

# 17.3" 1RU Rack Mount Monitor

with 4×12G-SDI Input and Output Interfaces.

## User Guide



### 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:

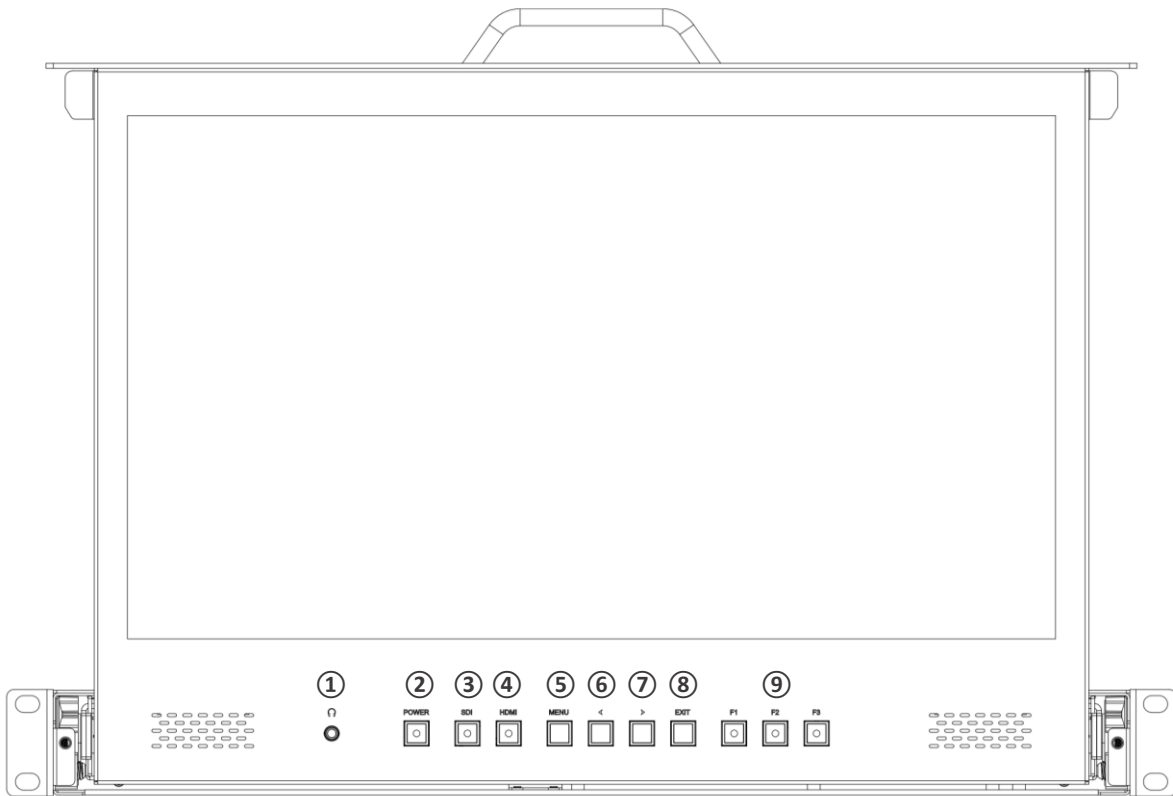
- Please do not place the display screen towards the ground.
- Please avoid heavy impact or drop onto the ground.
- Please do not use chemical solutions to clean this product. Please wipe with a clean soft cloth to maintain the brightness of the surface.
- Please do not block any vent hole.
- Please 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.

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## 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.
4. HDMI: Signal switch to HDMI mode when light on.
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

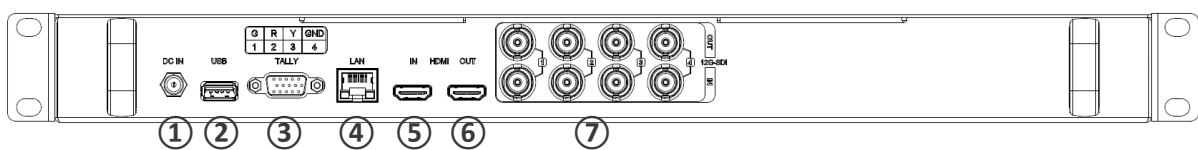
Assigned function by factory as follow:

[F1]: MV Mode      [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. USB port.

3. TALLY connector.

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

5. HDMI 2.0 input port.

6. HDMI 2.0 output port.

7. 4x12G-SDI input/output ports.

