LMW-420-4K/
LMW-550-4K/
LMW-650-4K/
LMW-840-4K

Ultra HD 4K LCD Monitor

User Manual

OSEE TECHNOLOGY CO., LTD.

Product Information

Model: LMW-420-4K/LMW-550-4K/LMW-650-4K/LMW-840-4K/ LMW-840-4K Ultra HD 4K LCD Monitor
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Company

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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

- 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:

- **LMW-420-4K**
- **LMW-550-4K**
- **LMW-650-4K**
- **LMW-840-4K**

The images and descriptions of LMW-550-4K are adopted as examples in the following document. The basic features and functionalities for LMW-420-4K, LMW-550-4K, LMW-650-4K and LMW-840-4K are almost as the same, any of the different specifications among the device types are elaborated. Before reading the manual, please confirm the device type.

Contents

Chapter 1 Overview

The LMW-420-4K/LMW-550-4K/LMW-650-4K/LMW-840-4K LCD Monitor is a high performance broadcast UHD monitor tailoring most applications from program production, intensive upload/download, playout to studio and intensive monitoring all sorts of business in TV Stations.

The front frame of the unit comes in a slim bezel design made from rubber mold. The professional IPS glass at full resolution of 3840 x 2160 with LED backlight makes the LMW-420-4K/LMW-550-4K/LMW-650-4K/LMW-840-4K LCD monitor capable of reproducing a natural color at quickest response time. In addition, the unit boasts a full wide viewing angle as well as excellent brightness and contrast ratio.

By adopting the advanced 10-bit digital signal processing technology plus 3D comb filter, de-interlacing capability and accurate scaling ensures the LMW-420-4K/LMW-550-4K/LMW-650-4K/LMW-840-4K LCD Monitor to achieve a better effect of smoother and more natural image.

The LMW-420-4K/LMW-550-4K/LMW-650-4K/LMW-840-4K LCD Monitor supports up to 4Ch 3G/HD/SD-SDI input/output, and 4Ch HDMI(DVI interface)input.

The LMW-420-4K/LMW-550-4K/LMW-650-4K/LMW-840-4K LCD Monitor delivers much capable display functionality like audio monitoring, audio metering bar, and IMD.

Figure 1 A Diagram of LMW-550-4K

Features

- Prevailing slim bezel design
- 1080P individual quad split or use 4 synchronized inputs to produce 4K
- Adopting Ultra HD, wide viewing angle IPS glass
- Using 10-bit signal processing technology plus advanced conversion technology between the interlacing and the progressive
- 4Ch synchronized 3G-SDI inputs, 4Ch synchronized HDMI inputs
- Supporting audio metering bar, IMD
- Supporting varied color temperature, varied scan modes, Blue Only/Monochrome mode

Functionality

- Supports various display modes: UD, QUAD and SINGLE
- 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

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

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.

- 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

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 lighting 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.

Chapter 3 Unpack and Installation

Unpack:

When unpacking the components of LMW-550-4K 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.	Item	Quantity
1	Device	1
2	Pedestal with screws(Optional)	1
3	Remote control(Optional)	1
4	Power cord	1
5	User manual	1
6	Warranty card	1
7	Certificate card	1

Installation:

1. **Prepare for installation**

   Please follow the procedures below before installing LMW-550-4K:

   - 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 LMW-550-4K in your desired location. Adequate ventilation is required when installed to prevent possible damage to the LMW-550-4K.**
3. **Connect required cables for signal input and output. For BNC connections use 75Ω rated connectors.**
4. **Connect 220V 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 each screen of the device by pressing the corresponding power switch located on the front panel.**

Tips

- The pedestal and the monitor are packaged separately.
- Connect a standard signal lines to the corresponding input port. All BNC connector impedance must be 75Ω.
- Please use the power cord supplied to avoid unnecessary trouble.
- Use the power cord to connect single-phase three-wire AC power or following the local power supply conditions. Make sure the power cord grounding well.
- The factory default value for IP address is 192.168.1.86.

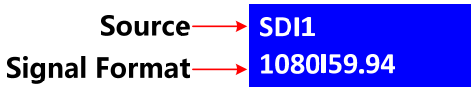
Chapter 4 Device Features

This chapter describes the features of LMW-550-4K monitor. The features of LMW-550-4K monitor are as shown in Figure 4-1 after installed and powered on:

Figure 4-1 Features of LMW-550-4K Monitor

1. Status Information

It is displayed in the top left corner of the screen, and includes the input channel and signal format. You can define it in DISPLAY menu.



2. Audio Meter

It is displayed for audio monitoring. You can set its groups, direction, position and mode in **AUDIO** menu.

3. 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. Refer to "6.2.4 **WIN1 UMD Menu**" for the details about IMD settings.

Tips

- The **Status Information** 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, 1280X1024, etc.

4.1 Control buttons Features

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

4.1.1 Arrangement of Control Buttons

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

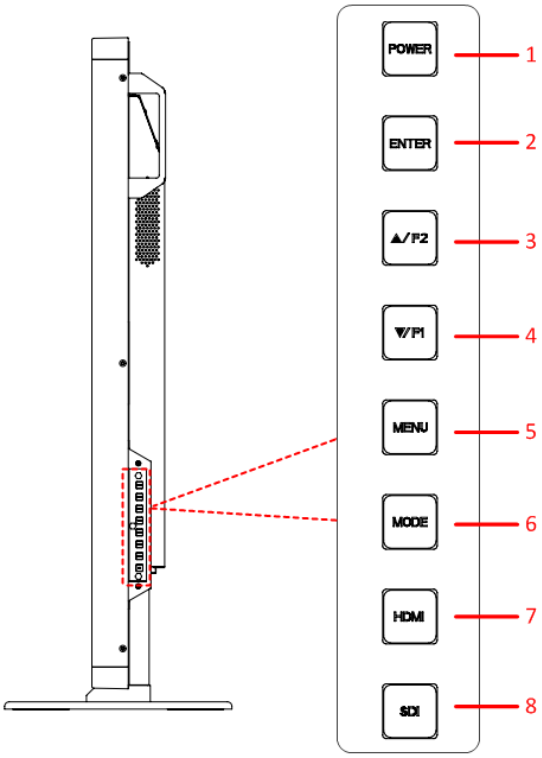


Figure 4.1-1 the Buttons at the back side of the Front Panel

As shown in Figure 4.1-1, these buttons of LMW-550-4K are as follows:

1. **POWER**
2. **ENTER**

3. ▲(UP)/F2

4. ▼(DOWN)/F1

5. MENU

6. MODE

7. HDMI

8. SDI

Tips

- The position of control buttons for LMW-420-4K, LMW-550-4K, LMW-650-4K, LMW-840-4K are not exactly the same: the bar of control buttons for LMW-420-4K and LMW-840-4K is at the left edge of the rear panel, vertically arranged; the bar of control buttons for LMW-550-4K is at the leftmost edge of the rear panel, vertically arranged; the bar of control buttons for LMW-650-4K is at the left bottom edge of the rear panel, horizontally arranged.

4.1.2 Operation of Control Buttons

The functionality and usage of the buttons at the back side of the front panel are as follows:

1. **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

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

2. **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
VOLUME	Adjust the volume	0~31dB	16
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

- 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 10s.

- The main menu, the adjust menu, the function menu and the input signal selection list of a screen may not be shown all simultaneously.

3. F2/▲

This button can achieve the following two functions:

- **F2:** F2 function button. Press **F2** to display the function menu list in the center of the screen, F2 is related to the MOMO function, toggle **F2** button to change the value to be ON or OFF.
- ▲: it is **Up** button when working with **MENU**. Toggle this button to select the next item or increase the number.

FUNCTION		
F1	MONO	NORMAL
F2	BLUE	OFF

Figure 4.1-3 F2 Function Menu

4. F1/▼

This button can achieve the following two functions:

- **F1:** F1 function button. Press **F1** to display the function menu list in the center of the screen. F1 is related to the BLUE function, toggle **F1** button to change the value to be ON or OFF.

FUNCTION		
F1	MONO	NORMAL
F2	BLUE	OFF

Figure 4.1-4 F1 Function Menu

- ▼: it is **Down** button when working with **MENU**. Toggle this button to select the next item or decrease the number.

Tips

- It will display the F1/F2 function menu only in SINGLE or UD mode.
- After you have loaded the function menu list, it will be closed automatically if you do nothing operation with it in 10s.

- The current editable function menu is labeled in yellow.
- The control button contains only two function buttons: F1 and F2, these two buttons, F1 and F2, are different from the corresponding function buttons (F1 and F2) on the remote control, refer to "4.3 Remote Control Features" for the difference.
- MONO: this function is related to F1 button. It is to activate MONO mode that will display the screen in monochrome presentation, inactivate this mode to display the screen in color mode.
- BLUE ONLY: this function is related to F2 button. 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.

5. 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.

6. MODE

This button is used to switch to different display mode among: UD, QUAD and SINGLE. Click the MODE button, it will display the Display Mode menu, as shown in Figure 4.1-5:

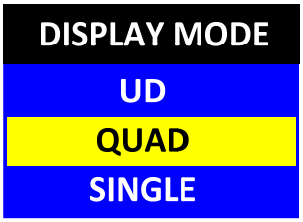


Figure 4.1-5 Display Mode Menu

Different mode displays various screen arrangement, the comparison is as shown in Figure 4.1-8:

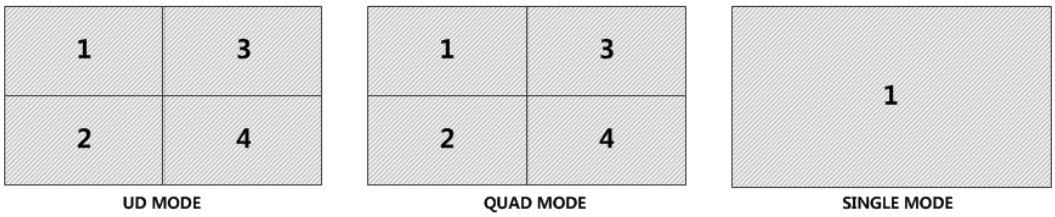


Figure 4.1-6 Display Modes Comparison

- UD: it is the 4K mode, it will display the combined four pictures of SDI (SDI1~SDI4 combined signal source), or HDMI(HDMI1~HDMI4 combined signal source).

- QUAD: it is the quad split screen, it will display four pictures for four separate signal sources, the source could be SDI1, SDI2, SDI3, SDI4, HDMI1, HDMI2, HDMI3 or HDMI4. The signal source for the designated window must be from the corresponding interface. For example: the signal source for WINDOW1 could only be from SDI1 input, or HDMI1 input.

- SINGLE: it is the single mode, it will display a single picture for one signal source, the source could be SDI1, SDI2, SDI3, SDI4 or HDMI1.

You can select the signal source by the control buttons, the remote control panel, or in the network control page.

Warning

- The frame rate of all the inputs must be the same in any mode!

7. HDMI

Select the HDMI input signal. Press this button to display the HDMI input source menu at the left top corner of the screen. Use it to select the HDMI input signal source. The source menu is different according to its display mode, the comparison is as shown in Figure 4.1-7:

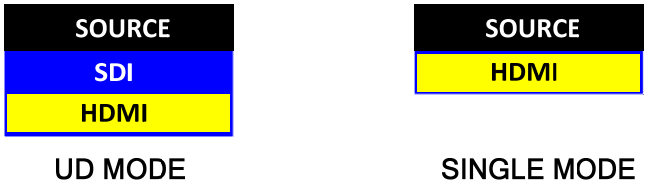


Figure 4.1-7 Source Menu-HDMI

The one-to-one correspondence between the signals in the source menu

list and the interfaces in the back panel are shown in Figure 4.1-8:

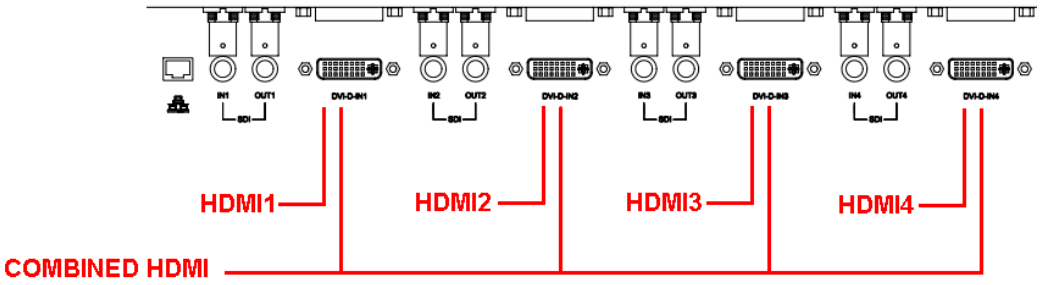


Figure 4.1-8 Correspondence between Source Menu and Interface

Tips

- In UD mode, the HDMI signal source means a combined HDMI signal source through the four HDMI inputs(HDMI1~HDMI4 combined signal source).
- In SINGLE mode, the HDMI signal source means HDMI1 signal source through the HDMI1 input interface.
- In QUAD mode, you can't select a signal source through the source control button, or source control remote buttons on the remote control, you can only specify a signal source through the network control page, please refer to "6.2.1 **INPUT SETUP Menu**" for the details.

8. SDI

Select the SDI input signal. Press this button to display the SDI input source menu at the left top corner of the screen. Use it to select a SDI input signal source. The source menu is different according to its display mode, the comparison is as shown in Figure 4.1-9:

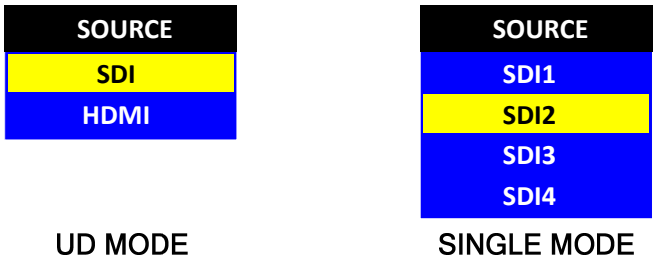


Figure 4.1-9 Source Menu-SDI

The one-to-one correspondence between the signals in the source menu list and the interfaces in the back panel are shown in Figure 4.1-10:

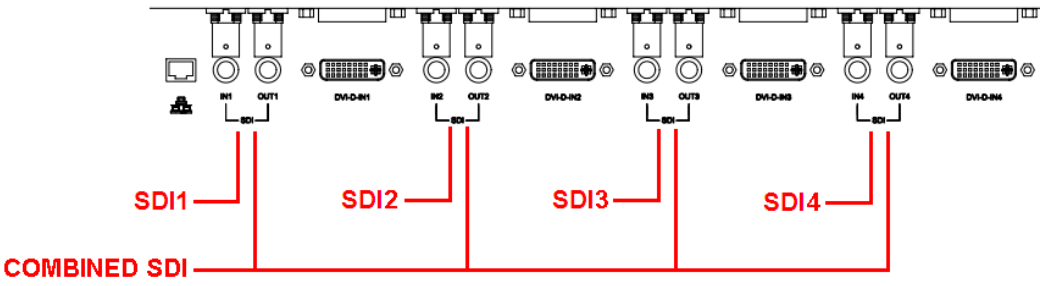


Figure 4.1-10 Correspondence between Source Menu and Interface

Tips

- In UD mode, the SDI signal source means a combined SDI signal source through the four SDI inputs(SDI1~ SDI4combined signal source).
- In SINGLE mode, you can select a SDI signal from SDI1, SDI2, SDI3 or SDI4 input interface.
- In QUAD mode, you can't select a signal source through the source control button, or source control remote buttons on the remote control, you can only specify a signal source through the network control page, please refer to "6.2.1 **INPUT SETUP Menu**" for the details.

4.1.3 Display Mode

This device provides three display modes: UD, QUAD, SINGLE.

1. UD: 4K display mode

The whole screen is divided into four windows in UD mode, as shown in Figure 4.1-11:

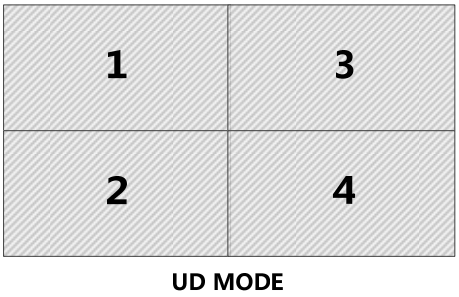


Figure 4.1-11 UD Mode

- Source Selection: Click SDI button to select SDI signal source, click HDMI button to select HDMI signal source, the source menu is displayed at the top left corner of the screen, as shown in Figure 4.1-12:

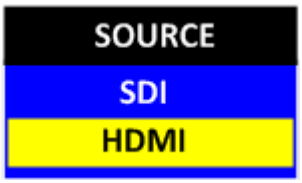


Figure 4.1-12 Source Menu

Tips

- In UD mode, Click SDI button or HDMI button to display the source menu, the menu items are: SDI and HDMI, they express separately a combined signal composed of the corresponding type signals, that is, SDI is combined of SDI1, SDI2, SDI3 and SDI4, HDMI is combined of HDMI1, HDMI2, HDMI3 and HDMI4, the screen is as shown in Figure 4.1-13:

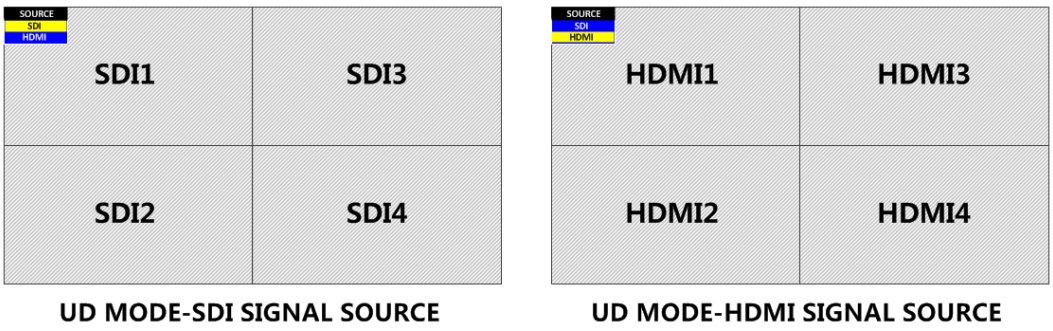


Figure 4.1-13 Source Selection-UD Mode

- Audio Meter Selection: Click MENU button, and select AUDIO menu in menu list, select the source to be HDMI or EBD to display the audio meter, it will display at the left center part of the display window, as shown in Figure 4.1-14:

  When the **AUDIO SOURCE** is set to be EBD, the audio meter source is SDI1; When the **AUDIO SOURCE** is set to be HDMI, the audio meter source is HDMI. The amount of the audio channels displayed in the audio meter is defined by **METER SELECT** item.

