

HDMI Matrix

Production Specification

Dear Customer

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

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I Precautions

- ♦Make sure that all devices you will be connecting up are properly grounded
- ♦Make sure that the power to all the devices you will be connecting up has been turned off.
- ♦Do not place other objects on the cable.
- ♦Risk of electrical shock, do not open.
- ♦To avoid damaging the product, do not dismantle it by yourself, the device should be repaired and maintained by the professional and qualified personnel in the designated service center.
- ♦Do not place any object into the opening of the casing, otherwise, it might cause voltage or short circuit incident.
- ♦The installation site must be well ventilated. Ensure that air vents on the equipment are not blocked.



II Production Specification

1. Package Content

Name	Amount
Main Unit	1
IR Remote Control	1
Power Cord	1
Serial Port Line	1
CD-ROM	1
Manual	1
Inspect Certificate	1
Guarantee Card	1

2. Product Model

Model	Description	Size
HMX-4×4	4 input 4 output	282mmX135mmX30mm
HMX-8×8	8 input 8 output	1U
HMX-16×16	16 input 16 output	2U

3. Product Appearance

(1) Front Panel Overview

HMX-4×4 Matrix

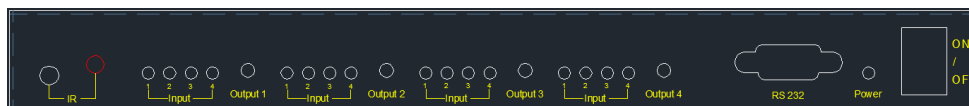


Fig 1 HMX-4×4 Matrix front panel

1U HMX-8×8 Matrix

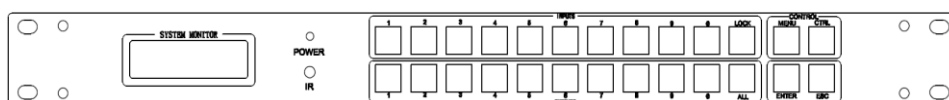


Fig 2 1U Matrix front panel

2U HMX-16×16 Matrix

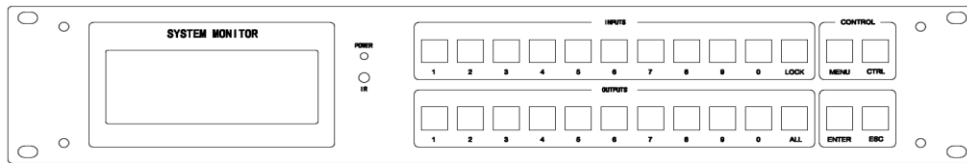


Fig 3 2U Matrix front panel

(2) Rear Overview



Fig 4 HMX-4×4

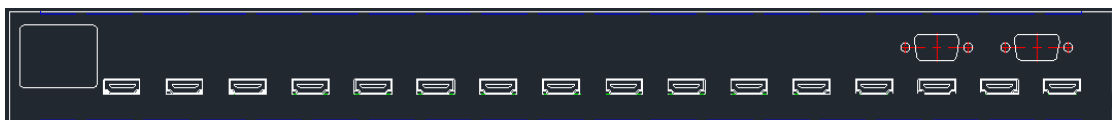


Fig 5 HMX-8×8

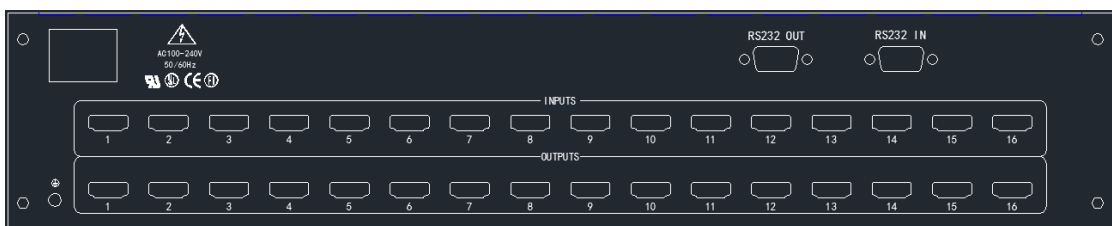


Fig 6 HMX-16×16

4. Equipment Installation

This series of matrix use standard 19-inch chassis and can be installed onto the cabinet.