## 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], [Color Space], [HDR], [Gamma], [Camera Log], [Check Field], [H/V Delay], [Freeze], [Image Flip], [Color Bar], [Peaking], [False Color], [Exposure], [Histogram], [Full Mode], [Waveform], [Time Code], [Audio Source], [Mute], [Level Meter], [MV Mode].

*(PS: Time Code only available on SDI mode.)*

- Default function:










F1: [MV Mode]










F2: [Waveform].

F3: [Level Meter]

## 3.2 MENU Operations

### 3.2.1 PICTURE

PICTURE		
	Brightness	60
	Contrast	50
	Saturation	50
	Tint	50
	Sharpness	0
	Back Light	100
	RGB Range	Limited
	HDMI EDID	2K
	HDMI	

PICTURE		
	HDMI EDID	2K
	Color Space	Rec709
	Camera Log	Off
	Def. Log	SLog2ToLC-709
	User Log	No Data
	Gamma	2.2
	HDR	Off
	Color Temp.	6500K
	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.

*PS: Only available on HDMI mode.*

- **Color Space**

Select the display gamut from among [Native], [SMPTE-C], [Rec709], [EBU].

- **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.

- **Gamma**

Use this item to choose the display Gamma: [Off], [1.8], [2.0], [2.2], [2.35], [2.4], [2.6], [2.8].





Gamma 1.8

Gamma 2.8

*Note: Gamma mode can be only activated while HDR function closed.*

- **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].

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

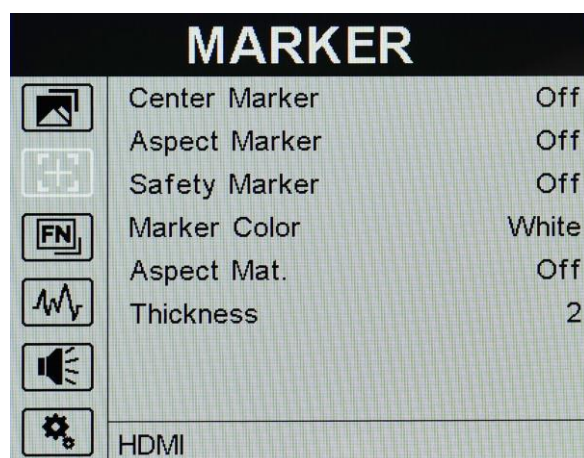
- **R/G/B Gain**

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



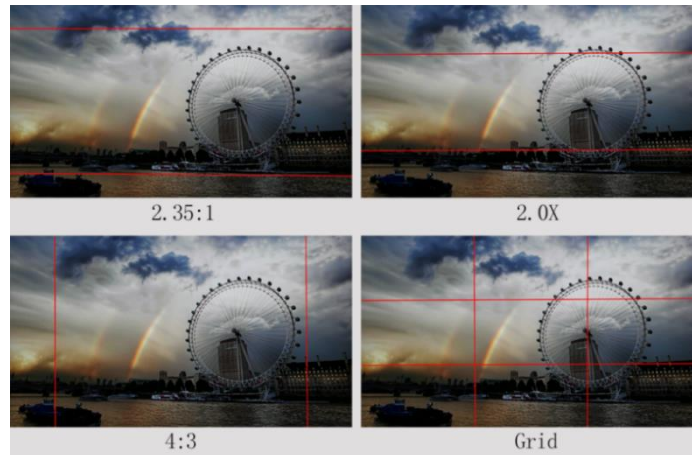
- **Center Marker**

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], [4:3], [3:2], [1.3X], [1.5X], [2.0X], [2.0X MAG], [Grid].

*PS: When [Aspect Marker] is selected as [Grid], Safety Marker and Aspect Mat cannot be displayed.*



- **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.

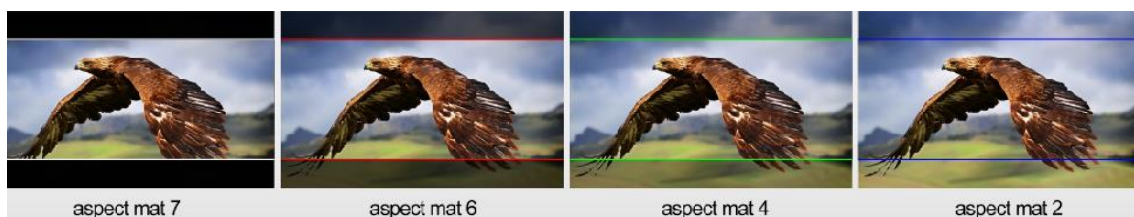
Select the size of the safety markers: [95%], [93%], [90%], [88%], [85%], [80%].

