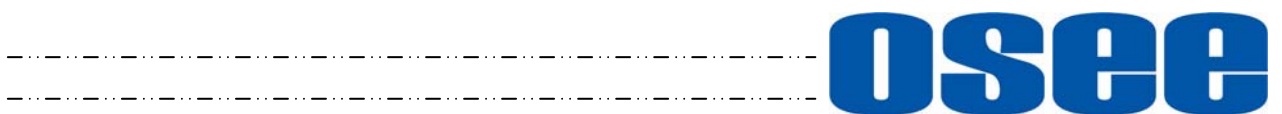


# **MVM-170 MVM-200 Series Quad Split LCD Monitor**

## **User Manual**







## Product Information

**Model:** MVM-170 MVM-200 Series Quad Split LCD Monitor  
**Version:** V010100  
**Release Date:** September 27th, 2016

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## Company

OSEE TECHNOLOGY CO., LTD.

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# About this manual

## Important

The following symbols are used in this manual:

### **Tips**

---

- The further information or know-how for described subjects above which helps user to understand them better.
- 

### **Warning**

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- The safety matters or operations that user must pay attention to when using this product.
- 

## Contents

The user manual applies to the following device types:

- ❖ **MVM-170-3HSV**
- ❖ **MVM-170-HSV**
- ❖ **MVM-170-SV**
- ❖ **MVM-200-3HSV**
- ❖ **MVM-200-HSV**
- ❖ **MVM-200-SV**

The above listed devices have most similarities on appearance and characteristics. The images of MVM-200-3HSV are adopted in the following descriptions.

Any of the different specifications between the device types are elaborated. Before reading the manual, please confirm the device type.

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## Chapter 1 Overview

The MVM-170/MVM-200 series Quad Split LCD Monitor are high-performance professional LCD monitor featuring quad split display. It supports high quality quad split displays and is designed to tailor the extensive needs for programming, concentrated on download and upload, broadcast master control, studio, centralized monitoring and so on.

The MVM-170/MVM-200 series Quad Split LCD Monitor supports the advanced 10-bit digital processing technology and also supports 3D comb filter and de-interlace, accurate scaling engine, GAMMA and color temperature adjustment function, in order to achieve the best possible image display. Each display screen of the monitor is an independent professional monitor. So it can achieve the various professional parameters and can be adjusted independently, including GAMMA, color temperature, brightness, and so on.

The MVM-170/MVM-200 series Quad Split LCD Monitor supports 4ch 3G/HD/SD-SDI/CVBS signal and 1-way HDMI / DIV-D signal input. It can simultaneously display four signal inputs, with three typical display modes (including one full screen display, one - big with three - small screen display and four uniform size screen display). Each display screen can achieve professional monitor display functions, including embedded audio solution, audio monitoring, audio meter display, TC code display, IMD, various Markers and so on.



*Figure 1 A Diagram of MVM-200 Monitor*

### Features

## Overview

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- 178-degree viewing angle
- Multi-format analog and digital audio signals
- Support select 4 from 5 input signals to display
- Support a single screen display as a professional monitor
- Support the independent adjustment of the parameters for single screen
- With all the important functions of multi-view processor
- Support high-quality waveform, vector monitoring
- Support HDMI output or HD-SD display, can achieve the cascade and copy output of devices

## Functionality

- Supports MARKER, Time Code, MET display
- Supports presetting the color temperature using customized values



## Chapter 2 Safety

### **FCC Caution:**

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

## Warnings:

Read, keep and follow all of these instructions for your safety. Heed all warnings.

### Warning

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#### Device

- Install in accordance with the manufacturer's instructions.
  - Do not beat with a hard object or scratch the LCD display.
  - Do not make the freeze picture displaying on the screen time too long, otherwise, it will leave the afterimage on the screen.
  - If the brightness is adjusted to the minimum, then it might be hard to see the display screen.
  - Refer all servicing to qualified service personnel. Servicing will be required under all of the following conditions:
    - The unit has been exposed to rain or moisture.
    - Liquid had been spilled or objects have fallen onto the unit.
    - The unit has been damaged in any way, such as when the power-supply cord or plug is damaged.
    - The unit does not operate normally.
  - Clean only with dry cloth.
  - Specifications are subject to change without notice.
- 

### Warning

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#### Position

- Do not block any ventilation openings.
- Do not use this unit near water.
- Do not expose the unit to rain or moisture.
- Do not use this unit near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that product

heat.

- Do not place objects filled with liquids, such as vases, cups, etc. on or over the device.
  - A nameplate indicating operating voltage, etc., is located on the rear panel.
  - The socket-outlet shall be installed near the equipment and shall be easily accessible.
- 

## Warning

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### Power Supply Cord

- Do not defeat the safety purpose of the polarized or grounding-type plug.
  - Do not damage the power cord, place the heavy objects on the power cord, stretch the power cord, or bend the power cord.
  - Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the unit.
  - If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord. It may cause fire or electric shock.
  - Unplug this unit during lightning storms or when unused for long periods of time.
  - Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
  - Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
-

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## Chapter 3 Unpack and Installation

### Unpack:

When unpacking the components of MVM-200 monitor, please verify that none of the components listed in Table 3.1 are damaged or lack. If there is any missing, contact your distributors or OSEE for it.

**Table 3-1 Packing List**

NO.	Detail list	Quantity	
1	Monitor	1	
2	Optional Accessory	Monitor Stand	1
		Rackmount Bracket	1
		Wallmount Bracket	1
		Extra control buttons bar	1
3	Accessory	Warranty card	1
		Certificate card	1
		User manual	1
4	The electric accessory	19V adapter	1
		Power cord	1

### Installation:

#### 1. Prepare for installation

Please follow the procedures below before installing MVM-200:

- Check the equipment for any invisible damage that may have occurred during transit.
- Confirm all the items listed on the packing list have been received.
- Remove all the packing material including electrostatic-resistant packing.
- Retain these packing materials for future use.

#### 2. Mount a MVM-200 in your desired location of a standard rack.

**Adequate ventilation is required when installed to prevent possible damage to the MVM-200.**

#### 3. Connect required cables for signal input and output. For BNC connections use 75 $\Omega$ rated connectors.

4. Connect DC18~20V power source using the included power cord.
5. Connect the power cord to the power interface.
6. Fasten the power protect accessory.
7. As a final step, turn on the device by pressing the corresponding power switch located on the front panel.

## **i** Tips

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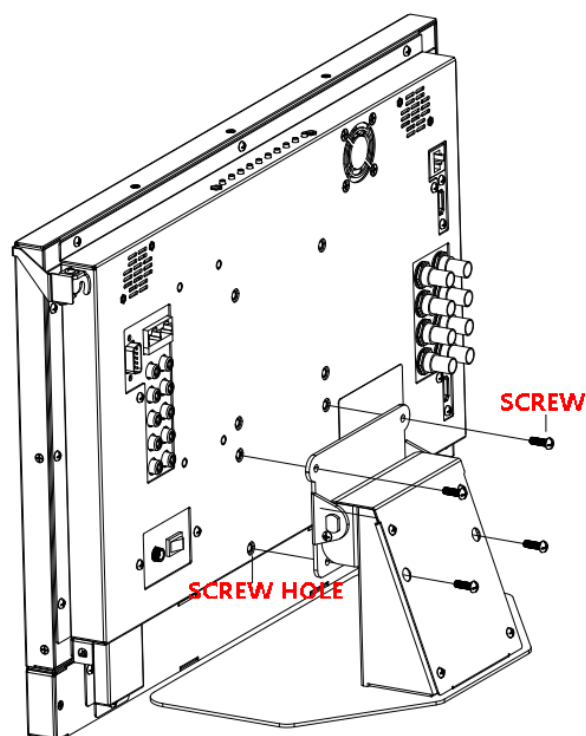
- The pedestal and the monitor are packaged separately.
- Connect a standard signal line to the corresponding input port. All BNC connector impedance must be 75Ω.
- Please use the power cord supplied to avoid unnecessary trouble, and make sure be well grounded.
- The factory default value for IP address is 192.168.1.86.

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### **Installation Methods:**

The MVM-200 monitor could be mounted to a monitor stand or mounted to a cabinet or onto a wall. The MVM-170 monitor could be mounted to a monitor stand or mounted to a cabinet.

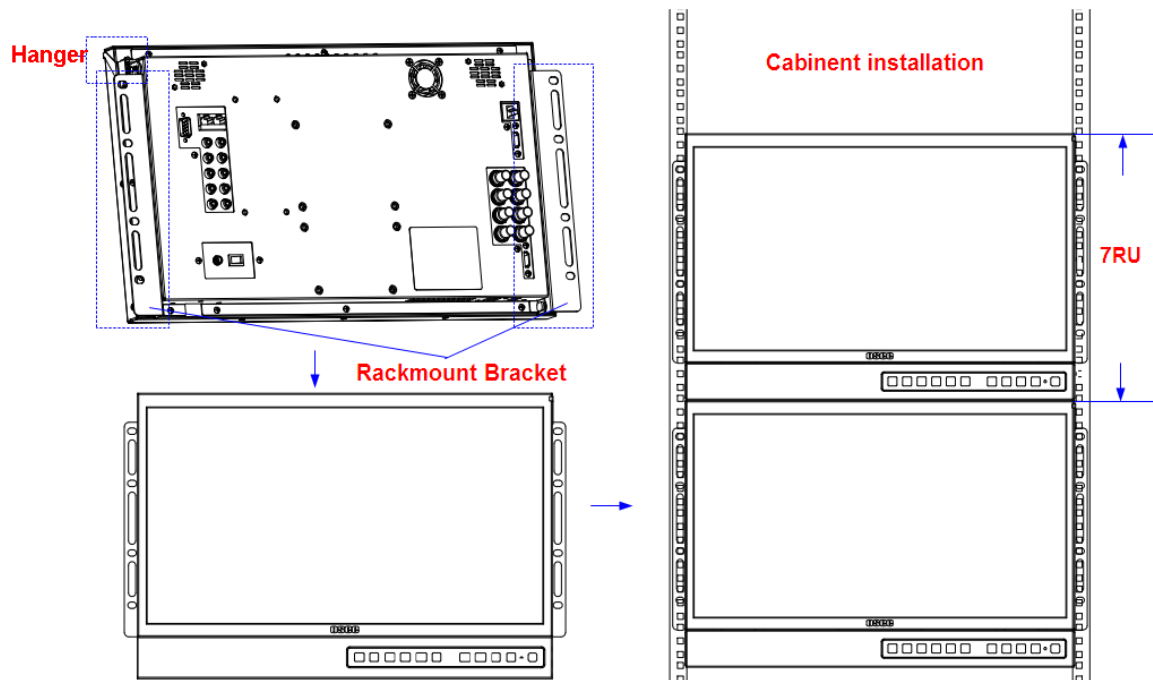
- **Monitor Stand Installation**



**Figure 3-1 Monitor Stand Installation**

■ Cabinet Installation

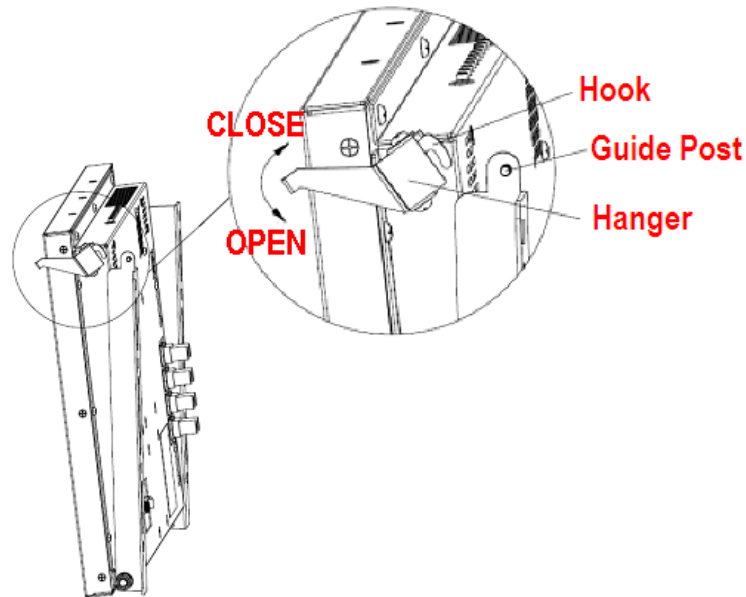
The MVM-200 series monitors support cabinet installation. Firstly, mount the rackmount brackets to the rear panel of the monitor, fasten them, then mount the monitor onto the cabinet steadily and firmly. Buckle the monitor with the hanger at the right top of the monitor on the rear panel to lock the monitor in case of unexpected rollover.



**Figure 3-2 Rackmount Installation**

□ Hanger usage

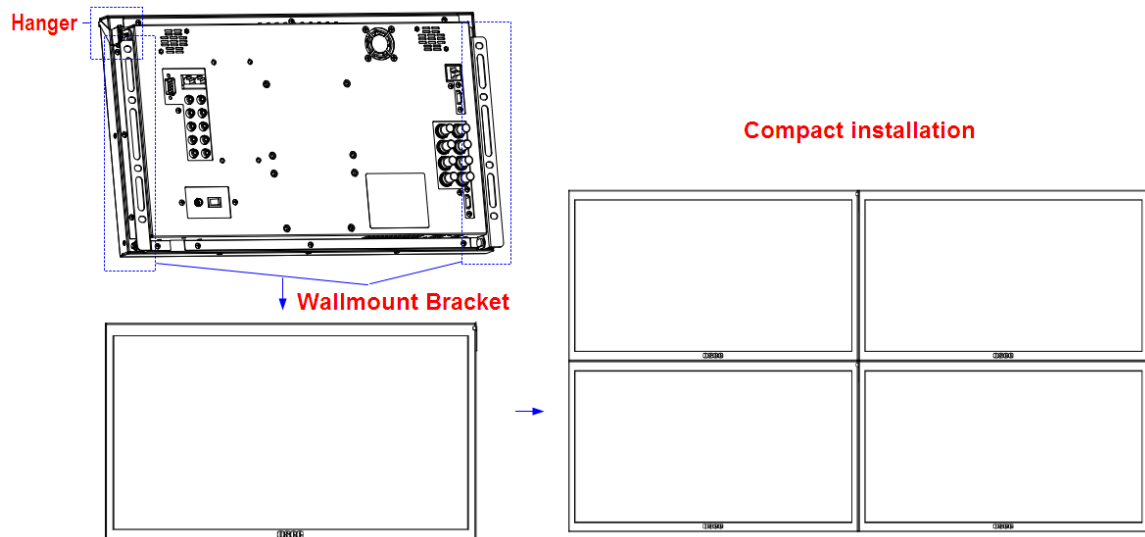
Rotate the hanger to hook with the locating guide post to lock the monitor, in case of unexpected rollover.



