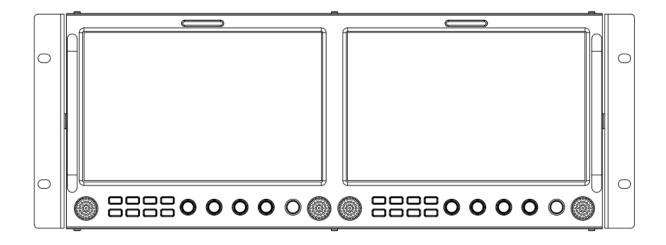


SWIT Electronics Co., Ltd.

Model: M-1093H

9" Full HD Rack Mount LCD Monitor



User Manual

Ver: A

Please read this User Manual throughout before using.

Preface

- 1. All internal technologies of this product are protected, including device, software and trademark.

 Reproduction in whole or in part without written permission is prohibited.
- reproduction in whole of in part without written permission is prohibited.
- 2. All brands and trademarks of SWIT Electronics Co., Ltd. are protected and other relative trademarks in this user manual are the property of their respective owners.
- 3. Due to constant effort of product development, SWIT reserves the right to make changes and improvements to the product described in this manual without prior notice.
- 4. The warranty period of this product is 2 years, and does not cover the following:
- (1) Physical damage to the surface of the products, including scratches, cracks or other damage to the LCD screen or other externally exposed parts;
 - (2) The LCD dot defects are not over three;
 - (3) Any damage caused by using third-party power adaptors;
- (4) Any damage or breakdown caused by use, maintenance or storage not according to the user manual.
 - (5) The product is disassembled by anyone other than an authorized service center.
- (6) Any damage or breakdown not caused by the product design, workmanship, or manufacturing quality, etc.
 - * Any sales personnel have no rights to provide additional warranty.
- 5. For any suggestion and requirement on this product, please contact us through phone, fax, Email, etc.

SWIT Electronics Co., Ltd.

Address: 10 Hengtong Road, Nanjing Economic and Technological Development Zone,

Nanjing 210038, P.R.China

Phone: +86-25-85805753
Fax: +86-25-85805296
Email: contact@swit.cc
Website: http://www.swit.cc

Maintenance

Warning

- 1. In order to reduce the risk of fire and electrical shock, do not lay this product in rain or damp places.
- 2. Please keep away from the strong magnetic field; it may cause the noise of the video and audio signals.

The power

- 1. Please use the power adapter provided or recommended by the manufacturer in order to avoid damage.
- 2. For a third party power adapter, please make sure the voltage range, supplied power, and polarity of power lead are fit.
- 3. Please disconnect the power cable under the following situations:
- (A). If you do not operate this monitor for a period of time;
- (B). If the power cable or power adaptor is damaged;
- (C). If the monitor housing is broken.

The monitor

- 1. Please don't touch the screen with your fingers, which would probably deface the screen.
- 2. Please don't press the screen; the LCD is extremely exquisite and flimsy.
- 3. Please don't lay this product on unstable place.

Cleaning

- 1. Please clean the screen with dry and downy cloth or special LCD cleanser.
- 2. Please do not press hard when cleaning the screen.
- 3. Please do not use water or other chemical cleanser to clean the screen. The chemical may damage the LCD.

Contents

Preface	2
Maintenance	
Contents	4
Packing list	4
Introduction	
Installation Dimensions	5
Operation Instructions	6
Front Panel	6
OSD	7
Back Panel	9
Main Menu	10
Specification	16
Trouble-Shooting	

Packing list

Standard Package:

- 1. User Manual
- 2. Warranty Card
- 3. LCD protective film
- 4. Power cable

Introduction

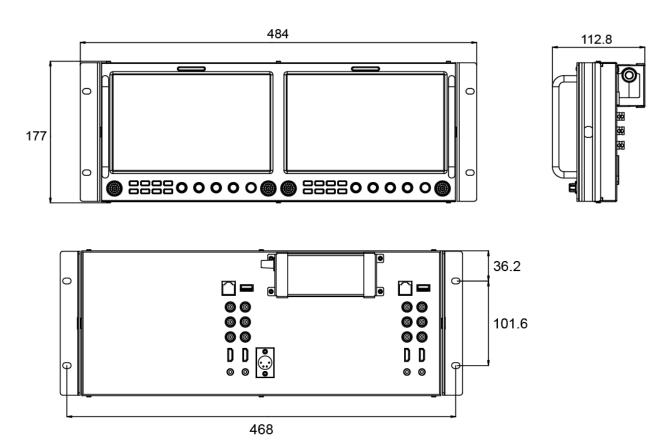
M-1093H adopts IPS LCD panel, with resolution 1920×1200 and wide viewing angle H170 $^{\circ}$ V170 $^{\circ}$. It supports 2 x 3GSDI (Level A/B), 1 x HDMI, 1 x CVBS and 1 x analog audio input. It also supports 2 x 3GSDI, 1 x HDMI, 1 x CVBS and 1 x analog audio loop through output.

