16x16 HDMI Matrix Switcher with Smart EDID Management

User Manual

VER 1.0

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 shock, 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

This product is a high performance HDMI Matrix Switcher. It can be switched any of 16 HDMI HD contents to any of 16 HDMI HD display devices simultaneously and the OLED screen on the front panel will display the input and output port currently. It supports resolution the maximum up to 4K60Hz YUV 4:2:0. The input and the output support HDCP 2.2. It can be selected smart EDID management by Upper Computer and Web GUI. The product can be controlled by on-panel button, IR remote control, RS-232, LAN , Upper Computer and Web GUI.

2. Features

- ☆ HDMI 2.0b (4K60Hz YUV 4:2:0), HDCP 2.2 / HDCP 1.4 and DVI 1.0 compliant
- ☆ Supports resolution up to 4K2K@50/60Hz (YUV 4:2:0) for all HDMI ports
- ☆ Supports pass-through audio up to LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS HD Master Audio
- ☆ Supports smart EDID management
- ☆ Supports on-panel button, IR remote control, RS-232, LAN, Upper Computer and Web GUI control
- ☆ Supports power off remember function
- ☆ 1U rack mounted design with metal enclosure

3. Package Contents

① 1x 16x16 HDMI Matrix Switcher
② 1x IR Remote Control
③ 1x Phoenix Connector
④ 1x 100~240V AC 50/60Hz Power Cable
⑤ 1x User Manual

4. Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2 and HDCP 1.4
Video Bandwidth	10.2Gbps

Video Resolutions	4K2K@50/60Hz YUV4:2:0, 4K2K@30Hz YCbCr / YUV 4:4:4, 1080p@60Hz YCbCr4:4:4 / 4:2:2
Color Depth	8/10/12-bit (1080P60Hz, YCbCr4:4:4) 8-bit (4K60Hz, YUV 4:2:0)
Color Space	YCbCr 4:4:4 / 4:2:2, YUV4:2:0
HDMI Audio Formats	LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS HD Master Audio
ESD Protection	Human-body Model : ±8kV (Air-gap discharge) , ±4kV (Contact discharge)
Connections	
Inputs	16x HDMI Type A [19-pin female] 1x LAN [RJ45, Control] 1x RS-232 [9-pin D-sub, Control]
Outputs	16x HDMI Type A [19-pin female] 1x OLED display screen
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	440mm (W)×303mm (D)×44.5mm (H)
Weight	4.2kg
Power Supply	100~240V AC 50/60Hz
Power Consumption	31.3W
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)

