

17.3" 1RU PULL-OUT Rack Mount Monitor

With Full HD Resolution & Waveform Function

User Manual



Important Safety Instructions:

- Please read User Guide before using this product.
- Please keep User Guide for future reference.
- Please read the precaution to prevent possible danger and loss of property.

Precaution:

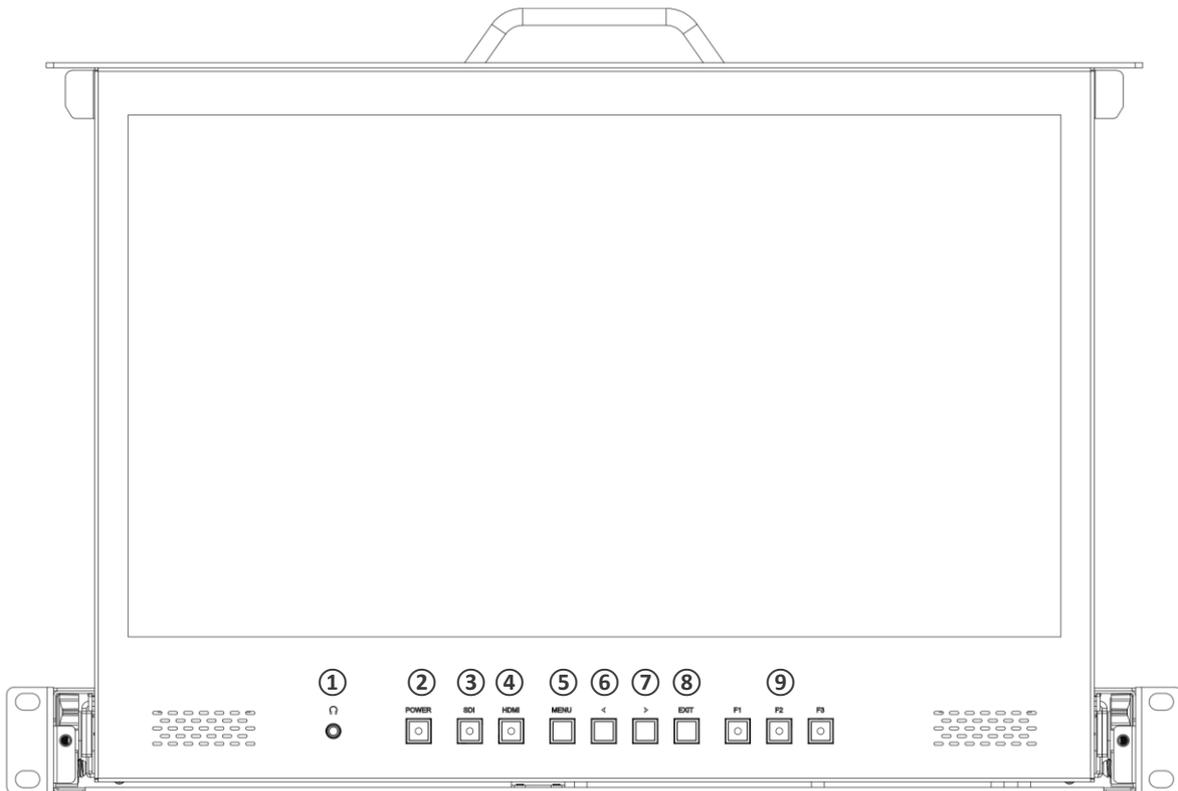
- Please do not place the display screen towards the ground.
- Please avoid heavy impact or drop onto the ground.
- Please do not use chemical solutions to clean this product. Please wipe with a clean soft cloth to maintain the brightness of the surface.
- Please do not block any vent hole.
- Please follow the instructions and trouble-shootings to adjust the product. Other improper adjustment may result in damage. Any further adjustment must be performed or conducted by a qualified technician.
- Please unplug the power and remove the battery if long-term no-use, or thunder weather.

Contents

Important Safety Instructions:	1
Precaution:	1
1. Production Description	3
2. Menu Setting	5
3. Product Parameters	16
4. Accessories	16
5. Trouble Shooting	17
Appendix 1: 3D LUT Loading	18
Appendix 2: Remote Terminal Instructions	21

1. Production Description

1.1 Front Panel



1. Earphone Jack
2. POWER: Power ON/OFF.
3. SDI: Signal switch to SDI mode when light on. (Only available on SDI HDMI version)
4. HDMI: Signal switch to HDMI mode when light on. (Only available on SDI HDMI version)
5. MENU
Press to enter menu.
Press to enter option in the menu.
6. <
Select option in the menu.
Decrease the option value.
Before enter the menu, single press to activate function bar, press again to switch among of

volume, brightness, contrast, color, hue, sharpness and backlight.