Features:

- Support multiple Aspect Ratio and scan modes
- Support multiple Marker selection (Marker, Safety Area)
- Support multiple functions user-defined (Source ID, function keys, GPI)
- Multiple power supply methods to meet different requirements
- TSL UMD (RS485) Tally, GPI control
- USB firmware upgrade
- Support 2K

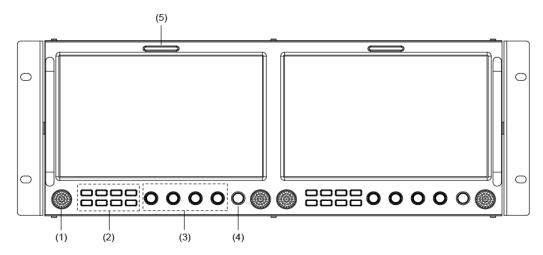
Installation Dimension

The main body (in mm):

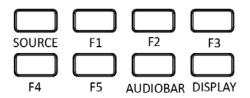


Operation Instructions

·Front Panel



- (1) Speaker: For SDI/HDMI embedded audio and analog audio monitoring. (Will not work if earphone is plugged in)
- (2) Button



SOURCE: Press "SOURCE" to select SDI1, SDI2, HDMI, and CVBS signal input.

F1∼F5: User definable function keys. Please see details in "4. Function key" under "Main Menu".

For example: Set F1 to "Histogram". Press F1 to open histogram and press again to close.

AUDIOBAR: Press "AUDIOBAR" to switch on/off audio bar.

DISPLAY: Press "DISPLAY" to turn on or turn off relevant status information, audio and video waveform.

When main menu is activated, press "DISPLAY" to quit menu.

(3) Rotary Knob



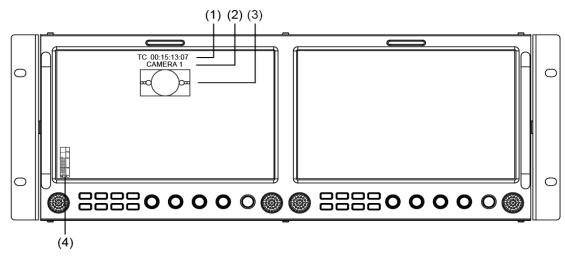
MENU/ENTER: When the menu is inactivated, presses "MENU/ENTE" to turn on the main menu; Revolve "MENU/ENTER" to adjust settings or parameters, and press to apply; When the menu is inactivated, revolve "MENU/ENTER" to adjust sound volume.

BRIGHT: 0-100 value adjustment and the default value is 50.

CONTRAST: 0-100 value adjustment and the default value is 50 SATURATION: 0-100 value adjustment and the default value is 50

- (4) POWER: Power on/off
- (5) TALLY Light: Red, Green and Yellow 3-color TALLY indicator

-OSD



(1) Time code (SDI)

Under SDI input, it can display Time code. If no Time code information is detected, it will be displayed as "TC: UNLOCKED".

User can set function keys F1∼F5 or GPI pins as "Time code" to turn on or off this function.

(2) **UMD**

Set up the UMD under 'UMD" submenu.

(3) AFD (SDI)

User can set function keys F1∼F5 or GPI pins as "AFD" to turn on or off this function. If no relevant information is detected, it will be displayed as "AFD: UNLOCKED".

(4) Audio

Monitor the audio information. User can set function keys F1∼F5 or GPI pins as "Audio" to turn on or off this function

The relevant parameters like position, audio channels and blending, etc can be changed under "Audio" submenu.

Introduction of audio and video functions

2-ch embedded audio meters

Under 3G/HD/SD SDI, HDMI and CVBS, it displays 2 channels embedded audio meters. The audio meter is green, and will turn yellow when audio exceeds -20dB, and turn red when audio exceeds -9dB.

♦ Audio alarm

If the embedded audio value is too low or no embedded audio, it will display "MUTE" or "UNLOCKED" in the audio bar.