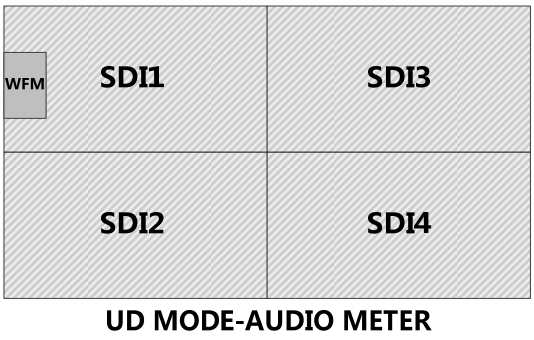


Figure 4.1-14 Audio Meter-UD Mode

- UMD Selection: set the UMD settings in **WIN UD UMD** network control page, the UMD information is as shown in Figure 4.1-15:

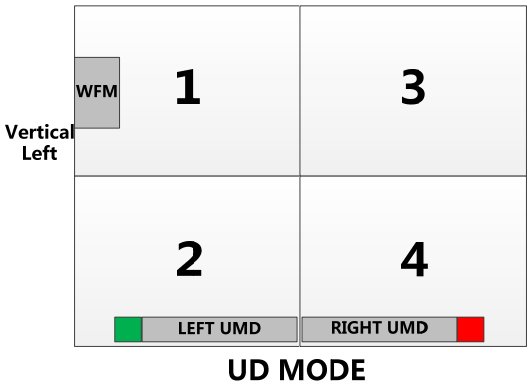


Figure 4.1-15 UMD-UD Mode

Tips

- The UMD information could only be set in the corresponding network control page whatever display mode it is. The UMD settings contain the following items: Enable/Disable UMD display, background color of UMD, character color of UMD, OSD TALLY source and its display mode, IMD protocol, IMD ID, BAUD RATE, IMD MODE. The OSD Tally icons are

displayed at both sides of UMD. These are the same as in other display modes, it will be no further description in the following.

- Refer to "6.2.5 **WIN UD UMD Menu**" for the details about the UMD settings in UD mode.

2. QUAD: 4K display mode

It is the quad split screen, the whole screen is divided into four windows separately in QUAD mode. Each window is corresponding to its unique signal source. The four windows are: WINDOW1, WINDOW2, WINDOW3, WINDOW4, from up to down, then from left to right in sequence, as shown in Figure 4.1-16:

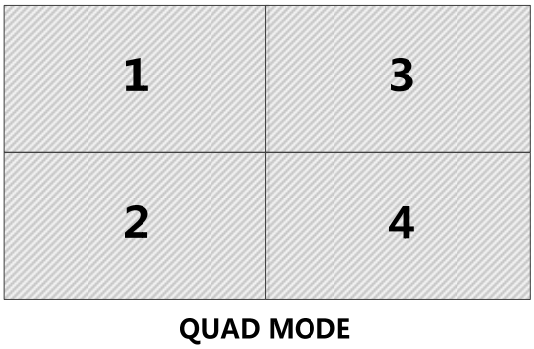


Figure 4.1-16 QUAD Mode

- Source Selection: The SDI button and the HDMI button are both invalid in QUAD mode, you can specify the signal source for each window through the **INPUT SETUP** network control page. Refer to "6.2.1 **INPUT SETUP Menu**" for details.

Tips

- In QUAD mode, specify signal source for each window in the **INPUT SETUP** network control page, each window is corresponding to the same numbered input interface: SDI type and HDMI type. For example, you can only select SDI1 or HDMI1 for WINDOW1, but the whole screen can display SDI signal and HDMI signal at the same time. For example, select SDI1 for WINDOW1, HDMI2 for WINDOW2, SDI3 for WINDOW3, and HDMI4 for WINDOW4, the screen is as shown in Figure 4.1-17:

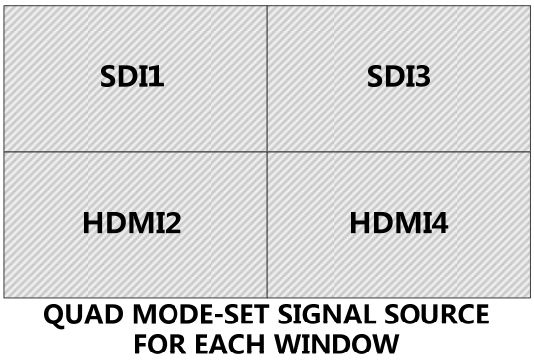


Figure 4.1-17 Source Selection-QUAD Mode

- Audio Meter Selection: you can specify the audio source for each window through the **AUDIO** network control page, as shown in Figure 4.1-18:

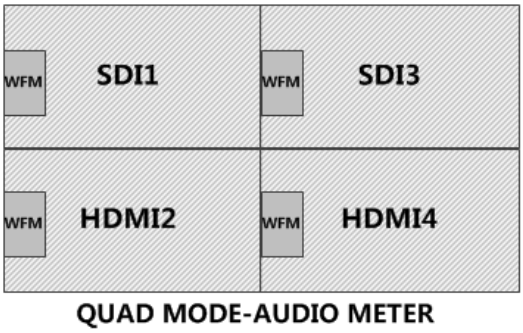


Figure 4.1-18 Audio Meter-QUAD Mode

- UMD Selection: set the UMD settings for each WINDOW* in its corresponding **WIN* UMD** network control page, the UMD information is as shown in Figure 4.1-19:

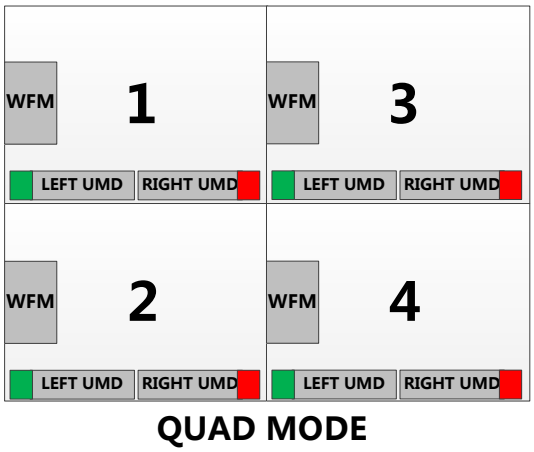


Figure 4.1-19 UMD-QUAD Mode

Tips

- The UMD information for each window is independent of the other's. Refer to "6.2.4 **WIN1 UMD Menu**" for the details about the UMD settings in QUAD mode.

3. SINGLE: 4K display mode

There is only one picture for one signal source on the whole screen in SINGLE mode, as shown in Figure 4.1-20:

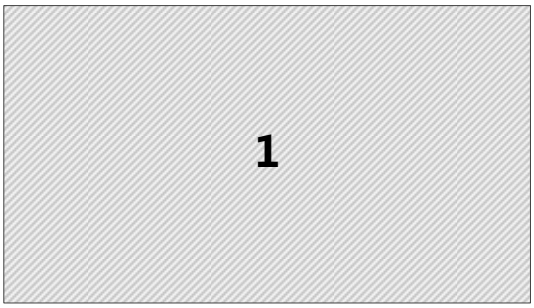


Figure 4.1-20 SINGLE Mode

- Source Selection: Click SDI button or HDMI button to display the SOURCE menu at the top left corner of the screen, as shown in Figure 4.1-21, the signal source could be: SDI1, SDI2, SDI3, SDI4 or HDMI1.

Figure 4.1-21 Source Menu- SINGLE Mode

Tips

- In SINGLE mode, click SDI button continuously, you can select SDI1, SDI2, SDI3 or SDI4, click HDMI button, you can select HDMI1.

- Audio Meter Selection: Click MENU button, and select AUDIO menu in menu list, select the source to be HDMI or EBD to display the audio meter, it will display at the left part of the display window, as shown in Figure 4.1-22:

  When the **AUDIO SOURCE** is set to be EBD, the audio meter source is from the current signal source; When the **AUDIO SOURCE** is set to be HDMI, the audio meter source is HDMI1. The amount of the audio channels displayed in the audio meter is defined by **METER SELECT** item.

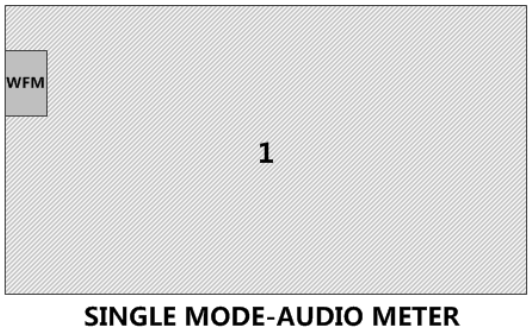


Figure 4.1-22 Audio Meter-SINGLE Mode

- UMD Selection: set the UMD settings in **WIN* UMD** network control page corresponding to its signal source, the UMD information is as shown in Figure 4.1-23:

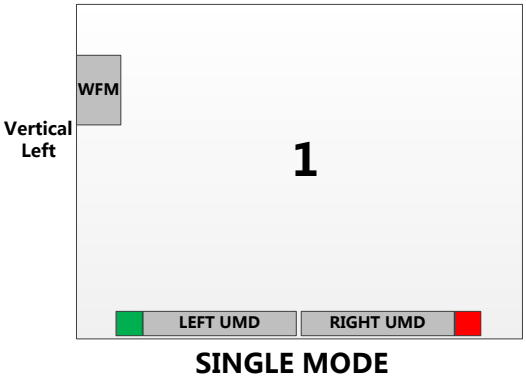


Figure 4.1-23 UMD-SINGLE Mode

Tips

- The UMD information settings is corresponding to its signal source, refer to "6.2.4 **WIN1 UMD Menu**" for the details about the UMD settings in SINGLE mode.

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

As shown in Figure 4.2-1, there are various input and output interfaces at the rear panel of LMW-550-4K monitor.

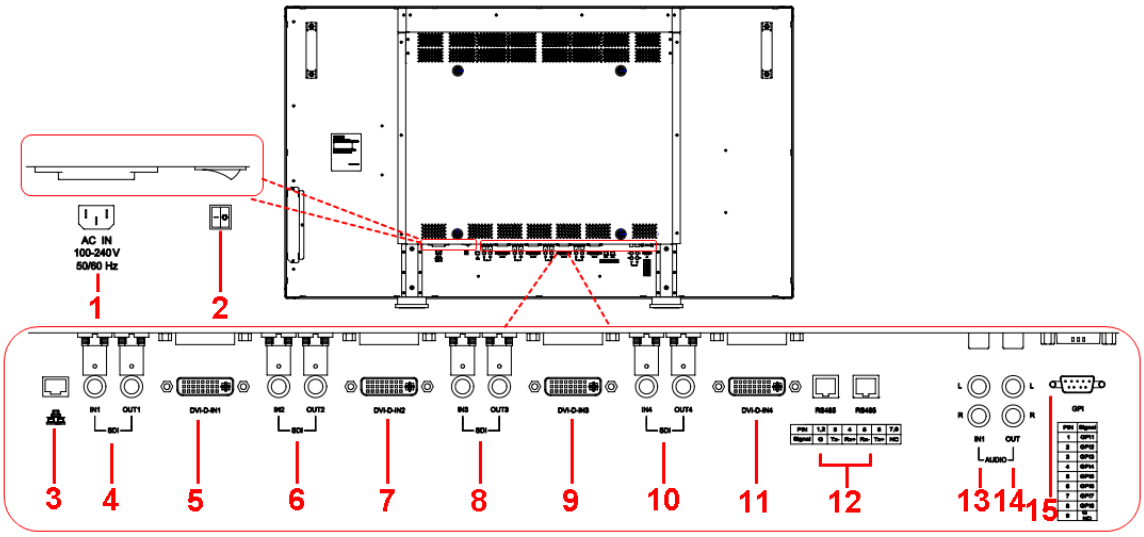


Figure 4.2-1 The Rear Panel of LMW-550-4K Monitor

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

1. **Power Switch**
2. **Power Input**
3. **Ethernet**
4. **Video Input/Output: SDI IN1, SDI OUT1**
5. **Video Input: DVI-D IN1**
6. **Video Input/Output: SDI IN2, SDI OUT2**
7. **Video Input: DVI-D IN2**
8. **Video Input/Output: SDI IN3, SDI OUT3**
9. **Video Input: DVI-D IN3**
10. **Video Input/Output: SDI IN4, SDI OUT4**
11. **Video Input: DVI-D IN4**

12. **RS485 In/Out**
13. **Audio Input: AUDIO IN L, AUDIO IN R**
14. **Audio Output: AUDIO OUT L, AUDIO OUT R**
15. **GPI interface**

Tips

- The positions of Power Switch and Power Input for LMW-420-4K, LMW-550-4K, LMW-650-4K are not exactly the same: the Power Switch and Power Input for LMW-420-4K are at the right end of the interfaces bar, but the Power Switch and Power Input for LMW-550-4K and LMW-650-4K are at the left end of the interfaces bar.

4.2.2 Operations of Rear Panel

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

1. **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.

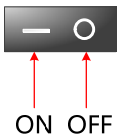


Figure 4.2-2 Power Switch

2. **Power Input**

It provides one power input interface, the specification is 220VAC.

Warning

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

3. Ethernet **(RJ-45)**

It provides one 10/100M Ethernet connector. It is used to connect with a

computer to modify the network settings.

4. Video Input/Output Interface **(BNC)**

It provides a SDI input interfaces and a SDI output interfaces, they are labeled from left to right as SDI IN1, SDI OUT1.

5. Video Input Interface **(DVI-D)**

It provides one DVI-D input interface, it can receive DVI or HDMI signals. It is labeled as DVI-D IN1.

6. Video Input/Output Interface **(BNC)**

It provides a SDI input interfaces and a SDI output interfaces, they are labeled from left to right as SDI IN2, SDI OUT2.

7. Video Input Interface **(DVI-D)**

It provides one DVI-D input interface, it can receive DVI or HDMI signals. It is labeled as DVI-D IN2.

8. Video Input/Output Interface **(BNC)**

It provides a SDI input interfaces and a SDI output interfaces, they are labeled from left to right as SDI IN3, SDI OUT3.

9. Video Input Interface **(DVI-D)**

It provides one DVI-D input interface, it can receive DVI or HDMI signals. It is labeled as DVI-D IN3.

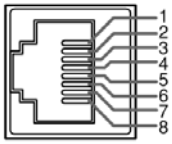
10. Video Input/Output Interface **(BNC)**

It provides a SDI input interfaces and a SDI output interfaces, they are labeled from left to right as SDI IN4, SDI OUT4.

11. Video Input Interface **(DVI-D)**

It provides one DVI-D input interface, it can receive DVI or HDMI signals. It is labeled as DVI-D IN4.

12. **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 4.2-1:

Table 4.2-1 The Comparison of Pins and 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

13. Audio Input interface

It provides two audio(a pair) input interfaces, RCA connector. They are labeled from left to right as AUDIO IN L, AUDIO IN R.
It is not supported presently.

14. Audio Output interface

It provides two audio(a pair) output interfaces, RCA connector. They are labeled from left to right as AUDIO OUT L, AUDIO OUT R.

15. GPI**(DB9)**

It assigns TALLY function to each pin of the GPI interface to realize a tally control. Define a function to the GPI pin.
The relationship of the pins of GPI interface and its channel value is shown in Table 4.2-2.

Table 4.2-2 The Relationship of GPI Pins and Channel Values

Pin No.	Channel Value
Pin 1	GPI1
Pin 2	GPI2
Pin 3	GPI3
Pin 4	GPI4
Pin 5	GPI5
Pin 6	GPI6
Pin 7	GPI7
Pin 8	GPI8
Pin 9	GND

The relationship of the pins of GPI interface and tally control for LMW-420-4K, LMW-550-4K, LMW-650-4K, LMW-840-4K are not exactly the same, the difference are as shown in Table 4.2-3 and Table 4.2-4.

