	Apply license information to the created license file by the dealer
3.	Input the activation code the dealer provided to you

1. Go License Management Dialog

By clicking Livense Management button, you will see following dialog. Please click "Create PC Information file" to save the information file.

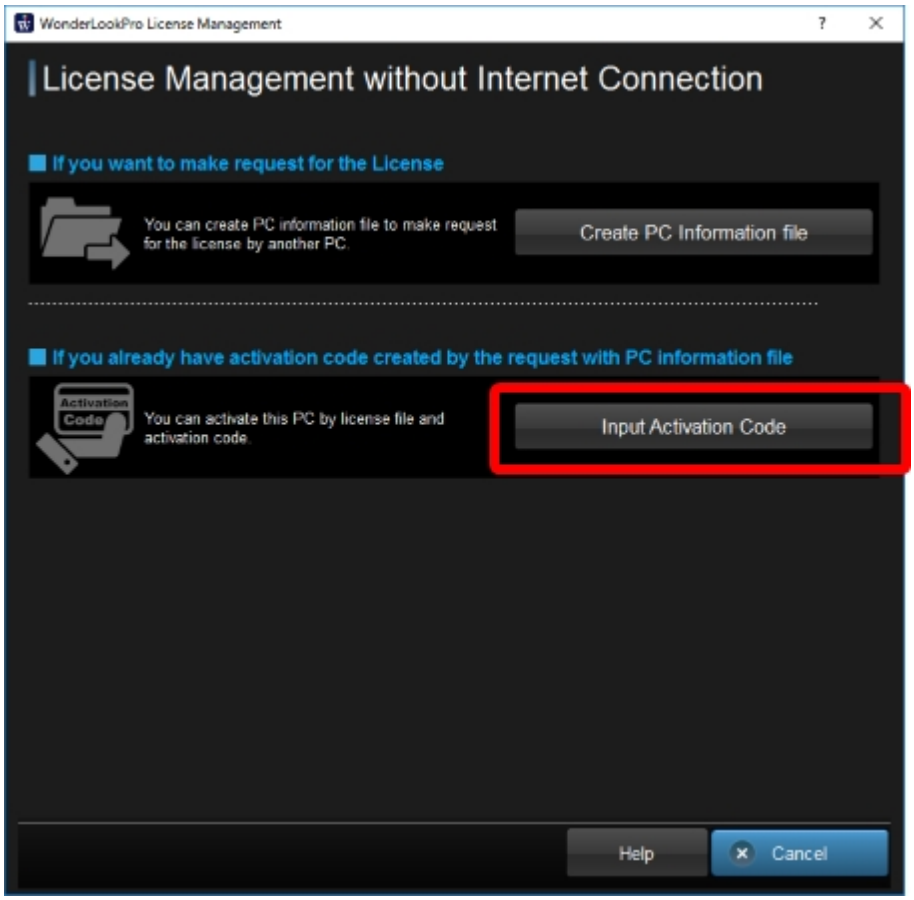


If you succeed to save it , the following dialog appears. After clicking OK, the folder where the file saved opens. Move the file to other machine which has Internet connection and send it to your dealer.

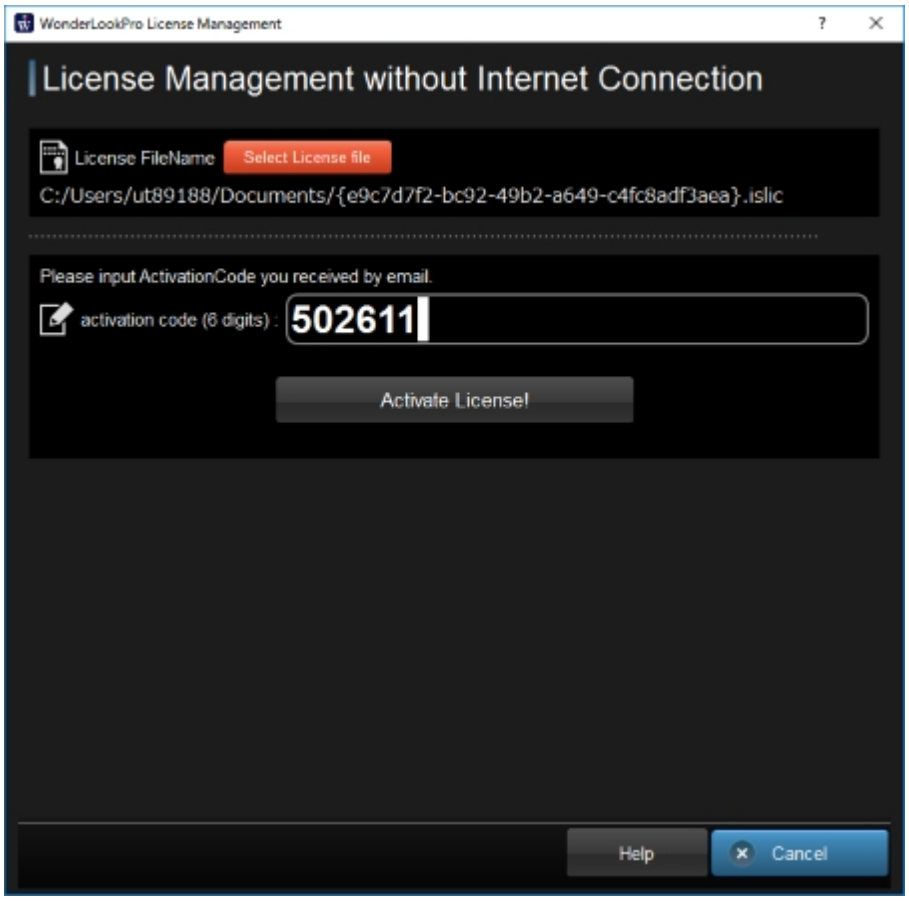


2. Activate the License

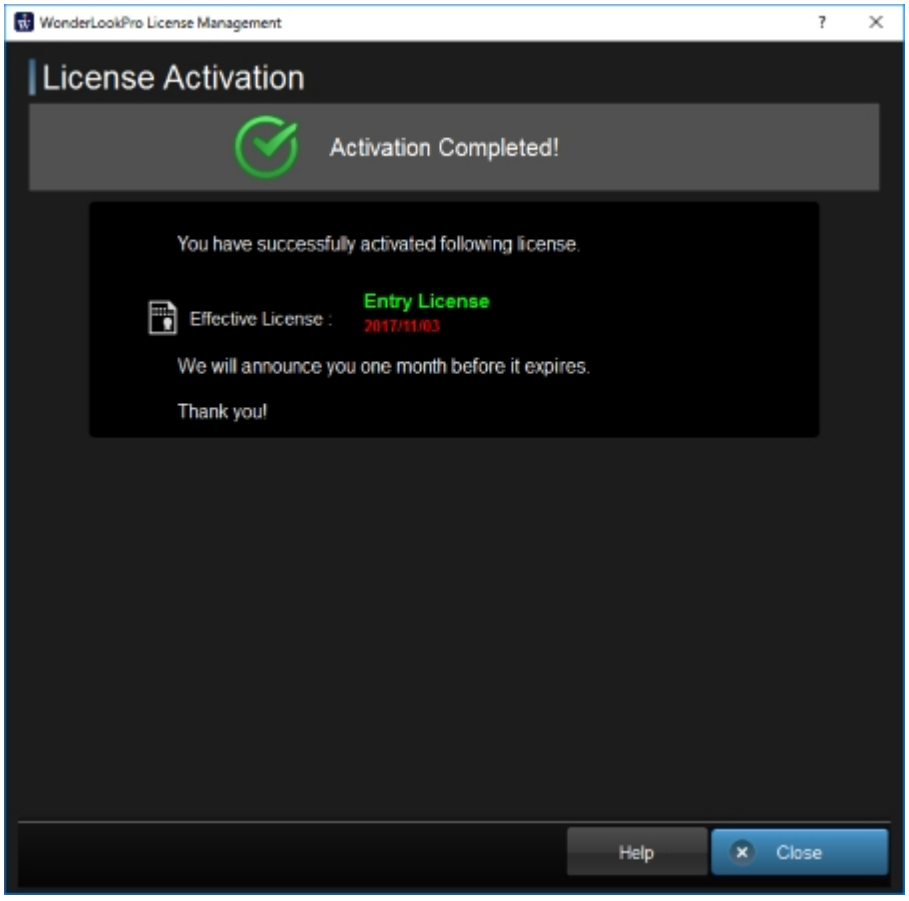
To activate the license, you need the licensed islic file and activation code dealer gave back to you.
On the following screen, please click "Input Activation Code" button.



Firstly click "Select License file" orange button and select the islic file dealer sent to you. Next input the activation code dealer provided to you and click "Activate License" button.



If you succeed activation, next screen appears and license can be used.



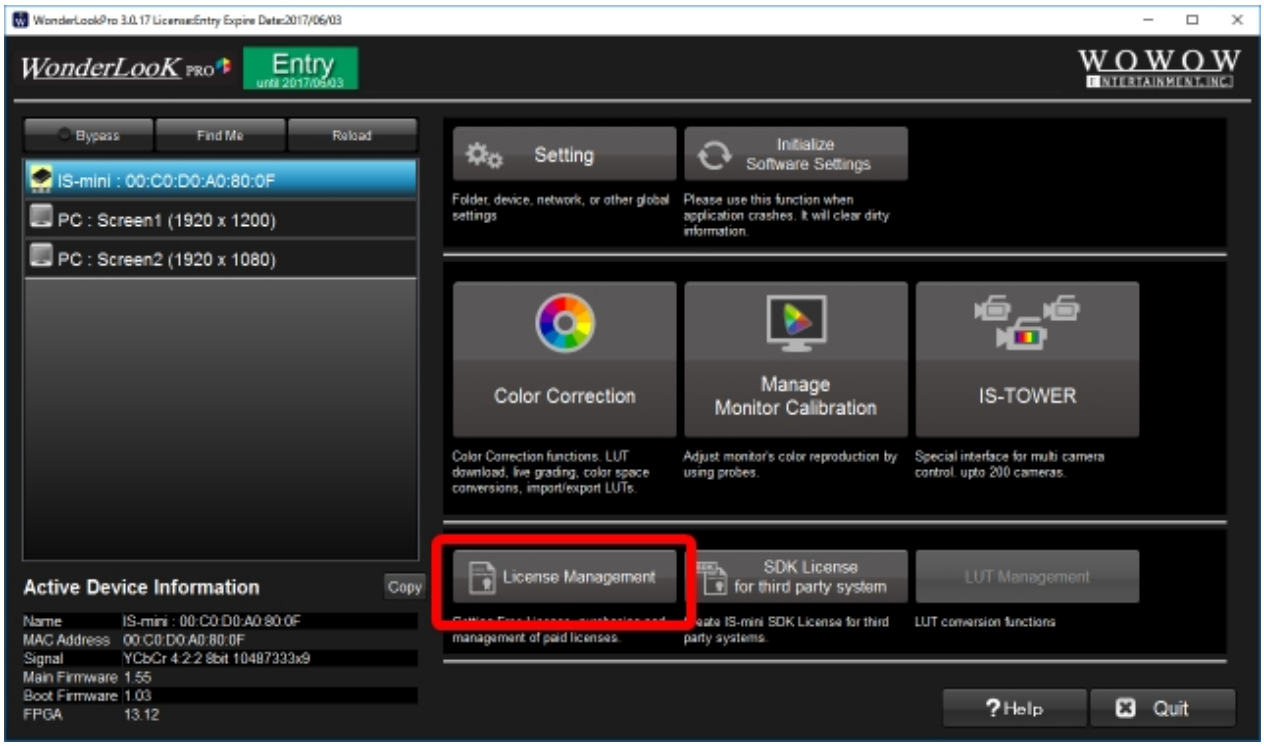
Move the License to other Machine

Move the License to other machine

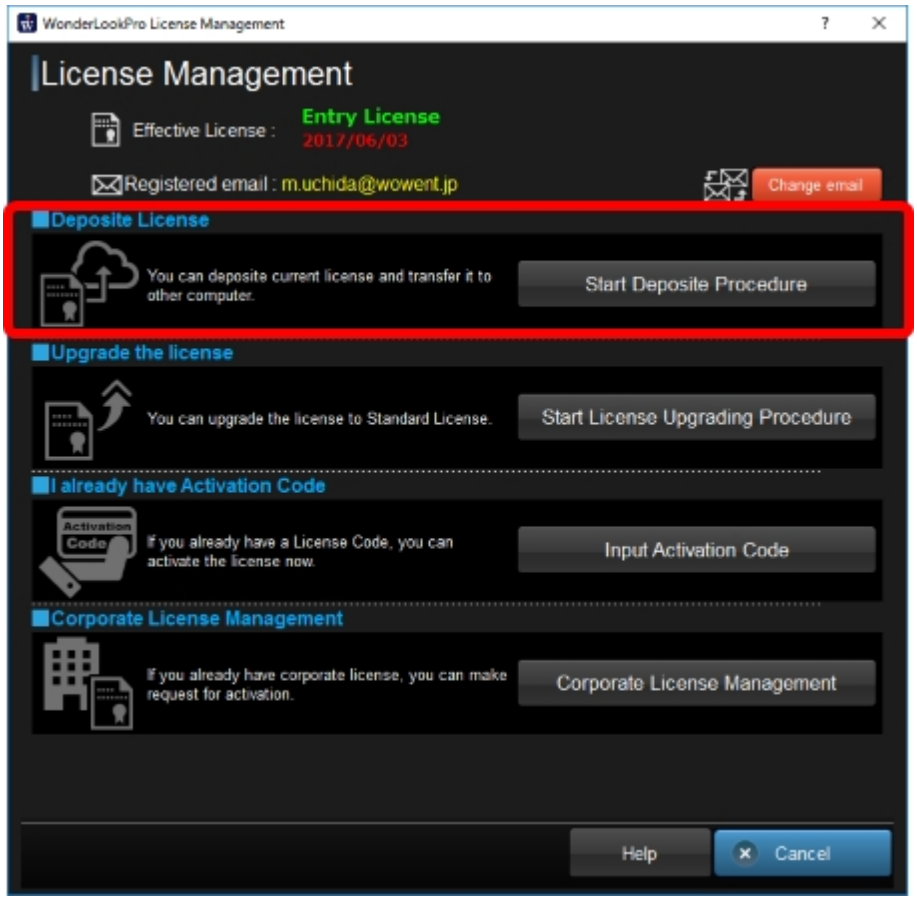
Entry License and Standard License are capable of transferring the license to other machine.

1. Go License Management Dialog

Firstly, you have to do "Deposite" which temporally transfer the license on the server.
Click "License Management" button.