◆ Time code (SDI)

Under SDI input, it can display the SMPTE time code (VITC1, VITC2 or LTC) on the top of the screen, which is used extensively for synchronization, and for logging and identifying material in recorded media. If no Time code information is detected, it will be displayed as "UNLOCKED".

Internal Color Bar

Under SDI and HDMI input, it has 100% internal color bar which helps to analyze the monitor color and adjust the display parameter.

User can set function Keys F1∼F5 or GPI pins as "color bar" to turn on or off this function.

Peaking focus assist (red/blue switch)

The Peaking focus assist function is to mark the sharpest edges of the image with red or blue color under SDI and HDMI input, for users to check if the subjects are focused.

User can set function Keys F1∼F5 or GPI pins as "Focus Assist" to turn on or off this function.

♦ Zebra stripes

Zebra Stripes are used to check if the image is over exposed or not by showing black and white lines on the monitor. It is considered over exposed when luminance value exceeds 90%.

User can set function Keys F1∼F5 or GPI pins as "Zebra" to turn on or off this function.

♦ Freeze Frame

The freeze frame is to capture and display the current broadcast frame.

User can set function Keys F1∼F5 or GPI pins as "Freeze Frame" to turn on or off this function.

♦ R/G/B/Mono

R/G/B/Mono is to display only the blue/red/green primary signal or the luminance signal only so as to monitor the image noise.

User can set function Keys F1∼F5 or GPI pins as "R/G/B/Mono" to turn on or off this function.

◆ False Color

The false color is used to aid in the setting of camera exposure. Under false color mode, there's a color chart on the bottom of screen for reference. The color from the dark to the bright will be displayed as blue, cyan, green, yellow, orange and red in a consecutive way. User can set function Keys F1~F5 or GPI pins as "False color" to turn on or off this function.

◆ AFD (SDI)

It is the abbreviation of active format description. AFD is to display the SDI embedded AFD information graphically on the screen.

♦ H/V Delay (SDI)

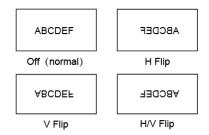
Under SDI input, H/V Delay can be used to display line/field blanking signal, and to observe the horizontal and vertical synchronous signal.

◆ UMD

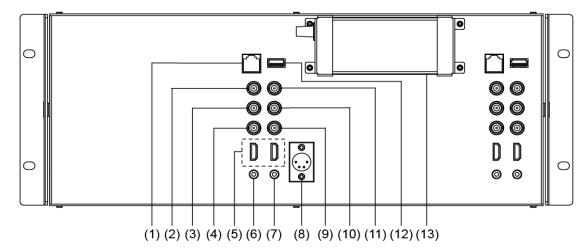
When using external control unit, it can display the video source ID and tally information on the screen.

Image Flip

Horizontal, vertical, horizontal and vertical two-way image flip function.



Back Panel

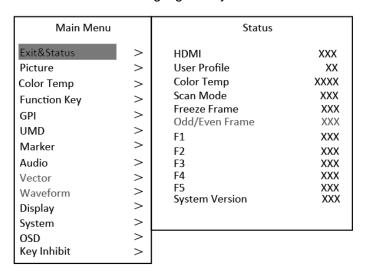


- (1) GPI: TSL UMD&GPI control socket
- (2) SDI-LOOP1: SDI loop through output from SDI-IN1 (BNC connector)
- (3) SDI-LOOP2: SDI loop through output from SDI-IN2 (BNC connector)
- (4) CVBS-OUT: CVBS output (BNC connector)
- (5) HDMI socket
 - HDMI-IN: HDMI input (HDMI-A connector)
 - HDMI-OUT: HDMI loop through output from HDMI-IN (HDMI-A connector)
- (6) AUDIO IN: 3.5mm analog audio input (CVBS)
- (7) AUDIO OUT: 3.5mm audio output, to monitor SDI embedded audio, HDMI and analog audio output
- (8) DC 12V IN: Connect with DC12V 4-pin XLR power adapter, support 6.5V-24V voltage input (Pin 1: Negative, Pin 4: Positive)
- (9) CVBS-IN: CVBS input (BNC connector)
- (10) SDI-IN2: SDI input (BNC connector)
- (11) SDI-IN1: SDI input (BNC connector)
- (12) USB socket
- (13) Power adaptor

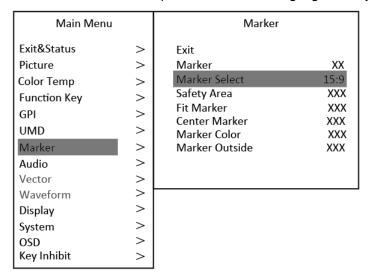
Main Menu

M-1093H has OSD to adjust the parameters and settings, for example: Picture, Color Temp., Function Key, etc.

