21.5" Live Stream
Quad Split Multiview Monitor

FHD Display with HDMI, 3G-SDI, USB Type-C Interfaces

User Manual

Introduction

The 21.5 inch Full HD live streaming multiview monitor can be switched live up to 4 1080P high quality video signal inputs, which make it easy to create professional multi camera events for live streaming. At a time when live stream in mobile phone is popular, monitor innovatively built in phone mode so as to directly display a vertical video in multi camera. All-in-one capability greatly reduces the cost of productions.

Features

➢ 21.5 inch 1920x1080 physical resolution

➢ 500cd/m² brightness, 1500:1 contrast

➢ Supports multiple video signal input：3G-SDI*2、HDMI*2、USB TYPE-C

➢ Supports PGM (SDI/HDMI) output

➢ Supports HDMI and SDI signal cross conversion (Output 1080p60/50/30/25/24 through PGM)

➢ Automatic backlight adjustment

➢ Supports vertical display: Camera Mode and Phone Mode

➢ Supports multiview display: Full screen/Vertical/Dual-1/Dual-2/Triple/Quad

➢ Supports level meter for multiview

➢ Supports UMD editing

➢ PVW and PGM video signals can be switched at a shortcut

➢ Color temperature (6500K, 7500K, 9300K, User)

➢ Camera assist functions, for example, peaking, false color, exposure, histogram, etc.

➢ Supports VESA 100mm and 75mm optional bracket with swivel and load-bearing action

➢ Applications: Mobile phone live, multi camera live, broadcast, TV, film and video switching

Contents

1. Product Description

1.1 Front Panel and Buttons

1) A window for brightness sensing

2) **INPUT**: Signal switching sequence: SDI 1, SDI 2, HDMI 1, HDMI 2, USB Type-C.

Note! INPUT is available only in Full Screen or Vertical mode

3) **MENU**: Bring up the menu or confirm the options

4) ◁ : Select option in the menu. Decrease the option value

5) ▷ : Select option in the menu. Increase the option value
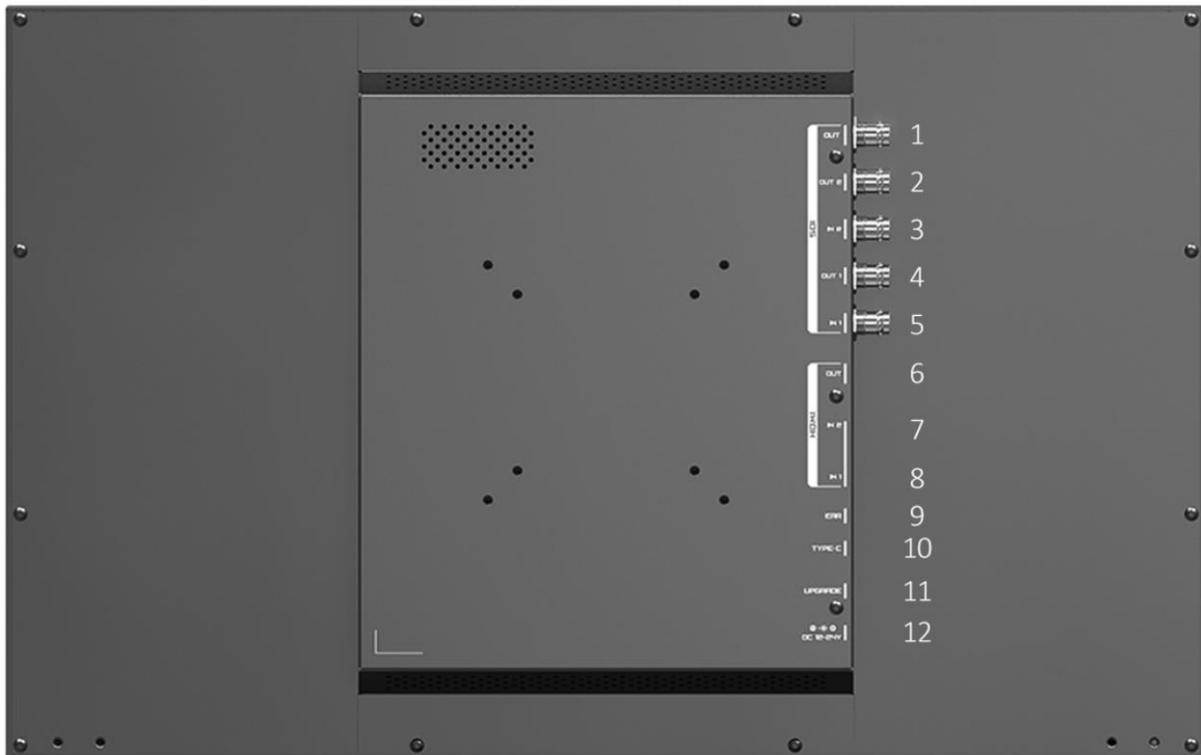
6) **EXIT**: To return or exit the menu function