7. >

Select option in the menu.

Increase the option value.

8. Exit Button

9. F1~F3 User definable buttons

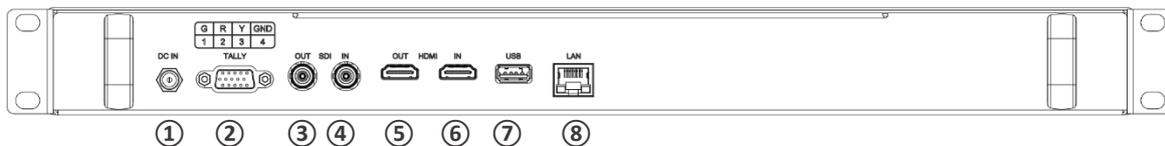
Assigned function by factory as follow:

[F1]: Peaking [F2]: Waveform [F3]: Level Meter

(Long press any F1-F2-F3 buttons for 3-5 seconds to custom options.)

1.2 Rear Panel

1.2.1 Interfaces



1. 12V DC power port.

2. TALLY connecter.

3. SDI output port. (Only available on SDI HDMI Version)

4. SDI input port. (Only available on SDI HDMI Version)

5. HDMI output port.

6. HDMI input port.

7. USB port.

8. LAN port. (Connected to PC network interface for function adjustment.)

2. Menu Setting

Before setting the functions, please make sure the device is connected correctly.

2.1 Shortcut keys

2.1.1 Function Menu

Under non menu screen, press < or > buttons to activate function bar, and then press the "MENU" button can activate the shortcut menu bar to select brightness, contrast, saturation, tint, sharpness, volume, back light.

Use the < or > button to adjust the value.

Default function is [Back Light].

2.1.2 F1-F2-F3 Buttons:

- Long press any F1-F2-F3 buttons for 3-5 seconds to pop up shortcut menu on the screen. As shown in Figure. Select option via < and > key, and set it as default via pressing the Menu button, then press Exit button to exit shortcut setting menu.
- Functions of F1-F2-F3 buttons can also be customized: [Center Marker], [Aspect Marker], [Safety Marker], [Overscan], [Scan], [Aspect], [Anamorphic], [Camera Log], [Check Field], [H/V Delay], [Freeze], [Image Flip], [Color Bar], [Peaking], [False Color], [Exposure], [Histogram], [Waveform], [Vector], [TimeCode], [Mute], [Lever Meter]. **(TimeCode only available on SDI mode.)**
- Default function:
 F1: [Scan] F2: [Waveform]. F3: [Aspect]

Center Marker
Aspect Marker
Safety Marker
Overscan
Scan
Aspect
Anamorphic
Camera Log
Check Field
H/V Delay
Freeze
Image Flip
Color Bar
Peaking
False Color
Exposure

3.2 MENU Operations

3.2.1 PICTURE

PICTURE		
	Brightness	50
	Contrast	50
	Saturation	50
	Tint	50
	Sharpness	0
	Back Light	100
	RGB Range	Limited
	HDMI EDID	4K
	HDMI	

- **Brightness**

Control the degree of brightness between 0-100.

- **Contrast**

Control contrast ratio between 0-100.

- **Saturation**

Adjust the color intensity between 0-100.

- **Tint**

Adjust tint between 0-100.

- **Sharpness**

Control sharpness of the image between 0-100.

- **Back Light**

Adjust the level of the back light from 0 to 100.

- **RGB Range**

Use this item to choose the RGB range of the HDMI input: [Full], [Limited].

Only available on HDMI mode.

- **HDMI EDID**

Select the HDMI EDID from between [4K] and [2K]. This item enables PC or other devices to recognize the property of this monitor and makes the images look excellent on the screen.

Only available on HDMI mode.

- **Camera Log**

Use this item to choose one of the camera Log modes:

- [Off]: Turn off Camera Log.

- [Def. Log]: Use this item to choose one of the Camera Log modes as the following sequence:

[SLog2ToLC-709], [SLog2ToLC-709TA], [SLog2ToSLog2-709], [SLog2ToCine+709], [SLog3ToLC-709], [SLog3ToLC-709TA], [SLog3ToSLog2-709], [SLog3ToCine+709], [ArriLogCTo709], [ArriLogCToP3DCI], [CLogTo709], [VLogToV709], [JLogTo709], [JLogTo709HLG], [JLogTo709PQ], [Z7 NLogTo709], [D780 NLogTo709]



- [User Log]: Use this item to choose one of the User Log modes (1-6). Please install the User Log as following steps:

The User Log must be named with .Cube in the suffix. Please note: the device only supports the format of User Log: 17x17x17 / 33x33x33; Data order is BGR; Table order is BGR. If the format does not meet the requirement, please use tool "Lut Tool.exe" to transform it.

