Multi-Format Video Seamless Switch

FULL HD Production Monitors

21.5"

17.3"

13.3"

User Manual

Product Overview

Thank you for using our photography, broadcast color LCD monitor. This monitor adopts digital signal processing circuit and professional LCD screen, which makes it high brightness, low power consumption, stable performance etc. It also has strong compatibility, adjustable color temperature control. Its advanced features include Waveform, Vector Scope, Histogram, False Color, Zebra Exposure, Focus Assist, Center Marker, Safety Area, Nine Grid, Picture Setting, Color Setting, etc. It is an ideal NLE (Nonlinear Edit) matching monitor.

To meet different customers' needs, our monitor has High-Definition Multimedia Interface signals HDMI, the serial digital interface signals SDI, and YPbPr, Video interfaces.

To insure best use of the unit, please read the user's manual carefully

CAUTION

1. Please use the adapter in the accessory, and use the qualified battery if need.
2. Please do NOT expose this product directly in the sunlight, heat, and humid conditions.
3. Please keeps the monitor away from the strong light while using this product to ensure the image effect and long-term use.
4. Please avoid heavy impact or drop onto the ground.
5. Please do NOT use chemical solutions to clean this product. Please wipe the monitor with a clean soft cloth to maintain the brightness of the surface.
6. To avoid damaging the product, please do not take apart or repair the unit by yourself without adjustable component in the unit.

Product Feature

● Vector Scope/ RGB Histogram/ Parade Waveform, to observe the color balance, white balance, color saturation, etc.

● Histogram is a quantitative tool to inspect image brightness, to guide photography exposure control.

● Analog stereo L/R, Embedded Audio Display

● Focus Assist (Focus edge can choose red, green, blue, white).

● Zebra and False Color function, convenient to guide using light when shooing and post production.

● Check Field (R, G, B, Gray)

● Internal Color bar

● Camera Mode, no delay in camera photography, full screen image display.

● Scan Mode (Full Screen, Auto, Over Scan)

● Pixel to Pixel

● Image Zoom-in function

● Anamorphic Mode

● Image Freeze and Image Flip (H, V, H/V)

● Image Nine Grid, zoom one of the images to realize the full screen

● Marker Types, Safety Area and Center Marker

● Brightness, Contrast, Hue, Saturation and Color Temp adjust

● A variety of SD HD video interface, 3G-SDI/ HDMI input and output interfaces.

● Stereo earphone output
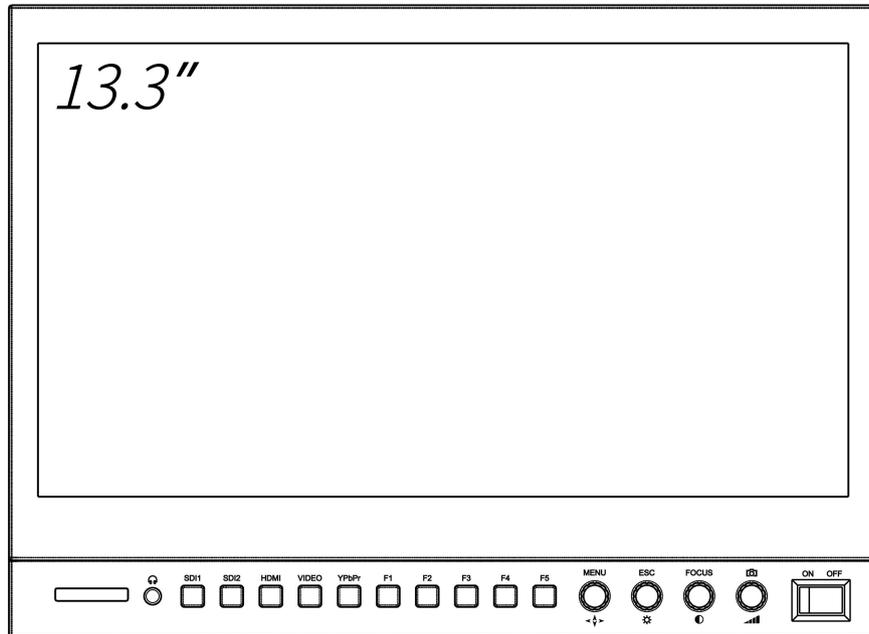
● Panel button (F1～F5) function custom setting

