



UHD44-EXB230R-K

**4x4 HDBaseT Matrix Extender
with Audio Extraction
up to 230 feet**

USER MANUAL

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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, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the service life of your equipment.

Registration Page

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Introduction & Features

The UHD44-EXB230R-K is a 4K HDMI Matrix extender that distributes media signals from four inputs to four distant displays. It supports video resolutions up to 4K@60Hz and is compliant with HDMI 2.0b and HDCP 2.2 standards. This matrix extender can extend HDMI signals up to 230 feet. Packed with a video bandwidth of 18Gbps, it also allows for seamless pass-through of HDR, HDR10, HDR10+, Dolby Vision, and HLG. For displays that don't support 4K resolution, this matrix extender can downscale the resolution to 1080p on all output ports. This matrix extender supports a wide range of audio formats up to 7.1 channels, including LPCM, Dolby TrueHD, and DTS-HD Master Audio, with audio extraction through analog and coaxial outputs simultaneously. It is equipped with bi-directional IR control allowing the control of the source device from the receiver's location and vice versa. Its Power over cable technology enables powering up the setup through only one power adapter connected to the transmitter. The unit can be controlled via the front panel buttons, remote control, RS-232, LAN, or the WebGUI interface. With its rack-mountable design, integration into both residential and commercial setups becomes easy.



Features

1. HDCP 2.2 compliant
2. Video resolutions up to 4K@60Hz
3. 18Gbps video bandwidth
4. 4 HDMI outputs and 4 HDBaseT mirrored outputs
5. 4K to 1080p downscale on all output ports
6. Extension of media up to 230 feet
7. HDMI audio pass-through up to 7.1CH HD audio (LPCM, Dolby TrueHD, and DTS-HD Master Audio)

Package Contents

8. Audio extraction through analog and coaxial outputs which follows the video output of OUTPUT (1-4) ports.
9. Bi-directional IR support
10. CEC control
11. Advanced EDID management
12. Power over cable technology
13. Control via front panel buttons, IR remote, RS-232, LAN & WebGUI
14. Rack-mountable design for flexible installation

Package Contents

1.	UHD44-EXB230R-K Transmitter	1 pcs
2.	Receiver	4 pcs
3.	Remote	1 pcs
4.	IR Blaster Cable (1.5m)	5 pcs
5.	IR Receiver Cable (1.5m)	5 pcs
6.	3-pin Phoenix Connector	4 pcs
7.	5-pin Phoenix Connector	4 pcs
8.	Mounting Ear (Matrix and Receiver)	10 pcs
9.	RS-232 Serial Cable (1.5m, male to female head)	1 pcs
10.	100-240V AC 50/60Hz Power Cable	1 pcs
11.	User Manual	1 pcs

Specifications

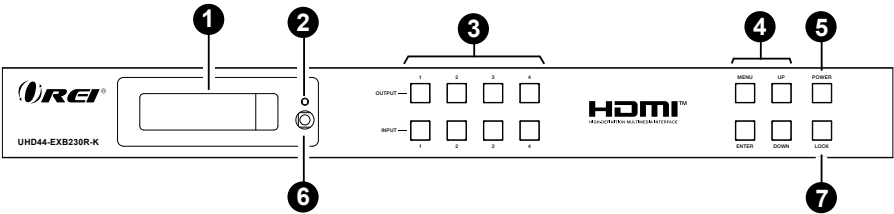
Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution	Up to 4K@60Hz
Color Depth	8-bit, 10-bit, 12-bit (1080p@60Hz) 8-bit (4K@60Hz YUV4:4:4) 8-bit, 10-bit, 12-bit (4K2K@60Hz YCbCr 4:2:2/4:2:0)
Color Space	RGB 4:4:4, YCbCr 4:4:4/4:2:2/4:2:0
HDR	HDR 10, HDR 10+, Dolby Vision, HLG
HDMI Audio Formats	LPCM 2.0/2.1/5.1/6.1/7.1, Dolby Digital, Dolby TrueHD, Dolby Digital Plus(DD+), DTS-ES, DTS HD Master, DTS HD-HRA, DTS-X
Coaxial Audio Formats	PCM 2.0, Dolby Digital / Plus, DTS 2.0/5.1
Analog Balanced Audio Formats	PCM 2.0
Vmax	2Vrms
SNR	> 90dB
THD+N Ratio	< 0.1% (V_max) 0.001%-0.01% (V_best)
Crosstalk	> 80dB
Frequency Response	20Hz~20kHz ±0.5dB
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Connection	
Transmitter	Input: 4 × HDMI [Type A, 19-pin female] Output: 4 × HDMI [Type A, 19-pin female] 4 × HDBaseT port [RJ45, 8-pin female] 4 × Coaxial audio [RCA] 4 × Balanced analog audio [5-pin Phoenix connector] Control: 5 × IR IN [3.5mm Stereo Mini-jack] 5 × IR OUT [3.5mm Stereo Mini-jack] 1 × TCP/IP [RJ45, 8-pin female] 1 × RS-232 [DB 9]

Specifications

Connection			
Receiver	Input: 1 × HDBT [RJ45, 8-pin female] Output: 1 × HDMI [Type A, 19-pin female] 1 × AUDIO OUT [3.5mm Stereo Mini-jack] Control: 1 × IR IN [3.5mm Stereo Mini-jack] 1 × IR OUT [3.5mm Stereo Mini-jack] 1 × RS-232 [3-pin Phoenix connector] 1 × SERVICE [Micros-USB, Update port]		
Mechanical			
Housing	Metal Enclosure		
Silkscreen Color	Black		
Dimensions	Transmitter: (L) 440mm / 17.32in × (W) 200mm / 7.87in × (H) 44.5mm / 1.75in Receiver: (L) 140mm / 5.51in × (W) 65mm / 2.55in × (H) 18mm / 0.7in		
Weight	Transmitter: 3.1 kg / 6.83lbs, Receiver: 155g / 5.46oz		
Power Supply	AC 100 - 240V 50/60Hz		
Power Consumption	60W (Max)		
Operating Temperature	32 - 104°F / 0 - 40°C		
Storage Temperature	-4 - 140°F / -20 - 60°C		
Relative Humidity	20-90% RH (Non-condensing)		
Resolution / Distance	4K60 - Feet / Meters		
CAT 5e/6/7	492ft / 150m		
Resolution / Cable length	4K60 - Feet / Meters	4K30 - Feet / Meters	1080P60 - Feet / Meters
HDMI IN / OUT	16ft / 5m	32ft / 10m	50ft / 15m
The use of "Premium High Speed HDMI" cable is highly recommended.			

