RMS4342N/RMD4342N
RMS7023N/RMD7023N
Monitor

User Manual

OSEE TECHNOLOGY CO., LTD.

Product Information

Model: RMS4342N/RMD4342N RMS7023N/RMD7023N LCD Monitor
Version: V010100
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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:

❖

RMS4342N-3G	**RMS7023N-3G**
RMS4342N-HD	**RMS7023N-HD**
RMS4342N-SD	**RMS7023N-SD**
RMD4342N-3G	**RMD7023N-3G**
RMD4342N-HD	**RMD7023N-HD**
RMD4342N-SD	**RMD7023N-SD**

The above listed devices have most similarities on appearance and characteristics. The images of RMS4342N 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.

Contents

Chapter 1 Overview

RMS4342N is a 4-screen, 4.3”, 2RU rack mount LCD monitor. It offers a high resolution 800X480 LCD panel, with wide color gamut. It supports the video signal of analog composite/HD/SD-SDI. It supports analog audio input/output. It supports precise color correction, audio meter display, wave form, vector and so on. It is compatible with the monitors of RMD4342N series, and adding the new Ethernet function.

Figure 1 A Diagram of RMS4342N

Features

- Supports HD/SD-SDI, analog composite video signal
- Offers LCD panel with resolution of 800X480, high-brightness, high-contrast
- Supports color gamut modes: SMPTE-C, EBU, ITU-709
- Supports various adjustable color temperature(D93, D65, D56, D50, D32) and user customized color temperature
- Aluminum-magnesium alloy frame(with hanging board), standard 2RU frame

Functionality

- Audio phase meter and phase alarm display
- 16 channels embedded audio level meter, the channel number and the dB value can be displayed
- Supports various markers: Center Marker, Area Marker and Safe Marker
- Supports TSL/IMAGE VIDEO dynamic TALLY protocol
- Supports On-Screen Time code(VITC, LTC, D-VITC)
- Supports AFD prompts display

- Supports H/V Delay, NATIVE, BLUE ONLY, MONO
- Speaker and earphone output
- Supports Ethernet control

RMS7023N is a 2-screen, 7”, 3RU rack mount LCD monitor. It offers a high resolution 1024X600 LCD panel, with wide color gamut. It is compatible with the monitors of RMD7023N series

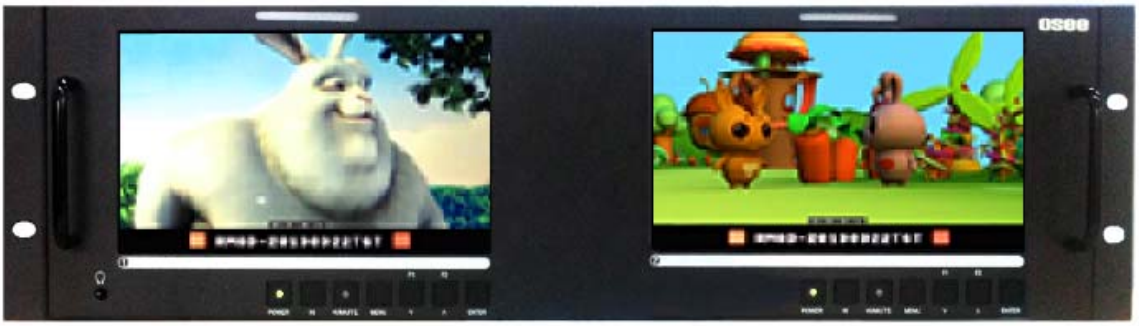


Figure 2 A Diagram of RMS7023N

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

Monitor

- 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.
- Install in accordance with the manufacturer's instructions.
- 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 RMS4342N 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	Monitor	1
2	Tally adapter	1
3	Power cord	1
4	adapter	1
5	User manual	1
6	warranty card	1

Installation:

1. Prepare for installation

Please follow the procedures below before installing RMS4342N monitor:

- 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 for future use.

2. Install RMS4342N in your desired location of a standard EIA equipment rack. Adequate ventilation is required when installed to prevent possible damage to the RMS4342N internal components.
3. Connect required cables for signal input and output.
4. Connect power source using the included power cord.
5. Connect the 12V5A DC power cord to the rear panel.
6. Fasten the power protect accessory.
7. As a final step, switch on the power to light up each screen of RMS4342N.

Tips

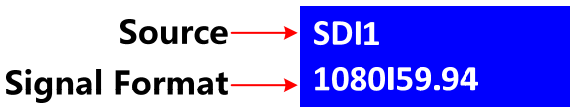
- Connect a standard signal line to the corresponding input port. All BNC connector impedance must be 75Ω.
- Please use the power adapter supplied to avoid unnecessary trouble.
- The factory default value for IP address is 192.168.1.86.

Chapter 4 Monitor Features

This chapter describes the features of RMS4342N monitor. The features of RMS4342N monitor are as shown in Figure 4-1 after installed and powered on:

Figure 4-1 Features of RMS4342N Monitor

1. **Tally light:** this LED light is at the top center of the front panel, and you can judge the monitor status by the color of Tally light. This tri-color (red/green/amber) light is controlled through a RJ45 connector on the rear panel.
2. **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.



3. **Waveform and Vector:** this is effective only for SDI signal. The waveform and vector of the input signal are configurable in the MAIN Menu.
4. **Area Marker:** it is used to mark different area of the image. You can set whether to display it or not and their displaying mode in **MARKER** menu.
5. **Safe Marker:** it is used to mark different area of the image. You can set

whether to display it or not and their displaying mode in **MARKER** menu

6. **Center Marker:** it is displayed in the center of the screen, and marks the center of the image. You can set whether to display it or not in **MARKER** menu.
7. **Audio Meter:** it is displayed for audio monitoring. You can set its groups, direction, position and mode in **AUDIO** menu. The audio values are between 0 and 31, and controlled by **VOLUME** in **Adjust Menu**.
8. **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 --:--:--:--.
9. **IMD:** customizes the characters for Inner Monitor Display. 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. The IMD bar displays semi-transparently at the bottom of the screen after the **IMD DISPLAY** is assigned ON, and without the influence of screen aspect ratio. Refer to "5.1.10 IMD Menu" for details.
10. **AFD/CC:** AFD(Active Format Description) and CC information will display at the top center of the screen as an icon.
11. **MUTE**: The icon for MUTE is  . When it is mute, this icon displays at the bottom right position of the screen. You can set this function in function key.
12. **Headphone Interface:** The Ω icon as shown in Screen No.1 is the headphone interface, it supports 3.5mm stereo, and the two screen share one headphone interface.

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, 480i60, 1280X1024, etc.
- The AFD information displays at the top center of the screen. If **AFD DISPLAY** is selected **ON** in **DISPLAY** menu, the AFD marker automatically activates when input signal contains the embedded AFD data.

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 each group of buttons control the corresponding screen.

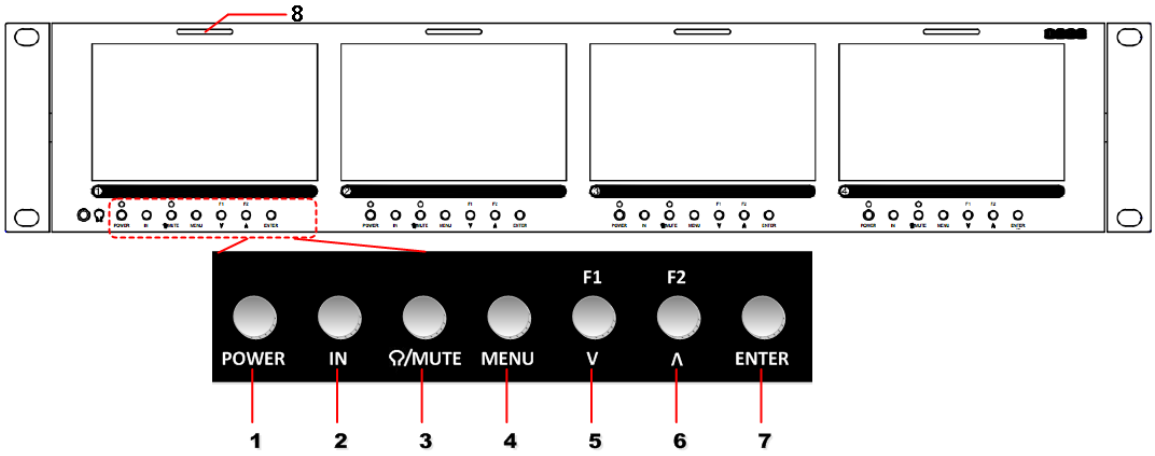


Figure 4.1-1 the Buttons in Front Panel

As shown in Figure 4.1-1, take the left screen of RMS4342N for example, these buttons are as follows:

1. **Power**
2. **IN**
3. **/MUTE**
4. **MENU**
5. **F1/∨**
6. **F2/∧**
7. **ENTER**
8. **LED TALLY**

Tips

- Stand directly in front of a RMS4342N, usually, from the left to the right, the screen is numbered as No.1 screen, No.2 screen, No.3 screen and No.4

screen.

- The buttons of Screen No.1 act as the same as the buttons of other screens, and just effect on the current screen. This is the same to the usage of the interfaces in the rear panel, and no more repeat in the following contents.
- Only the POWER button and the AUDIO button have a light indicator.

The RMS7023N/RMD7023N series monitor only has two screens which is different from the RMS4342N/RMD4342N series monitor as appearance, and the appearance of the control buttons for each screen of the RMS7023N/RMD7023N are also different from the RMS4342N/RMD4342N's, the former is square button, as shown in Figure 4.1-2; and the latter is circle button, as shown in Figure 4.1-1.

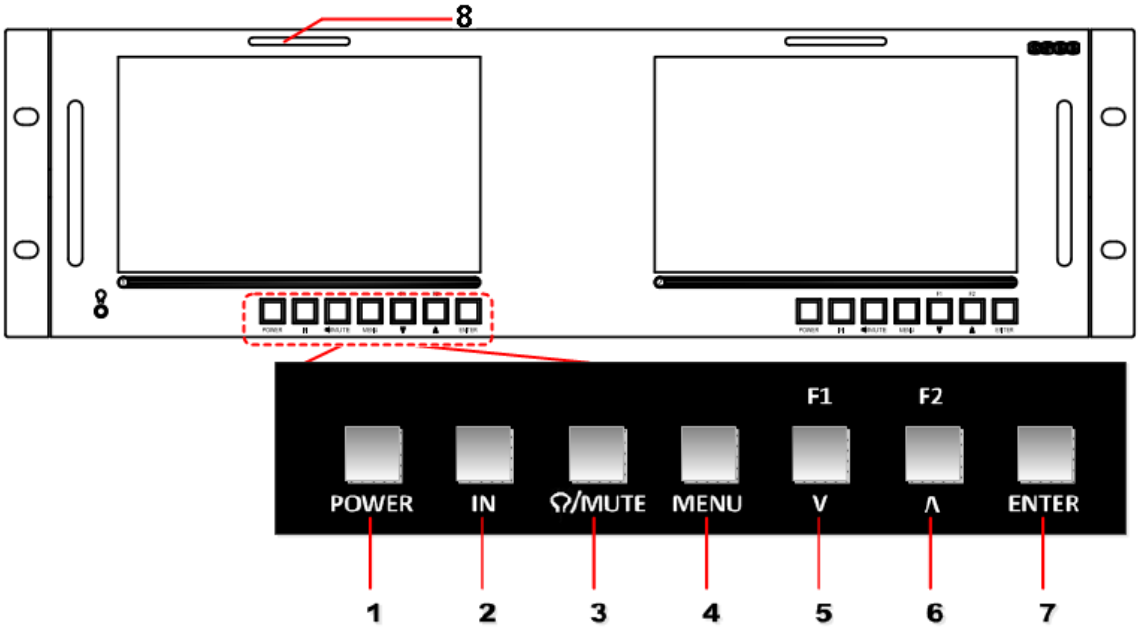


Figure 4.1-2 the Buttons in Front Panel of RMS7023N/RMD7023N

4.1.2 Operation of Front Panel

The functionality and usage of the buttons at 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 green 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. IN

Select the input signal. Press this button to display the source menu at the right top corner of the screen, as shown in Figure 4.1-3. Use it to select an input signal source, press it again to toggle among these input signal items.

Figure 4.1-3 Source Menu

Take the No.1 screen of a RMD4342N for example, the one-to-one correspondence between the signals in the source menu list and the interfaces in the back panel are shown in Figure 4.1-4:

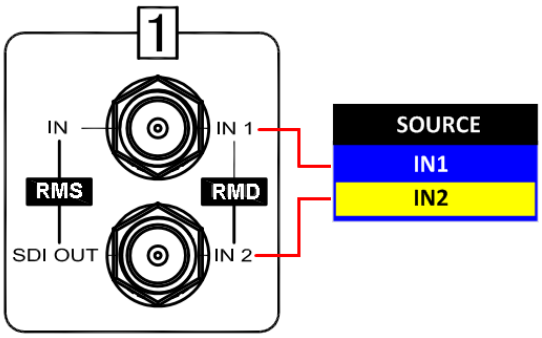


Figure 4.1-4 Correspondence between Source Menu and Interface

Tips

- Particularly, there is only one SDI input connector for each screen of RMS4342N, as shown in Figure 4.1-4, the input signal connector is labeled as RMS-IN, so there is no input selection source menu for RMS4342N. Then if you press IN button of a screen, it will just activate the corresponding status information at the left corner of the screen.

3. /MUTE

This button can achieve the following two functions:

- : Audio monitor button. Toggle this button to enable or disable the audio monitor, and the light in the button will indicate the status of audio monitoring. When the light is on, the audio is monitoring, and when the light is off, it is mute. The volume is adjusted in adjust menu.
- **MUTE**: Audio mute button. Toggle this button to enable or disable the audio monitor.

Figure 4.1-5 Audio Monitor Menu

Tips

- After you have loaded the Audio Monitor Menu, it will be closed automatically if you do nothing operation with it in 10s.

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

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

Tips

- After you have loaded the Main menu, it will be closed automatically if you do nothing operation with it in 60s.
- Press and hold the **IN+MENU** button for 3s can reset the menu settings to factory originals, as shown in Figure 4.1-6.

Figure 4.1-6 Reset Menu List

5. 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, as shown in Figure 4.1-7. Toggle **F1** button to change the value related to this function.
- ∨: it is **Down** button when working with **MENU**. Toggle this button to select the next item or decrease the number.

Figure 4.1-7 Function Menu List

Tips

- After you have loaded the function menu list, it will be closed automatically if you do nothing operation with it in 10s.
- If the value related to the function button can't be modified, the value shows in blue.
- Use **FUNCTION KEY** menu to assign F1 and F2. You can assign F1/F2 the function from among: SCAN, NATIVE, ASPECT, BLUE ONLY, MONO, MARKER, H/V DELAY, AUDIO METER, FAST MODE, TC, IMD, MUTE, CC, FREEZE, UNDEF. Refer to "5.1.9 FUNCTION KEY Menu" for the details.

6. 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, toggle **F2** button to change the value related to

this function.

- ∧: it is **Up** button when working with **MENU**. Toggle this button to select the next item or increase the number.

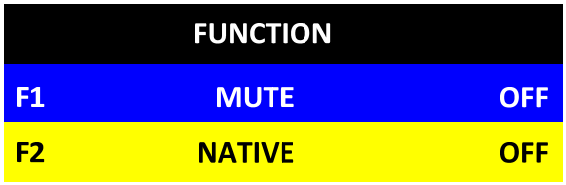


Figure 4.1-8 Function Menu List

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, as shown in Figure 4.1-9, toggle among these menu items: VOLUME, BRIGHTNESS, CONTRAST, CHROMA.

Figure 4.1-9 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

Adjust Menu	Description	Range	Default
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 value 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.

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 RMS4342N monitor.

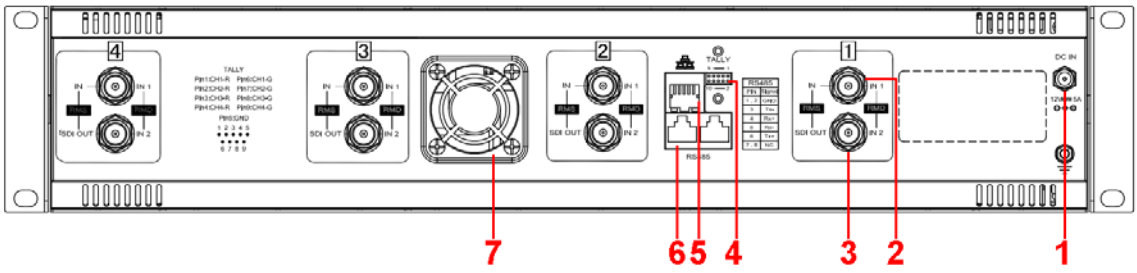


Figure 4.2-1 The Rear Panel of RMS4342N Monitor

The interfaces numbered from 1 to 6 in red dotted rectangle are described as follows:

1. Power Input
2. Video Input
3. Video Output
4. Tally Input
5. Ethernet
6. RS485 In/Out
7. Fan
8. TALLY Adapter

Tips

- The numbers 1 to 4 labeled at the rear panel and the screens are one to one correspondence.
- There is a fan element equipped to guarantee the reliability of RMS4342N/RMD4342N. The temperature threshold for fan running is 37° ±5° , that is, when the temperature detected by the thermometric element is greater than 37.5° , the fan is running; and when the temperature detected by the thermometric element is lower than 36.5° , the fan stops, besides, the running mode of the fan can be set, refer to “5.1.7 CONFIG Menu” for details.