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1. Product Description

1.1 Front Panel Features

● **13.3″**

● **17.3″**
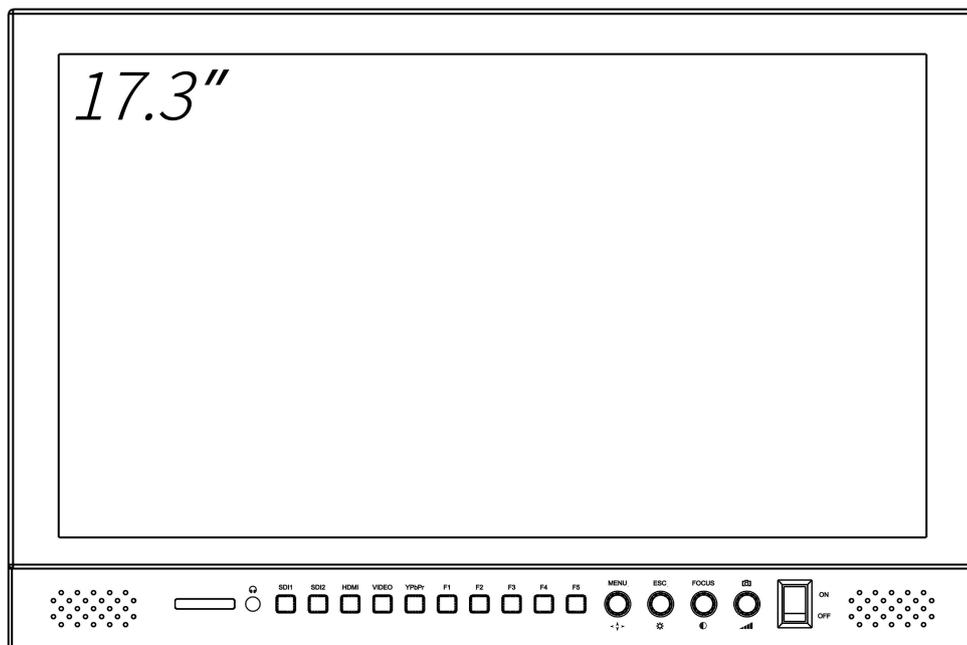
● **21.5″**
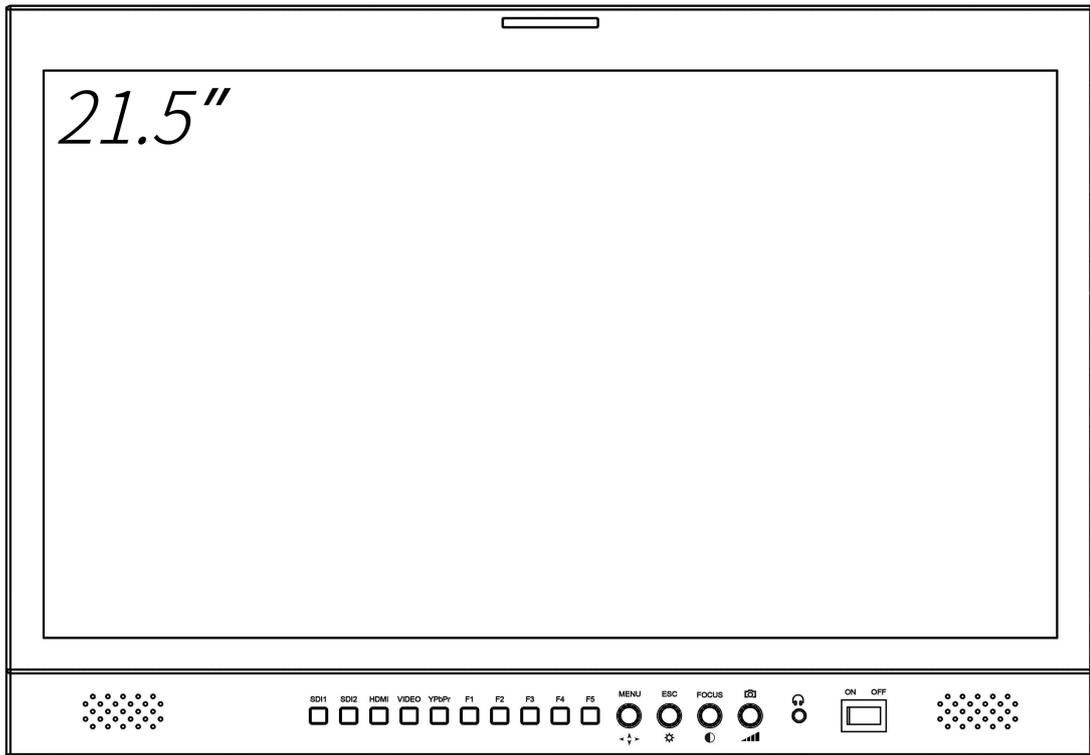
● **Innovation OSD Operations**
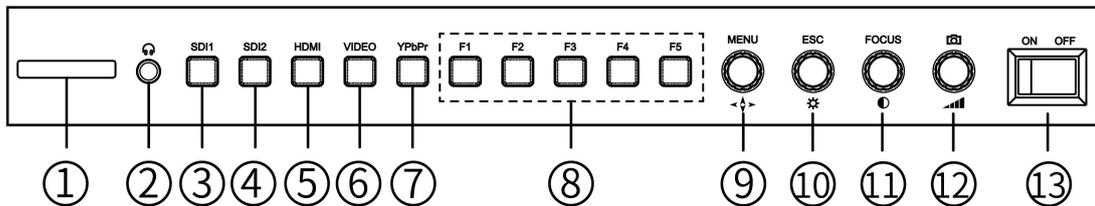
①．**TALLY Indicator**

②．🎧 **:** Earphone jack output port

③．**SDI 1:** SDI signal channel 1 input selection button

④．**SDI 2:** SDI signal channel 2 input selection button

⑤．**HDMI:** HDMI signal input selection button

⑥．**VIDEO:** Composite video signal input selection button

⑦．**YPbPr:** Component video signals input selection button

⑧．**F1〜F5:** Customized button, users can set the functions in F menu bar according to their own operating habits.