Operation Controls and Functions

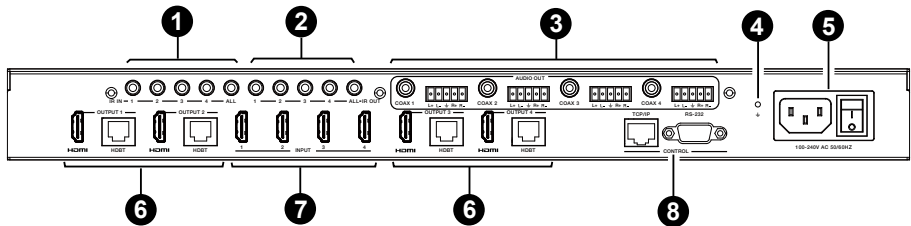
Transmitter Front Panel



No.	Name	Function Description
1.	OLED screen	Displays the Matrix switching status, input/output routing, EDID, Baud rate, IP address, etc.
2.	Power LED	The LED will light up green indicating normal operation and light up red when on standby.
3.	OUTPUT / INPUT buttons	Press the Output (1~4) button first and then the Input (1~4) button to route the selected input to the selected output.
4.	MENU / ENTER / UP / DOWN	① EDID setting: On the initial OLED display screen, press "MENU" button to enter "Select EDID" interface, press "UP/DOWN" button to select the required EDID, and press the "ENTER" button to enter "Copy to Input:" interface. Then press "UP/DOWN" button to select the input port you need to set, and press "ENTER" button again to confirm. ② Baud rate setting: On the initial OLED display screen, press "MENU" button twice to enter "SELECT BAUD" interface, and press "UP/DOWN" button to select the required Baud rate, then press the "ENTER" button to confirm the setting. ③ IP Address Check: On the initial OLED display screen, press "MENU" button three times to enter the IP interface and check the current IP address, then press "UP/DOWN" button to switch DHCP ON/OFF, then press the "ENTER" button to confirm the setting. Pressing the "MENU" button again will return to the initial OLED display status.
5.	POWER button	Short press to wake up the device. Long press for 3 seconds to enter standby mode.
6.	IR window	IR signal receiver. (Will only receive signals from the included remote)
7.	LOCK button	Press this button to lock the front panel

Operation Controls and Functions

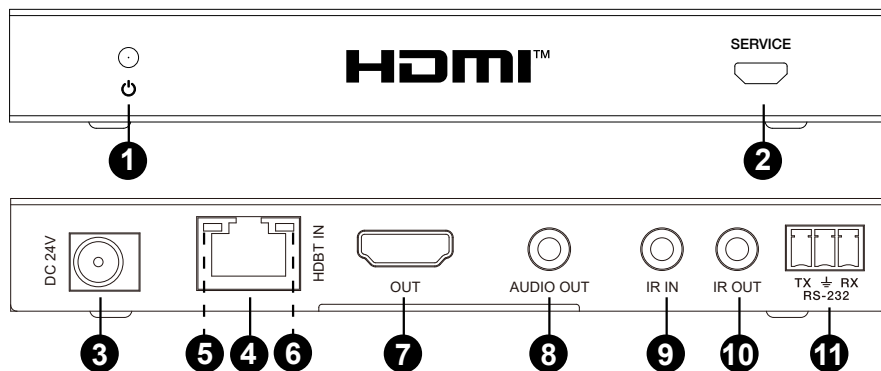
Rear Panel



No.	Name	Function Description
1	IR IN (1/2/3/4/ALL)	Connect the IR Receiver cable
2.	IR OUT (1/2/3/4/ALL)	Connect the IR Blaster cable
3.	AUDIO OUT (1-4)	Coaxial: Coaxial audio output port. Connect an audio device such as an AVR or Amp.
		Balanced Audio: Analog audio output port, supporting balanced audio output (with a maximum support of 2Vrms) and unbalanced audio output. Balanced connection method: L+, L-, $\frac{+}{-}$, R+, R- Unbalanced connection method: L+, $\frac{+}{-}$, R+
4.	GND	Connect the housing to the ground.
5.	POWER input	Power port: Connect to 100-240V AC 50/60Hz power cable. Power switch: Press the switch to turn on/off the product.
6.	OUTPUT (1-4)	Connect a display device such as a TV, Monitor, etc. using an HDMI cable
		Connect the Receivers through a CAT cable then connect a display device such as a TV, Monitor, etc. using an HDMI cable
7.	INPUT (1-4)	Connect a media device such as a DVD Player, set-top box, etc.
8.	CONTROL	TCP/IP: TCP/IP control port. Connect to a PC or router with a CAT cable.
		RS-232: Connect to a PC or control system by D-Sub 9-pin cable to transmit RS-232 commands.

Operation Controls and Functions

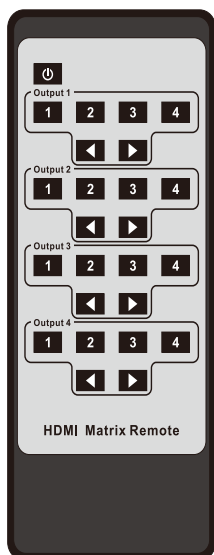
Receiver



No.	Name	Function Description
1.	Power LED	The Red LED will light up when the Receiver is powered on.
2.	SERVICE	Firmware update port.
3.	DC 24V	DC 24V/1A power supply input port. Note: This product supports PoC function, which means that the Receivers get power from the Transmitter over the CAT cables.
4.	HDBT IN	Connect to the Transmitter through a CAT cable
5.	Connection Signal Indicator	▪ Illuminating: Transmitter & Receiver are connected ▪ Flashing: Transmitter & Receiver connection is poor ▪ Dark: Transmitter & Receiver are not connected
6.	Data Signal Indicator	▪ Illuminating: HDMI signal with HDCP. ▪ Flashing: HDMI signal without HDCP. ▪ Dark: No HDMI signal.
7.	OUT	Connect a display device such as a TV, Monitor, etc.

No.	Name	Function Description
8.	AUDIO OUT	Analog 3.5mm audio output port
9.	IR IN	Connect the IR receiver cable
10.	IR OUT	Connect the IR blaster cable
11.	RS-232	Connect to a PC or control system by D-Sub 9-pin cable to transmit RS-232 commands.

IR Remote



- : Power on the product or set it to standby mode.
- Output 1:** Press the 1\2\3\4 button to select the input source for OUTPUT 1.
- Output 2:** Press the 1\2\3\4 button to select the input source for OUTPUT 2.
- Output 3:** Press the 1\2\3\4 button to select the input source for OUTPUT 3.
- Output 4:** Press the 1\2\3\4 button to select the input source for OUTPUT 4.
- : Press these buttons to circularly select the last or next input source in single screen display mode.

IR Control System

The product is not only a matrix switch but also an extender. It supports bi-directional IR control. When the Transmitter is connected to the Receivers through a CAT 6/7 cable, you can control remote display device (TV, Monitor) or input source device (DVD Player, Set-top Box) through IR signal transmission. But you must note that the IR signal transmission method is different based on what device you need to control.