1. Press "MENU/ENTER" button, the main menu will popup from the left top of the screen. The selected main menu highlights in yellow.



- 2. Revolve "MENU/ENTER" to select submenu, the selected submenu highlights in yellow, press "MENU/ENTER" to apply and enter into the selected submenu's items.
- 3. Revolve "MENU/ENTER" to select the item which needed to be adjusted, press "MENU/ENTER", the selected item and its parameters will be highlighted in yellow.



- 4. Revolve "MENU/ENTER" to change the selected item's parameter, press "MENU/ENTER" to apply and save the settings.
- 5. Revolve "MENU/ENTER" to select "Exit", press "MENU/ENTER" to quit submenu. Select "Exit & Status" under the Main Menu and press to quit Main Menu.

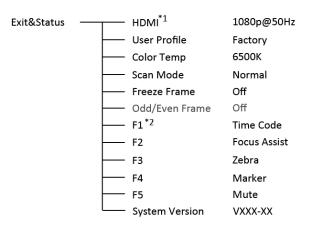
Notice:

- * The items in gray can not be set up.
- * If there is no operation under the setted time, the menu will automatically save settings and quit.
- * If the key inhabit function is turned on, except key inhibit function, all other items are in grey. Please turn off the key inhibit function to adjust the items.

Submenu introduction (the default values are marked with underline)

1. Exit & Status

Displays the current status, the details are as down below:



- *1 Display the current video signal and format
- *2 Display the current function keys setup

2. Picture

To adjust picture parameters



3. Color Temp

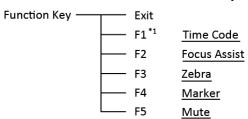
To select different color temperature or setup user-defined color parameters.



* Only "Color Temp" is set to "User", the Red/Blue/Green Gain or Red/Blue/Green Bias can be adjusted.

4. Function Key

To define the F1 \sim F5 function keys.



*1 Function keys F1-F5 can be setted as the down below functions:

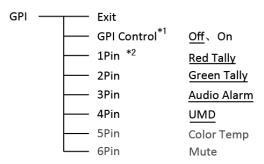
Time code, Zebra, Audio Bar, False Color, AFD, H/V Delay, R/G/B/Mono, Marker, Color Bar, UMD,

Audio Alarm, Focus Assist, Aspect Ratio, Scan Mode, Zoom Mode, Mute, Freeze Frame, Flip Mode, CVBS, HDMI, SDI1, SDI2, Color Temp.

For example: Set F3 to "R/G/B/Mono" under "Function key" submenu. User can press F3 on the front panel to adjust the parameters of "R/G/B/Mono", and the "R/G/B/Mono" will change and follow the sequence: Blue Only \rightarrow Red Only \rightarrow Green Only \rightarrow Mono \rightarrow Off.

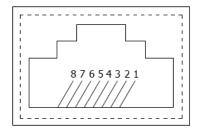
GPI

User can set GPI pins1~4 to relevant functions to turn on or off this function.



^{*1} When "GPI control" is set to "On", the monitor can be operated through external GPI control unit.

Red Tally, Green Tally, Yellow Tally, Aspect Ratio, Scan Mode, Zoom Mode, Mute, Freeze Frame, Flip Mode, Color Temp, Time code, Zebra, Audio Bar, False Color, AFD, H/V Delay, R/G/B/Mono, Marker, Color Bar, UMD, Audio Alarm, Focus Assist.



Pin	1	2	3	4
GPI	GPI_1	GPI_2	RXD+	GPI_3
Pin	5	6	7	8
GPI	GPI_4	RXD-	NC	GND

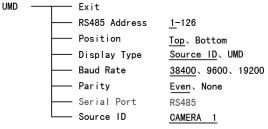
When connecting the GPI pin with ground, the setted function will be turned on, and goes out when disconnecting.

Example 1: Under "GPI" submenu, set "GPI control" to "On", set "2 Pin" to "Red Tally", when the pin 2 of the extenal GPI control unit is connected with ground, the Tally light on the front panel will turn red. When disconnected, the tally light will turn off.

Example 2: Under "GPI" submenu, set "GPI control" to "On", set "4 Pin" to "Scan Mode", when the pin 4 of the extenal GPI control unit is connected with ground, the Scan mode will change and follow the sequence: "Normal" →"Overscan"→"Native".