7, 8) User-definable function button, default as

● **F1**: [Multiview Mode]

● **F2**: [PGM Cut]

9) **Power**: Power on/off (green light for on, red light for off)

1.2 Rear Enclosure and Interfaces

1) 3G-SDI output interface (PGM output)

2) 3G-SDI 2 loop output interface

3) 3G-SDI 2 input interface

4) 3G-SDI 1 loop output interface

5) 3G-SDI 1 input interface

6) HDMI output interface (PGM output)

7) HDMI 2 input interface

8) HDMI 1 input interface

9) 3.5mm Ear Jack

10) USB TYPE-C input interface

11) Upgrade port

12) Power input: DC 12-24V

1.3 Supported Installations

- VESA mount bracket

Mounting through standard VESA 75mm/100mm holes on the back of monitor:

(The bracket is an optional part and supports multi-angle rotation and height adjustment)
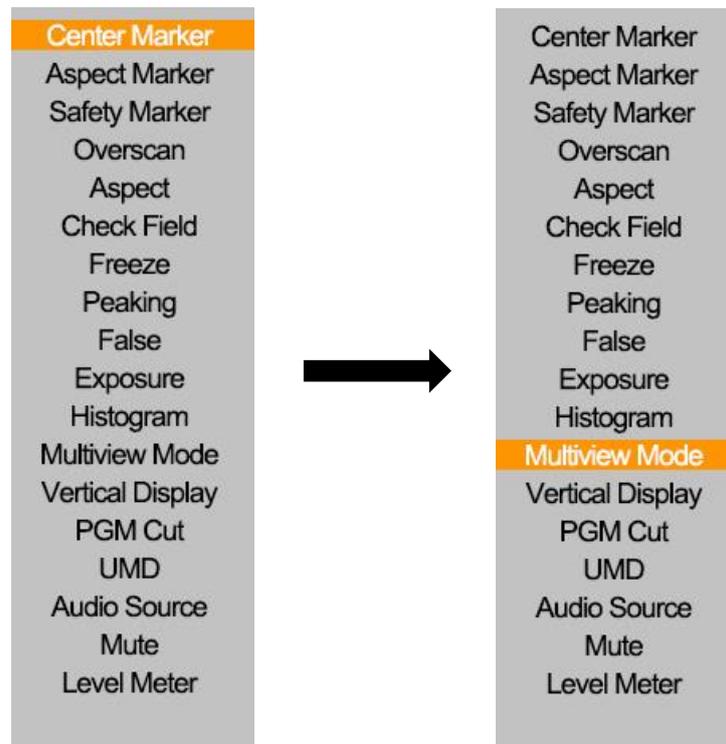
- Base stand bracket

Mounting through the screw holes left in the bottom of monitor:

2. Menu Settings

2.1 User-definable Function Buttons

Press either F1, F2 for 3-5 seconds to bring up the function setting. Press [▷] or [◁] to select the desired option; Press [MENU] to confirm the option and set it as a shortcut function. Press [EXIT] to close the function setting.