- **Marker Color**

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

- **Aspect Mat.**

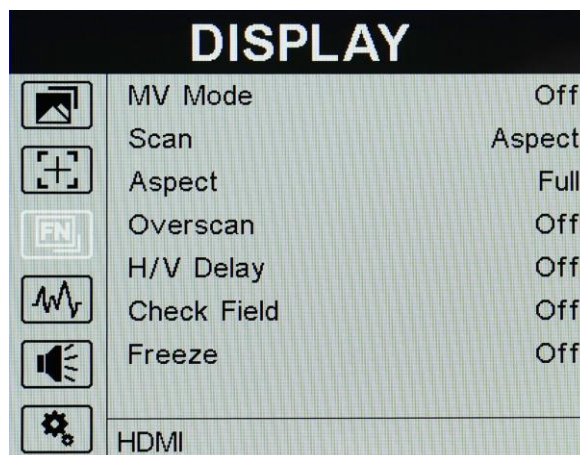
When activated, it can be selected from 1-7 (Step value is 1).



- **Thickness**

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

## 3.2.3 DISPLAY



- **MV Mode**

MV1 Source: SDI1/ SDI2/ SDI3/ SDI4/ HDMI signal input

MV2 Source: SDI1/ SDI2/ SDI3/ SDI4/ HDMI signal input

MV3 Source: SDI1/ SDI2/ SDI3/ SDI4/ HDMI signal input

MV4 Source: SDI1/ SDI2/ SDI3/ SDI4/ HDMI signal input

Frame Line Width: Off, 2, 4, 6, 8, 10, 12, 14

MV1 Frame Line Color: White, Red, Green, Blue, Yellow

MV2 Frame Line Color: White, Red, Green, Blue, Yellow

MV3 Frame Line Color: White, Red, Green, Blue, Yellow

MV4 Frame Line Color: White, Red, Green, Blue, Yellow

- **UMD**

UMD: Off, On

UMD 1 Text Color: White, Red, Green, Blue, Yellow, Cyan, Magenta

UMD 2 Text Color: White, Red, Green, Blue, Yellow, Cyan, Magenta

UMD 3 Text Color: White, Red, Green, Blue, Yellow, Cyan, Magenta

UMD 4 Text Color: White, Red, Green, Blue, Yellow, Cyan, Magenta

**PS: When [MV Mode] is turned on, UMD be selected.**

- **Scan**

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

- **Aspect**

Select the aspect of the image among [Full], [16:9], [1.85:1], [2.35:1], [4:3], [3:2], [1.3X], [1.5X], [2.0X], [2.0X MAG].

- **Overscan**

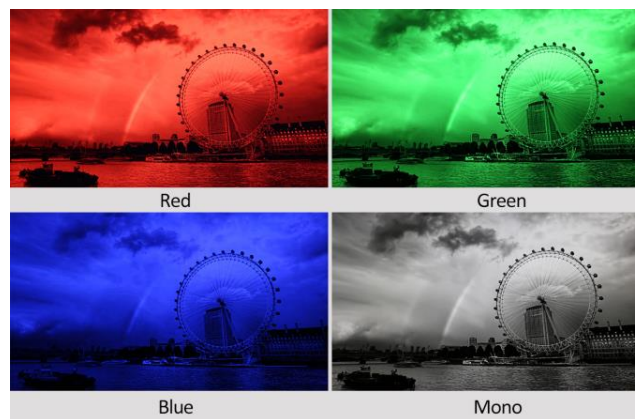
Use this item to activate or deactivate overscan.

- **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].



- **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	YCbCr
	Vector	On
	Transparency	50%
	Peaking	Off
	Peaking Color	Red
	Peaking Level	50
	False Color	Off
	SDI1	

WAVEFORM		
	Peaking	Off
	Peaking Color	Red
	Peaking Level	50
	False Color	Off
	False Color Table	On
	Exposure	Off
	Exposure Level	100IRE
	Histogram	Y
	HDMI	

- **Full Mode**

Use this item to activate Full Mode: [Off], [Y], [YCbCr], [RGB], [Vector], [Histogram], [Audio].