Naming the User Log as User1-User6.cube, then copy the user Log into USB flash disk. Insert the USB flash disk to the device, the User Log is saved to the device automatically at the first time. If the User Log is not loaded for the first time, the device will pop up a prompt message, please choose whether to update or not.

- **HDR**

Use this item to choose one of the HDR presets: [Off], [ST 2084 300], [ST 2084 1000], [ST 2084 10000], [HLG].

- **Color Temp.**

Use this item to choose one of the color temperature presets: [5500K], [6500K], [7500K], [9300K], [User].

Note: Only available under [User] mode to adjust R/G/B Gain and Offset.

- **R/G/B Gain**

Adjust the R/G/B Gain of the current Color Temperature from 0 to 255. Default value: 128.

- **R/G/B Offset**

Adjust the R/G/B Offset of the current Color Temperature from 0 to 511. Default value: 256.

3.2.2 MARKER

MARKER		
	Center Marker	off
	Aspect Marker	off
	User H1	1
	User H2	1920
	User V1	1
	User V2	1080
	Safety Marker	off
	Marker Color	White
	SDI	

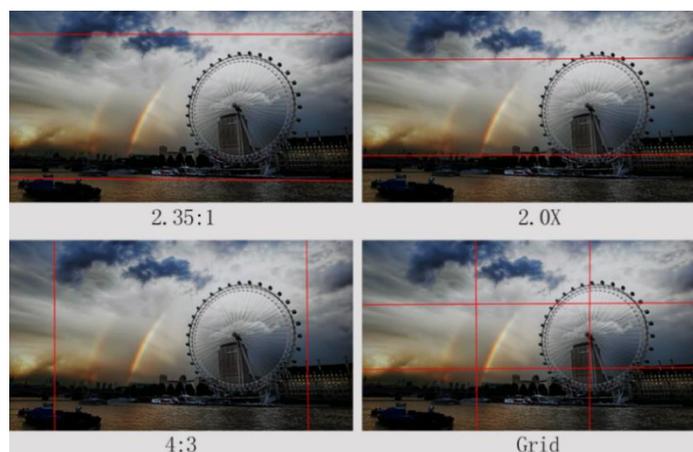
- **Center Marker**

Select [On] to display the center marker "+" and [Off] not to display it.

- **Aspect Marker**

Select the aspect ratio of the marker: [Off], [16:9], [1.85:1], [2.35:1], [2.39:1], [4:3], [3:2], [Grid], [User].

Note: When [Aspect Marker] is selected as [Grid], the safety marker and Aspect Mat cannot be displayed.



- **User Marker**

H1/H2: Adjust the position of vertical markers from 1 to 1920 (Step value is 1).

V1/V2: Adjust the position of horizontal markers from 1 to 1080 (Step value is 1).

Note: User maker only in [Aspect Maker], [User] mode available.

- **Safety Marker**

Select [Off] not to display the safety marker. When this item is used with the Aspect Marker, it is only in Aspect Marker. When [Aspect Marker] is selected as [User], the safety marker does not be changed.

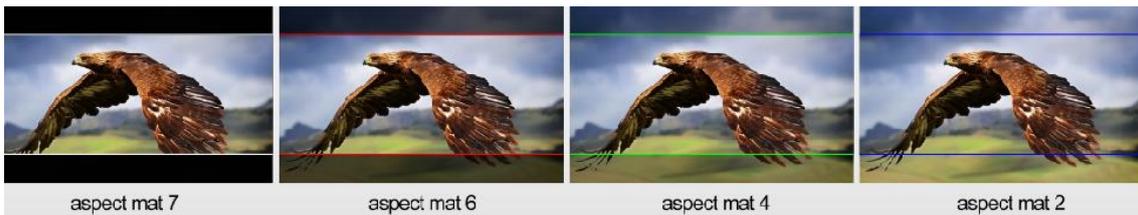
Select the size of the safety markers: [95%], [93%], [90%], [88%], [85%], [80%].

- **Marker Color**

Select the color of marker displayed on the screen: [Red], [Green], [Blue], [White], and [Black].

- **Aspect Mat.**

When activated, it can be selected from 1-7 (Step value is 1).



- **Thickness**

Adjust the thickness of all the marker lines from 1-7 (Step value is 1).

3.2.3 FUNCTION

FUNCTION		
	Scan	Aspect
	Aspect	Full
	Anamorphic	Off
	Overscan	Off
	H/V Delay	Off
	Check Field	Off
	Image Flip	Off
	Zoom	50%
	SDI	

- **Scan**

Adjust the scan mode among [Aspect], [Pixel To Pixel], [Zoom].

Note: Aspect, Anamorphic and Check Field functions only can be adjusted only under [Aspect] mode.