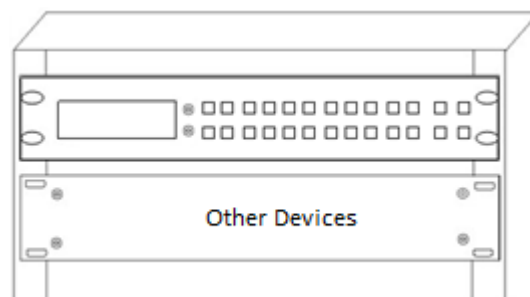


Fig 7

2 Remote Controller

2.1 HMX-4×4 Remote Controller

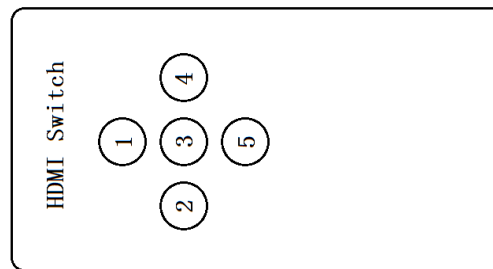


Fig 10 HMX-4×4 Remote Controller

Numbers 1 to 4 correspond to output port 1 to output port 4, and key 5 represents all output ports. The operation mode of the keypad is similar to the operation mode of the keyboard. When the key is pressed once, the corresponding output will perform a switching operation. Pressing the cycle key 5, the four input channels will cycle through all the output channels.

2.2 HMX-8×8/ HMX-16×16 Remote Controller

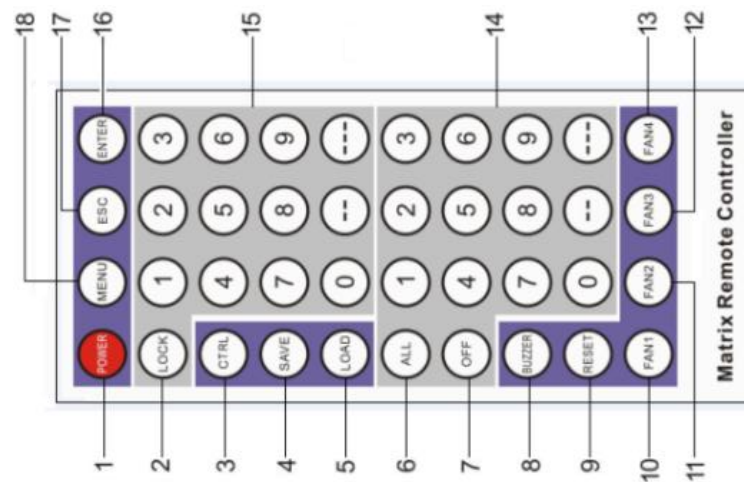


Fig 11 HMX-8×8/ HMX-16×16 Remote Controller

Item	Button	Function
1	POWER	Close the output
2	LOCK	Remote Key Lock, Select On/Off Remote Key (Input Area)
3	CTRL	Function with the CTRL keypad, for A + V (Audio + Video), Audio, Video, EDID switch between the four projects
4	SAVE	No function

5	LOAD	No function
6	ALL	Select all the output ports to be configured simultaneously with the same setting
7	OFF	Turn off the selected output port
8	BUZZER	Turns the buzzer on or off
9	RESET	No function
10	FAN1	No function
11	FAN2	No function
12	FAN3	No function
13	FAN4	No function
14	OUTPUT BUTTON	selecting the numbered output port to be configured
15	INPUT BUTTON	selecting the numbered input port to be configured
16	ENTER	Confirm your operation
17	ESC	Cancel the last operation
18	MENU	Main menu

3 EDID Operation

3.1 HMX-4×4 EDID operation

HMX-4×4 does not support EDID operation.

3.2 HMX-8×8 EDID operation

- 1)、Press and hold the CTRL key on the front panel to display EDID SET in the middle of the LCD display LCD.
- 2)、Assign one of the connected output ports (for example, output 2) to one of the inputs (must be assigned to one port). For example, input 01 and output 02, and press ENTER to confirm. The display shows: EDID SAVE: IN 01 <- <OUT 02.
- 3)、Restart, so that will output port EDID copied to all input ports.
- 4)、EDID operation is complete, you need to press the CTRL key to return to HDMI SET mode, to switch the matrix operation.