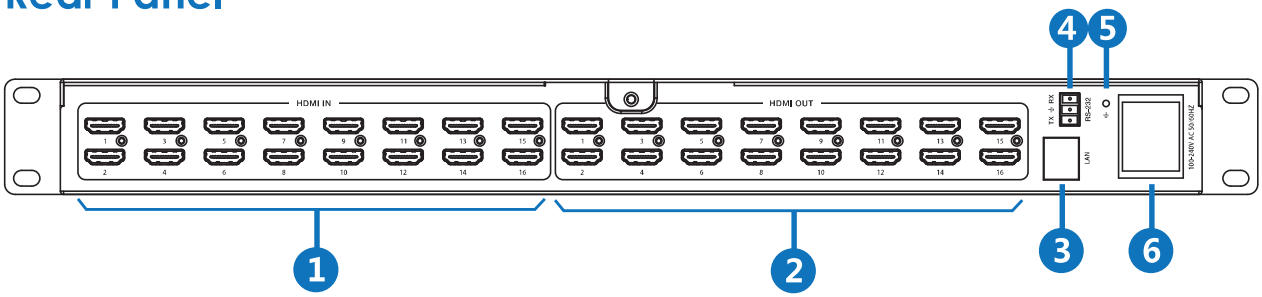
5. Operation Controls and Functions

5.1 Front Panel

Number	Name	Function descriptions
1	OLED display screen	Display current input / output port.
2	IR Window	IR receiver window, it receives IR remote control signal from this device only.
3	Left/Right/Up/ Down/OK Buttons	The product has power off remember function. After the product power up, the OLED screen will display the input and output port of the last power off. **Left button:** The INPUT port on the OLED screen will flicker when you press the left button. At this moment, you can use 'UP' or 'DOWN' button to select the last or the next input source. Then press the 'OK' button to confirmation. **Right button:** The OUTPUT port on the OLED screen will flicker when you press the right button. At this moment, you can use 'UP' or 'DOWN' button to select the last or the next output display. Then press the 'OK' button to confirmation. **UP and DOWN button: '**UP' button is used to increase number and 'DOWN' button is used to discrease number.
4	Power button	Pressing the button is power on the product and up to 5s is standby status.

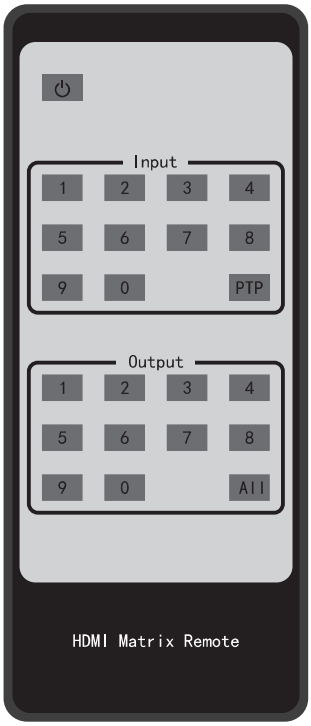
Note: ① If product can not work and you need to upgrade again.
Upgrade method: Press the 'Left' button when the product is power off and at the same time power on the product. The OLED screen on the front panel will prompt '- - - -' when pressing the 'Left' button up to 5s. At this moment, the product has entered 'BOOT' status. You can upgrade the product through Upper computer or Web GUI.
② Turn on/off the HDCP:
▪ Turn on: The OLED screen on the front panel will display 'ON' and flicker when pressing the 'OK' button up to 10s. At this time, you have turned on the HDCP function and output HDCP is following the input signal HDCP. The system will reboot, and it is OK when the system reboots over.
▪ Turn off: The OLED screen on the front panel will display 'OFF' and flicker when pressing the 'OK' button up to 10s. At this time, you have turned off the HDCP function and output HDCP is not following the input signal HDCP. The system will reboot, and it is OK when the system reboots over.

5.2 Rear Panel



Number	Name	Function descriptions
1	HDMI IN (1~16)	HDMI input port, connect to HDMI source device such as DVD or PS4 player with an HDMI cable.
2	HDMI OUT (1~16)	HDMI output port, connect to HDMI display device such as TV or Monitor with an HDMI cable.
3	LAN	Connect to an active Enternet link by an RJ-45 cable to control the product.
4	RS-232	Connect to a PC or control system by phoenix connector cable to control product.
5	GND	Connect the GND port to ground.
6	AC power input	Connect to AC power with an AC power cable.

6. Remote Control



⏻: Power on or set the product to standby status.

Input:

Input 0~9: Select one input signal source.

Note: You must select two numbers when you select one input signal source. For example, if you want to select the first input signal source, you need to press ‘0’ button and then ‘1’ button.

‘PTP’ button: Press the ‘PTP’ button and then select one output source in the 0~9 Output area. It will be one-to-one output. For example, when you press the ‘PTP’ button and then select the second output source. The second output port outputs signal from the second input source.

Output:

Output 0~9: Select one output signal source.

Note: You must select two numbers when you select one output signal source. For example, if you want to select the first output signal source, you need to press '0' button and then '1' button.

'All' button: Press this button to select all output signal source simultaneously. If press the 'PTP' button and then press the 'All' button, all input and output signal source will be output one-to-one. If press the first input source and then press 'All' button, the first input source will output to all output ports.

Operation instructions:

① You need select input button and then select output button to selecting output display corresponding input signal source.