- **Aspect**

Select the aspect of the image among [Full], [4:3].

- **Anamorphic**

Use this item to activate or deactivate anamorphic: Off、1.3X、1.5X、1.8X、2.0X、2.0X MAG.



- **Overscan**

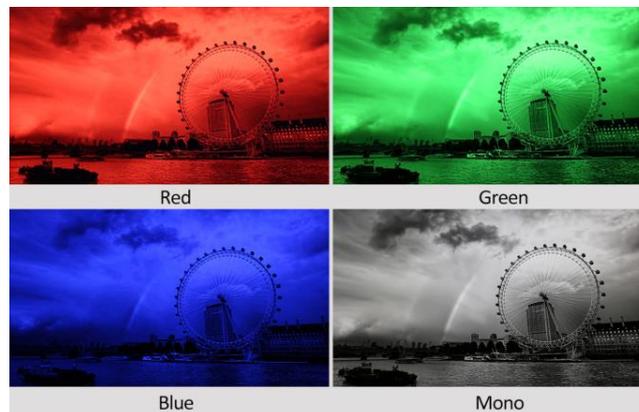
Use this item to activate or deactivate overscan.

- **H/V Delay**

Select one of the H/V modes: [OFF], [H], [V], [H/V]. When H/V Delay on, the blanking portions of the input signal will be displayed horizontally and vertically.

- **Check Field**

Select one of check field modes: [Off], [Red], [Green], [Blue], [Mono].



- **Image Flip**

Select one of the Image Flip: [OFF], [H], [V], [H/V].

- **Zoom**

Select zoom scale from 10% to 90% (Step value is 10%).

- **Freeze**

Choose [On] to capture one frame of current image on the screen, and choose [Off] to close freeze function.

3.2.4 WAVEFORM

WAVEFORM		
	Full Mode	Off
	Waveform	RGB
	Vector	On
	Transparency	50%
	Peaking	Off
	Peaking Color	Red
	Peaking Level	50
	False Color	Off
	SDI	

- **Full Mode**

Use this item to activate or deactivate Full Mode: [Off], [Y], [YCbCr], [RGB] and [Vector].

- **Waveform**

Use this item to activate or deactivate Waveform. Select the waveform mode from among [Off], [Y], [YCbCr], and [RGB].

- [Y]: Display Y Waveform.
- [YCbCr]: Display YCbCr Waveform.
- [RGB]: Display R/G/B Waveform.

- **Vector**

Use this item to activate or deactivate Vector.

- **Transparency**

Adjustment of transparency can support waveform, vector, histogram, level meter.

Transparency can be selected from among [off], [25%], and [50%].

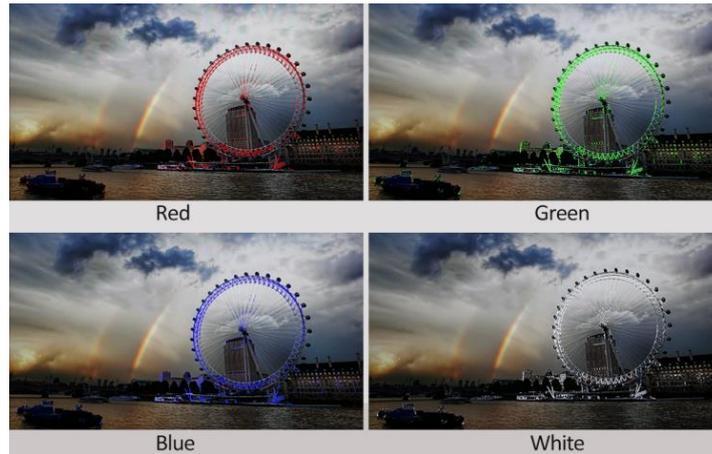
- [Off]: The background of waveform is shown at black.
- [25%]: The background of waveform is shown at 25% intensity.
- [50%]: The background of waveform is shown at 50% intensity.

- **Peaking**

Use this item to activate or deactivate the peaking function.

- **Peaking Color**

Select one of the peaking colors: [Red], [Green], [Blue], [White], and [Black].



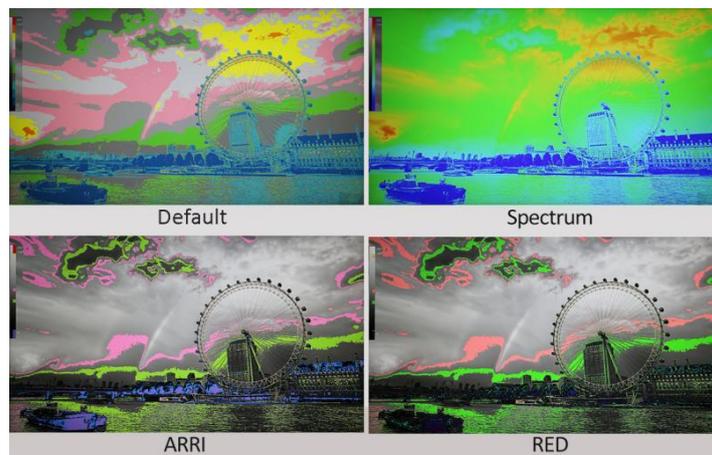
- **Peaking Level**

Use this item to adjust the level of peaking from 1-100. The higher peaking level is, the more obvious peaking effect is.