Table 4.2-3 The Relationship of GPI Pins and Tally Light- LMW-550-4K/LMW-650-4K/LMW-840-4K

LMW-550-4K/LMW-650-4K/LMW-840-4K GPI TALLY Control				
GPI Pins	**QUAD**	**UD**	**SINGLE1/SINGLE3**	**SINGLE2/SINGLE4**
GPI1	CH1 Red		LEFT Red	
GPI2	CH1 Green		LEFT Green	
GPI3	CH2 Red	LEFT Red		LEFT Red
GPI4	CH2 Green	LEFT Green		LEFT Green
GPI5	CH3 Red		RIGHT Red	
GPI6	CH3 Green		RIGHT Green	
GPI7	CH4 Red	RIGHT Red		RIGHT Red
GPI8	CH4 Green	RIGHT Green		RIGHT Green

Table 4.2-4 The Relationship of GPI Pins and Tally Light- LMW-420-4K

LMW-420-4K GPI TALLY Control						
GPI Pins	**QUAD**	**UD**	**SINGLE1**	**SINGLE2**	**SINGLE3**	**SINGLE4**
GPI1	CH1 Red	CH1 Red	CH1 Red			
GPI2	CH1 Green	CH1 Green	CH1 Green			
GPI3	CH2 Red			CH2 Red		
GPI4	CH2 Green			CH2 Green		
GPI5	CH3 Red				CH3 Red	
GPI6	CH3 Green				CH3 Green	
GPI7	CH4 Red					CH4 Red
GPI8	CH4 Green					CH4 Green

4.3 Remote Control Features

It will introduce the arrangement and the operations of the remote control in the following.

4.3.1 Arrangement of Remote Control

As shown in Figure 4.3-1, there are a series of buttons in the remote control:

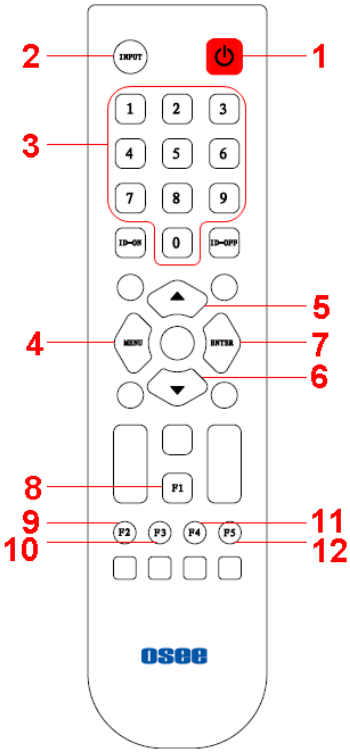


Figure 4.3-1 The Remote Control of LMW-550-4K Monitor

1. **POWER**
2. **INPUT**
3. **0~9**
4. **MENU**
5. **▲UP**
6. **▼DOWN**
7. **ENTER**
8. **F1**
9. **F2**
10. **F3**
11. **F4(Reserved)**
12. **F5(Reserved)**

4.3.2 Operations of Remote Control

The functionality and usage of the buttons of the remote control are as follows:

1. Power

Switch the power on or off. When the monitor is powered on, press this button to power it off, or when it is powered off, press this button to power the monitor on.

2. INPUT

(Reserved).

3. 0~9

Press 0~9 number to select the corresponding number.

4. 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: when the Main menu is not displayed, press this button to display the Main menu.
- Back to the higher level menu: when it is in the secondary menu, press this button to be back to the first-level menu; when it is in the third-level menu, press this button to be back to the secondary menu and the selection of the parameter will not be saved.
- Quit the Main menu: when it is in the first-level menu, press this button to quit the Main menu

5. ▲:UP

It is used as the following two functions:

- Adjust function

It is **UP** button when working with **MENU**. Toggle this button to select the next item or increase the number.

- Function button

Press this button to display the MONO function menu without main menu or adjust menu.

6. ▼:DOWN

It is used as the following two functions:

- Adjust function

It is **DOWN** button when working with **MENU**. Toggle this button to select the next item or decrease the number.

- Function button

Press this button to display the BLUE ONLY function menu without main menu or adjust menu.

7. 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, toggle among these menu items: VOLUME, BRIGHTNESS, CONTRAST, CHROMA.

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

8. F1

This button is a FUNCTION button. It is related to SDI source selection menu. Press F1 button, it will display the SDI source menu, and press it continuously to switch to a desired SDI signal.

9. F2

This button is a FUNCTION button. It is related to HDMI source selection menu. Press F2 button, it will display the HDMI source menu, and press it continuously to switch to a desired HDMI signal.

10. F3

This button is a FUNCTION button. It is related to display mode selection menu. Press F3 button, it will display the display mode menu, and press it continuously to switch to a desired display mode.

Tips

- The remote control buttons: F1 and F2, are different from the corresponding control buttons (F1 and F2) on the side of the monitor.

4.4 Supported Signal Format

The supported signal format for this device is as shown in Table 4.4-1:

Table 4.4-1 Supported Signal Format

	SDI	HDMI
PAL		
NTSC		
480I60/59.94	✓	✓
576I50	✓	✓
480P60/59.94		✓
576P50		✓
720P24	✓	
720P25	✓	✓
720P30/29.97	✓	✓
720P50	✓	✓
720P60/59.94	✓	✓
1080SF24/23.97	✓	✓
1035I60/59.94	✓	✓
1080I50	✓	✓
1080I60/59.94	✓	✓
1080P24/23.97	✓	✓
1080P25	✓	✓
1080P30/29.97	✓	✓
1080P50	✓	✓
1080P60/59.94	✓	✓
VGA(640X480)		✓
SVGA(800X600)		✓
XGA(1024X768)		✓
SXGA(1280X1024)		✓
WXGA(1360X768)		✓
WXGA+(1440X900)		✓
WXGA+(1400X1050)		✓
UXGA(1600X1200)		✓
UXGA+(1680X1050)		✓
WUXGA(1920X1080)		✓
WUXGA(1920X1200)		✓

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

5.1 Main Menu

Press the **MENU** button at the bottom of the front panel, the main menu is displayed at the top left corner of the screen, as shown in Figure 5.1-1:

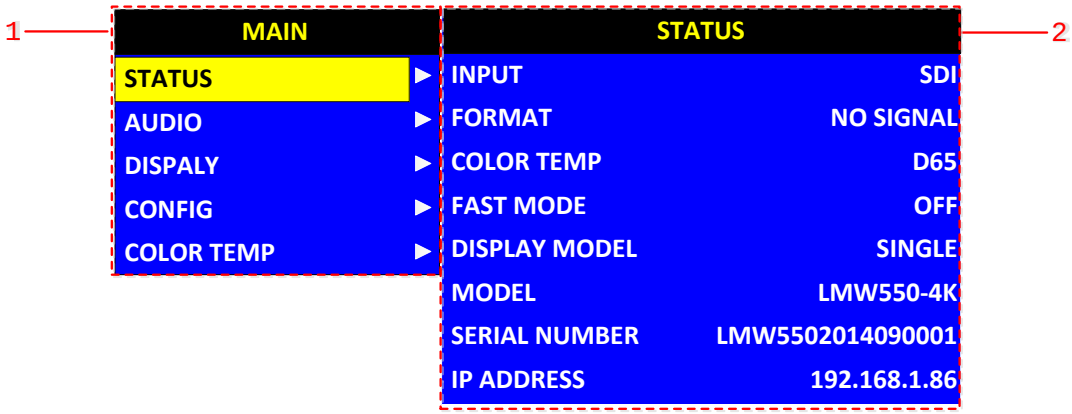


Figure 5.1-1 the Structure of the Main Menu

The menu interface is divided into three parts:

1. **Main Menu List**

   It contains the title of the Main menu and several sub-menu items. The title of this list is **MAIN**. Press **UP** or **DOWN** to access the corresponding menu item.

2. **Sub-menu list**

   As shown in Figure 5.1-2, it lists the title of the **Sub-menu**, the sub-menu item and the value of the item. After pressing **Menu** button, press **UP**, **DOWN** button and **Enter** button to modify the value of the sub-menu. Refer to "5.2 Menu Settings" for details.

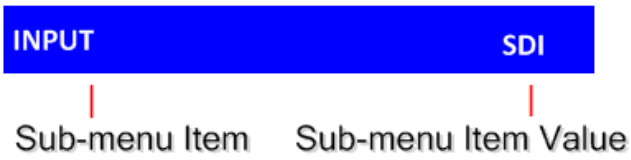


Figure 5.1-2 the Sub-menu Value List

There is a yellow control icon when you select the menu or its value.

Tips

- 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 control icon of the main menu has the following status when in different positions, as shown in the red rectangle of the following figures:

- when in the main menu, it shows that this menu item is selected, as shown in Figure 5.1-3:

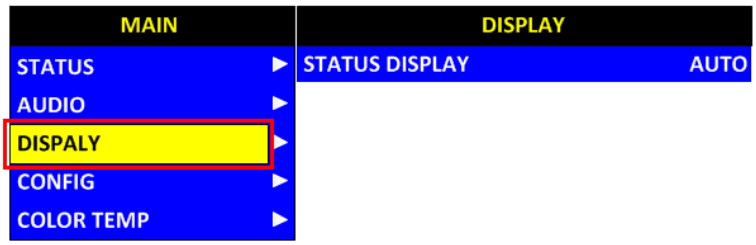


Figure 5.1-3 A Main Menu Item Is Selected

- when in the sub-menu item, it shows that this sub-menu item is selected, and the control icon is displayed as a yellow rectangle in front of it, as shown in Figure 5.1-4:

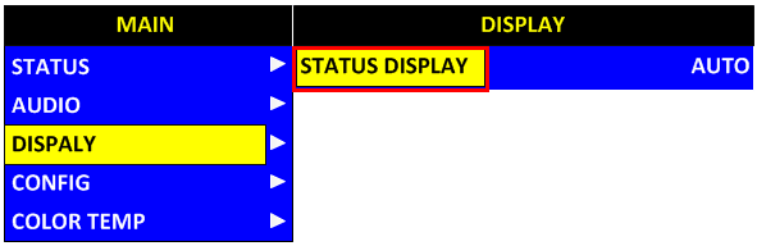


Figure 5.1-4 A Sub-menu Item Is Selected

- when in the sub-menu item value, it shows that this sub-menu item value is selected, and the value is displayed in yellow, as shown in Figure 5.1-5:

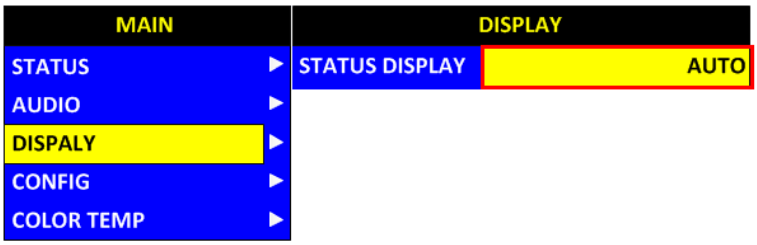


Figure 5.1-5 A Sub-menu Item Value Is Selected

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 5.1-6:

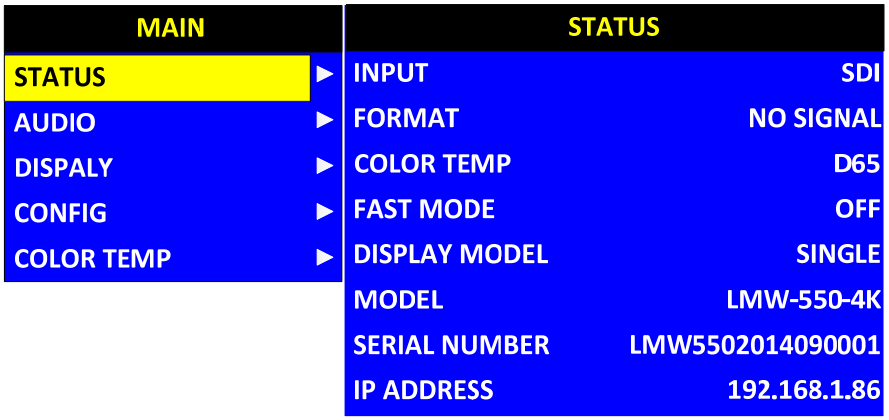


Figure 5.1-6 STATUS Menu

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
INPUT	SDI1	SDI/HDMI	Show the Input format
FORMAT	NO SGINAL	--	Show the format of the input signal
COLOR TEMP	D65	--	Show the color temperature.
FAST MODE	OFF	--	Show the fast mode.
DISPLAY MODE	SINGLE	--	Show the display mode.
MODEL	LMW-550-4K	--	Show the production model.
SERIAL NUMBER	LMW5502014090001	--	Show the serial number.
IP ADDRESS	192.168.1.86	--	Show the IP address.

Tips

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

5.1.2 AUDIO Menu

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

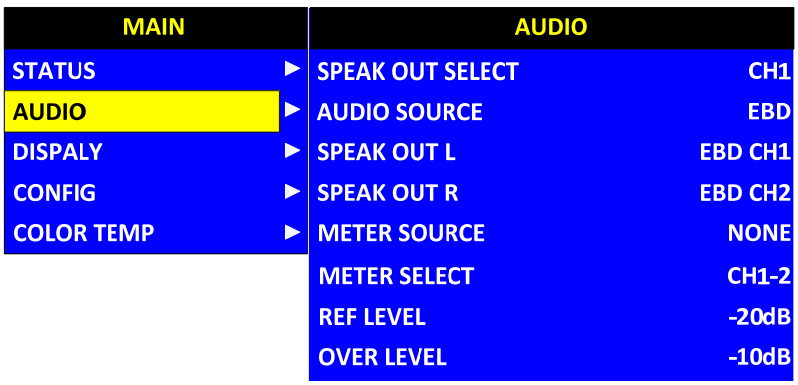


Figure 5.1-7 AUDIO Menu

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 AUDIO Menu Items

Items	Default Value	Domain Range	Description
SPEAK OUT SELECT	EBD	• CH1 • CH2 • CH3 • CH4	Select the audio source. of the speaker. It is only available in QUAD mode, CH1 is the default value for UD and SINGLE mode.
AUDIO SOURCE	NONE	• EBD: embedded signal • HDMI: external signal • NONE: no signal	Select the audio source. If the input signal is SDI, you can select EBD or HDMI, if the input signal is HDMI, you can only select HDMI.
SPEAK OUT L	EBD CH1	When the audio source is EBD, the range of this item is EBD CH1~ EBD CH16.	Left speaker, select a channel according to the type of audio source.
SPEAK OUT R	EBD CH2	When the audio source is EBD, the range of this item is EBD CH1~ EBD CH16.	Right speaker, select a channel according to the type of audio source.
METER SOURCE	NONE	NONE/EBD/HDMI	Set the source of the audio meter.
METER SELECT	CH1-2	• CH1-2 • G1 • G2 • G3 • G4 • G1+G2 • G1+G3 • G1+G4 • G2+G3 • G2+G4 • G3+G4	Select a meter display mode. Each G* contains four channels, and each CH* means a channel with number.
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:

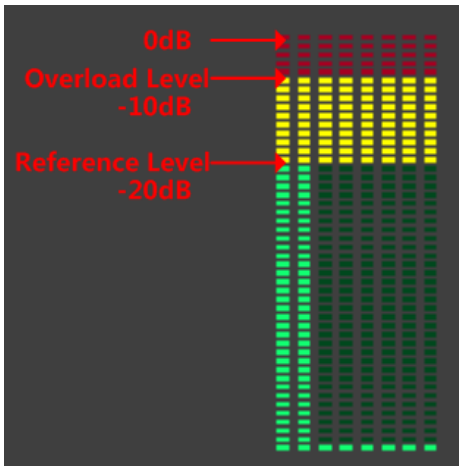


Figure 5.1-8 Audio Meter

- **METER SELECT** control the operational characteristics of Audio Metering, the former controls the amount of channels displayed in a meter. Each G* contains four channels, and each CH* means a channel with number.

  For example: the **METER SELECT** is **G1+G4**, then, you can see No.1~No.4 and No.13~No.16 which are totally 8 audio channels displayed in the meter.

- There are two levels separated in the meter, the upper is the over level, and the lower is the reference level. If the audio value is normal, the audio bar is displayed in green; If the audio value is higher than the reference level, the audio bar over the reference level will be displayed in yellow, and if the audio value is higher than the over level, the audio bar over the over level will be displayed in red.

- The position of the meter on the screen is displayed as different position according to the display mode, the comparison are as follows, as shown in Figure 5.1-9:

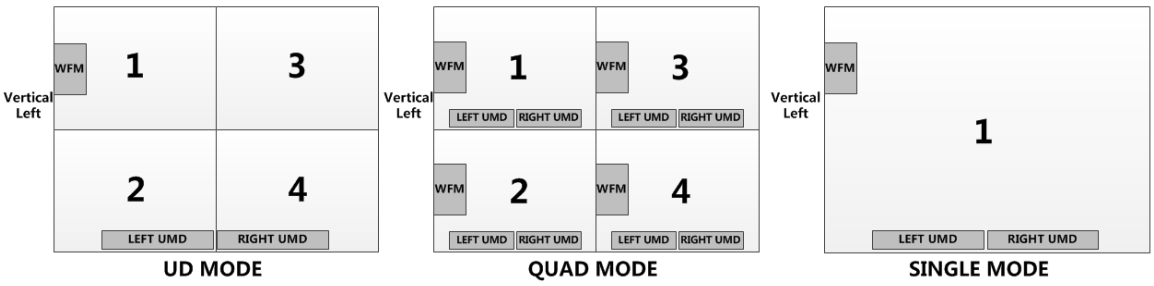


Figure 5.1-9 The Position of the Audio Meter On Screen In Different Display Mode

Tips

- The prerequisite for the available settings of the display mode is that the **METER SOURCE** is not **NONE**.