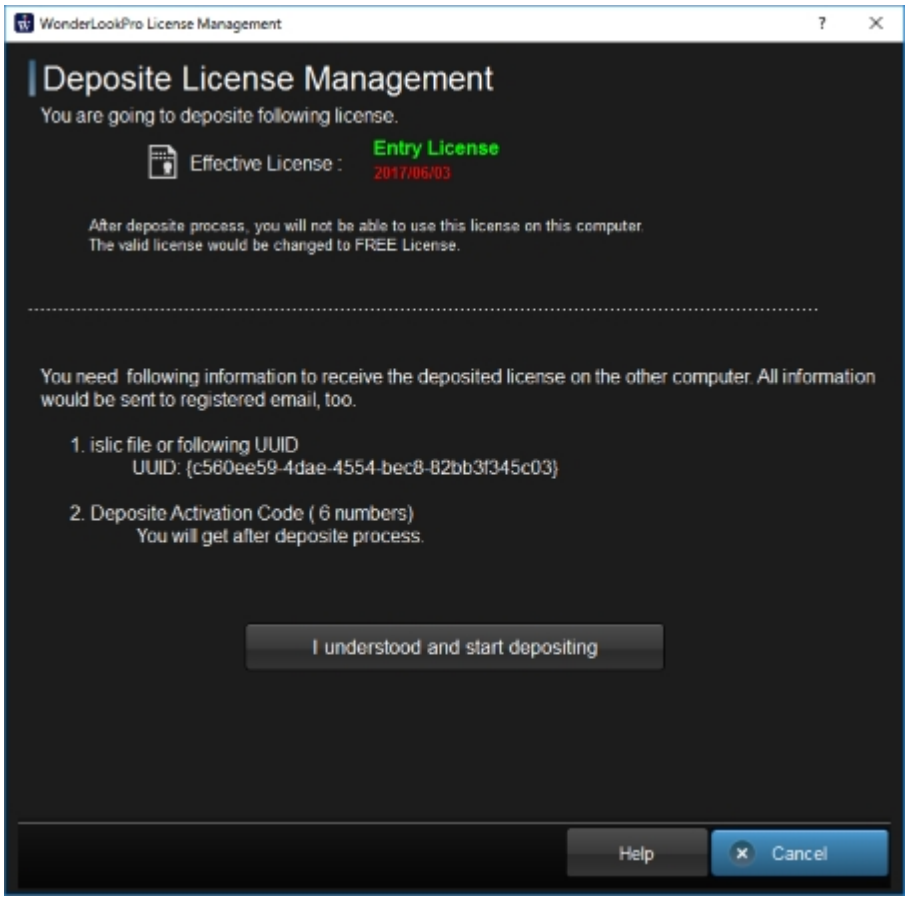


2. Go to Deposite ProcedureClick "Start Deposite Procedure" button to start the deposite procedure.



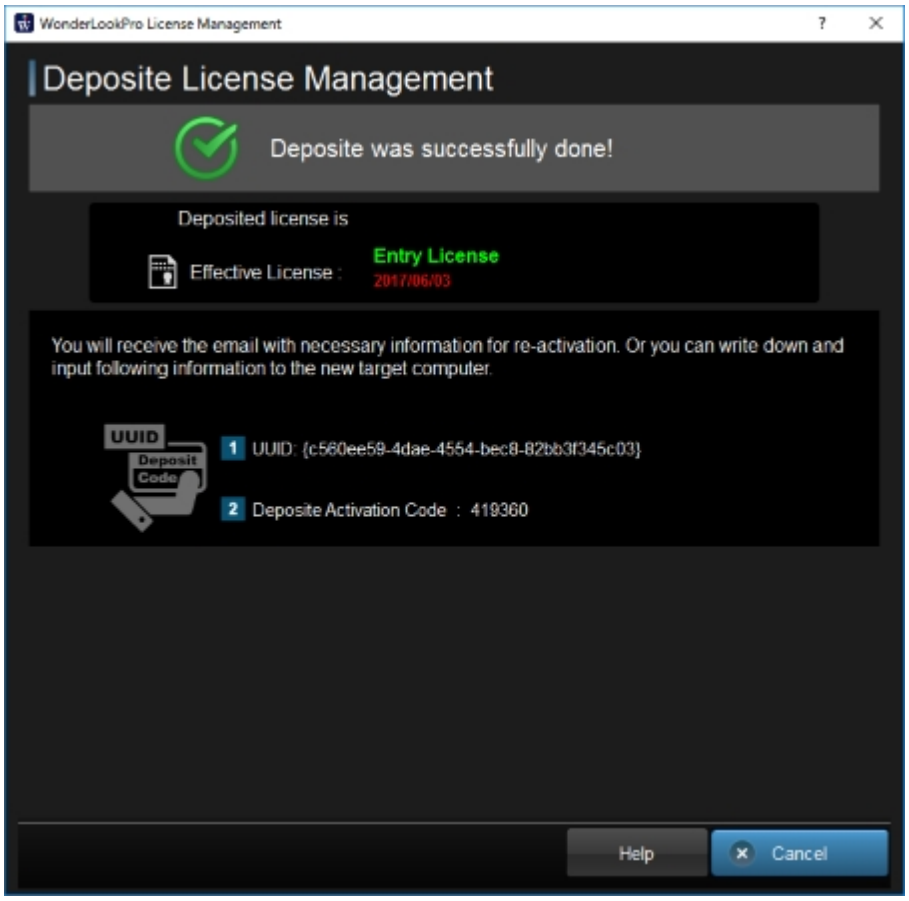
3. Do Depositing process

You will see the license information you are going to deposite. If it's okay, please click "I understood and start depositing" button to start depositing process.



3. Finish the Depositing process

If the depositing was succeed, you will see following screen. The information mail was sent to your registered mail address. This machine turn back to Free License.

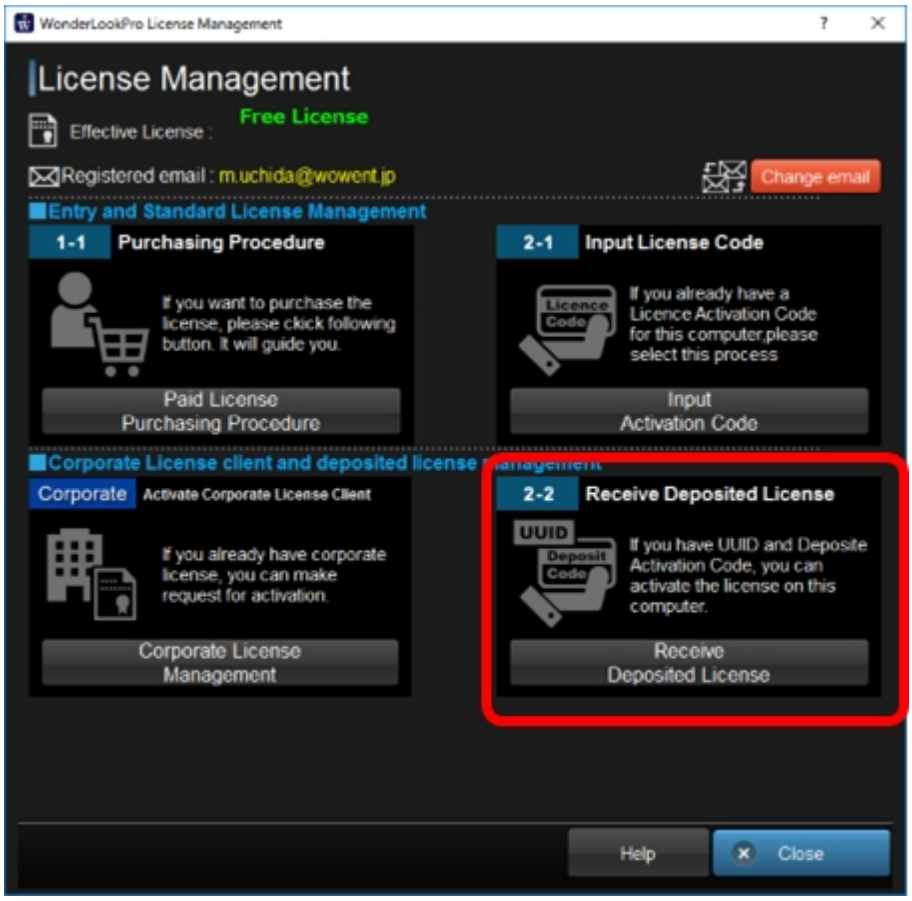


You will receive following email. When you receive the license at other machine, you will need "UUID" and "Deposite Activation Code".

Dear WonderLookPro user, Thank you for purchasing WonderLookPro Entry License. Depositing following license was successfully done and ready to activate on other PC. You need following UUID and Deposite Activation Code to activate deposited license on other PC. Please manage this mail safely. UUID: c560ee59-4dae-4554-bec8-82bb3f345c03 Deposite Activation Code : 419360 Name of the License : Entry License Expire date : valid until 2017/06/03

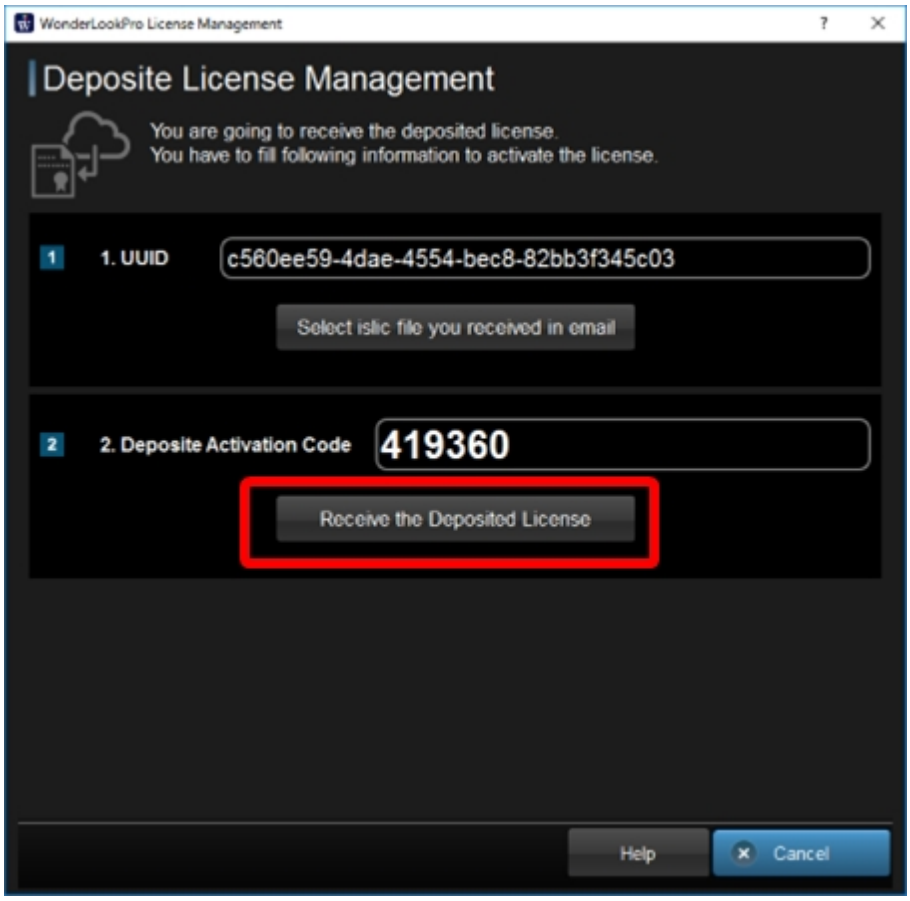
4. Receive the license at other machine

On the different machine you are going to activate the license, go into License screen and click "Receive Deposited License" button.

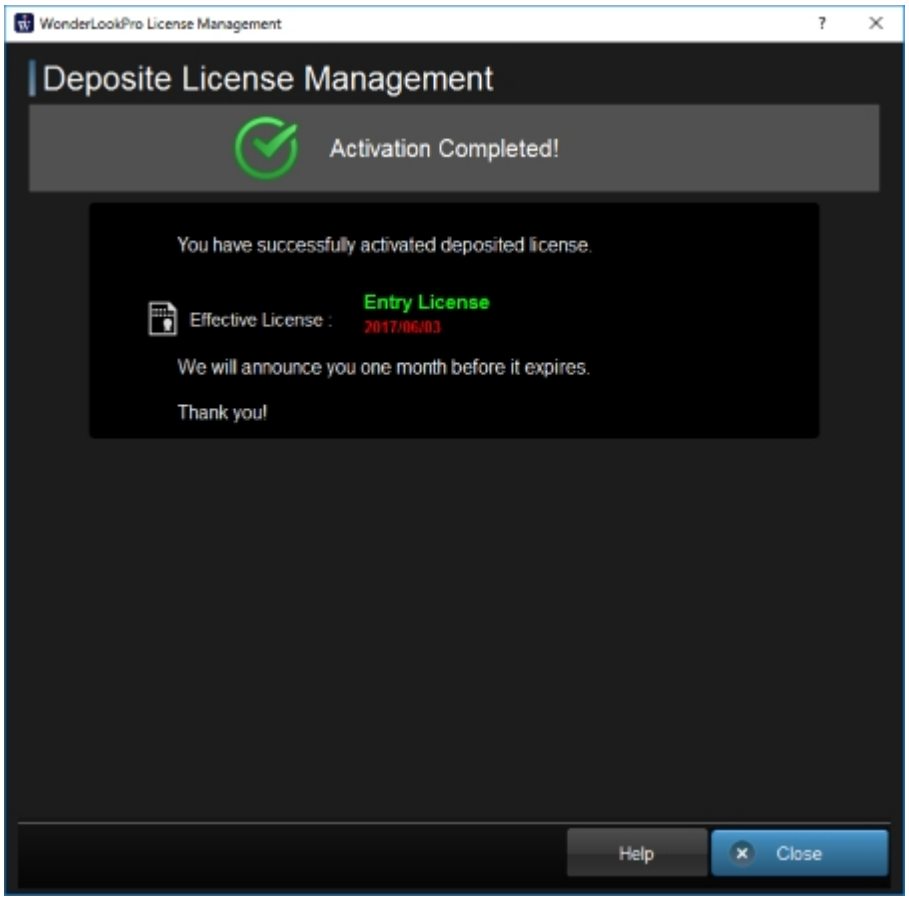


5. Finish receiving the license

On the different machine you are going to activate the license, go into License screen and click "Receive Deposited License" button.



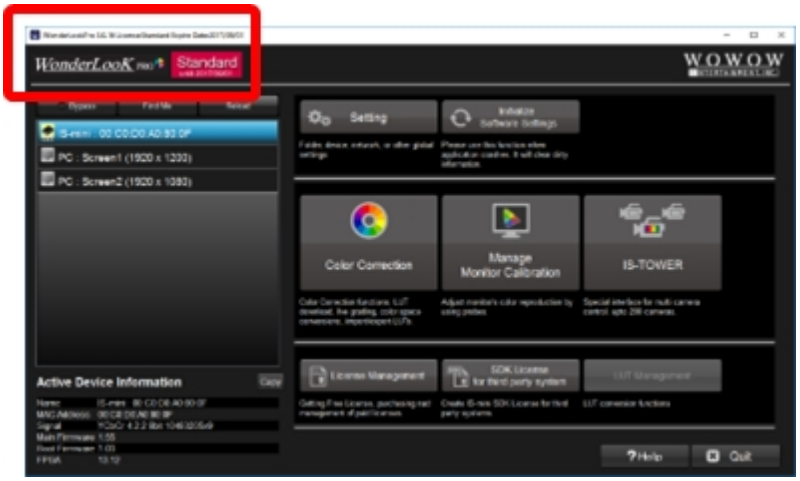
If you succeed to receive the license, following screen appears and you can use the received license.