- **False Color**

Use this item to activate or deactivate the false color function.

When activated, [Default], [Spectrum], [ARRI], [RED] are for optional.



- **False Color Table**

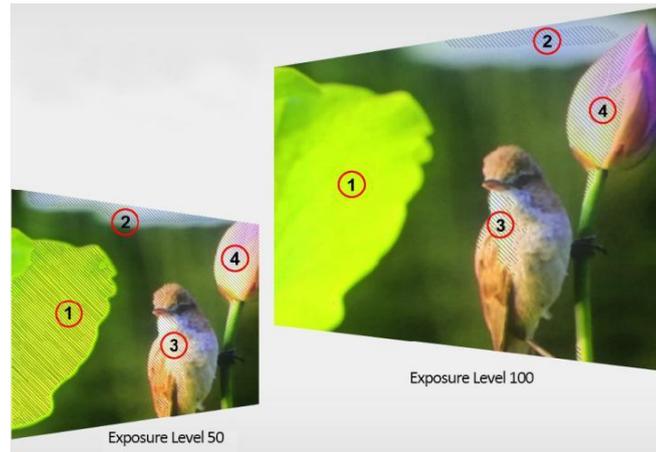
Use this item to activate or deactivate the false color table.

- **Exposure**

Use this item to activate or deactivate the exposure function.

- **Exposure Level**

Use this item to adjust the level of exposure between 50-100 IRE.



- **Histogram**

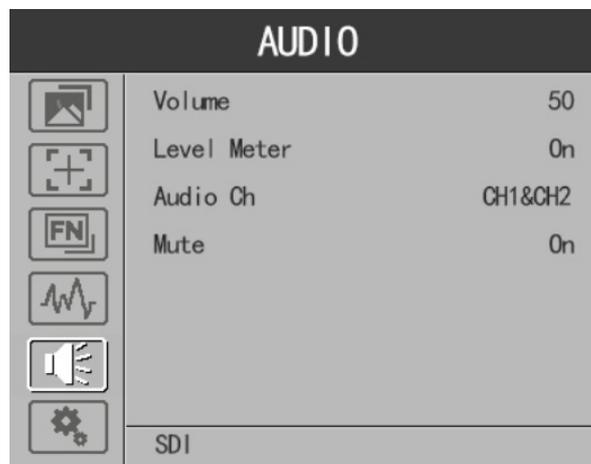
Use this item to activate or deactivate histogram.

- **Time Code**

Use this item to activate or deactivate the Time Code. When activated, [LTC], [VITC] are for optional.

Note: Time code is only available under SDI mode.

3.2.5 AUDIO



- **Volume**

Adjust the volume among 0-100.

- **Level Meter**

Select whether to activate or deactivate level meter.

- **Audio Ch.**

In HDMI mode, select the vector channels from among [Ch1&Ch2], [Ch3&Ch4], [Ch5&Ch6], and [Ch7&Ch8].

In SDI mode, select the Vector Channels from among [Ch1&Ch2], [Ch3&Ch4], [Ch5&Ch6], [Ch7&Ch8],

[Ch9&Ch10], [Ch11&Ch12], [Ch13&Ch14], and [Ch15&Ch16].

- **Mute**

Select whether to activate or deactivate Mute.

3.2.6 SYSTEM

SYSTEM		
	Language	English
	Color Bar	Off
	OSD Timer	10s
	Server IP	0.0.0.0
	DHCP	Off
	Local IP	0.0.0.0
	Sub. Mask	0.0.0.0
	Gateway	0.0.0.0
	SDI	

- **Language**

Option: [Chinese], [English].

- **Color Bar**

Turn on/off color bar. When the color bar on, it can be selected: [100%], [75%].

- **OSD Timer**

Option: [10s], [20s], [30s].

- **Serve IP**

Manually configure the IP of the computer which the monitor needs to connect to: xxx.xxx.xxx.xxx

- **DHCP**

- [On]: The monitor will automatically get an IP address from network for remote control via various programs.

- [Off]: Manually configure IP address.

- **IP Address**

Manually configure IP address: xxx.xxx.xxx.xxx

Note: When [DHCP] on, IP address cannot be manually set.