⑨．**MENU**
◁↕▷ : Multifunctional knob button

Menu button/ UP/DOWN Rotate

Press MENU button to enter into OSD menu, and rotate it is for the menu selection or adjustment, press it again to save and setting.

⑩．**ESC**
☼ : Multifunctional knob button

Exit button / Brightness

No menu display, rotate this button is for Brightness adjustment. When press MENU button it turns to ESC button, and press this button is for all exit of OSD.

⑪．**FOCUS**
◑ : Multifunctional button

Focus Assist/ Contrast

Directly press it is for "Focus Assist" function;

Rotate this button is to adjust the image Contrast.

⑫．**📷**
📶: Multifunctional button

Camera Mode/ Volume

Directly press it to open "Camera Mode" function;

Rotate this button is to adjust the Volume.

⑬．**Power ON/ OFF:** **━ :** Power on; **O:** Power off

1.2 Rear Panel Features

● **13.3″**
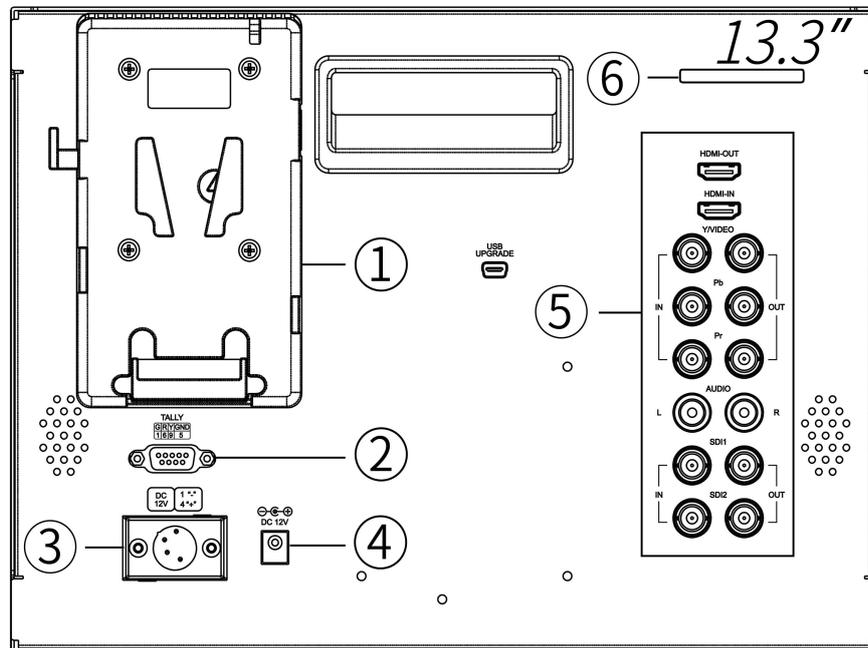
①． **Battery Plate slot**

(According to the users' requirements selection)

②． **Tally Indicator signal input port**

③． **4-pin XLR DC power input**

④． **DC power input port**

⑤． **Interfaces** (See below Rear Panel interfaces Instructions)

⑥． **Tally Indicator**

● **17.3″**
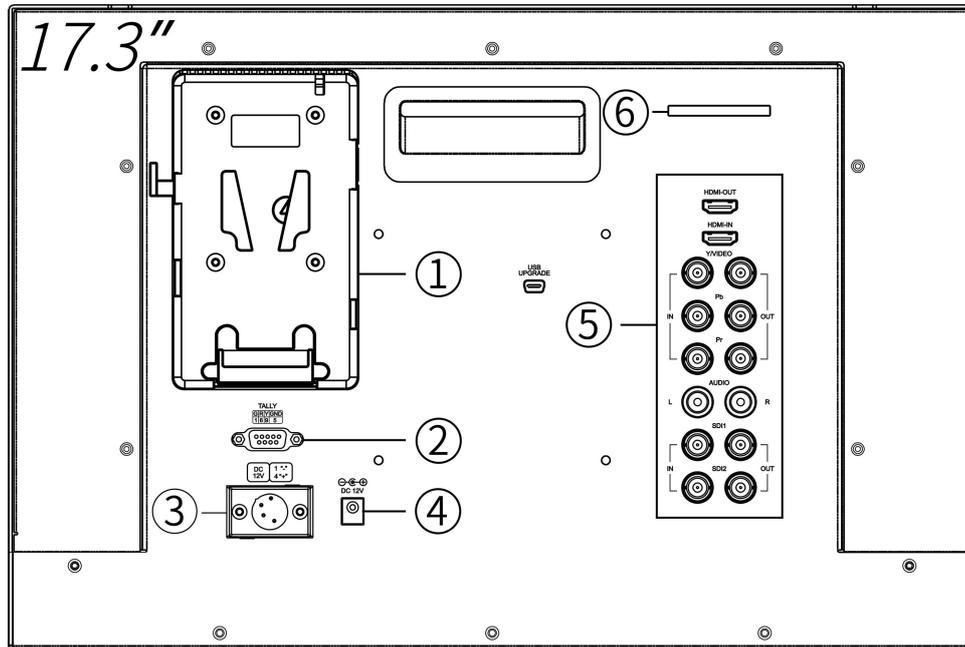
①． **Battery Plate slot**

   (According to the users' requirements selection)