Especially, the interfaces of RMS7023N/ RMD7023N and RMS4342N/RMD4342N have a little different, as shown in Figure 4.2-2:

- Tally IN: the types of number 1 to number 6 interfaces are the same, but the connector for number 6 (Tally IN) interface are different. The connector for RMS4342N/RMD4342N’s Tally IN interface is a 10Pin connector, and for RMS7023N/ RMD7023N’s Tally IN interface is a RJ-45 connector, the definition is shown as below.

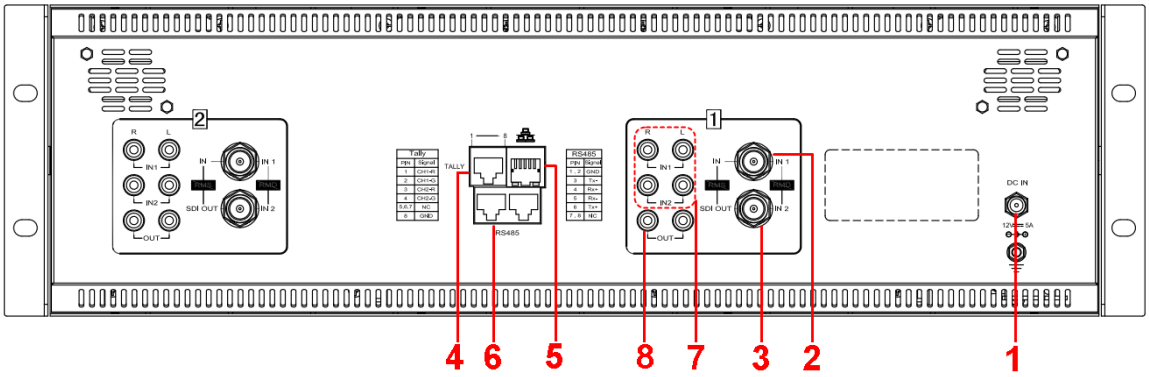


Figure 4.2-2 The Rear Panel of RMS7023N Monitor

- Fan and Audio interfaces: the number 7 object of RMS4342N/RMD4342N is fan, and there is no audio interfaces at the rear panel of RMS4342N/RMD4342N; but, there is no fan in the rear panel of RMS7023N/RMD7023N, in addition, the number 7 interface directs to the Audio Input interfaces, and the number 8 interface directs to the Audio Output interfaces.

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 5A12VDC. The corresponding indicator is at the front panel. If the light is green, the monitor is powered on, if the light is green flashing, the monitor is standby, and if the light is off, the monitor is powered off.

Warning

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

2. Video Interface (BNC)

It provides one SDI interface.

3. Video Interface (BNC)

It provides one SDI interface.

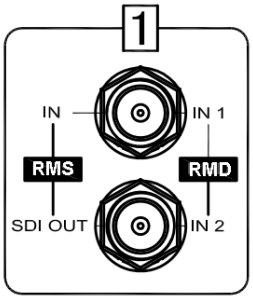


Figure 4.2-3 Video Input/Output Connector

Tips

- The icons are not exactly the same for RMS4342N and RMD4342N in Area 1, as shown in Figure 4.2-3, the connectors in the other three areas are as the same, and this difference is also applied for RMS7023N and RMD7023N.

  - ☐ RMS4342N: it has one video input connector and one video output connector, they are labeled as IN and SDI OUT separately.
  - ☐ RMD4342N: it has two video input connectors, they are labeled as IN1 and IN2 separately.

4. Tally(Pin10)

It controls the LED tally light, as shown in Figure 4.2-4:

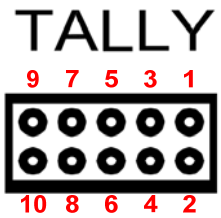


Figure 4.2-4 Tally Connector(10Pin)

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

Table 4.2-1 The Relationship of Tally Input Pins(10Pin) and Channel Values

Pin No.	Channel Value
Pin 1	CH1-R
Pin 2	CH1-G
Pin 3	CH2-R
Pin 4	CH2-G
Pin 5	CH3-R
Pin 6	CH3-G
Pin 7	CH4-R
Pin 8	CH4-G
Pin 9,10	GND

Thereinto, the tally light will display in different color according to its pin connection way, the relationship is shown in Table 4.2-1:

Table 4.2-2 The Relationship of Tally Light Color and Pins

Tally Light Color	Screen 1		Screen 2		Screen 3		Screen4	
	PIN1	PIN2	PIN3	PIN4	PIN5	PIN6	PIN7	PIN8
Red	GND	Open	GND	Open	GND	Open	GND	Open
Green	Open	GND	Open	GND	Open	GND	Open	GND
Amber	GND	GND	GND	GND	GND	GND	GND	GND

Tips

- Tally light is in working status when grounding.

For RMS7023N/RMD7023N, the Tally In interface is as shown in Figure 4.2-4:

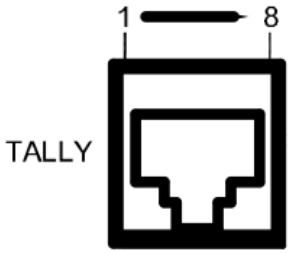


Figure 4.2-5 Tally Connector

The relationship of the pins of Tally connector and its channel value is

shown in Table 4.2-1.

Table 4.2-3 The Relationship of Tally Input Pins and Channel Values

Pin No.	Channel Value
Pin 1	CH1-R
Pin 2	CH1-G
Pin 3	CH2-R
Pin 4	CH2-G
Pin 5,6,7	NC
Pin 8	GND

Thereinto, the tally light will display in different color according to its pin connection way, the relationship is shown in Table 4.2-1:

Table 4.2-4 The Relationship of Tally Light Color and Pins

Tally Light Color	Screen 1		Screen 2	
	PIN1	PIN2	PIN3	PIN4
Red	GND	Open	GND	Open
Green	Open	GND	Open	GND
Amber	GND	GND	GND	GND

5. Ethernet (RJ-45)

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

6. IN/ OUT RS485 Interface (RJ-45)

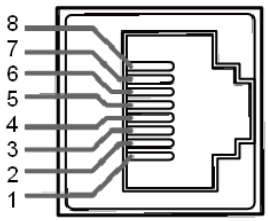


Figure 4.2-6 RS485 Connector

Support for dynamic IMD and updating the new firmware.
The Comparison of Pins and Input/output connectors for RS485 is shown as in Table 4.2-5:

Table 4.2-5 The Comparison of Pins and Input connectors for RS485

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

7. Tally adapter (10Pins to DB9)

For the convenience of external TALLY signals connection, we provide a Tally adapter for RMS4342N/ RMD4342N to realize the conversion from 10Pin to DB9 connector, as shown in Figure 4.2-7, and the sequence of DB9 pins is as shown in Figure 4.2-8:

Figure 4.2-7 Tally Adapter(10Pin-DB9)

Figure 4.2-8 Tally Connector(DB9)

The relationship of the pins of Tally adapter and its channel value is shown in Table 4.2-6.

Table 4.2-6 The Relationship of Tally Input Pins(DB9) and Channel Values

Pin No.	Channel Value
Pin1	CH1-R
Pin2	CH2-R

Pin No.	Channel Value
Pin3	CH3-R
Pin4	CH4-R
Pin5	GND
Pin6	CH1-G
Pin7	CH2-G
Pin8	CH3-G
Pin9	CH4-G
Pin10	GND

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
PAL		✓
NTSC		✓
480I60/59.94	✓	
576I50	✓	
480P60/59.94		
576P50		
720P24/23.97	✓	
720P25	✓	
720P30/29.97	✓	
720P50	✓	
720P60/59.94	✓	
1080SF24/23.97	✓	
1035I60/59.94	✓	
1080I50	✓	
1080I60/59.94	✓	
1080P24/23.97	✓	
1080P25	✓	

	SDI	VIDEO
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.

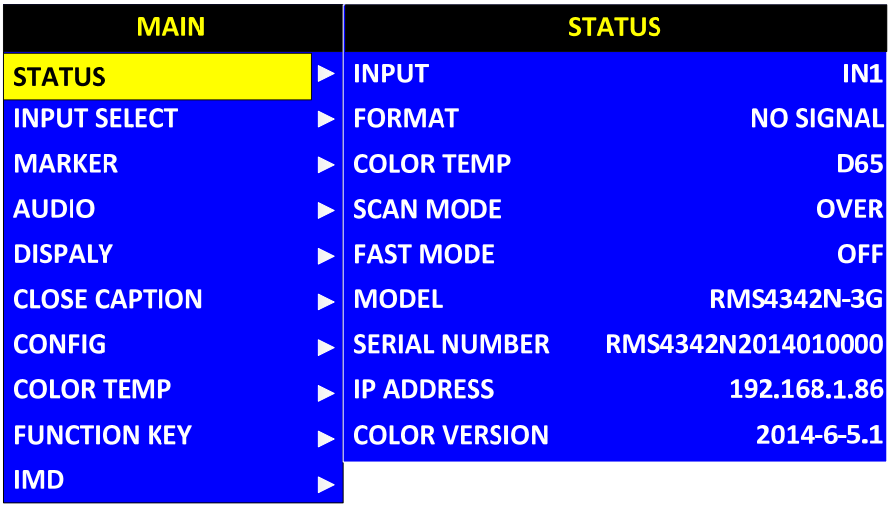


Figure 5-1 Main Menu

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:

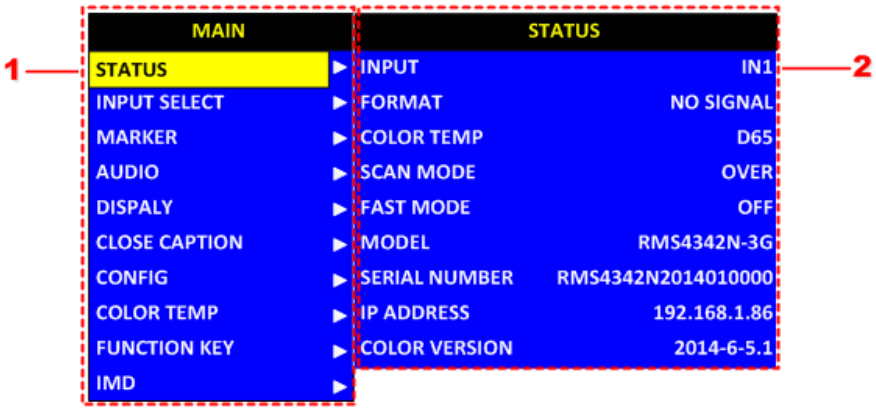


Figure 5.1-1 the Structure of the Main Menu

The menu interface is divided into three parts:

1. Main Menu List: it contains the several sub-menu items. The title of this

list is **MAIN**. Press **Up**(∧) or **Down**(∨) to access the corresponding menu item.

2. Sub-menu value list: as shown in Figure 5.1-2, it lists the control icon, 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.

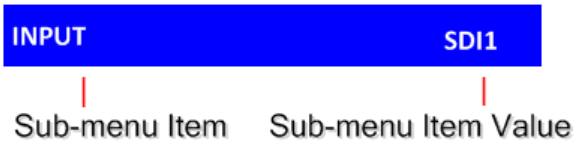


Figure 5.1-2 the Sub-menu Value List

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:

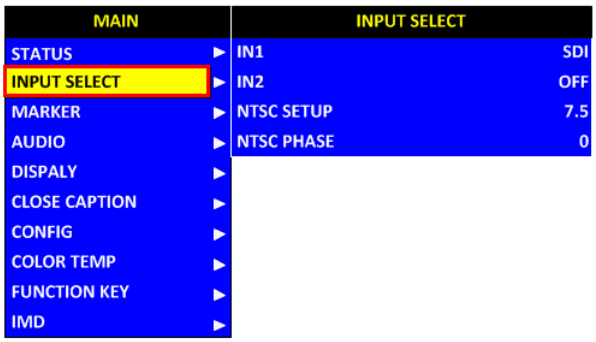


Figure 5.1-3 A Main Menu Item Is Selected

- 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:

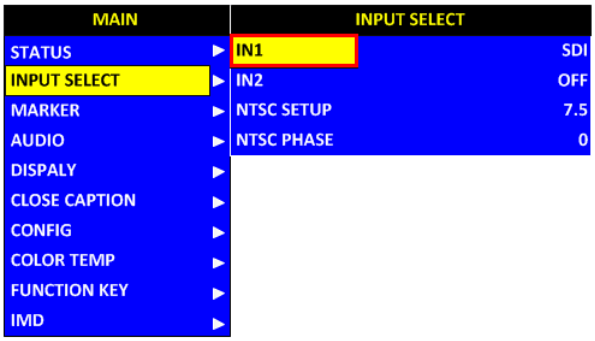


Figure 5.1-4 A Sub-menu Item Is Selected

- 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:

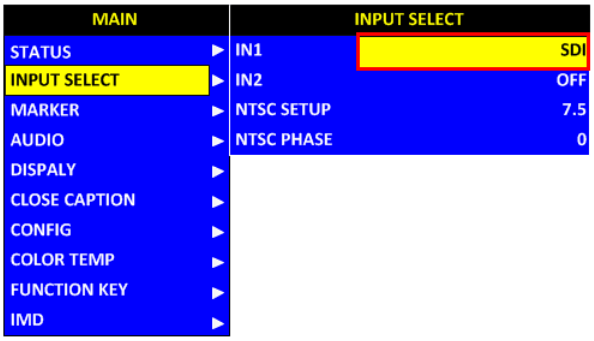


Figure 5.1-5 A Sub-menu Item Value Is Selected

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:

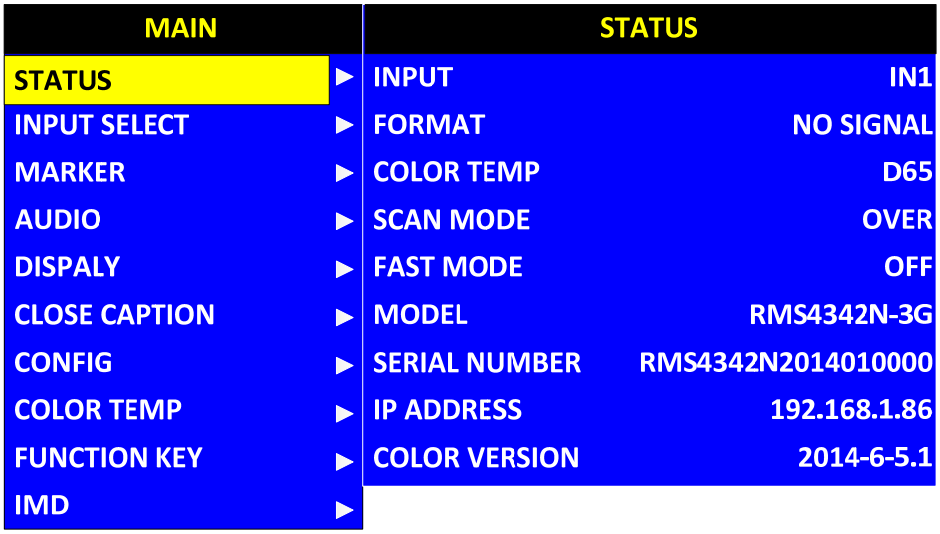


Figure 5.1-6 STATUS Menu

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 • CVBS • CVBS+SDI	Show the Input format
FORMAT	NO SGINAL	--	Show the format of the input signal
COLOR TEMP	D65	--	Show the color temperature.
SCAN MODE	NORMAL	• NORMAL • OVER • UNDER	Show the scan mode.
FAST MODE	OFF	OFF/ON	Show the fast mode.
SD ASPECT	16:9	16:9/4:3	Show the screen Aspect Ratio.
MODEL	RMS4342N-3G	--	Show the production model.
SERIAL NUMBER	RMS4342N2014040000	--	Show the serial number.
IP ADDRESS	192.168.1.86	--	Show the IP address.

Items	Default Value	Domain Range	Description
COLOR VERSION	2014-6-5.1	--	Show the color version according to its adjusted date.