- **Sub net Mask**

Manually configure Sub net Mask: xxx.xxx.xxx.xxx

Note: When [DHCP] on, Sub net Mask cannot be manually set.

- **Gateway**

Manually configure Gateway: xxx.xxx.xxx.xxx

Note: When [DHCP] on, Gateway cannot be manually set.

- **Reset**

Select the Reset option, press the Menu button to automatically reset.

4. Product Parameters

Model	HDMI Version	SDI HDMI Version
Panel	17.3 inch	
Resolution	1920 × 1080	
Aspect Ratio	16:9	
Brightness	300 cd/m ²	
Contrast	800: 1	
Viewing Angle	170° / 170°(H/V)	
Input Voltage	DC 10~24V	
Input Signal	HDMI 2.0	HDMI 2.0, 3G-SDI
Output Signal	HDMI 2.0	HDMI 2.0, 3G-SDI
Power Consumption	≤14W (12V)	
Operating Temperature	0°C~50°C	
Storage Temperature	-20°C~60°C	
Dimension (LWD)	482.5×44×507.5mm	
Weight	8.9Kg	

5. Accessories



- **Standard:**

- | | |
|--------------------|------|
| 1) 12V DC adapter. | 1 pc |
| 2) Tally adaptor. | 1 pc |
| 3) User Manual. | 1 pc |

6. Trouble Shooting

1) Only black-and-white display:

Check whether the color saturation is properly setup or not.

2) Power on but no pictures:

Check whether the cables of SDI and HDMI are correctly connected or not. Please use the standard power adapter coming with the product package. Improper power input may cause damage.

3) Wrong or abnormal colors:

Check whether the cables are correctly and properly connected or not. Broken or loose pins of the cables may cause a bad connection.

4) When on the picture shows size error:

Press "MENU → FUNCTION → Overscan" to zoom in/out pictures automatically when receiving HDMI signals.

5) Other problems:

Please press "MENU" button and choose "MENU→SYSTEM→ Reset →On".

Note: Due to constant effort to improve products and product features, specifications may change without notice.

Appendix 1: 3D LUT Loading

3D LUT supports upload color calibration document and User Log via USB flash disk.

● Format Requirement

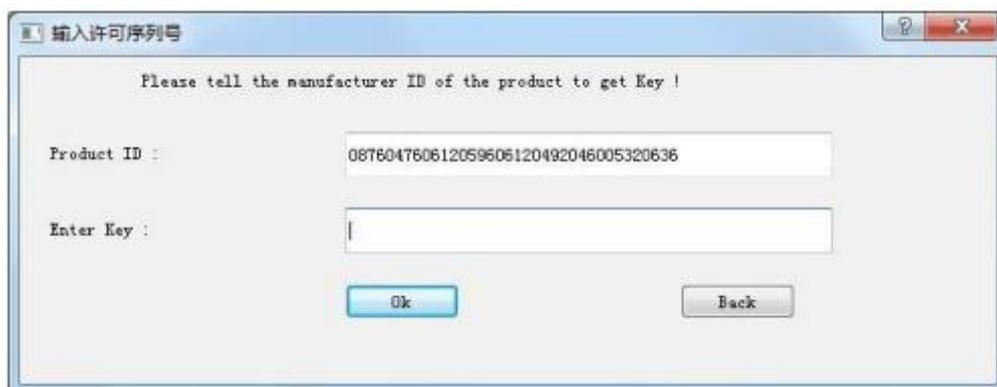
- LUT format
 - Type: .cube
 - 3D Size: 17x17x17/33x33x33
 - Data Order: BGR
 - Table Order: BGR
- USB flash disk version
 - USB: 2.0
 - System: FAT32
 - Size: <16G
- LUT format Color calibration document: Rec709. cube
- User Log: User1. cube-User6.cube

● LUT Format conversion

Please convert LUT format according to the following steps.

Note: For Mac users, please copy the "mac OS" file to Mac, then click and follow the steps below.

