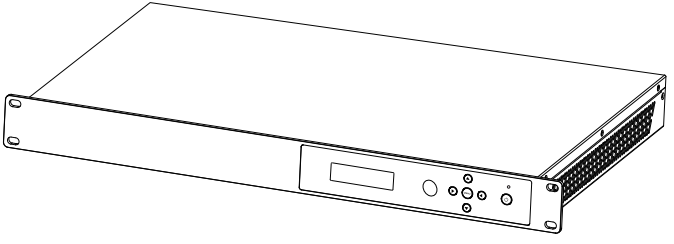
8x8 HDMI 18Gbps Matrix with Audio De-embedded



User Manual

VER 2.0

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.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shook, lighting strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Table of Contents

1. Introduction

The 8x8 HDMI Matrix supports the transmission of video (up to 4K2K@60Hz YUV 4:4:4, 18Gbps, HDCP 2.2) and multi-channel digital audio from 8 HDMI sources to 8 HDMI displays. Audio de-embedded is supported from 8 HDMI output ports. Control is via button, IR, RS-232, LAN and Web GUI.

2. Features

☆ HDMI 2.0b, HDCP 2.2 and HDCP 1.4 compliant
☆ Up to 4K2K@60Hz (YUV 4:4:4) on all HDMI ports
☆ Supports pass-through audio up to 7.1 channels of High Definition audio (LPCM, Dolby TrueHD, and DTS-HD Master Audio)
☆ Audio de-embedded is supported via coax port
☆ HDR, CEC and smart EDID management supported
☆ Control is via on-panel Button, IR, RS-232, LAN and Web UI
☆ 1U rack mounted design with metal enclosure

3. Package Contents

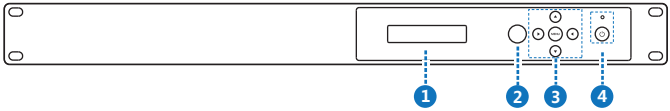
① 1x 8x8 HDMI Matrix
② 1x 12V/3A Locking Power Adaptor
③ 1x Remote Control
④ 1x Wideband IR Receiver cable
⑤ 1x RS-232 male to female serial cable
⑥ 1x User Manual

4. Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2 and HDCP 1.4
Video Bandwidth	18Gbps
Video Resolutions	Up to 4K2K@50/60Hz (YUV 4:4:4), 4K2K@30Hz, 1080p@120Hz, and 1080p 3D@60Hz
Color Depth	8-bit, 10-bit, 12-bit
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2
HDMI Audio Formats	LPCM 2/5.1/7.1, Dolby Digital, DTS 5.1, Dolby Digital+, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos, DTS:X
Audio Formats	PCM2.0, 32K/44.1K/48K/88.2K/96K/192K, 16/20/24bit
ESD Protection	Human-body Model: ±8kV (Air-gap discharge) , ±4kV (Contact discharge)
Connections	
Inputs	8x HDMI Type A [19-pin female] 1x LAN [RJ45, Control] 1x RS-232 [9-pin D-sub, Control] 1x IR EXT [3.5mm Stereo Mini-jack]
Outputs	8x HDMI Type A [19-pin female] 8x Coaxial Audio [RCA]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	483mm (W)×253mm (D)×44.5mm (H)
Weight	3.35kg
Power Supply	Input: AC100~240V 50/60Hz, Output: DC12V/3A (US/EU standards, CE/FCC/UL certified)
Power Consumption	26.5W (max)
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (non-condensing)

5. Operation Controls and Functions

5.1 Front Panel



Number	Name	Function descriptions
1	OLED display	Display system input/output port status, EDID management and matrix IP address.
2	IR Window	IR receiver window, it receives IR remote control signal to control this device.
3	Left/Right/Up/ Down/Menu Buttons	After system power up, the OLED screen default displays the input and output status of the last power off. A) On the initial OLED display, you can press the 'Left' or 'Right' button firstly to select output port, then press the 'up' or 'down' button to select the input port, then press the 'MENU' button to confirm this operation. B) On the initial OLED display, you can press the 'Up' or 'Down' button to check each input EDID setting, press the 'Menu' button go back to the initial OLED display. C) On the initial OLED display, you can press 'Menu' button to operate the following functions by the combination of these five buttons, press 'Up' or 'Down' button to select function: 1. Select EDID: Press the 'Right' button, then press the 'Up' or 'Down' button to select EDID as showed in the below table. Once you complete EDID selection, press the 'Right' button then press the 'Left' or 'Right' button to select your EDID to copy to which input port, press the 'Right' button to confirm this operation. 2. PTP Set: Press the 'Right' button to set PTP mode (point to point, means IN1-OUT A, IN2-OUT B, IN3-OUT C...).