Tips

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

5.1.2 INPUT SELECT Menu

The INPUT SELECT menu items are used to set the source of the input signals, the menu items are as shown in Figure 5.1-7:

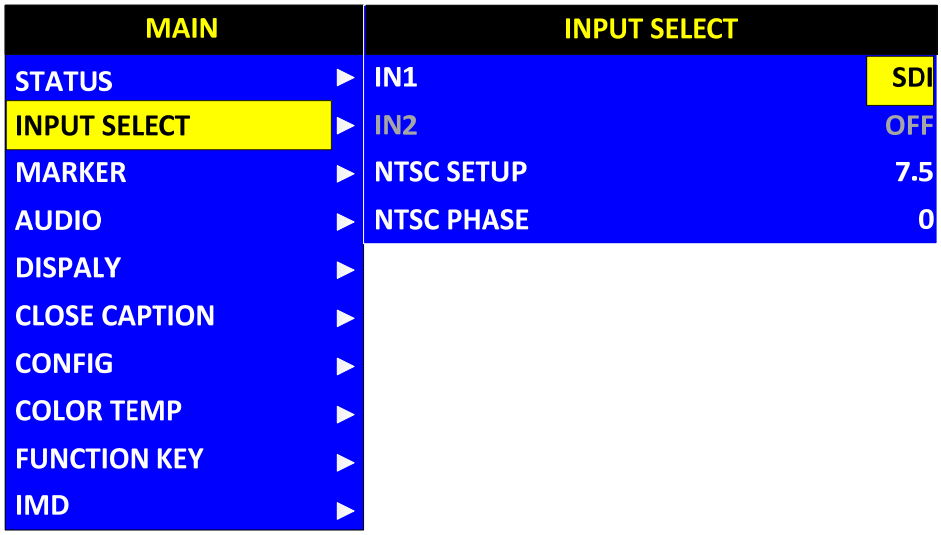


Figure 5.1-7 INPUT SELECT Menu

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 INPUT SELECT Menu Items

Items	Default Value	Domain Range	Description
IN1	ON	• SDI • CVBS • CVBS+SDI • OFF	Enable/Disable the signal input, and selecting the signal source

Items	Default Value	Domain Range	Description
IN2	ON	• SDI • CVBS • CVBS+SDI • OFF	Enable/Disable the signal input, and selecting the signal source
NTSC SETUP	7.5	0/7.5	Select the NTSC mode
NTSC PHASE	0	-50~50	Set the NTSC phase

Tips

- The availability and value items are different for RMS4342N and RMD4342N. For there is only one SDI INPUT connector at the rear panel for RMS4342N, IN2 is not available and turns gray for RMS4342N, it is just available for RMD4342N.

5.1.3 MARKER Menu

The MARKER menu items are used to adjust the marker parameters, the menu items are as shown in Figure 5.1-8:

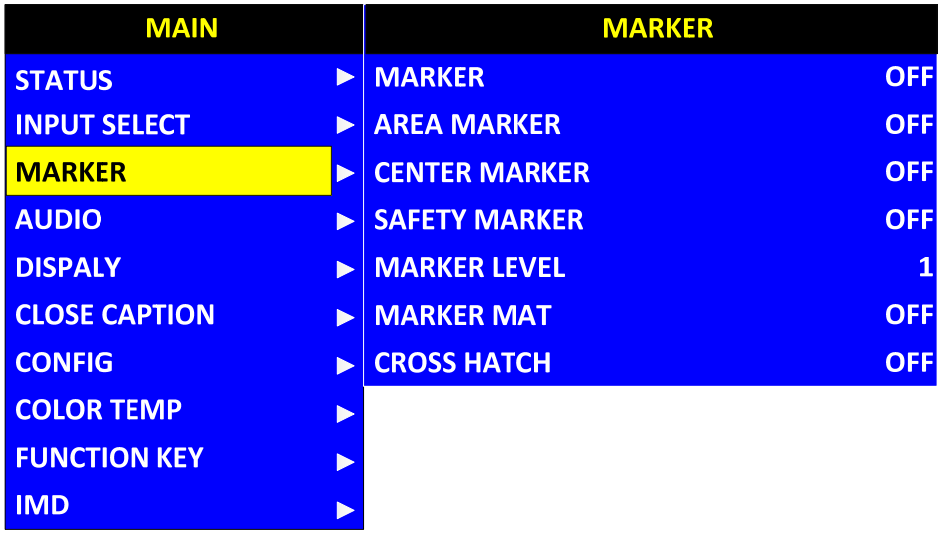


Figure 5.1-8 MARKER Menu

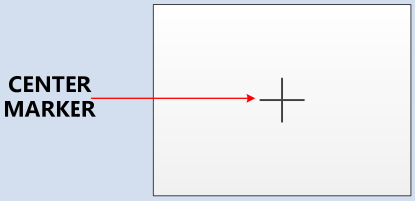
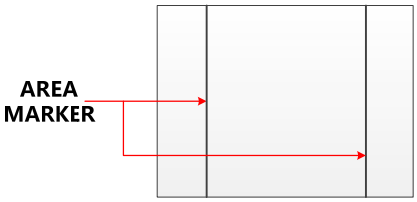
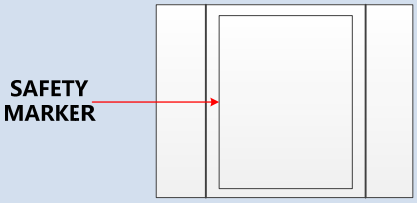
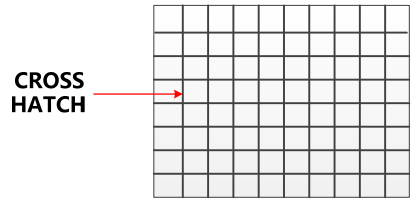
The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-3:

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	when the display aspect is 16:9, images show with the following scale: • OFF: close area marker • 4:3 • 15:9 • 14:9 • 13:9 • 1.85:1 • 2.35:1 when the display aspect is 4:3, images show with the following scale: • OFF: close area marker • 16:9	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	• OFF • 80% • 85% • 88% • 90% • 93% • 95%	Set the safety area size according to the aspect ratio and scan mode.
MARKER LEVEL	1	• 1: 50% • 2: 75% • 3: 100%	Set the luminance of marker lines, including safety marker, center marker, area marker and cross hatch.
MARKER MAT	OFF	• OFF: Normal	Set the transparency of

Items	Default Value	Domain Range	Description
		background, use line for area marker edge only • HALF: 50% Background brightness • BLACK: all black	the area outside of the marker.
CROSS HATCH	OFF	OFF/ON	Set whether to show the cross hatch.

■ Markers

Marker	Illustration
CENTER MARKER	
AREA MARKER	
SAFETY MARKER	
CROSS HATCH	

Tips

- The AREA MARKER, CENTER MARKER and SAFETY MARKER feature are available only when the MARKER item is set to ON.
- The SAFETY MARKER is changing with the AREA MARKER.

5.1.4 AUDIO Menu

The AUDIO menu items are used to adjust the audio parameters, the menu items are as shown in Figure 5.1-9:

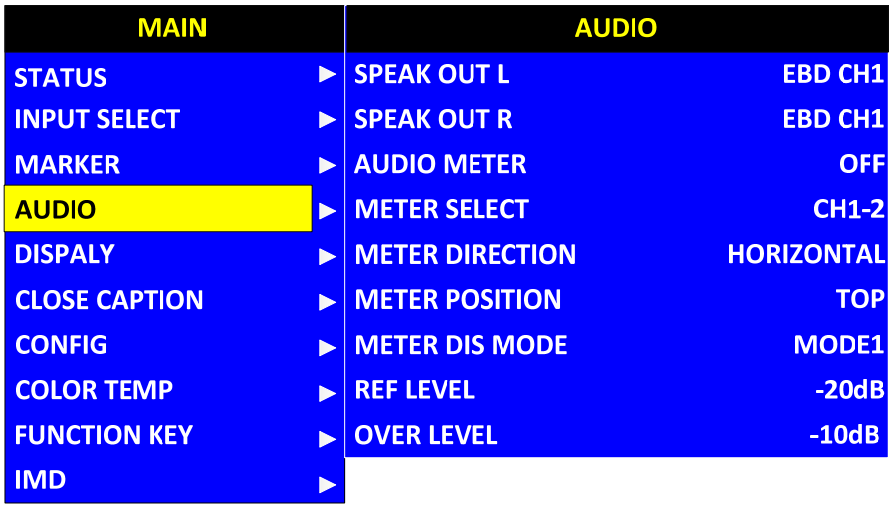


Figure 5.1-9 AUDIO Menu

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 AUDIO Menu Items

Items	Default Value	Domain Range	Description
SPEAK OUT L	EBD CH1	When the audio source is EBD, the range of this item is EDB CH1~ EDB CH16.	Left speaker, select a channel according to the type of audio source.
SPEAK OUT R	EDB CH2	When the audio source is EBD, the range of this item is EDB CH1~ EDB CH16.	Right speaker, select a channel according to the type of audio source.
AUDIO METER	OFF	OFF/ON	Set whether to display the audio meter.
METER SELECT	CH1-2	• CH1-2 • G1 • G2 • G3 • G4 • G1+G2 • G1+G3 • G1+G4 • G2+G3	Select a meter display mode. Each G* contains four channels, and each CH* means a channel with number.

Items	Default Value	Domain Range	Description
		• G2+G4 • G3+G4 • G1-G4	
METER DIRECTION	VERTICAL	• VERTICAL • HORIZONTAL	Select the displayed direction of audio meter.
METER POSITION	BOT LEFT/ BOTTOM	When the value of METER DIRECTION is VERTICAL, you can choose the followings for Meter Position: • LEFT: bottom left • RIGHT: bottom right When the value of METER DIRECTION is HORIZONTAL, you can choose the followings for Meter Position: • BOTTOM • TOP	Select the displayed position of audio meter.
METER DIS MODE	MODE1	• MODE1: simple audio meter • MODE2: audio meter with channel number • MODE3: audio meter with channel number and dB value	Select the displayed mode for audio meter.
REF LEVEL	-20dB	-20dB/-18dB	Select the reference level
OVER LEVEL	-10dB	• -10dB • -8dB • -6dB • -4dB • -2dB	Select the overload level

Tips

- Especially, the audio menu items of RMS7023N/RMD7023N are more than the RMS4342N/RMD4342N's for one item: AUDIO SOURCE item, as shown in Table 5.1-5, and the menu items of RMS7023N/RMD7023N are as shown in Figure 5.1-10.

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 SOURCE	EDB	• AUDIO1: external signal1 • AUDIO2: external signal2 • EDB: embedded signal • UNDEF: no signal	Select the audio source. When there is no sync in and the input signal is not SDI, you can select only UNDEF, AUDIO1 or AUDIO2

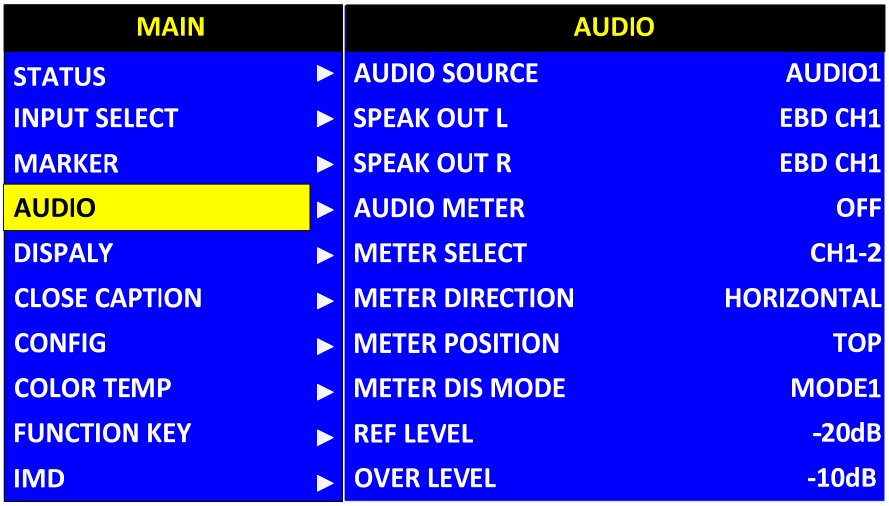


Figure 5.1-10 AUDIO Menu

The appearance of Meter is as shown in Figure 5.1-11:

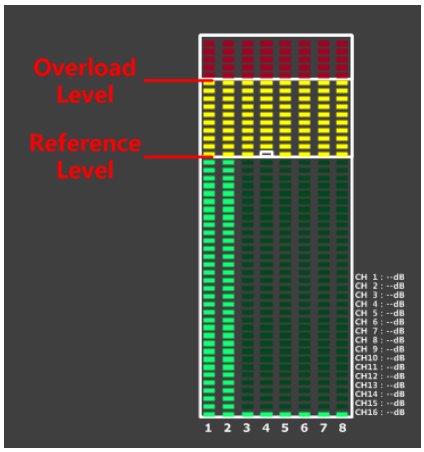


Figure 5.1-11 Meter

■ The appearance of Meter is controlled by **METER SELECT** and **METER DIS MODE**, the former controls the amount of channels

displayed in a meter.

As shown in Figure 5.1-11, the meter displays at the left of the screen vertically, the **METER SELECT** is **G1+G2**, and the **METER DIS MODE** is **MODE3**, you can see the meter displays audio channel numbers and audio values beside the meter. There is a white rectangle frame with two white level lines in the meter, the upper is the over level line, and the lower is the reference level line. If the audio value is higher than the reference level, the audio bar over the reference level line will display yellow, and if the audio value is higher than the over level, the audio bar over the over level line will display red.

- The position of Meter is controlled by **METER DIRECTION** and **METER POSITION**, the position of the meter on the screen is as follows: LEFT VERTICAL, RIGHT VERTICAL, BOTTOM HORIZONTAL and TOP HORIZONTAL, as shown in Figure 5.1-12:

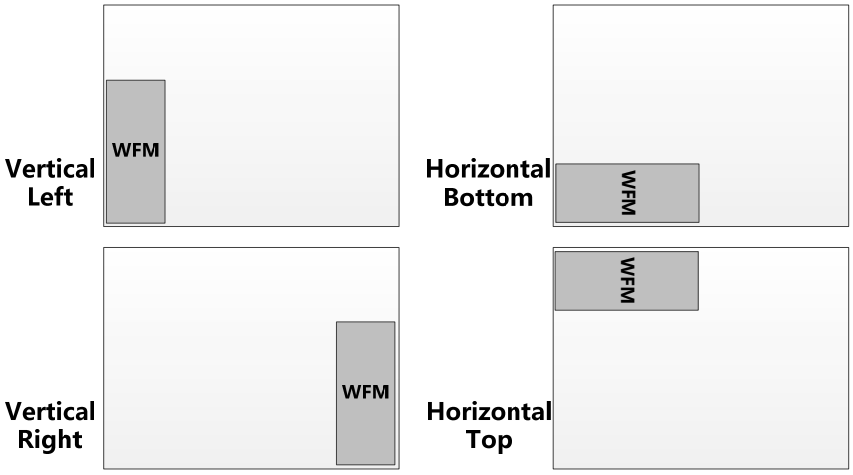


Figure 5.1-12 the Positions of Meter

- Particularly, if the **METER SELECT** is **G1-4**, there will be 16 channels displayed in audio meter, and if the **METER DIRECTION** is **Horizontal**, the audio meter will display two meters separately on both sides of the screen. One displays 8 channels(1~8) on the bottom or top left of the screen, and the other displays 8 channels(9~10) on the bottom or top right of the screen, the bottom or top is decided by **METER POSITION**, as shown in Figure 5.1-13:

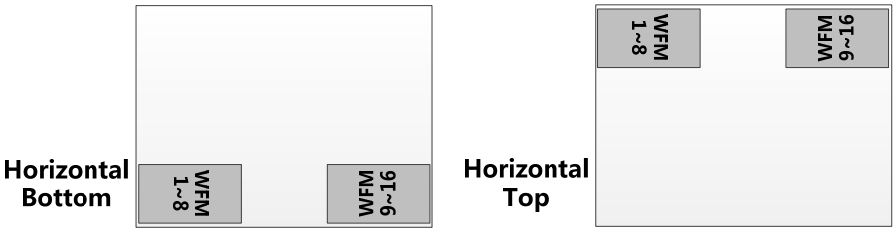


Figure 5.1-13 the Positions of the 16-channels Meter

5.1.5 DISPLAY Menu

The DISPLAY menu items are used to adjust the parameters displayed on the screen, the menu items are as shown in Figure 5.1-14:

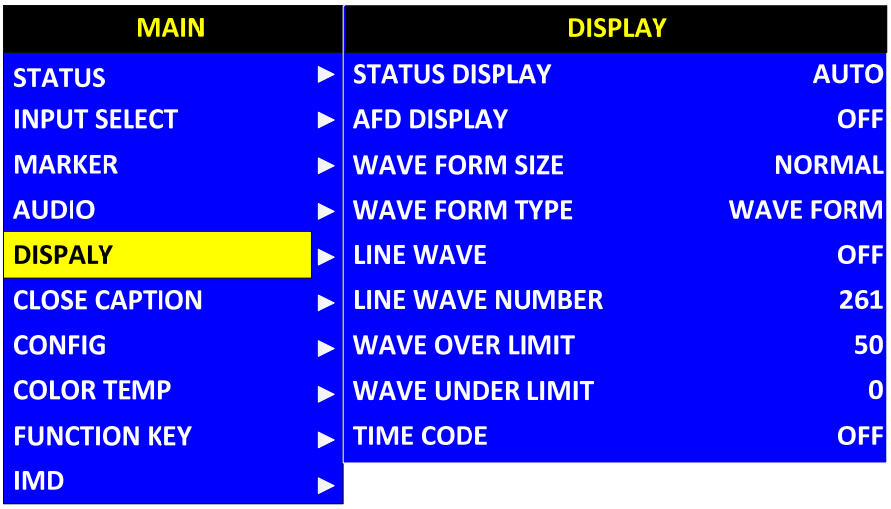


Figure 5.1-14 DISPLAY SETUP Menu

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 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 15 seconds when the status changed, and then closed automatically.
AFD DISPLAY	OFF	OFF/ON	Set whether to display the embedded AFD information. ON is an effective value to **AFD DISPLAY** item only if the value of **STATUS DISPLAY** is AUTO or ON.
WFM FORM SIZE	NORMAL	• NORMAL: Normal size • FULL: Full	Set the display size of WFM/VT.