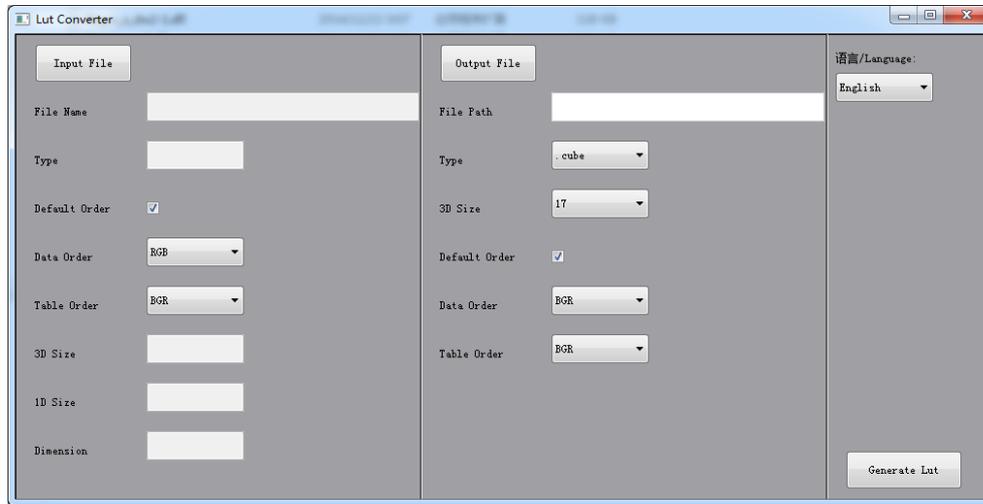
- Activate Lut converter



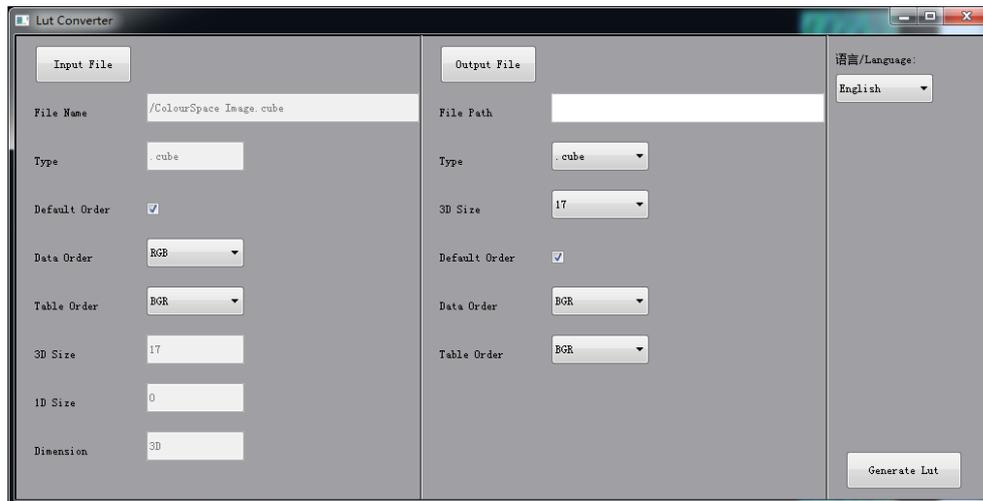
One individual Product ID for one computer. Please send the ID number to Sales to get an Enter Key.

Then the computer gets the permission of the Lut Tool after input the Enter Key.

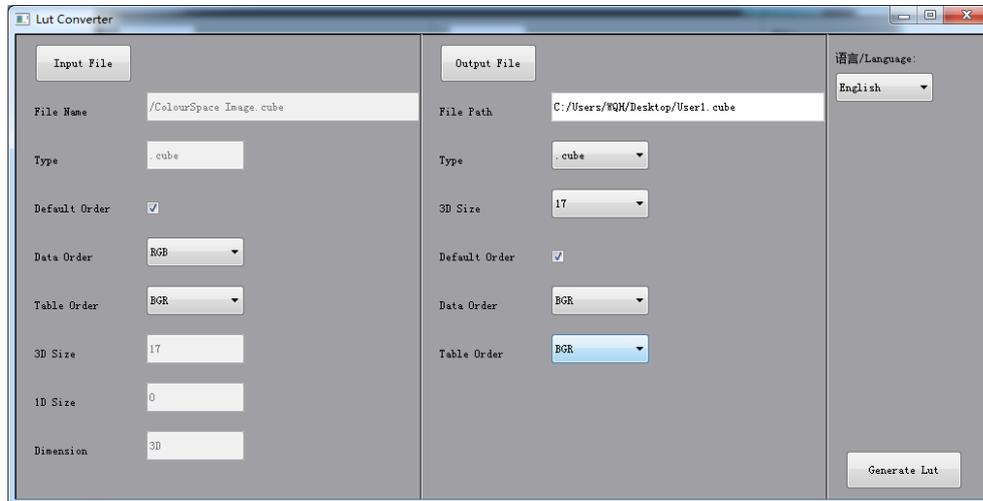
- LightSpace CMS software user demo
 - Activate LUT Tool.exe.



- Click Input File, then select *LUT.



- Click Output File, choose the file name.



- Click Generate Lut button to finish.