Center Marker	Center Marker
Aspect Marker	Aspect Marker
Safety Marker	Safety Marker
Overscan	Overscan
Aspect	Aspect
Check Field	Check Field
Freeze	Freeze
Peaking	Peaking
False	False
Exposure	Exposure
Histogram	Histogram
Multiview Mode	**Multiview Mode**
Vertical Display	Vertical Display
PGM Cut	PGM Cut
UMD	UMD
Audio Source	Audio Source
Mute	Mute
Level Meter	Level Meter

User settable function buttons to suit individual needs: Center Marker, Aspect Marker, Safety Marker, overscan, Aspect Ratio, Check Field, Freeze, Peaking, False Color, Exposure, Histogram, Multiview Mode, Vertical Display, PGM Cut, UMD, Audio Source, Mute, Level Meter.

Note! F1 default: [Multiview Mode], F2 default: [PGM Cut], [PGM Cut] is only available in shortcut function

2.2 MENU and ▷ / ◁ Buttons

● Turn on the power, press [MENU] to display the OSD; Press [▷] or [◁] to select between Information, Multiview, UMD, Picture, Marker, Function, Audio and System; Press [MENU] again after selection to enter

the sub-menu.

- The [▷] or [◁] buttons allow to switch or adjust the options and values in the menu, press [MENU] to confirm or [EXIT] to exit.

- When the OSD is not displayed, press the [▷] or [◁] button to adjust the volume. Press [MENU] again to switch between Volume, Brightness, Contrast, Saturation, Tint, Sharpness and Exit in that order. Select the desired option and adjust the value of the option switched to by using [▷] or [◁].

2.3 Menu Operation

2.3.1 Information

(Showing the resolution and fresh rate of each video signal)

- 3G-SDI supported signal formats: 1080p60/59.94/50/30/29.97/25/24/23.98; 1080i60/59.94/50; 720p 60/59.94/50; Backwards compatible with other formats.

- HDMI supported signal formats: 1080p60/59.94/50/30/29.97/25/24/23.98; 1080i60/59.94/50; 720p 60/59.94/50; Backwards compatible with other formats.

- USB Type-C supported signal formats: 1080p60/59.94/50/30/29.97/25/24/23.98; 1080i60/59.94/50; 720p 60/59.94/50; Backwards compatible with other formats.

2.3.2 Multiview

To set the multiview mode, preset values for the input signal and switch between different signals.

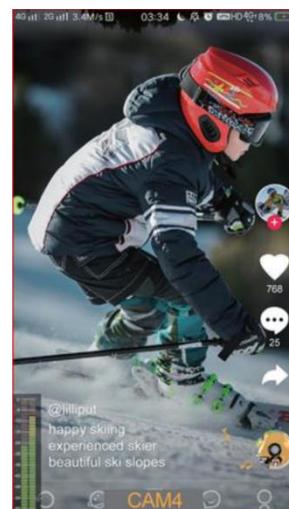| Information	▶	PGM Source	SDI 1
Multiview	▶	PVW Source	SDI 2
UMD	▶	PGM Frame	60p
Picture	▶	Multiview Mode	Full Screen
Marker	▶	Vertical Display	Camera
Function	▶	MV1 Source	HDMI 1
Audio	▶	MV2 Source	HDMI 2
System	▶	MV3 Source	SDI 1
		MV4 Source	SDI 2

- PGM source: default value is SDI1/SDI2/HDMI1/HDMI2/TYPE-C, select the source for PGM output.

- PVW source: default value is SDI1/SDI2/HDMI1/HDMI2/TYPE-C, select PVW preview signal source, through the [PGM Cut] function can realize the PGM source and PVW source signal switch each other.

> Note! The PGM source is marked with a red frame and PVW source is marked with a green frame

- PGM Frame: default is 60p/50p/30p/25p/24p, select the source frame rate for PGM output
- Multiview Mode:
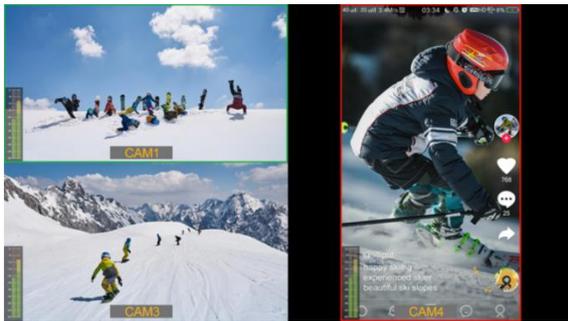

Full Screen (Horizontal screen)

Vertical (Vertical screen)

Dual-1

Dual-2

Triple

Quad

- Vertical Display: default is Camera/Phone. In phone mode, the vertical phone signal from USB Type-C output can be displayed in full screen.