5.1.3 DISPLAY Menu

The DISPLAY menu items are used to adjust the parameters displayed on the screen, the menu items are as shown in Figure 5.1-10:

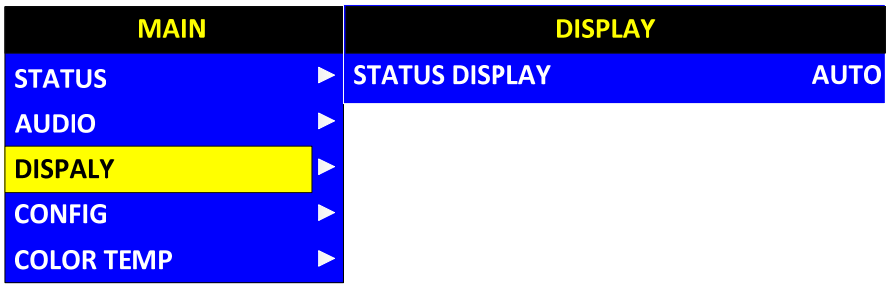


Figure 5.1-10 DISPLAY SETUP Menu

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 DISPLAY SETUP Menu Items

Items	Default Value	Domain Range	Description
STATUS DISPLAY	AUTO	OFF/ON/AUTO	Set whether to display STD information. If the signal input is not equal to "No signal" and this item is auto, the status information will show 5 seconds when the status changed, and then closed automatically.

5.1.4 CONFIG Menu

The CONFIG menu items are used to adjust the parameters defined by customers, the menu items are as shown in Figure 5.1-11:

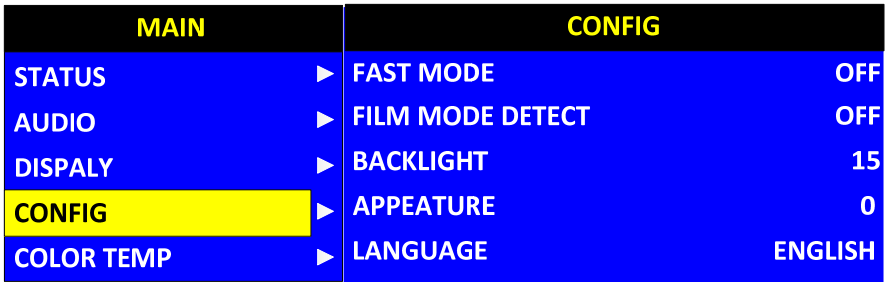


Figure 5.1-11 CONFIG Menu

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 CONFIG Menu Items

Items	Default Value	Domain Range	Description
FAST MODE	OFF	OFF/ON	Set whether in fast mode.
FILM MODE DETECT	OFF	OFF/ON	Set whether to detect film mode.
BACK LIGHT	15	0~30	Adjust the back light
APPERTURE	0	0~24	Set the picture sharpness
LANGUAGE	ENGLISH	ENGLISH/CHINESE	Select a language mode

5.1.5 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 5.1-12:

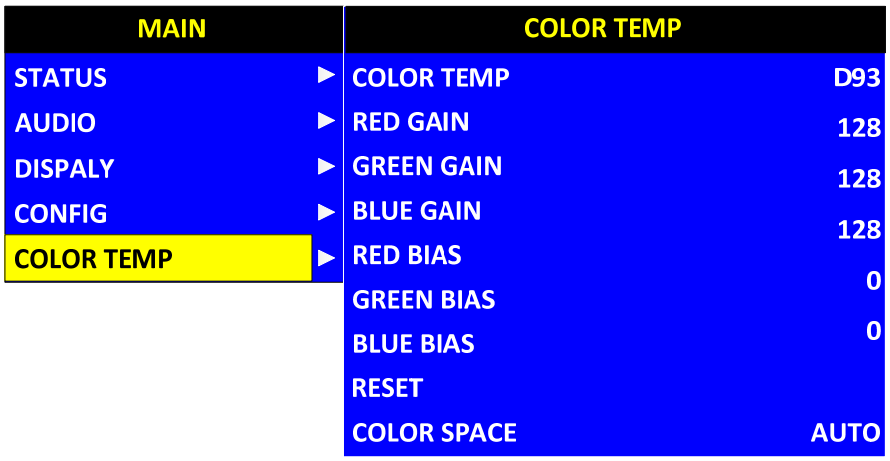


Figure 5.1-12 COLOR TEMP Menu

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 COLOR TEMP Menu Items

Items	Default Value	Domain Range	Description
COLOR TEMP	D65	USER1: Customized by user USER2: Customized by user D32: 3200K D50: 5000K D56: 5600K D65: 6500K D93: 9300K	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	0	-50~50	Adjust the Red Offset
GREEN BIAS	0	-50~50	Adjust the Green Offset
BLUE BIAS	0	-50~50	Adjust the Blue Offset
COPY FROM	D65	D32: 3200K D50: 5000K D56: 5600K D65: 6500K	Copy this parameter value to USER

Items	Default Value	Domain Range	Description
		D93: 9300K	
RESET	--	--	Reset the Gain and Offset values to the product originals
COLOR SPACE	EBU	NATIVE/EBU/SMPTE-C/ ITU-709/AUTO	Select the color matrix

Tips

- The items about RED/GREEN/BLUE GAIN and BIAS are available only in USER1 and USER2 mode.

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. For example, you have selected **Status** menu, as shown in Figure 5.2-1.

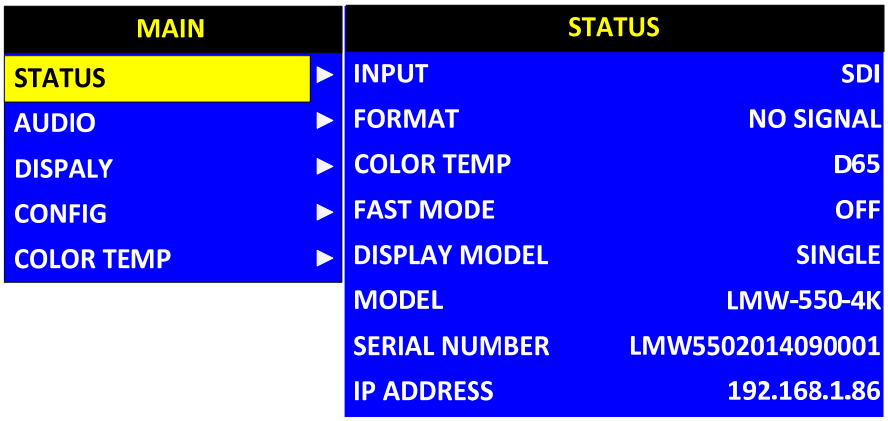


Figure 5.2-1 Selecting STATUS Menu

- **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

- 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, as shown in Figure 5.2-2:

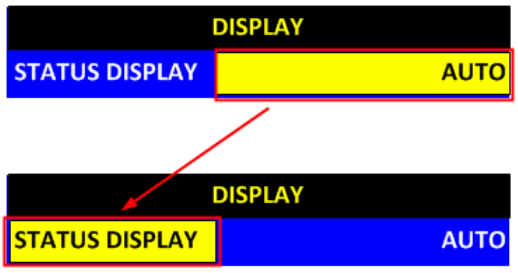


Figure 5.2-2 The Control Icon Moves from the Sub-menu Item Value to the Corresponding Sub-menu Item

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

- 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 ENGLISH. The following will teach you how to switch to Chinese.

■ Operation:

Step 1 Select CONFIG menu

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

Step 2 Select the value of the Language item

Press **ENTER** button to get into the **CONFIG** menu items, and click **DOWN** button to select the sub-item **LANGUAGE**, then, click **ENTER** button to get into the sub-value list, as shown in Figure 5.2-3, the current control icon is in **ENGLISH**.

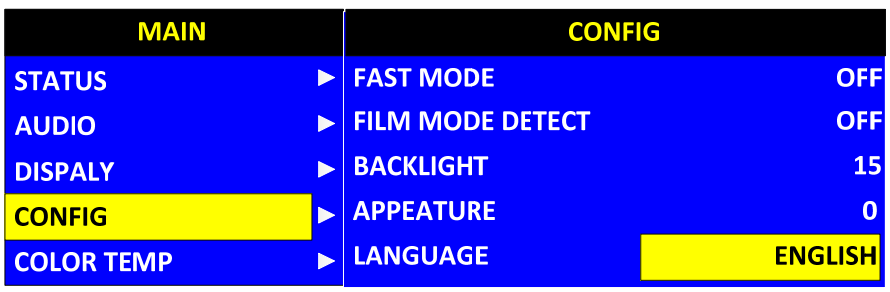


Figure 5.2-3 Select the Value of Language

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

Click **DOWN** button to select the sub-item **LANGUAGE** to **Chinese**, as shown in Figure 5.2-4, press **ENTER** button to confirm the modification.

Figure 5.2-4 Switching the Value of LANGUAGE

Step 4 Exit the main menu

Click MENU button to exit the main menu.

Chapter 6 Network Control

LMW-550-4K supports network interface. Connect a computer with it through the Ethernet interface to achieve the network control to LMW-550-4K.

Tips

- The network address of the computer which is connected with LMW-550-4K and the network address of LMW-550-4K must be in the same segment.

This chapter will introduce how to set and check the parameters of LMW-550-4K in Internet Explorer.

6.1 Access the settings

Use Internet Explorer to enter into a web control page. For example, input http://192.168.1.86 in address bar, it will display the then, press Enter key, the management interface of LMW-550-4K is shown as in Figure 6.1-1:

Figure 6.1-1 Network Control Page

6.2 Menu Control

Open the management interface as shown in ***Figure 6.2-1***, the menu items listed in the left part are almost as the same as the main menu items.

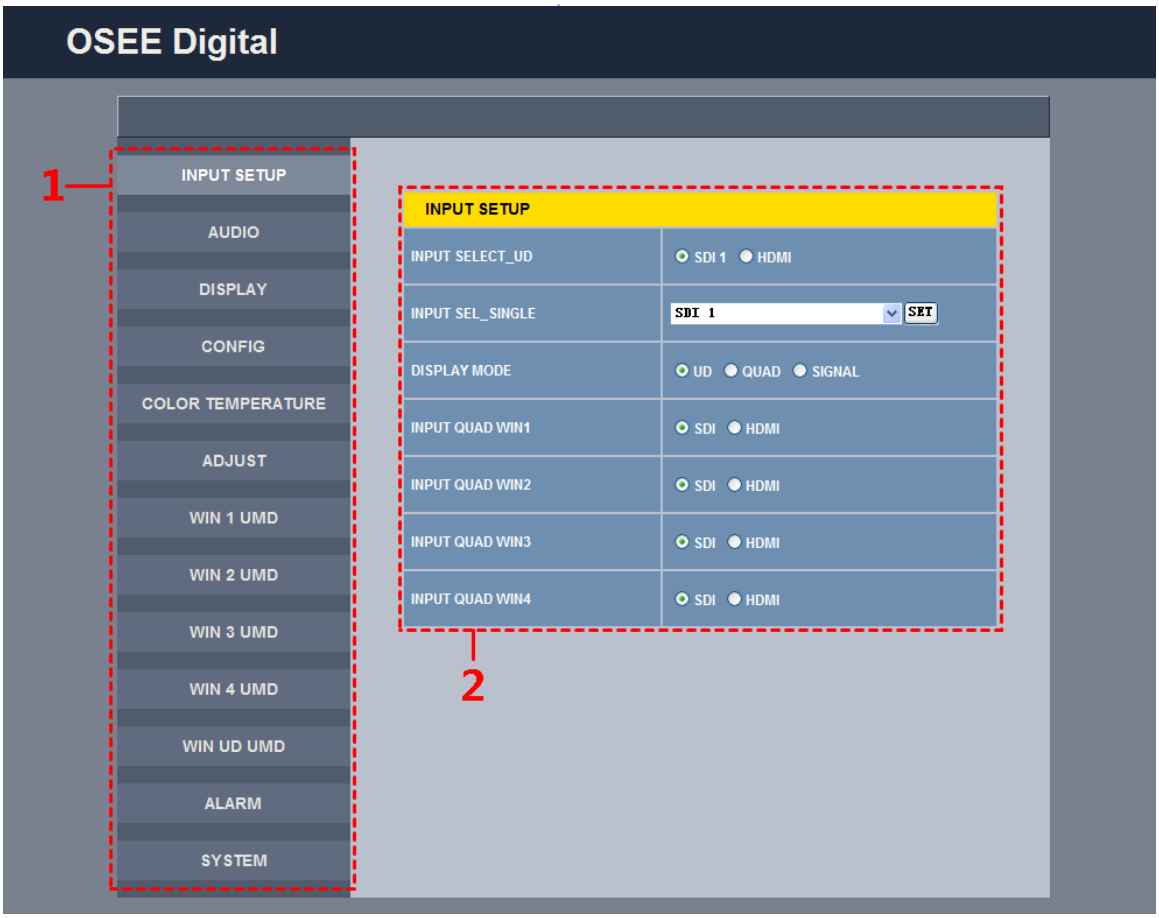


Figure 6.2-1 Management Interface

As shown in ***Figure 6.2-1***, the management interface is divided into the following parts:

1. **Navigation menu list**

   It shows the navigation menus: **INPUT SETUP**, **AUDIO, DISPLAY**, **CONFIG**, **COLOR TEMPERATURE**, **ADJUST**, **WIN 1 UMD**, **WIN 2 UMD**, **WIN 3 UMD**, **WIN 4 UMD**, **WIN UD UMD**, **ALARM** and **SYSTEM**. Click the navigation menu, it will show the corresponding settings on the right side.

2. **Parameter list**

   It shows the parameter names, values and operation buttons of the selected navigation menu, as shown in the red rectangle in ***Figure 6.2-2***. The title in the yellow rectangle of the parameter list and the parameter

list will change with the navigation menu when switched.

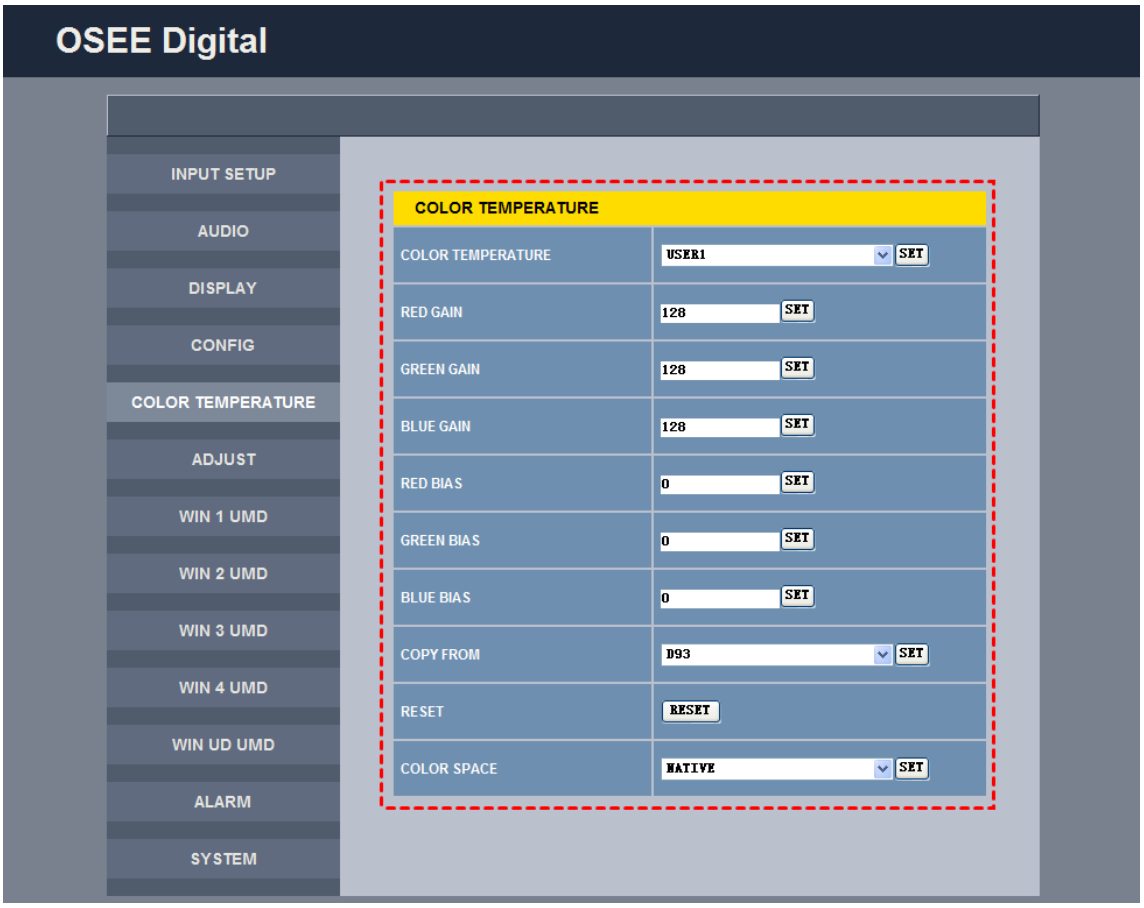


Figure 6.2-2 Parameter List

Tips

- The **SET** button is used to confirm the modification of the parameter value.

6.2.1 INPUT SETUP Menu

It will introduce **INPUT SETUP** menu.