**Figure 3-3 Hanger Usage**

■ Videowall Installation

The MVM-200 series monitors support compact installation for videowall. Firstly, mount the wallmount brackets to the rear panel of the monitor, fasten them, then, mount the monitor onto the videowall frame steadily and firmly. Buckle the monitor with the hanger at the right top of the monitor on the rear panel to lock the monitor in case of unexpected rollover.



**Figure 3-4 Wallmount Installation**

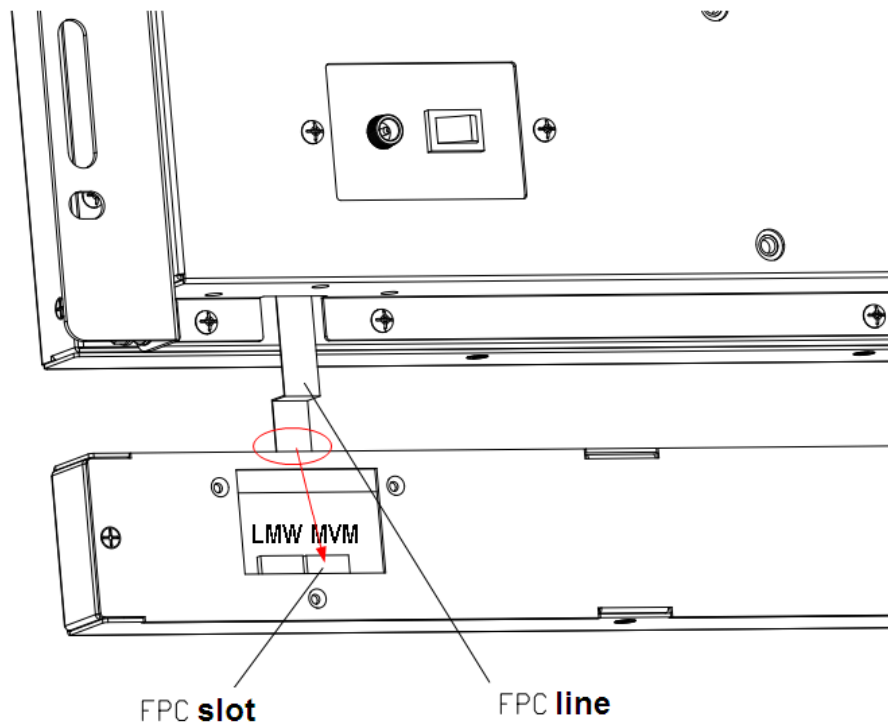
**Installation for the extra control buttons bar:**

You can use the control buttons on the top of the monitor, or you can amount an extra control buttons bar at the bottom of the monitor. The



installation steps of the extra control buttons bar are as follows:

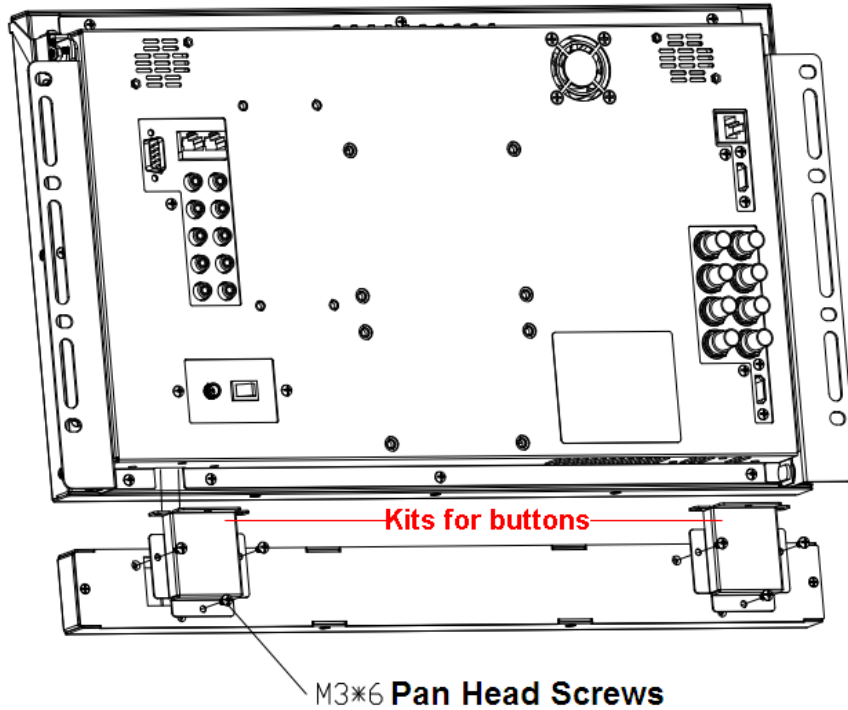
**Step 1:** first, insert the FPC line of the monitor to the corresponding slot of the extra control buttons bar, as shown in the following illustration:



**Insert the FPC line into the slot**

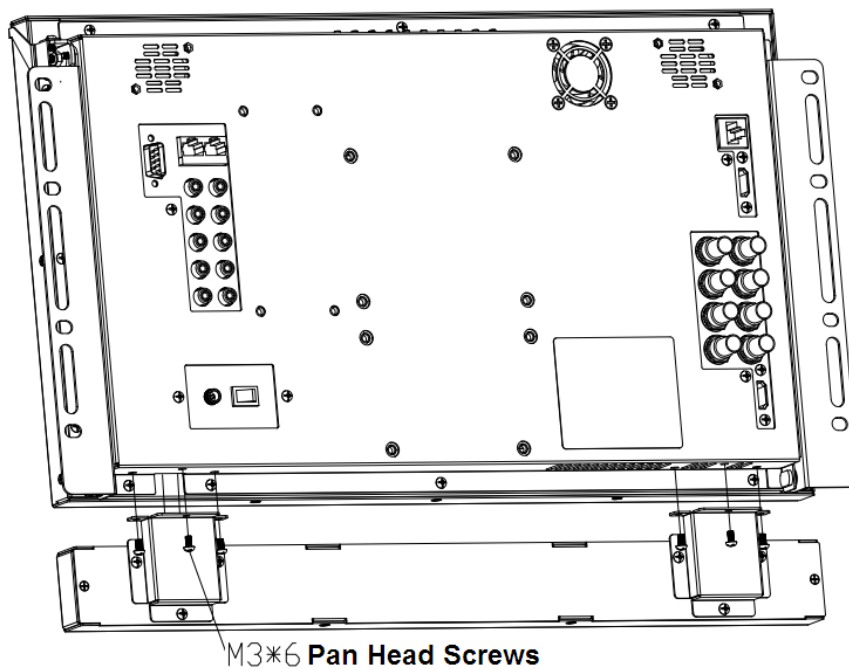
**Figure 3-5 FPC Connection**

**Step 2:** second, mount the extra control buttons bar with the kits at both sides, fasten them firmly, as shown in the following illustration:



**Figure 3-6** *Mount the Kit of the Extra Control Buttons Bar*

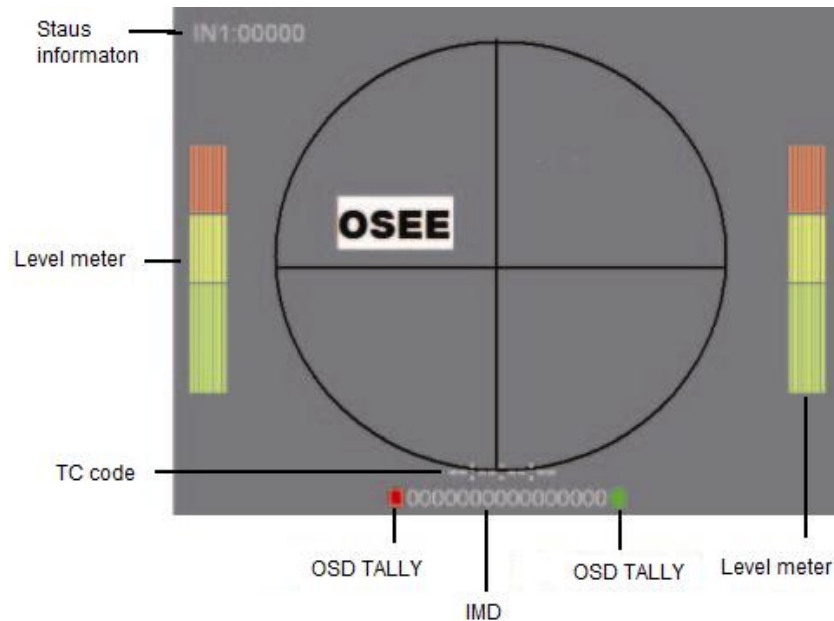
**Step 3:** at last, connect the extra control buttons bar to the monitor with the pan head screws, fasten them firmly, as shown in the following illustration:



**Figure 3-7** *Mount the Extra Control Buttons Bar*

## Chapter 4 MVM Monitor Features

This chapter describes the features of MVM-200 monitor. The features of MVM-200 monitor are as shown in Figure 4-1 after installed and powered on:



**Figure 4-1 Features of MVM-200 Monitor**

### 1. Status Information

It is displayed in the top left corner of each display window on the screen, and includes the input channel and signal format.

### 2. Audio Meter

It is displayed for audio monitoring. You can set its parameters in **AUDIO CONFIG** menu. It could be semi-transparent displayed which will reduce the impact for the image.

### 3. Waveform and Vector

This is effective only for SDI signal. The waveform and vector of the input signal are configurable in the **OSD CONFIG** Menu.

### 4. Area Marker/Safe Marker/Center Marker

It is used to mark different area or position of the image, and there are various marker, including Area Marker, Safe Marker, Center Marker. You can set whether to display it or not and their displaying mode in **MARKER** menu.

## 5. Timecode

It is displayed at the bottom of the image, the format is HH:MM:SS:FF, if there is no timecode available, the monitor will display --:--:--:--. You can set its parameters in **OSD CONFIG** menu.

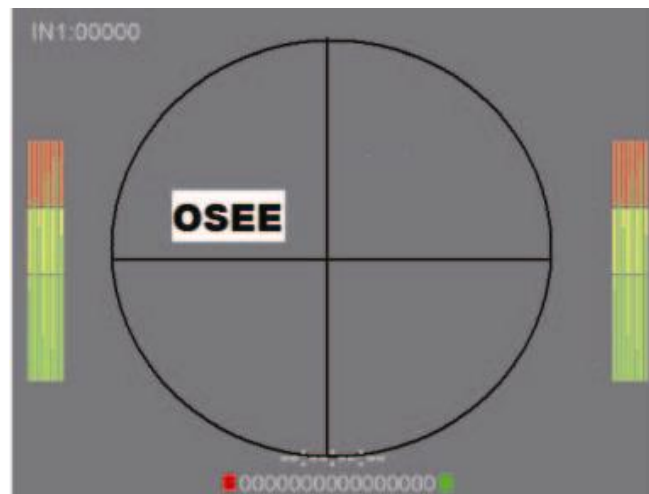
## 6. OSD TALLY

It is displayed OSD TALLY rectangle at the both sides of IMD bar, in the bottom of each display window, and the color could be changed according to the designated color (red, green, yellow, white). You can set its parameters in **OSD CONFIG** menu.

## 7. IMD

The IMD text displays at the bottom of the screen, the length can't exceed 16 characters, and you can choose letter, number or other character for it. You can set its parameters in **OSD CONFIG** menu.

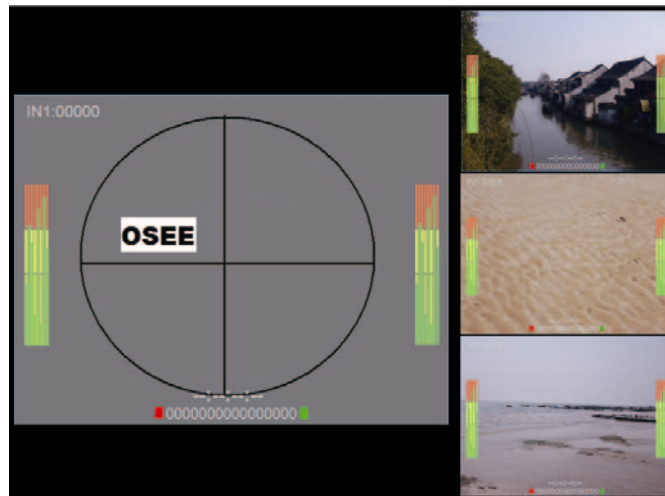
There are several display modes for MVM-200 display: Single-screen, Four equal screens, and One-big and with Three-small Screen.



**Figure 4-2** Single-screen, full 16-channel audio meter

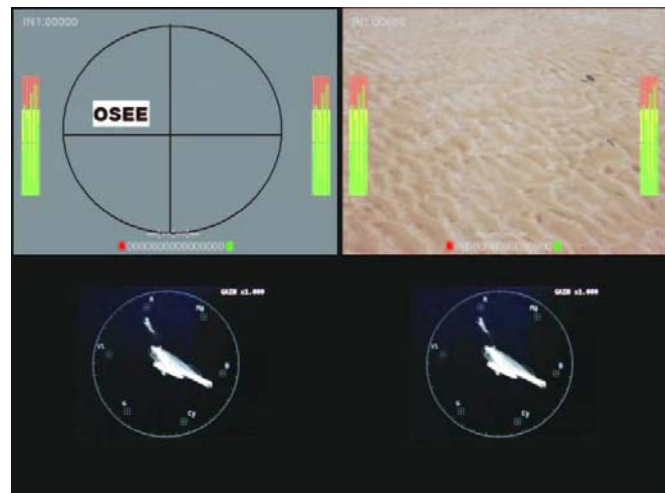


**Figure 4-3 Four-screen, full 16-channel audio meter**



**Figure 4-4 One-big and With Three-small Screen, Full 16-channel Audio Meter**

Waveform and vector display: It displays only for CH1 and CH3 in the screen. Each channel is corresponding to a display window. You can see the Waveform and vector of CH1 is displayed in No.2 Window, and the Waveform and vector of CH3 is displayed in No.4 Window.



**Figure 4-5 Waveform and Vector Display**

**i Tips**

- The **Status Information** displays at the top left corner of the each window, it usually displays as the following situations:

- "UNKNOW" appears if an unsupported signal is input.
- "NO SIGNAL" appears if no signal is input.
- The signal is normal, for example: 1080i59.94, NTSC, 1280X1024, etc.