Items	Default Value	Domain Range	Description
		screen	
WFM FORM TYPE	NORMAL	• OFF • VECT100 • VECT75 • WAVE FORM	Switch the display mode among vector100, vector75 and wave form.
LINE WAVE	OFF	OFF/ON	Set whether to show line wave.
LINE WAVE NUMBER	260	As shown in Table 5.1-7.	Set the position of WFM.
WFM POS	BOT RIGHT	• BOT RIGHT • BOT LEFT • TOP LEFT • BOT RIGHT	Select the displayed position for WFM.
WFM OVERLIMIT	50	50~100	Set the over limit of WFM
WFM UNDERLIMIT	0	0~50	Set the under limit of WFM
TIME CODE	OFF	• OFF • D-VITC • LTC • VITC	Set whether to display TC, and select a mode for TC display.

Thereinto, the value of LINE WFM is different according to the type of input signal, as shown in Table 5.1-7.

Table 5.1-7 The Description for LINE WFM Item

Input Signal	Default	Domain Range
576i50	310	23~623
480i60	261	22~524
720p	386	26~745
1080i50	560	21~1123
1080i60/59.94		
1080sf23/23.97		
1035i60	557	41~1120
1080p	561	42~1121

The comparison of a normal WFM/Vector and a Line WFM is as shown in Figure 5.1-15:

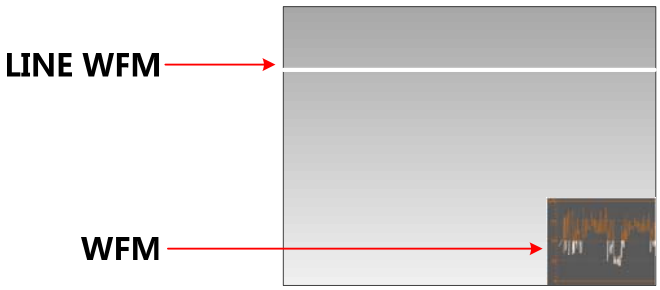


Figure 5.1-15 The LINE WFM and the WFM

Tips

- Please refer to the international standard SMPTE2016-1-2007 for the details about AFD display.

5.1.6 CLOSE CAPTION Menu

The CLOSE CAPTION menu items are used to set whether to display caption on screen and set the display mode, the menu items are as shown in Figure 5.1-16:

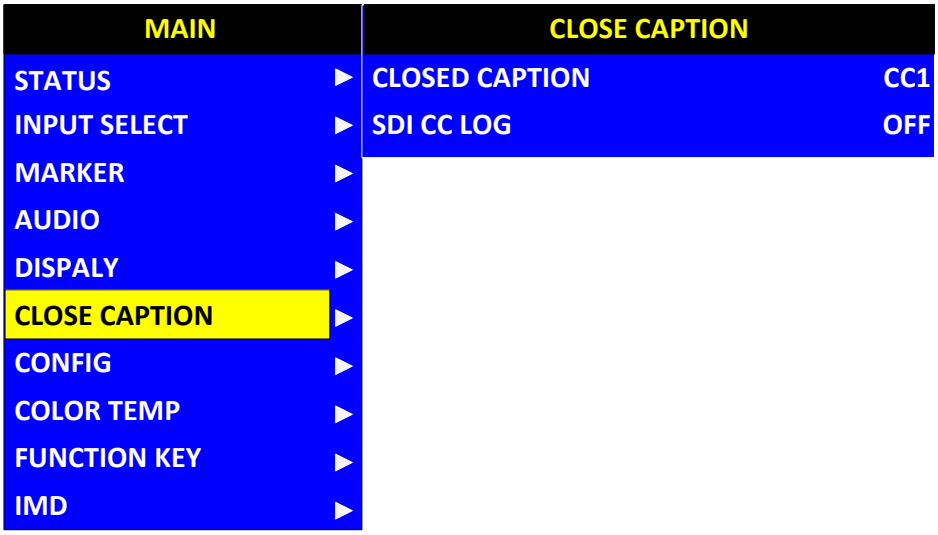


Figure 5.1-16 CLOSE CAPTION Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-8:

Table 5.1-8 The Description of CLOSE CAPTION Menu Items

Items	Default Value	Domain Range	Description
CLOSE CAPTION	OFF	• CC1 • CC2 • CC3 • CC4 • TEXT1 • TEXT2 • TEXT3 • TEXT4 • OFF	Set whether to display caption information, and select its display mode.
SDI CC LOG	OFF	OFF/ON	Set whether to display CC information.

5.1.7 CONFIG Menu

The CONFIG menu items are used to adjust the parameters defined by customers, the menu items are as shown in Figure 5.1-17:

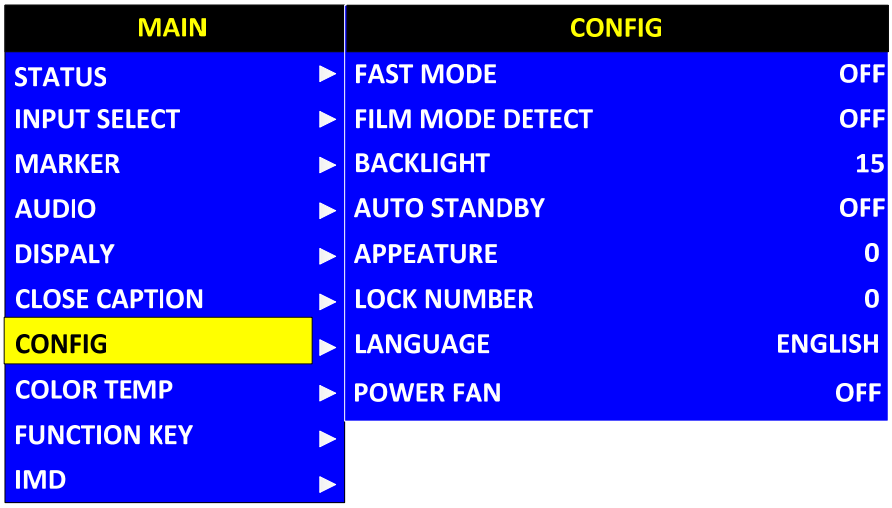


Figure 5.1-17 CONFIG Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-9:

Table 5.1-9 The Description of CONFIG Menu Items

Items	Default Value	Domain Range	Description
FAST MODE	OFF	OFF/ON	Set whether in fast mode.
FILM MODE	OFF	OFF/ON	Set whether to detect

Items	Default Value	Domain Range	Description
DETECT			film mode.
BACK LIGHT	15	0~30	Adjust the back light
AUTO STANDBY	OFF	OFF/ON	Set whether open the standby mode.
APPERTURE	0	0~24	Set the picture sharpness
LOCK NUMBER	XXXXXXXX	--	Set the lock number
LANGUAGE	ENGLISH	ENGLISH/CHINESE	Select a language mode
POWER FAN	OFF	OFF/ON/AUTO	Set how to control the power fan

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)** and ∨**(Down)** to select characters, than press **ENTER** to go to next character, press **MENU** to exit editor.
- When the value of POWER FAN item is OFF, the fan stop running; when it is ON, the fan keeps running, and when it is AUTO, the fan runs according to the temperature threshold detected by the system.
- There is no POWER FAN item for RMS7023N/RMD7023N.

5.1.8 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 5.1-18:

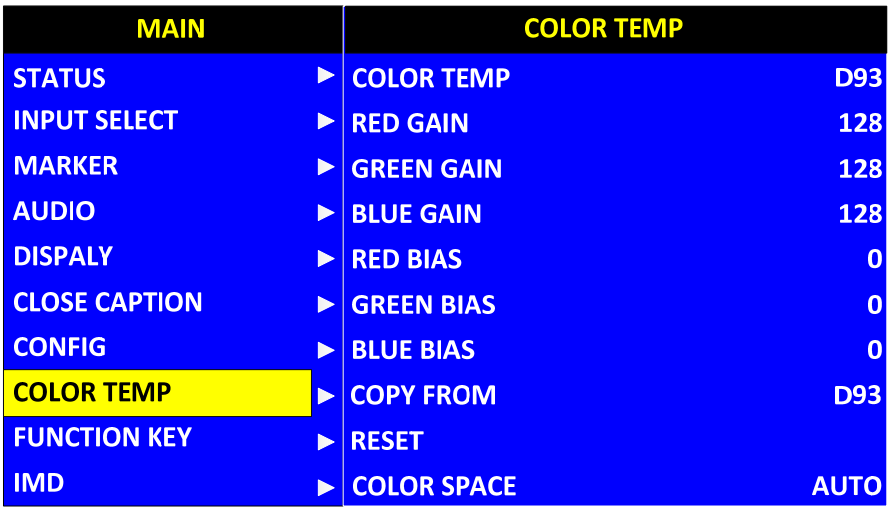


Figure 5.1-18 COLOR TEMP Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-10:

Table 5.1-10 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 • D93: 9300K	Copy this parameter value to USER

Items	Default Value	Domain Range	Description
RESET	--	--	Reset the Gain and Offset values to the product originals
COLOR SPACE	EBU	OFF/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.

5.1.9 FUNCTION KEY Menu

The FUNCTION KEY menu items are used to assign function to the function key (F1/F2) on the front panel, and adjust the value of the function parameter. The menu items of FUNCTION KEY are as shown in Figure 5.1-19:

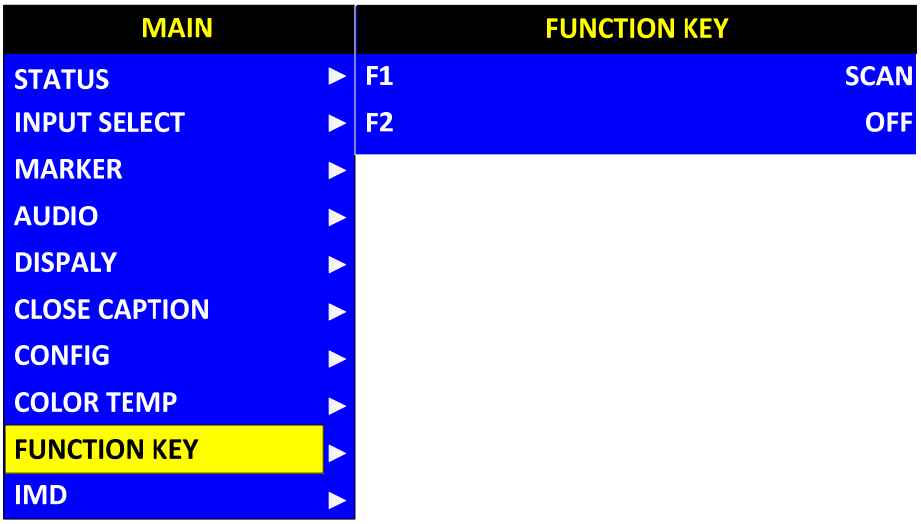


Figure 5.1-19 FUNCTION KEY Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-11:

Table 5.1-11 The Description of FUNCTION KEY Menu Items

Items	Default Value	Domain Range	Description
F1	SCAN	SCAN, NATIVE, ASPECT, BLUE	Set a function to

Items	Default Value	Domain Range	Description
		ONLY, MONO, MARKER, H/V DELAY, AUDIO METER, FAST MODE, TC, IMD, MUTE, CC, FREEZE, UNDEF	F1 button
F2	SCAN	the same as F1	Set a function to F2 button

Some of the functions are described as below:

- 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.

- ASPECT: Set the aspect ratio of the screen as 4:3 or 16:9.
- FREEZE: Active this function to freeze the current frame displayed, press the function button again to release the freeze and continue to display.
- 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.
- 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.

5.1.10 IMD Menu

The IMD menu items are used to adjust the parameters defined for IMD display, the menu items are as shown in Figure 5.1-20:

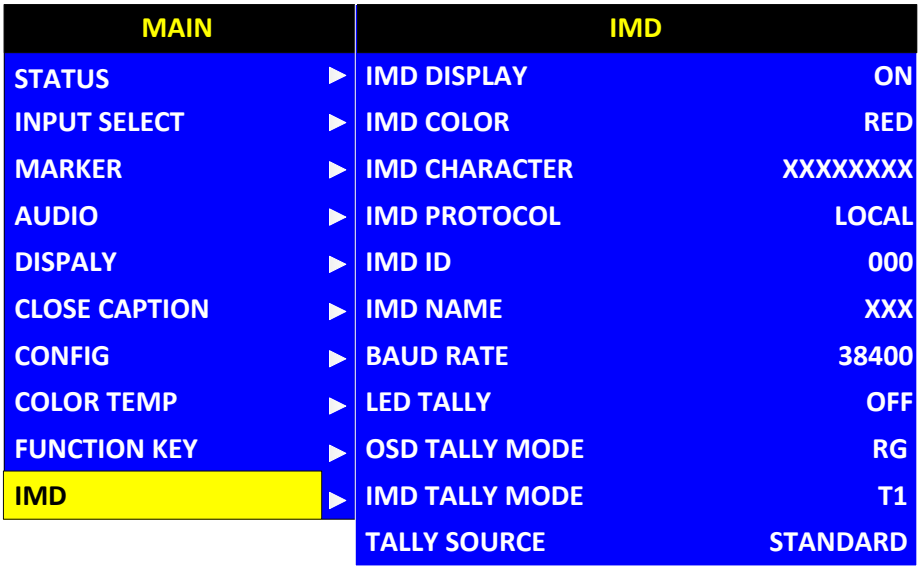


Figure 5.1-20 IMD Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-12:

Table 5.1-12 The Description of IMD Menu Items

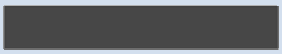
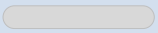
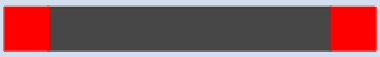
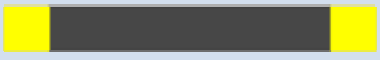
Items	Default Value	Domain Range	Description
IMD DISPLAY	ON	OFF/ON	Set whether to display IMD bar on screen.
IMD COLOR	RED	RED/GREEN/YELLOW /WHITE	Set the color for IMD CHARACTER.
IMD CHARACTER	XXXXXX	--	Set the IMD string displayed on the screen. After entering this item, press Up or Down to choose your character for this IMD string.
IMD PROTOCAL	LOCAL	• LOCAL • TSL3.1 • TSL4.0 • TSL5.0 • IMAGE VIDEO • NETWORK	Select an IMD protocol
IMD ID	000	0~255	Set the ID number for IMD
IMD NAME	XXXXXX		Set an IMD name for each screen.

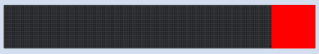
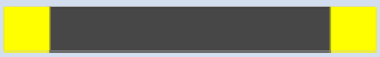
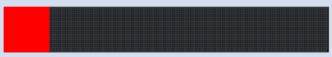
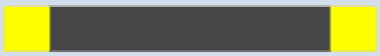
Items	Default Value	Domain Range	Description
BAUD RATE	38400	2400/4800/9600/19200 /38400/57600/115200	Select a baud rate for communication.
LED TALLY	ON	OFF/ON	Set whether to switch on LED tally light.
OSD TALLY MODE	RG	• RG: Red/Green • GR: Green only • RGY: Red/Green/Yellow • OFF: No tally light	Select the OSD Tally mode. Only the TALLY SOURCE is STANDARD, the setting is available.
IMD TALLY 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 item will determine the IMD state as the selected value.
TALLY SOURCE	STANDARD	STANDARD/IMAGE IDEO/TSL	Select the source for OSD Tally source

1. OSD TALLY MODE

When setting IMD Menu→**TALLY SOURCE** item is set to be **Standard**, and **IMD PROTOCAL** is set to be **Local**, the TALLY lights are triggered by the Tally(10pin) interface. Pin1 is set as **TALLY RED** and Pin2 as **TALLY GREEN**, the status of OSD TALLY and LED TALLY when the Tally connector gets the high/low level are listed as shown in Table 5.1-13:

Table 5.1-13 The status of OSD TALLY and LED TALLY When Triggering the Tally Pins

OSD TALLY MODE	Green TALLY	Red TALLY	Illustration	LED TALLY
OFF	0/1	0/1		
RGY	0	0		
	0	1		
	1	0		
	1	1		

OSD TALLY MODE	Green TALLY	Red TALLY	Illustration	LED TALLY
GR	0	0		
	0	1		
	1	0		
	1	1		
RG	0	0		
	0	1		
	1	0		
	1	1		

Tips

- If IMD DISPLAY menu item is assigned as ON, characters or tally data in the black bar displays on the bottom of the screen, and the IMD bar displays semi-transparently.
- 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)** and ∨**(Down)** to select characters, than press **ENTER** to go to next character, press **MENU** to exit editor.
- When the IMD PROTOCAL is set to be **Local**, the IMD CHARACTER can only be modified through the control buttons(∧**(Up)** and ∨**(Down)**), and the IMD CHARACTER could be composed of up to 16 characters. When the IMD PROTOCAL is set to be NETWORK, the IMD CHARACTER should be modified through the IMD page in the network control page, and the IMD CHARACTER could be composed of up to 16 characters or up to 12 Chinese characters. For other values of IMD PROTOCAL, the IMD CHARACTER abides by the corresponding protocol.