Control the TVs from the Transmitter end (Local end): Connect the IR Receiver cable to the IR IN (1-4) port depending on the TV you wish to control. In the below example, we are wanting to control the TVs connected to HDBT OUT 1 & 3, so we have connected the Receiver cable to IR IN 1 & 3. At the Receivers end, connect the IR Blaster cable to the IR OUT port and place the IR head near the IR window of the TV which is usually in the bottom bezel. Now, you can use the respective TV remote to control the TV from the Transmitter end.

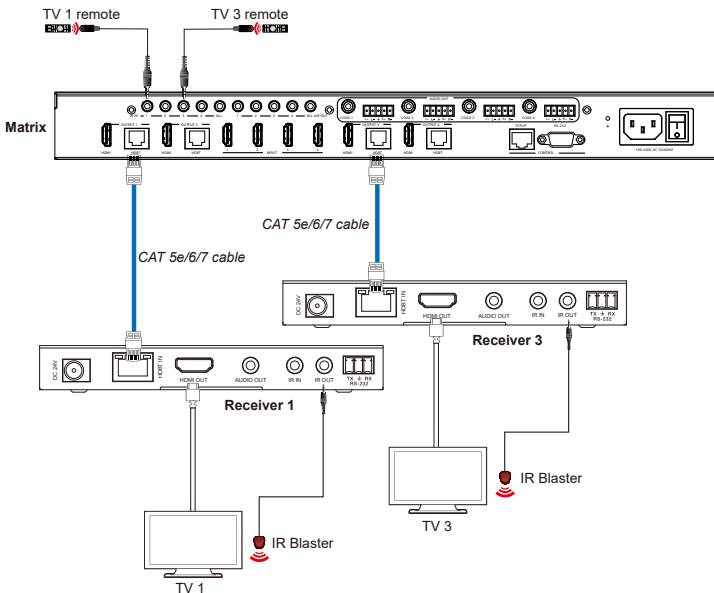


Figure 1: IR connection diagram (Local end)

IR Control System

Control the media source from the Receiver end (Remote end): Connect the IR Blaster cable to the IR OUT (1-4) port depending on where you wish to control the media source from. In the below example, we are wanting to control the DVD player from the HDBT OUT 1 and the Blu-ray player from the HDBT OUT 3, so we have connected the Blaster cable to IR OUT 1 & 3. At the Receivers end, connect the IR Receiver cable to the IR IN port and place the IR head on the TV in line of sight of the remote. Now, you can use the respective media source remote to control the media source from the Receiver end.

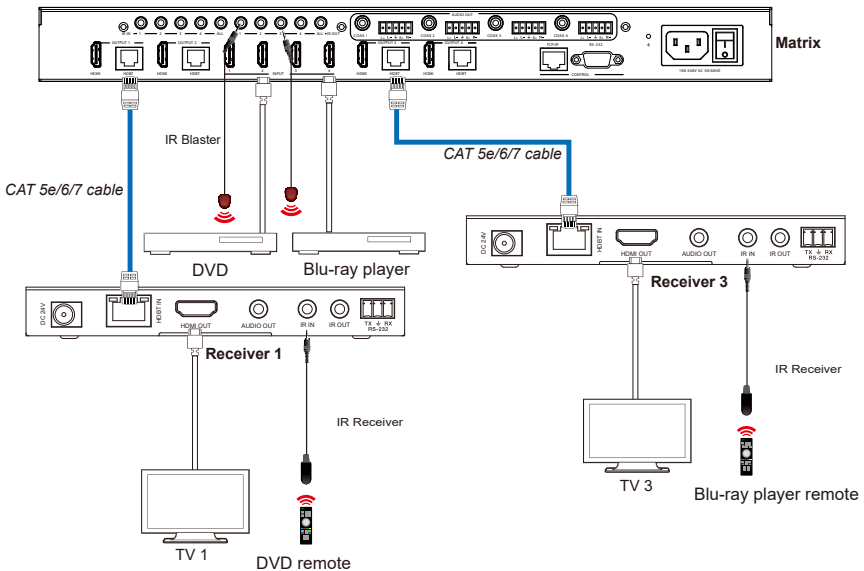
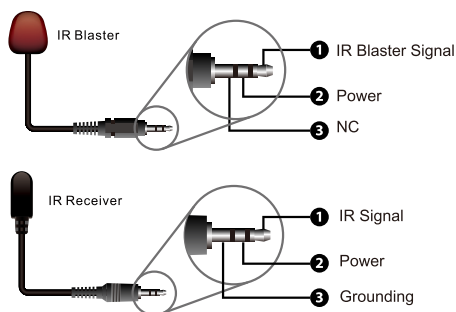


Figure 2: IR connection diagram (Remote end)

IR Cables & EDID Management

IR Cables



EDID Management

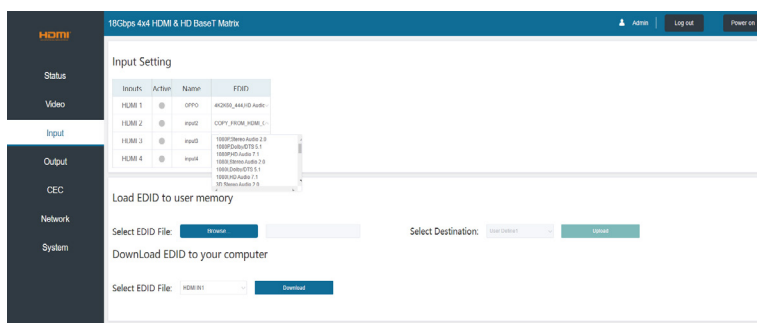
This Matrix has 21 pre-defined EDID settings, 2 user-defined EDID modes and 8 copy EDID modes. You can select defined EDID mode or copy EDID mode to input port through on-panel button, RS-232 control or WebGUI.

On-panel button operation: On the initial OLED display screen, press "MENU" button to enter the EDID setting interface, press "UP/DOWN" button to select the required EDID, and press the "ENTER" button to enter "Copy to Input:" interface. Then press "UP/DOWN" button to select the input port you need to set the EDID for, and press "ENTER" button again to confirm this operation.

EDID Management

RS-232 control operation: Connect the Matrix to a PC with a RS-232 cable, then open a Serial Command tool on PC to send ASCII command “s edid in x from z!” to set EDID. For details, please refer to “EDID Setting” in the ASCII command list on Page 24.