② When you use the remote control to selecting input and output source, and you can select one input source to many output outputs when the 'OUTPUT' port on the front panel OLED screen is flickering. Then press the 'OK' button to confirmation. For example, you select the first input source and then press the 'OK' button. You can select 01, 02,13,14, etc. output when the 'OUTPUT' port on the front panel OLED screen is flickering and then press the 'OK' button. At this time, the first input source will output in 01, 02, 13,14, etc. port.

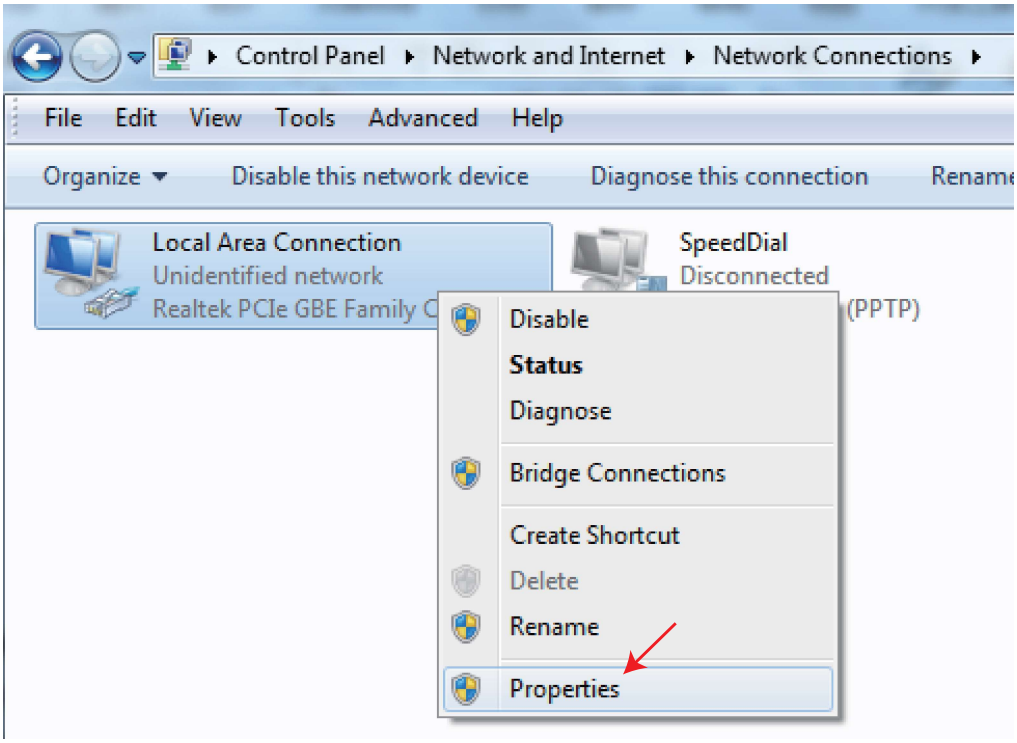
7. Web GUI User Guide

The Matrix can be controlled via Web GUI. You must know current Matrix IP address. There is two ways to connect Web GUI. The static IP address is 192.168.1.100. You can also connect Web GUI through dynamic IP adress.