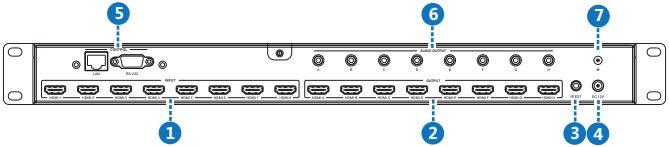
		3. Save Preset: Press the ‘Right’ button to save current configuration to preset, press ‘Up’ or ‘Down’ button to select storage location, press the ‘Right’ button to confirm this operation. 4. Recall Preset: Press the ‘Right’ button to recall previous preset, press ‘Up’ or ‘Down’ button to select preset you want, press the ‘Right’ button to confirm this operation. 5. View IP: Press the ‘Right’ button to check IP address and DHCP status. 6. Select Baud: Press the ‘Right’ button, then press the ‘Up’ or ‘Down’ button to select baud, press the ‘Right’ button to confirm this operation. 7. Factory Reset: Press the ‘Right’ button to setting factory reset status, then press the ‘Right’ button to confirm this operation or the ‘Left’ button to quit this operation.
4	Power and Power LED	Long press this button to power on/off device. The LED will illuminate in green when the device is power on and show in red when this device is standby.

The EDID table:

EDID Mode	EDID Description
1	720P 2.0 CH
2	1080P 2.0 CH
3	1080P 5.1 CH
4	1080P 7.1CH
5	1080I 2.0 CH
6	1080I 5.1 CH
7	1080I 7.1CH
8	3D 2.0 CH
9	3D 5.1 CH
10	3D 7.1 CH
11	4K*2K@30 2.0 CH
12	4K*2K@30 5.1 CH
13	4K*2K@30 7.1 CH
14	4K60_420 2.0CH
15	4K60_420 5.1CH
16	4K60_420 7.1CH

17	4K*2K@60 2.0 CH
18	4K*2K@60 5.1 CH
19	4K*2K@60 7.1 CH
20	Copy HDMI Out A
21	Copy HDMI Out B
22	Copy HDMI Out C
23	Copy HDMI Out D
24	Copy HDMI Out E
25	Copy HDMI Out F
26	Copy HDMI Out G
27	Copy HDMI Out H

5.2 Rear Panel



Number	Name	Function descriptions
1	HDMI INPUT	Connect to the HDMI input source devices such as a DVD player or Set-top Box.
2	HDMI OUTPUT	Connect to the HDMI output source devices such as a TV player or monitor.
3	IR EXT	If the front IR sensor of unit is obstructed or the unit is installed in a closed area out of infrared line of sight, the IR receiver cable can be inserted to this IR EXT port to extend IR signal.
4	DC 12V	Plug the 12V/3A adapter to AC wall outlet for power supply.
5	CONTROL	LAN: connects to an active Ethernet link by an RJ-45 cable. RS-232: Connect to a PC or control system by D-Sub 9-pin cable to control the matrix with RS-232 commands.
6	AUDIO OUTPUT	Connect to audio amplifiers or speakers.
7	GND	Connect the GND port to the ground.

6. Remote Control

⏻ : Power on or set it to standby status.

Input 1/2/3/4/5/6/7/8: Press these button to select input signal source.

◀ ▶ : Press these button to select the last or the next input signal source.

Output 1/2/3/4/5/6/7/8: Press these button to select output signal source.

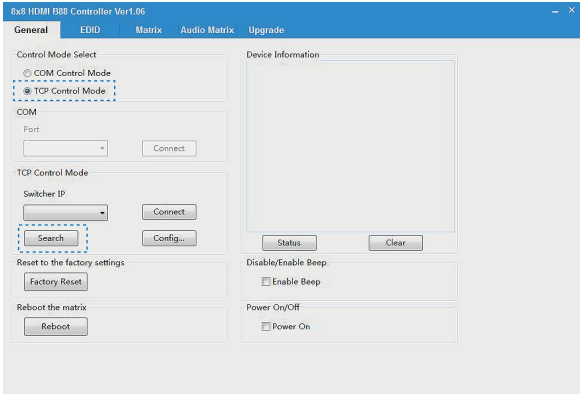
All: Press this button to select all output signal source simultaneously.

Operating instructions: User need select output button firstly and then select input button to select output display corresponding input signal source.