- MV1 source selectable from SDI1/SDI2/HDMI1/HDMI2/TYPE-C, default is SDI1.

- MV2 source selectable from SDI1/SDI2/HDMI1/HDMI2/TYPE-C, default is SDI2.

- MV3 source selectable from SDI1/SDI2/HDMI1/HDMI2/TYPE-C, default is HDMI1.

- MV4 source selectable from SDI1/SDI2/HDMI1/HDMI2/TYPE-C, default is HDMI2.

(Multiview signal source sequencing)

2.3.3 UMD

Information	▶	UMD	On
Multiview	▶	SDI 1 Color	Green
UMD	▶	SDI 1	SDI 1
Picture	▶	SDI 2 Color	Green
Marker	▶	SDI 2	SDI 2
Function	▶	HDMI 1 Color	Green
Audio	▶	HDMI 1	HDMI 1
System	▶	HDMI 2 Color	Green
		HDMI 2	HDMI 2

● Select to turn UMD on or off. When turn on, each source will display the selected UMD information, the UMD font color can be changed from white/red/green/blue/yellow/cyan/magenta, default is green.

(Current demo UMD color is yellow, characters are typed as CAM1~4)

Character Editing Method.：

Select [SDI1], press [MENU] to switch the character object; Press [▷] or [◁] to change the current character; Long press [MENU] to add a new character after the current character object, maximum support 16 characters; Long press [EXIT] to delete the current character.

2.3.4 Picture

Information	▶	Brightness	50
Multiview	▶	Contrast	50
UMD	▶	Saturation	50
Picture	▶	Tint	50
Marker	▶	Sharpness	0
Function	▶	Color Temp.	6500K
Audio	▶	Red Gain	128
System	▶	Green Gain	128
		Blue Gain	128

● Brightness selectable from 0 to 100

● Contrast selectable from 0 to 100

● Saturation selectable from 0 to 100

● Tint selectable from 0 to 100

● Sharpness selectable from 0 to 100

● Color Temperature

Adjustable color temperature level: 6500K, 7500K, 9300K, User.

Note! User can only adjust the gain or offset values for red, green and blue in "User" mode

- Red, Green and Blue Gain

Adjustment range 0-255, default value is 128.

- Red, Green and Blue Offset

Adjustment range 0-511, default value is 255.

2.3.5 Marker

- Center Marker

Select On, it will appear "+" marker on center of screen.

- Aspect Marker

The Aspect Marker provides various aspect ratios.

Selectable from: 16:9/1.85:1/2.35:1/4:3/3:2/1.3X/2.0X/2.0X MAG

- Safety Makrer

Used to select and control the size and availability of the safety area.

Available type are: 95%/93%/90%/88%/85%/80%. Default is Off.

- Marker Color

The colors for Center Marker, Aspect Marker and Safety Marker are available in red, green, blue, white and black. Default is white.

- Aspect Mat.

Aspect Mat darkens the area of the outside of Marker. The degrees of darkness are between [0] to [7].

| Aspect Mat 7 | Aspect Mat 6 | Aspect Mat 4 | Aspect Mat 2 | Aspect Mat 0 |

- Thickness

Thickness of marker line is selectable from 1 to 7, default value is 2.

Note! The Marker function is not available in Multiview Mode

2.3.6 Function

Information ▶	Aspect	Full
Multiview ▶	Overscan	Off
UMD ▶	Check Field	Off
Picture ▶	Freeze	Off
Marker ▶	Peaking	Off
Function ▶	Peaking Color	Red
Audio ▶	Peaking Level	50
System ▶	False Color	Off
	False Color Table	Off

- Aspect

Select display ratio: Full/1.85:1/2.35:1/4:3/3:2/1.3X/2.0X/2.0X MAG. Default is Full.