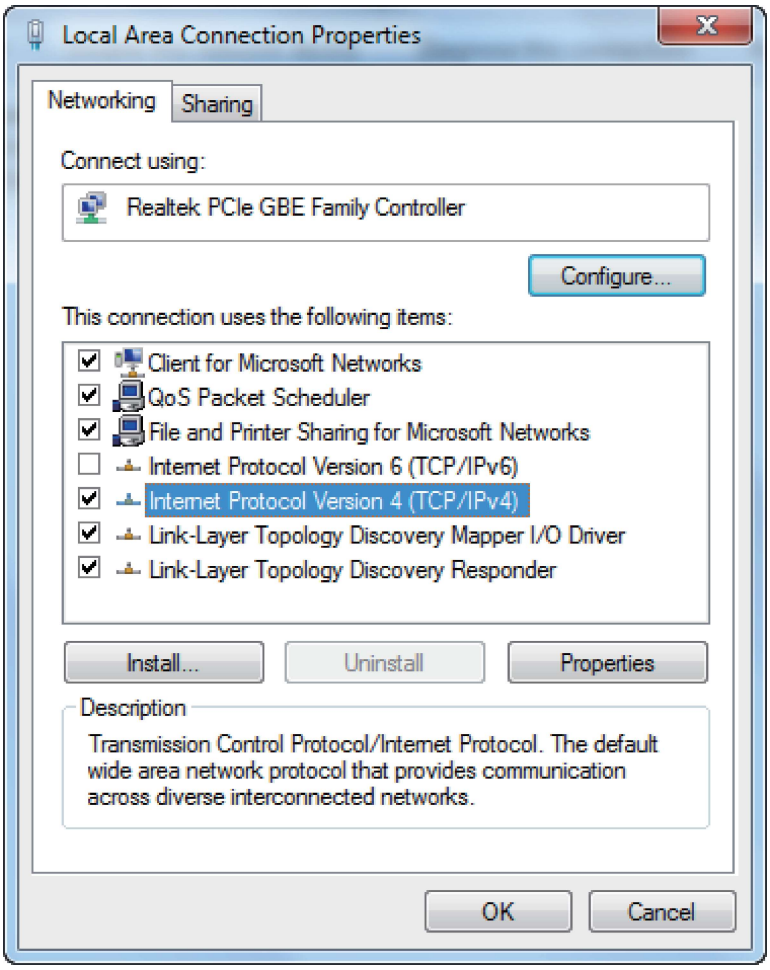
The first static IP way:

Step 1: The LAN port on the product connects directly PC's netport with an UTP cable.

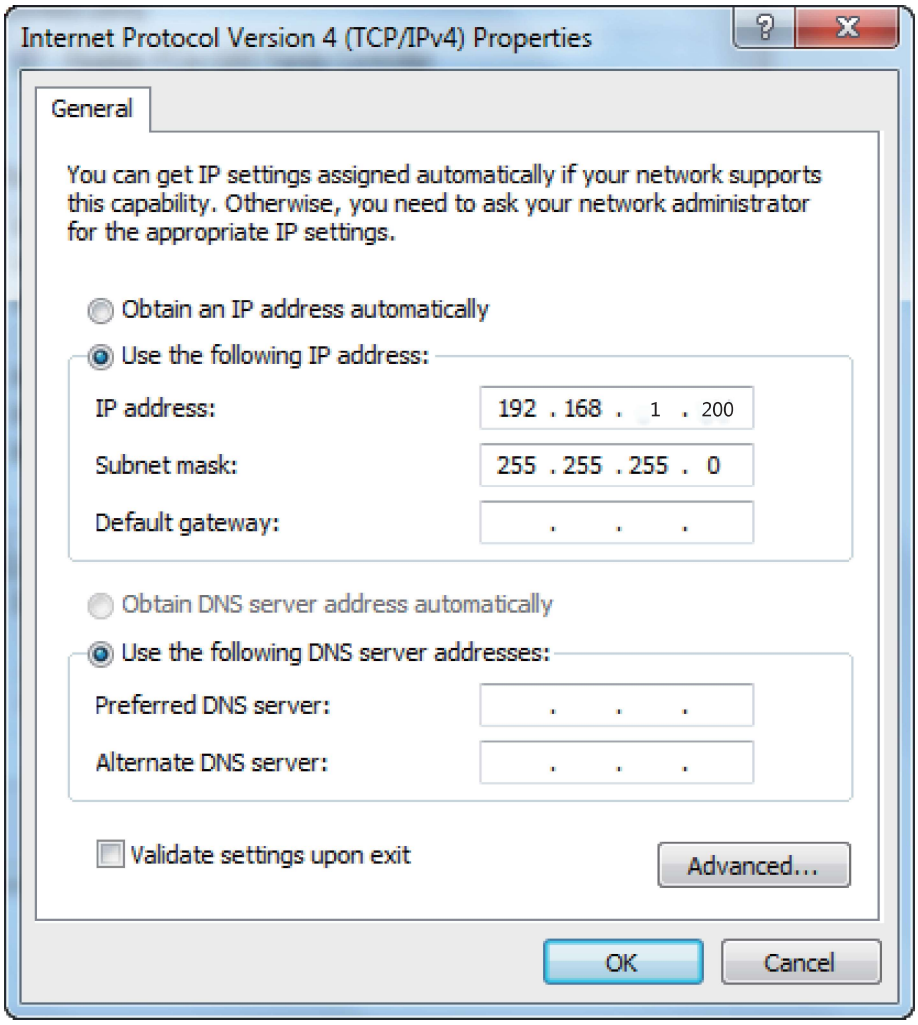
Step 2: On the PC, go to **Control Panel** > **Network and Internet** > **Network Connections** > **Local Area Connections**, right click on it, choose **Propertiers.**