WebGUI Operation: Got to the EDID management in the “Input” page in the WebGUI. Refer to Page 16 to learn how to access the WebGUI



The defined EDID setting list of the unit is given below:

No.	EDID Mode	No.	EDID Mode
1.	1080p, Stereo Audio 2.0	14.	4K2K60_420, Dolby/DTS 5.1
2.	1080p, Dolby/DTS 5.1	15.	4K2K60_420, HD Audio 7.1
3.	1080p, HD Audio 7.1	16.	4K2K60_444, Stereo Audio 2.0
4.	1080i, Stereo Audio 2.0	17.	4K2K60_444, Dolby/DTS 5.1
5.	1080i, Dolby/DTS 5.1	18.	4K2K60_444, HD Audio 7.1
6.	1080i, HD Audio 7.1	19.	4K2K60, Stereo Audio 2.0 HDR
7.	3D, Stereo Audio 2.0	20.	4K2K60, Dolby/DTS 5.1 HDR
8.	3D, Dolby/DTS 5.1	21.	4K2K60, HD Audio 7.1HDR
9.	3D, HD Audio 7.1	22.	User define1
10.	4K2K30_444, Stereo Audio 2.0	23.	User define2
11.	4K2K30_444, Dolby/DTS 5.1	24.	Copy from HDMI OUTPUT 1~4
12.	4K2K30_444, HD Audio 7.1	25.	Copy from HDBT OUTPUT 1~4
13.	4K2K60_420, Stereo Audio 2.0		

WebGUI User Guide

The unit can be controlled using the WebGUI. The operation method is shown as below:

Step 1: Get the current IP Address of the product.

The default IP address is 192.168.1.100. You can get the current Matrix IP address in two ways:

The first way: You can get the IP address via the front panel buttons. On the initial OLED display, press "MENU" button three times to enter the IP interface and check the current IP address.

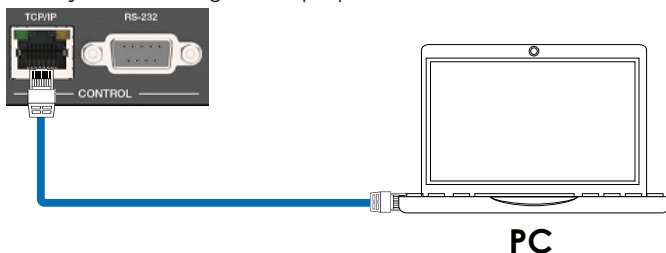
The second way: You can get the IP address via RS-232 control. Send the ASCII command " r ipconfig!" through a Serial Command tool, then you'll get the feedback information as shown below:

```
IP Mode: DHCP
IP:192.168.62.109
Subnet Mask:255.255.255.0
Gateway:192.168.62.1
TCP/IP port:8000
Telnet port:23
Mac address:6c-df-fb-0c-b3-8e
```

IP:192.168.62.109 in the above figure is the current Matrix IP address (this IP address is variable, depending on what the specific machine returns).

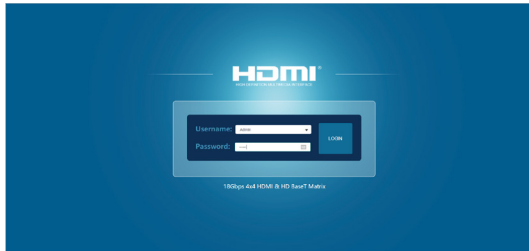
For the details of RS-232 control, please refer to Page 24.

Step 2. Connect the TCP/IP port of the Matrix to a PC with a CAT cable (as shown in the following figure), and set the IP address of the PC to be in the same network segment as the Matrix, not exactly the same as the Matrix. The default IP of the matrix is 192.168.0.100 so you can change the laptop IP to 192.168.0.120.



WebGUI User Guide

Step 3. Enter the current IP address of Matrix into your browser to enter the WebGUI. There will be a Login page as below:



Select the Username from the list and enter the password. The default passwords are:

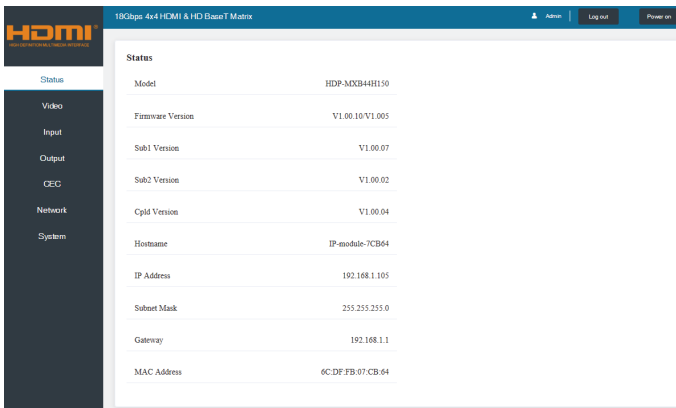
Username **User Admin**

Password **user admin**

After entering the password, click the "LOGIN" button and the following Status page will appear.

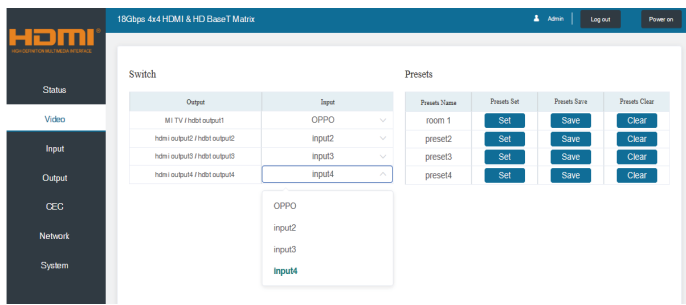
■ Status Page

The Status page provides basic information about the product model, installed firmware version and the network settings of the device.



WebGUI User Guide

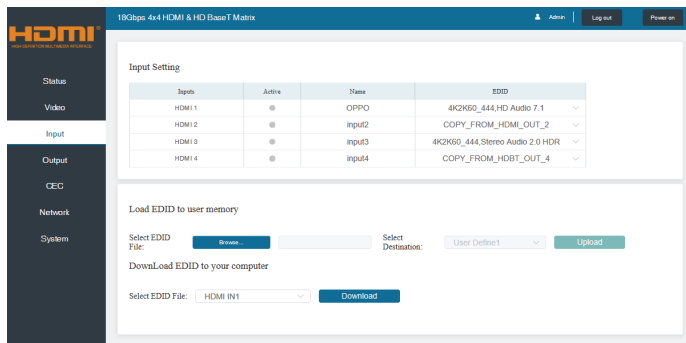
■ Video Page



You can do the following operations on the Video page:

- ① **Output:** Displays the HDMI/HDBT output name. The name can be changed on the Output page.
- ② **Input:** You can click the drop-down menu to select the input source for the corresponding OUTPUT.
- ③ **Presets Name:** You can name the current scene with maximum length of 12 characters (Chinese is unsupported).
- ④ **Presets Save:** You can save the current scene.
- ⑤ **Presets Clear:** You can clear the current scene.