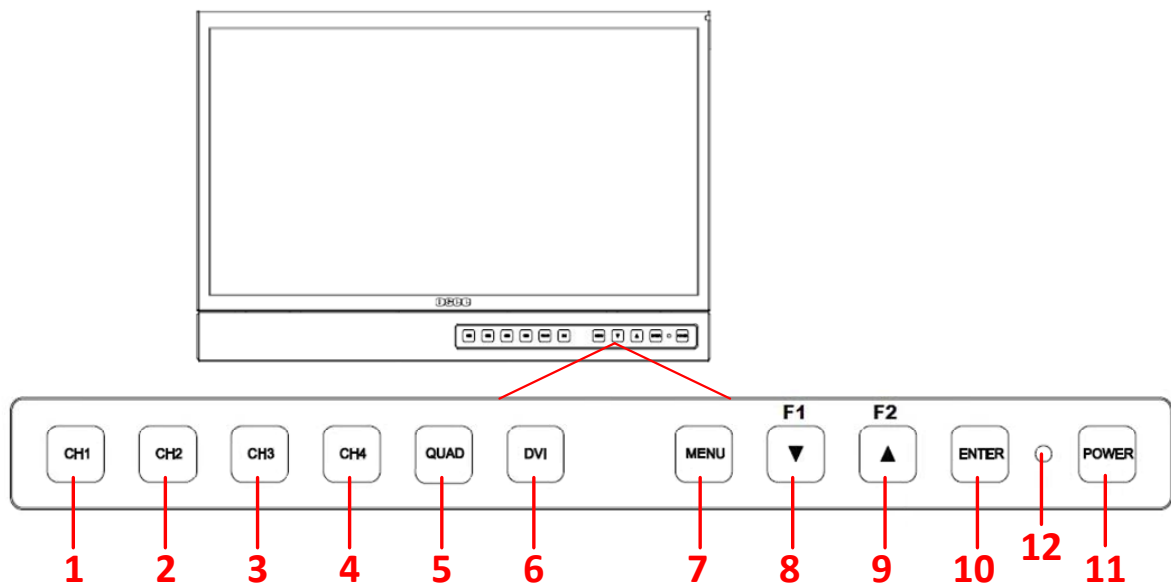
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## 4.1 Front Panel Features

It will introduce the arrangement and the operations of the buttons in front of the panel in the following.

### 4.1.1 Arrangement of Front Panel

There are a series of buttons at the bottom of the screen, and these buttons are used to control the screen menu items.



**Figure 4.1-1 the Buttons in Front Panel**

As shown in Figure 4.1-1, these buttons are as follows:

1. CH1
2. CH2
3. CH3
4. CH4

5. QUAD
6. DVI
7. MENU
8. F1/DOWN
9. F2/UP
10. ENTER
11. POWER
12. POWER indicator

## Tips

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- The functionality of the control buttons on the top of the monitor is as the same as the extra control buttons.
- 

### 4.1.2 Operation of Front Panel

The functionality and usage of the buttons are as follows:

#### 1. CH1

It is used to switch to the full screen of CH1, or select the signal from IN1 input interface.

##### ■ Operation

- Full screen of CH1: Press this button to switch from quad split screen display to **CH1** full screen display.
- Select CH1: when in quad split screen display mode, press **MENU** button to display the main menu in the center of the screen, then press **CH1** button to switch to the **IN1** signal, and it will show the CH1 information in the menu list. The current selected window will be highlighted at the outline of the display window.

#### 2. CH2

It is used to switch to the full screen of CH2, or select the signal from IN2 input interface. The operation is as the same as CH1's.

#### 3. CH3

It is used to switch to the full screen of CH3, or select the signal from IN3 input interface. The operation is as the same as CH1's.

#### 4. CH4

It is used to switch to the full screen of CH4, or select the signal from IN4 input interface. The operation is as the same as CH1's.

#### 5. QUAD

This button is used to switch to display quad split windows, including four uniform size screens display, one big with three small screens display. Refer to “4.1.3 Display Mode” for details.

#### 6. DVI

This button is used to switch the signal source for CH1 between HDMI and IN1.

#### 7. MENU

It is used to activate the Main menu. Press this button to do some operations with the Main menu, it includes the following operations:

- Display the Main menu
- Back to the higher level menu
- Quit the Main menu

Refer to “5.2 Menu Settings” for detail about the main menu operations.

### Tips

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- After you have loaded the function menu list, it will be closed automatically if you do nothing operation with it in 5s.
  - If the value related to the function button can't be modified, the value shows in highlight yellow.
- 

#### 8. F1/DOWN

This button is used to be a function button or an adjustable button. The function can be set via the USER CONFIG menu.

- **Function button:** Press **F1** to display the function menu list at the left bottom corner of the screen. Toggle **F1** button to change the value related to this function
- **Adjustable button:** It is **DOWN(▼)** button when working with **MENU**. Toggle this button to select the next item or decrease the number.

### Tips

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- Use **FUNCTION KEY** menu to assign F1, F2. You can assign the function from among: H/V DELAY, ASPECT, SCAN, MONO, BLUE ONLY, NATIVE,



WAVEFORM, AUD METER, MARKER, NONE. Refer to "5.1.6 USER CONFIG Menu" for the details.

### 9. F2/UP

This button is used to be a function button or an adjustable button. The function can be set via the USER CONFIG menu.

- **Function button:** Press **F2** to display the function menu list at the left bottom corner of the screen. Toggle **F2** button to change the value related to this function
- **Adjustable button:** It is **UP(▲)** button when working with **MENU**. Toggle this button to select the next item or decrease the number.

### 10. ENTER

This button can achieve the following two situations:

- **Work with the Main MENU:** when working with the Main menu, ENTER button achieve the following functions:
  - Enter into the next level menu: press **ENTER** button, you will enter into the menu item as this relationship: the Main menu list → sub-menu list → sub-menu value list, the current editable object is in yellow control icon;
  - Confirm the value selection: press **ENTER** button to confirm the value selection.
- **Adjust Menu:** when not displaying the Main menu, press **ENTER** button to display the adjust menu list, as shown in Figure 4.1-2, toggle among these menu items: VOLUME, BRIGHTNESS, CONTRAST, CHROMA.



**Figure 4.1-2 Adjust Menu List**

After displaying the Adjust menu, press **UP** or **DOWN** button to adjust the menu value, and then press **ENTER** button to confirm the value selection.

The relationship of the menu items and their range is shown in Table 4.1-1:

**Table 4.1-1 The Description of Adjust Menu Items**

Adjust Menu	Description	Range	Default
-------------	-------------	-------	---------

Adjust Menu	Description	Range	Default
VOLUME	Adjust the volume	0~30dB	15
BRIGHTNESS	Adjust the image brightness	0~100	50
CONTRAST	Adjust the image contrast	0~100	50
CHROMA	Adjust the image monochroma	0~100	50

## Tips

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- Set these parameter values in the following position: BRIGHTNESS, CONTRAST, CHROMA.
  - In Adjust Menu List on screen when pressing Enter key.
  - In Adjust menu of network control page.
- After you have loaded the adjust menu list, it will be closed automatically if you do nothing operation with it in 5s.
- The main menu, the adjust menu, the function menu and the input signal selection list of a screen may not be shown all simultaneously.

---

### 11. Power

Used to power on or standby, and the light in the button will indicate the status of the power. If the light is green, the monitor is powered on, if the light is flashing, the monitor is standby.

## Tips

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- When the device is standby, cut off the power and restart the device, the status of the device will be normal but not standby.

---

### 4.1.3 Display Mode

This device provides several display modes: Single screen, QUAD split screen.

#### 1. SINGLE: full screen display mode

There is only one picture for one signal source on the whole screen in SINGLE mode, as shown in Figure 4.1-3:



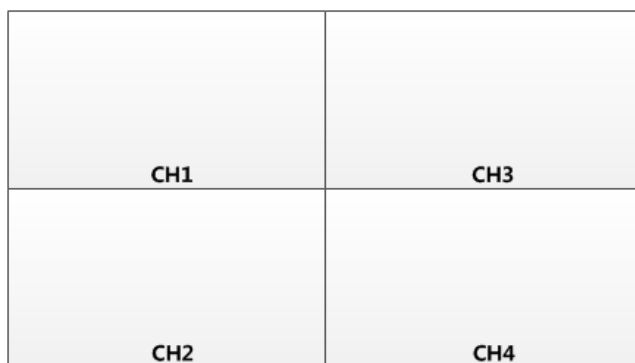
**Figure 4.1-3 SINGLE Mode**

- Switch to SINGLE MODE: Press **CH1**, **CH2**, **CH3** or **CH4** to display the corresponding input signal on the full screen.
- Signal Source Selection: Press **CH2**, **CH3**, **CH4** button, it will display the corresponding signal source to **IN2**, **IN3**, **IN4**. If press **CH1** button, it will display to signal source **IN1** by default, then, press **DVI** button to switch between **IN1** and **HDMI**(coming from HDMI IN interface). That is, the HDMI input could only be displayed in CH1 or CH1's full screen.

**2. QUAD: QUAD split display mode**

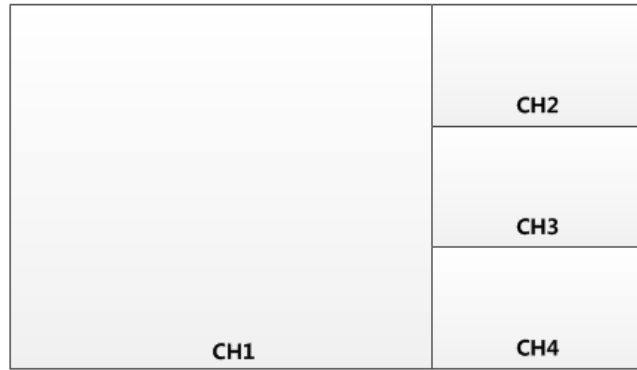
The whole screen is divided into four windows in QUAD mode, there are two kinds of layouts: four uniform size screens(LAYOUT1) and one big with three small screens. The latter including one big left with three right small(LAYOUT2), one big right with three left small(LAYOUT3), one big top with three bottom small(LAYOUT4).

Press **QUAD** button to switch among these four modes cyclically in sequence, and you can see a prompt at the left corner of the screen to show the layout character.

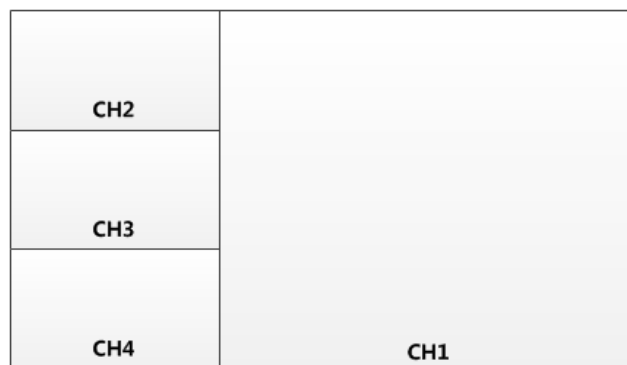


**Figure 4.1-4 LAYOUT1-Four Uniform Size Screens**

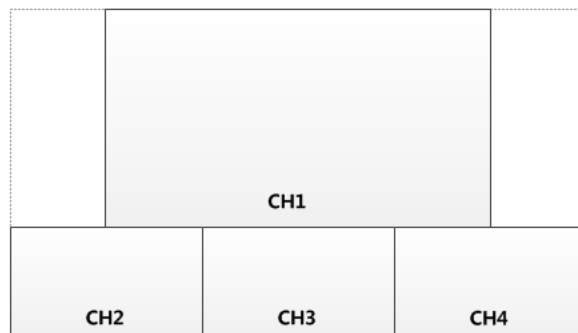
- One big with three small screens display: one big left with three right small, one big right with three left small, one big top with three bottom small, as shown in Figure 4.1-5, Figure 4.1-6, Figure 4.1-7:



**Figure 4.1-5 LAYOUT2-One Big Left with Three Right Small**



**Figure 4.1-6 LAYOUT3-One Big Right with Three Left Small**



**Figure 4.1-7 LAYOUT4-One Big Top with Three Bottom Small**

The relationship between the display window and signal source channel is one to one correspondence, and the position of each split window in the above display modes is settled.

**i Tips**

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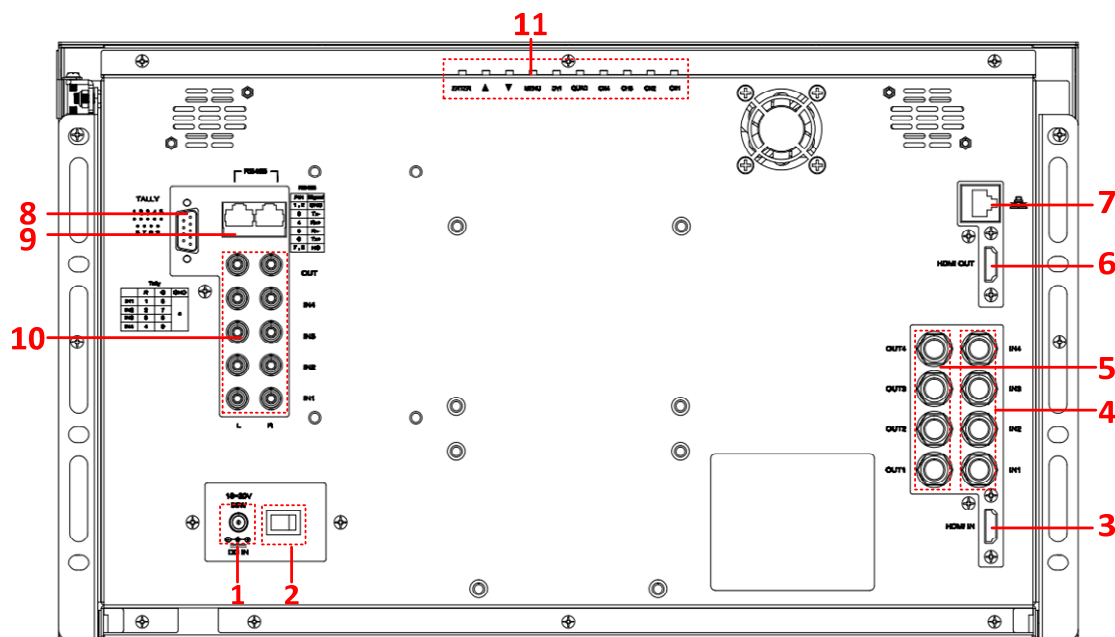
- The signal source of CH1 can only be IN1 or HDMI.
-

## 4.2 Rear Panel Features

It will introduce the arrangement and the operations of the interfaces in rear of the panel in the following.

### 4.2.1 Arrangement of Rear Panel

Take MVM-200 for example, as shown in Figure 4.2-1, there are various input and output interfaces at the rear panel of MVM-200 monitor.