②． **Tally Indicator signal input port**

③． **4-pin XLR DC power input**

④． **DC power input port**

⑤． **Interfaces** (See below Rear Panel interfaces Instructions)

⑥． **Tally Indicator**

● **21.5"**

①． **Battery Plate slot**

(According to the users' requirements selection)

②． **Tally Indicator signal input port**

③． **4-pin XLR DC power input**

④． **DC power input port**
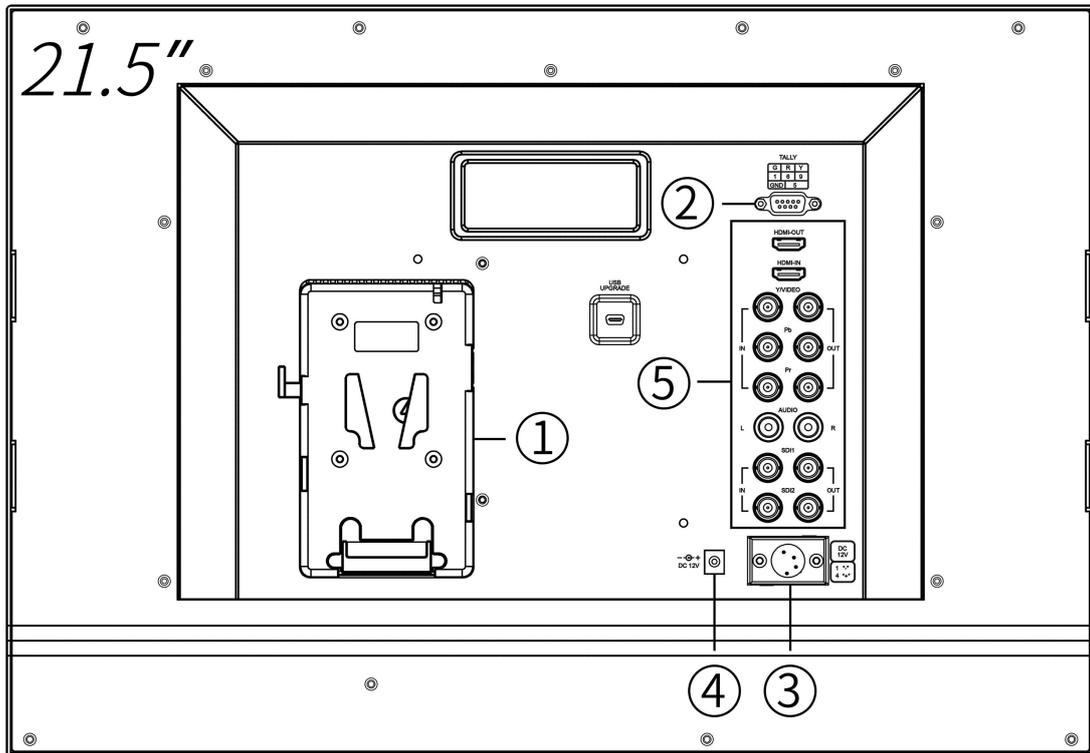
⑤． **Interfaces** (See below Rear Panel interfaces Instructions)

● Rear Panel interfaces Instructions
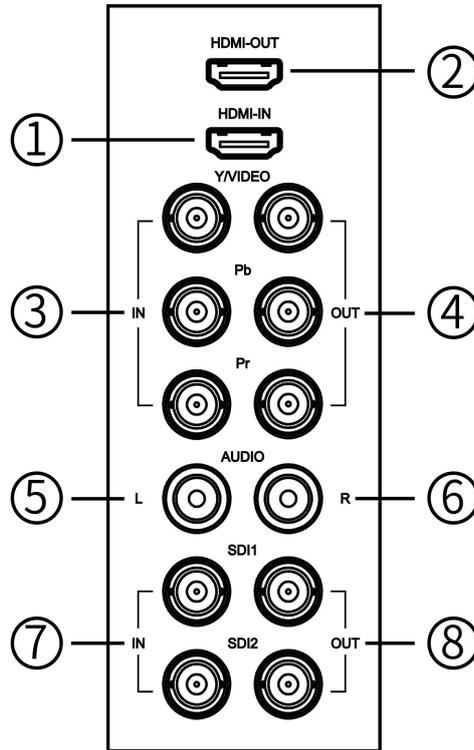
①．**HDMI IN:** HDMI (High Definition Multimedia Interface) signal input.