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.

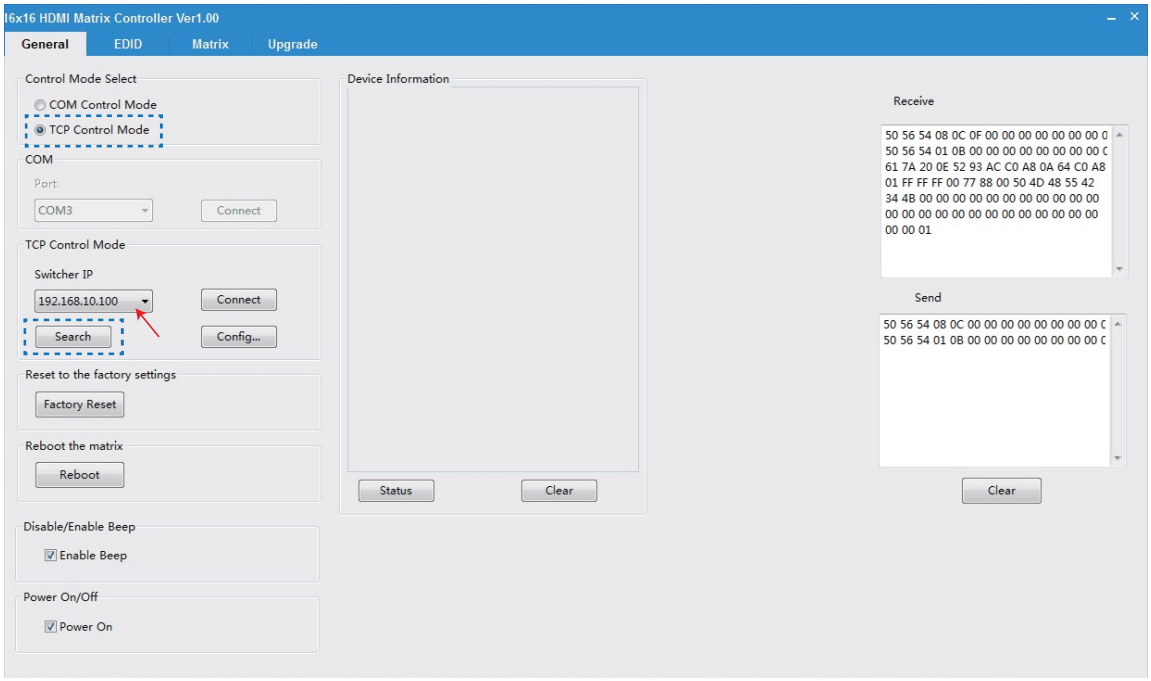


Note: The IP address of the computer and matrix should be in the same network segment. As the matrix's IP address is 192.168.1.100, the computer's IP should be 192.168.1.X (X contains 1~255 except 100).

Step 3: Input the ‘192.168.1.100’ IP address into the PC brower to enter Web GUI page, The Web GUI pages is show as below.