- **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.

**PS: The Vector function is not available in Quad Mode.**

- **Transparency**

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

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

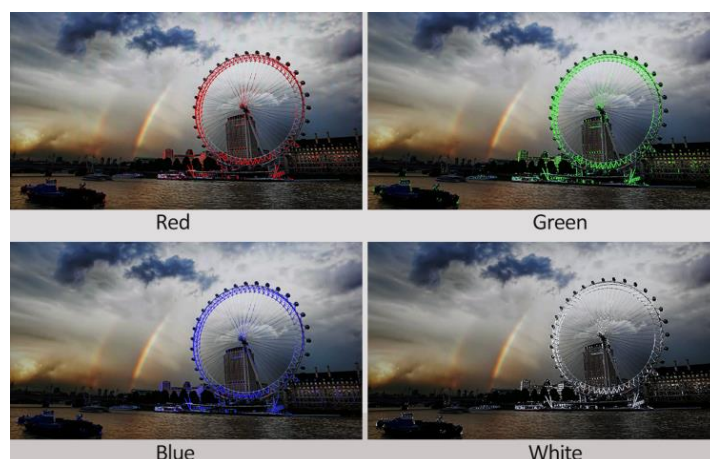
- [Off]: The background of waveform is shown at black.
- [25%]: The background of waveform is shown at 25% intensity.
- [50%]: The background of waveform is shown at 50% intensity.

- **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].



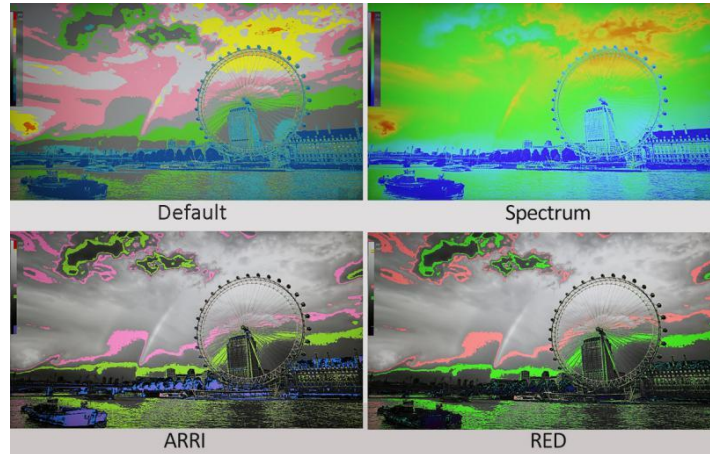
- **Peaking Level**

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**

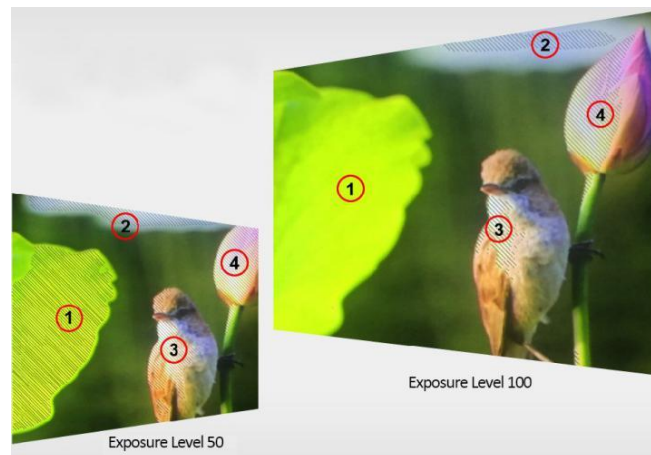
Use this item to activate or deactivate the false color table.

- **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.

*PS: Time code is only available under SDI mode.*

## 3.2.5 AUDIO



- **Volume**

Adjust the volume among 0-100.