Extend the License

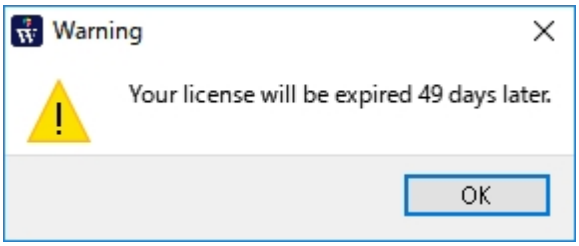
Approaching the period of the License

You can confirm the expiration date of the license on the screen.

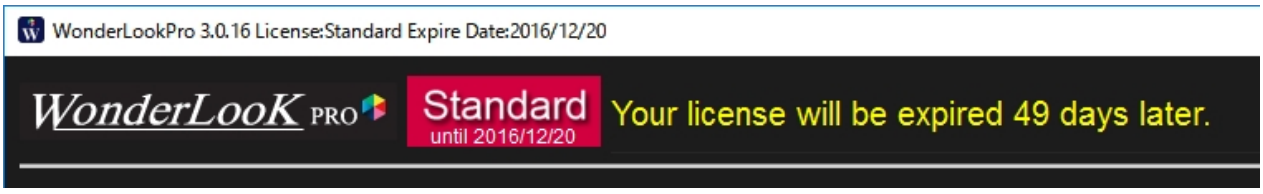


Here is the enlargement of the red rectangle.

It says you have Standard License which will expire on September 1st 2017.
If the rest of the day until the expiration is less than 62 days, you will see following warning dialog once a day when you start the program.



The top of the MainWindow lies alert message of the rest of the day in yellow characters.



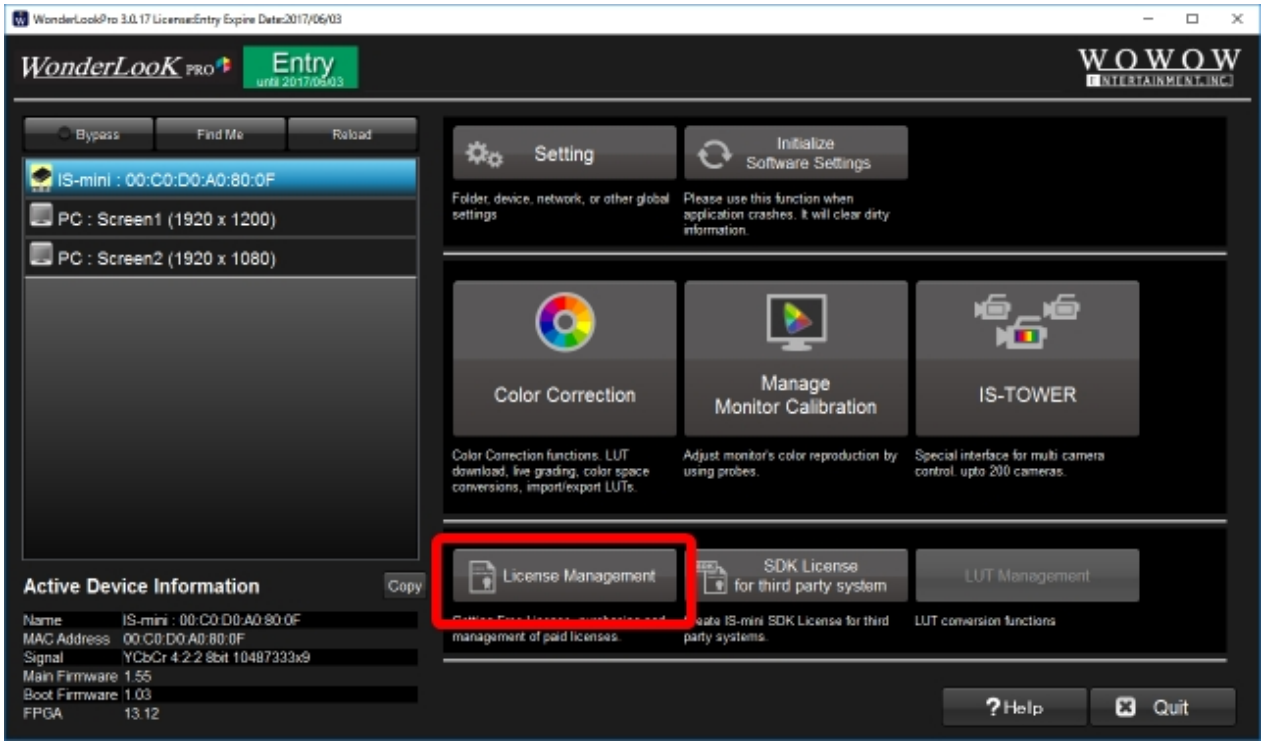
If you purchased the license in this state, it will extend the period not a new start, so please extend the period ASAP.

Upgrade the License

Upgrade to Standard License from Entry License

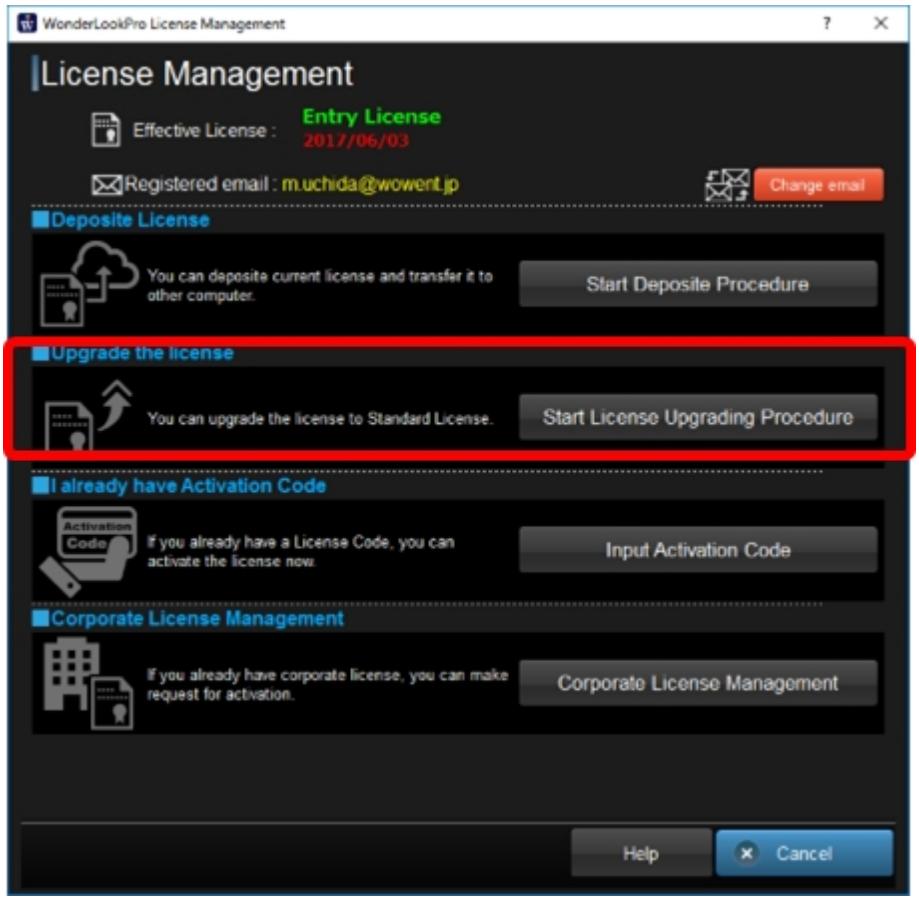
If you have Entry License, you can upgrade to Standard License by paying the deference of the prices.

1. Go License Management DialogClick "License Management" button.



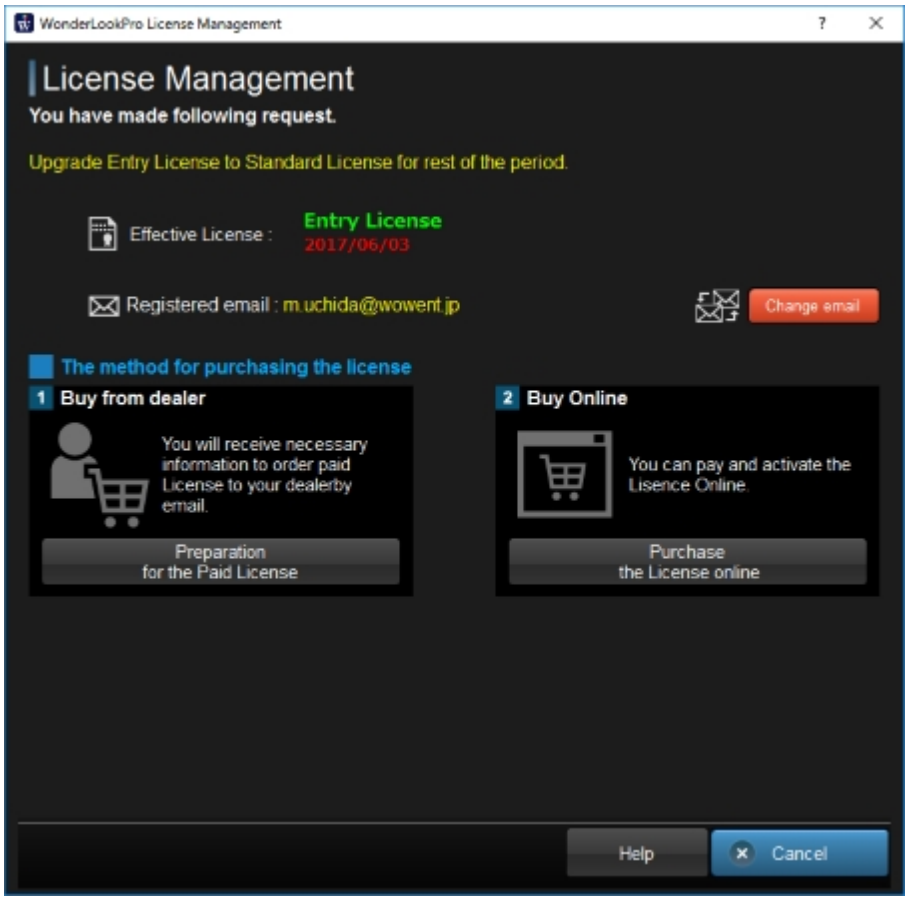
2. Go into Upgrading Procedure

Click "Start License Upgrading Procedure" button.



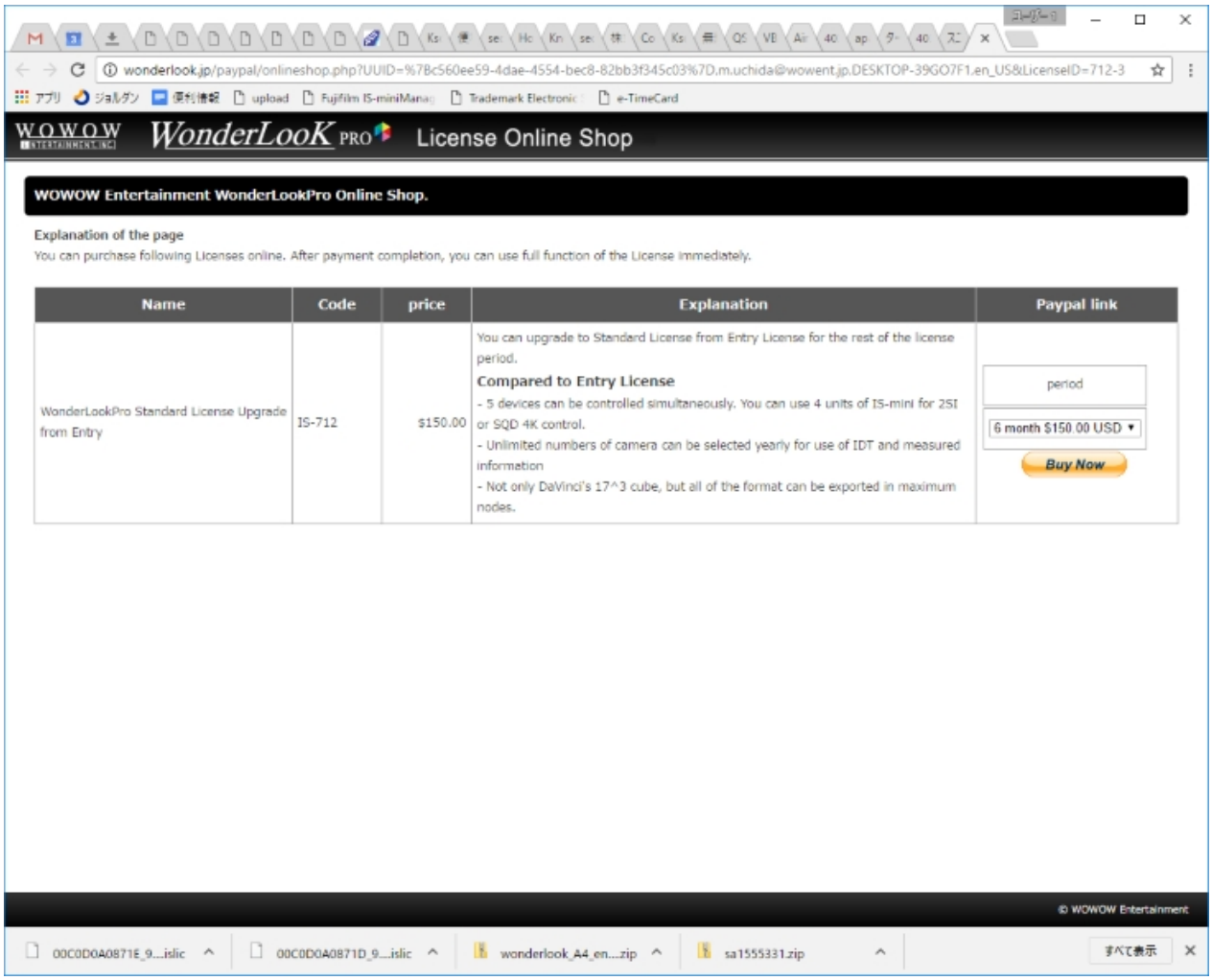
3. Select how to pay the fee for the upgrade

Please select the method to purchase the upgrade license. If you select "Buy Online", the upgrading will complete on the fry, you can start using Standard License immediately.



4. Example of Buy Online

The procedure is the same as normal license purchasing procedure. Here shows the example of Buy Online. The rest of the period of Entry License was calcurated in 3 month unit and it will charge you the difference from Standard License and Enty License.

