

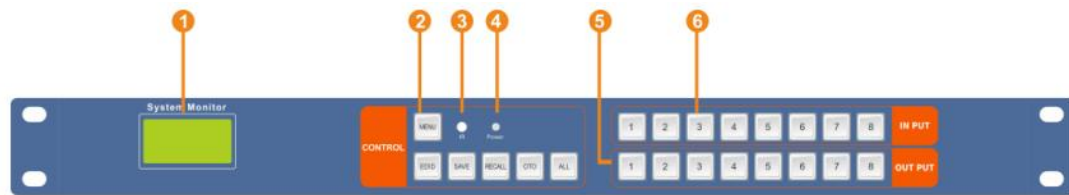
MUH0404

User Manual



Product appearance

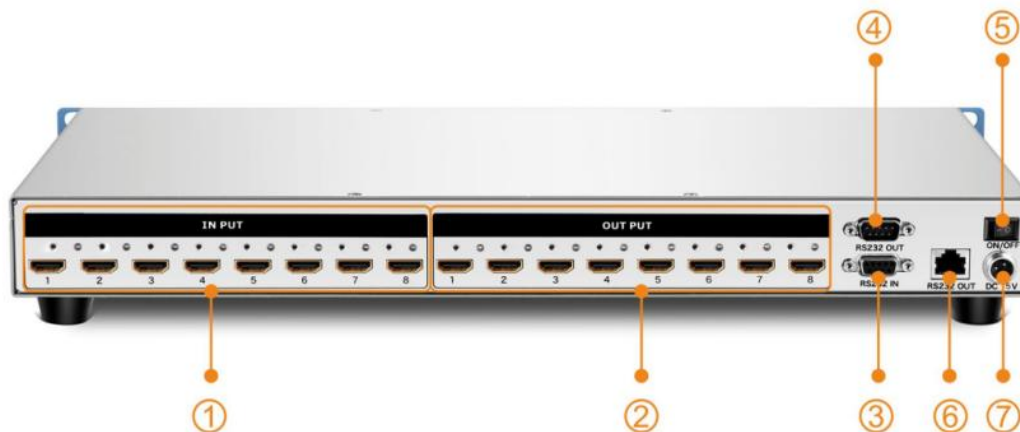
Front panel



Serial number	Name	Description
1	display screen	Real-time status display
2	Control keys	Used to control signal switching operations
3	IR receive header	Built-in infrared receiver head to receive infrared signals from the remote control
4	Power LED	Solid: Normal power-on state
5	Output buttons	Output signal digital keys
6	Input buttons	Input signal digital keys

Note: Product pictures are for reference only, please refer to the actual product.

Rear Panel



Serial number	Name	Description
1	INPUT area	HDMI input port, connect to HDMI signal source
2	OUTPUT area	HDMI output port, connect the monitor
3	RS232 IN	DB9 port, connect control equipment, such as PC computer, through the host computer software to control the machine
4	RS232 OUT	DB9 port, connect other peripherals, such as matrix, splicer, etc., can control peripherals
5	Power switch	Power switch
6	RS232 OUT	RJ45 port, connect other peripherals, such as matrix,

		splicer, etc., can control peripherals
7	Power connector	Power input, connect the power supply DC-12V

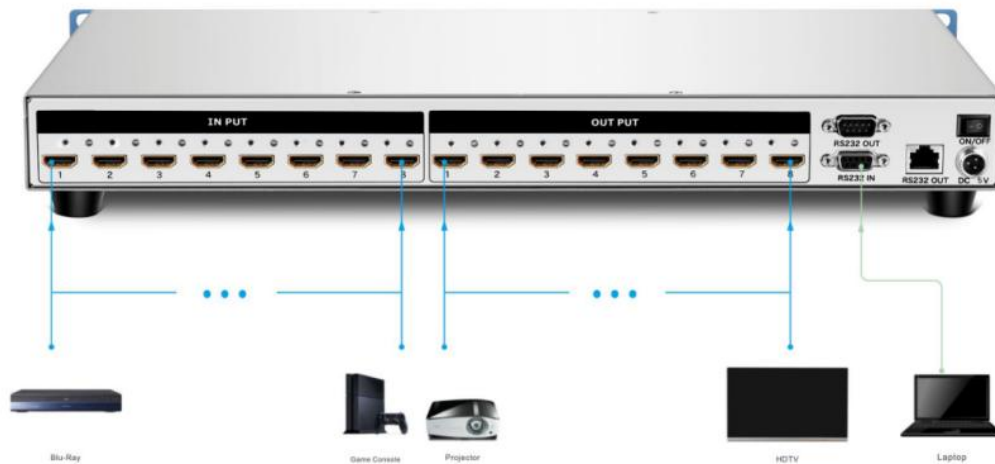
Note: Product pictures are for reference only, please refer to the actual product.