Click **INPUT SETUP** button at the left navigation menu list, it is used to select the input signal for each window in different display modes, as shown in ***Figure 6.2-3***:

Figure 6.2-3 INPUT SETUP Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in ***Table 6.2-1***:

Table 6.2-1 The Description of INPUT SETUP Menu Items

Items	Default Value	Domain Range	Description
INPUT SELECT_UD	SDI	SDI/HDMI	Select the input signal in UD mode
INPUT SEL_SINGLE	SDI1	SDI1/SDI2/SDI3/ SDI4/HDMI	Select the input signal in UD mode
DISPLAY MODE	UD	UD/QUAD/SINGLE	Set the display mode
INPUT QUAD WIN1	SDI	SDI1/HDMI1	Select the input signal for Window1 in QUAD mode
INPUT QUAD WIN2	SDI	SDI2/HDMI2	Select the input signal for Window2 in QUAD mode
INPUT QUAD WIN3	SDI	SDI3/HDMI3	Select the input signal for Window3 in QUAD mode
INPUT QUAD WIN4	SDI	SDI4/HDMI4	Select the input signal for Window4 in QUAD mode

Tips

- In QUAD mode, you can only select the signal source through network control page, but not by the remote control or the control buttons on the monitor. And, the signal source for the designated window must be from the corresponding interface. For example: the signal source for WINDOW1 could only be from SDI1 input, or HDMI1 input.

6.2.2 AUDIO Menu

It will introduce **AUDIO** menu.

Click **AUDIO** button at the left navigation menu list, it will display the audio display parameters, as shown in ***Figure 6.2-4***:

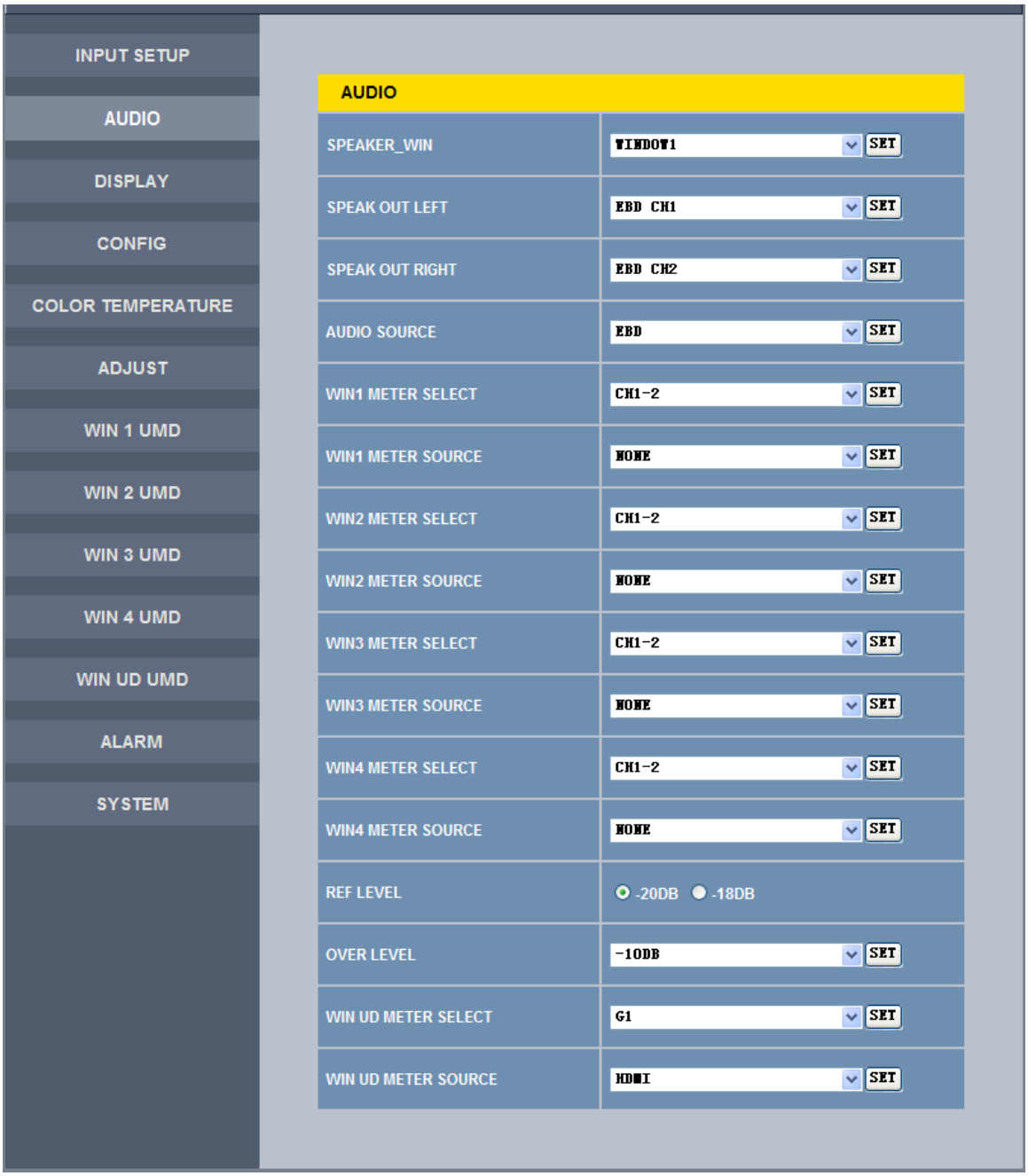


Figure 6.2-4 AUDIO Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in ***Table 6.2-2***:

Table 6.2-2 The Description of AUDIO Menu Items

Items	Default Value	Domain Range	Description
SPEAKER_WIN	WINDOW1	WINDOW1/WINDOW2/WINDOW3/WINDOW4	Select which window's audio will be sent to the output

Items	Default Value	Domain Range	Description
			speaker
SPEAK OUT LEFT	EBD CH1	When the audio source is EBD, the range of this item is EBD CH1~ EBD CH16.	Left speaker, select a channel according to the type of audio source.
SPEAK OUT RIGHT	EBD CH2	When the audio source is EBD, the range of this item is EBD CH1~ EBD CH16.	Right speaker, select a channel according to the type of audio source.
AUDIO SOUURCE	EBD	NONE/HDMI/EBD	Select the audio source
WIN1 METER SELECT	CH1-2	• CH1-2 • G1 • G2 • G3 • G4 • G1+G2 • G1+G3 • G1+G4 • G2+G3 • G2+G4 • G3+G4	Select a meter display mode. Each G* contains four channels, and each CH* means a channel with number.
WIN1 METER SOURCE	EBD	NONE/HDMI/EBD	Select the audio source for WINDOW1
WIN2 METER SELECT	CH1-2	The same as WIN1's	Select a meter display mode
WIN2 METER SOURCE	EBD	NONE/HDMI/EBD	Select the audio source for WINDOW2
WIN3 METER SELECT	CH1-2	The same as WIN1's	Select a meter display mode
WIN3 METER SOURCE	EBD	NONE/HDMI/EBD	Select the audio source for WINDOW3
WIN4 METER SELECT	CH1-2	The same as WIN1's	Select a meter display mode
WIN4 METER	EBD	NONE/HDMI/EBD	Select the audio source for

Items	Default Value	Domain Range	Description
SOURCE			WINDOW4
REF LEVEL	-20dB	-20dB/-18dB	Select the reference level
OVER LEVEL	-8dB	• -10dB • -8dB • -6dB • -4dB • -2dB	Select the overload level
WIN UD METER SELECT	CH1-2	The same as WIN1's	Select a meter display mode in UD mode
WIN UD METER SOURCE	EBD	NONE/HDMI/EBD	Select the audio source in UD mode

The content and the position of the audio meter are different according to the display mode, you can select its source and display channels in Audio Menu, as shown in ***Figure 6.2-5***:

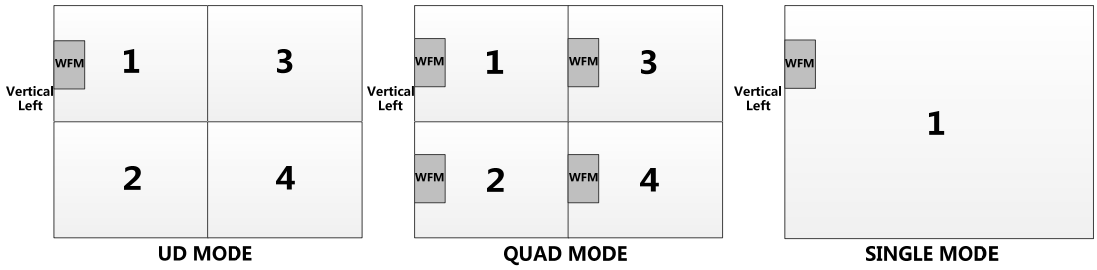


Figure 6.2-5 The Position of AUDIO Meter In Different Display Mode

6.2.3 ADJUST Menu

It will introduce **ADJUST** menu.

Click **ADJUST** button at the left navigation menu list, it will display the adjust parameters, as shown in ***Figure 6.2-6***:

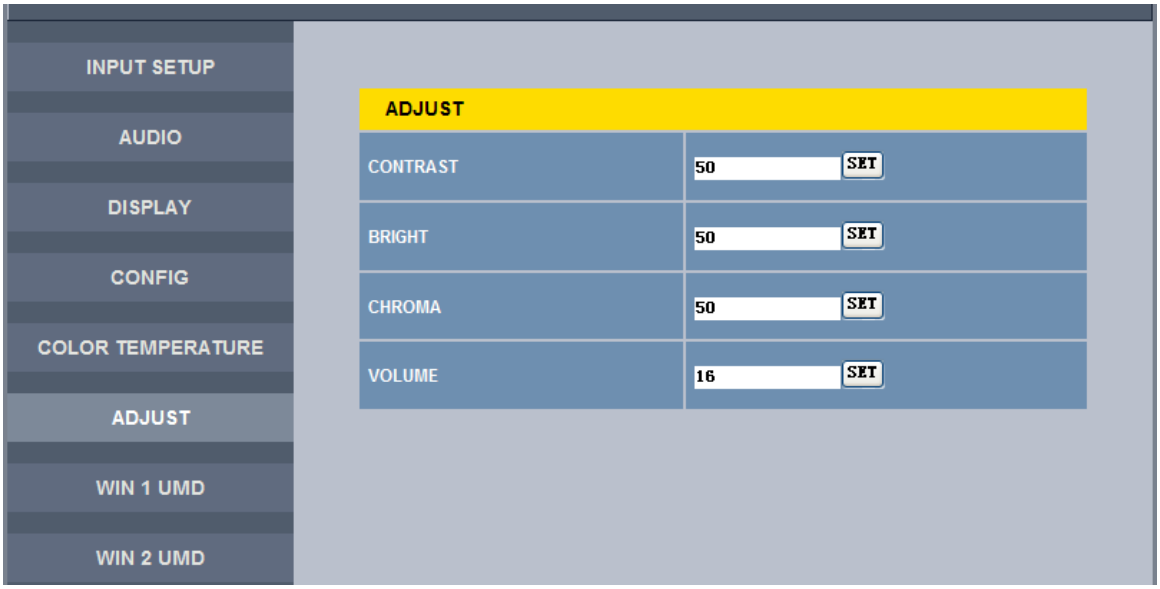


Figure 6.2-6 ADJUST Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in ***Table 6.2-3***:

Table 6.2-3 The Description of ADJUST Menu Items

Items	Default Value	Domain Range	Description
CONTRAST	50	0~100	Adjust the picture contrast
BRIGHTNESS	50	0~100	Adjust the picture brightness
CHROMA	50	0~100	Adjust the picture monochroma
VOLUME	16	0~31	Adjust the volume

6.2.4 WIN1 UMD Menu

It will introduce **WIN1 UMD** menu.

Click **WIN1 UMD** button at the left navigation menu list, it will display the UMD parameters for Window1, as shown in ***Figure 6.2-7***:

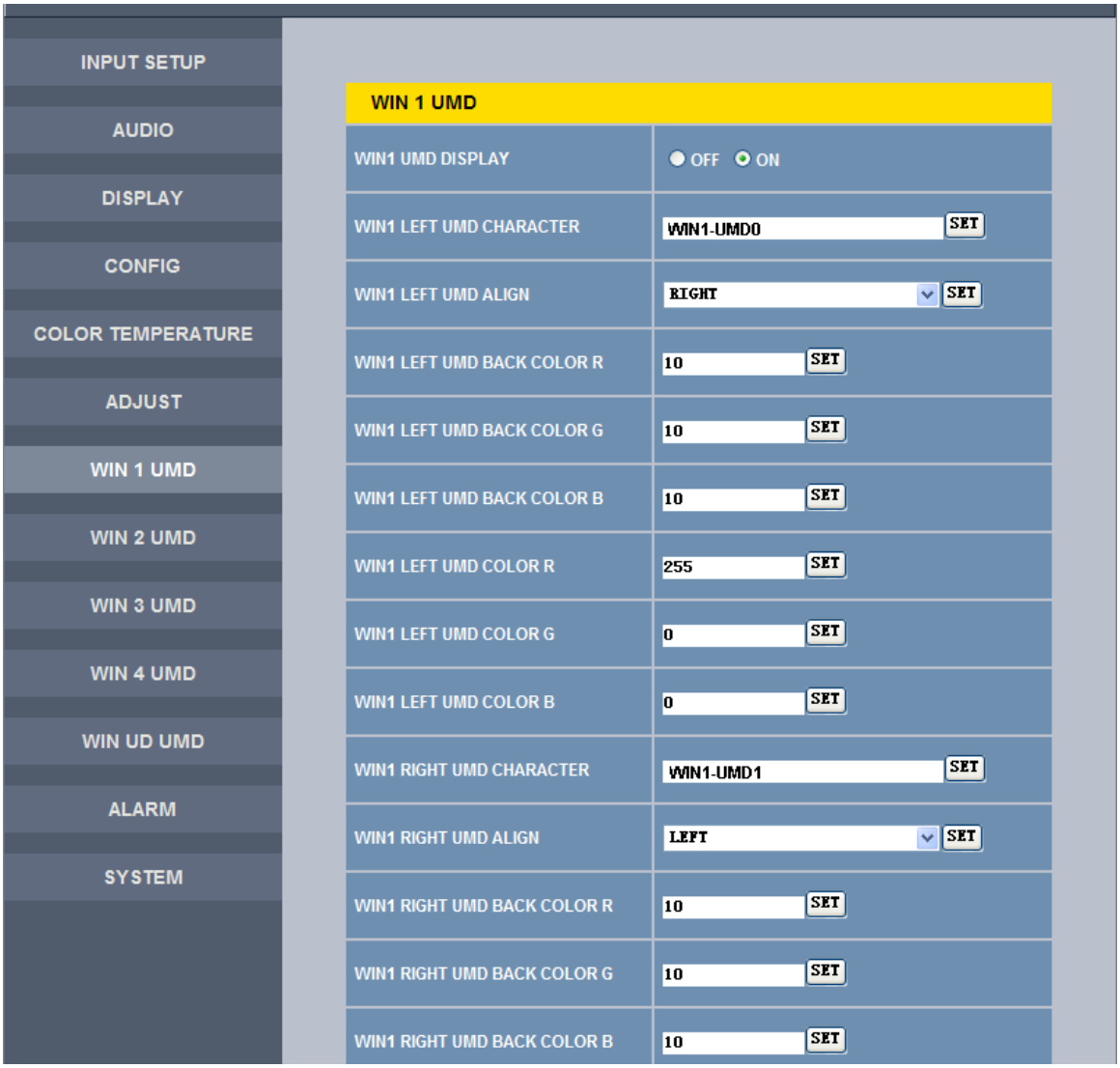


Figure 6.2-7 WIN1 UMD Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in ***Table 6.2-4***:

Table 6.2-4 The Description of WIN1 UMD Menu Items

Items	Default Value	Domain Range	Description
WIN1 UMD DISPLAY	OFF	OFF/ON	Set whether to display the UMD for window 1
WIN1 LEFT UMD CHARACTER	XXXXXXXX	--	Set the left UMD characters
WIN1 LEFT UMD ALIGN	LEFT	LEFT/CENTER/ RIGHT	Set the alignment for the left UMD
WIN1 LEFT UMD	10	0~256	Set the red component of

Items	Default Value	Domain Range	Description
BACK COLOR R			the background color for the left UMD
WIN1 LEFT UMD BACK COLOR G	10	0~256	Set the green component of the background color for the left UMD
WIN1 LEFT UMD BACK COLOR B	10	0~256	Set the blue component of the background color for the left UMD
WIN1 LEFT UMD COLOR R	255	0~256	Set the red component of the characters color for the left UMD
WIN1 LEFT UMD COLOR G	0	0~256	Set the green component of the characters color for the left UMD
WIN1 LEFT UMD COLOR B	0	0~256	Set the blue component of the characters color for the left UMD
WIN1 RIGHT UMD CHARACTER	XXXXXXXX	--	Set the right UMD characters
WIN1 RIGHT UMD ALIGN	LEFT	LEFT/CENTER/ RIGHT	Set the alignment for the right UMD
WIN1 RIGHT UMD BACK COLOR R	10	0~256	Set the red component of the background color for the right UMD
WIN1 RIGHT UMD BACK COLOR G	10	0~256	Set the green component of the background color for the right UMD
WIN1 RIGHT UMD BACK COLOR B	10	0~256	Set the blue component of the background color for the right UMD
WIN1 RIGHT UMD COLOR R	255	0~256	Set the red component of the characters color for the right UMD
WIN1 RIGHT UMD COLOR G	0	0~256	Set the green component of the characters color for the right UMD
WIN1 RIGHT	0	0~256	Set the blue component

Items	Default Value	Domain Range	Description
UMD COLOR B			of the characters color for the right UMD
WIN1 OSD TALLY SOURCE	OFF	OFF/GPI/TSL	Set the OSD TALLY source for window1
WIN1 OSD TALLY MODE	RG	RG/GR/RGY/OFF	Set the OSD TALLY display mode for window1
WIN1 IMD PROTOCOL	TSL3.1	• TSL3.1 • TSL4.0 • TSL5.0 • NETWORK	Set an IMD protocol
WIN1 IMD ID	000	0~255	Set the ID number for each monitor
WIN1 BAUD RATE	38400	2400/4800/9600/19200/38400/57600/115200	Select a baud rate for communication.
WIN1 IMD MODE LEFT	OFF	OFF/TSL/NETWORK	Set the display mode for the left IMD
WIN1 IMD MODE RIGHT	OFF	OFF/TSL/NETWORK	Set the display mode for the right IMD

Tips

- Set the display parameters for the left UMD and the right UMD in No.1 window. The other parameters set in **WIN2 UMD**, **WIN3 UMD** and **WIN4 UMD** page, are also set for the corresponding window, as the same as in No.1 window, no further descriptions below.
- The length of LEFT or RIGHT UMD CHARACTER is up to 16 characters.