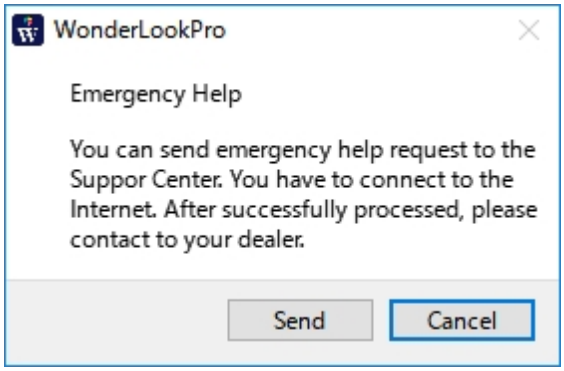

wonderlook.jp/paypal/onlineshop.php?UUID=%7Bc560ee59-4dae-4554-bec8-82bb3f345c03%7D.m.uchida@wowent.jp.DESKTOP-39GO7F1.en_US&LicenseID=712-3
WOWOW ENTERTAINMENT INC
WonderLooK PRO License Online Shop
WOWOW Entertainment WonderLookPro Online Shop.
Explanation of the page
You can purchase following Licenses online. After payment completion, you can use full function of the License immediately.
Name
Code
price
Explanation
Paypal link
WonderLookPro Standard License Upgrade from Entry
IS-712
$150.00
You can upgrade to Standard License from Entry License for the rest of the license period.
Compared to Entry License
- 5 devices can be controlled simultaneously. You can use 4 units of IS-mini for 2SI or SQD 4K control.
- Unlimited numbers of camera can be selected yearly for use of IDT and measured information
- Not only DaVinci's 17^3 cube, but all of the format can be exported in maximum nodes.
period
6 month $150.00 USD
Buy Now
© WOWOW Entertainment
00C0D0A0871E_9....islic
00C0D0A0871D_9....islic
wonderlook_A4_en....zip
sa1555331.zip
すべて表示

Emergency

When emergency happened regarding the License

If you encountered emergency trouble about the license, please connect to the Internet and click the license information label on the Main Window.

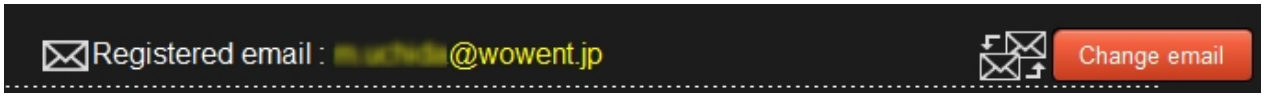
You will see following dialog and clicking "Send" button, the status of software and license will send to the support center. Please contact to the dealer to tell you need emergency support and sent the Emergency Help mail.



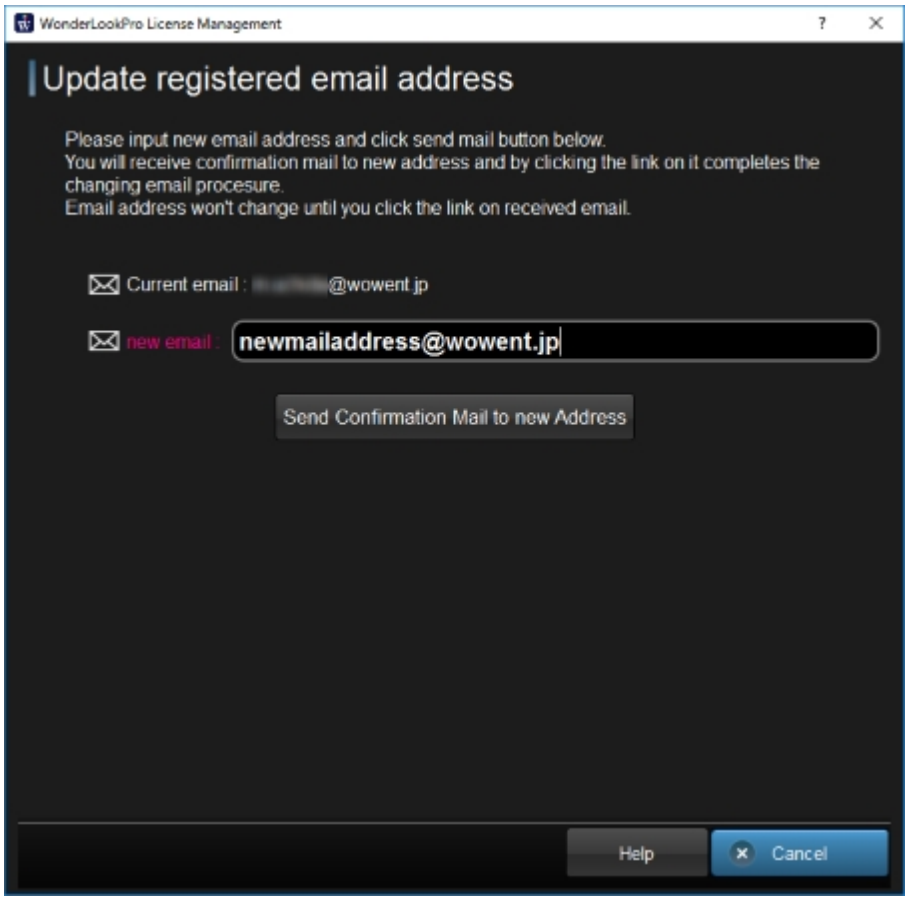
Register Mail Address

Change or Register mail address

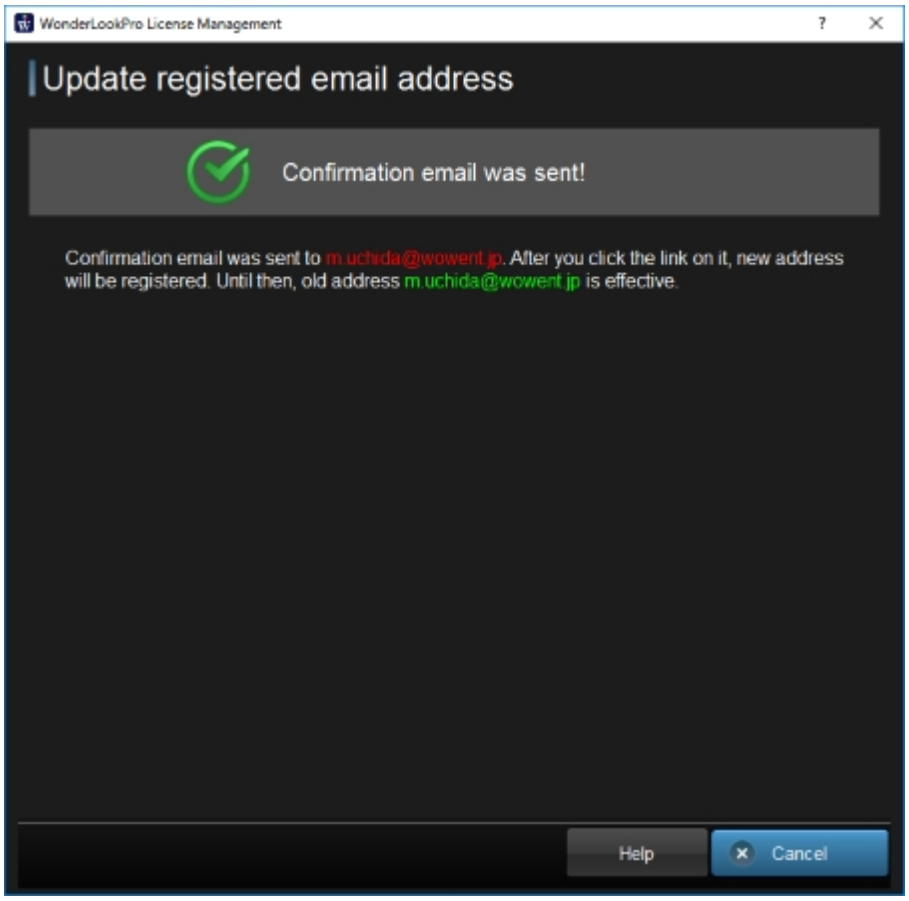
Some of the functions related to license (depositing, online purchasing, third party SDK license) requires valid mail adress registration.
Please find following "Change email" button somewhere in License Management Screen and click it.



Input new mail address and click "Send Confirmation Mail to new Address" button. The confirmation mail will be sent to the new mail address.



If it succeeded to send mail, the following screen will appear. Please check your mail box.



You will receive following email.

Dear WonderLookPro users,

Changing email address request was issued your computer. You can finish the procedure by clicking following url. After this procedure, please confirm that your registered email had changed.

URL: http://wonderlook.jp/Qt/release/LicenseCGI.exe?command=SetEmailAddress&RequestCode=xxxxxx

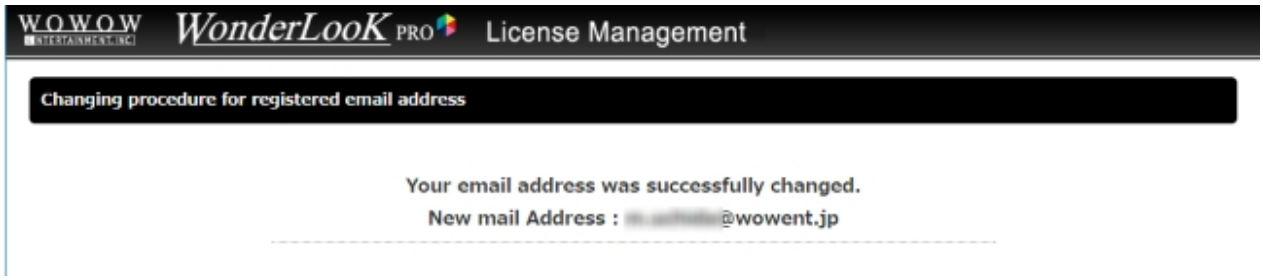
The current registered email address is follows.

email: xxxxx@wowent.jp

Your computer's information is follows.

PC Name : DESKTOP-39GO7F1
UUID: e9c7d7f2-bc92-49b2-a649-c4fc8adf3aea
License Name : Entry
Expire date : valid until 2017/11/03
MacAddress for License confirmation:
005043017544,005056C00001,005056C00008,9CEBE81B9533,DCFE07D34931

By clicking URL in the mail finish the procedure of changing registered email address.



Corporate License

Corporate License

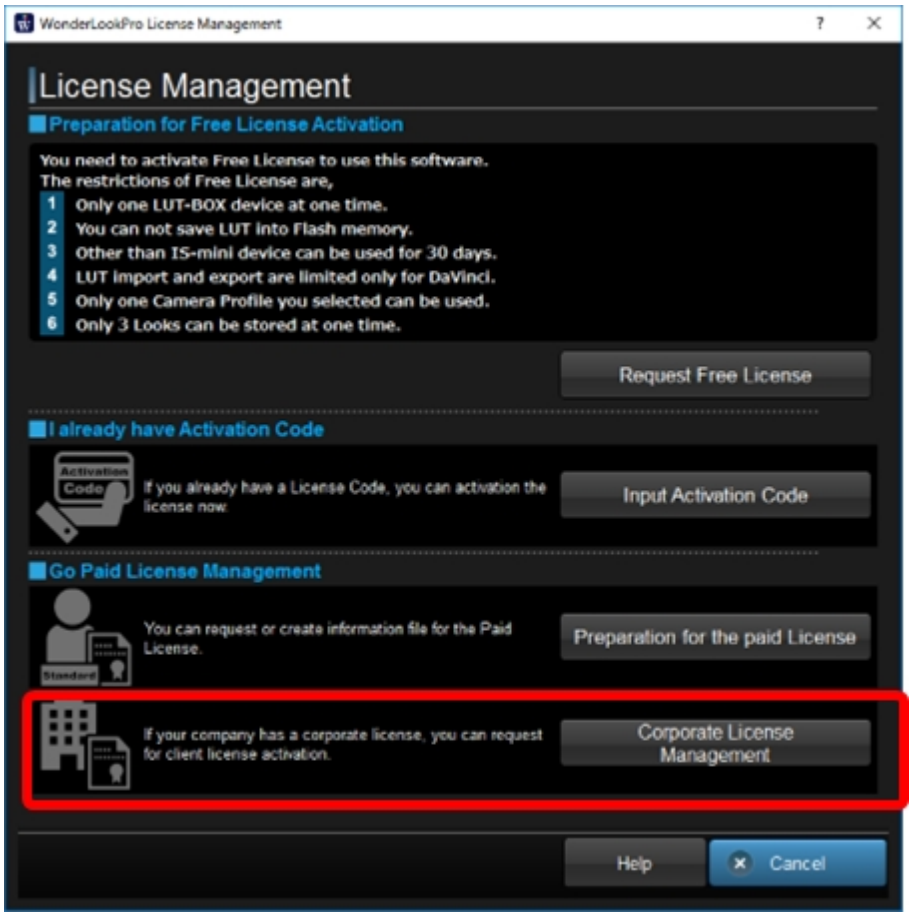
Corporate License is the highest grade license of WonderLookPro, which allowed to use all of the software functions. This license have to be purchased through dealers not providing online store.

Corporate License has USB dongle option which activate the license while inserting it at any PC. Otherwise the license was given to the specific PC. In default, Corporate License can activate upto 5 PC, but you can ask for the option to increase the number.

PC Client License can be activated by following procedures. To do it, you need Corporate ID and Password of the Corporate License.

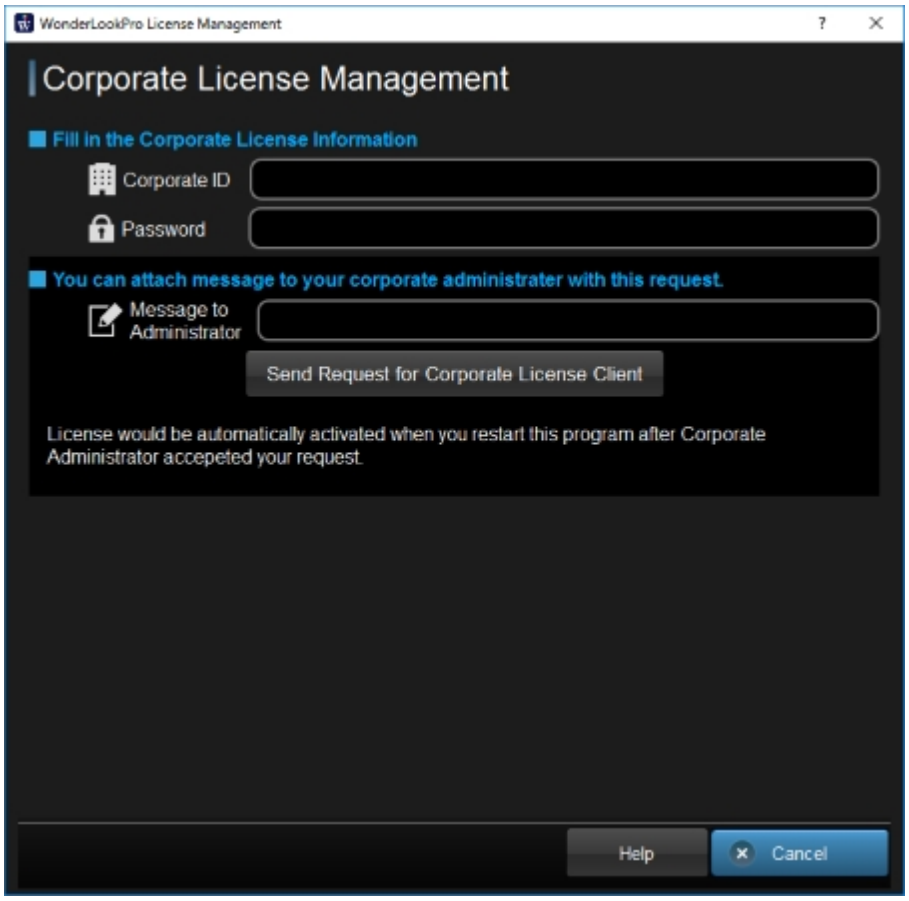
1. Go Corporate License Management Dialog

It might depends on the status of the license, please find the "Corporate License Management" button and click it.