System connection

Notes

1. The installation and use environment of the system should pay attention to maintaining cleanliness and appropriate temperature and humidity, and good ventilation without blocking the heat dissipation holes;
2. All power switches, plugs, sockets and power cords of the equipment in the system must ensure insulation safety;
3. Connect peripherals and finally power up the system.

3.2 Connection diagram



Connection steps

- Step 1: Use an HDMI cable to connect HDMI sources such as DVDs to the HDMI input port in the INPUTS area
- Step 2: Use HDMI cable to connect display devices such as HDTV to the HDMI output port in the OUTPUTS area
- Step 3: Connect the control device (e.g. PC) to the RS232 IN port with an RS232 serial cable
- Step 4: Connect the power adapter to the power connector

Key control

Key description



1. MENU: Menu key, can set buzzer switch, host address code, language settings, etc.
2. EDID: EDID learning button, connect the screen that needs to be learned to the last output interface, press the EDID key, and the button panel automatically prompts the input source that can be learned.
For example: to learn a certain screen EDID information to the first input, connect the screen to be learned to the last output interface of the machine, press the EDID key, press the input 1 key (you can select multiple inputs at the same time, support learning all inputs at the same time), wait for the EDID key to flash automatically to stop, the learning is complete, restart the machine.
3. SAVE: channel display relationship save key, press the SAVE key, save the correspondence between the display input channel and the output channel.
4. RECALL: The channel displays the relationship call key, and calls the saved input-output correspondence.
5. OTO: pass-through key, when the OTO key is pressed, the input channel and output channel are displayed one-to-one.
6. ALL: All commands execute key, toggle selection, execute all switch commands.
7. Number keys: input and output channel selection keys, used to set the input and output channels of audio and video signals or for status call or saved number selection.

Key operation

Signal switching

1 input switches to 1 output

For example: input 1 switches to output 3: → press Enter 1 + Output 3

1 input switching multiple outputs:

For example: input 1 switches to output 1, 2, 3: → Press input 1 key + output 1 key + output 2 key + output 3 key

1 input switch to all outputs:

For example: Input 1 switches to all output: → Press Enter 1 + ALL

Storage and Call

Storage: The operation of synchronously switching the first audio and video signal to all output channels is stored as number 01, and the steps are as follows:

Press the SAVE key + output channel 1 key

Call: To call the above storage case, the steps are as follows:

Press RECALL + Output Channel 1

EDID learning operations

This device supports any output display device learning input EDID data for one or more port devices. For example, output the EDID data of the 16th channel display device learning input to the first channel, and operate as follows:

Step 1: Access the 16th output of the matrix to be learned;

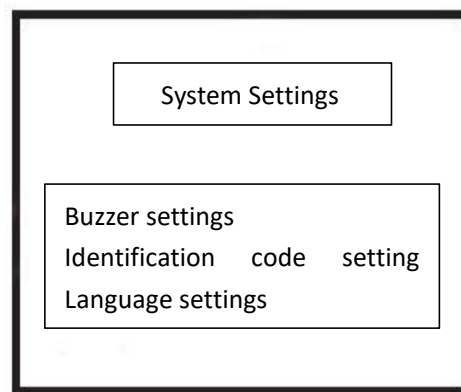
Step 2: Press the EDID button, and then press the Enter 1 button;

Step 3: The EDID button flashes, wait for the button light to flash and automatically stop indicating that the learning is completed;

Step 4: Restart the machine

System settings

Press the [MENU] key, the LCD display is as follows:



1. Buzzer settings

Press the input channel number 1 key to enter the buzzer setting, and then press the input channel number 1 key to switch the buzzer switch, and the LCD screen returns to the standby interface.

2. Identification code setting

Press the input channel number 2 key to enter the setting interface, press the input channel number "1", "2", "3" and "4" keys to switch the matrix identification code freely, and the LCD screen returns to the boot screen after successful operation.

Note: The matrix identification code set must be consistent with the address when using the serial port to control the matrix.

3. Language settings

Press the input channel number 3 key to enter the language setting, press the input channel number 1 key to switch Chinese or English, and the LCD screen returns to the boot screen after successful operation.

5. Remote control control

The front panel of this machine has a built-in infrared receiving head, which can receive the infrared signal emitted by the remote control to control this unit.