The RMS4342N monitor could receive the Tally control signal from a TSL server, and display the Tally information on RMS4342N through the LED tally and OSD tally. We support the TSI3000 and TSL TallyMan Controller as the

TSL server, and it will be introduce how to connect with them, and how to set the IMD parameters for various IMD protocol.

5.1.10.1 Device Connection

Follow the instructions below to connect monitor with TSL server.

1. TSI-3000--RMS4342N

Connect the TSI-3000 with RMS4342N, as shown in ***Figure 5.1-21***:

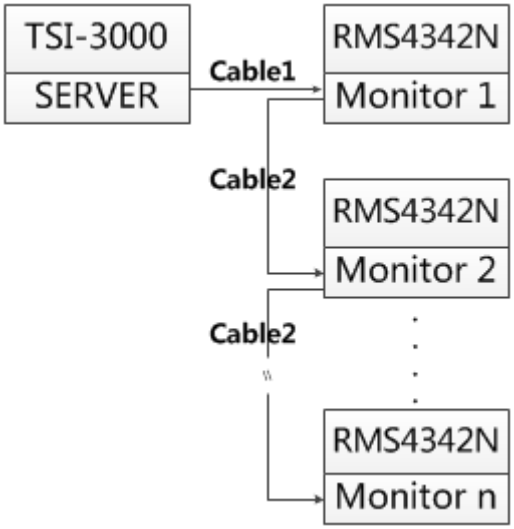


Figure 5.1-21 TSL Server and Display Monitor

We recommend the following two methods according to the different interface of TSI-3000 which is selected to connect with RMS4342N.

METHOD1

Use the COM7~COM12 interface of TSI-3000 to connect with RMS4342N

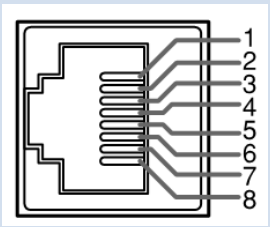
- **Cable1**

Use Cable1 to connect one of the COM7~COM12 interface at the rear panel of TSI-3000 with the RS485 Interface of RMS4342N, the functionality of the interfaces are as shown in the following table.

- **RS485(RMS4342N): RJ45**

Use the RS485 interface to connect with TSI-3000, the RS485 uses the RJ45 connector, and the function of RS485 interface of RMS4342N is defined as in ***Table 5.1-14***:

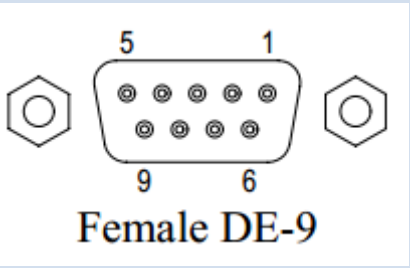
Table 5.1-14 The Pins Input/output connectors for RS485 of RMS4342N

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

☐ **COM(TSI-3000): DB9**

Use one of the **COM7~COM12** interface at the rear panel of TSI-3000 to connect with RMS4342N monitor, the **COM7~COM12** has the female DB9 connector, and the function of **COM7~COM12** interface of TSI-3000 is defined as in ***Table 5.1-15***:

Table 5.1-15 The Pins of COM in TSI-3000*

PIN No.	DB9	Illustration
1	GND	
2	Rx-(data from external device)	
3	Tx+(data to external device)	
4	GND(Tx Data Common)	
5	NC	
6	GND(Rx Data Common)	
7	Rx+(data from external device)	
8	Tx-(data to external device)	
9	GND	

The connection should obey the rules below to set up the communication between one of **COM7~COM12** and RS485, as shown in ***Table 5.1-16***:

Table 5.1-16 Connection Between COM7~COM12 of TSI-3000 and RS485 of RMS4342N

DB9(COM7~COM12)	RJ45(RS485)
2	3
3	4

DB9(COM7~COM12)	RJ45(RS485)
4	2
6	1
7	6
8	5

☐ **Cable1**

The connectors at the two ends of **CABLE1** should be one male RJ45 connector and one Male DB9 connector, as shown in ***Figure 5.1-22***:

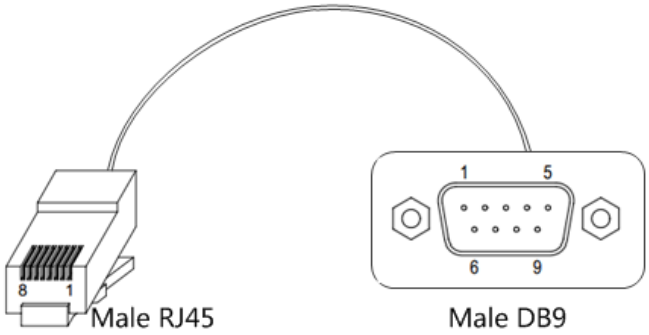


Figure 5.1-22 Cable1

The pin sequence should be defined as in ***Figure 5.1-23***:

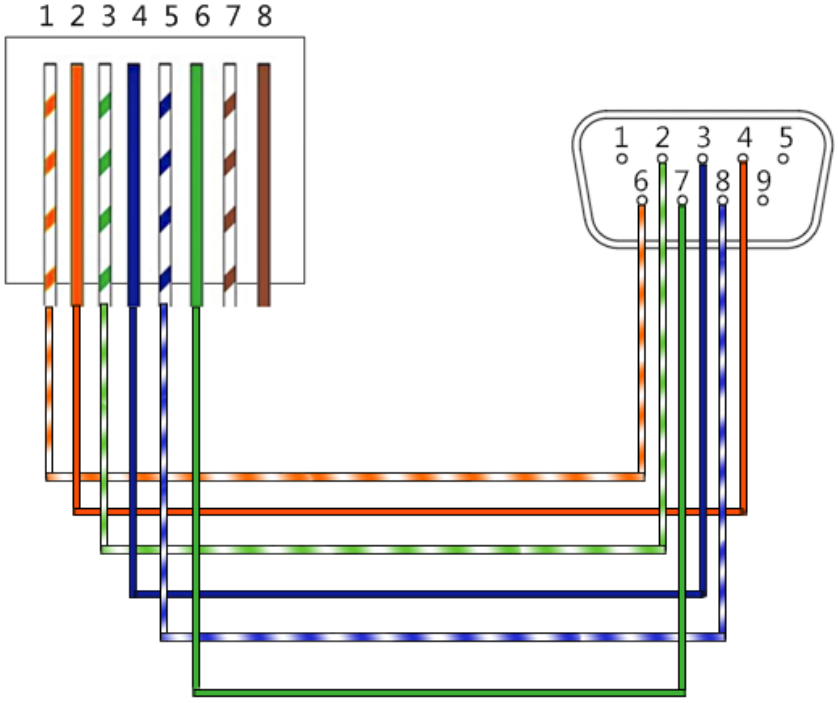


Figure 5.1-23 Pin Sequence of Cable1

METHOD2

Use the COM3~COM6 interface of TSI-3000 to connect with RMS4342N

■ **Cable1**

Use Cable1 to connect one of the COM3~COM6 interface at the rear panel of TSI-3000 with the RS485 Interface of RMS4342N, the functionality of the interfaces are as shown in the following table.

☐ **RS485(RMS4342N): RJ45**

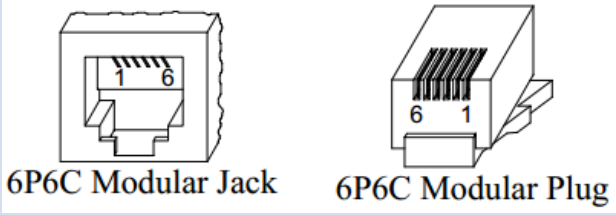
Use the RS485 interface to connect with TSI-3000, the RS485 uses the RJ45 connector, and the function of RS485 interface of RMS4342N is defined as in ***Table 5.1-14***, please refer to the above ***Table 5.1-14*** for the details, no repeat here.

☐ **COM(TSI-3000): 6P6C**

Use one of the **COM3~COM6** interface at the rear panel of TSI-3000 to connect with RMS4342N monitor, the **COM3~COM6** has the 6P6C connector, and the function of **COM3~COM6** interface of TSI-3000 is defined as in ***Table 5.1-17***:

Table 5.1-17 The Pins of COM* in TSI-3000

PIN No.	6P6C	Illustration
1	Rx-(data from external device)	
2	GND(Data Common)	
3	Tx+(data to external device)	
4	Tx-(data to external device)	
5	Not connected	
6	Rx+(data from external device)	



The connection should obey the rules below to set up the communication between one of **COM3~COM6** and RS485, as shown in ***Table 5.1-18***:

Table 5.1-18 Connection Between COM3~COM6 of TSI-3000 and RS485 of RMS4342N

6P6C(COM3~COM6)	RJ45(RS485)
1	3
3	4

6P6C(COM3~COM6)	RJ45(RS485)
2	2
5 (Not connected)	1(Not connected)
6	6
4	5

☐ **Cable1**

The connectors at the two ends of **CABLE1** should be one male RJ45 connector and one Male 6P6C connector, as shown in ***Figure 5.1-24***:

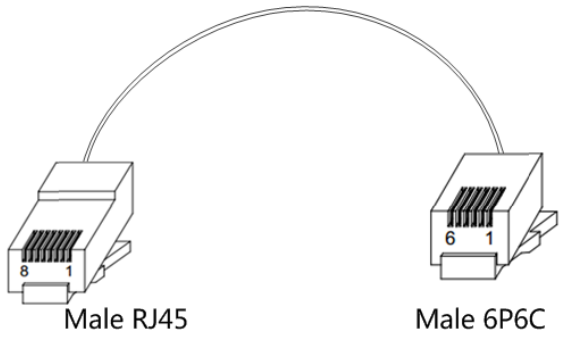


Figure 5.1-24 Cable1

The pin sequence should be defined as in ***Figure 5.1-25***:

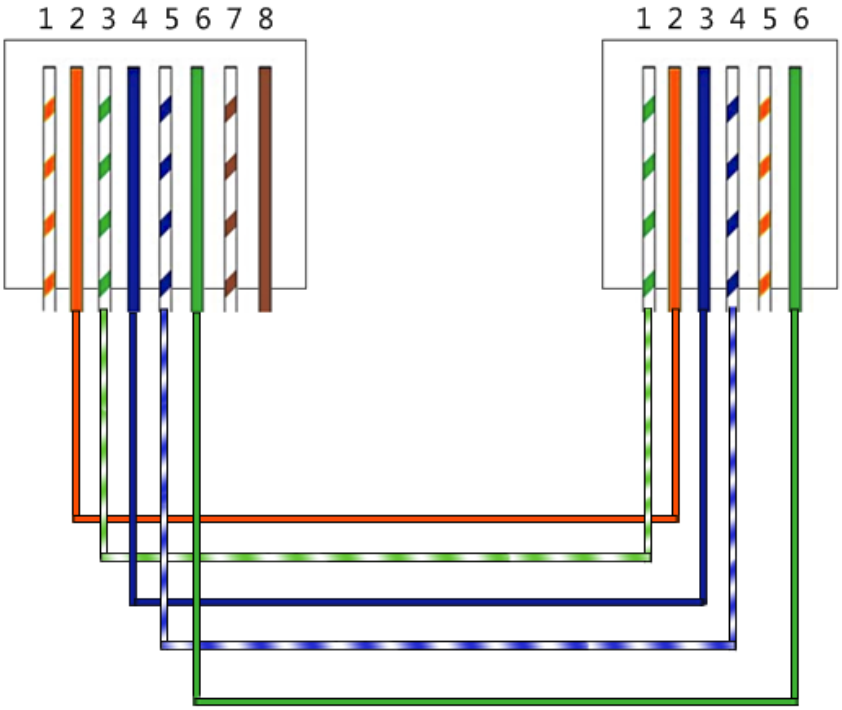


Figure 5.1-25 Pin Sequence of Cable1

2. TallyMan--RMS4342N

Connect the TallyMan Controller TM1/TM2/TM2 PLUS with RMS4342N, as shown in ***Figure 5.1-26***:

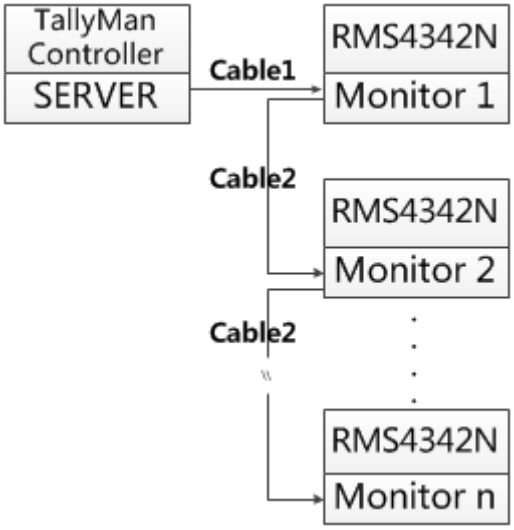


Figure 5.1-26 TSL Server and Display Monitor

■ **Cable1**

Use Cable1 to connect one of the CONTROL1/CONTROL2(RS422) interface at the rear panel of TallyMan Controller with the RS485 Interface of RMS4342N, the functionality of the interfaces are as shown in the following table.

☐ **RS485(RMS4342N): RJ45**

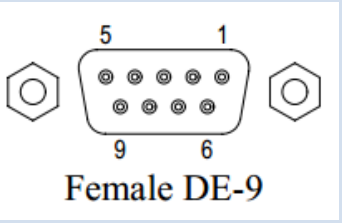
The definition of RS485 interface of RMS4342N is as the same as in TSI-3000-RMS4342N system, please refer to the above ***Table 5.1-14*** for the details, no repeat here.

☐ **RS422(TallyMan Controller): DB9**

Use one of the **CONTROL1/CONTROL2** interface at the rear panel of TallyMan Controller to connect with RMS4342N monitor, the **CONTROL1/CONTROL2** is a **RS422** interface using female DB9 connector, and the pins of DB9 is defined as in ***Table 5.1-19***:

Table 5.1-19 The Pins of CONTROL1/CONTROL2 in TallyMan Controller

PIN No.	DB9	Illustration
1	0v/Chassis	
2	Tx-	

PIN No.	DB9	Illustration
3	Rx+	
4	0v	
5	-	
6	0v	
7	Tx+	
8	Rx-	
9	0v	

The connection should obey the rules below to set up the communication between one of **CONTROL1/CONTROL2** and RS485, as shown in ***Table 5.1-20***:

Table 5.1-20 Connection Between CONTROL1/CONTROL2 of TallyMan Controller and RS485 of RMS4342N

DB9(CONTROL1/CONTROL2)	RJ45(RS485)
2	5
3	6
4	2
6	1
7	4
8	3

Tips

- TSL TallyMan Controller TM1, TSL TallyMan Controller TM2, TSL TallyMan Controller TM2 PLUS all comfort to the above definition about the connection and the pins relationship. Refer to the user manuals of these devices for details.