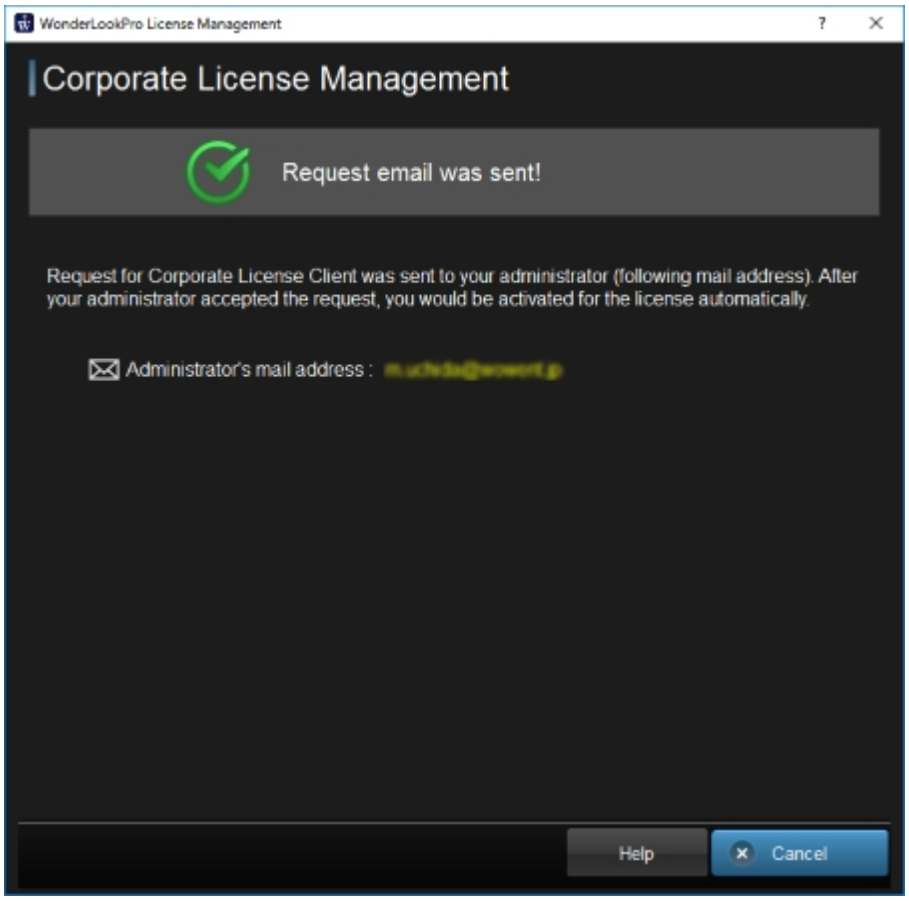
2. Go Corporate License PC Client Request Screen

To make request to activate the PC Client License, please input Corporate ID and Password before clicking "Send Request to Corporate License Client" button.
You can attach the message to the administrator of your Corporate License.



3. Approval by the Corporate License Administrator

If the request was successfully sent, you will see following dialog. The PC Client License was activated when you restart the program after the Corporate License Administrator's approval.



Corporate License Administrator would receive email with following contents. Please confirm it and click the link on the mail to approve the request.

Dear Customer,

The request for registering client for your Corporate License was issued. If the following information is correct, you can register the client by clicking the following URL. This procedure will not request you extra charge.

Client PC Name: DESKTOP-39GO7F1
Memo from Client:
Corporate License User Name : Test
UUID: 9ec233b9-55b6-4b5a-93ec-9483ee23f32f

URL: http://wonderlook.jp/Qt/release/LicenseCGI.exe?command=ActivateCorporateLicensedPC&User=Test&UUID={9ec233b9-55b6-4b5a-93ec-9483ee23f32f}

Current ussage of your license is follows.

Corporate License Kind : Corporate upto 10 uint
Expire date : 2016/12/31
Available Client Number: 5
Currently Using Client Number: 3
 (not included this request)

The information of clients

1. E201504192-001
UUID : {24feb4a2-041e-49af-b929-4ae717155190}

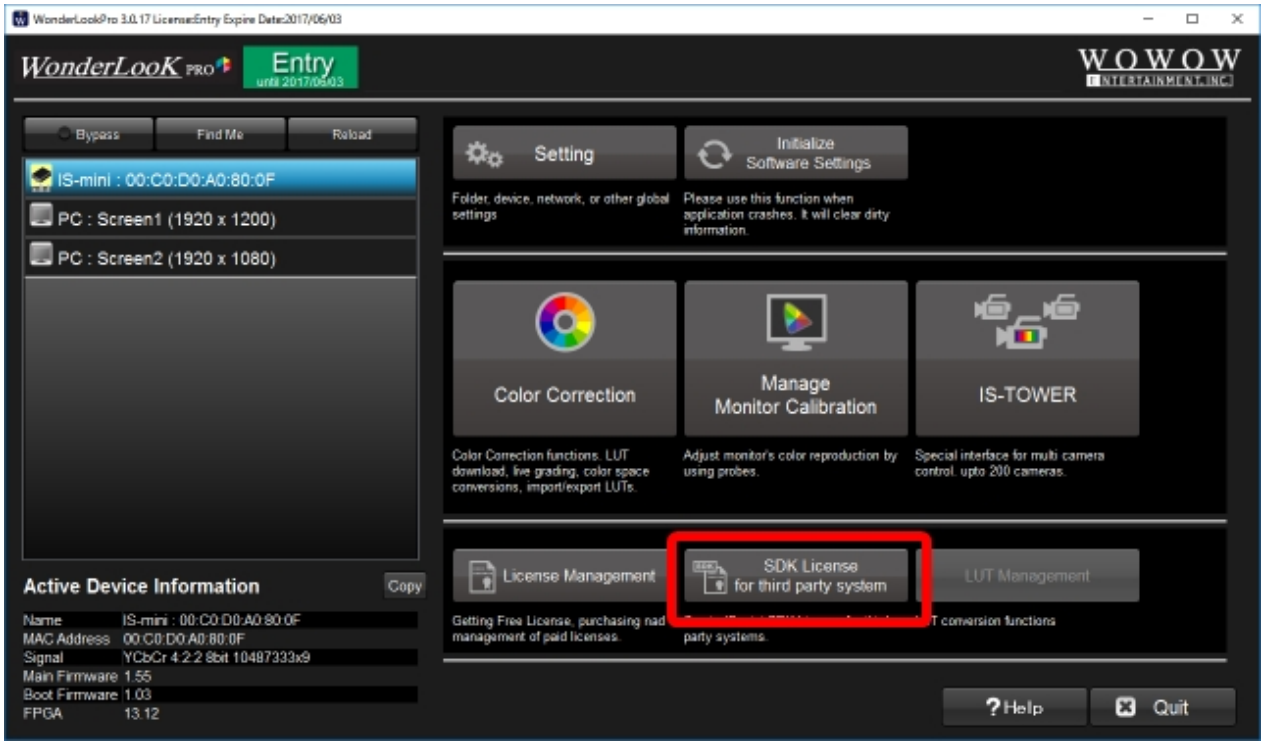
2. D201391394-002
UUID : {771be2f5-4640-486c-80dc-4d6a8d62b33a}

3. D201391394-002
UUID : {cd064a07-34bc-4d04-b169-4d56dbe76e1b}

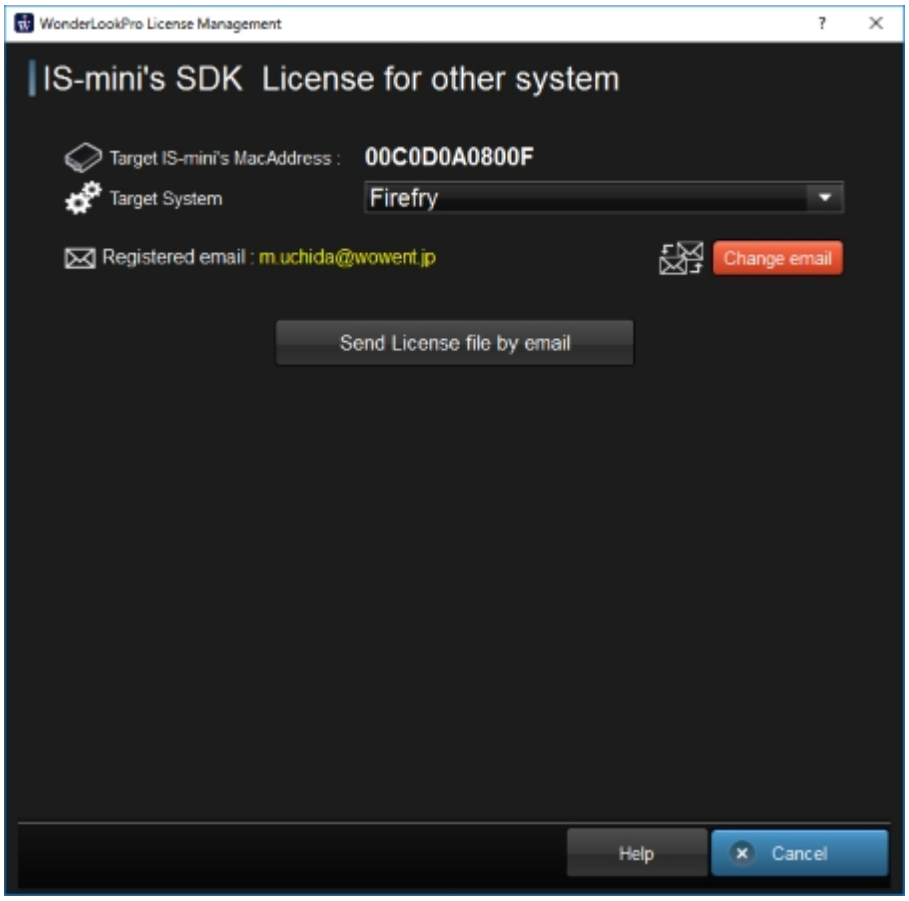
SDK License

Create License file for third party software which enable IS-mini

You can create the license file which enable to use IS-mini on third party system. Select the IS-mini you want to create the license, click "SDK License for third party system". You need Free License or registered email address.



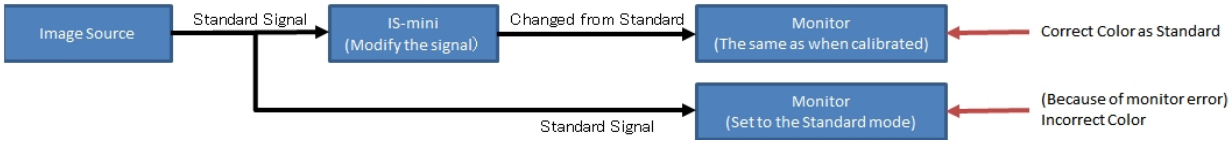
Select the system you want to create the license, click "Send License file by email" button. You will receive the license file to the your registered mail address.



Monitor Calibration

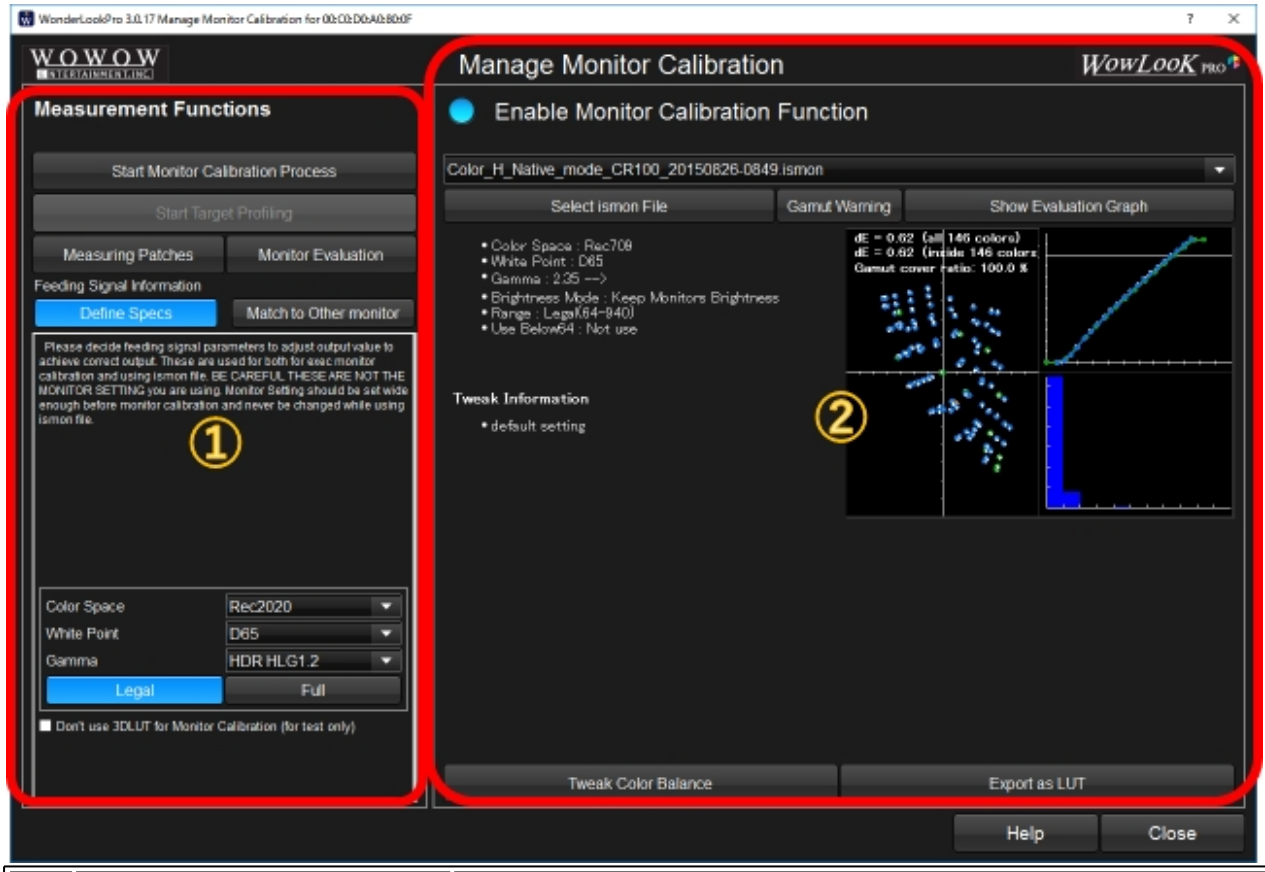
Monitor Calibration

WonderLookPro provides you Monitor Calibration function anyone can easy to use and achieve correct color reproduction of your monitor. You can use economic monitor, TV sets or PC monitors to reproduce colors close to mastering monitors.



In usual cases, Monitor Calibration function achieves correct monitor's color reproduction by adjusting HD-SDI signal code values before feeding to the monitor. You can use this adjustment on the functions in monitor inside function or other LUTBOX devices. Even in such cases, you have to use IS-mini when measuring monitor profile, but you can export as LUT and import it when you use calibrated monitor reproduction. You can calibrate the PC monitor this software is running, and it can be used for calibration of still image WonderLookPro shows.