6. UMD

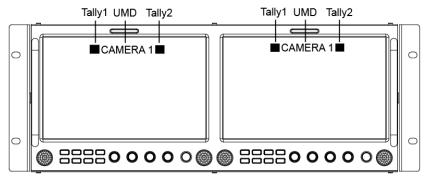
Support "TSL UMD Protocol-V3.1/V4.0" provided by Television System LTD



Setup Source ID:

Select "Source ID", revolve "MENU/ENTER" to select the letters and press "MENU/ENTER" to input. Max 8 letters are supported. Select "Exit" to quit and save settings, the source ID will be displayed on top or bottom of the screen.

^{*2} The GPI pins can be setted to the down below functions:



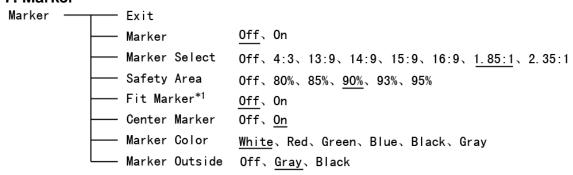
UMD setup:

- (1) Connect the external control equipment with M-1093H;
- (2) Set "Display Type" to "UMD" under UMD submenu;
- (3) Make sure the "address", "Baud Rate", "Parity" the same;
- (4) Adjust the external control equipment and send UMD command, the UMD information will be display as the right photo.

User can set the character and color of the UMD and the color of Tally1 and Tally2.

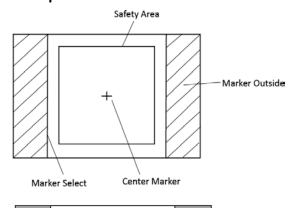
Please see "5. GPI" to check the "RS485 pin sequence and definition.

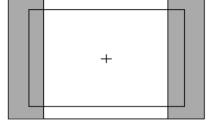
7. Marker



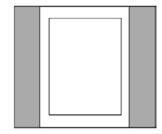
*1 When "Fit Marker" is "Off", the size of safety area is benchmarked against the actual display screen, accounting for 80% ~ 95% of actual display screen. When "Fit Marker" is "On", the size of safety area is benchmarked against the area inside the scales marker, accounting for 80% ~ 95% of the area inside the scales marker.

Example:



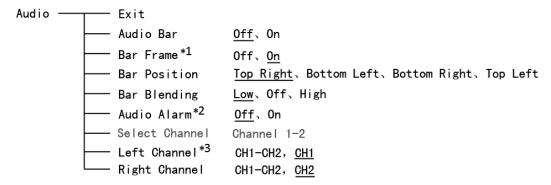


Aspect ratio: 4:3 Safety Area: 85% Center Marker: On Fit Marker: Off



Aspect ratio: 4:3 Safety Area: 85% Center Marker: Off Fit Marker: On

8. Audio



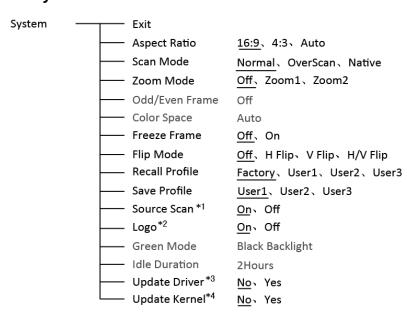
- *1 When "Bar Frame" is set to "Off", only the audio meter will be displayed.
 - When "Bar Frame" is set to "On", frame and real-time audio value will be displayed.
- *2 When "Audio Alarm" is set to "On", if no embedded audio is detected, the audio bar will display "UNLOCKED". If the audio value is too low, the audio bar will display "MUTE".
- *3 Only under SDI I signal, channel1-2 can be selected.

In audio bar, the left channel audio value is marked with green and right channel audio value is marked with red.

9. Display



10. System



*1 Source Scan

When set to "ON", after turn on the monitor, the signal will be inspected and follow the sequence of "SDI1→SDI2→HDMI→CVBS".

For example: if channel is selected to SDI2, SDI-IN2 has no input, and CVBS has input. When turn on the monitor, after automatic inspection, SDI2 has no recognized signal, and CVBS has recognized signal, then the input signal will be CVBS.

When set to "Off", source scan will not be supported.

*2 Logo

When powered on, the screen will display SWIT logo.