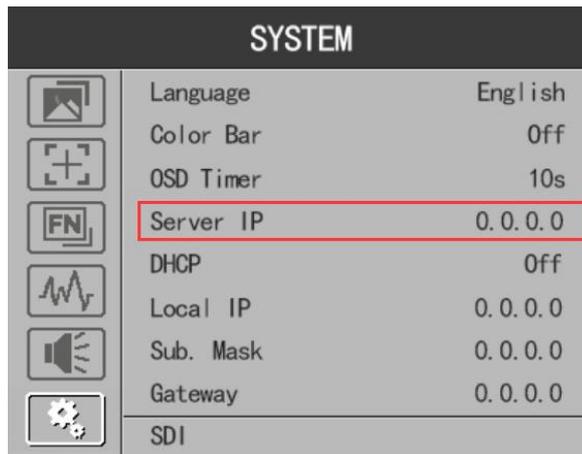
● USB Loading

Copy the needed files to the root directory of the USB flash disk. Plug the USB flash disk into USB port of the device after power on. Click “Yes” on the pop-up prompt window (If the device doesn’t pop-up the prompt window, please check the LUT document name or the USB flash disk version), then press Menu button to update automatically. It will pop-up a prompt message if the update completed.

Appendix 2: Remote Terminal Instructions

● Cross-connection network cable

- 1) Connect LAN Port on the device to PC network interface by using network cable.
- 2) Manually configure the IP of the computer which the monitor needs to connect to: xxx.xxx.xxx.xxx



SYSTEM		
	Language	English
	Color Bar	Off
	OSD Timer	10s
	Server IP	0.0.0.0
	DHCP	Off
	Local IP	0.0.0.0
	Sub. Mask	0.0.0.0
	Gateway	0.0.0.0
	SDI	

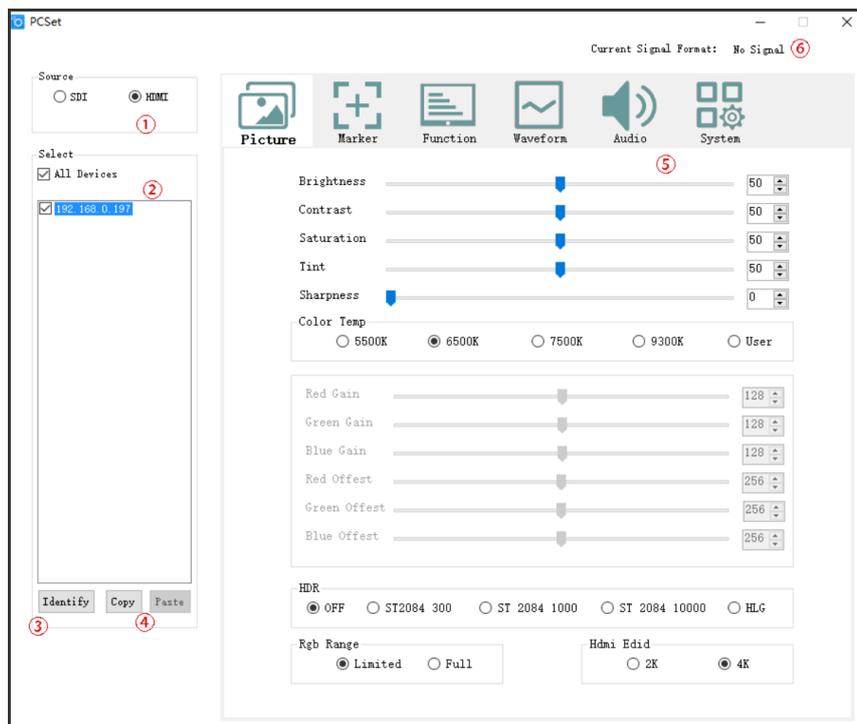
- 3) Install the Net framework (The device uses OS Win 8 and above do not need to be installed as it ships with this framework.)

Note: The device uses OS below Win 8 need to be pre-installed framework
"dotNetFx40_Full_x86_x64.exe".

● Home Screen

1) Software Setup

Open the software, it displays related IP address on the left of pop-up window if the device is connected successfully.



Picture: The home screen of the application

2) Software Setup

1. Source Zone:

To check and setup the selected Source. The settable parameters will be different for different Sources.

2. Select Zone:

The software will read the data from the device which IP address marks as blue. Left click this IP address to select which device to be read. After selection, the user can change the Settings to setup the selected device. (Send to multiple devices is unavailable.)

3. Identify Button:

Click to send the Identify to the selected device. The display screen will display the IP address. (Send to multiple devices is available.)

4. Copy & Paste Button:

Using Copy Button with Paste Button to read and save data get from the device which IP address marks as blue. The copied data can be saved until the process closed.

After copy the data from the display device, click Paste Button to save it. The data can be sent to select multiple devices.

5. Parameter Zone:

The Parameter Zone includes Picture, Marker, Function, Waveform, Audio, and System. See the software interface for the details.

6. Current Signal Format

Displays the current signal format. It will refresh if the current signal changed.