The second dynamic IP way:

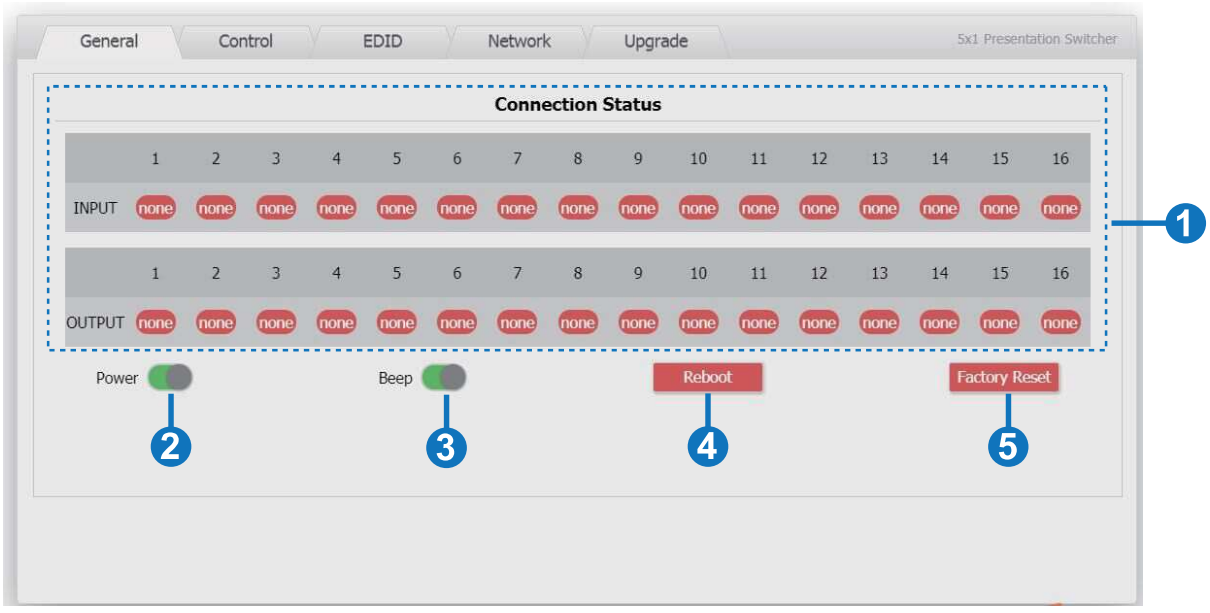
Connection method: The RS-232 port on the product connects USB port on PC. The LAN port on the product and the PC connect the same a router device. At this time, you need open the Upper Computer software of the product. The page is show as below:



Select the ‘TCP Control Mode’ and click the ‘Search’ button. You can get a IP address. Then you need set the IP address to the PC browser and click ‘search’ button to enter Web GUI page. The Web GUI pages is show as below:

Note: In this connection method, 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.