- **Audio Ch**

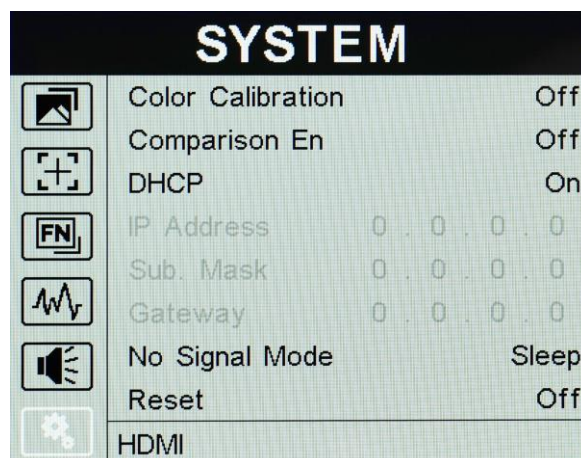
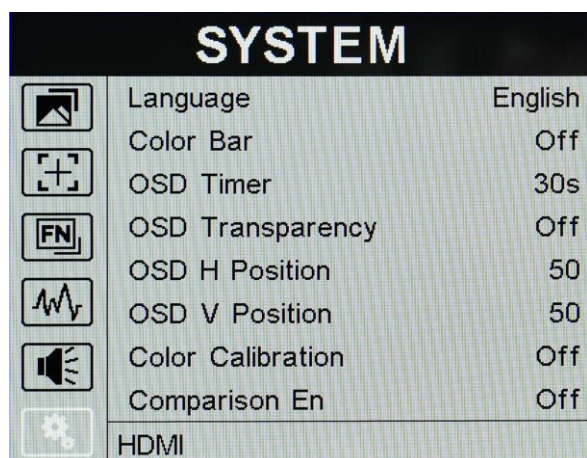
In HDMI mode, select the audio channels from among [Ch1&Ch2], [Ch3&Ch4], [Ch5&Ch6] and [Ch7&Ch8].

In SDI mode, select the audio channels from among [Ch1&Ch2], [Ch3&Ch4], [Ch5&Ch6], [Ch7&Ch8], [Ch9&Ch10], [Ch11&Ch12], [Ch13&Ch14] and [Ch15&Ch16].

- **Level Meter**

Select whether to activate or deactivate level meter.

## 3.2.6 SYSTEM



- **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].

- **OSD Transparency**

Turn on/off OSD transparency. When OSD Transparency on, option: [25%], [50%].

- **OSD H Position**

Option: 0-100. Default: 50.

- **OSD V Position**

Option: 0-100. Default: 50.

- **Color Calibration**

Select [On] or [Off].

If the device needs to be calibrated color, please operate as following:

1. Connect the device with the PC via HDMI interface.
2. Make sure the device and color calibration equipment to work more than 30 minutes.
3. After the previous step, activate the Color Calibration function of the device and color calibration software to calibrate the color (See the document "CMS Color Calibration Process" for details).
4. It will generate a document "Rec709.cube" after calibrated, then copy this document to USB flash disk.
5. Insert the USB flash disk to the device and save the document. This document "Rec709.cube" will be found under Color Space Option.

**PS: It is not available under Quad mode.**

- **Comparison En**

Use this setting to activate or deactivate the Comparison En function.

When activated, the screen displays the comparison of Original image and customized image, as shown:





Option: [Off], [Gamma/HDR], [Color Space], [Camera Log]. Default: [Off].

*PS: It is not available under Quad mode.*

- 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

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

- Subnet Mask

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

*PS: When [DHCP] on, Subnet Mask cannot be manually set.*

- Gateway

Manually configure Gateway: xxx.xxx.xxx.xxx

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

- No Signal Mode

Option: [Normal], [Shutdown], [Sleep].

- Reset

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

## 4. Product Parameters

Panel	17.3" IPS
Resolution	1920 × 1080
Aspect Ratio	16:9
Brightness	300 cd/m <sup>2</sup>
Contrast	800: 1
Viewing Angle	170° / 170° (H/V)
Input Signal	1×HDMI 2.0, 4×12G-SDI
Output Signal	1×HDMI 2.0, 4×12G-SDI
Supported Formats	HDMI: Up to 2160p 60Hz / SDI: Up to 2160p 60Hz
Speaker	2
Audio Channel	HDMI: 8 ch / SDI: 16 ch
Power Consumption	≤19W (12V)
Input Voltage	DC 12~24V
Operating Temperature	0°C ~50°C
Storage Temperature	-20°C ~60°C
Dimension (LWD)	482.5×44×507.5mm
Weight	10.1kg

## 5. Accessories



### ● Standard:

- |                    |      |
|--------------------|------|
| 1) 12V DC adapter. | 1 pc |
| 2) Tally adapter.  | 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".