②．**HDMI OUT:** HDMI (High Definition Multimedia Interface) signal output.

③．**YPbPr/VIDEO IN:** YPbPr and component VIDEO input port. From top to bottom is Y, Pb, Pr input and component VIDEO signal input port is to connect Y/VIDEO.

④．**YPbPr/VIDEO OUT:** YPbPr and component VIDEO input port. From top to bottom is Y, Pb, Pr output and component VIDEO signal output port is to connect Y/VIDEO.

⑤．**AUDIO L:** Audio L channel input

⑥．**AUDIO R:** Audio R channel input

⑦．**SDI1/SDI2 IN:** SDI channel 1, 2 signal input

⑧．**SDI1/SDI2 OUT:** SDI channel 1, 2 signal output

1.3 Power Input Way

There are three ways of power supply to our monitor:

a. Powered by the direct plug-in power input port supply.

Please select DC 5.5*2.1mm power plug supply and the polarity is

$$- \!-\! \odot \!-\! +$$

as image below:

b. Via 4 pin XLR interface power supply, to share power with the camera or via power adapter input.

Polarity of the 4-pin XLR power input as below image, please note the polarity of the power input, otherwise it may damage monitor.
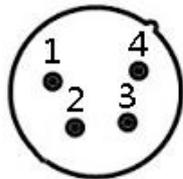
Pin number	Signal
1	GND
2	No connection
3	No connection
4	+12V

c. Add battery to the monitor battery plate to supply the power.

The product back case including battery plate is available for two types of batteries. Customers can choose different battery plates according to their needs. (If the customers have no requirement on the battery, the factory assembles Sony V-Mount Plate by default).

1.4 Battery Plates

Panasonic Anton Plate   **Sony V-Mount Plate**

We assemble the suitable battery plate for the customers according to the different requirements of the batteries. If the customers have no requirement on the battery, the factory assembles Sony V-Mount Plate by default.

Remark: According to the different specification of the battery, the capability is different, and the working time for the monitor will be different. Higher capability (working time) will be longer.

Without the charging circuit design for the monitor, please remove the battery to charge with the battery charger.

Suggestion: Better to remove the battery if don't use this product in a long time.

1.5 TALLY Indicator Connection
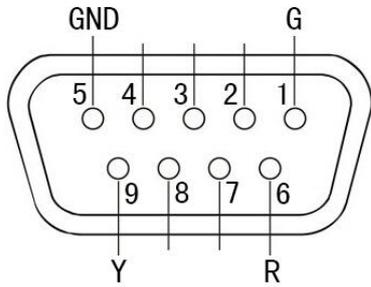
Indicator colors	Pin connection
Green	1-5
Red	6-5
Yellow	9-5

1.6 Desktop Bracket Installation (17.3" for example)

① ②
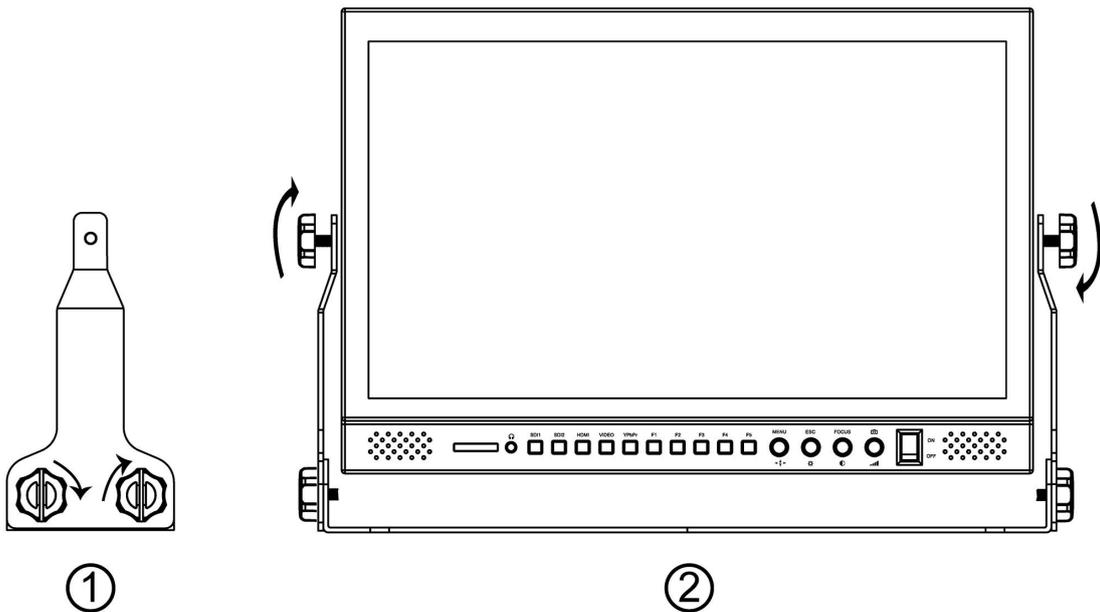
①: Keep screw holes in the left and right two sides alignment with the base, then lock it with 1/4″ nut. There are two nuts in both two sides.