**Figure 4.2-1 The Rear Panel of MVM-200 Monitor**

The interfaces numbered from 1 to 8 in red dotted rectangle are described as follows:

1. Power Input
2. Power Switch
3. HDMI Input Interface
4. Video Input Interface: IN1, IN2, IN3, IN4
5. Video Output Interface: OUT1, OUT2, OUT3, OUT4
6. HDMI Output Interface
7. Ethernet
8. GPI

## 9. RS485

## 10. Audio Input/Output Interface

## 11. Top Control Buttons

### 4.2.2 Operations of Rear Panel

The details of these interfaces at the rear panel are described as follows:

#### 1. Power Input

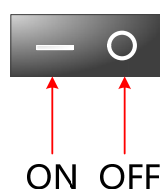
It provides one power input interface, the specification is DC18~20V. If the power indicator is in green, the monitor is powered on, and if the power indicator is off, the monitor is powered off.

#### **Warning**

- Only use the power cord specified by the manufacture for your safety!

#### 2. Power Switch

It provides one power switch to switch on or switch off. As shown in Figure 4.2-2, push the button to the direction “-” to switch on the power, or push the button to the direction “O” to switch off the power.



**Figure 4.2-2 Power Switch**

#### 3. HDMI Input Interface

It provides one HDMI input interface, HDMI Type-A connector with a fastener.

#### 4. Video Input Interface (BNC)

It provides four video input interfaces, labeled as IN1, IN2, IN3, IN4. These inputs are adaptable for CVBS, SD/HD/3G-SDI(with embedded audio). The IN1 is multiplexed with HDMI input for CH1.

#### 5. Video Output Interface (BNC)

It provides four video output interfaces, labeled as OUT1, OUT2, OUT3, OUT4. Loop out, corresponding with IN1, IN2, IN3, IN4.

## 6. HDMI Output Interface

It provides one HDMI output interface, HDMI Type-A connector with a fastener. It outputs the content of the current display on screen, that is, the screen could be a single image, or a group of four images.

## 7. Ethernet (RJ-45)

It provides one 10/100M Ethernet connector. It is used to connect with a computer to modify the network settings.

## 8. GPI(DB9)

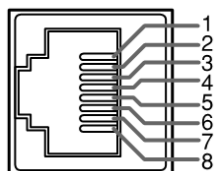
It is used to control Tally light.

The relationship of the pins of GPI interface and its channel value is shown in Table 4.2-1.

**Table 4.2-1 The Relationship of GPI Pins and Channel Values**

Tally Light Color	RED	GREEN	GND
IN1	Pin 1	Pin 6	Pin 5
IN2	Pin 2	Pin 7	
IN3	Pin 3	Pin 8	
IN 4	Pin 4	Pin 9	

## 9. IN/ OUT RS485 Interface (RJ-45)



Support for dynamic IMD and updating the new firmware.

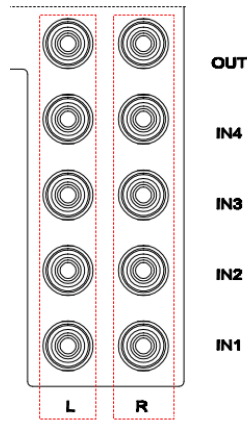
The Comparison of Pins and Input/output connectors for RS485 is shown as in Table 4.2-2:

**Table 4.2-2 Input/output connectors for RS485**

PIN No.	RS485 IN Terminal Signal	RS485 OUT Terminal Signal
1,2	GND	GND
3	Tx-	Tx-
4	Rx+	Rx+
5	Rx-	Rx-
6	Tx+	Tx+
7,8	NC	NC

### 10. Audio Input/Output interface

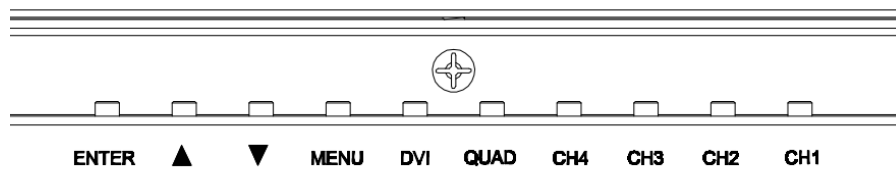
It provides four pairs of audio input interfaces, and one pair of audio output interfaces, RCA connector.



**Figure 4.2-3 Audio Input/Output interface**

### 11. Top Control Buttons

It provides a bar of control buttons at the top of the monitor, the sequence of these buttons from right to left are CH1, CH2, CH3, CH4, QUAD, DVI, MENU, DOWN(▼), UP(▲), ENTER, facing at the rear panel of the monitor. The functionality of these buttons is the same as the extra control buttons, no more description here.



**Figure 4.2-4 Top Control Buttons**

## 4.3 Supported Signal Format

The supported signal format for this device is as shown in Table 4.3-1:

**Table 4.3-1 Supported Signal Format**

	SDI	Video	HDMI	DVI
NTSC		YES		



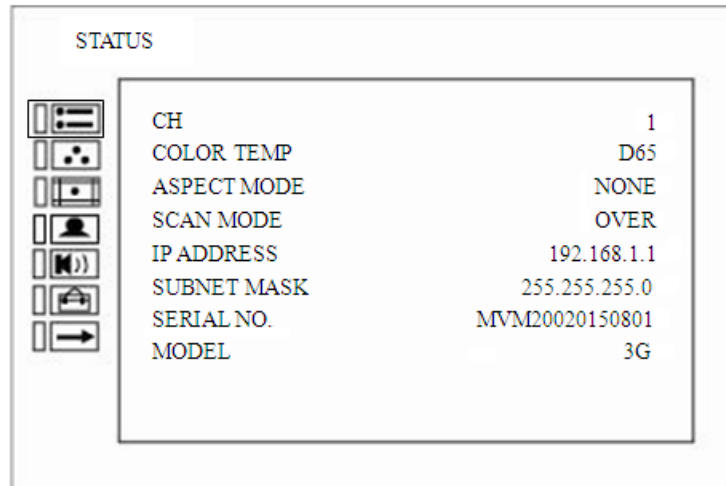
	SDI	Video	HDMI	DVI
PAL		YES		
SECAM		YES		
NTCS-4.43		YES		
PAL-M		YES		
480I60	YES		YES	
576I50	YES		YES	
480P60			YES	
576P50			YES	
720P24			YES	
720P25			YES	
720P30			YES	
720P50	YES		YES	
720P60	YES		YES	
1035I60	YES		YES	
1080I60	YES		YES	
1080I50	YES		YES	
1080P24	YES		YES	
1080P25	YES		YES	
1080P30	YES		YES	
1080P50	YES		YES	
1080P60	YES		YES	
1080SF24			YES	
VGA				YES
SVGA				YES
XGA				YES
SXGA				YES
UXGA				YES
WVGA				YES
WXGA				YES

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## Chapter 5 Functionality of the Main Menu

This chapter describes the structure and functionality of the main menu, and introduces how to modify and customize the menu settings.

The main menu includes the following menu items, as shown in Figure5-1.

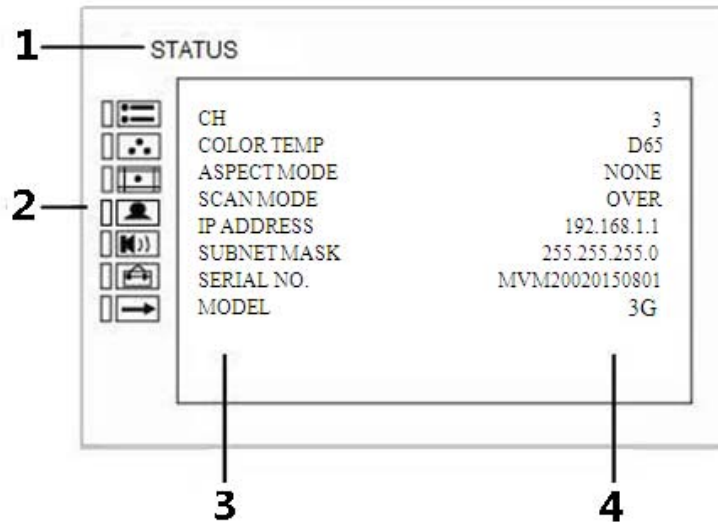


**Figure 5-1 Main Menu**

Icon	Menu Item	Pages	Description
	STATUS	1	Status information
	COLOR TEMP	1	Color temperature information
	MARKER	1	Marker information
	ALRAM CONFIG	1	Alarm information
	AUDIO CONFIG	1	Audio information
	USER CONFIG	1	User config information
	OSD CONFIG	2	OSD information

## 5.1 Main Menu

Press the **MENU** button, the main menu is displayed at the center of the screen, as shown in Figure 5.1-1:



**Figure 5.1-1** the Structure of the Main Menu

The menu interface is divided into three parts:

### 1. Menu Name

It displays the menu name of the current selected menu in menu list.

### 2. Main Menu List

It contains the menu list. Press **UP** or **DOWN** button to select the corresponding menu item.

### 3. Sub-menu list

It lists the **sub-menus**, press **MENU**, **UP**, **DOWN**, **Enter** button to select the sub-menu item.

### 4. Sub-menu value list

It lists the **sub-menus** value of the current select sub-menu, press **UP**, **DOWN** and **Enter** button to modify the value of the sub-menu. Refer to “5.2 Menu Settings” for details.

## Tips

- There is a yellow control icon when you select the menu or its value.
- The sub-menu item is selected when the control icon which is in yellow

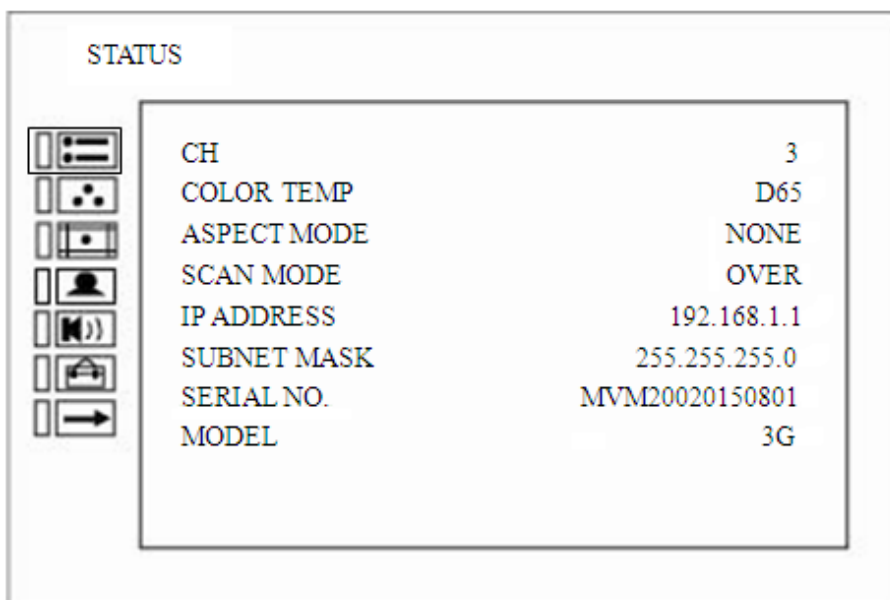
highlight is at the back of the item name.

- The sub-menu item value is editable when the control icon which is in yellow highlight is at the back of the item value.

The following will introduce the contents and functionality of these sub-menu items in sorts.

### 5.1.1 STATUS Menu

The STATUS menu items are used to describe the current status information of the monitor, the menu items are as shown in Figure 5.1-2:



**Figure 5.1-2 STATUS Menu**

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-1:

**Table 5.1-1 The Description of STATUS Menu Items**

Items	Default Value	Domain Range	Description
CH	3	--	Show the Input channel number.
COLOR TEMP	D65	--	Show the color temperature.
ASPECT MODE	16:9	--	Show the screen Aspect Ratio.

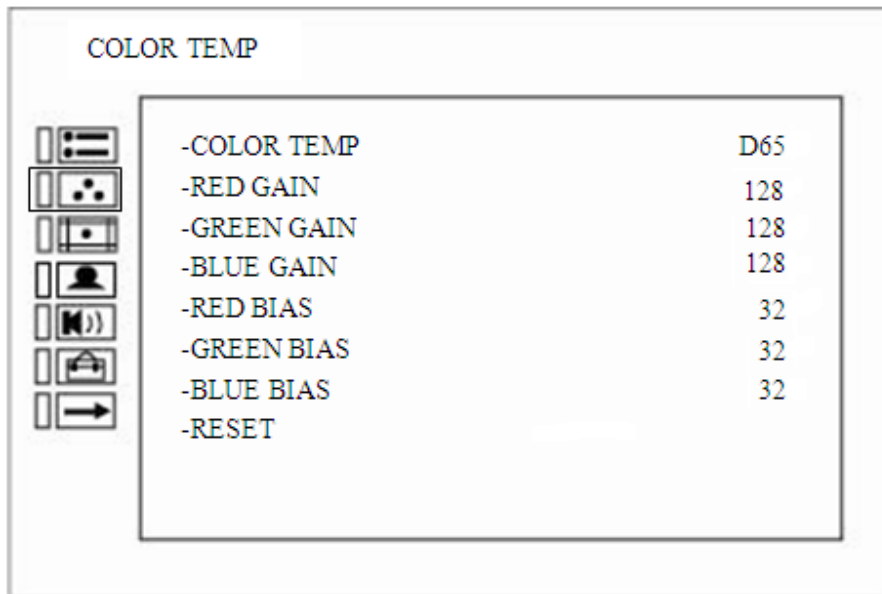
Items	Default Value	Domain Range	Description
SCAN MODE	NORMAL	--	Show the scan mode.
IP ADDRESS	192.168.1.86	--	Show the IP address.
SUBNET MASK	255.255.255.0	--	Show the subnet mask.
SERIAL NUMBER	MVM2002015010801	--	Show the serial number.
MODEL	3G	--	Show the production model.

**i Tips**

- The sub-menu values in **STATUS** menu can't be modified, they are displayed the actual status of the monitor.