7. Web GUI User Guide

The Matrix can be controlled via Web GUI. You must know current Matrix IP address. The static IP address is 192.168.1.100. You can connect PC Web GUI through dynamic IP address. Generally speaking, you can get IP address from two ways. The first way gets the IP address via Upper Controller . The second way gets IP address via on-panel button. Then you need set the IP address to your PC or laptop or mobile device is within the same IP address segment with the Matrix. After above, you can enter the Matrix IP address in the web browser to access Web GUI.

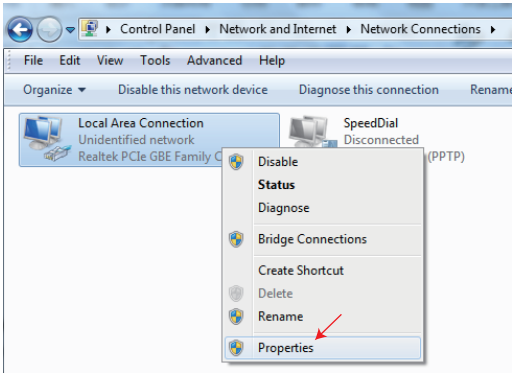
The first way: The Matrix gets IP address via Upper Controller. The RS-232 port connects USB port on PC. The LAN port and the PC connect the same a router device. At this time, you need open the Upper Computer software of the product. The page likes below:



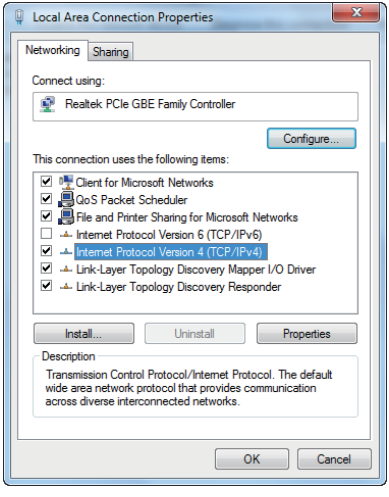
Select the “TCP Control Mode” port, then click the “Search” button. At this moment, you can get current IP address. You can set the IP address to your PC Internet Explorer and click “Search” to enter Web GUI page.

Note: In the same network segment and IP address, you can use other tools to connect the product’s WEB GUI such as PC/iPad/laptop etc.

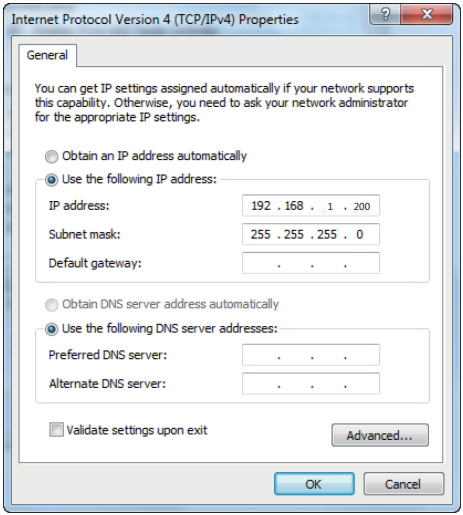
The second way: The Matrix gets IP address via on-panel button. On the initial OLED display, you can press “Menu” button to enter function page. Then press “Up” or “Down” button to select function. When select the “View IP” function, then press the “Right” button to check current IP address and DHCP status. At this moment, you can get current IP address.
Step 1: The LAN port connects directly PC with an UTP cable.
Step 2: On the PC, go to **Control Panel** > **Network and Internet** > **Network Connections** > **Local Area Connections**, right click on it, choose **Propertiers.**



Double click Internet Protocol Version 4 (TCP/IPv4)



Choose Use the following IP address, input 192.168.1.200 as IP address, 255.255.255.0 as Subnet mask, and then click on OK, click on OK again.

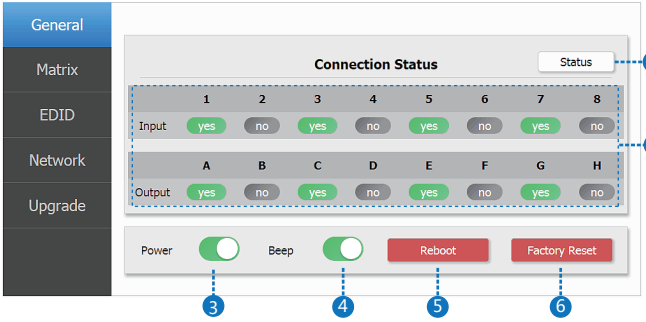


Note: The IP address of the computer and matrix should be in the same network segment. As the matrix's IP address is 192.168.10.100, the computer's IP should be 192.168.10.X (X contains 1~255 except 100).

Step 3. Input the IP address from front panel into a brower on the PC to enter Web GUI page, The pages like below.