Note! The Aspect is not available in Multiview Mode

| Full | 2.35:1 | 1.85:1 | 4:3 | 3:2 |

- Overscan

Some edge of image may be clipped after turning on overscan. Default is Off.

> **Note!** The Overscan is not available in Multiview Mode

- Check Field

Used to calibrate or analyse the accuracy of the screen color when Check Field is switched on. Selectable: Off/Red/Green/Blue/Mono. Default is Off.

- Freeze

Turn on to capture and display a frame of the current signal at any time. Default is Off.

- Peaking

Used to assist in tracking the focus of subject. Default is Off.

- Peaking Color

Available colors: red/green/blue/white/black. Default is red.

- Peaking Level

Use this setting to adjust the level of focus sensitivity from [0]-[100]. If there are plenty of details of image with high contrast, it will display lots of focus assist lines that may cause visual interference. So, decrease the value of peaking level to reduce the focus lines to see clearly. Conversely, if the image has less details with low contrast, it should be increase the value of peaking level to see the focus lines clearly.

- False Color

This monitor has a false color filter to aid in the setting of camera exposure. As the camera Iris is adjusted, elements of the image will change color based on the luminance or brightness values. This enables proper exposure to be achieved without the use of costly, complicated external equipment. Selectable from: Off/Spectrum/ARRI/RED/Default. Default is Off.
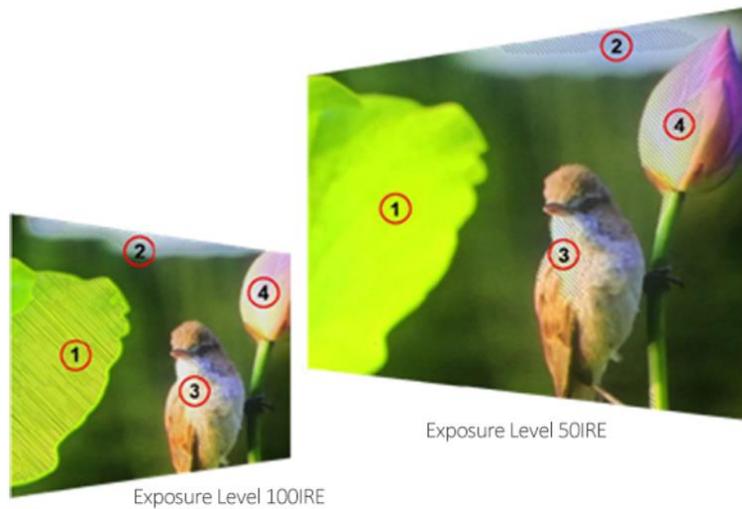

- False Color Table

Turn on or off False Color reference tables.

- Exposure

The exposure feature helps the user achieve optimum exposure by displaying diagonal lines over areas of the image that exceed the setting exposure level.

- Exposure Level

The Exposure Level can be set from 50 to 100IRE. Default is 100IRE.

Exposure Level 50IRE

Exposure Level 100IRE

● Histogram

The horizontal axis of histogram represents the luminance, from left to right indicating low to high luminance. The vertical axis of histogram indicates the number of pixels, from bottom to top indicating the number of pixels from less to more. The higher the histogram bumps in a certain luminance range, the more pixels there are in that luminance range. For example, if the histogram's bumps are mainly on the left side, this means that the overall brightness of the image is low; if it is on the right side, the overall brightness is high; if it is in the middle, the brightness is comfortable.

(Actual distribution is white, black for demonstration reference)

2.3.7 Audio

Information ▶	Volume	100
Multiview ▶	Mute	Off
UMD ▶	Level Meter	On
Picture ▶	Audio Source	SDI 1
Marker ▶		
Function ▶		
Audio ▶		
System ▶		

● Volume

Adjusts the volume of built-in speaker and headphone, selectable range: 0-100. Default is 50.

● Mute

Disable any sound output when turn it off.