To use monitor calibration function, you have to prepare supported probe. The list of supported probes are available here.
Monitor Calibration's Main Screen consists from two parts.



1	Measurement Area	This area is for the measurement for monitor calibraiton or measurement of
2	Management Area	This area is for the management of created monitor calibration files. It can b

Supported Probes

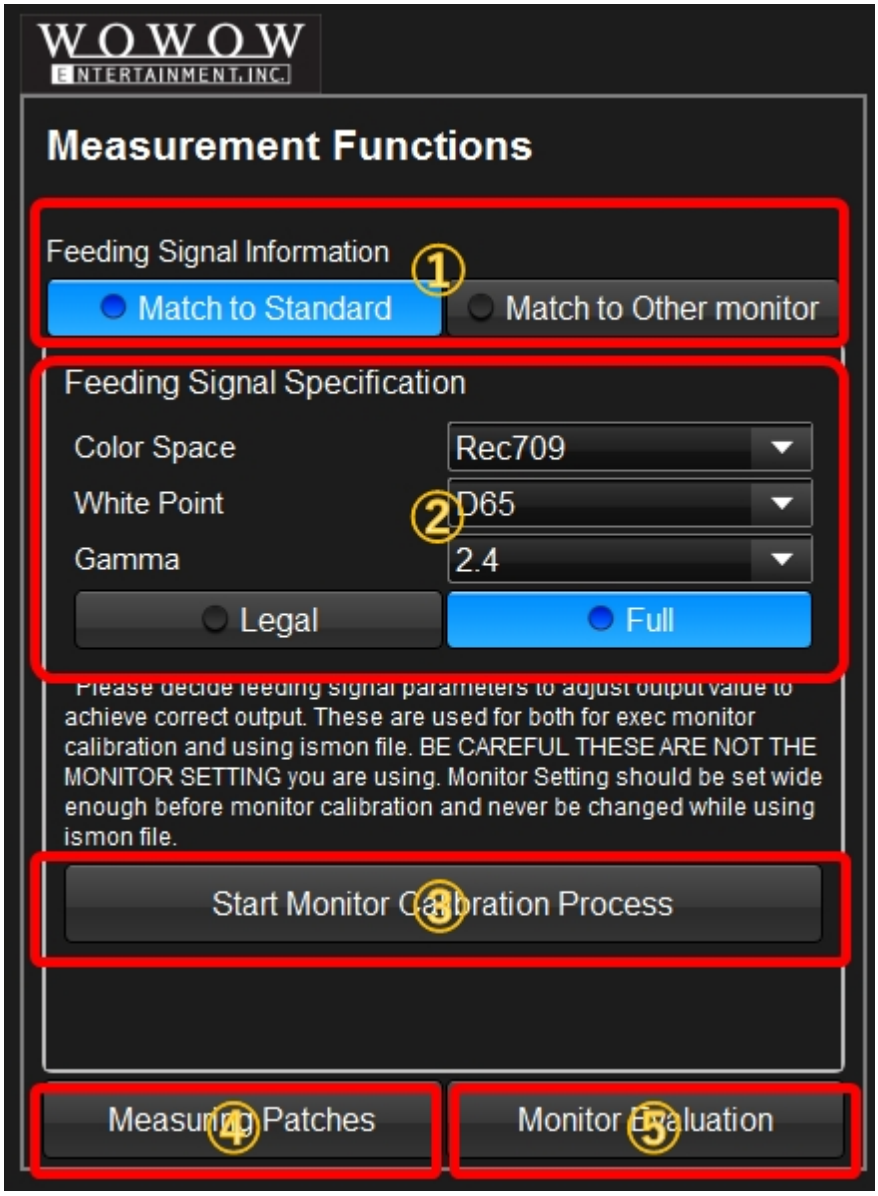
対応する測定器Supported Probes

XRite	i1pro, i1pro2, i1display OEM version
Klein	K-10A
Photo Research	PR-655, PR-670
JETI	Specbox1211/1201 (Window Only)
Konica Minolta	CS-200(Window Only), CA-210(Window Only), CS-2000
Colormetric Research	CR-100, CR-250

Measurement

Monitor Profiling Process #1

Monitor measurement was performed by following interface.



①Selection of the Target

You can select what kind of target you are adjusting your monitor to. You can select standard definition like Rec709, Rec2020, or other monitor as the matching target.
If you are going to match to the standard, click "Match to Standard" and you can set parameters on region 2.
If you are going to match to other monitor, you can make other monitor's profile or select the profile file on the region 2.

②Input the target parameters

Match to Standard:
You can set color space parameters of image source. It is not the setting of the monitor you are going to calibrate. After you performed monitor calibration process, the monitr behave like to be set the mode you selected here.

Match to Other Montor:

Interface would be changed as below. You can create and select other monitor as target monitor. "Start Target Profiling" click triggers creation of other monitors profile to be used as a target. "Select istarget File" button click triggers selection of created target monitor profile. After selection, you can click "Start Monitor Calibration Process" to start main monitor profile measurement.

③Start Monitor Calibration Process

It triggers monitor calibration measurement process.

④Mannual Measurement of Pathces

You can create any color of patches and measure manually it and record the result.

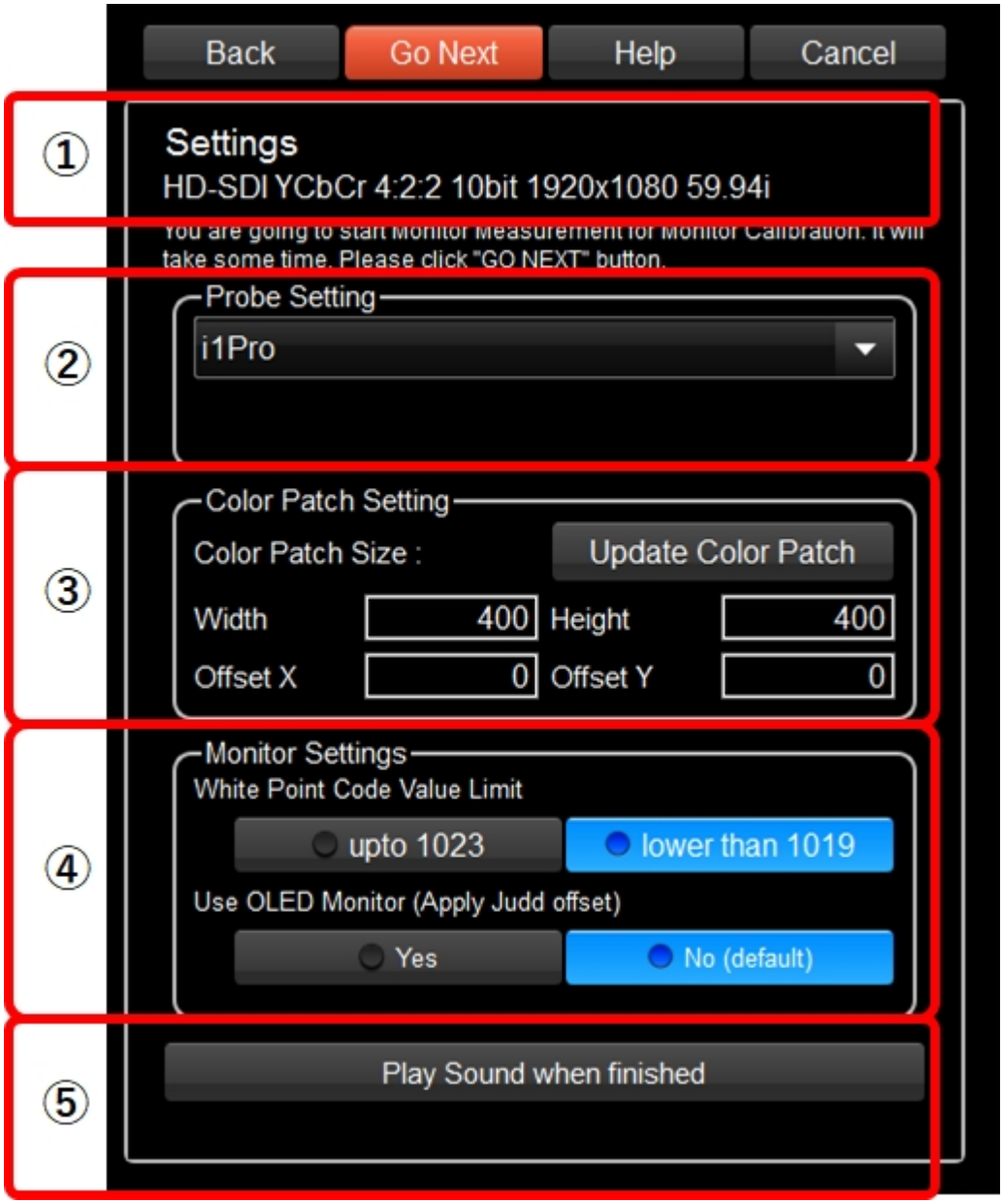
⑤Start Monitor Evaluation Process

Triggers monitor evaluation process.

Measurement #1 Initial Settings

Monitor Profiling Process #1

On this step, you can select probe, set the color patch size and position, select monitor's miscellaneous settings. Next step is here.



①Showing input signal format

It is showing the signal format currently inputting to IS-mini

②Selection of the probe

You can select the probe you are going to use form the combobox. "Emulation without probe" selection is to run demonstration mode with no real probe to confirm how it works for the monitor profile measurement process.

③Setting of Color Patch Size and Position

You can set the size and position of the color patch to measure monitor profile.When you changed the parameter, please click "Update Color Patch" button to update the output of the color patch. Offset X = 0 means center, negative is left, positive is right. Offset Y = 0 means cense and negative is upper and positive is lower.

④Miscellaneous settings of monitor

You can limit the white point code value same or under 1019.
If you are using OLED, color calculation method can be set to Judd Offset method.

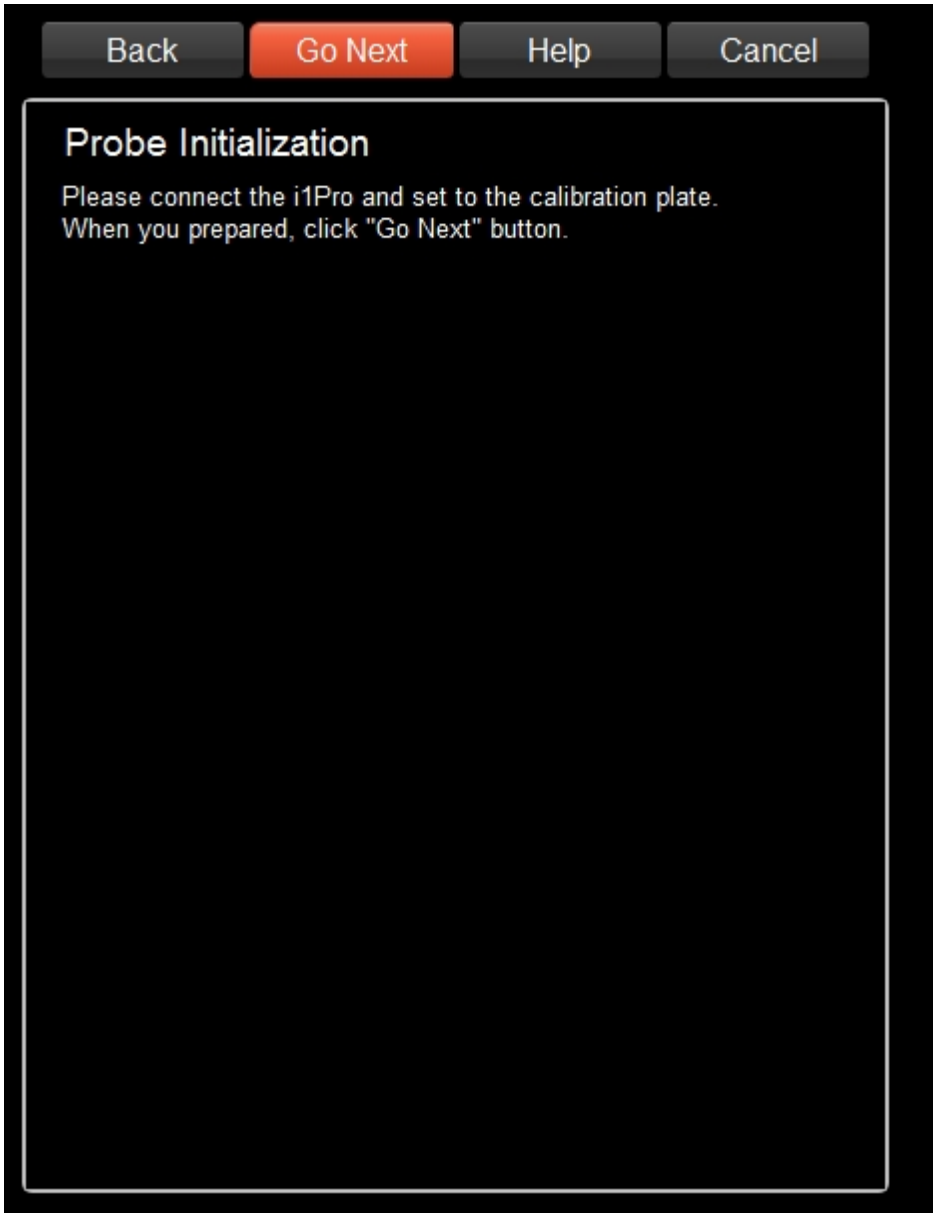
⑤The sound when measurement finished

Automatic measurement process takes time so you can play sound when the measurement finished.

Measurement #2 Probe Initialization

Monitor Profiling Process #2

Some of the probe requires initialization or black calibration process before measurement.
Please follow the instruction of the screen.Next step is here.