■ Input Page

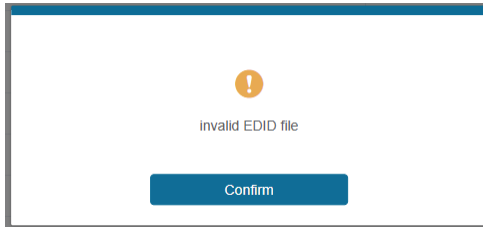


You can do the following operations on the Input page:

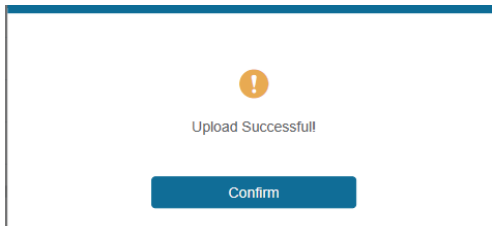
- ① **Inputs:** Displays the Input number
- ② **Active:** It indicates whether the channel is connected to a input source.
- ③ **Name:** You can change the name of the input source by entering the corresponding name (max length: 12 characters) (Chinese is unsupported).
- ④ **EDID:** You can set the current input source's EDID. The specific operation is as follows:

Set EDID for the Input source

Click the "Browse" button, then select the bin file. If you select the wrong EDID file, there will be a prompt, as shown in the following figure:



Make sure to select the correct file, then you can check the name of the selected file. Select "User 1" or "User 2", then click "Upload". After successful setting, it will prompt as follows:

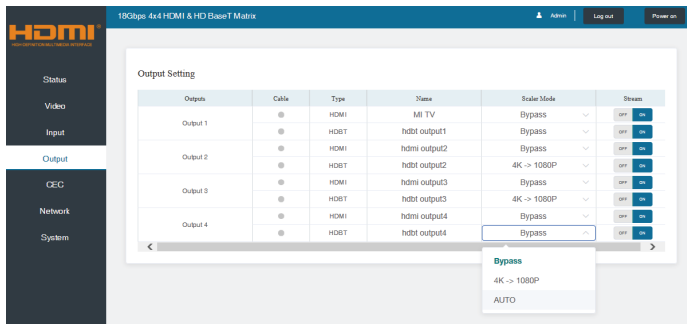


Download the EDID File for the Corresponding Input source

Click the drop-down box next to "Select EDID File" to select the corresponding input source. Then click "Download" to download the corresponding EDID file.

WebGUI User Guide

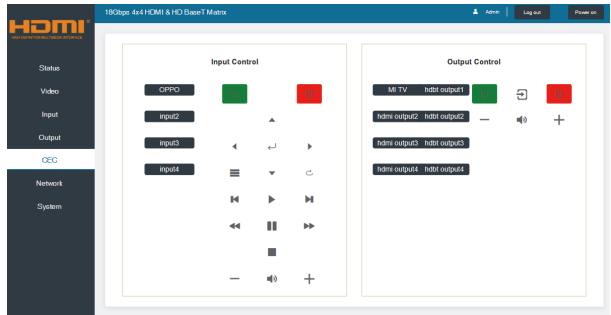
■ Output Page



You can do the following operations on the Output page:

- ① **Outputs:** Displays the Output number
- ② **Name:** You can change the name of the output by entering the corresponding name (max length: 12 characters) (Chinese is unsupported).
- ③ **Type:** The current output's type (HDMI or HDBT).
- ④ **Cable:** It indicates the connection status of outputs. When the output port is connected to the display, it shows green, otherwise, it shows gray.
- ⑤ **Scaler Mode:** Set the current output resolution.
- ⑥ **Stream:** Turn on/off the output stream.

■ CEC Page



WebGUI User Guide

You can perform CEC management on this page:

- ① **Input Control:** You can control the operation of each input source by pressing the icons on the page. (You can control multiple inputs simultaneously.)
- ② **Output Control:** You can control the operation of each display, such as power on/off, volume +/-, active source switching. (You can control multiple outputs simultaneously.)

■ Network Page

The screenshot shows the 'Network' page of the WebGUI. The sidebar on the left contains links for Status, Video, Input, Output, CEC, Network (highlighted), and System. The main panel is titled '19Gbps 4x4 HDMI & HD BaseT Matrix' and features a top navigation bar with 'Admin', 'Log out', and 'Power on' buttons. The 'IP Settings' section has a 'Static' tab selected, showing fields for IP Address (192.168.1.105), Gateway (192.168.1.1), Subnet Mask (255.255.255.0), and Telnet Port (23). Below this is the 'Web Login Settings' section with an 'Admin' tab selected, containing fields for Username, Old Password, New Password, Confirm Password, and Product Model (HDP-MXB44H150). At the bottom of the main panel are 'Set Network Defaults' and 'Save' buttons.

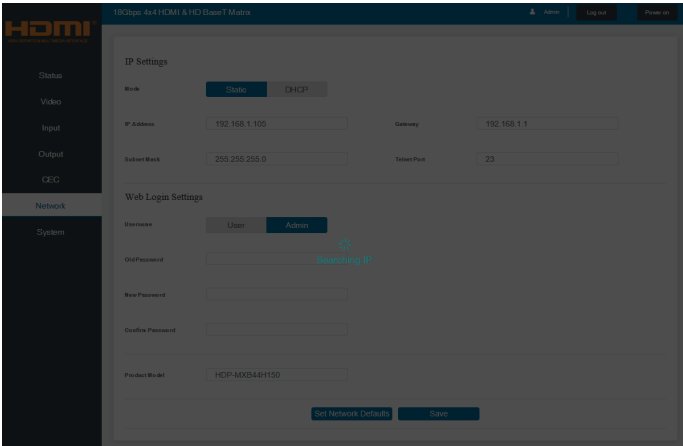
Set the Default Network

Click "Set Network Defaults" button, there will be a prompt, as shown in the following figure:

The screenshot shows a confirmation dialog box with a yellow warning icon. The text inside the dialog box reads "Reset All Network Configuration to Factory Default?". At the bottom of the dialog box, there are two buttons: "Cancel" and "OK".

WebGUI User Guide

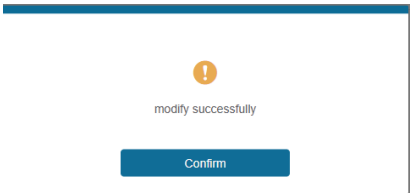
Click “OK” to search the IP Address again, as shown in the following figure:



After searching is completed, it will switch to the login page, when the default network setting is completed.

Modify User Password

Click the “User” button, enter the correct Old Password, New Password, and Confirm Password, and then click “Save”. After successful modification, there will be a prompt, as shown in the following figure:



Note: Input rules for changing passwords:

- (1) The password can't be empty.
- (2) New Password can't be the same as Old Password.
- (3) New Password and Confirm Password must be the same.

Modify Network Setting

Modify the Mode/IP Address/Gateway/Subnet Mask/Telnet Port as required, and click "Save" to save the settings, then it will come into effect. After modification, if the Mode is "Static", it will switch to the corresponding IP Address; if the Mode is "DHCP", it will automatically search and switch to the IP Address assigned by the router.