☐ **Cable1**

The connectors at the two ends of **CABLE1** should be one male RJ45 connector and one Male DB9 connector, as shown in ***Figure 5.1-27***:

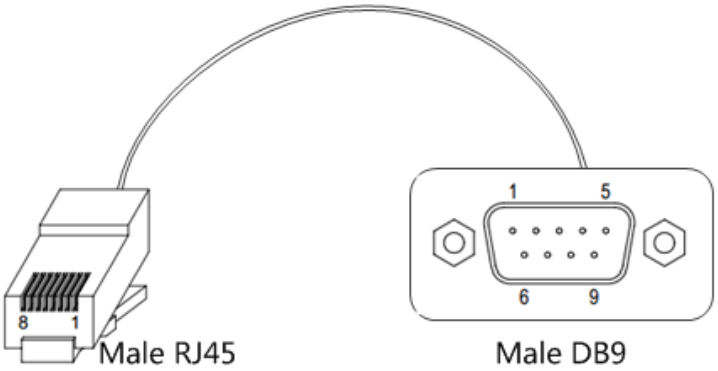


Figure 5.1-27 Cable1

The pin sequence should be defined as in ***Figure 5.1-28***:

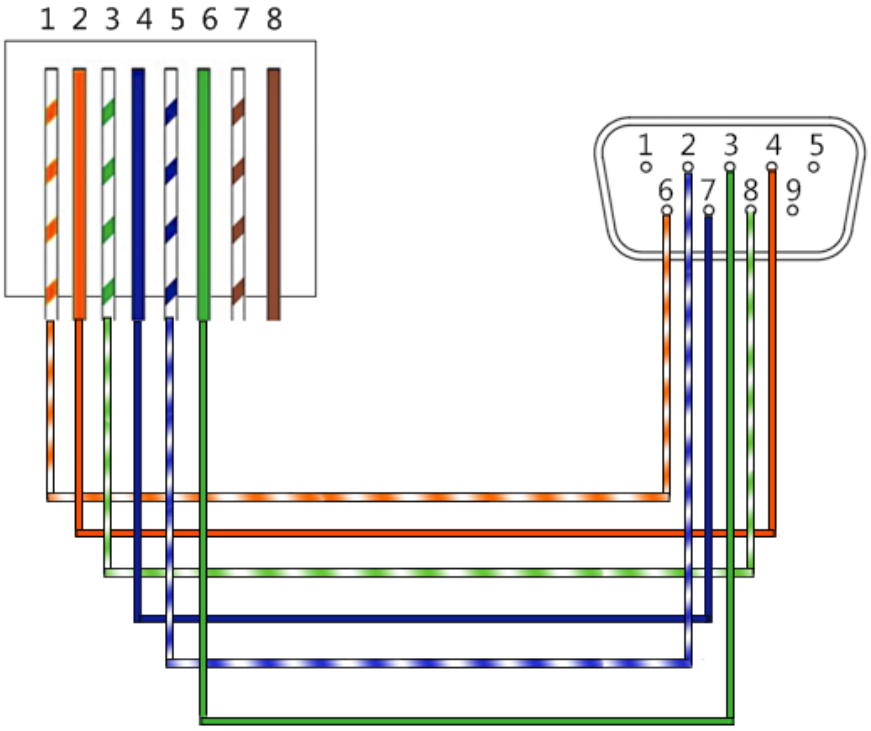


Figure 5.1-28 Pin Sequence of Cable1

- **Cable2**

Use **Cable2** to connect every two RMS4342N monitors through the RS485 Interface, the **Cable2** is a straight through line, and the connectors at the two ends of **Cable2** should both be male RJ45. The pin sequence of **Cable2** should be defined as in ***Figure 5.1-29***:

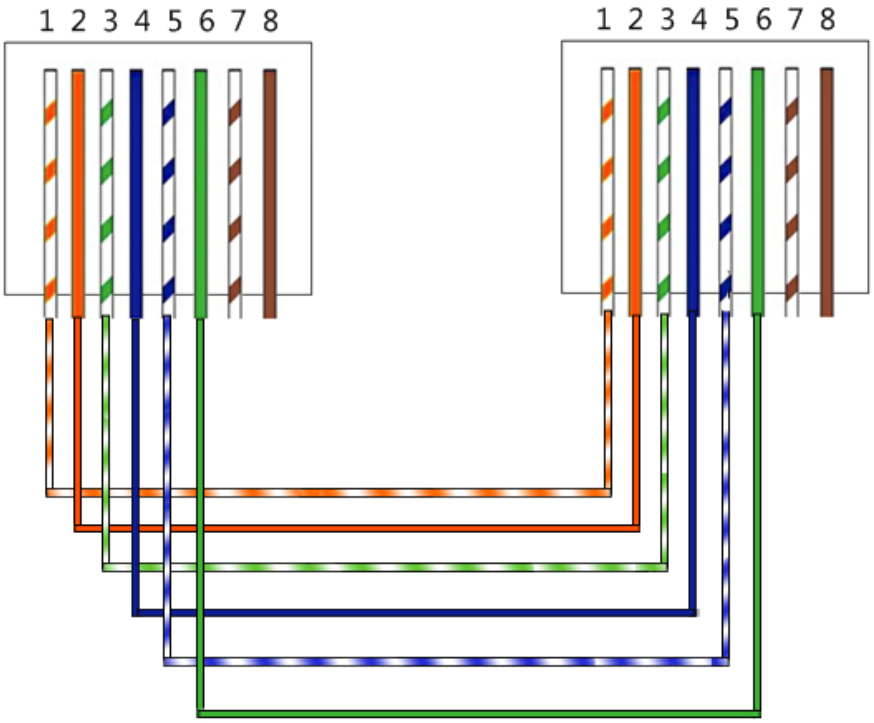


Figure 5.1-29 Pin Sequence of Cable2

5.1.10.2 IMD Settings

The position of Tally display on the RMS4342N monitor is as shown in ***Figure 5.1-30***. The **LED Tally** indicator is displayed at the top center of the monitor, and the two **OSD Tally** lights are displayed at the bottom of the monitor screen, separately at the left and right side of the IMD characters.

The tally lights will be in various color when selecting different values for the **IMD Protocol** item. It will introduce one by one in the below.

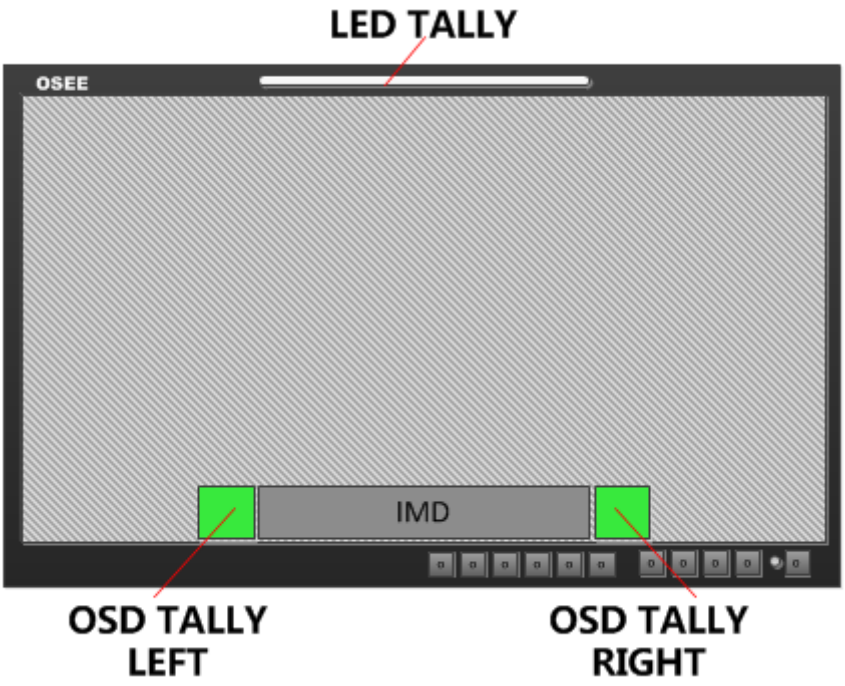


Figure 5.1-30 Tally Display

Tips

- When receiving data of TSL3.1 or TSL4.0 protocol, we support the data length to be 0~126 and 128~254. When the data is in 128~254, the result will be equal to subtract 128 from the IMD ID, in addition, the data length is 0~255 when receiving data of MAGE VIDEO protocol.

1. TSL3.1

Set **IMD→IMD Protocol** item to be TSL3.1, the monitor could receive the tally control command from a TSL Tally controller or other control devices conforming to TSL3.1 protocol.

■ Physical characteristic

Com Port:	RS232/RS422/RS485
DataBits:	8
StopBits:	1
Parity:	Even
Baud Rate:	38400

■ IMD Items

Items	Value	Description
IMD DISPLAY	ON	
IMD PROTOCAL	TSL3.1	it could receive the data of TSL4.0 protocol
IMD ID	0	
BAUD RATE	38400	
LED TALLY	ON	It will display as the result of OR relationship of LEFT OSD Tally and RIGHT OSD Tally. When only one of the two lights is lit, the LED Tally will light in the same color as the lit OSD Tally's, otherwise, when the two lights of OSD Tally are lit, the LED Tally will light in yellow. (This rule is not fit for LED Tally when the OSD TALLY MODE item is set to be GR.)
OSD TALLY MODE	RG	  
	GR	  
	RGY	  
	OFF	Close the OSD TALLY
TALLY SOURCE	TSL	

2. TSL4.0

Set **IMD→IMD Protocol** item to be TSL4.0, the monitor could receive the tally control command from a TSL Tally controller or other control devices conforming to TSL4.0 protocol.

■ Physical characteristic

Com Port:	RS232/RS422/RS485
DataBits:	8
StopBits:	1
Parity:	Even
Baud Rate:	38400

■ IMD Items

Items	Value	Description
IMD DISPLAY	ON	
IMD PROTOCAL	TSL4.0	
IMD ID	0	
BAUD RATE	38400	
LED TALLY	ON	It will display as the result of OR relationship of LEFT OSD Tally and RIGHT OSD Tally. When only one of the two lights is lit, the LED Tally will light in the same color as the lit OSD Tally's, otherwise, when the two lights of OSD Tally are lit, the LED Tally will light in yellow. (This rule is not fit for LED Tally when the OSD TALLY MODE item is set to be GR.)
OSD TALLY MODE	RG/GR/RGY	Select anyone of these three items to open the OSD TALLY, the color and the status of the LEFT OSD TALLY and RIGHT OSD TALLY will comfort to the receiving instructions of the corresponding TSL protocol.
	OFF	Close the OSD TALLY
TALLY SOURCE	TSL	

3. Image Video

Set **IMD→IMD Protocol** item to be IMAGE VIDEO, the monitor could receive the tally control command from an IMAGE VIDEO controller or other control devices conforming to IMAGE VIDEO protocol.

- Physical characteristic

Com Port:	RS232/RS485
DataBits:	7
StopBits:	2
Parity:	Even
Baud Rate:	38400

- IMD Items

Items	Value	Description
IMD DISPLAY	ON	
IMD PROTOCAL	IMAGE VIDEO	
IMD ID	0	

Items	Value	Description
BAUD RATE	38400	
LED TALLY	ON	It will display as the result of OR relationship of LEFT OSD Tally and RIGHT OSD Tally. When only one of the two lights is lit, the LED Tally will light in the same color as the lit OSD Tally's, otherwise, when the two lights of OSD Tally are lit, the LED Tally will light in yellow. (This rule is not fit for LED Tally when the OSD TALLY MODE item is set to be GR.)
OSD TALLY MODE	RG/GR/RGY	Select anyone of these three items to open the OSD TALLY, the color and the status of the LEFT OSD TALLY and RIGHT OSD TALLY will comfort to the receiving instructions of the IMAGE VIDEO protocol.
	OFF	Close the OSD TALLY
IMD TALLY MODE	T1	T1/T2/T1T2/T2T1/T1-/T2-/T1T2-/T2T1-(Comfort to the receiving instructions of the IMAGE VIDEO protocol, refer to IMAGE VIDEO protocol for details)
TALLY SOURCE	IMAGE VIDEO	

The monitor supports the following command set in IMAGE VIDEO 1510 protocol: D(d), S(s), C(c), J(j), O(o), U(u), Z(z). And the following command set are not supported currently: F(f), T(t), A(a), 1Y(y), I(i), 1L(l), V(v), Q(q), N(n),X(x).

We has only one IMD information on the screen, so in S(s) command, the line number for the UMD text can just be 1, for example, the command should be:

%0D%1Sone line%z.

4. TSL5.0

Set **IMD→IMD Protocol** item to be TSL5.0, the monitor could receive the tally control command from network devices conforming to UDP protocol.

- Physical characteristic

Use RJ45 interface in UDP protocol, the maximum length of data package is 2048 Bytes, and the port number is 5000.

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.

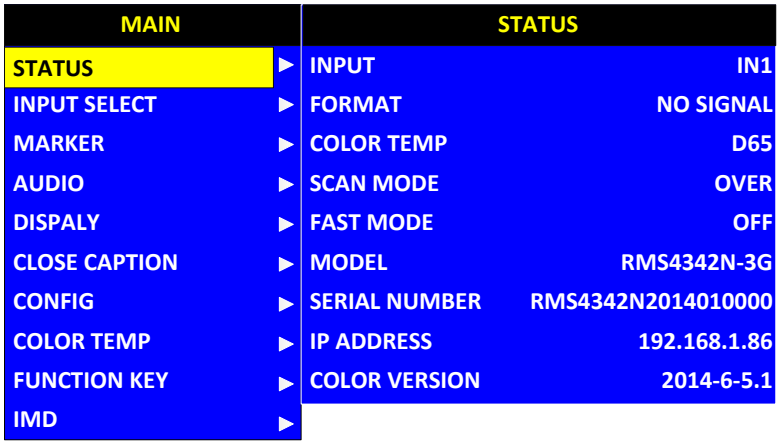


Figure 5.2-1 Selecting STATUS Menu

■ **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:

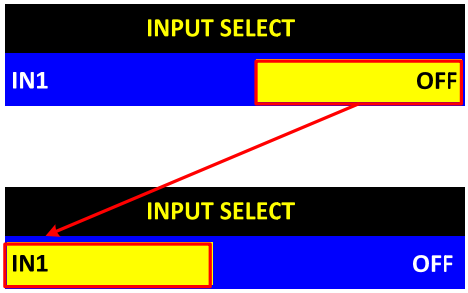


Figure 5.2-2 The Control Icon Moves from the Sub-menu Item Value to the Corresponding Sub-menu Item

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**.

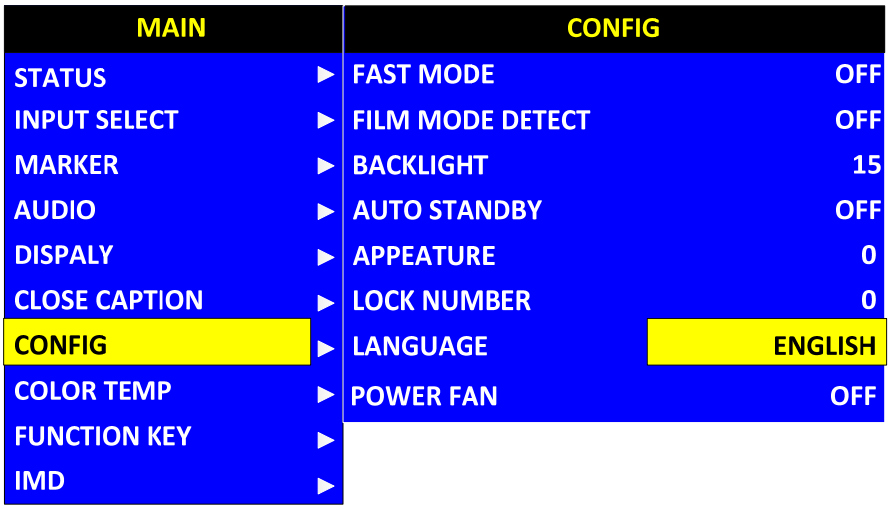


Figure 5.2-3 Select the Value of Language

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

RMS4342N supports network interface. Connect a computer with RMS4342N through this interface to achieve the network control to RMS4342N.

Tips

- The network address of the computer which is connected with RMS4342N and the network address of RMS4342N must be in the same segment.

This chapter will introduce how to set and check the parameters of RMS4342N 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 RMS4342N is shown as in Figure 6.1-1:

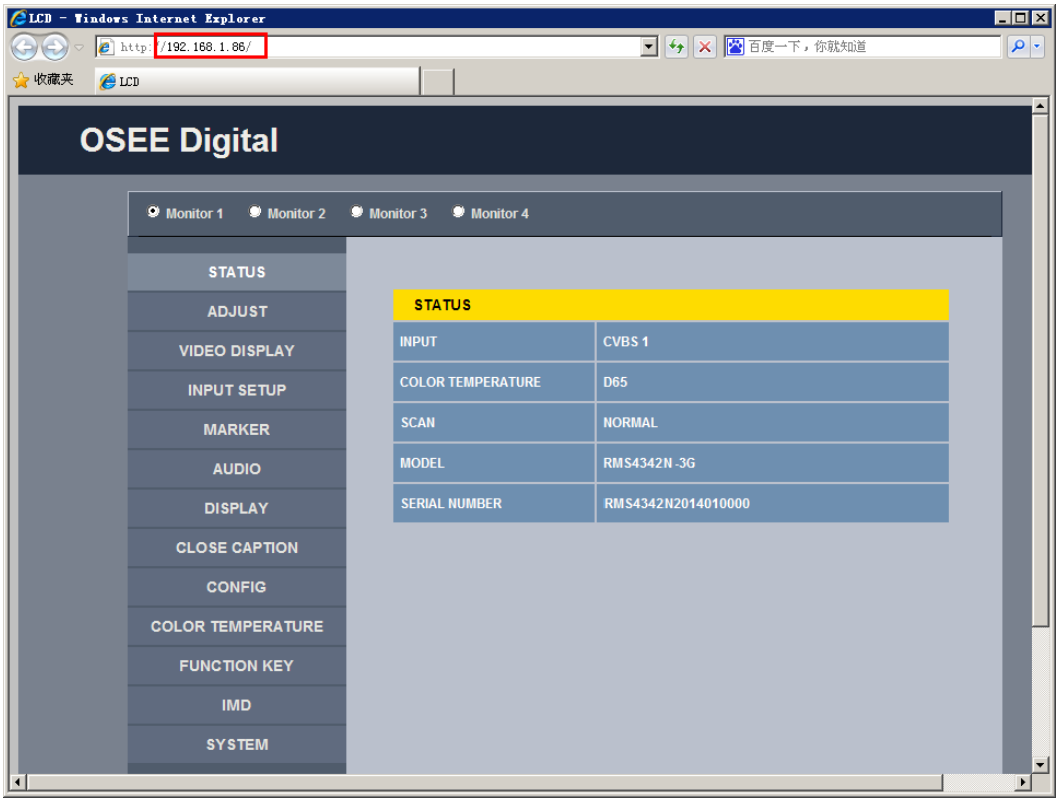


Figure 6.1-1 Network Control Page

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.