3.3 HMX-16×16 EDID operation

- 1)、Press and hold the CTRL key on the front panel to display CTRL: EDID in the upper left corner of the LCD display.
- 2)、Assign any one of the connected output ports (for example, output 2) to the input port

(be sure to specify one port). For example, enter 01 port, output 02 port, and press ENTER to confirm. The lower right corner of the screen will display: EDID: 02> 01

3)、Restart, so that will output port EDID copied to all input ports.

4)、EDID operation is complete, you need to press the CTRL key to return to HDMI SET mode, to switch the matrix operation.

4 Display and menu description

HMX-4×4

HD0404 matrix does not have display part.

4.1 HMX-8×8

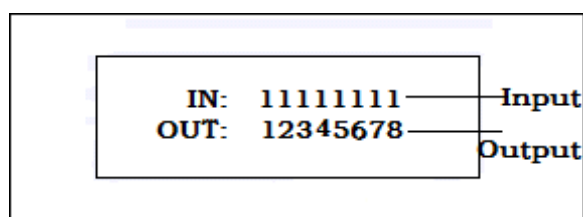


Fig 12 HMX-8×8

4.2 HMX-16×16

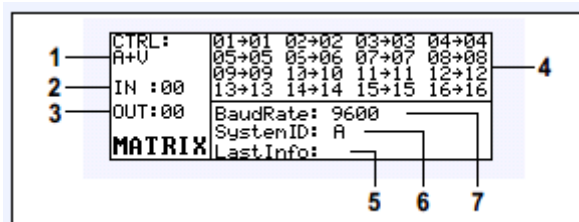


Fig 13 HMX-16×16

No.	Item	Description
1	CTRL	Select to A+V (Audio+Video) or Audio、or Video or EDID
2	Input	-
3	Output	-
4	Ctrl Status Indication	Display the switching status of the current channel
5	Last Info.	-
6	System ID	No function
7	BaudRate	Default:9600

4.3 The menu of HMX-16×16

MENU	
1:Plan Management	
2:Lockout	
3:Set Fan & Buzzer	
4:System Set	
5:Communication Set	

Fig 14 MENU

No.	Item	Description
1	Plan Management	Save/Call Plan, press 1 to enter, see Fig 15
2	Lockout	Keyboard/IR lockout, press 2 to enter, see Pic 18
3	Set Fan & Buzzer	Press 3 to enter, see Fig 19
4	Set System	Press 4 to enter, see Fig 20
5	Communication Set	Press 5 to enter, see Fig 21

4.3.1 Plan Management

Plan Management	
1:Save current matrix setting	
2:Calling matrix setting plan	

Fig 15 Plan Management

SAVE PLAN	
Please select your number:00	

Fig 16 Save Plan

CALL PLAN	
Please select your number:00	

Fig 17 Call Plan

4.3.2 LOCKOUT

LOCKOUT	
Keyboard	IR
1:⏏	2:⏏

Fig 18 Lockout

4.3.3 SET FAN&BUZZER

HMX-4×4/ HMX-8×8 / HMX-16×16 do not have fan, Only the HMX-16×16 can turn on / off the buzzer.

SET FAN & BUZZER			
FAN1	1:ON	FAN2	2:ON
FAN3	3:ON	FAN4	4:ON
BUZZER	5:ON		

Fig 19 SET FAN&BUZZER

4.3.4 SYSTEM SET

SYSTEM SET	
Factory Reset	0: YES
Close LCD Time	1: 10s
	2: 20s 3: 30s 4: 40s 5: 50s 6: 60s

Fig 20 SYSTEM SET

4.3.5 COMMUNICATION

Communication	
1: ID Code	
2: Baundrate	
3: IP Address	

Fig 21 Communication

No.	Item	Description
1	ID Code	No function
2	Baundrate	Default:9600
3	IP Address	No function

IV Serial control protocol

1 RS-232 communication port and connection method

This series of products provide two serial ports: RS-232-in and RS-232-out (see Fig 22). Input port connects with PC, output port

connects with other devices. Our matrix can cascade with multiple devices. Signal input from RS-232-in, output RS-232-out to other devices, please see Fig 23 and 24.