### 5.1.2 COLOR TEMP Menu

The COLOR TEMP menu items are used to adjust the color temperature parameters and the color balance, the menu items are as shown in Figure 5.1-3:



**Figure 5.1-3 COLOR TEMP Menu**

The relationship of Items, Default Value, Domain Range and Description

of the sub-item is shown in Table 5.1-2:

**Table 5.1-2 The Description of COLOR TEMP Menu Items**

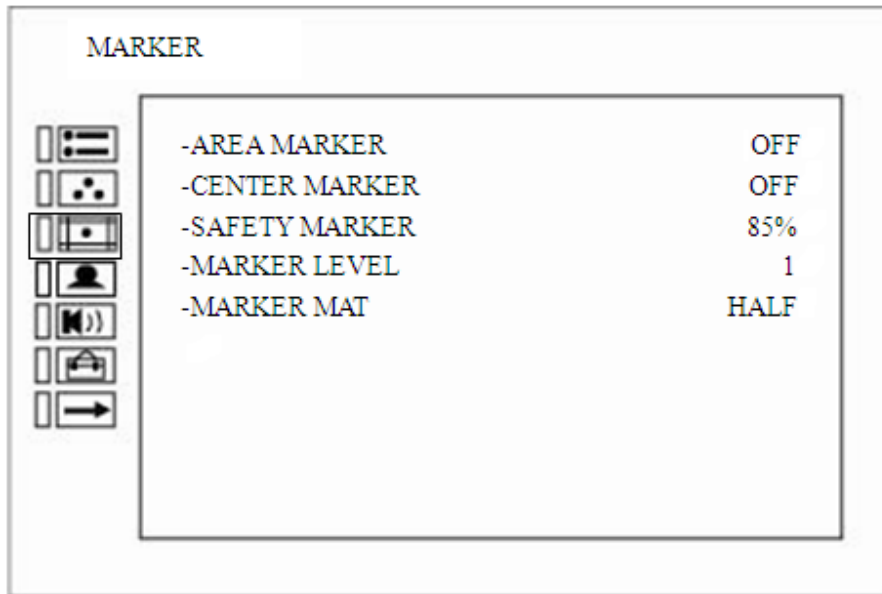
Items	Default Value	Domain Range	Description
COLOR TEMP	D65	<ul style="list-style-type: none"> <li>• USER: Customized by user</li> <li>• D56: 5600K</li> <li>• D65: 6500K</li> <li>• D93: 9300K</li> </ul>	Set color temperature
RED GAIN	128	0~256	Adjust the Red Gain
GREEN GAIN	128	0~256	Adjust the Green Gain
BLUE GAIN	128	0~256	Adjust the Blue Gain
RED BIAS	32	0~64	Adjust the Red Offset
GREEN BIAS	32	0~64	Adjust the Green Offset
BLUE BIAS	32	0~64	Adjust the Blue Offset
RESET	--	--	Reset the Gain and Offset values to the product originals

### Tips

- The items about RED/GREEN/BLUE GAIN and BIAS are available only in USER mode. If the COLOR TEMP is set to **USER** with customized settings, you can select the menu item **COLOR TEMP →RESET** command to restore product originals for Gains and Offsets, and press **ENTER** button to confirm the reset operation.

### 5.1.3 MARKER Menu

The MARKER menu items are used to adjust the marker parameters, the menu items are as shown in Figure 5.1-4:



**Figure 5.1-4 MARKER Menu**

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-3:

**Table 5.1-3 The Description of MARKER Menu Items**

Items	Default Value	Domain Range	Description
MARKER	OFF	OFF/ON	Set whether to show all of the markers. It is the main switch for area marker, center marker and safety marker.
AREA MARKER	OFF	<ul style="list-style-type: none"> <li>• OFF: close area marker</li> <li>• 4:3</li> <li>• 16:9</li> <li>• 15:9</li> <li>• 14:9</li> <li>• 13:9</li> <li>• 1.85:1</li> <li>• 2.35:1</li> </ul>	Select the area marker aspect ratio according to the display aspect ratio.
CENTER MARKER	OFF	OFF/ON	Set whether to show the center marker
SAFETY MARKER	OFF	<ul style="list-style-type: none"> <li>• OFF</li> <li>• 80%</li> </ul>	Set the safety area size according to the aspect



Items	Default Value	Domain Range	Description
		<ul style="list-style-type: none"> <li>85%</li> <li>88%</li> <li>90%</li> <li>93%</li> <li>95%</li> </ul>	ratio and scan mode.
MARKER LEVEL	1	<ul style="list-style-type: none"> <li>1: 50%</li> <li>2: 75%</li> <li>3: 100%</li> </ul>	Set the luminance of marker line, including safety marker, center marker, area marker and cross hatch.
MARKER MAT	OFF	<ul style="list-style-type: none"> <li>OFF: Normal background, use line for area marker edge only</li> <li>HALF: 50% Background brightness</li> <li>BLACK: all black</li> </ul>	Set the transparency of area marker mat.

■ Markers

Marker	Illustration	Description
CENTER MARKER		This marker enables easier checking the center portion's focus.
AREA MARKER		This marker displays two lines to identify an area with a specified ratio.
SAFETY MARKER		This marker displays a rectangle to identify the safety area with a specified percentage.

■ MARKER MAT

The marker mat marks the outside area of the marker display with the appointed transparency.

For example, set ASPECT as 16:9, AREA MARKER as 4:3, and SAFETY AREA as 95%, then, the comparison of the three MARKER MATs are as

shown in Figure 5.1-5:



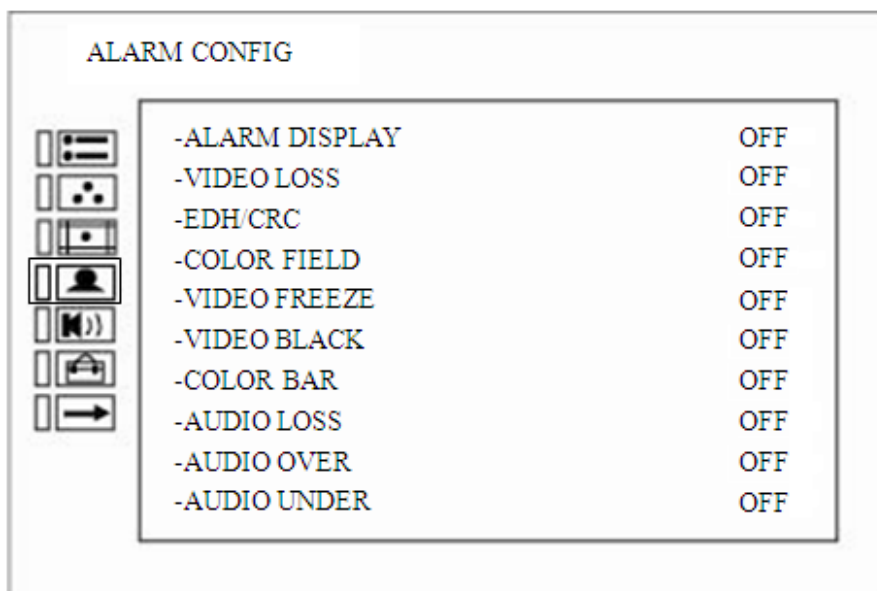
**Figure 5.1-5 MARKER MAT**

**i Tips**

- All markers will be hidden in the following modes though the corresponding marker is enabled (the value is not OFF): NATIVE.
- The safety marker area will change with the area marker.

**5.1.4 ALARM CONFIG Menu**

The Alarm Config Menu items are used to adjust the parameters displayed on the screen, the menu items are as shown in Figure 5.1-6:



**Figure 5.1-6 Alarm Config Menu**

The relationship of Items, Default Value, Domain Range and Description

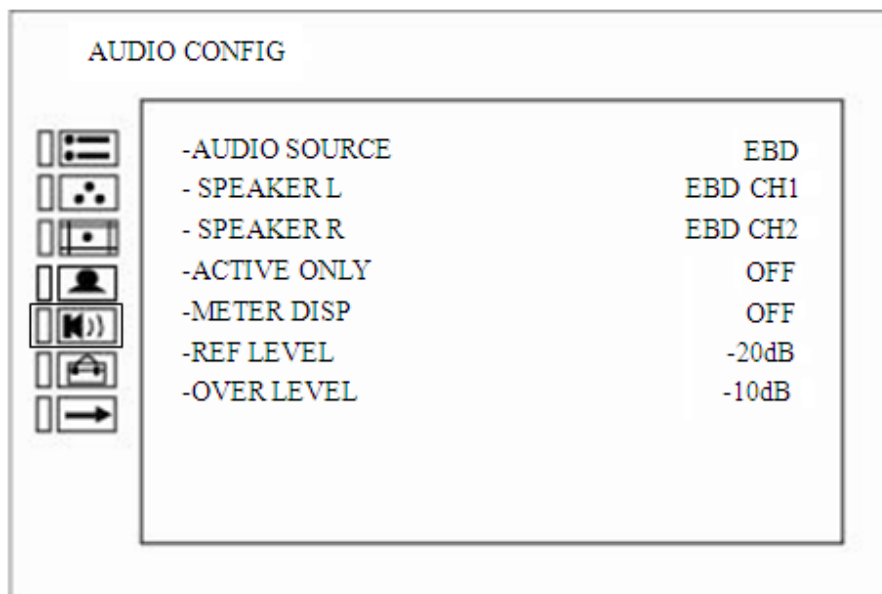
of the sub-item is shown in Table 5.1-4:

**Table 5.1-4 The Description of Alarm Config Menu Items**

Items	Default Value	Domain Range	Description
ALARM DISPLAY	OFF	<OFF>/<ON>	Enable/disable alarm display.
VIDEO LOSS	OFF	<OFF>/<ON>	Enable/disable video loss alarm.
EDH/CRC	OFF	<OFF>/<ON>	Enable/disable EDH/CRC alarm.
COLOR FIELD	OFF	<OFF>/<ON>	Enable/disable color field alarm.
VIDEO FREEZE	OFF	<OFF>/<ON>	Enable/disable video freeze alarm.
VIDEO BLACK	OFF	<OFF>/<ON>	Enable/disable video black alarm.
COLOR BAR	OFF	<OFF>/<ON>	Enable/disable color bar alarm.
AUDIO LOSS	OFF	<OFF>/<ON>	Enable/disable audio loss alarm.
AUDIO OVER	OFF	<OFF>/<ON>	Enable/disable audio over alarm.
AUDIO UNDER	OFF	<OFF>/<ON>	Enable/disable audio under alarm.

### 5.1.5 AUDIO CONFIG Menu

The AUDIO CONFIG menu items are used to adjust the audio parameters, the menu items are as shown in Figure 5.1-7:



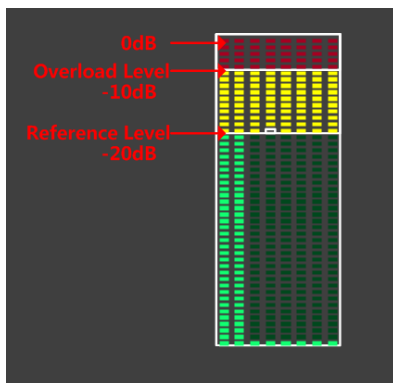
**Figure 5.1-7 AUDIO CONFIG Menu**

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-5:

**Table 5.1-5 The Description of AUDIO Menu Items**

Items	Default Value	Domain Range	Description
AUDIO SRC	OFF	EBD: embedded signal EXT: external signal OFF: no signal	Select external audio source.
SPEAKER L	EBD CH1	When the audio source is EBD, the range of this item is EBD CH1~ EBD CH16.	Select the embedded audio channel to the left speaker and line out.
SPEAKER R	EBD CH2	When the audio source is EBD, the range of this item is EBD CH1~ EBD CH16.	Select the embedded audio channel to the right speaker and line out.
METER DIS	OFF	OFF/2CH/4CH/6CH/8CH/10CH/12CH/14CH/16CH	Set whether to show audio meter, and select a meter display mode. each CH* means the amount of the channels to be displayed.
ACTIVE ONLY	OFF	OFF/ON	Display the active embedded audio group only
REF LEVEL	-20dB	-20dB/-18dB	Select the reference level
OVER LEVEL	-10dB	-10dB -8dB -6dB -4dB -2dB	Select the overload level

The appearance of Meter is as shown in Figure 5.1-8:



**Figure 5.1-8 Audio Meter**

### Tips

- The prerequisite for the available settings of the display mode and the position of audio meter is that the **METER DIS** is not OFF.
- The SDI embedded audio outputs are selected by these items, the HDMI outputs and analog audio outputs are fixed.

### 5.1.6 USER CONFIG Menu

The USER CONFIG menu items are used to adjust the parameters defined by customers, the menu items are as shown in Figure 5.1-9:

USER CONFIG	
	-B.LIGHT 15
	-LANGUAGE ENGLISH
	- PHASE 50
	-APERTURE 8
	-F1 BUTTON SCAN MODE
	-F2 BUTTON ASPECT MODE
	-LAYOUT2 MODE 16:9
	-LOCK NUMBER RVAA003J
	-VIDEO FORMAT 720P
	-REFRESH RATE 50

**Figure 5.1-9 USER CONFIG Menu**

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-6:

**Table 5.1-6 The Description of USER CONFIG Menu Items**

Items	Default Value	Domain Range	Description
BACK LIGHT	15	0~30	Adjust the back light
LANGUAGE	ENGLISH	ENGLISH/CHINESE	Select a language mode
PHASE (NTSC only)	50	0~100	Set the phase
APPERTURE	8	0~100	Set the picture sharpness
F1 BUTTON	MARKER	H/V DELAY, ASPECT, SCAN, MONO, BLUE ONLY, NATIVE, WAVEFORM, AUD METER, MARKER, NONE	Set a function to F1 button
F2 BUTTON	SCAN	MARKER, AUD METER, WAVEFORM, H/V DELAY, NATIVE , BLUE ONLY, MONO, ASPECT, SCAN, NONE	Set a function to F2 button
LAYOUT2 MODE	16:9	16:9/4:3	Set the aspect ratio for LAYOUT2(one big left with three right small)
LOCK NUMBER	--	--	Function lock code input, 8 characters. Each character can input number or letter. Note: Be careful to adjust this option to avoid unnecessary mistakes.
VIDEO FORMAT	720P	720P/1080I/1080P	Set the video output format.
REFRESH RATE	50	50/60	Set the video refresh rate.

 **Tips**

- The length of LOCK NUMBER is up to 8 characters, you can use the

combination of these characters: number (0 to 9) and letter (A to Z). Press **ENTER** to edit the LOCK NUMBER, than use **UP** or **DOWN** to select characters, than press **ENTER** to go to next character, press **MENU** to exit editor.

---

### 1. SCAN

This product supports the following scan modes:

NORMAL → OVER → UNDER

Set the function button as [SCAN], press the button continuously to activate various scan modes.

- OVER: Zooms in/out of the image to 96% of its original size without changing the aspect ratio.
- NORMAL: Zooms in/out of the image without changing the aspect ratio.
- UNDER: Zooms in/out of the image without changing the aspect ratio. Also, displays the data at the top of the horizontal blanking block.

### 2. ASPECT

Set the aspect ratio of the screen.

### 3. BLUE ONLY

It is to activate BLUE ONLY mode that will remove red and green from the input signal and display the screen only under a blue signal.

### 4. MONO

It is to activate MONO mode that will display the screen in monochrome presentation, inactivate this mode to display the screen in color mode.