②: Put the assembled bracket on both sides of the matched monitor and lock it with 1/4″ nut.

2. Button Operation Instructions

● **Signal input selection**

   SDI 1 → Serial Digital Interface channel 1 signal input selection.

   SDI 2 → Serial Digital Interface channel 2 signal input selection.

   HDMI → High Definition Multimedia Digital signal input selection

   VIDEO → Composite video signal input selection.

   YPbPr → Component video input signals selection

● **Characteristics control operation (press the corresponding operation button)**

    → **Camera Mode:** Using 5D2 or 550D and other similar

   camera, press the button, the screen image

   disappears about 6-8 seconds, after that it will return to full

   screen display image, then watch from framing of the

   screen image to the recording is no time difference, image

   no distortion, no black screen, no delay, perfect without

   distortion.

FOCUS → **Focus Assist function:** In the actual operation process

   to focus on the photographed object, with rotating the

   focusing ring, the closer focus, the more obvious color

   particles will appear on the picture, we can observe the

   color particles in the intensity of the object contour appear

   on the screen, to judge whether the camera focus

   accurately or not.

F1~F5 → F1 to F5 is customized button. Customers can enter the F menu function in **OSD** and select **(Flip, Freeze, Pattern Gen, Marker Type, Safety Area, Center Marker, Nine Grid, Mute, False color, Y Histogram, Audio Bar, Vector, RGB Histogram, Waveform, All Scopes, Check Field, Zebra Switch, Focus Assist, Focus Color, Scan Mode, Pixel To Pixel, Zoom)** one of them definition function according to user's favorite, operation habits.

● **Analog adjustment (rotate the corresponding knob)**

☼ → Image Brightness adjustment

◐ → Image Contrast adjustment

▁▂▃ → The speaker or earphone Volume adjustment

● **Menu Operation**

MENU → Menu button, press **MENU** to enter, after set or adjust the value in the secondary menu, then rotate ◄ ▲▼ ► button to select the adjustment, after setting, press **MENU** button again to confirm. Press ESC to back the last step.

◄ ▲▼ ► → **U/D, L/R selection (rotate),** when enter the menu, rotate it is for menu function selection. After enter the secondary menu, it is to select the set items or adjust the value.

ESC → Press it to exit all menu

3. Menu Entry

3.1 Press "**MENU**" button to enter OSD menu, and then rotate this button to go through the main menu and secondary menu function.

3.2 Press "**MENU**" button again to enter secondary menu, (cursor move to secondary menu position). If users need to go through or select the items in the secondary menu, then rotate this button to move the cursor.

3.3 After select the secondary menu items, press "**MENU**" button to confirm the item selection, at this time rotate this button to adjust the item parameters, press "**MENU**" button again to confirm the adjustment, and rotate the button to move the cursor to next item.

3.4 Press "**ESC**" to exit all menus.

Main Menu	Sub-menu (Function)	Adjustment
Assistant Functions	Check Field	Off
Marker Display	False Color	Off
Scopes	Zebra Switch	Off
Picture Setting	Zebra Exposure	50
Color Setting	Focus Assist	Off
Shortcuts	Focus Color	Red
OSD Setting	Pattern Gen	Off

4. Menu Function Introductions

● Assistant Functions

Assistant Functions	Check Field	Off
Marker Display	False Color	Off
Scopes	Zebra Switch	Off
Picture Setting	Zebra Exposure	50
Color Setting	Focus Assist	Off
Shortcuts	Focus Color	Red
OSD Setting	Pattern Gen	Off

★ **Check Field (Red, Green, Blue, Gray, Off)**

To switch among Color, Red, Green, Blue, Gray.

★ **False Color (Off, On)**

It is the analysis of the whole image brightness and display false Color. It is convenient to guide using light when shooing and post production.

★ **Zebra Switch (Off, On)**

Turn on/off Zebra crossing function.

★ **Zebra Exposure (0～100)**

When it is overexposed, the screen appears the twill zebra to reflect exposure of the monitor video image.

It is to remind the photographer of adjusting aperture to get suitable exposure value.

★ **Focus Assist (Off, Low, High)**

By sharpening the edge of images to help photography for focusing operation.

★ Focus Color (Red, Green, Blue, White)

Shooting under colorful image or natural light, it is not too sensitive to react the edge of the single line for users.

At this time users can change the auxiliary focal edge line color to improve the sensitivity of the image contour. It is convenient for users to track in focus during shooting.

Edge line color can be chosen according to the situation.

★ Pattern Gen (Off, On)

Turn on to display the Pattern Gen; it is to analyze monitor image color, adjust tone & brightness, etc

● Marker Display

Assistant Functions	Center Marker	Off
Marker Display	Marker Type	Off
Scopes	Safety Area	Off
Picture Setting	Marker Color	Red
Color Setting	Nine Grid	Off
Shortcuts		
OSD Setting		

★ Center Marker (Off, On)

Screen Center Marker (cross marker) display settings.