Measurement #3 Meausre white Point

Monitor Profiling Process #3

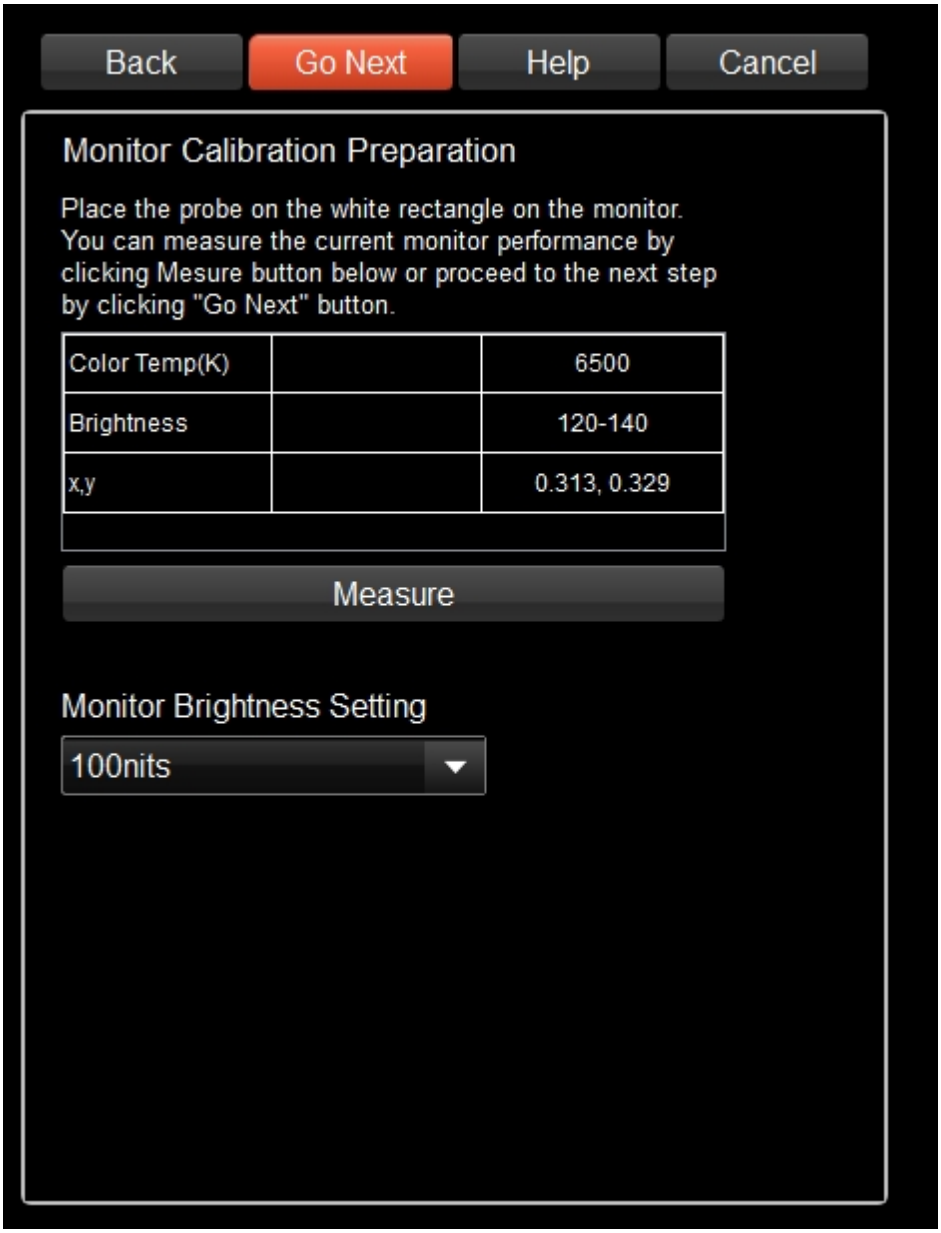
On this screen, you can measure white point of the monitor and confirm the monitor's setting is suitable for the calibration or not. Put the probe on the white rectangle on the monitor and click measure button. After measurement finished, the results would be shown on the table and confirm it's okay or not. Next step is here.

Color Temp(L): If you set the target white point to D65, please check the result is not so far from 6500. If the value is less than 5000K or higher than 8000K, the white point of the monitor might be different from D65.

Brightness: If you set the target brightness to 100nits, confirm the result is between 120 and 140. It's not good too bright for the monitor to be calibrated. If you are going to keep the white brightness of the monitor (when you selected Keep Monitor Brightness of the combobox below), you need not to care about the result.

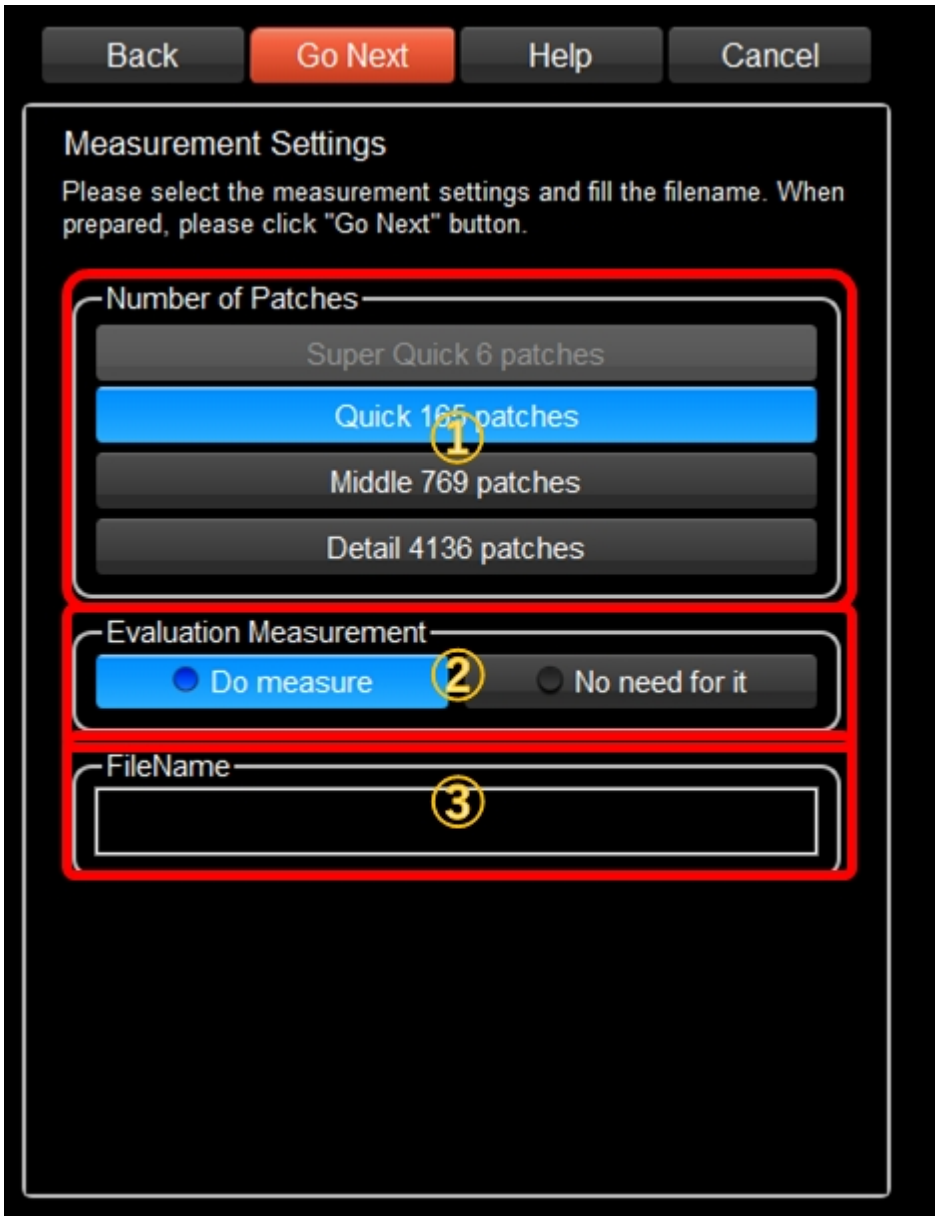
xy: The results were shown in x and y values of color coodinate.

Monitor Brightness Setting Combobox
If you are targeting Rec709, select 100nits, if you are targeting HDR, select "Manual Input" and input the target brightness in nits.



Measurement #4 Number of Patches

Monitor Profiling Process #4
On this screen, you will selecte the number of patches, necessity of evaluation meausrement and the filename of the result.



①Select the number of color patches

Select the number of color pathes for monitor profiling. You can select from three candidate. The smaller the number is, the quicker the measurement. The bigger the number is more precise the profile is, but we recommend to select "Quick 165 pathes". In most cases, it's good enough selection.

②Seletion of Evaluation Measurement

You can select whether or not to do the evaluation measurement. Please select "Do measure" if you don't in a hurry.

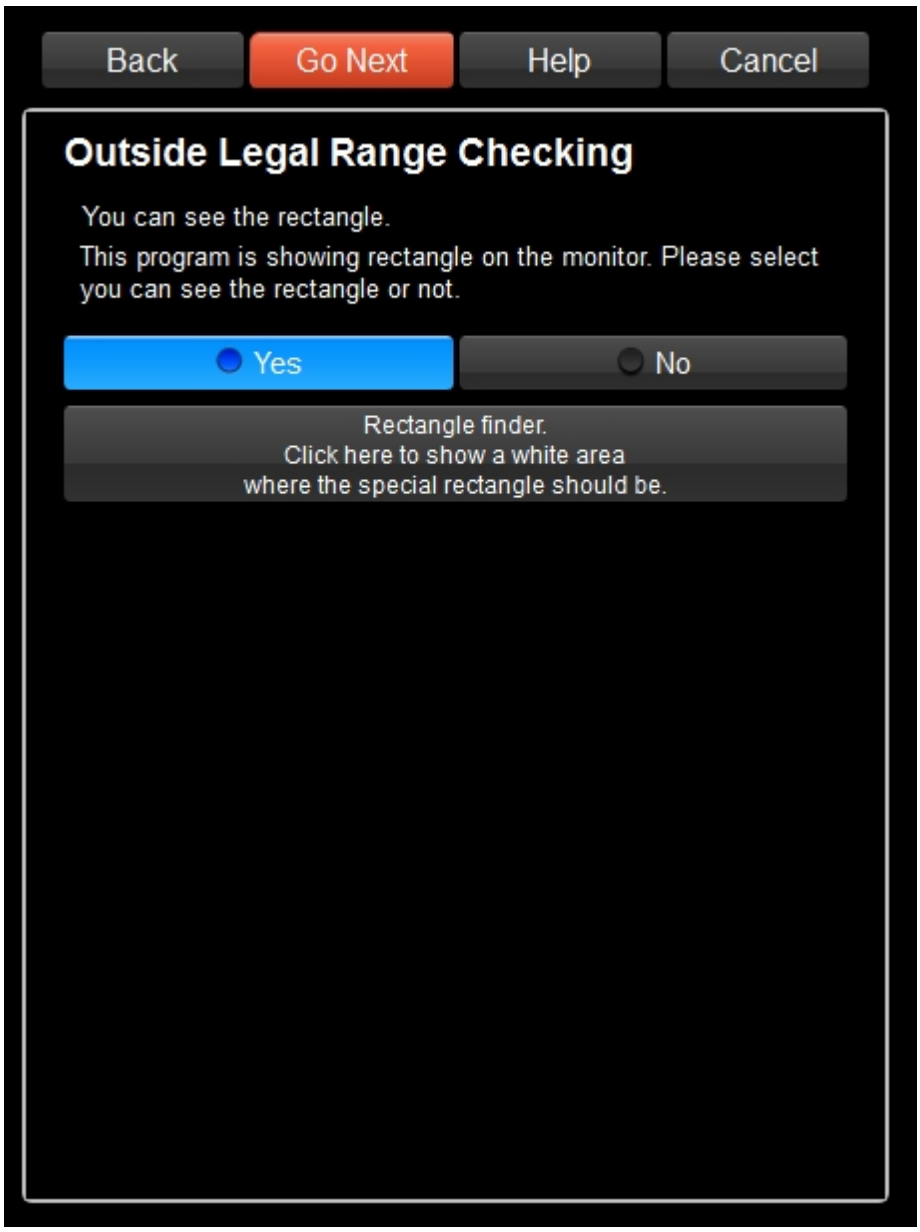
③Input filename

Input the filename to save the measurement result. It was saved in the current ismon folder. You can confirm or set the place on Setting Screen.

Measurement #5 Under64 check

Monitor Profiling Process #5

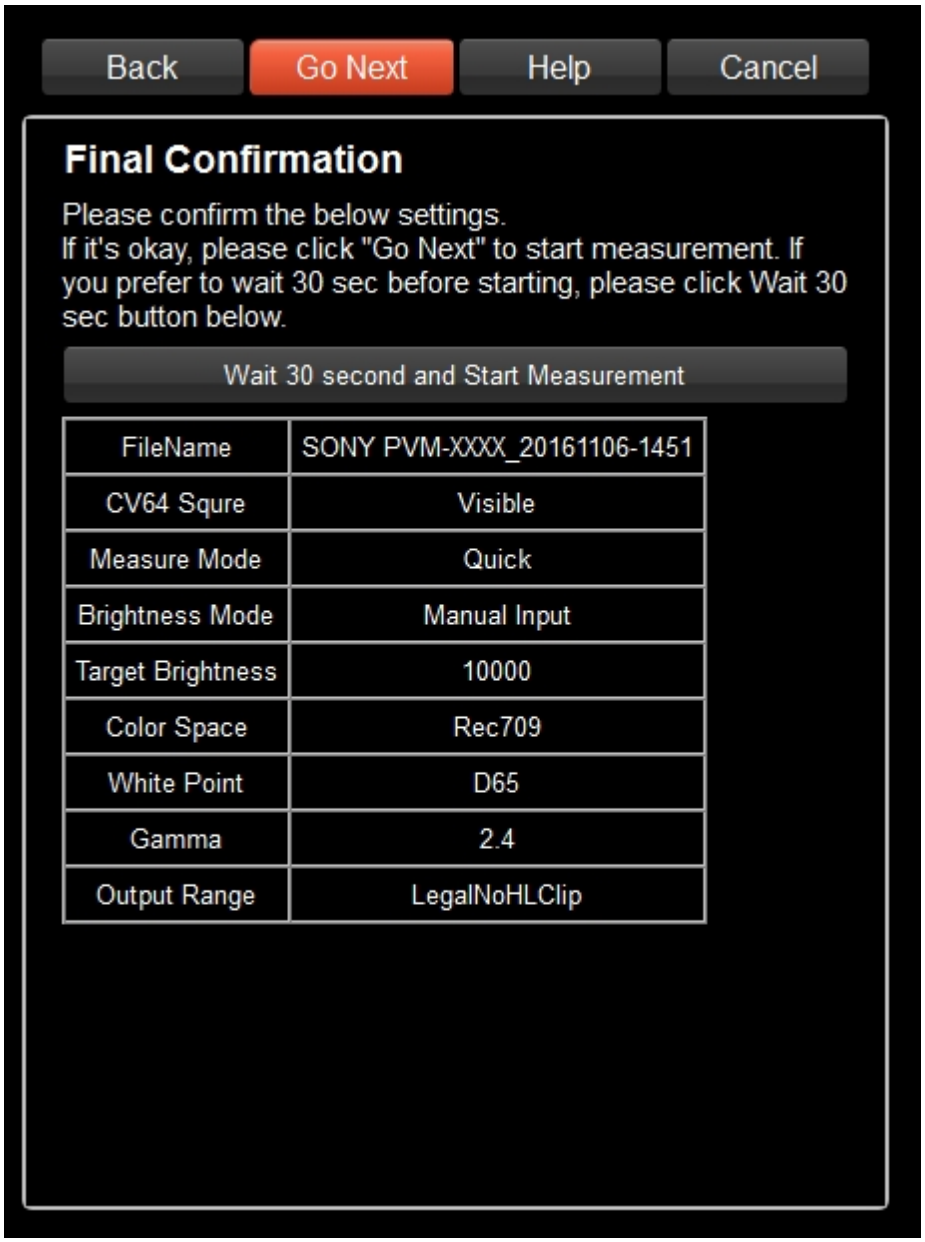
On this screen, you will check the monitor's under 64 color value behavior. IS-mini is showing the color patch whose code value is 64. If you can observe by your eye, please select Yes, or if you can not observe, please select No. If you can not, you can confirm the position the color patched would be seen by clicking the "Rectangle Finder" button. WonderLookPro decides the usage of under 64 code value based on this result. Next step is here.