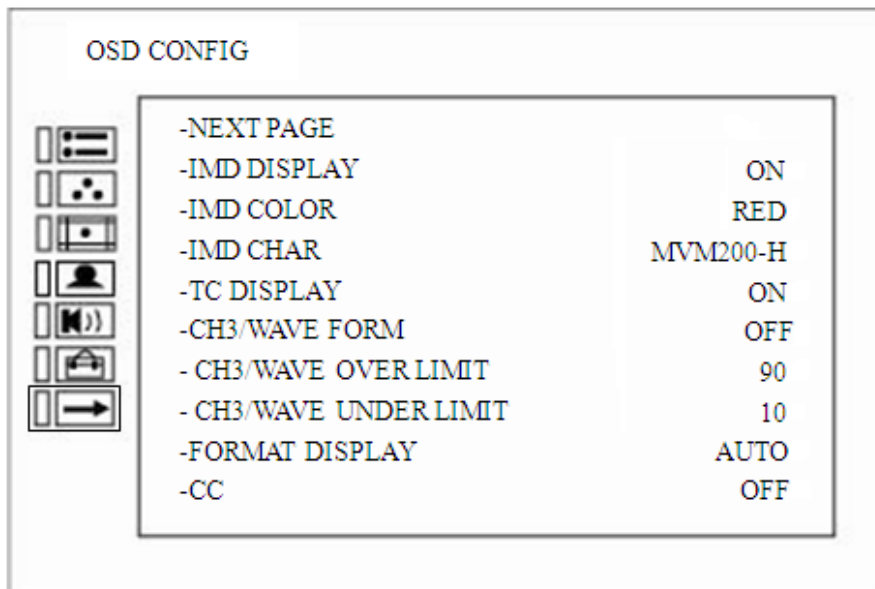
## Tips

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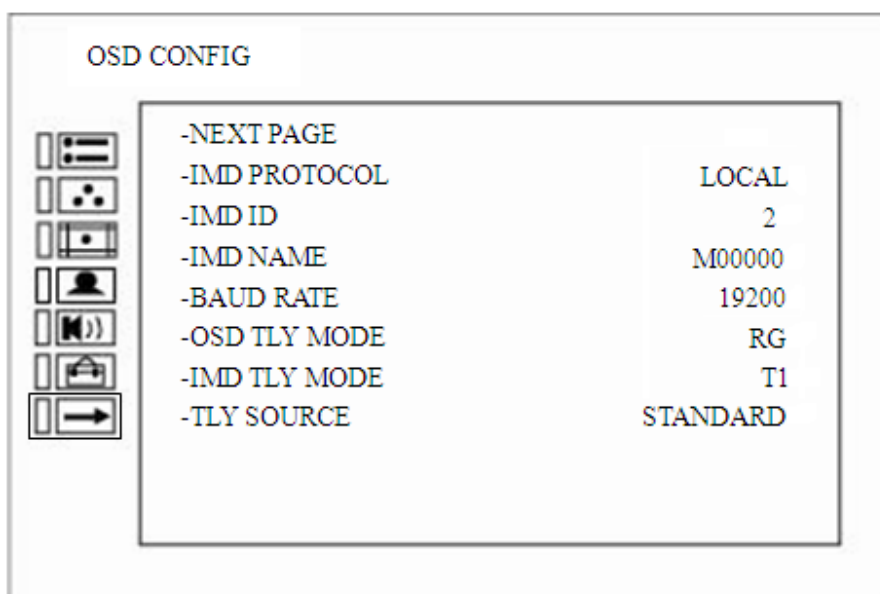
- Press F1/F2 button to activate the assigned function and adjust the parameter value.
  - The **SCAN** mode or the ASPECT mode is not selectable when Native mode is set to ON.
-

### 5.1.7 OSD CONFIG Menu

The OSD CONFIG menu items are used to adjust the parameters defined for IMD display and other OSD parameters, there are two pages of parameters for this menu, select **NEXT PAGE** item at the first line of the parameter list and press **Enter** button to turn page, the menu items are as shown in Figure 5.1-10 and Figure 5.1-11:



**Figure 5.1-10 OSD Menu-Page1**



**Figure 5.1-11 OSD Menu-Page2**

The relationship of Items, Default Value, Domain Range and Description



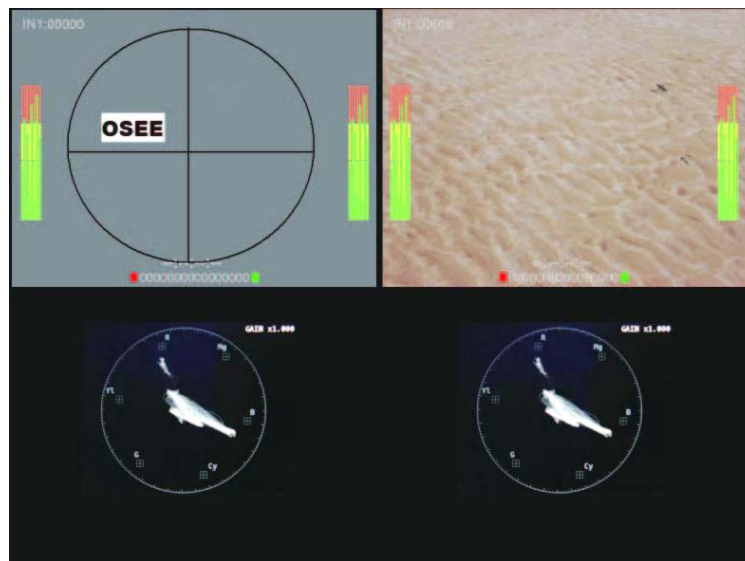
of the sub-item is shown in Table 5.1-7:

**Table 5.1-7 The Description of IMD Menu Items**

Items	Default Value	Domain Range	Description
IMD DISPLAY	ON	OFF/ON	Set whether to display IMD CHARACTER on screen.
IMD COLOR	RED	RED/GREEN/YELLOW/WHITE	Set the color for IMD CHARACTER.
IMD CHAR	XXXXXXXX	--	Set the IMD string displayed on the screen. After entering this item, press Up or Down to choose your character for this IMD string.
TC DISPLAY	OFF	OFF/LTC/VITC	Set whether to display TC, and select a mode for TC display.
CH*WAVE FORM	OFF	OFF/VECT100/VECT75/WAVE FORM	Set the display mode of wave form.
CH*WAVE OVER LEVEL	100	0~100	Select the overload level for WAVE FORM.
CH*WAVE UNDER LEVEL	0	0~100	Select the under level for WAVE FORM.
FORMAT DISPLAY	AUTO	<ul style="list-style-type: none"> <li>OFF: the display is hidden</li> <li>AUTO: the input source and format are displayed for about 10 seconds when the input of the signal changes</li> <li>ON: the input source and format are always displayed</li> </ul>	Set whether to display status information. If the signal input is not equal to "No signal" and this item is auto, the status information will show 10 seconds when the status changed, and then closed automatically.
CC	ON	OFF/ON	Set whether to display caption information.(Reserved)
IMD PROTOCOL	LOCAL	<ul style="list-style-type: none"> <li>LOCAL: Use IMD setting to control.</li> </ul>	Select an IMD protocol

Items	Default Value	Domain Range	Description
		<ul style="list-style-type: none"> <li>TSL3.1: Use the TSLV3.1 protocol setting to control.</li> <li>TSL4.0: Use the TSLV4.0 protocol setting to control.</li> <li>IMAGE VIDEO: Use the Image video protocol setting to control.</li> <li>UDP: Use the UDP protocol setting to control.</li> </ul>	
IMD ID	0	0~255	Set the ID number for each monitor
IMD NAME	XXXXXXXX		Set an IMD name for each screen.
BAUD RATE	38400	9600/19200/38400	Select a baud rate for communication. TSL V3.1 and TSL V4.0 is 38400, Image video is one of the 9600/19200/38400.
OSD MODE	TLY RG	<ul style="list-style-type: none"> <li>RG: Red/Green</li> <li>GR: Green only</li> <li>RGY: Red/Green/Yellow</li> <li>OFF: No tally light</li> </ul>	Select the OSD Tally mode. Only the TALLY SOURCE is STANDARD or STANDARD + IV422, the setting is available.
IMD TLY MODE	T1	T1/T2/T1T2/T2T1/T1-/T2-/T1T2-/T2T1-	Select the IMD Tally mode. Use this setting when using the Image Video tally control, this setting will determine the state which is selected.
TLY SOURCE	STANDARD	<ul style="list-style-type: none"> <li>STANDARD: Use the Standard setting to control tally via contact closure on GPI tally.</li> <li>IMAGE VIDEO 422: Use the setting to</li> </ul>	Select the source for tally source

Items	Default Value	Domain Range	Description
		control tally state via 422 ports, GPI toggle is no available. <ul style="list-style-type: none"> <li>TSL: Use the TSL 422 setting to control OSD and LED tally via the TSL serial protocol.</li> </ul>	



**Figure 5.1-12 Wave Form**

### Tips

- If IMD DISPLAY item is ON, the IMD CHARACTER in the black bar will display on the bottom of the corresponding window.
- Only CH1 and CH3 have wave form and vector functions, and the wave form and vector parameters settings for CH1 is set in the menu list of CH2, and the settings for CH2 is set in the menu list of CH4. When the CH\*WAVE FORM is not OFF, the wave form or vector of CH1 is displayed in the display window of CH2, and the wave form or vector of CH3 is displayed in the display window of CH4, for example, as shown in Figure 5.1-12.
- The length of IMD NAME and IMD CHARACTER is up to 16 characters.

The character range is from 0x00 to 0x7F of ASCII. Press **ENTER** to edit the IMD characters, than use **UP** or **DOWN** to select characters, than press **ENTER** to go to next character, press **MENU** to exit editor.

---

## 5.2 Menu Settings

When checking or modifying the value of the menu item, cooperating with the following buttons: **MENU**, **UP**, **DOWN**, **ENTER**.

### 1. Operations to the Main menu

#### ■ Display the Main Menu

Press **MENU** button to enter into the main menu, it displays at the top left corner of the screen.

#### ■ Switch menu items

After displaying the main menu, press **UP** or **DOWN** button to choose a menu item, the menu item selected is in yellow.

#### ■ Back to the Main menu

After entering to a sub-menu item or a sub-menu item value, press **MENU** button to back to the upper level menu area.

#### ■ Close the Main menu

Press **MENU** button to close the Main menu when the control icon is in the Main menu item.

### Tips

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- After you have loaded the Main menu, it will be closed automatically if you do nothing operation with it in 60s.
- 

### 2. Operations to sub-menu item

#### ■ Display the sub-menu item

After display the Main menu, press **UP** or **DOWN** button to select a menu item, and the right part displays its sub-menu items according to the current selected menu item.

#### ■ Switch sub-menu items

After displaying the sub-menu items list, press **ENTER** button to enter

into the sub-menu items list, press **UP** or **DOWN** button to choose a sub-menu item, a yellow rectangle is in front of the selected sub-menu item.

- **Back to menu item**

After entering to the sub-menu item value, press **MENU** button to back to menu items, or after setting the sub-menu item value and press **Enter** button to firm the modification, the control icon is back to the corresponding sub-menu item.

### 3. Operations to sub-menu item value

- **Switch sub-menu item value**

When the control icon is in sub-menu item value, press **UP** or **DOWN** button to switch among its value list.

- **Confirm the modification to sub-menu item value**

Press **ENTER** button to confirm the selection of a value, and the control icon is back to the corresponding sub-menu item.

- **Abandon the modification to sub-menu item value**

Press **MENU** button to give up the modification to sub-menu item value, and the control icon is back to the corresponding sub-menu item.

## Tips

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- The value in white color is modifiable, and the value in blue color is unmodifiable.
- 

### 4. Selecting the Menu Language

You can select one of languages (English or Chinese) for displaying the menu. The default language for the menu is Chinese. The following will teach you how to switch to ENGLISH.

- Operation:

#### Step 1 Select **USER CONFIG** menu

Press **MENU** button to display the OSD menu, click **DOWN** button to select **USER CONFIG** menu.

#### Step 2 Select the value of the Language item

Press **ENTER** button to get into the **USER CONFIG** menu items, and click **DOWN** button to select the sub-item **LANGUAGE**, then, click **ENTER** button to get into the sub-value list, the current control icon is in

Chinese.

### Step 3 Confirm the modification of the value of sub-item

Click **DOWN** button to select the sub-item **LANGUAGE** to **English**, press **ENTER** button to confirm the modification.

### Step 4 Exit the main menu

Click MENU button to exit the main menu.

## 5. Network Control

MVM-200 supports network interface. Connect a computer with MVM-200 through this interface to achieve the network control to MVM-200.

This chapter will introduce how to set and check the parameters of MVM-200 in Internet Explorer.

Use Internet Explorer to enter into a web control page. For example, input <http://192.168.1.138> in address bar, it will display the then, press Enter key, the management interface of MVM-200 is displayed. Set the parameters in this web page.