IP Settings	
Mode	☒ Static ☐ DHCP
IP Address	192.168.1.105
Subnet Mask	255.255.255.0
Gateway	192.168.1.1
Telnet Port	23

■ System Page

You can do the following operations on the System page:

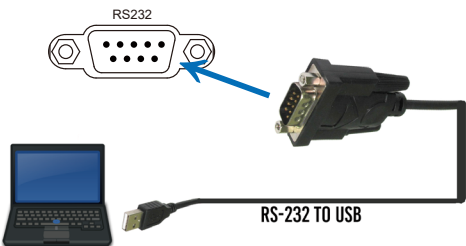
- ① **Panel Lock:** Click to lock/unlock panel buttons. "On" indicates that panel buttons are unavailable; "Off" indicates panel buttons are available.
- ② **Beep:** Click to turn on/off the beep.
- ③ **LCD:** You can turn on/off the LCD, and set the turn-off time (15s/30s/60s).
- ④ **Serial Baud Rate:** Click the value to set the Serial Baud Rate.
- ⑤ **Firmware Update:** Set Click "Browse" to select the update file, then click "Update" to complete firmware update.
- ⑥ **Factory Reset:** You can reset the device to factory defaults by clicking "Reset".
- ⑦ **Reboot:** You can reboot the device by clicking "Reboot".

Note: After reset/reboot, it will switch to the login page.

RS-232

Control Command

The product also supports RS-232 control. You need a serial cable with RS-232 male head and DB9 transfer USB male head. The RS-232 head of the serial cable is connected to the RS-232 control port with DB 9 at the rear of the Matrix, and the USB head of the serial cable is connected to a PC. The connection method is as follows:



Then, open a Serial Command tool on PC to send ASCII commands to control the Matrix. The ASCII command list of the product is as below.

ASCII Commands				
Serial port protocol: baud rate: 115200, Data bits: 8, Stop bits: 1, Check bit: 0				
x - Parameter 1; y - Parameter 2; ! - Delimiter				
Command Code	Function Description	Example	Feedback	Default
Power				
s power z!	Power on/off the device, z=0~1 (z=0 power off, z=1 power on)	s power 1!	Power on System Initializing... Initialization Finished! FW version x.xx.xx	power on
r power!	Get current power state	r power!	power on/power off	
s reboot!	Reboot the device	s reboot!	Reboot... System Initializing... Initialization Finished! FW version x.xx.xx	

RS-232

Control Command

Command Code	Function Description	Example	Feedback	Default
System Setting				
help!	List all commands	help!		
r type!	Get device model	r type!	HDP-MXB44H150	
r status!	Get device current status	r status!	Get the unit all status: power, beep, lock, in/out connection, video/ audio crosspoint, edid, scaler,hdcpc, network status	
r fw version!	Get Firmware version	r fw version!	MCU BOOT:Vx.xx.xx MCU APP :Vx.xx.xx SUB1 APP :Vx.xx.xx SUB2 APP :Vx.xx.xx CPLD APP :Vx.xx.xx WebGUI :Vx.xx	
r link in x!	Get the connection status of the x input port, x=0~4(0=all)	r link in 1!	hdmi input 1: connect	
r link out y!	Get the connection status of the y output port, y=0~4(0=all)	r link out 1!	hdmi output 1: connect hdbt output 1: connect	
s reset!	Reset to factory defaults	s reset!	Reset to factory defaults System Initializing... Initialization Finished! FW version x.xx.xx	
s beep z!	Enable/Disable buzzer function, z=0~1 (z=0 beep off, z=1 beep on)	s beep 1!	beep on beep off	beep on
r beep!	Get buzzer state	r beep!	beep on/beep off	
s lock z!	Lock/Unlock front panel button, z=0~1 (z=0 lock off,z=1 lock on)	s lock 1!	panel button lock on panel button lock off	panel button lock off
r lock!	Get panel button lock state	r lock!	panel button lock on/off	

Command Code	Function Description	Example	Feedback	Default
s lcd on time z!	Set LCD screen remain on time, z=0~4 (0:off, 1:always on, 2:15s, 3:30s, 4:60s)	s lcd on time 1!	lcd always on	lcd on 30 seconds
r lcd mode!	Get the backlight status of lcd screen	r lcd mode!	lcd always on	
s save preset z!	Save switch state between all output port and the input port to preset z, z=1~4	s save preset 1!	save to preset 1	
s recall preset z!	Call saved preset z scenarios, z=1~4	s recall preset 1!	recall from preset 1	
s clear preset z!	Clear stored preset z scenarios, z=1~4	s clear preset 1!	clear preset 1	
r preset z!	Get preset z information, z=1~4	r preset 1!	video/audio cros-point	
s logo1 *****!	Set the logo name displayed on the first line of LCD screen, the max character is 16	s logo1 Matrix Swtich!	logo1:Matrix Swtich	
s baud rate xxx!	Set the serial port baud rate of RS02 module, z=(115200,57600,38400,19200,9600,4800)	s baud rate 115200!	Baudrate:115200	115200
r baud rate!	Get the serial port baud rate of RS02 module	r baud rate!	Baudrate:115200	
s id z!	Set the control ID of the product, z=000-999	s id 888!	id 888	0
Output Setting				
s in x av out y	Set input x to output y, x=1~4, y=0~4(0=all)	s in 1 av out 2!	input 1 -> output 2	ptp
r av out y!	Get output y signal status y=0~4(0=all)	r av out 0!	input 1 -> output 1 input 2 -> output 2 input 3 -> output 3 input 4 -> output 4	

RS-232

Control Command

Command Code	Function Description	Example	Feedback	Default
s hdmi y stream z!	Set hdmi output y stream on/off, y=0~4(0=all) z=0~1 (0:disable,1:enable)	s hdmi 1 stream 1! s hdmi 0 stream 1!	enable hdmi output 1 stream disable hdmi output 1 stream enable hdmi all outputs stream disable hdmi all outputs stream	enable
r hdmi y stream!	Get hdmi output y stream status, y=0~4(0=all)	r hdmi 1 stream!	enable hdmi output 1 stream	
s hdbt y stream z!	Set hdbt output y stream on/off, y=0~4(0=all) z=0~1 (0:disable,1:enable)	s hdbt 1 stream 1! s hdbt 0 stream 1!	enable hdbt output 1 stream disable hdbt output 1 stream enable hdbt all outputs stream disable hdbt all outputs stream	enable
r hdbt y stream!	Get hdbt output y stream status, y=0~4(0=all)	r hdbt 1 stream!	enable hdbt output 1 stream	
s hdmi y scaler z!	Set hdmi output y port output scaler mode, y=0~4(0=all), z=1~3(1=bypass,2=4k->1080p,3=Auto)	s hdmi 1 scaler 1! s hdmi 0 scaler 1!	hdmi output 1 set to bypass mode hdmi all outputs set to bypass mode	hdmi all outputs set to bypass mode
r hdmi y scaler!	Get hdmi output y port output mode y=0~4(0=all)	r hdmi 1 scaler!	hdmi output 1 set to bypass mode	
s hdbt y scaler z!	Set hdbt output y port output scaler mode, y=0~4(0=all), z=1~3(1=bypass,2=4k->1080p,3=Auto)	s hdbt 1 scaler 1! s hdbt 0 scaler 1!	hdbt output 1 set to bypass mode hdbt all outputs set to bypass mode	hdbt all outputs set to bypass mode
r hdbt y scaler !	Get hdbt output y port output mode y=0~4(0=all)	r hdbt 1 scaler !	hdbt output 1 set to bypass mode	