★ Marker Type (Off, 16:9, 4:3, 2.35:1, 1.85:1)

Users can select Marker Type.

★ Safety Area (Off, 96％, 93％, 90％, 85％, 80％)

Turn on or off the Safety Area. Center Marker, Marker

Type and Safety Area will display at the same time.

★ **Marker Color (White, Gray, Black, Red, Green, Blue)**

Select the color display in Marker Color, Users could

choose the high contrast colors in different pictures.

★ **Nine Grid (Off, On)**

When turn on, it displays with Nine Grid segmentation,

rotate "**MENU**" to select the picture you need, press

"**MENU**" to Zoom-in the picture to full screen, press

"**ESC**" to exit.

● **Scopes**

Assistant Functions	Y Histogram	Off
Marker Display	Audio Bar	Off
Scopes	Vector	Off
Picture Setting	RGB Histogram	Off
Color Setting	Waveform	Off
Shortcuts	All Scopes	Off
OSD Setting		

★ **Y Histogram (Off, On)**

The Brightness Histogram is a quantitative tool to check the

picture brightness. The feature shows the distribution of

brightness in an image as graph of brightness along the

horizontal axis (Left: Dark, Right: Bright) and a stack of the

number of pixels at each level of brightness along the

vertical axis.

★ Audio Bar (Off, On)

The L/R Audio Level Meters provide numerical indicators and headroom levels.

★ Vector (Off, On)

Vector scope shows how saturated the image is and where the pixels in the image land on the color spectrum. It can also be displayed in various sizes & positions that allow users to monitor color gamut range in real time.

★ RGB Histogram (Off, On)

RGB histogram is a graphical display of the distribution of tones, shows the Red, Green and Blue channels in overlay histogram. Determine the white balance.

★ Waveform (Off, RGB, YUV, Y)

Parade waveform to observe the color balance, you also can choose RGB Parade, YUV Parade, Y Parade to display the waveform.

★ All Scopes (Off, On)

To select (Y Histogram, RGB Histogram, Audio Bar, Vector, Waveform) ALL Scopes.

● Picture Setting

Assistant Functions	Scan Mode	Auto
Marker Display	Camera Mode	Off
Scopes	Flip	Standard
Picture Setting	Freeze	Off
Color Setting	Pixel To Pixel	Off
Shortcuts	Zoom	Standard
OSD Setting	Anamorphic	Off
	Deinterlace	Off

★ **Scan Mode (Auto, Full Screen, Over Scan)**

Monitor scan mode for the image signal resolution.

Turn on "Over Scan" function, it will display 90% image of the original signal image.

★ **Camera Mode (Off, 480P, 1080P)**

When using 5 D Mark II video modes, turn on the function to make the image full screen and no delay. (Note: please close "INFO" mode on the left of 5DMarkII.)

★ **Flip (Standard, Horizontal, Vertical, Hor & Ver)**

Screen image flip function.

★ **Freeze (Off, On)**

The current picture still (capture function).

★ **Pixel To Pixel (Off, On)**

The display mode makes the resolution of the image consistent with display of the physical resolution. If the input video resolution is higher than the screen resolution, then it will just display the middle part of the image. But if

the input video resolution is lower than the screen

resolution, then on the side of image will add black color.

★ Zoom (Standard, 4X, 9X, 16X)

Image Zoom function, to help the photographers a subtle

observation.

★ Anamorphic (Off, 1.3x, 2.0x, 2.0x mag)

This function is used on some wide screen distortion film lens

to display the real proportion of scene.

★ Deinterlace (Off, On)

In video editing, converting interlaced video into progressive

video in order to eliminate the fluency, "stall" feeling of motion

picture. It has better treatment effect for the key and static

frame.

● Color Setting

Assistant Functions	Brightness	50
Marker Display	Contrast	50
Scopes	Hue	50
Picture Setting	Chroma	50
Color Setting	Sharpness	5
Shortcuts	Color Temp	User
OSD Setting	Red	128
	Green	128
	Blue	128

★ Brightness (0～100)

To adjust the image's brightness.

★ **Contrast (0～100)**

To adjust the brightest and darkest ratio of the image.

★ **Hue (0～100)**

To adjust the cold and warm color of current image.

★ **Chroma (0～100)**

To adjust the current image color chroma.

★ **Sharpness (0～16)**

To adjust the current image sharpness simulation.

(Sharpness reflects the image plane definition and image edge sharpness. By lowering the sharpness, image looks softer; conversely, by raising the sharpness, image looks more clearly)

★ **Color Temp (3200K, 5600K, 6500K, 9300K, User)**

Select monitor color white color temp., factory default the monitor color temperature of 6500K.

When select 'user', users can adjust the image's RGB ratio according to their requirements.

● **Shortcuts**

```
Assistant Functions    F1              Vector
Marker Display         F2         Y Histogram
Scopes                 F3           Audio Bar
Picture Setting        F4         Check Field
Color Setting          F5              Freeze
Shortcuts              Shortcut Group       0
OSD Setting
```

★ **F1, F2, F3, F4, F5 (Flip, Freeze, Pattern Gen, Marker Type, Safety Area, Center Marker, Nine Grid, Mute, False Color, Y Histogram, Audio Bar, Vector, RGB Histogram, Waveform, All Scopes, Check Field, Zebra Switch, Focus Assist, Focus Color, Scan Mode, Pixel To Pixel, Zoom)**

F1～**F5** custom function setting on the panel of the monitor.