6.2.5 WIN UD UMD Menu

It will introduce **WIN UD UMD** menu.

Click **WIN UD UMD** button at the left navigation menu list, it will display the UMD parameters in UD mode, as shown in ***Figure 6.2-8***:

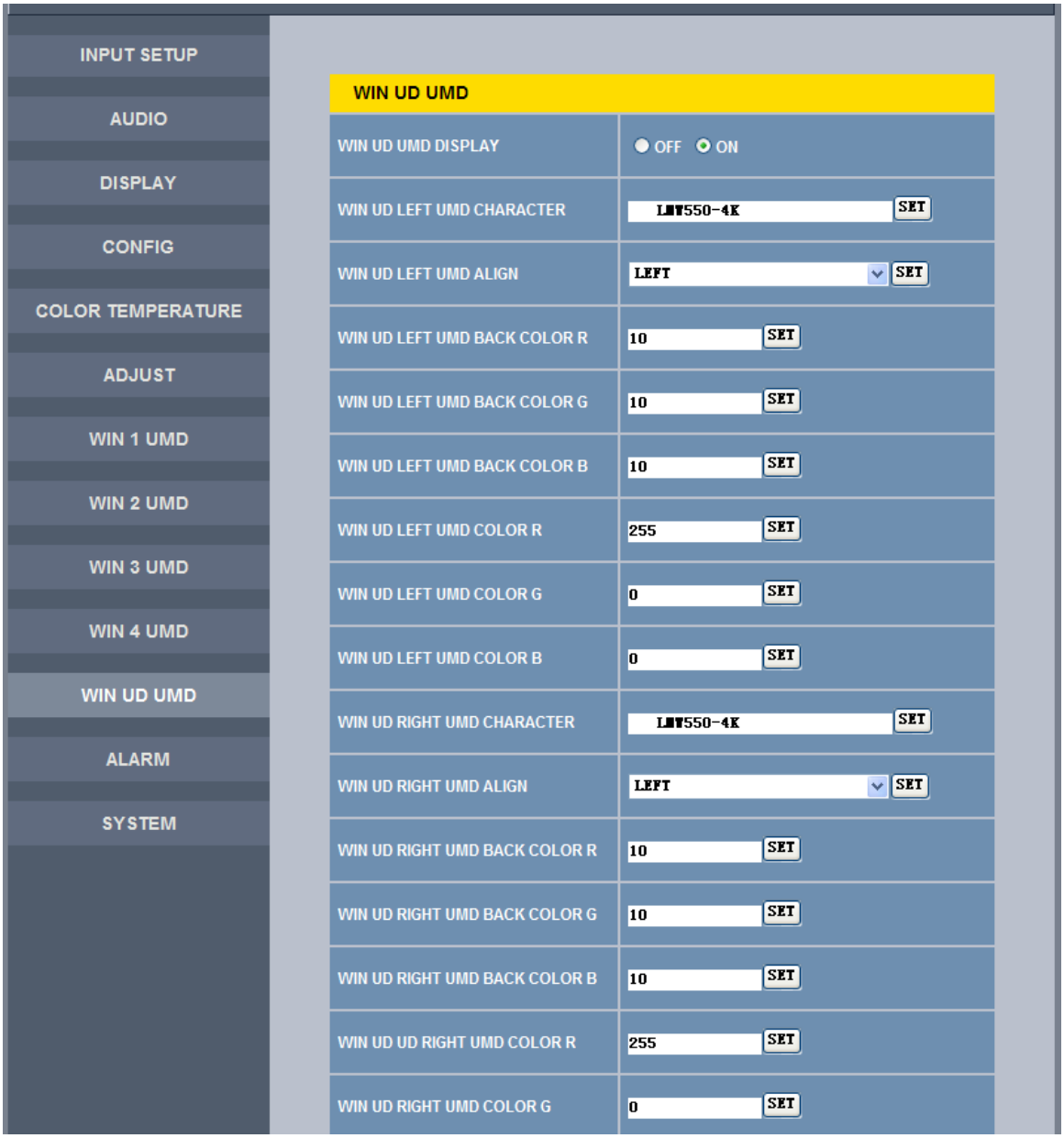


Figure 6.2-8 WIN UD UMD Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in ***Table 6.2-5***:

Table 6.2-5 The Description of WIN UD UMD Menu Items

Items	Default Value	Domain Range	Description
WIN UD UMD DISPLAY	OFF	OFF/ON	Set whether to display the UMD in UD mode
WIN UD LEFT UMD CHARACTER	XXXXXXXX	--	Set the left UMD characters

Items	Default Value	Domain Range	Description
WIN UD LEFT UMD ALIGN	LEFT	LEFT/CENTER/ RIGHT	Set the alignment for the left UMD
WIN UD LEFT UMD BACK COLOR R	10	0~256	Set the red component of the background color for the left UMD
WIN UD LEFT UMD BACK COLOR G	10	0~256	Set the green component of the background color for the left UMD
WIN UD LEFT UMD BACK COLOR B	10	0~256	Set the blue component of the background color for the left UMD
WIN UD LEFT UMD COLOR R	255	0~256	Set the red component of the characters color for the left UMD
WIN UD LEFT UMD COLOR G	0	0~256	Set the green component of the characters color for the left UMD
WIN UD LEFT UMD COLOR B	0	0~256	Set the blue component of the characters color for the left UMD
WIN UD RIGHT UMD CHARACTER	XXXXXXXX	--	Set the right UMD characters
WIN UD RIGHT UMD ALIGN	LEFT	LEFT/CENTER/ RIGHT	Set the alignment for the right UMD
WIN UD RIGHT UMD BACK COLOR R	10	0~256	Set the red component of the background color for the right UMD
WIN UD RIGHT UMD BACK COLOR G	10	0~256	Set the green component of the background color for the right UMD
WIN UD RIGHT UMD BACK COLOR B	10	0~256	Set the blue component of the background color for the right UMD
WIN UD RIGHT UMD COLOR R	255	0~256	Set the red component of the characters color for the right UMD
WIN UD RIGHT UMD COLOR G	0	0~256	Set the green component

Items	Default Value	Domain Range	Description
			of the characters color for the right UMD
WIN UD RIGHT UMD COLOR B	0	0~256	Set the blue component of the characters color for the right UMD
WIN UD OSD TALLY SOURCE	OFF	OFF/GPI/TSL	Set the OSD TALLY source for window1
WIN UD OSD TALLY MODE	RG	RG/GR/RGY/OFF	Set the OSD TALLY display mode for window1
WIN UD IMD PROTOCOL	TSL3.1	• TSL3.1 • TSL4.0 • TSL5.0 • NETWORK	Set an IMD protocol
WIN UD IMD ID	000	0~255	Set the ID number for each monitor
WIN UD BAUD RATE	38400	2400/4800/9600/19200/38400/57600/115200	Select a baud rate for communication.
WIN UD IMD MODE LEFT	OFF	OFF/TSL/NETWORK	Set the display mode for the left IMD
WIN UD IMD MODE RIGHT	OFF	OFF/TSL/NETWORK	Set the display mode for the right IMD

6.2.6 ALARM Menu

It will introduce **ALARM** menu.
Click **ALARM** button at the left navigation menu list, it will display the alarm parameters, as shown in ***Figure 6.2-9***

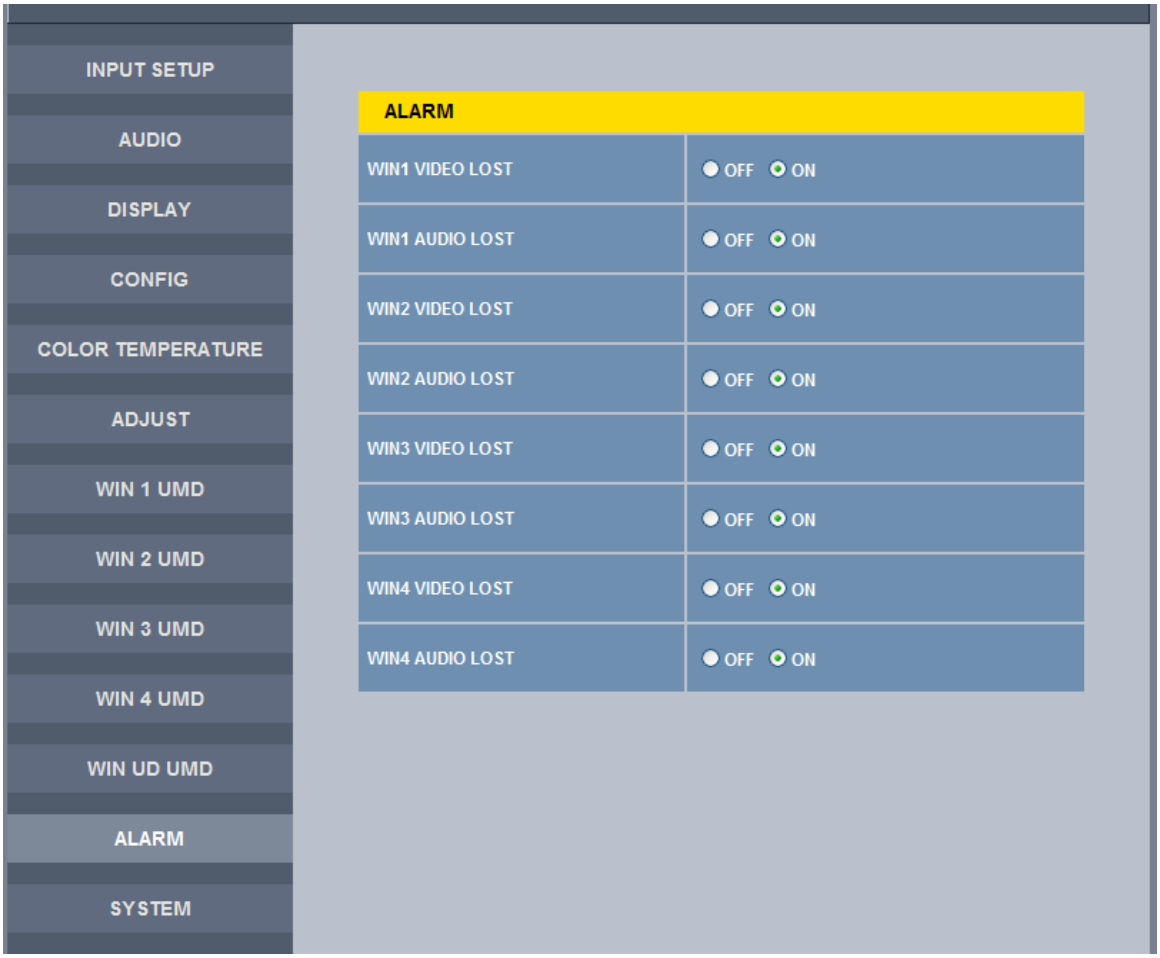


Figure 6.2-9 ALARM Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in ***Table 6.2-6***:

Table 6.2-6 The Description of ALARM Menu Items

Items	Default Value	Domain Range	Description
WIN1 VIDEO LOST	OFF	OFF/ON	Enable/Disable WIN1 video lost alarm
WIN1 AUDIO LOST	OFF	OFF/ON	Enable/Disable WIN1 audio lost alarm
WIN2 VIDEO LOST	OFF	OFF/ON	Enable/Disable WIN2 video lost alarm
WIN2 AUDIO LOST	OFF	OFF/ON	Enable/Disable WIN2 audio lost alarm
WIN3 VIDEO LOST	OFF	OFF/ON	Enable/Disable WIN3 video lost alarm
WIN3 AUDIO LOST	OFF	OFF/ON	Enable/Disable WIN3 audio lost alarm
WIN4 VIDEO LOST	OFF	OFF/ON	Enable/Disable WIN4 video lost alarm
WIN4 AUDIO LOST	OFF	OFF/ON	Enable/Disable WIN4 audio lost alarm

■ ALARM Icons

Only in QUAD mode, there will be the corresponding alarm icon at the center of the window when alarm happens. The video loss alarm displays VIDEO LOSS characters, and the audio loss alarm displays VIDEO LOSS characters, as shown in Figure 6.2-10:

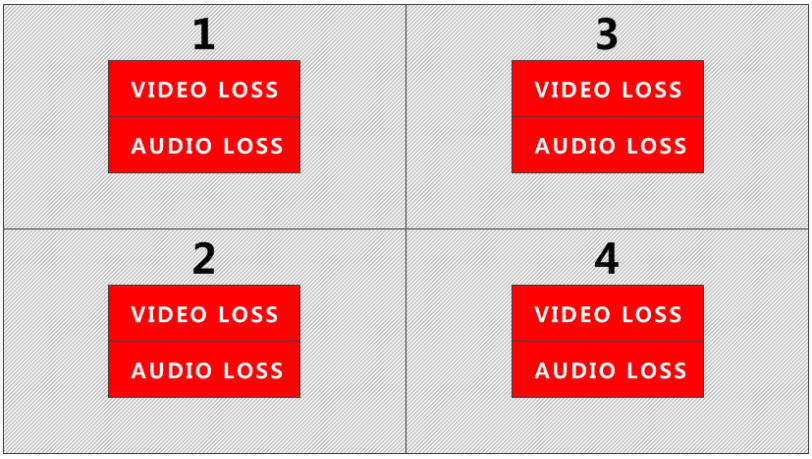


Figure 6.2-10 ALARM Icons

Tips

- Only in QUAD mode, there will be the corresponding alarm icons.
- The alarm icon displays at different position according to different signal source, as shown in Figure 6.2-10. The alarm of SDI1/HDMI1 will be displayed in WINDOW1, at the top left area of the whole screen; the alarm of SDI2/HDMI2 will be displayed in WINDOW2, at the bottom left area of the whole screen; the alarm of SDI3/HDMI3 will be displayed in WINDOW3, at the top right area of the whole screen; the alarm of SDI4/HDMI4 will be displayed in WINDOW4, at the bottom right area of the whole screen.
- Particularly, there will be audio alarm prompt when the audio source is HDMI.

6.2.7 SYSTEM Menu

It will introduce **SYSTEM** menu.

Click **SYSTEM** button at the left navigation menu list, it will display the

system parameters, as shown in ***Figure 6.2-11***:

Figure 6.2-11 System Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in ***Table 6.2-7***:

Table 6.2-7 The Description of System Menu Items

Items	Default Value	Domain Range	Description
IP	192.168.1.86	-	Set the IP address of the device
MASK	255.255.255.0	-	Set the subnet mask of the device
Gateway	192.168.1.1	-	Set the gateway address of the device
ALARM IP	192.168.1.232	-	Set the IP address of the alarm device
ALARM PORT	7655	-	Set the port of the alarm device
MPU Version	909	-	Display the product information
FPGA Version	304	-	Display the product information

Items	Default Value	Domain Range	Description
NCU Version	6130	-	Display the product information

6.2.8 Other Menus

The menu items in main menu on screen display are mostly as the same as the menu items listed in navigation menus: **DISPLAY**, **CONFIG** and **COLOR TEMPERATURE**, please refer to the corresponding sections in "Chapter 5 Functionality of the Main Menu", there will be no further description about their meanings and value range in this chapter.

6.3 Parameter Settings

It will introduce how to modify parameter values in management interface in the followings.