Command Code	Function Description	Example	Feedback	Default
EDID Setting				
s edid in x from z!	Set input x EDID from default EDID z, x=0~4(0=all),z=1~31 1, 1080p,Stereo Audio 2.0 2, 1080p,Dolby/DTS 5.1 3, 1080p,HD Audio 7.1 4, 1080i,Stereo Audio 2.0 5, 1080i,Dolby/DTS 5.1 6, 1080i,HD Audio 7.1 7, 3D,Stereo Audio 2.0 8, 3D,Dolby/DTS 5.1 9, 3D,HD Audio 7.1 10, 4K2K30_444,Stereo Audio 2.0 11, 4K2K30_444,Dolby/DTS 5.1 12, 4K2K30_444,HD Audio 7.1 13, 4K2K60_420,Stereo Audio 2.0 14, 4K2K60_420,Dolby/DTS 5.1 15, 4K2K60_420,HD Audio 7.1 16, 4K2K60_444,Stereo Audio 2.0 17, 4K2K60_444,Dolby/DTS 5.1 18, 4K2K60_444,HD Audio 7.1 19, 4K2K60_444,Stereo Audio 2.0 HDR 20, 4K2K60_444,Dolby/DTS 5.1 HDR 21, 4K2K60_444,HD Audio 7.1 HDR 22, User define1 23, User define2 24~27, copy from hdmi output 1~4 28~31, copy from hdbt output 1~4	s edid in 1 from 1! s edid in 0 from 1!	input 1 EDID:1080p, Stereo Audio 2.0 all inputs EDID:1080p, Stereo Audio 2.0	1080p, Stereo Audio 2.0
r edid in x!	Get EDID status of the input x, x=0~4(0=all input)	r edid in 0!	input1 EDID: 4K2K60_ 444,Stereo Audio 2.0 input2 EDID: 4K2K60_ 444,Stereo Audio 2.0 input3 EDID: 4K2K60_ 444,Stereo Audio 2.0 input4 EDID: 4K2K60_ 444,Stereo Audio 2.0	

RS-232

Control Command

Command Code	Function Description	Example	Feedback	Default
r edid data hdmi y!	Get the EDID data of the hdmi output y port, y=1~4	r edid data hdmi 1!	EDID: 00 FF FF FF FF 00	
r edid data hdbt y!	Get the EDID data of the hdbt output y port, y=1~4	r edid data hdbt 1!	EDID: 00 FF FF FF FF 00	
CEC Setting				
s cec in x on!	set input x power on by CEC, x=0~4(0=all input)	s cec in 1 on!	input 1 power on	
s cec in x off!	set input x power off by CEC, x=0~4(0=all input)	s cec in 1 off!	input 1 power off	
s cec in x menu!	set input x open menu by CEC, x=0~4(0=all input)	s cec in 1 menu!	input 1 open menu	
s cec in x play!	set input x play by CEC, x=0~4(0=all input)	s cec in 1 play!	input 1 play operation	
s cec in x pause!	set input x pause by CEC, x=0~4(0=all input)	s cec in 1 pause!	input 1 pause operation	
s cec in x stop!	set input x stop by CEC, x=0~4(0=all input)	s cec in 1 stop!	input 1 stop operation	
s cec in x rew!	set input x rewind by CEC, x=0~4(0=all input)	s cec in 1 rew!	input 1 rewind operation	
s cec in x mute!	set input x volume mute by CEC, x=0~4(0=all input)	s cec in 1 mute!	input 1 volume mute	
s cec in x vol-!	set input x volume down by CEC, x=0~4(0=all input)	s cec in 1 vol-!	input 1 volume down	
s cec in x vol+!	set input x volume up by CEC, x=0~4(0=all input)	s cec in 1 vol+!	input 1 volume up	
s cec in x ff!	set input x fast forward by CEC, x=0~4(0=all input)	s cec in 1 ff!	input 1 fast forward operation	
s cec in x previous!	set input x previous by CEC, x=0~4(0=all input)	s cec in 1 pre-vious!	input 1 previous operation	
s cec in x next!	set input x next by CEC, x=0~4(0=all input)	s cec in 1 next!	input 1 next operation	
s cec hdmi out y on!	set hdmi output y power on by CEC, y=0~4(0=all hdmi output)	s cec hdmi out 1 on!	hdmi output 1 power on	

RS-232

Control Command

Command Code	Function Description	Example	Feedback	Default
s cec hdbt out y on!	set hdbt output y power off by CEC, y=0~4(0=all hdbt output)	s cec hdbt out 1 off!	hdbt output 1 power off	
s cec hdmi out y mute!	set hdmi output y volume mute by CEC, y=0~4(0=all hdmi output)	s cec hdmi out 1 mute!	hdmi output 1 volume mute	
s cec hdmi out y off!	set hdmi output y power off by CEC, y=0~4(0=all hdmi output)	s cec hdmi out 1 off!	hdmi output 1 power off	
s cec hdbt out y off!	set hdbt output y power off by CEC, y=0~4(0=all hdbt output)	s cec hdbt out 1 off!	hdbt output 1 power off	
s cec hdbt out y mute!	set hdbt output y volume mute by CEC, y=0~4(0=all hdbt output)	s cec hdbt out 1 mute!	hdbt output 1 volume mute	
s cec hdmi out y vol-!	set hdmi output y volume down by CEC, y=0~4(0=all hdmi output)	s cec hdmi out 1 vol-!	hdmi output 1 volume down	
s cec hdbt out y vol-!	set hdbt output y volume down by CEC, y=0~4(0=all hdbt output)	s cec hdbt out 1 vol-!	hdbt output 1 volume down	
s cec hdmi out y vol+!	set hdmi output y volume up by CEC, y=0~4(0=all hdmi output)	s cec hdmi out 1 vol+!	hdmi output 1 volume up	
s cec hdbt out y vol+!	set hdbt output y volume up by CEC, y=0~4(0=all hdbt output)	s cec hdbt out 1 vol+!	hdbt output 1 volume up	
s cec hdmi out y active!	set hdmi output y active source by CEC, y=0~4(0=all hdmi output)	s cec hdmi out 1 active!	hdmi output 1 active source	
s cec hdbt out y active!	set hdbt output y active source by CEC, y=0~4(0=all hdbt output)	s cec hdbt out 1 active!	hdbt output 1 active source	