Measurement #6 final confirmation

Monitor Profiling Process #6

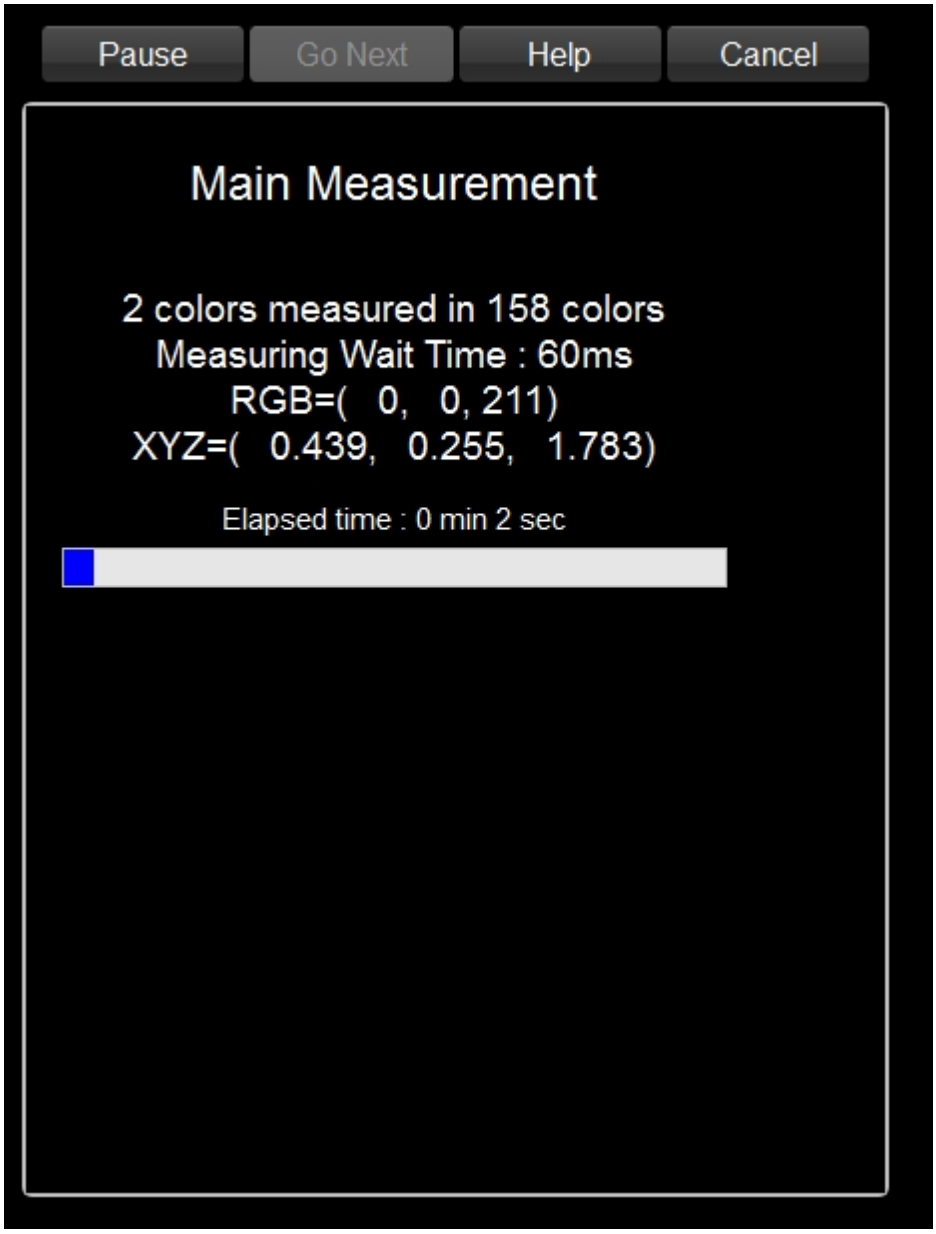
On this screen, you have to make final confirmation of the settings of monitor profiling. Clicking "Go Next" button start the measurement immediately. "Wait 30 second and Start Measurement" triggers the measurement 30 seconds later. It is useful when the measurement environment have to be complete darkness. It gives you the time for turn off the light in the room. Next step is here.



Measurement #7 measuring

Monitor Profiling Process #7

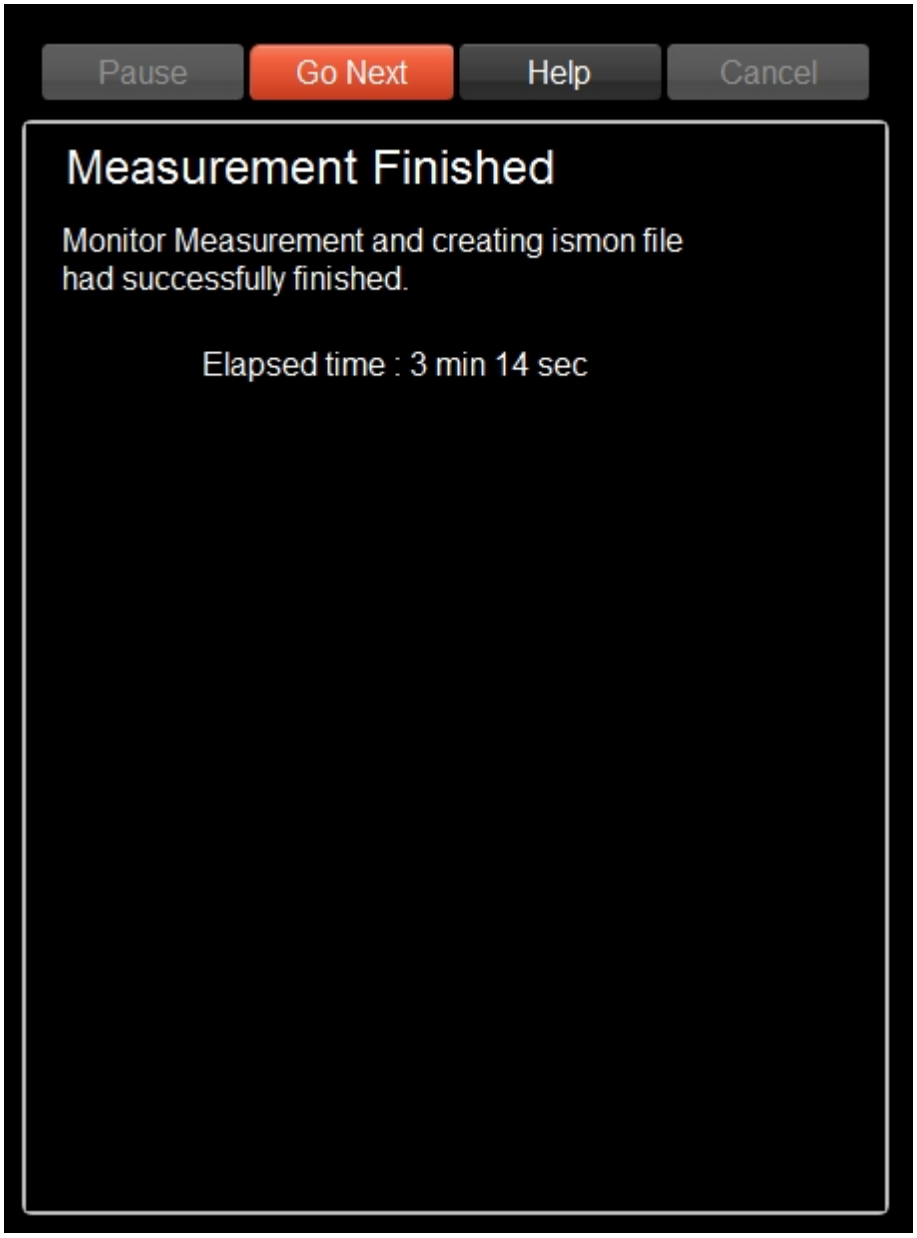
Below screen shows the progress of the measurement. The code value, measured results, progress are shown. Next step is here.



Measurement #8 finish

Monitor Profiling Process #8

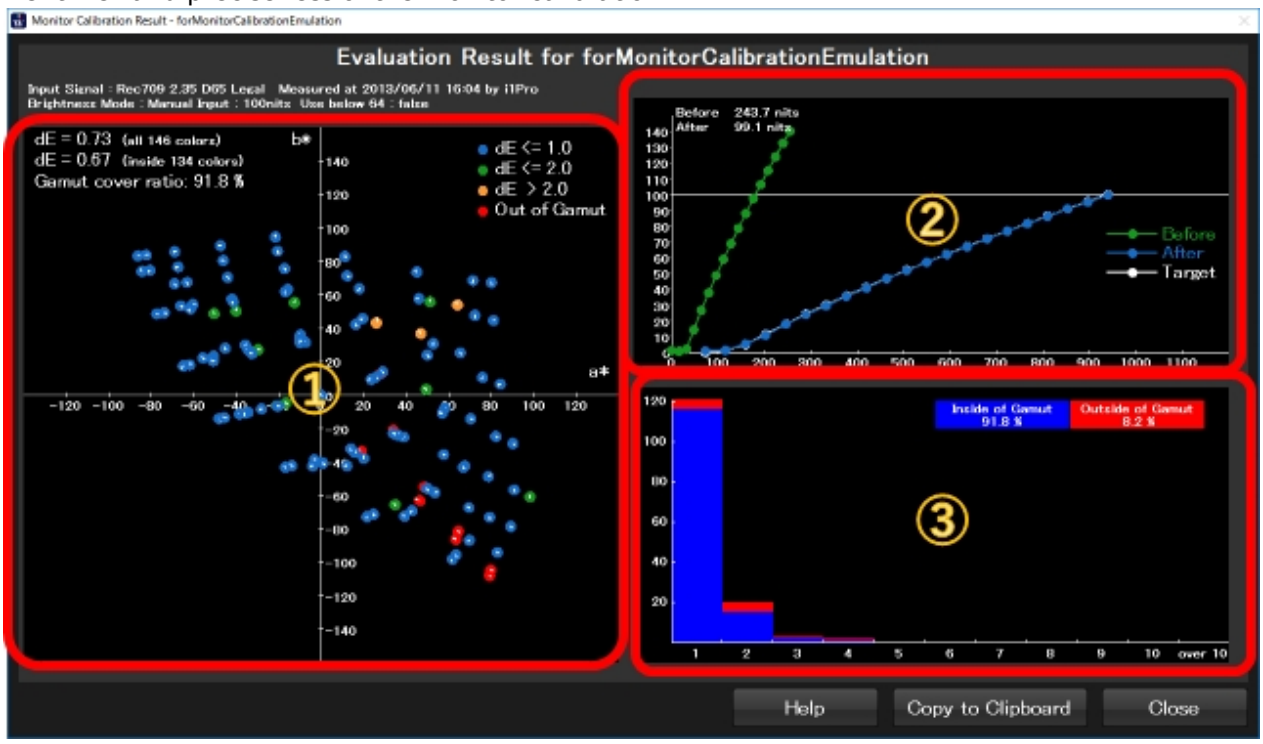
If the measurement finished successfully, the screen changed to this. Clicking "Go Next" button will trigger to show evaluation measurement result.



Evaluation Measurement Result Graph

Evaluation Measurement Result Graph

By viewing the evaluation measurement result graph, you can confirm the profile measurement went well and preciseness of the monitor calibration.



①a*b* color chart

The evaluation measurement result was shown on a*b* color chart. Evaluated colors are plotted on the graph colored by the amount of error.

less than 1.0 : Blue. Very good color reproduction.
Between 1.0 and 2.0 : Green. Good enough color reproduction
Above 2.0 : Orange. The error might not be accepted.
Outside Gamut : This color is out of the monitor's gamut and unable to reproduce on this monitor.

Adding to each color plot, there are average color difference values and gamut covering ratio on the upper-left of the graph.

②Tone Scale Graph

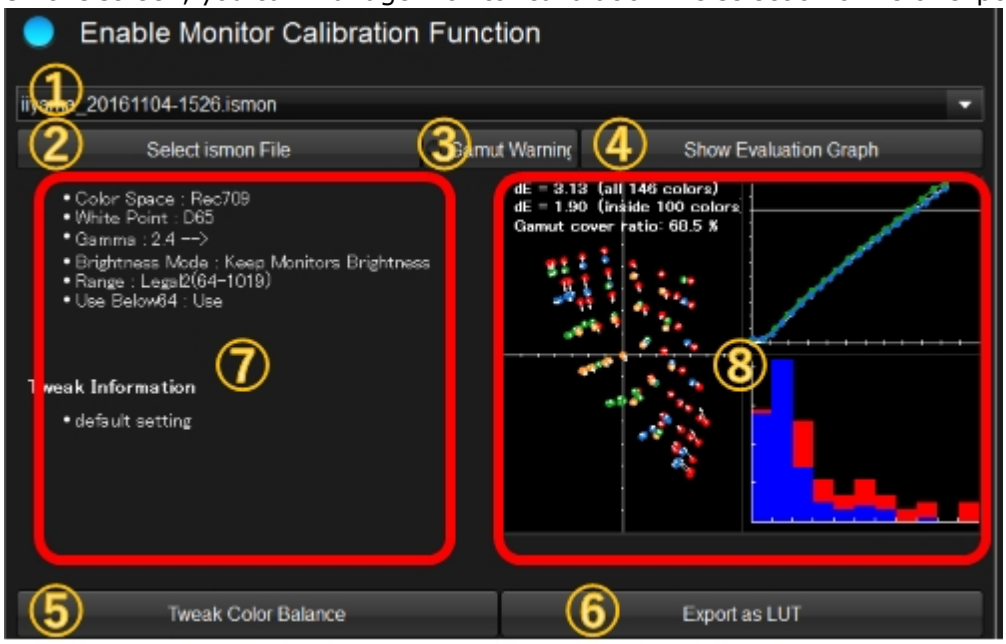
Tone scale graph shows the behavior of tone scale before and after calibration. Green is before, blue is after and white is the target tone scale.
If the blue curve and white curve are overlapped, we can interpret the calibration has good preciseness.

③Color Difference Histogram

This graph shows histogram of color difference of the evaluation measurement. Blue means wihin the gamut, Red means outside of the gamut, so we can recognize the quality in one glance. Good calibration shows the distribution less than 1.0 or 2.0, very few portion of red.

Management

Management of Monitor Calibration
On this screen, you can manage monitor calibration like selection of file or export as LUT.



①Current Monitor Calibration file and history

Showing currently selected Monitor Calibration file. You can select from history.

②Selection of Monitor Calibration File

You can select monitor calibraion file(ismon file) from local disc.

③Gamut Warning

You can confirm the outside gamut of monitor you are selected in the monitor calibration file by labeling.

④Show Enlarged Evaluation Measurement Graph

Show enlarged evaluation measurement graph in the different window.

⑤Tweaking color

You can tweak the result of the monitor calbration. Tweaked parameters can be saved in monitor calibration file.

⑥Export as LUTファイル

You can export the result of monitor calibration as LUT file to be used in the other devices.