For example: modify **Meter Select** in **AUDIO** menu. Click **AUDIO** button to display its parameter list, as shown in ***Figure 6.2-12***, the corresponding screen main menu is shown as in ***Figure 6.2-13***:

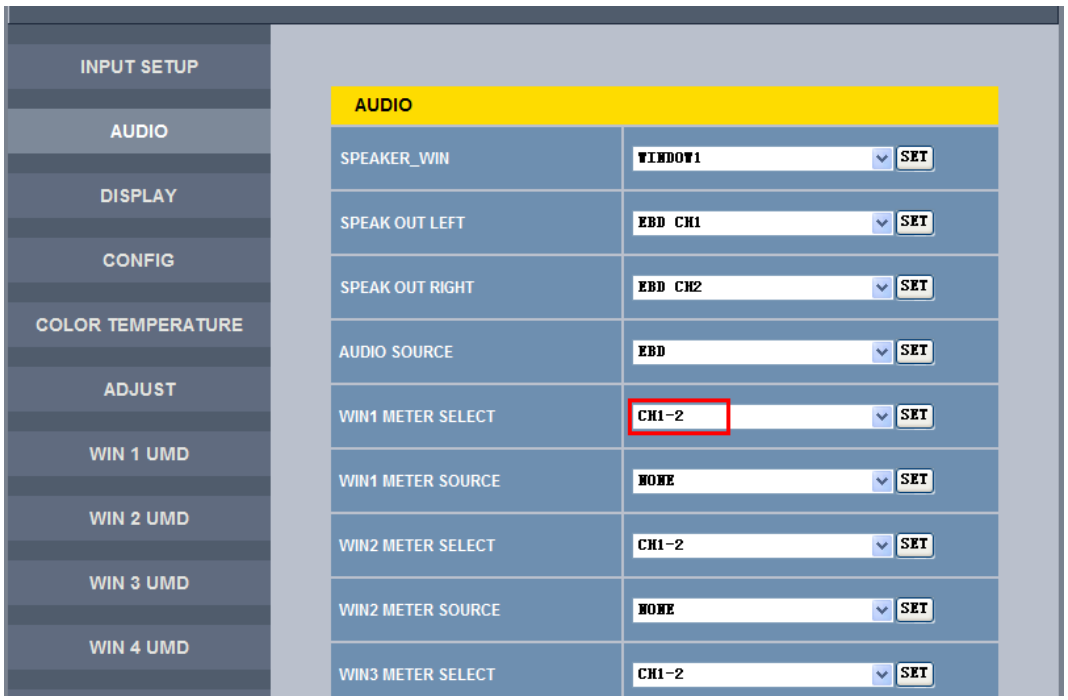


Figure 6.2-12 Parameter List for AUDIO

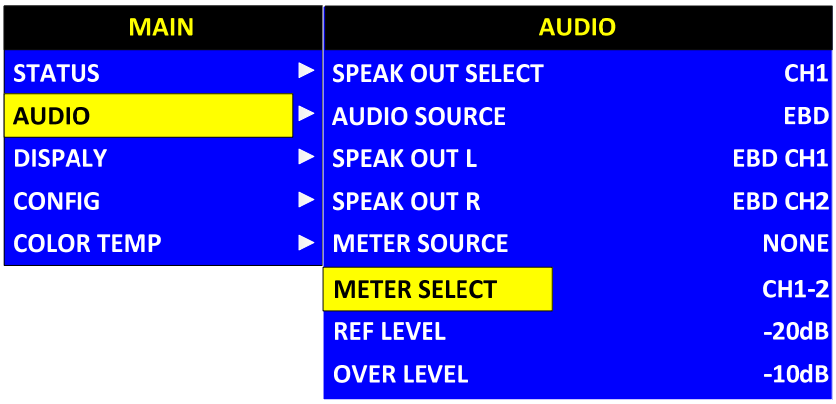


Figure 6.2-13 Screen Main Menu for AUDIO

Click button to display the drop-down value list for the parameter, as shown in ***Figure 6.2-14***, for example, modify "CH1-2" to "G1".

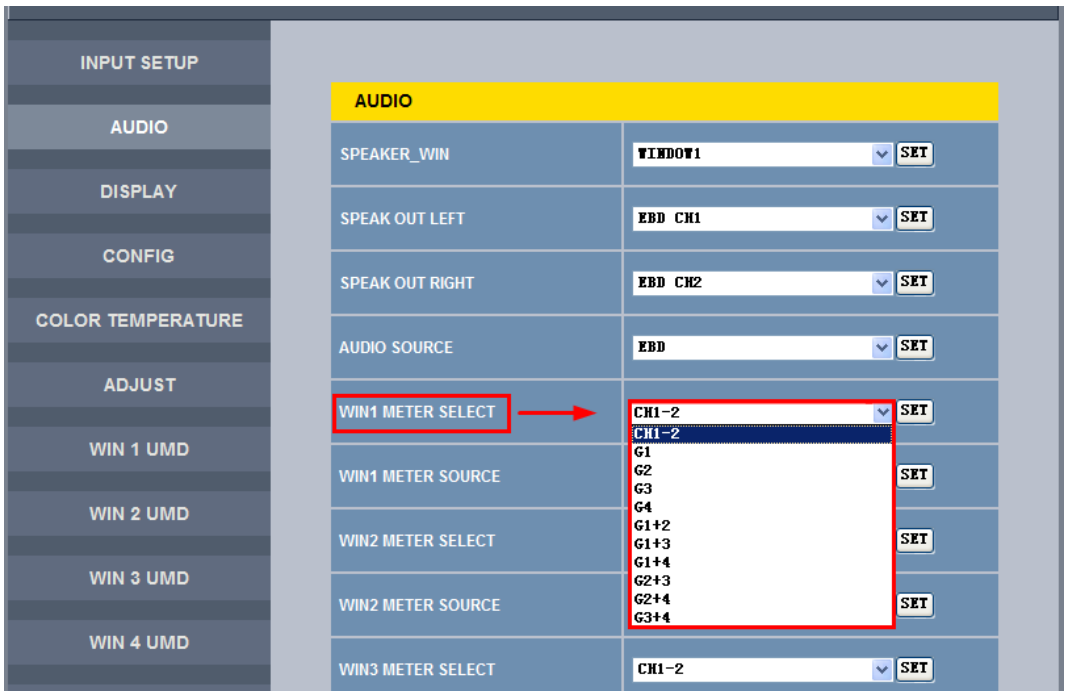


Figure 6.2-14 Display the Drop Down Value List of Meter Select(S)

Click SET button to confirm the selection and the page is refreshed. You can check the modification on the screen menu, the results are the same as shown in ***Figure 6.2-15*** and ***Figure 6.2-16***:

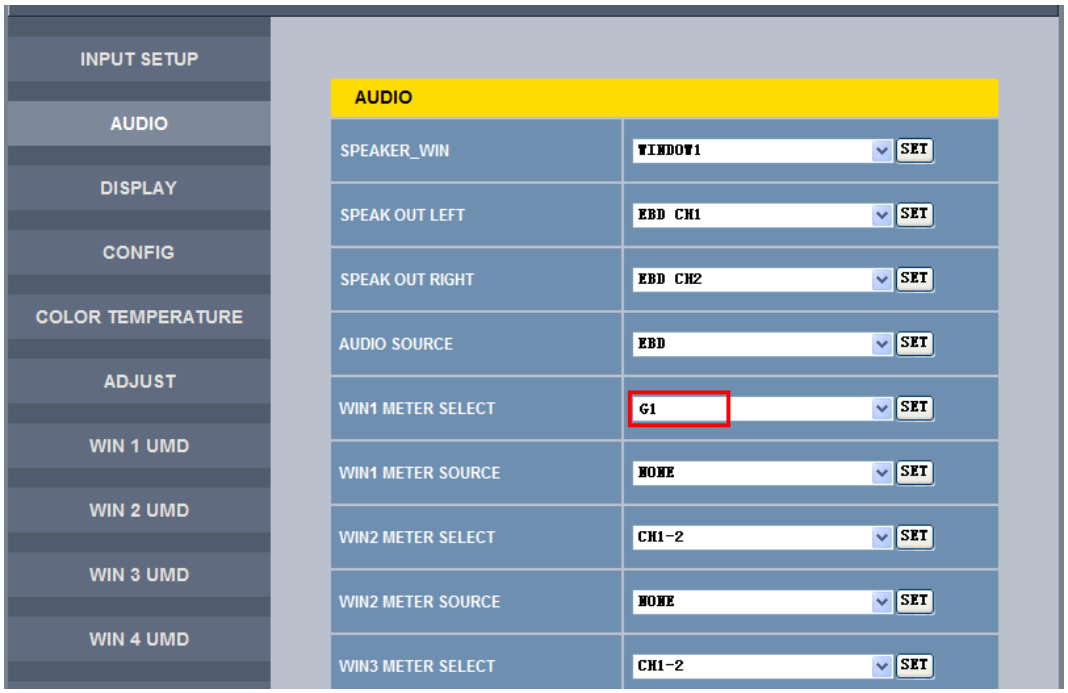


Figure 6.2-15 Modify the Value of a Parameter

Tips

- The volume can be checked and modified in adjust menu on screen adjustment, or in **Volume** item of **ADJUST** menu in management interface.

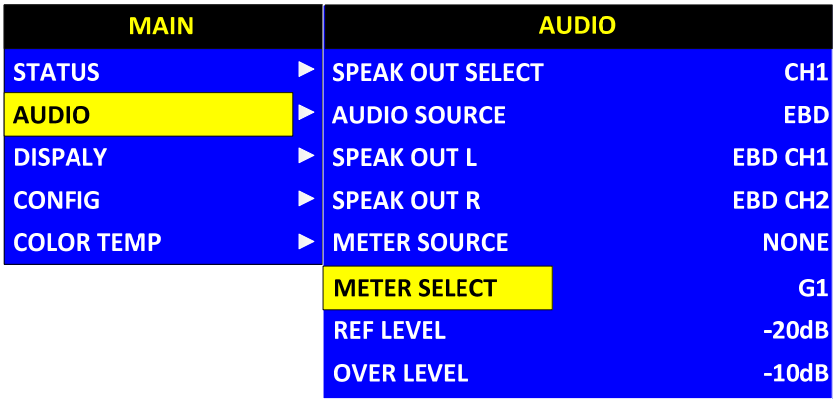


Figure 6.2-16 The Value is Modified Simultaneously on Screen Menu

Likewise, if you modify the value of a parameter on screen menu first, you may check the same changing result in management interface through network connection.

Chapter 7 Specifications

1. Product detailed information

Specification	Values			
Model	LMW-420-4K	LMW-550-4K	LMW-650-4K	LMW-840-4K
LCD Dimension (H) x(V) x(D)	42”, 954 x 552.75 x 81	55”, 1245 x 715.5 x 81	65”, 1461.4 x 836.5 x 81	84”, 1917.7 x 1103.5 x 95.7
Aspect Ratio	16:9	16:9	16:9	16:9
Display Area(mm) (H)x(V)	919.296×517.104	1209.6×680.4	1428.48×803.52	1860.48×1046.52
Viewing Angle (H)x(V)	178° x178°	178° x178°	178° x178°	178° x178°
Color Depth	1.07G colors(8-bits)	1.06Billon colors(10-bits)	1.06Billon colors(10-bits)	1.06Billon colors(10-bits)
Resolution (H)x(V)	3840×2160	3840×2160	3840×2160	3840×2160
Pixel Pitch(mm) (H)x(V)	0.2394×0.2394	0.315×0.315	0.372×0.372	0.4845×0.4845
Contrast	5000:1(Typ.)	1400:1(Typ.)	1400:1(Typ.)	1600:1(Typ.)
Luminance (cd/㎡)	350(Typ.)	400(Typ.)	450(Typ.)	350(Typ.)
Response Time (Typ.)	9.5ms(Typ.)	5ms (Typ.)	5ms (Typ.)	5 ms (Typ.)
Backlight	White LED			
Backlight Life(Hrs)	30000(Typ.)	60000(Typ.)	50000(Typ.)	50000(Typ.)
Interface Characteristic				
Video Input Interface	3G/HD/SD-SDI(BNCX4), HDMI(DVI-DX4)			
Video Output Interface	3G/HD/SD-SDI(BNCX4)			
Audio Input Interface	2CH analog stereo, 5dBu , Impedance≥47K, RCA(X2)			
Audio Output Interface	2CH analog stereo, 5dBu, Impedance≤500Ω, RCA(X2)			
Audio Output Interface	Headphone output (mini jack 3.5mm)			
Control Interface	GPI(8GPI input DB9X1)			
	RS485(Cascade RJ45) X2			
	Ethernet(10/100M adaptive RJ45) X1			
	Infrared Remote Controller(Optional)X1			
Signal Formats	SD: 480ip60, 576i50			
	HD: 1080i50, 1080i59.94, 1080i60, 720p50, 720p 59.94, 720p 60, 1035i59.94, 1035i 60			
	3G: 1080p50, 1080p60			
General				
Power Adapter	100~220VAC 50/60Hz			
Power Consumption	Approx.120W	Approx.180W	Approx.240W	Approx.360W

Specification	Values	
Operating Temperature	0° C~35° C	
Operating Humidity	20%~80% (no condensation)	

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

	OVERSCAN		NATIVE		FULL/NORMAL		Refresh Rate	Color Matrix
	Input	Output	Input	Output	INPUT ALL	OUTPUT NORMAL		
NTSC	684X462	1366X768 1024X768	720X487	720X487	720X487	1366X768 1024X768	60	601
PAL	684X548	1366X768 1024X768	720X576	720X576	720X576	1366X768 1024X768	50	601
SECAM	684X548	1366X768 1024X768	720X576	720X576	720X576	1366X768 1024X768	50	601
NTCS-4.43	684X462	1366X768 1024X768	720X487	720X487	720X487	1366X768 1024X768	60	601
PAL-M	684X462	1366X768 1024X768	720X487	720X487	720X487	1366X768 1024X768	60	601
480I60	684X462	1366X768 1024X768	720X487	720X487	720X487	1366X768 1024X768	60	601/709
576I50	684X548	1366X768 1024X768	720X576	720X576	720X576	1366X768 1024X768	50	601
480P60	684X462	1366X768 1024X768	720X487	720X487	720X487	1366X768 1024X768	60	601/709
576P50	684X548	1366X768 1024X768	720X576	720X576	720X576	1366X768 1024X768	50	601
720P24	1216X684	1366X768	1280x720	1280x720	1280x720	1366X768	48	709
720P25	1216X684	1366X768	1280x720	1280x720	1280x720	1366X768	50	709
720P30	1216X684	1366X768	1280x720	1280x720	1280x720	1366X768	30	709
720P50	1216X684	1366X768	1280x720	1280x720	1280x720	1366X768	50	709
720P60	1216X684	1366X768	1280x720	1280x720	1280x720	1366X768	60	709
1035I60	1824X984	1366X768	1920X1035	1920X1035	1920X1035	1366X768	60	709
1080I60	1824X1026	1366X768	1920X1080	1920X1080	1920X1080	1366X768	60	709
1080I50	1824X1026	1366X768	1920X1080	1920X1080	1920X1080	1366X768	50	709
1080P24	1824X1026	1366X768	1920X1080	1920X1080	1920X1080	1366X768	48	709
1080P25	1824X1026	1366X768	1920X1080	1920X1080	1920X1080	1366X768	50	709
1080P30	1824X1026	1366X768	1920X1080	1920X1080	1920X1080	1366X768	60	709
1080P50	1824X1026	1366X768	1920X1080	1920X1080	1920X1080	1366X768	50	709
1080P60	1824X1026	1366X768	1920X1080	1920X1080	1920X1080	1366X768	60	709
1080SF24	1824X1026	1366X768	1920X1080	1920X1080	1920X1080	1366X768	48	709
VGA					640X480	1366X768	60-75	

	OVERSCAN		NATIVE		FULL/NORMAL		Refresh Rate	Color Matrix
	Input	Output	Input	Output	INPUT ALL	OUTPUT NORMAL		
SVGA					800X600	1366X768	60-75	
XGA					1024x768	1366X768	60-75	
SXGA					1280x1024	1366X768	60-75	
UXGA					1600x1200	1366X768	60	
WXGA					1360X768	1360X768	60	
WUXGA					1920x1200	1366X768	60	

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

3. Dimensions

- The description of LMW-420-4K dimensions is shown as in the following figures:

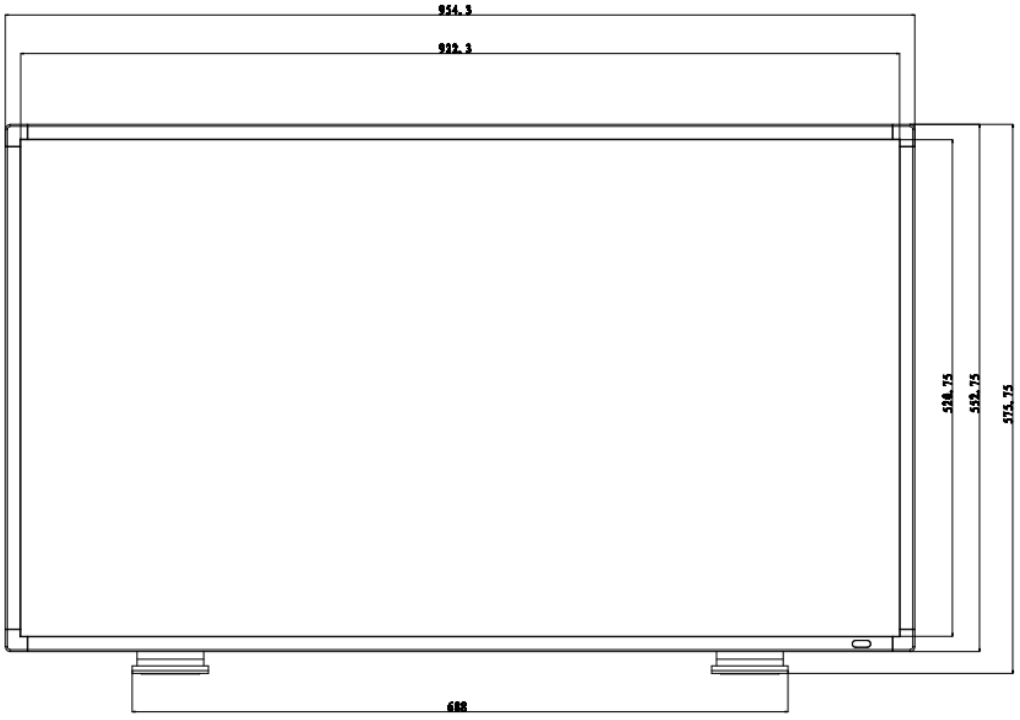


Figure 7-1 Front Panel(Unit: mm)