General page

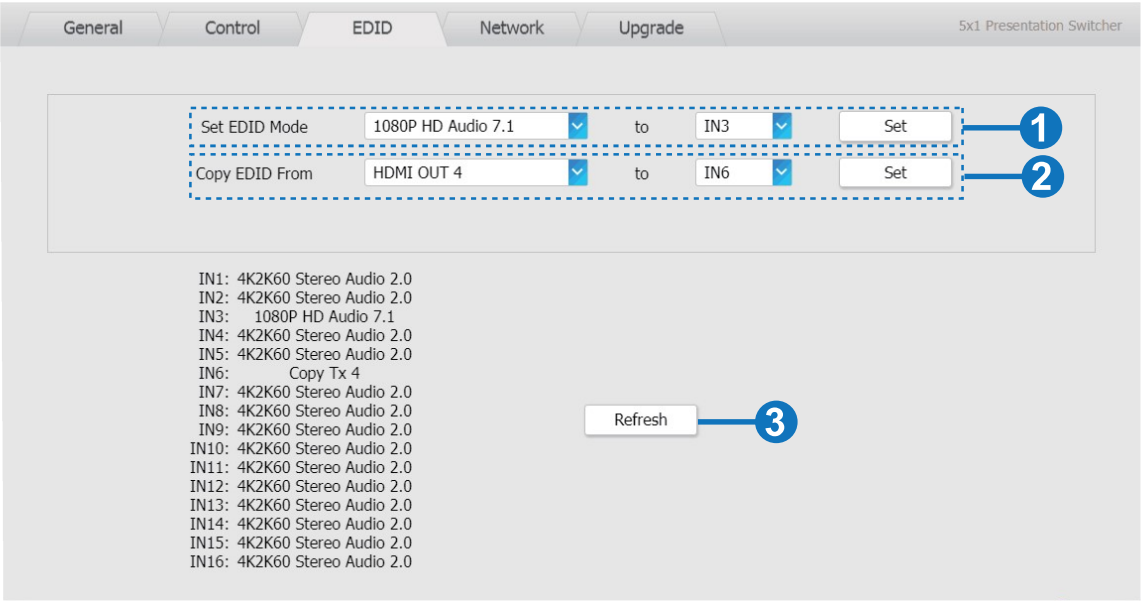


① Display current input and output status.
② Power switch. The Matrix will work when you open this switch. Otherwise, the Matrix will standby.
③ Beep switch. Open this switch, pressing the Matrix on-panel button will have voice. Close this switch, it will mute.
④ Clicking this button will reboot device.
⑤ Clicking this button will set it to factory reset.

Control page

Control: Select the input and output source.

EDID page

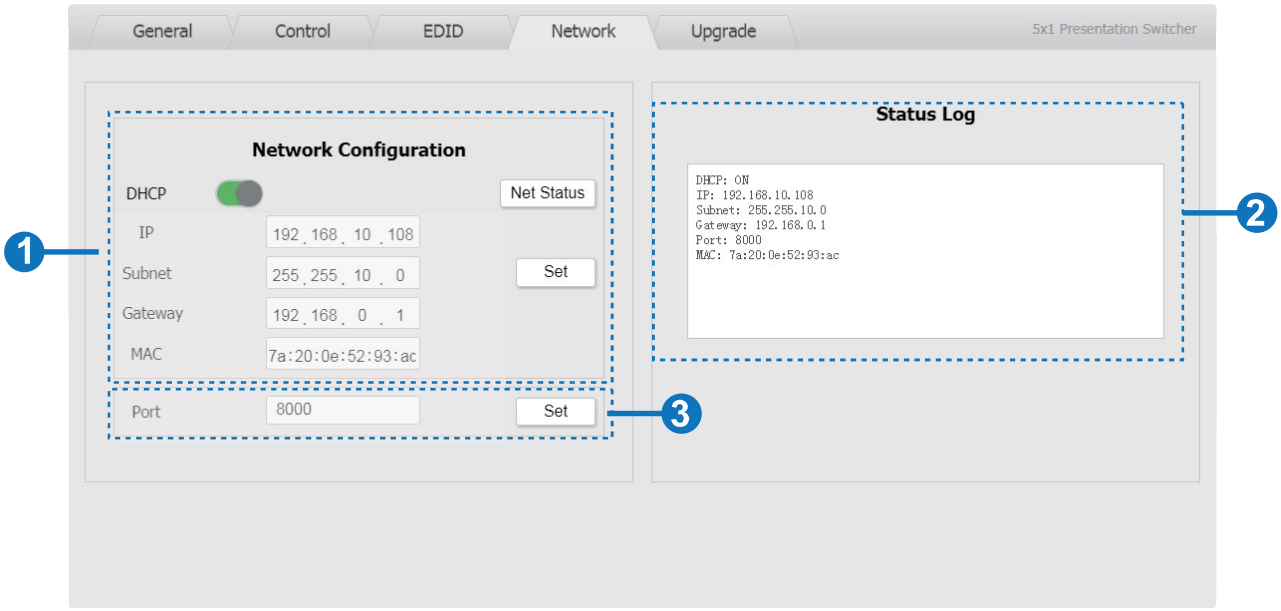


① Select EDID mode to input source, then click “Set” button.
② Copy EDID from output display to input source, then click “Set” button.
③ Refresh currently the input source EDID status.