**PS: 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.

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

#### ● Activate Lut converter

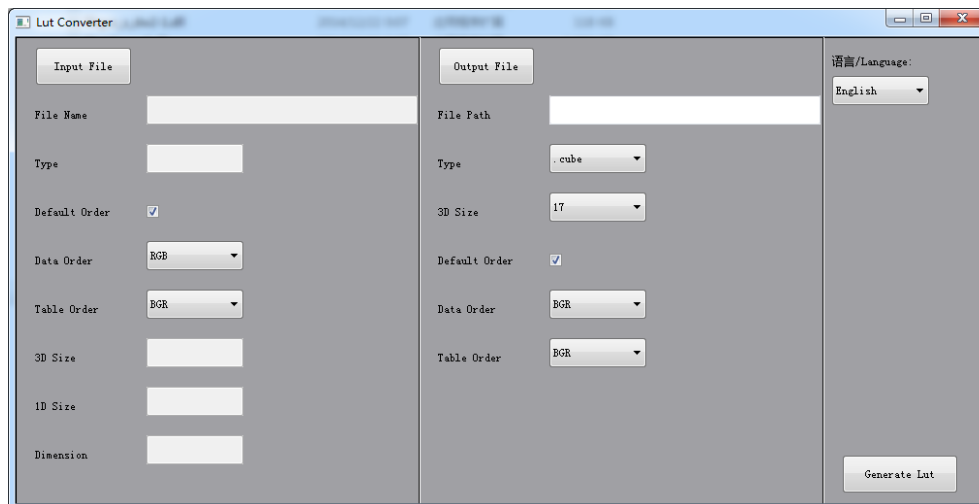


One individual Product ID for one computer. Please send the ID number to Sales to get an Enter Key.

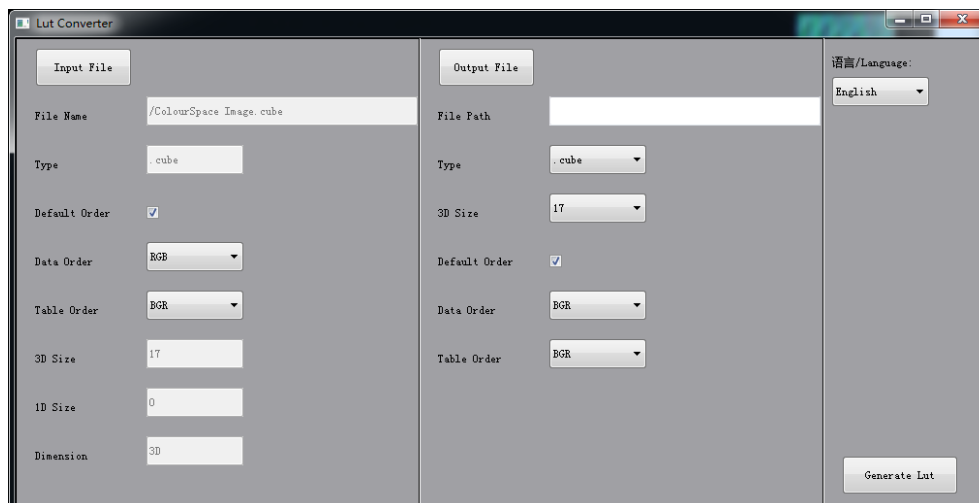
Then the computer gets the permission of the Lut Tool after input the Enter Key.

#### ● LightSpace CMS software user demo

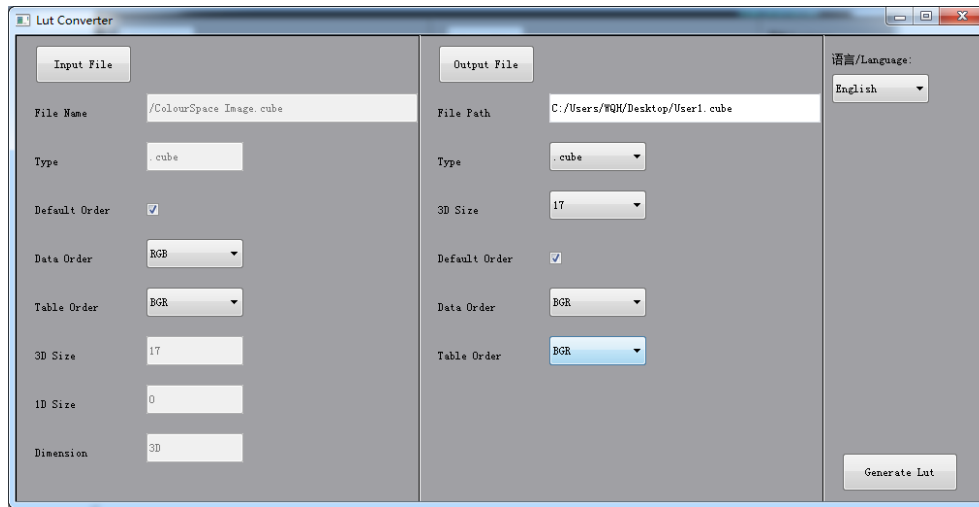
- Activate Lut Tool.exe.