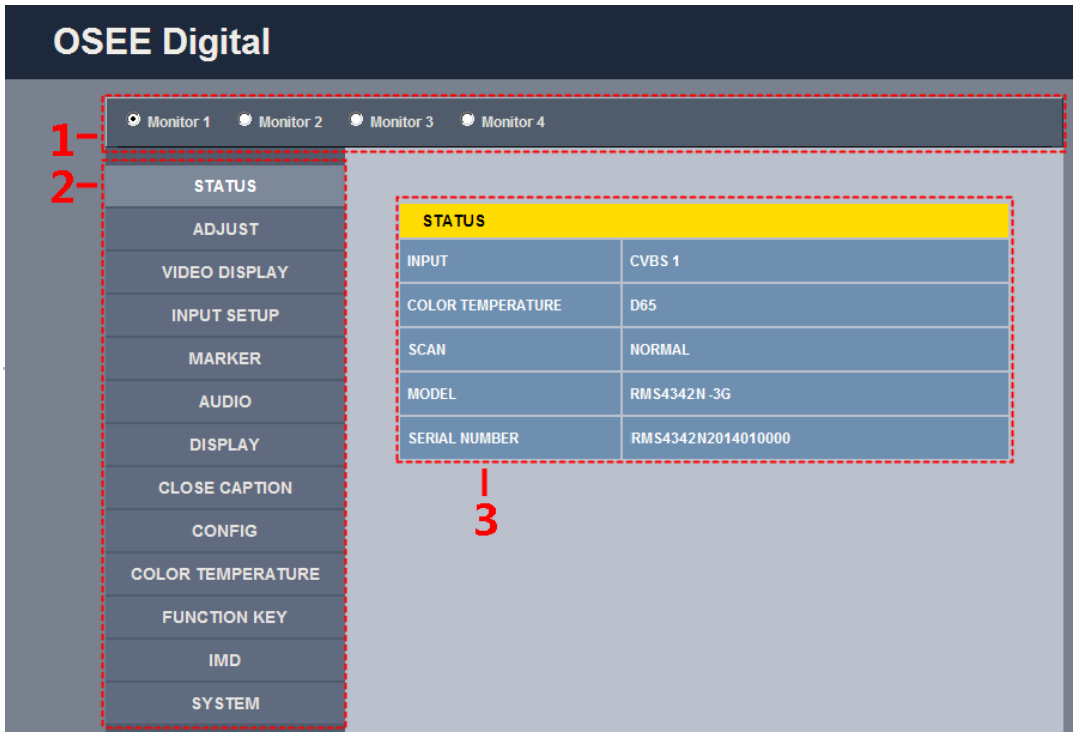


Figure 6.2-1 Management Interface

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

1. Screen selection button

It is used to switch between the two screens at the top of the working area. Click “Monitor 1” to show the parameter values set in screen No.1, click “Monitor 2” to show the parameter values set in screen No. 2, and the same to Monitor 3 and Monitor 4.

Tips

- For a RMS4342N device, “Monitor 1” is corresponding to screen No.1, “Monitor 2” is corresponding to screen No.2, and so on. Select a monitor before you set or check the parameters for it.

2. Navigation menu list

It shows the navigation menus: **STATUS**, **ADJUST**, **VIDEO DISPLAY**,

INPUT SETUP, **MARKER**, **AUDIO, DISPLAY**, **CLOSE CAPTION**, **USER CONFIG**, **COLOR TEMPERATURE**, **FUNCTION KEY**, **IMD** and **SYSTEM**. Click the navigation menu, it will show the corresponding settings on the right side. The menu items in main menu on screen display are mostly as the same as the menu items listed in navigation menus except **SYSTEM**.

3. 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.

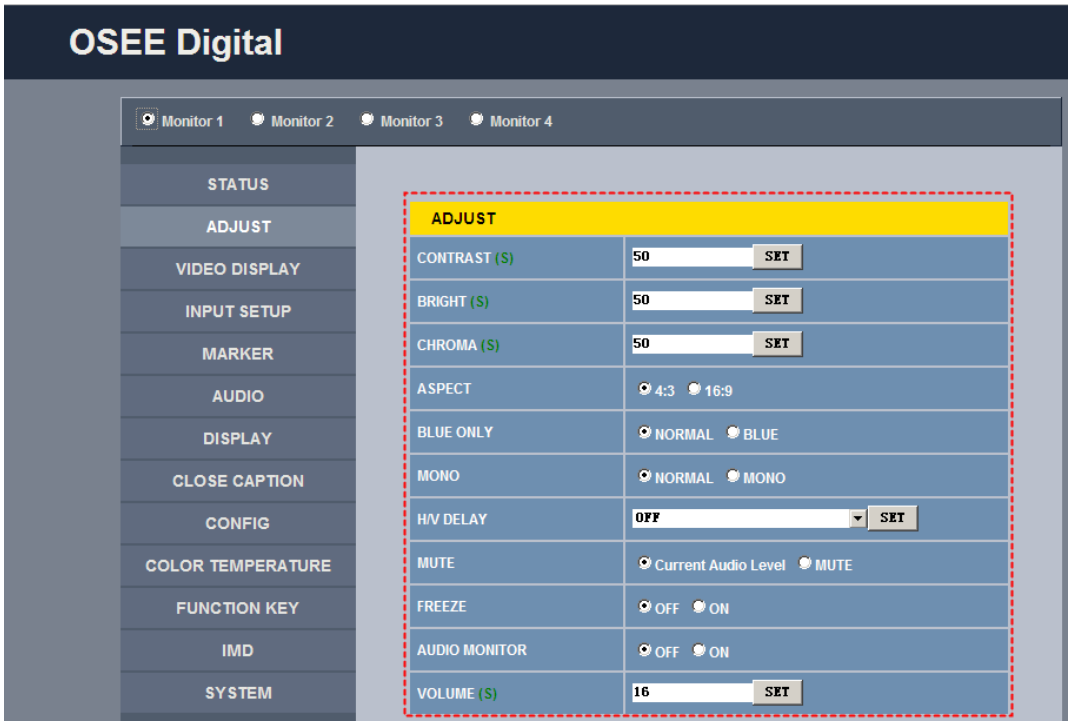


Figure 6.2-2 Parameter List

Tips

- There may be a “(S)” icon followed by some parameter name in the parameter list, it is mean that this parameter is only a local parameter for the current selected monitor, otherwise, the parameter is global and the modification is valid for both screens.
- The SET button is used to confirm the modification of the parameter value.

6.2.1 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 6.2-3

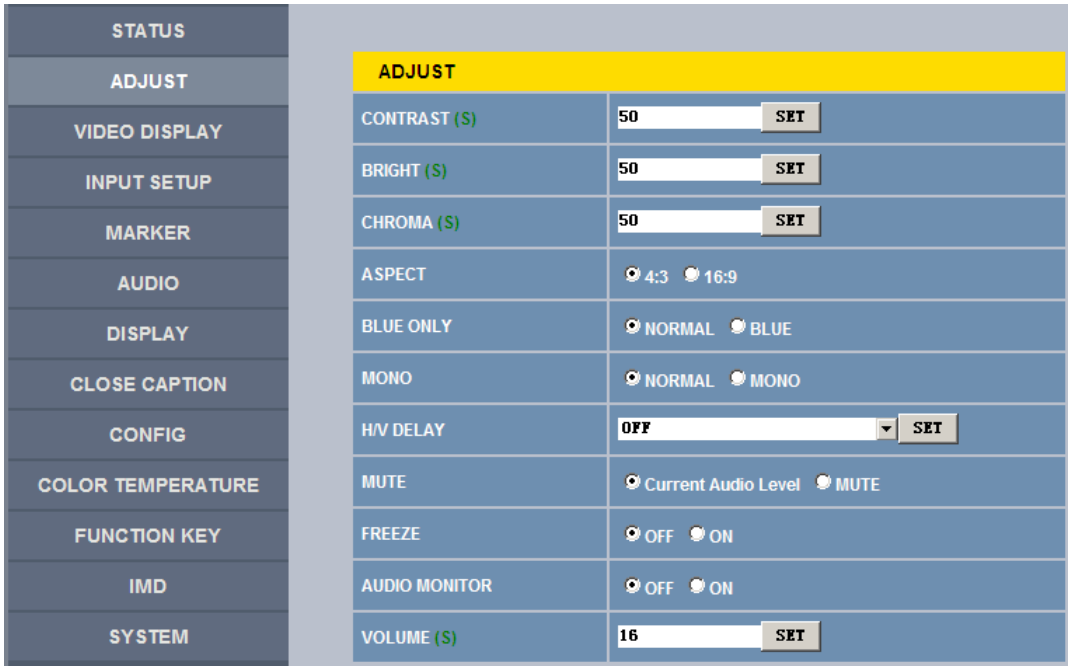


Figure 6.2-3 ADJUST Menu

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 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
ASPECT	16:9	4:3/16:9	Set the aspect ratio of the picture
BLUE ONLY	NORMAL	NORMAL/BLUE	Enable/disable Blue Only mode
MONO	NORMAL	NORMAL/MONO	Enable/disable

Items	Default Value	Domain Range	Description
			Monochrome mode, normal mode is actually the color mode
H/V DELAY	OFF	• OFF • H DELAY • V DELAY • H/V DELAY	Display synchronizing signals in horizontal or vertical mode
MUTE	Current Audio Level	Current Audio Level /MUTE	Enable/disable the audio monitor
FREEZE	OFF	OFF/ON	Enable/disable the current picture to be stopped or played.
WIN SOURCE	MAIN	MAIN/SUB	Set the picture displaying mode in full mode or in sub-picture mode
AUDIO MONITOR	OFF	OFF/ON	Set whether in audio monitoring.
VOLUME	16	0~31	Adjust the volume

6.2.2 VIDEO DISPLAY Menu

It will introduce **VIDEO DISPLAY** menu.
Click **VIDEO DISPLAY** button at the left navigation menu list, it will display the video display parameters, as shown in Figure 6.2-4:

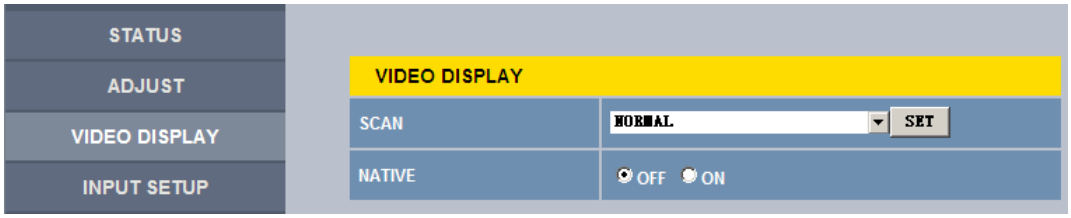


Figure 6.2-4 VIDEO DISPLAY Menu

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 VIDEO DISPLAY Menu Items

Items	Default Value	Domain Range	Description
SCAN	NORMAL	• NORMAL	Set the scan mode

Items	Default Value	Domain Range	Description
		• OVERSCAN • UNDERSCAN	
NATIVE	OFF	OFF/ON	Whether to display the picture dot by dot

6.2.3 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 6.2-5:

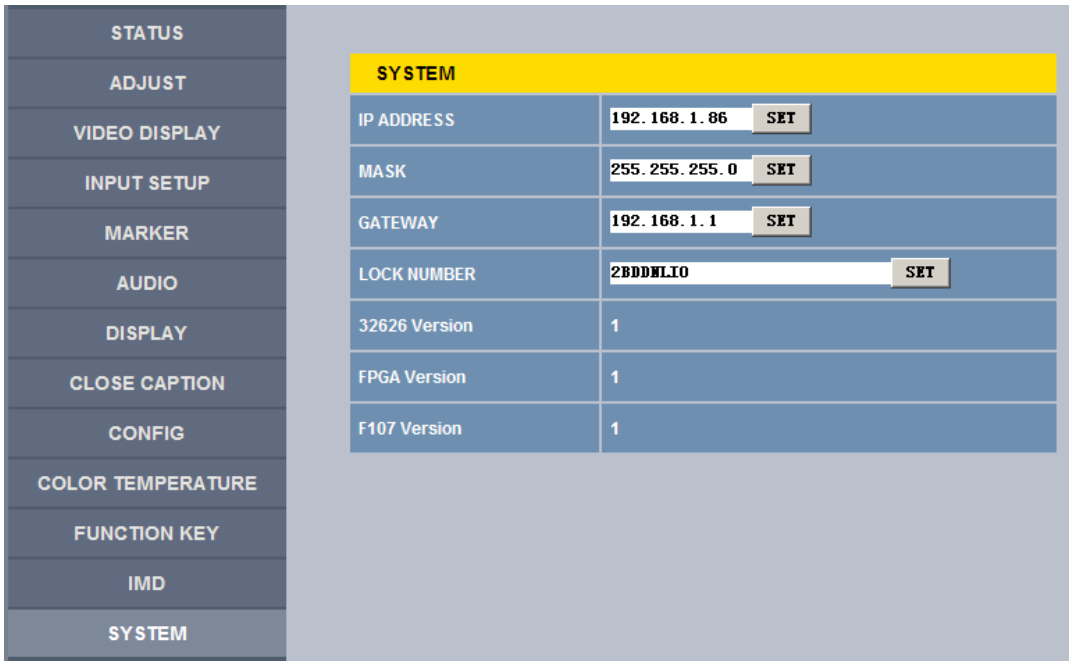


Figure 6.2-5 System Menu

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 System Menu Items

Items	Default Value	Domain Range	Description
IP	192.168.1.86	-	IP address
MASK	255.255.255.0	-	Subnet mask
Gateway	192.168.1.1	-	Gateway address

Items	Default Value	Domain Range	Description
LOCK NUMBER	0001	-	Serial Number
32626 Version	3	-	Product information
FPGA Version	1	-	Product information
F107 Version	1	-	Product information

6.2.4 Other Menus

For the menu items in management interface are almost as the same as the menu items in the Main menu on screen, there will be no further description about their meanings and value range in this chapter, refer to "Chapter 5 Functionality of the Main Menu" for the details about **STATUS**, **VIDEO CONFIG**, **AUDIO CONFIG**, **MARKER**, **DISPLAY**, **USER CONFIG**, and **COLOR TEMPERATURE**.

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 6.3-1, the corresponding screen main menu is shown as in Figure 6.3-2:

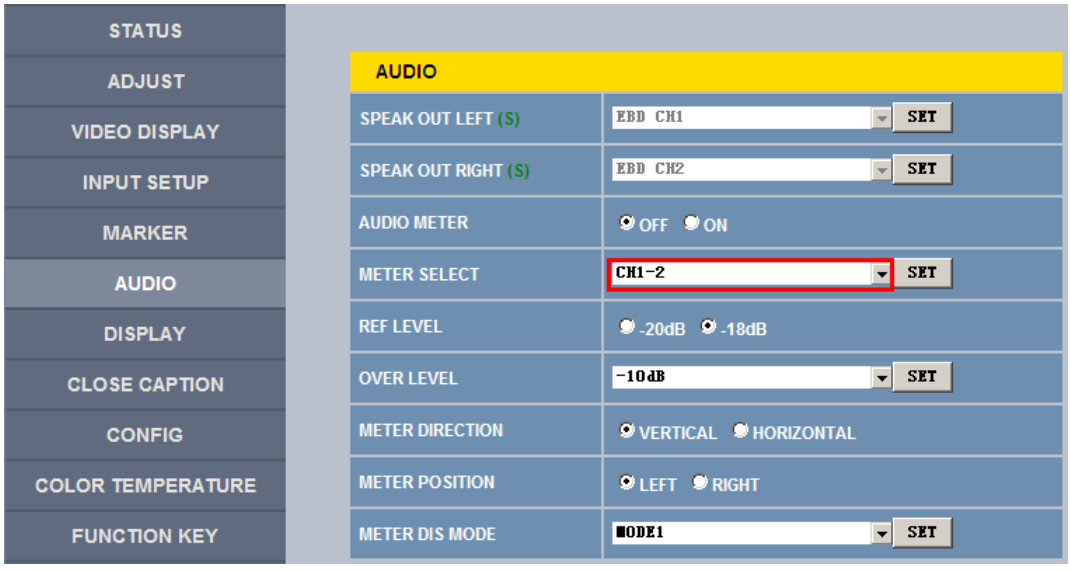


Figure 6.3-1 Parameter List for AUDIO

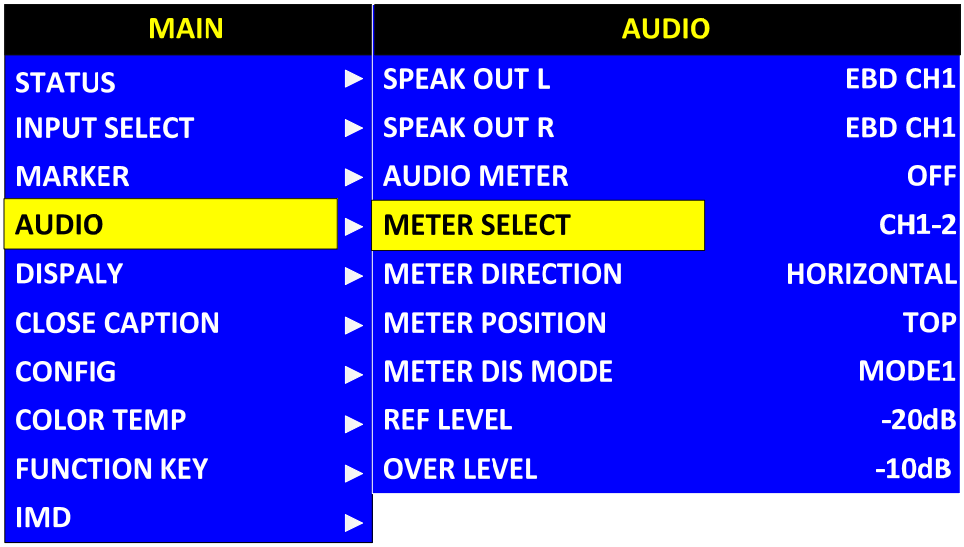


Figure 6.3-2 Screen Main Menu for AUDIO

Click button to display the drop-down value list for the parameter, as shown in Figure 6.3-3, for example, modify “CH1-2” to “G1”.