### Tips

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- The network address of the computer which is connected with MVM-200 and the network address of MVM-200 must be in the same segment.
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## Chapter 6 Specifications

### 1. Product detailed information

Specification	Values	
Model	MVM-170	MVM-200
Dimension	17.3"	19.5"
Dimension(WxHxD)	---	454.6x266.8x44.2mm(Without accessory)
	---	483.6x266.8x44.2mm(With rackmount bracket)
	---	454.6x310.3x44.2mm(With extra control buttons bar)
	421.8x308.1x160mm (With monitor stand)	454.6x318.2x160mm(With extra control buttons bar and monitor stand)
	421.8x264.3x45.5mm(Without monitor stand)	454.6x266.8x44.2mm(Without optional accessories or with only wallmount bracket)
Pixel Pitch (WxH)	0.1989×0.1989mm	0.2259×0.21874mm
Aspect Ratio	16:9	16:9
Display Area (WxH)	381.89 × 214.81mm	433.73 × 236.24mm
Viewing Angle (HxV)	178° x178°	178° x178°
Color Depth	262K colors	16.7M colors (6bit + A-FRC)
Resolution	1920×1080	1920×1080
Contrast (Typ.)	700:1	1000:1
Luminance (cd/m <sup>2</sup> )	300	250
Response Time (ms)	14	14
Backlight	RGB LED	WHITE LED
Backlight Life(Hrs)	15000	30000
Work Temperature	0° C~50° C	
Power Supply	DC18~20V	
Power Consumption	Approx. 50W	Approx. 51W
Weight	---	>7kg
Video Input Interface	BNC(X4, CVBS,3G/HD/SD-SDI adaptable), HDMI(X1 HDMI/DVI-D adaptable)	
Video Output Interface	BNC(X4, CVBS, 3G/HD/SD-SD loop-out), HDMI(X1, HDMI/DVI combined)	
Audio Input Interface	4 pairs of Analog Stereo, RCA(X8), SDI embedded audio	
Audio Output Interface	1 pair of Analog Stereo, RCA(X2)	
Control Interface	GPI(DB9)X1	
	RS485(cascade RJ45) X2	
	Ethernet(10/100M adaptive RJ45) X1	
Signal Formats	CVBS: PAL, NTSC	
	SD-SDI: 480i60, 576i50	

Specification	Values
	HD-SDI: 1080i50, 1080i 59.94, 1080i 60, 720p50, 720p 59.94, 720p 60, 1035i59.94, 1035i 60
	3G-SDI: 1080p50, 1080p60
<b>CVBS Input/Output</b>	
Signal Type	NTSC, PAL
Signal Amplitude	1Vp-p+/-3dB
Impedance	75Ω
Return Loss	>40 dB to 5 MHz
DC Offset	0V±0.05 V
Frequency Response	±0.2 dB to 5 MHz
Differential Gain	<1%
Differential Phase	<1.5°
<b>3G-SDI /HD-SDI /SDI-SDI Input/Output</b>	
Signal Type	SMPTE 424M, SMPTE 292M, SMPTE 259M, SMPTE 297M, SMPTE ST 2048-2
Connector	BNC per IEC 169-8
Impedance	75Ω
Return Loss	>18 dB 5 to 270 MHz >15 dB 270 MHz to 1.5 GHz >10 dB up to 3 GHz
Maximum Signal Level	800 mV pk-pk 10%
Signal Amplitude	800 mV pk-pk 10%
DC Offset	0 V ±0.5 V
Overshoot	<10%
Jitter	<0.2 UI
Rise/Fall Time	<700 ps for SD <270 ps for 1.5 Gb/s HD <135 ps for 3 Gb/s HD
Extinction Ratio	>8
Back Reflection	<-14 dB

\*The unit about the appearance attributes in above table is mm.

## 2. Input/Output Resolution, Frame Refresh Rate and Color Matrix

	ASPECT RATIO	OVERSCAN		NATIVE		FULL NORMAL		Frame Rate	Color Matrix
		INPUT	OUTPUT	INPUT	OUTPUT	INPUT ALL	OUTPUT NORMAL		
NTSC	16:9	684X462	1920X1080	720X487	720X487	720X487	1920X1080	60	601
	4:3		1440X1080				1440X1080		
PAL	16:9	684X548	1920X1080	720X576	720X576	720X576	1920X1080	50	601
	4:3		1440X1080				1440X1080		
SECAM	16:9	684X548	1920X1080	720X576	720X576	720X576	1920X1080	50	601
	4:3		1440X1080				1440X1080		



	ASPECT RATIO	OVERSCAN	NATIVE		FULL NORMAL		Frame Rate	Color Matrix	
NTCS-4.43	16:9	684X462	1920X1080	720X487	720X487	720X487	1920X1080	60	601
	4:3		1440X1080				1440X1080		
PAL-M	16:9	684X462	1920X1080	720X487	720X487	720X487	1920X1080	60	601
	4:3		1440X1080				1440X1080		
480I60	16:9	684X462	1920X1080	720X487	720X487	720X487	1920X1080	60	601/709
	4:3		1440X1080				1440X1080		
576I50	16:9	684X548	1920X1080	720X576	720X576	720X576	1920X1080	50	601
	4:3		1440X1080				1440X1080		
480P60	16:9	684X462	1920X1080	720X487	720X487	720X487	1920X1080	60	601/709
	4:3		1440X1080				1440X1080		
576P50	16:9	684X548	1920X1080	720X576	720X576	720X576	1920X1080	50	601
	4:3		1440X1080				1440X1080		
720P24	16:9	1216X684	1920X1080	1280x720	1280x720	1280x720	1920X1080	48	709
720P25	16:9	1216X684	1920X1080	1280x720	1280x720	1280x720	1920X1080	50	709
720P30	16:9	1216X684	1920X1080	1280x720	1280x720	1280x720	1920X1080	30	709
720P50	16:9	1216X684	1920X1080	1280x720	1280x720	1280x720	1920X1080	50	709
720P60	16:9	1216X684	1920X1080	1280x720	1280x720	1280x720	1920X1080	60	709
1035I60	16:9	1824X984	1920X1080	1920X1035	1920X1035	1920X1035	1920X1080	60	709
1080I60	16:9	1824X1026	1920X1080	1920X1080	1920X1080	1920X1080	1920X1080	60	709
1080I50	16:9	1824X1026	1920X1080	1920X1080	1920X1080	1920X1080	1920X1080	50	709
1080P24	16:9	1824X1026	1920X1080	1920X1080	1920X1080	1920X1080	1920X1080	48	709
1080P25	16:9	1824X1026	1920X1080	1920X1080	1920X1080	1920X1080	1920X1080	50	709
1080P30	16:9	1824X1026	1920X1080	1920X1080	1920X1080	1920X1080	1920X1080	60	709
1080P50	16:9	1824X1026	1920X1080	1920X1080	1920X1080	1920X1080	1920X1080	50	709
1080P60	16:9	1824X1026	1920X1080	1920X1080	1920X1080	1920X1080	1920X1080	60	709
1080SF24	16:9	1824X1026	1920X1080	1920X1080	1920X1080	1920X1080	1920X1080	48	709
VGA						640X480	1920X1080	60-75	
SVGA						800X600	1920X1080	60-75	
XGA						1024x768	1920X1080	60-75	
SXGA						1280x102	1920X1080	60-75	

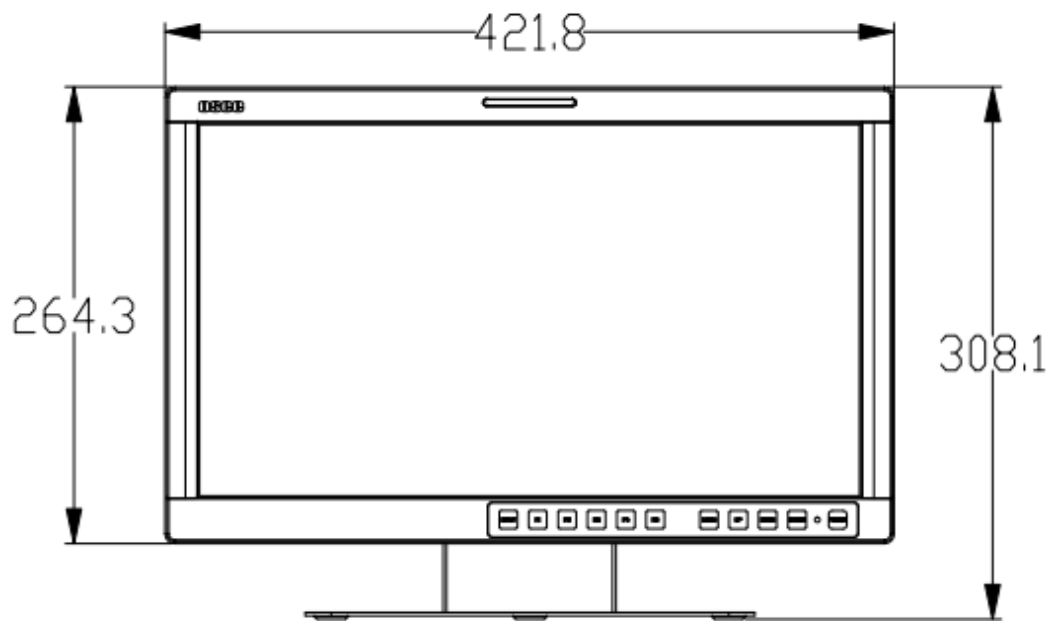
	ASPECT RATIO	OVERSCAN		NATIVE		FULL NORMAL		Frame Rate	Color Matrix
						4			
UXGA						1600x1200	1920X1080	60	
WXGA						1360X768	1920X1080	60	
WUXGA						1920x1200	1920X1080	60	

- \*Don't display all OSD when SCAN is NATIVE.
- \*Don't display MARKER when SCAN is NATIVE.

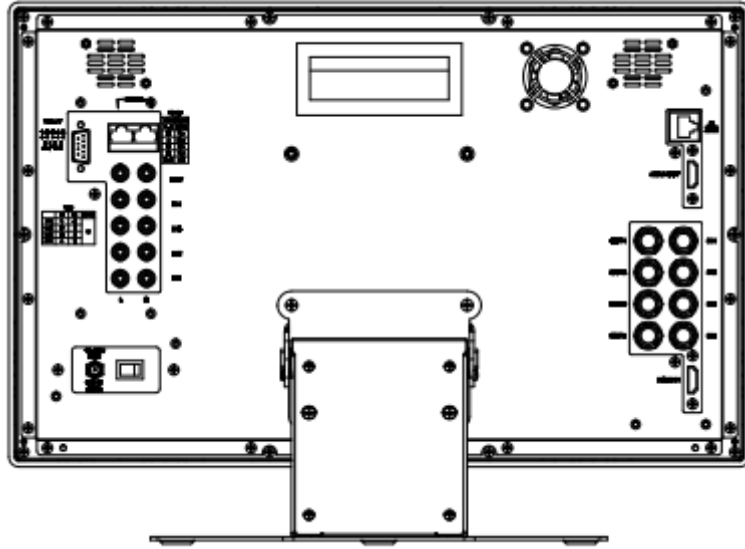
### 3. Dimensions

The description of the product dimensions is shown as in the following figures(Unit: mm):

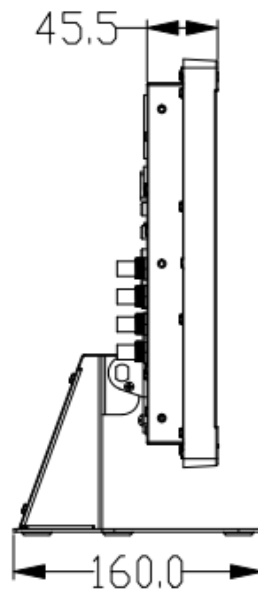
- MVM-170



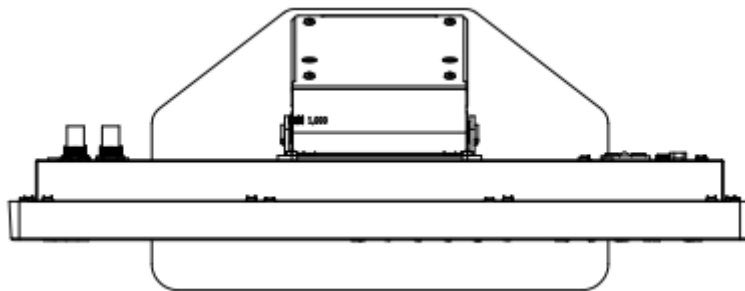
**Figure 6-1 Front Panel(Unit: mm)**



**Figure 6-2 Rear Panel(Unit: mm)**



**Figure 6-3 Side View(Unit: mm)**



**Figure 6-4 Top View(Unit: mm)**

■ MVM-200

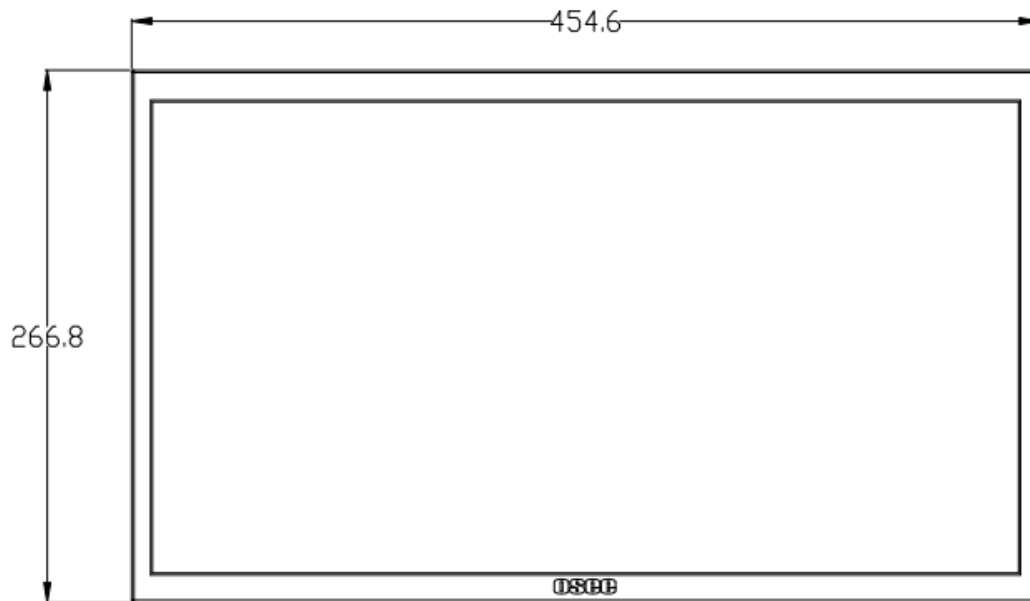


Figure 6-5 Front Panel(Unit: mm)

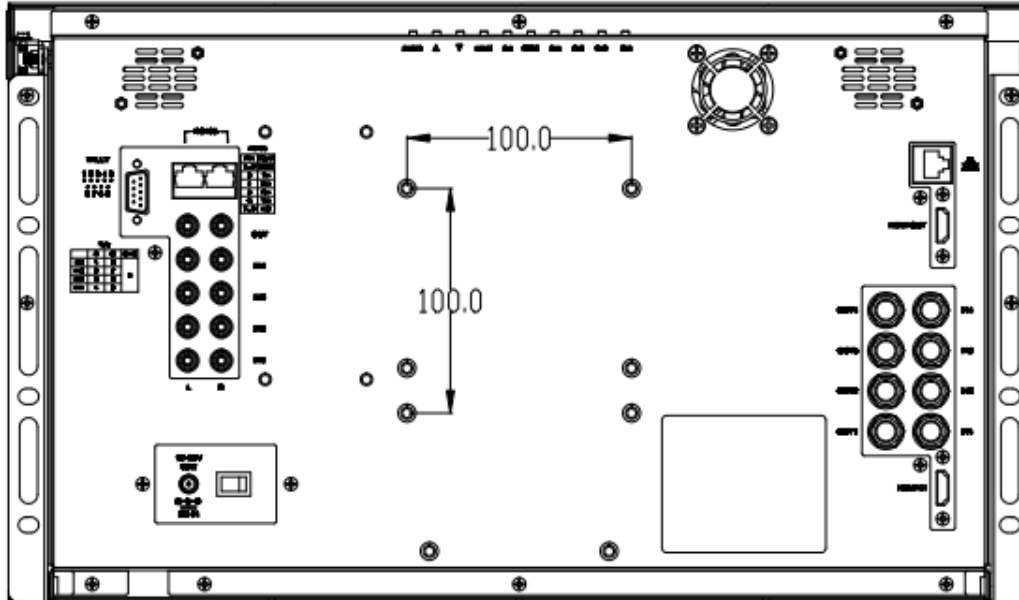
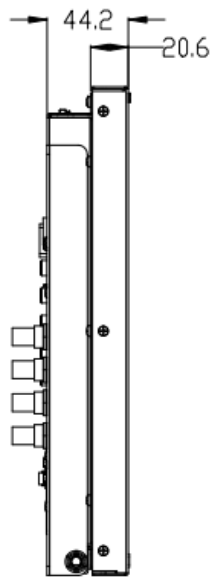
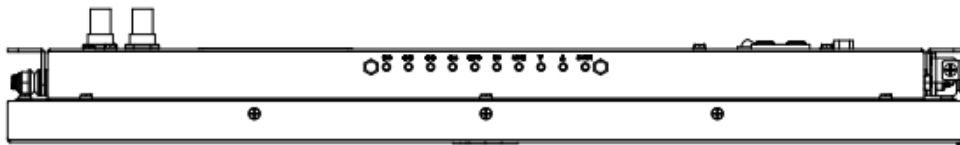