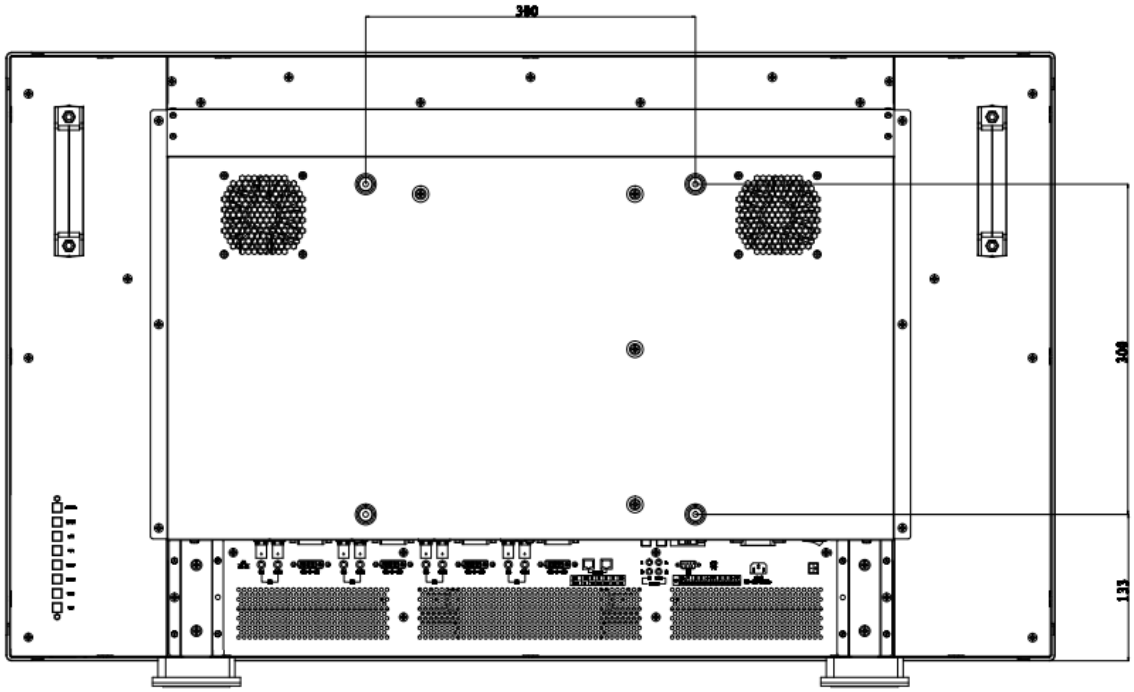


Figure 7-2 Rear Panel(Unit: mm)

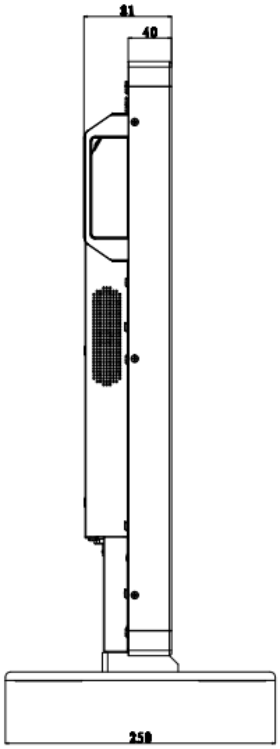


Figure 7-3 Side View(Unit: mm)

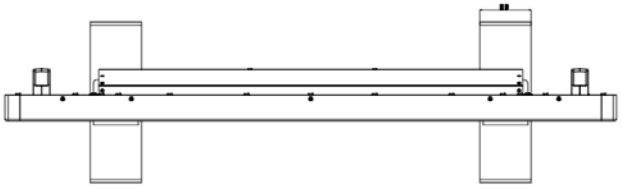


Figure 7-4 Top View(Unit: mm)

- The description of LMW-550-4K dimensions is shown as in the following figures:

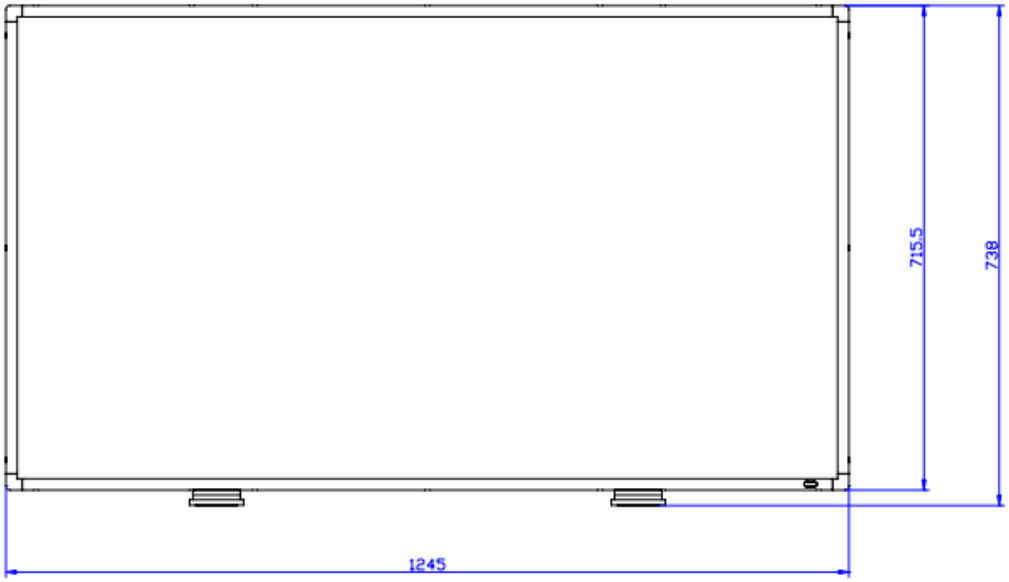


Figure 7-5 Front Panel(Unit: mm)

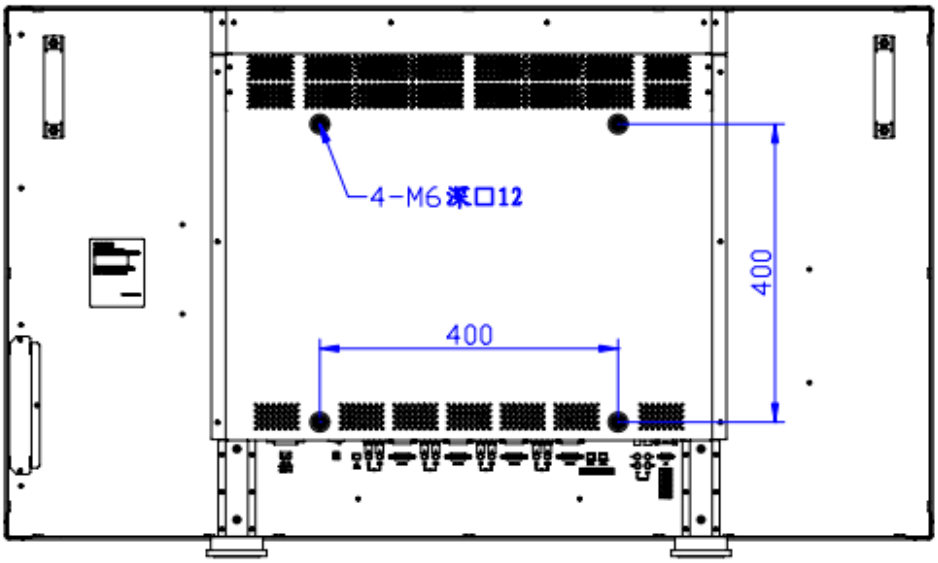


Figure 7-6 Rear Panel(Unit: mm)

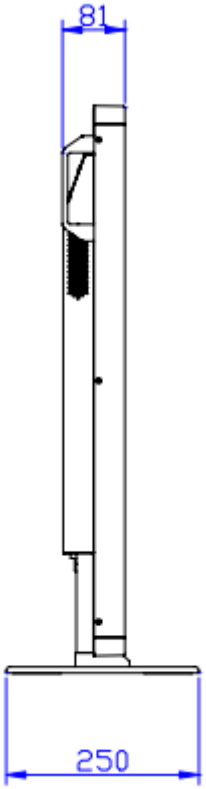


Figure 7-7 Side View(Unit: mm)

Figure 7-8 Top View(Unit: mm)

The description of LMW-650-4K dimensions is shown as in the following figures:

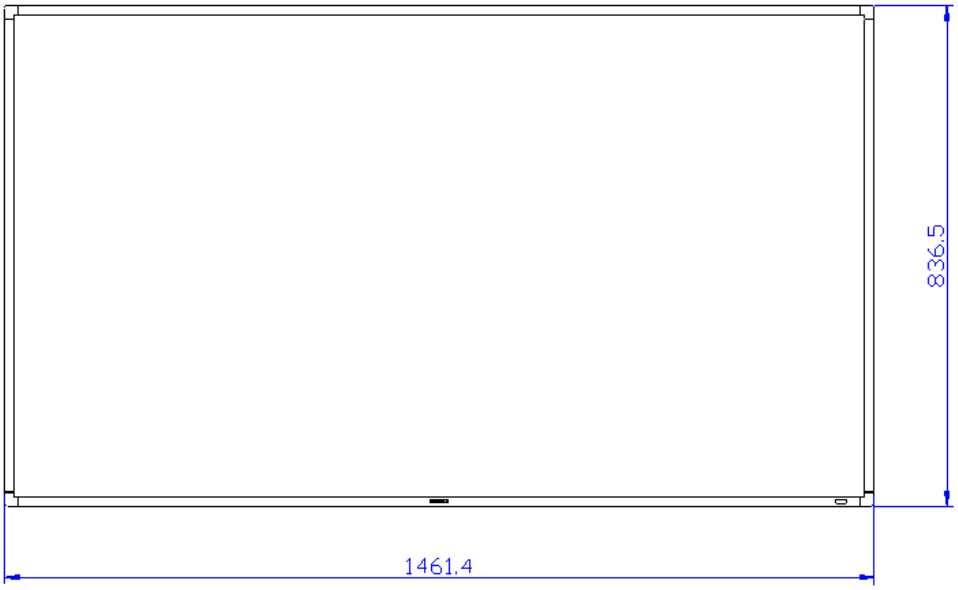


Figure 7-9 Front Panel(Unit: mm)

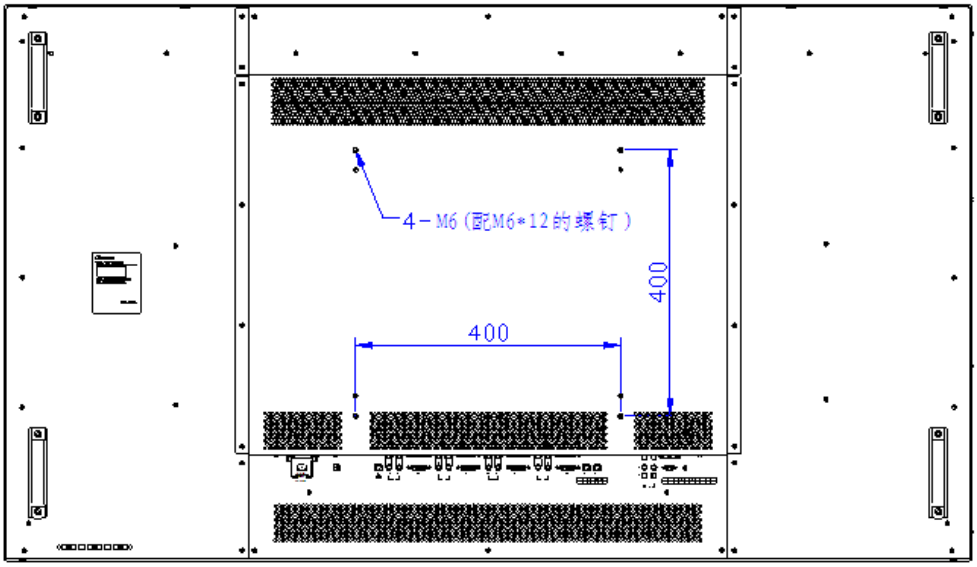


Figure 7-10 Rear Panel(Unit: mm)

Figure 7-11 Side View(Unit: mm)

Figure 7-12 Top View(Unit: mm)

- The description of LMW-840-4K dimensions is shown as in the following figures:

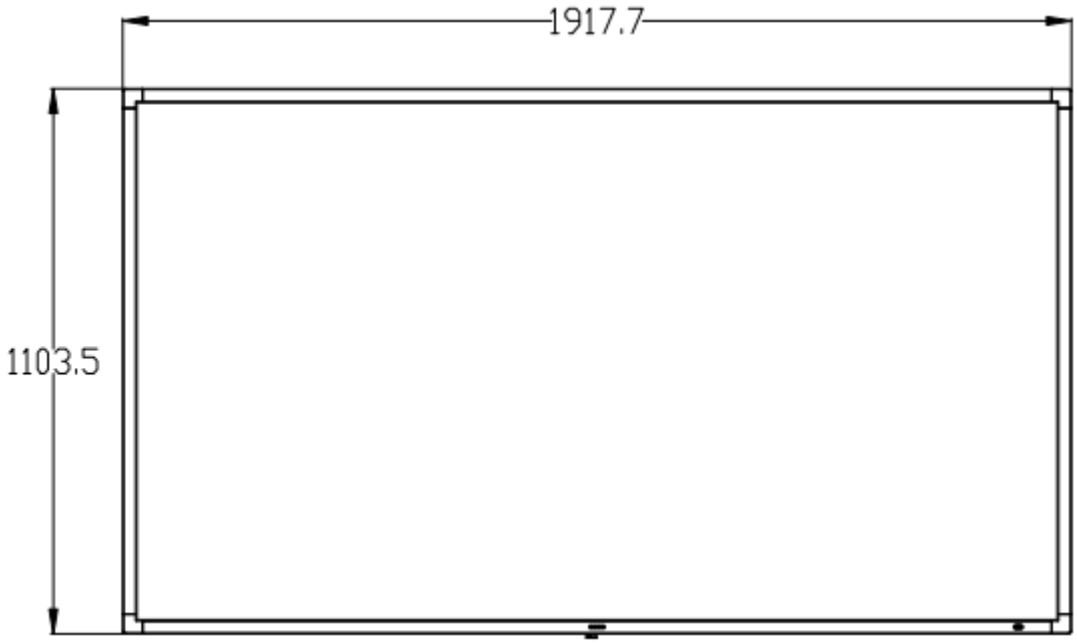


Figure 7-13 Front Panel(Unit: mm)

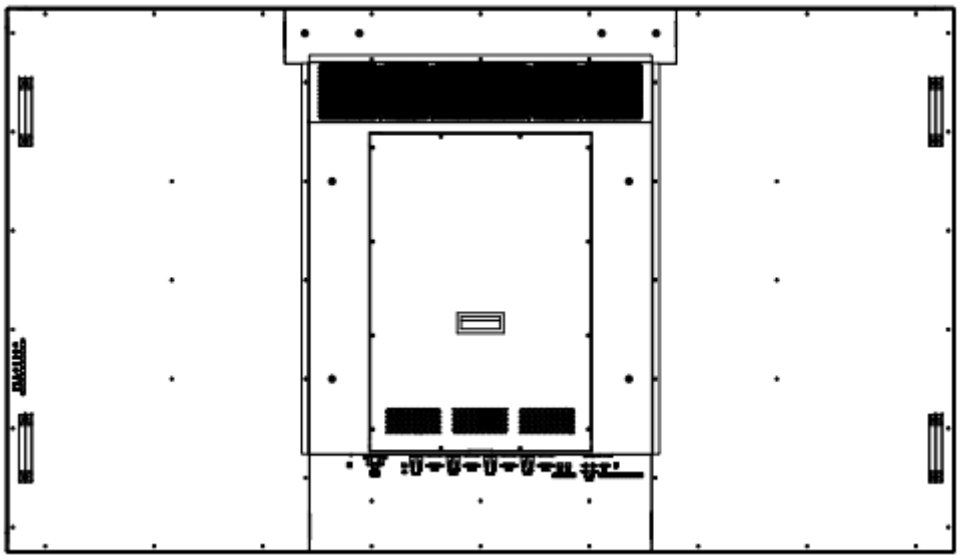


Figure 7-14 Rear Panel(Unit: mm)

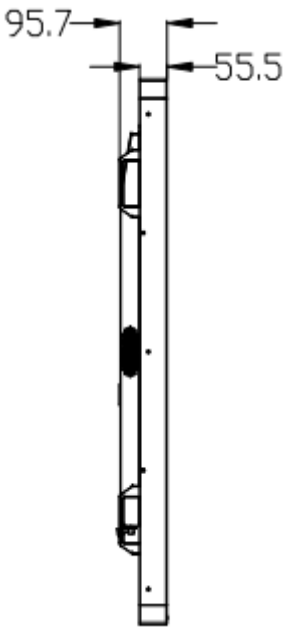


Figure 7-15 Side View(Unit: mm)

Figure 7-16 Top View(Unit: mm)

Tips

- Specifications are subject to change without notice.

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

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