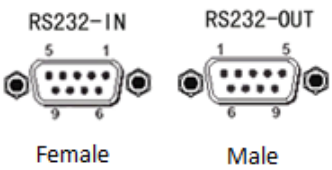


Fig 22 RS-232 serial console

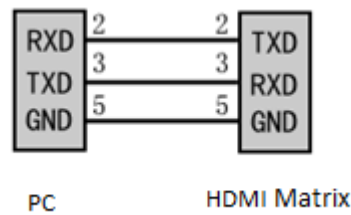


Fig 23 HDMI Matrix RS-232 input interface and PC wiring diagram

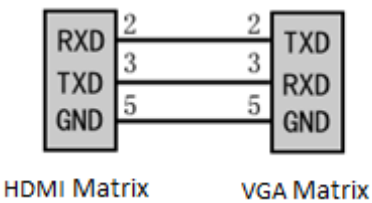


Fig 24 RS-232 output interface and the other matrix (VGA) wiring diagram

Pin	Functional
1	--
2	TXD
3	RXD
4	--
5	GND
6	--
7	--
8	--
9	--

RS-232 port IN (D-SUB9F) functional description

Pin	Functional
1	--
2	RXD
3	TXD
4	--

5	GND
6	--
7	--
8	--
9	--

RS-232 port OUT (D-SUB9M) functional description

2 RS-232 Serial input control

Serial input control:

Baud rate: 9600

Data bits: 8 bits

Start bit: 1 bit

Stop bit: 1 bit

Parity: None

V Product Parameters

Specification	Parameter
Input	Interface: Type-A-type HDMI Female Minimum Level: 0.5Vp-p Maximum Level: 1.0Vp-p Differential Impedance: 100Ω Return Loss: -30db@5MHz
Output	Interface: HDMI A-type(19 pin) Female Input Level: 0.7Vp-p Differential Impedance: 100Ω Return Loss: -30db@5MHz DC Compensation: 5mV(Max) It is recommended that the maximum input distance is less than 15 meters at 3840x2160 @ 30Hz (it is recommended to use certified HDMI cable, depending on the cable quality.)
Signal Type	HDMI1.4 specification HDMI-A all-digital T.M.D.S. signal
Protocol	Support HDMI1.4 Protocol, compatible with DVI1.0 Protocol
Resolution	BOX&DVD:480i@60HZ, 576i@60HZ, 480P@60HZ, 576P@60HZ, 720P@50HZ, 720i@60HZ, 1080i@25 HZ, 1080P@30HZ, 1080P@50HZ, 1080P@60HZ, 4K*2K@30HZ。 Laptop&PC:800*600 24/50/60Hz, 1024*768 24/50/60Hz, 1152*864 24/50/60Hz, 1280*600 24/50/60Hz, 1280*720 24/50/60Hz, 1280*768 24/50/60Hz, 1280*800 24/50/60Hz, 1280*960 24/50/60Hz, 1280*1024 24/50/60Hz, 1360*768 24/50/60Hz,

	1366*768 24/50/60Hz, 1400*1050 24/50/60Hz, 1400*900 24/50/60Hz, 1600*900 24/50/60Hz, 1600*1024 24/50/60Hz, 1600*1200 24/50/60Hz, 1680*1050 24/50/60Hz, 1920*1080 24/50/60Hz, 1920*1200 24/50/60/75/85Hz, 1920*1440 60/70/85Hz, 2048*1536 60Hz, 2560*1440 60/70/75Hz, 2560*1600 60Hz, 3840*2160 24/25/30Hz, 3840*2160 24/30Hz。
Serial interface	RS232, 9-pin female D-type connector, Ports 2, 3 and 5 are directly connected Serial port parameters: 9600bps, 8-bit data, 1 start bit, 1 stop bit, no check, no flow control
Control Method	Panel Button、RS232、Remote Controller (Optional)、PC software control
Power Supply	AC 100V-240V/50Hz (The factory default input voltage AC220V, other input voltage when ordering please specify.)
Power	30~150W (Depending on the specific model to determine power)
Operation Temperature	0°C~45°C
Relative	10%—90%
Installation	Cabinet Installation、Desktop Installation
Shock	1m cement floor (include package)
ESD	8KVDC