● Level Meter

To achieve optimum audio quality, ensure the audio levels do not reach 0.
This is the maximum level, meaning that any audio that exceeds this level will
be clipped, resulting in distortion. Ideally peak audio levels should fall in the
upper end of the green zone. If the peaks enter into the yellow or red zones,
the audio is in danger of clipping.

● Audio Source

Selectable range: SDI1/SDI2/HDMI1/HDMI2/TYPE-C, Full Screen or Vertical
mode default to current audio source, Multiview mode defaults to SDI1

2.3.8 System

Information ▶	Language	English
Multiview ▶	Back Light Mode	AutoLight
UMD ▶	Back Light	40
Picture ▶	OSD Time	10s
Marker ▶	OSD Transparency	Off
Function ▶	Reset	Off
Audio ▶		
System ▶		

- Language

  Available in both Chinese and English.

- Back Light Mode

  Optional: Custom/AutoLight

  AutoLight mode allows the backlight value to be adjusted automatically according to the ambient brightness.

  Manual adjustment of the backlight value in Custom mode

- Back Light

  Adjusts the level of the back light from 0-100. Default is 100.

- OSD Timer

  Select the displaying time of the OSD. It has 10s, 20s, 30s preset to choose.

- OSD Transparency

  Select the transparency of the OSD from Off, 25% to 50%.

- Reset

  If there is any problem unknown, press to confirm after selected. The monitor will return to default settings.

3. Specifications

DISPLAY

Panel	21.5"
Physical resolution	1920×1080
Aspect	16:9
Brightness	500 nit
Contrast	1500:1
Viewing Angle	170°/170° (H/V)

VIDEO INPUT

SDI	1080p 60/59.94/50/30/29.97/25/24/23.98; 1080i 60/59.94/50; 720p 60/59.94/50...Backward compatible with other signals
HDMI	1080p 60/59.94/50/30/29.97/25/24/23.98; 1080i 60/59.94/50; 720p 60/59.94/50...Backward compatible with other signals
USB Type-C	1080p 60/59.94/50/30/29.97/25/24/23.98; 1080i 60/59.94/50; 720p 60/59.94/50...Backward compatible with other signals

VIDEO OUTPUT

PGM SDI	1080p 60/50/30/25/24
PGM HDMI	1080p 60/50/30/25/24

AUDIO IN/OUT

SDI	2ch 48kHz 24-bit
HDMI	2ch 24-bit
Ear Jack	3.5mm
Speaker	1

POWER

Input Voltage	DC 12-24V
Power Consumption	≤33W (15V)

ENVIRONMENT

Operating Temp.	-20°C~60°C
Storage Temp.	-30°C~70°C

OTHERS

Dimension (LWD)	508mm×321mm×47mm
Weight	5.39kg

4. Accessories

Standard Accessories

1) DC 15V Power Adapter	1 pair
2) Base Stand	1 pair
3) USB Type-C Cable	1 pc
4) Electronic User Manual	1 pc

Optional Accessories

1) V-mount or Anton Bauer Battery Plate	1 pc
2) D-tap Cable	1 pc
3) Swivel Bracket	1 pc
4) Suitcase (Sunshade, frame brackets are included)	1 pc

5. Trouble Shooting

1. Only black-and-white display:

Check whether the color saturation and check field are properly setup or not.

2. Power on but no pictures:

Check whether the cables of HDMI, and 3G-SDI 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 picture automatically.

5. Other problems:

Please try to press Menu button and choose [MENU] ➜ [System] ➜ [Reset] ➜ [ON].

6. Image Ghosting:

If the same image or text continues to be displayed on the screen for an extended period of time, part of that image or text may burn into the screen and leave a ghost image, which is not a quality issue but a characteristic of some screens. It is simply a matter of turning the monitor off for a half hour to recover. Therefore no warranty/return/replacement will be made in this case.

7. Some options can not be select in the Menu:

Some options are only available in certain modes, for example the Center Marker function can only be used in full screen.

8. Not working properly:

If there is a problem that cannot be solved, please contact the relevant sales for after-sales service and leave the serial number to make it easier to locate the components so that the problem can be dealt with more quickly. The serial number is located on the back of monitor under the barcode.

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