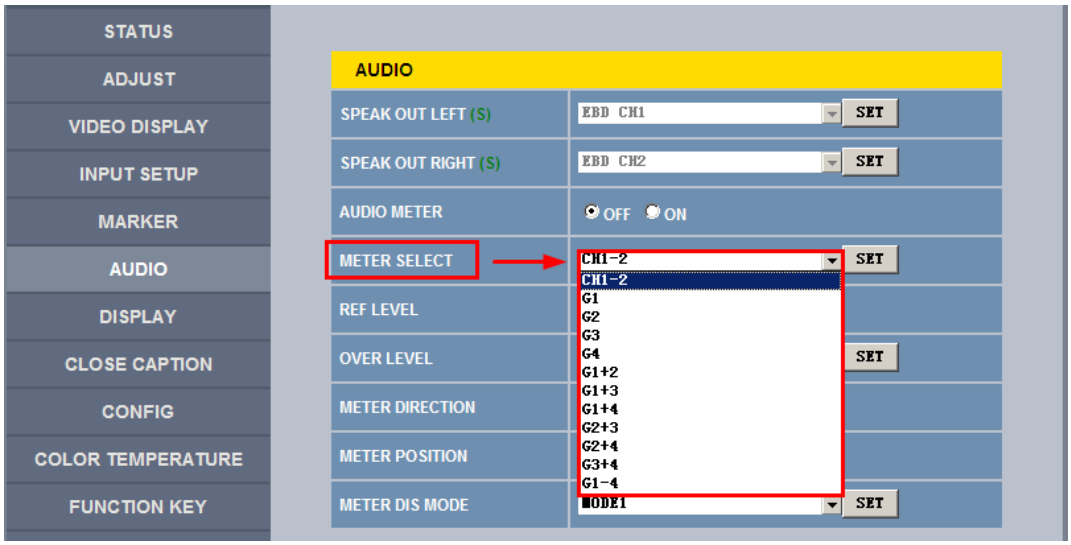


Figure 6.3-3 Display the Drop Down Value List of Meter Select(S)

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 6.3-4 and Figure 6.3-5:

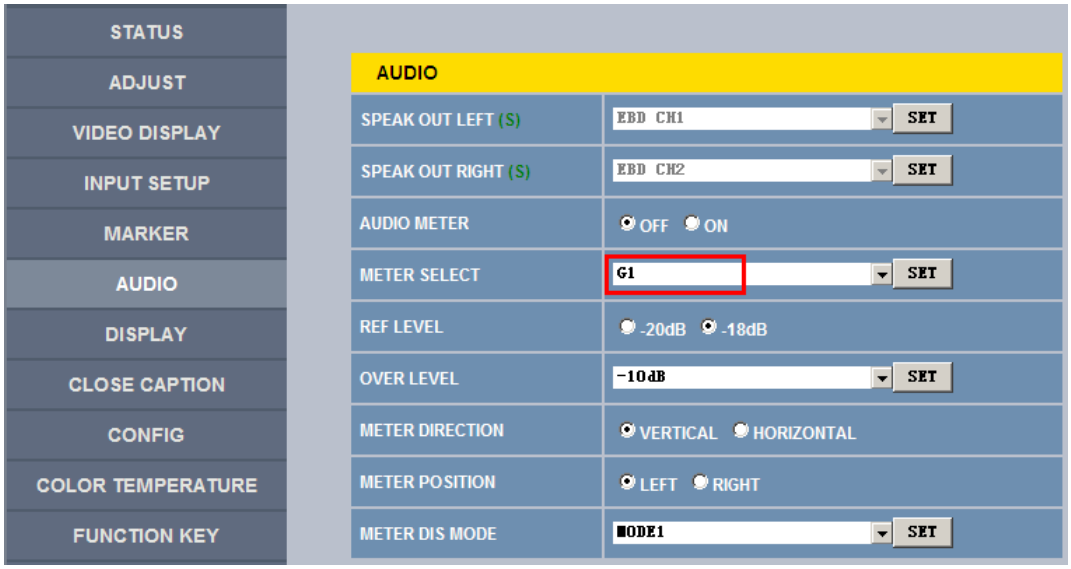


Figure 6.3-4 Modify the Value of a Parameter

Tips

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

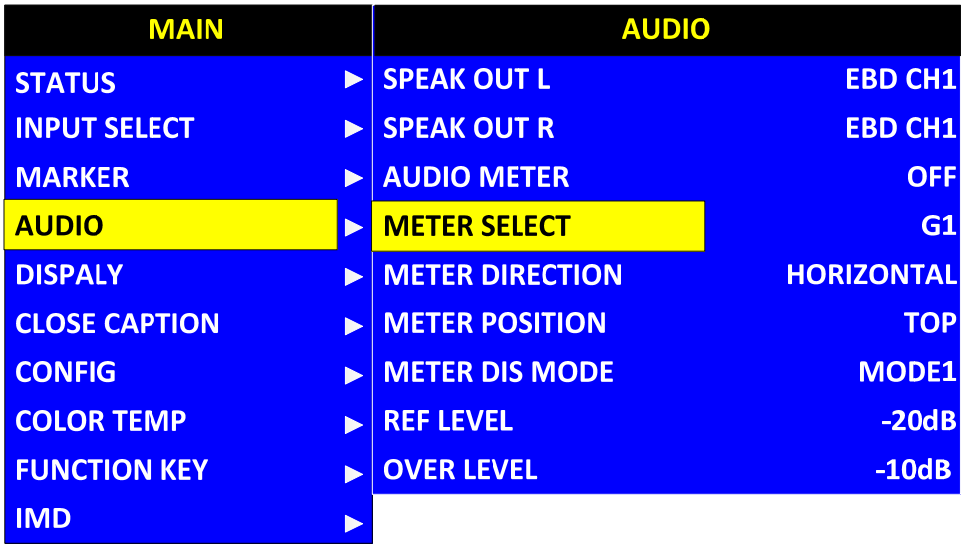


Figure 6.3-5 The Value is Modified Simultaneously on Screen Menu

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		RMS4342N/RMD4342N		RMS7023N/RMD7023N	
LCD	Number of Screens	4		2	
	Aspect Ratio	15:9		15:9	
	Display Area(mm)	93.6(H)×56.16(V)		153.6(H)×90.0(V)	
	Viewing Angle	150° (H)x170° (V)		150° (H)x170° (V)	
	Color Depth	16.7M colors		16.7M colors	
	Resolution	800(H)×480(V)		1024(H)×600(V)	
	Dot Pitch(mm)	0.039(H)×0.117(V)		0.050(H)×0.150(V)	
	Contrast	400:1		800:1	
	Brightness(cd/㎡)	300 typ /240 min		400 Typ.	
	Response Time (ms)	Tr=30, Tf=10 (Typ.)		50 max	
	Backlight	WhiteLED		WhiteLED	
Input(Per each screen)		RMS4342N	HD/SD-SDI/Analog Composite Input (BNCx1)	RMS7023N	HD/SD-SDI/Analog Composite Input (BNCx1)
		RMD4342N	HD/SD-SDI/Analog Composite Input (BNCx2)	RMD7023N	HD/SD-SDI/Analog Composite Input (BNCx2)
Output(Per each screen)		RMS4342N	HD/SD-SDI/Analog Composite Output (BNCx1)	RMS7023N	HD/SD-SDI/Analog Composite Output (BNCx1)
SDI Input Signal Formats	CVBS	PAL, NTSC		PAL, NTSC	
	SD-SDI	480i60, 576i50		480i60, 576i50	
	HD-SDI	1080i50, 1080i 59.94, 1080i 60, 720p50, 720p 59.94, 720p 60, 1035i59.94, 1035i 60		1080i50, 1080i 59.94, 1080i 60, 720p50, 720p 59.94, 720p 60, 1035i59.94, 1035i 60	
Audio In		----		Analog Audio Input(RCAx4)	
Audio Out		----		Analog Audio Output(RCAx2)	
		Stereo HEADPHONE (3.5mm stereo Jack)		Stereo HEADPHONE (3.5mm stereo Jack)	
Work Temperature		-10° C~60° C		-10° C~60° C	
Power Consumption		12VDC/35watts		12VDC/35watts	

2. Dimensions

The description of the product dimensions of RMS4342N is shown as in the following figures:

■ RMS4342N/RMD4342N

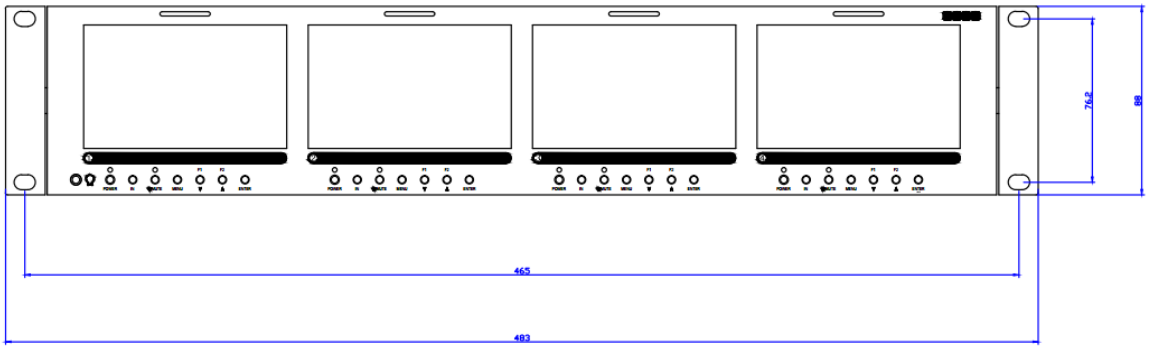


Figure 7-1 Front Panel(Unit: mm)

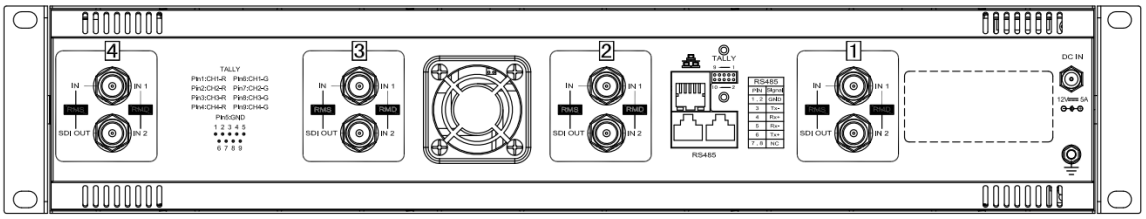


Figure 7-2 Rear Panel(Unit: mm)

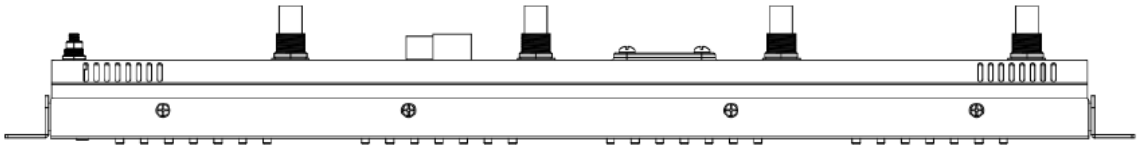


Figure 7-3 Top View(Unit: mm)

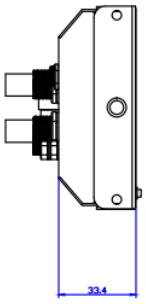


Figure 7-4 Side View(Unit: mm)

■ RMS7023N/RMD7023N

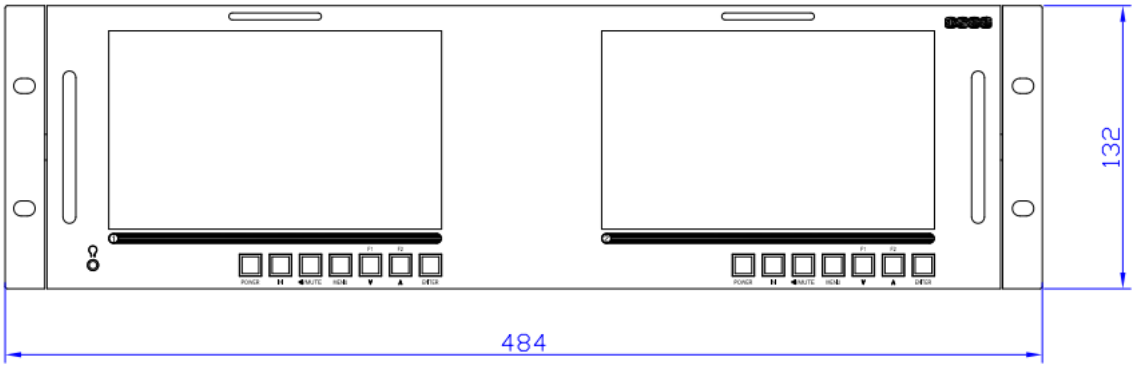


Figure 7-5 Front Panel(Unit: mm)

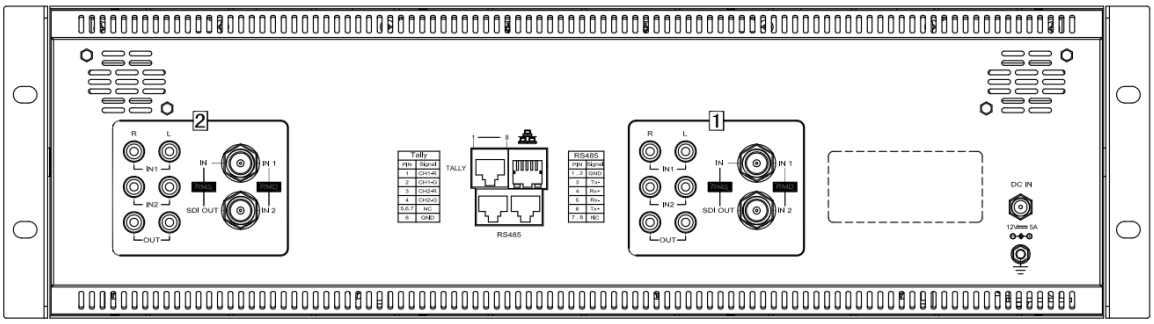


Figure 7-6 Rear Panel(Unit: mm)

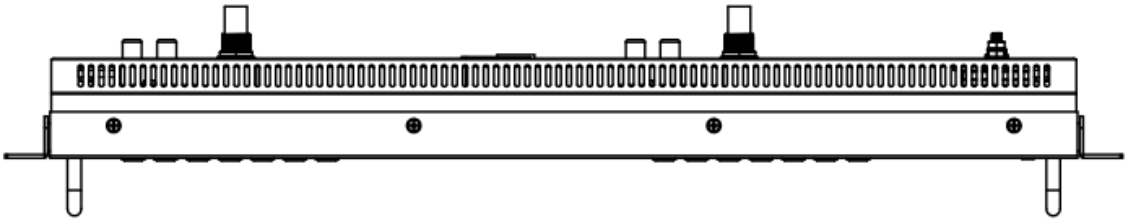


Figure 7-7 Top View(Unit: mm)

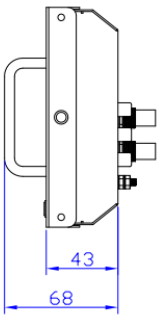


Figure 7-8 Side View(Unit: mm)

Tips

- Specifications are subject to change without notice.

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

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