Figure 6-6 Rear Panel(Unit: mm)

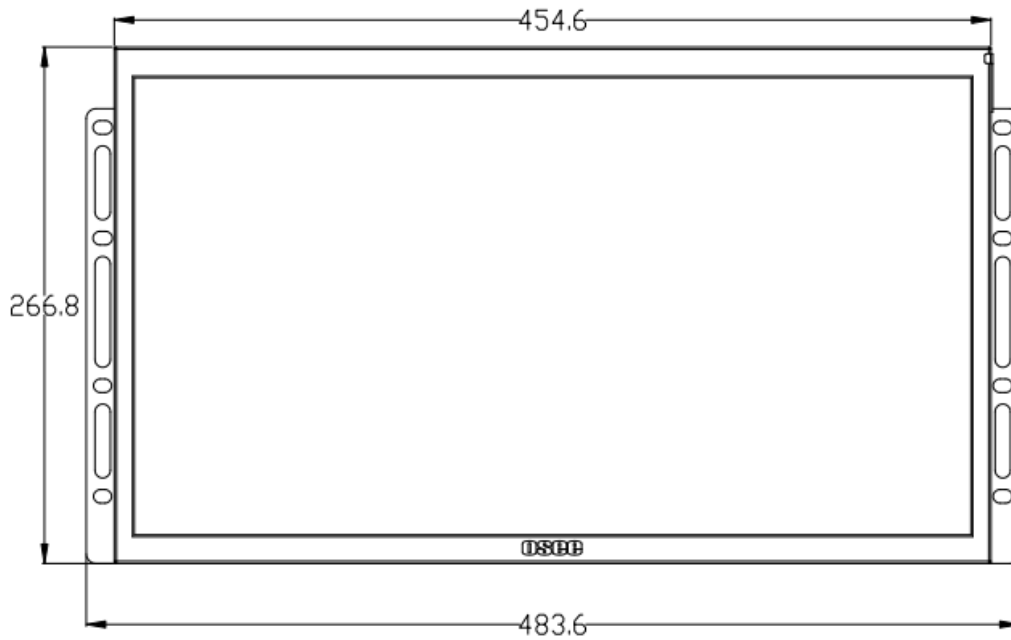


**Figure 6-7 Side View(Unit: mm)**



**Figure 6-8 Top View(Unit: mm)**

- MVM200 –With rackmount brackets



**Figure 6-9 Front Panel(Unit: mm)**

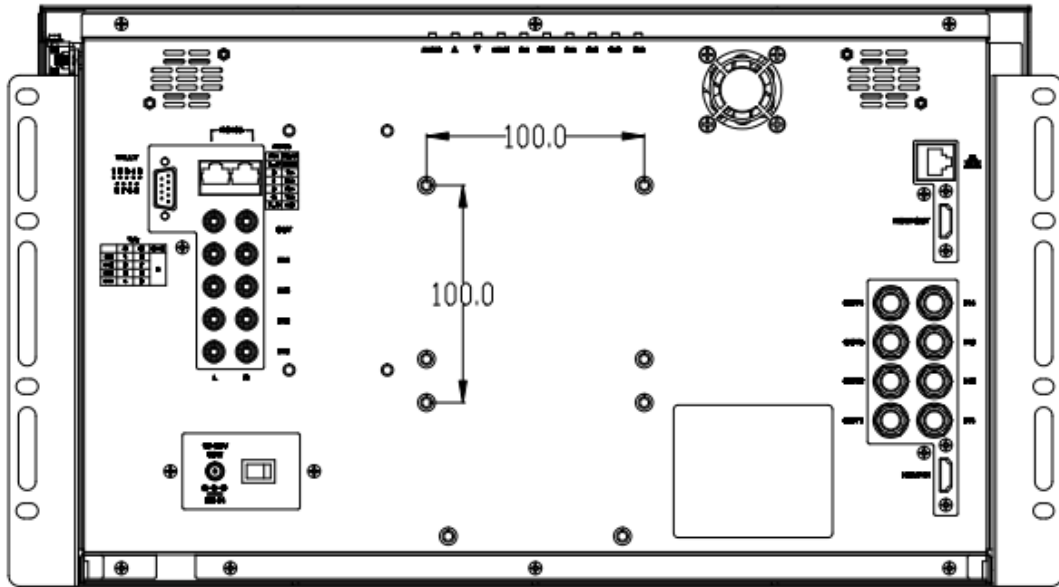


Figure 6-10 Rear Panel(Unit: mm)

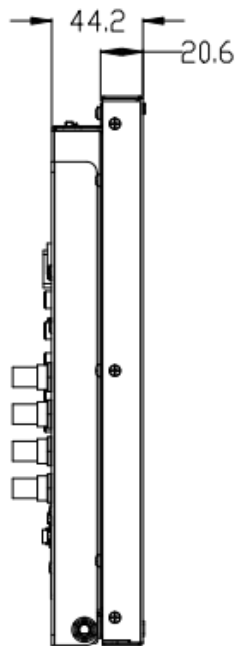


Figure 6-11 Side View(Unit: mm)

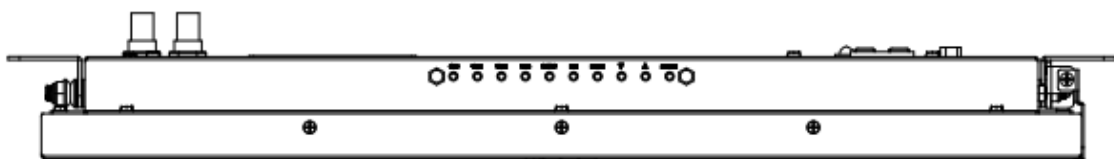
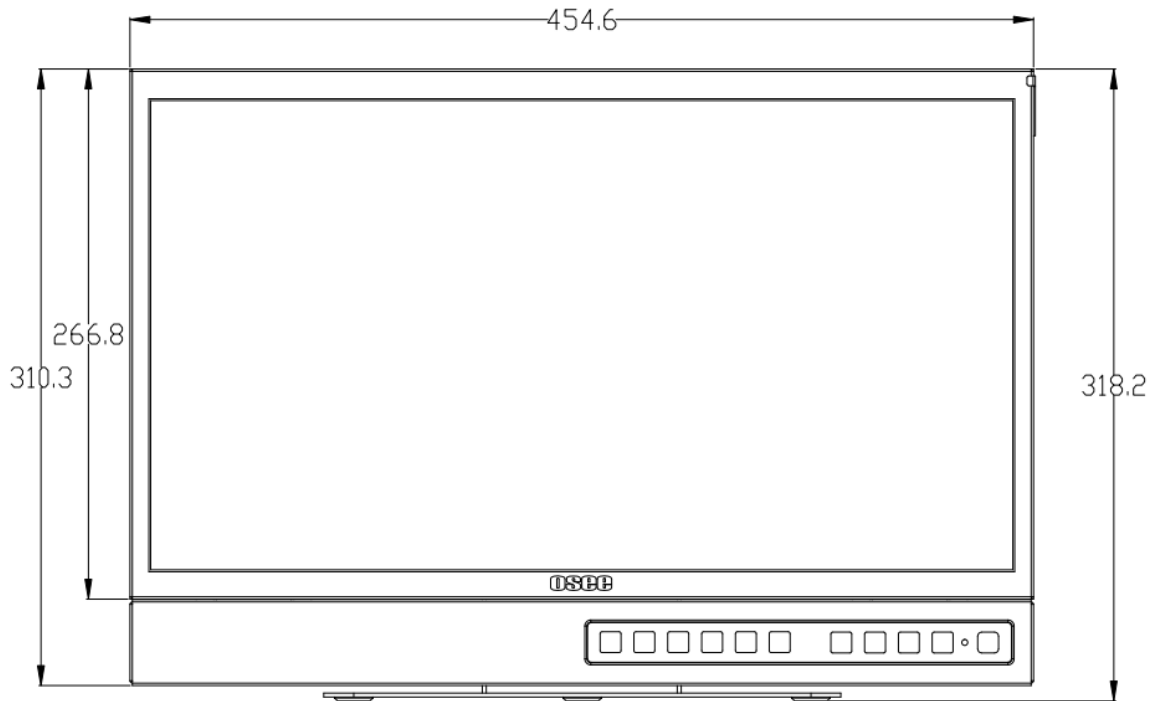
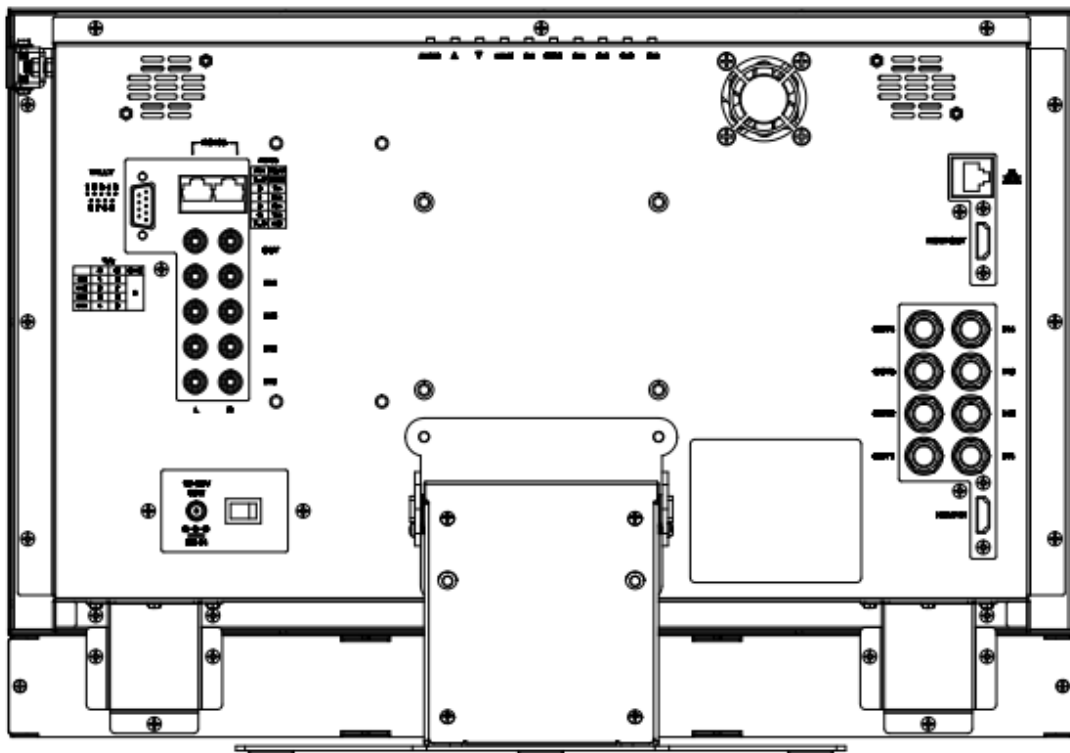


Figure 6-12 Top View(Unit: mm)

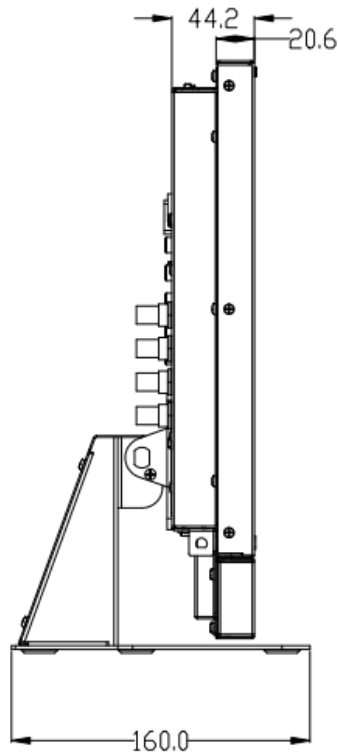
- MVM-200 –With monitor stand and extra control buttons bar



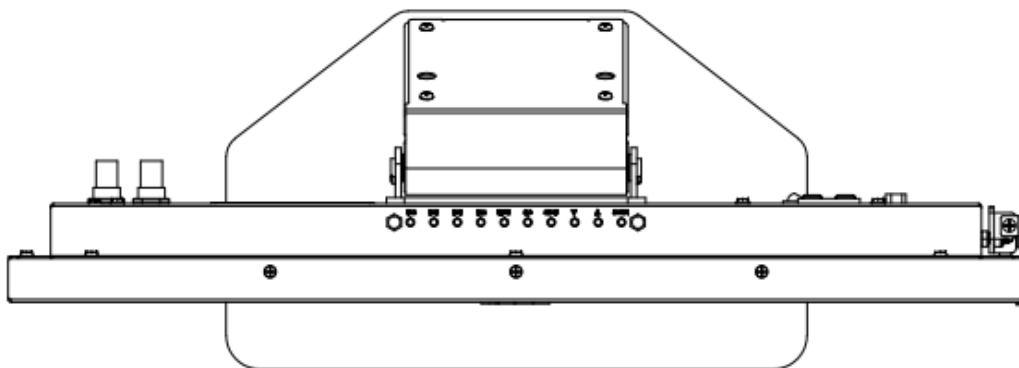
**Figure 6-13 Front Panel(Unit: mm)**



**Figure 6-14 Rear Panel(Unit: mm)**



**Figure 6-15 Side View(Unit: mm)**



**Figure 6-16 Top View(Unit: mm)**

**i Tips**

- Specifications are subject to change without notice.

-----No Text Below-----





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FOR MORE INFORMATION PLEASE VISIT: <http://www.osee-dig.com/>  
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