The following is a brief introduction to the infrared remote control:

- (1) 1 cut 1 operation step: 1-AV-1
- (2) 1 Cut 12 operation steps: 1-AV-AUDIO-1-2
- (3) 12 Cut 1 operation step: AUDIO-1-2-AV-1
- (4) 1 Cut 1, 2, 3 Operation steps: 1-AV -1-2-3
- (5) 1 Cut 10, 11, 12 operation steps: 1-AV-AUDIO-1-0-AUDIO-1-1-AUDIO-1-2
- (6) 12 Cut 1, 2, 3 operation steps: AUDIO-1-2-AV-1-2-3
- (7) 12 Cut 11, 12, 13 operation steps: AUDIO-1-2-AV-AUDIO-1-1- AUDIO-1-2- AUDIO-1-3
- (8) Storage scene mode 1 operation step: SAVE -1
- (9) Storage scene mode 11 operation steps: SAVE -AUDIO-1-1
- (10) OPERATION STEPS FOR CALLING SCENE MODE 1: RECALL-1
- (11) RECALL SCENE MODE 1 OPERATION STEPS: RECALL-AUDIO-1-1
- (12) EDID learns the first operation step: F1-1
- (13) EDID learns the 11th operation step: F1-AUDIO-1-1

Software control

After connecting the PC to the back panel RS232IN interface, install the RS232 control software in the computer and run it to control this product.

Software Installation

The control software is .exe for the MatrixController

Installation method: Scan the QR code of the fuselage to download the software installation package and copy it to the connected PC.

Uninstall method: directly remove the entire software installation package.

Software Settings

1. Double-click to open the MatrixController .exe software, the main interface is shown in the following figure:

2. Click "Settings" to enter the connection between the matrix and the software, take the computer serial port "COM1", and the matrix is recognized as "01" example, as shown in the following figure:

The software baud rate is set to 9600 and the matrix ID is set to 01.

The matrix identification code set by the panel button must be consistent with the matrix ID when the serial port controls the matrix.

The serial port address set must be consistent with the port address of the computer accessed.

Computer serial port set to: baud rate: 9600 Data bits: 8 Stop bits: 1 Check digit: None.

3. After the operation is completed, click "Settings" to confirm, and then click "Connect" to establish a communication connection with the matrix.

Software Operation

Switching operations

[One-to-one]: Display the screen one by one, and directly click the "one-to-one" button. It is equivalent to the panel OTO button, and the input channel and output channel are displayed one-to-one after clicking (such as the 3rd input channel is displayed in the 3rd screen).

[One Pair]: Synchronously switch the first audio and video signal to all output channels (if all outputs are 8), select the displayed input channel and click "One Pair" directly.

[One-to-many]: Click "Channel Switching" (take the first input display to output "1, 2, 3, 4" as an example), select input channel "1" and output channel "1, 2, 3, 4", and click "One-to-many", as shown in the following figure:

Scene saving and calling

Example: Save and retrieve the first audio and video signal synchronously to the 1st, 2nd, and 3rd output channels.

1. Click "Input Channel 1", "Output Channel 1, 2, 3", and "One-to-Many" in turn, as shown in the following figure

2. After the operation is successful, click "Context Mode", (take Save in Scenario 1 as an example) click Save Scenario "1", as shown in the figure:

3. If you want to retrieve the scene corresponding to this input-output relationship, click the corresponding loading scenario directly.

Channel naming

1. Click the channel name, as shown in the figure below

2. Click to directly enter the scenario and input and output channel to change the name, as shown in the following figure

3. After the operation is complete, click Save.

Illustrate:

1. Communication protocol: baud rate: 9600 Data bits: 8 Stop bits: 1 Position verification: None

2. "#" represents the input channel sequence number

3. "*" output channel serial number

4. In the above instructions, "[" and "]" are non-sending characters

5. The ending character of each instruction must not be omitted, such as ".", and must be punctuated under the English input method.

The serial port instruction table is as follows:

Straight-through: all[1]. Indicates that the input port corresponds to the output port

one-to-one

Any input cuts to all outputs: (#)all.

Example: (#) represents the input channel, with a value of 1~n

1all. means that the first signal switches to all output ports

2all. means that the second signal switches to all output ports

Close all output ports: 0all.

Turn off any output port: 0x(*).

Example: (*) represents the output channel, with a value of 1~n

0x1. Indicates the closing of the first signal

0x2. Indicates that the second signal is turned off

0x3. Indicates that the third signal is closed

Turn off multiple output ports: 0x(*1)&(*2)&(*3).

Example: (*1) / (*2) / (*3) represents the output channel, take the value of 1~n any number and do not repeat

0x1&3&5&7. Indicates the closing of signals 1, 3, 5, 7.

Set to one-to-one correspondence for all channels: All[1].

Example: For example, an 8*8 hybrid matrix, after running, the status is: 1->1, 2->2,..... 8->8。

Switch one input signal to one output signal, switch separately: (#)x(*).

Example: (#) represents the input channel, the value is 1~n; (*1) represents the output channel, with a value of 1~n

1x4. Indicates that the first output switches to the fourth output

2x5. Indicates that the second output switches to the fifth output

3x6. Indicates that the third output switches to the sixth output

Everything: (#)x(*1)&(*2)&(*3).