The following is the EDID schema table.

EDID position	EDID description
0001	1080p, Stereo Audio 2.0
0010	1080p, Dolby/DTS 5.1
0011	1080p, HD Audio 7.1
0100	1080i, Stereo Audio 2.0
0101	1080i, Dolby/DTS 5.1
0110	1080i, HD Audio 7.1
0111	3D, Stereo Audio 2.0
1000	3D, Dolby/DTS 5.1
1001	3D, HD Audio 7.1
1010	4K2K30, Stereo Audio 2.0
1011	4K2K30, Dolby/DTS 5.1
1100	4K2K30, HD Audio 7.1
1101	4K2K60, Stereo Audio 2.0
1110	4K2K60, Dolby/DTS 5.1
1111	4K2K60, HD Audio 7.1

Network page



① Network Configuration

◆ In DHCP open status:

HDCP 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:

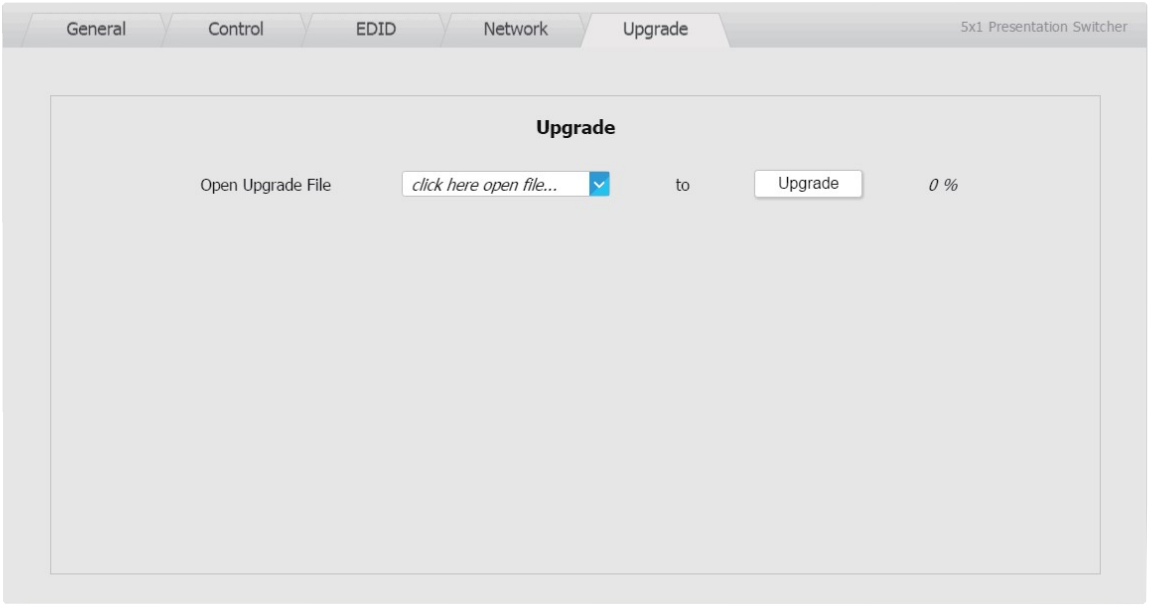
HDCP switch: If the DHCP switch has been closed, user can set IP, Subnet, Gateway and Mac address. In this moment, click the “Set” button to save current status information. (Note: If user have set a new IP address and click the “Set” button. At this moment, user have changed the IP address.)

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 Port button: Set the value of the LAN port.

Upgrade page



Upgrade: The product can be upgraded through open a '.bin' upgrade file and 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 4:2:0 8bit is the longest line length up to 16.4ft / 5m.

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

9. Application Example