RS-232

Control Command

Command Code	Function Description	Example	Feedback	Default
Network Setting				
r ipconfig!	Get the Current IP Configuration	r ipconfig!	IP Mode: Static IP: 192.168.1.72 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 TCP/IP port=8000 Telnet port=10 Mac address: 00:1C:91:03:80:01	
r mac addr!	Get network MAC address	r mac addr!	Mac address: 00:1C:91:03:80:01	
s ip mode z!	Set network IP mode to static IP or DHCP, z=0~1 (z=0 Static, z=1 DHCP)	s ip mode 0!	Set IP mode:Static (Please use "s net reboot!" command or repower device to apply new config!)	
r ip mode!	Get network IP mode	r ip mode!	IP Mode: Static	
s ip addr xxx.xxx.xxx.xxx!	Set network IP address	s ip addr 192.168.1.100!	Set IP address: 192.168.1.100 (Please use "s net reboot!" command or repower device to apply new config!) DHCP on, Device can't config static address, set DHCP off first.	
r ip addr!	Get network IP address	r ip addr!	IP:192.168.1.100	
s subnet xxx.xxx.xxx.xxx!	Set network subnet mask	s subnet 255.255.255.0!	Set subnet Mask address:255.255.255.0 (Please use "s net reboot!" command or repower device to apply new config!) DHCP on, Device can't config subnet mask, set DHCP off first.	

RS-232

Control Command

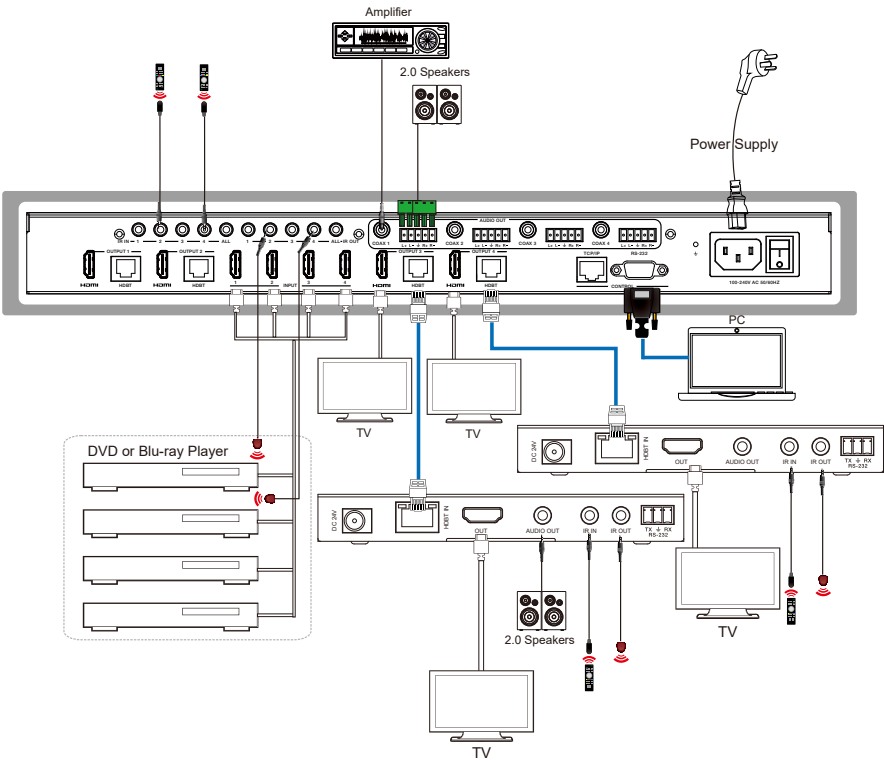
Command Code	Function Description	Example	Feedback	Default
r subnet!	Get network subnet mask	r subnet!	Subnet Mask: 255.255.255.0	
s gateway xxx.xxx.xxx.xxx!	Set network gateway	s gateway 192.168.1.1!	Set gateway: 192.168.1.1 Please use "s net reboot!" com- mand or repower device to apply new config! DHCP on, Device can't config gate- way, set DHCP off first.	
r gateway!	Get network gateway	r gateway!	Gate- way:192.168.1.1	
s tcp/ip port x!	Set network TCP/IP port (x=1-65535)	s tcp/ip port 8000!	Set TCP/IP port:8000	
r tcp/ip port!	Get network TCP/IP port	r tcp/ip port!	TCP/IP port:8000	
s telnet port x!	Set network telnet port (x=1-65535)	s telnet port 23!	Set Telnet port:23	
r telnet port!	Get network telnet port	r telnet port!	Telnet port:23	
s net reboot!	Reboot network modules	s net reboot!	Network reboot... IP Mode: Static IP: 192.168.1.72 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 TCP/IP port=8000 Telnet port=10 Mac address: 00:1C:91:03:80:01	
s uart x datalen y!	e data length of x hdbt uart, x=0-8, y=1-2, 1:8bit 2:7bit	s uart 1 datalen 1!	hdbt uart1 data len is 8bit	

RS-232

Control Command

Command Code	Function Description	Example	Feedback	Default
s uart x baudrate y!	Set the baudrate of x hdbt uart , x=0-4, y=1-8, 1: 115200(Default) 2: 57600 3: 56000 4:38400 5:19200 6:14400 7:9600 8:4800	s uart 1 baudrate 1!	hdbt uart1 baudrate is 115200	
s uart x parity y!	Set the Parity of x hdbt uart, x=0-4, y=1-3, 1:none 2:odd 3:even	s uart x parity 1!	hdbt uart1 parity is none	
s uart x type z senddata y end!	Send data y from x hdbt uart, z=0 ascii, z=1 hex ,x=0-4	s uart 1 type 0 senddata abcdefg end!	hdbt uart1 data: abcdefg	
r uart status x!	Get the Status of x hdbt uart , x=0-4	r uart status 1!	hdbt uart1 baudrate 9600, datalen 8bit, parity none	

Application Example



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FAQs & Troubleshooting

1. Unable to connect to the WebGUI.

Connect the TCP/IP port of the Matrix to a PC/Router with a CAT cable, and set the IP address of the PC to be in the same network segment as the Matrix, not exactly the same as the Matrix. The default IP of the matrix is 192.168.0.100 so you can change the laptop IP to 192.168.0.120. Refer to the video below to learn more about how to enter the WebGUI:



2. How do I use the IR feature?

You can refer to this video to learn more about the IR feature:



Still have some questions?

Please feel free to contact us at: info@orei.com. OR Fill out the form on the 'Contact Us' page on the website.

Our team will be more than happy to help you.

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