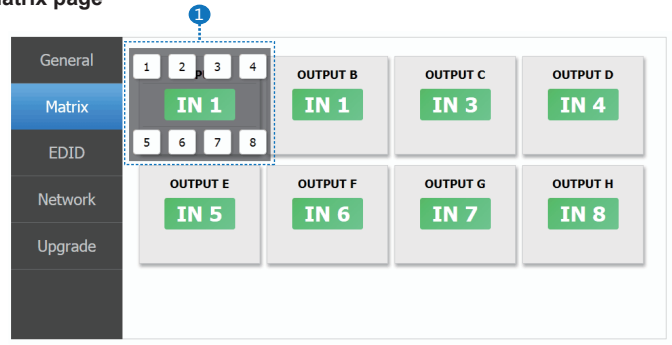
The Web GUI likes below:

General page



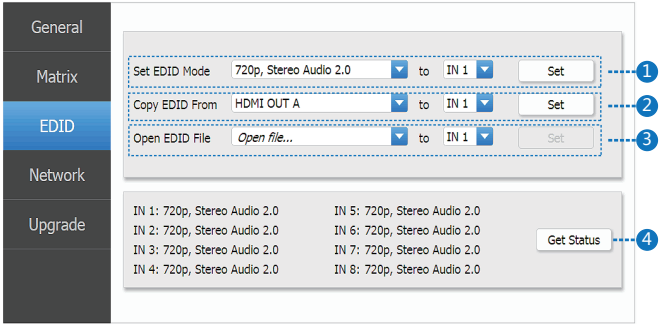
① Click this button to check current the Matrix connection status.
② Display currently the Matrix input and output port status. The “yes” have connected input or output source and “no” represent not connection.
③ Power switch. The Matrix will work when open this switch. Otherwise, the Matrix will standby.
④ Beep switch. Open this switch, press the Matrix on-panel button will have voice. Close this switch, it will mute.
⑤ Click this button will reboot device.
⑥ Click this button will set it to factory reset.

Matrix page



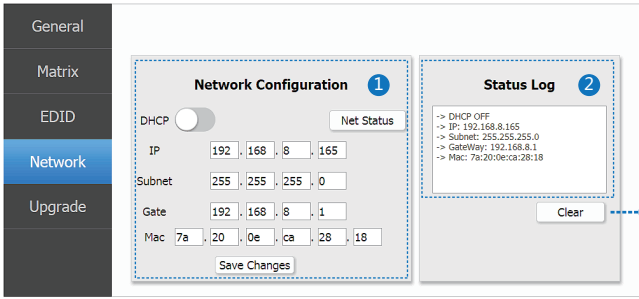
① You need click green area and then choose one input source to the OUTPUT A port. (The others OUTPUT ports have similar to function about Tab ①.)

EDID page



① Select EDID mode to input source, then click “Set” button.
② Copy EDID from output display to input source, then click “Set” button.
③ Open EDID file to input source.
④ Display the input source EDID mode status.

Network page



① Network Configuration

◆ In DHCP open status:

DHCP switch: Obtian the network configuration information, including IP address, Subnet, Gateway and MAC. Then click “Set” button to save DHCP status.

◆ In DHCP close status:

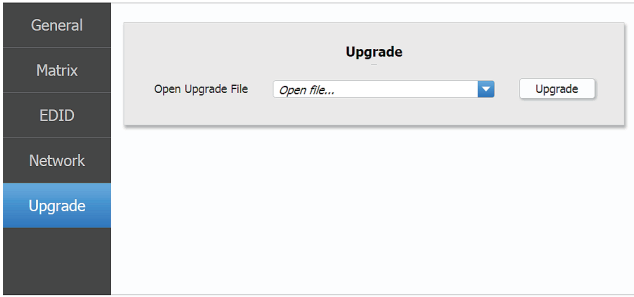
DHCP switch: If the DHCP switch has been closed, user can set IP, Subnet, Gateway and Mac address. In this moment, click the “Set” button to save current status information. (Note: If user have set a new IP address and click the “Set” button. At this moment, user have changed the IP address.)

Net Status button: Click this button will refresh currently network configuration information to display in Status Log.

② Status Log: Display the Net configuration information.

③ Clear button: Clear the Status Log information.

Upgrade page



① Open upgrade file, then click the “Upgrade” button.

8. FAQ

1. Q: Does this product require an HDMI line length for the connection interface?
A: According to HDMI line length test, HDMI input / output with 4K2K@60Hz YUV 4:4:4 is the longest line length up to 16.4ft / 5m.

The use of “Premium High Speed HDMI” cable is highly recommended.

9. Application Example