For example: Set F1 as "Focus Assist" in the "**Shortcuts"** of OSD, after exit OSD, you can directly press F1 button on the front panel of the monitor to turn on the "Focus Assist" function **F2**～**F5** same setting as F1.

 Shortcut Group: It contains 0, 1, 2, total 3 version, could set F1~F5 custom function in different version.

● **OSD Setting**

Assistant Functions	Language	English
Marker Display	OSD Time	30
Scopes	OSD Trans	Off
Picture Setting	Volume	50
Color Setting	Mute	Off
Shortcuts	Reset	No
OSD Setting		

★ **Language (中文, English)**

 OSD Language Selection.

★ **OSD Time (5s, 10s, 15s, 20s, 25s, 30s)**

 OSD Menu will disappear without operation.

★ **OSD Trans (On, Off)**

 Display the menu translucently on the screen.

★ **Volume (0～100)**

 Control the volume of Speaker or earphone.

★ **Mute (On, Off)**

 Close the volume of speaker or earphone.

★ **Reset (Yes, No)**

 Back to original setting

5. Support Signal Formats

Video Signal	Support Signal Formats
HDMI	480i/576i/480p/576p 720p(60/59.94/50/30/29/25/24/23.98) 1080i (60/59.94/50） 1080p(60/59.94/50/30/29.97/25/24/24sF/23.98/23.98sF)
SDI	480i/576i 720p(60/59.94/50/30/29/25/24/23.98) 1080i(60/59.94/50) 1080p (60/59.94/50/30/29.97/25/24/24sF/23.98/23.98sF)

6. Parameters

Panel Size	13.3″	17.3″	21.5″
Resolution (pixels)	1920×1080	1920×1080	1920×1080
Dot Pitch	0.1533(H) ×0.1533(V) mm	0.1989(H) ×0.1989(V) mm	0.24825(H) ×0.24825(V) mm
Aspect Radio	16:9	16:9	16:9
Brightness	400cd/m2	400cd/m²	250cd/m²
+Contrast	1000:1	600:1	3000:1
Viewing Angle	85°/85°(L/R) 85°/85°(U/D)	80°/80°(L/R) 60°/80°(U/D)	89°/89°(L/R) 89°/89°(U/D)
Input Voltage	DC 7～24V	DC 10～24V	DC 12～24V
Power Consumption	≤ 14W	≤ 27W	≤ 19W
Backlight	LED		

Inputs	3G-SDIX2, HDMI, YPbPr, Video, Audio(L/R)		
Outputs	3G-SDIX2, HDMI, YPbPr, Video		
Audio	3.5mm Stereo Headphone, Speaker		
Special Function	TALLY Indicator		
Working Temperature	- 10℃ ～ 50℃		
Storage Temperature	- 20℃ ～ 60℃		
Unit Size (Without Bracket)	315.5L×231H ×26.4D mm	426L×285H ×35.1D mm	511.58L×355.5H ×37.87D (mm)
Unit Weight	1.37kg / 1.70kg(W/ Bracket)	2.90kg / 3.50kg(W/ Bracket)	4.51kg / 6.44kg (W/ Bracket)

7. Trouble Shooting

If there is any problem when using the unit, please try following ways to inspect and solve. Please contact us if you still cannot solve it or have other problems.

● No image display	Fault cause and solve
◆ Video cable off or connect incorrectly.	Check the quality of the cable; make sure the correct input interface.
◆ No video signal input.	Check the signal source and output interface connect is correct or not.
◆ Monitor is not be powered on.	Check whether the power is connected put the power switch to "on" position.
◆ Supply voltage instability.	The power adapter or battery is poor connected with battery plate.
◆The power use is self-made, polarity connect inversely.	Check "Power Supply " reconnect.

● Image/ color display abnormal	Fault cause and solve
◆ Video cable poor contact	Change video cable, try again
◆ Video signal interfered from external environment	Move to another environment and try again.
◆ Weak input video signal	Check the video output or try another video source.
◆ Menu color saturation adjustment closing	Enter menu to check color, or reset to factory settings.
◆ Check Field in monochrome or gray	Reset Check Field back to the color.
◆ Image deformation	Reset the ratio.

●Speaker without sound	Fault cause and solve
◆ Audio cable off or improper connection	Confirm connected with the corresponding input port.
◆ Volume adjustment was closed.	Reset the volume control and adjust to a proper position.
◆ HDMI cable poor connected.	Check the quality of cable, or change cable then have a try.
◆ Video without sound output.	A normal phenomenon. Our field monitors just have sound under Audio/ SDI/ HDMI input signals status.

■ **Remark:**

If there are still other problems, please contact with our related technical persons.

■ If there are changes without prior notice.