- Click Input File, then select \*.LUT.



- Click Output File, choose the file name.



- Click Generate Lut button to finish.

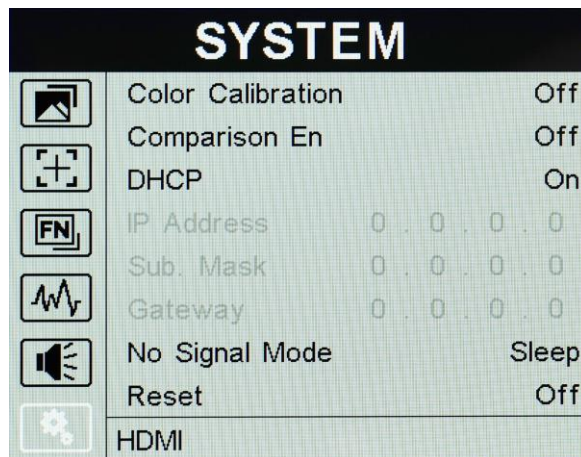
## ● USB Loading

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



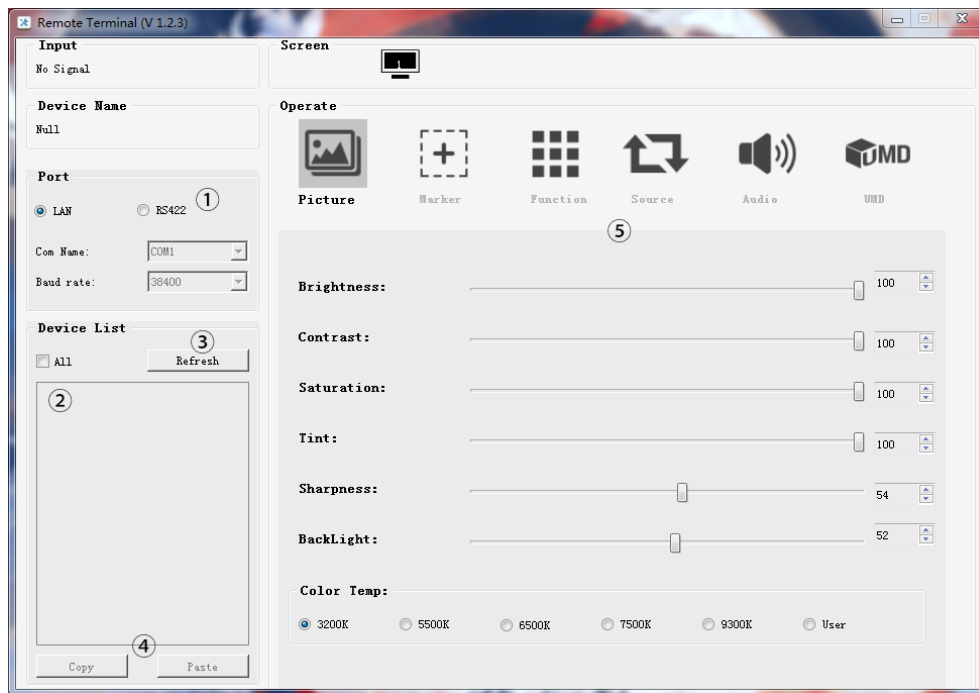
- 3) Install the Net framework (The device uses OS Win 8 and above do not need to be installed as it ships with this framework.)

PS: The device uses OS below Win 8 need to be pre-installed framework "dotNetFx40\_Full\_x86\_x64.exe".

### ● Software Interface

#### 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 interface of the application

## 2) Introduction

### 1. Source Area:

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

### 2. Device Area:

The software will read the data from the device. After selection, the user can change the Settings to setup the selected device.

### 3. Refresh Button:

Click to refresh connected device. The display screen will display the IP address.

### 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, Source, Audio, and UMD. See the software interface for the details.