Example: (#) represents the input channel, the value is 1~n; (*1) / (*2) / (*3) represents the output channel, the value is 1~n

1x1&3&5&7. Indicates that the first signal switches to 1, 3, 5, 7 outputs

2x2&4&6&8. Indicates that the second signal switches to 2, 4, 6, and 8 outputs

Save current state instruction: Save[Y].

Example: To save the current state to the 7th memory cell, enter "Save7." Can.

Call stored unit instruction: Recall[Y].

Example: To call out the state of the 7th memory unit and configure the input-output status of the matrix, enter "Recall7." Can.

Buzzer switch: beepon. or beepoff.

Command operation for multiple matrices in series:

You can add the machine identification code before the command, such as 2 units in series, the identification code is 01 and 02,

To the first station, add 1m before the command, e.g. "1m3all." Indicates that the third input of machine 01 switches to all output channels.

To the second station, add 2m before the command, e.g. "2m3all." Indicates that the third input of machine 02 switches to all output channels.

Specifications

Type	4x4HDMI fixed matrix	8x8HDMI fixed matrix	16x16HDMI fixed matrix
Input port	4×HDMI	8×HDMI	16×HDMI
Output port	4×HDMI	8×HDMI	16×HDMI
Device height	1U		2U
Video resolution	480i, 576i, 480p, 576p, 720p, 1080i, 1080p@24/30/50/60/120Hz, 4K@30Hz, 1080P3D@60Hz		
Control interface	1 RS-232 IN, 1 RS-232 OUT		
Protocol standards	Support HDMI 1.4a, support EDID management, support HDCP parsing		
Color space	Support RGB444, YUV444, YUV422 color space, support x.v.Color extended color gamut standard		
ESD protection	Human body discharge mode: $\pm 8\text{kV}$ (air gap discharge) $\pm 4\text{kV}$ (contact discharge)		
Control mode	Buttons, RS232, infrared remote control, host computer software		
Power supply	DC:12V 3A		DC:12V 5A
Input voltage	power supply 100VAC ~ 260VAC, 50/60 Hz		
Dimension	438×250×45 (mm)		438×250×87 (mm)
Height	5kg	5kg	6kg
Work temperature	0 °C~40 °C/32 °F~104 °F		
Storage temperature	-20 °C~60 °C/-4 °F~140 °F		

Appearance dimensions



Common faults and maintenance

Symptom	Cause analysis	Exclusion method
The power indicator does not light up and the operation is unresponsive	Poor power input contact	Check the power connector and make sure it is in good contact

	The device power switch is off	Make sure the POWER button is on
The image shows bad images such as ghosting	The quality of HDMI cable is not up to standard	Replace the quality cable
	The HDMI cable is too long	Reduce the signal resolution or shorten the HDMI cable length
No image output after switching	The switched input channel is not connected to a signal source	Check the input and output wiring and make sure good contact
	Poor cable contact	Correct the direction of the remote control so that it is aligned with the IR receiver head and there is nothing else to obstruct
The remote control cannot control this unit	The remote control transmitter head is not aligned with the IR receiving head	Correct the direction of the remote control so that it is aligned with the IR receiver head and there is nothing else to obstruct
	The remote control battery is dead	Replace the battery with a new one
This device cannot be used	Internal damage to the console	Send to a professional repair point for repair

After-sales service

1. If you use this product in an abnormal situation, during the product warranty period, under normal use, due to the quality of the product itself caused by the failure, without disassembly, the company will be responsible for free maintenance.

2. The company provides two-year warranty service for this product, and the start date of the warranty period:

Product factory date;

The above date cannot be certified, and the production date of the product in the company's SN code shall prevail.

3. In any of the following cases, warranty service is not implemented, and the cost of maintenance parts is reasonably charged:

Damage caused by improper use, storage and maintenance of consumers;

Appearance and parts are man-made;

Damage caused by changing the configuration or modifying the product without the authorization of the company;

Damage caused by force majeure factors.

4. In any of the following cases, the company has the right to refuse to provide maintenance services or provide paid maintenance services:

No warranty certificate and valid invoice, no SN code for the product;

The fragile label of the fuselage body is damaged (except authorized by the company), and the content of the product label is altered or blurred to make it unreadable;

Damage caused by assembly and disassembly maintenance not authorized by the company;

No sales certificate or the sales certificate does not match the model of the repaired product;

Products not manufactured and sold by the Company.

5. You can contact the company's after-sales service department directly by letter and call, please inform the following content:

Model and name of the product you are using;

Fault symptoms (as detailed as possible);

The process before and after the occurrence of the failure.