*3, *4 Update Driver/ Kernel

- (1) Power the monitor, insert the USB equipment with update software into the USB socket.
- (2) Press "MENU" to open the main menu, and revolve to "system" submenu,
- (3) Set "Update Driver" and "Update Kernel" to "Yes" under "System" Submenu, press "MENU/ENTER" to apply.
- (4) During the update procedure, please do not power off to make sure the software writing has been successfully completed.

USB firmware upgrade

Firmware Upgrating... 37%

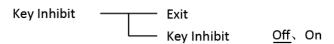
Caution! DO NOT cut off power during firmware upgrade.

(5) After upgrading, the monitor will auto restart.

11. OSD



12. Key Inhibit



If the "Key Inhibit" is "On", there is no response when all the buttons expert " MENU/ENTER" are pressed, the sreen will be displayed as " Key Inhibit".

User can set "Key Inhibit" under "key Inhibit" submenu to "Off" to recover the functions of all buttons.

Specification

LCD Performance				
Size		9inch×2		
Display area		191.5×119.7 mm×2		
Resolu	ution	1920×RGB×1200		
Color		8 bit		
Aspec	t ratio	16:9 / 4:3		
Bright	ness	450 cd / m²		
Contra	ast	1000:1		
Viewing Angle		Horizontal: 170°Vertical: 170°		
Input/	output			
	BNC×4	3G/HD/SD-SDI input		
	BNC×2	CVBS input		
Inpu	HDMI×2	HDMI input		
t	GPI×2	UMD, GPI×1		
İ	USB×2			
	3.5mm×2	analog audio input		
	BNC×4	3G/HD/SD-SDI loop through output		
Out	BNC×2	CVBS loop through output		
put	HDMI×2	HDMI loop through output		
	3.5mm×2	SDI/HDMI/analog audio output		
Video	Format	,		
CVBS		NTSC / PAL		
		480i / 576i / 480p / 576p		
		1080i (60 / 59.94 / 50)		
HDMI		720p (60 / 59.94 / 50)		
		1080p (60 / 59.94 / 50 / 30 / 29.97 / 25 / 24 / 23.98)		
		1080psf (30 / 29.97 / 25 / 24 / 23.98)		
	SMPTE-425M-A/B	1080p (60 / 59.94 / 50)		
	OMPTE OZAM	1080i (60 / 59.94 / 50)		
	SMPTE-274M	1080p (30 / 29.97 / 25 / 24 / 23.98)		
ODI	SMPTE-RP211	1080psf (30 / 29.97 / 25 / 24 / 23.98)		
SDI	SMPTE-296M	720p (60 / 59.94 / 50)		
	SMPTE-125M	480i (59.94)		
	ITU-R BT.656	576i (50)		
	SMPTE-2048-2	2048×1080p (23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60)		
Gener	ral			
Input v	voltage	DC: 6.5V∼24V		
Power consumption		36W		
Working temperature		0°C∼+40°C		
Working humidity		10%~90%		
Storage temperature		- 15℃~ + 60℃		
Storage humidity		10%~90%		
Dimensions		484×177×112.8mm		
Net weight (main body)		2.8 kg		
Input v Power Workin Workin Storag	voltage r consumption ng temperature ng humidity ge temperature ge humidity	36W 0°C~+40°C 10%~90% - 15°C~ + 60°C 10%~90% 484×177×112.8mm		

Trouble-shooting

Symptom	Possible Causes	Solution
No display	The power is not turned on	Please check if the power is connected, and then press "POWER" button to turn on the monitor
	Unstable power voltage	Reconnect to power supply
	BNC or HDMI cable loose contact or not correctly connected	Check and correctly connect the BNC or HDMI cable
	The attached battery is no power	Change battery
	Using DIY power supply but the polarity is reversed	Refer to the provided power supply, reconnect the power.
	Bad contact of BNC or HDMI cable	Change cable
	Video signal has Interference	Remove the interference source(s)
	Improper adjustment of the color parameters	Adjust the "Recall profile" to "Default" under "System" submenu
Imaga or color	Distortion of the image	Reset the Aspect ratio
Image or color abnormal	Set to Red/Green/Blue only or Mono	Turn the Blue only/ Red Only/ Green Only/Mono off under R/G/B/Mono submenu
	Turn on the "Focus Assist" function	Turn off the "Focus Assist" function
	Turn on the "False Color" function	Turn off the "False Color" function
	Set to Mute	Turn off MUTE or revolve "MENU/ENTER" to adjust the volume
No audio output	Bad contact of signal cable	Change signal cable
	Wrong connection or bad contact of Audio cable	Connect to the correct input socket.

