iMatrix H44HW

4K60 4x4 Seamless Matrix

User Manual

VER 1.0

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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, 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 4K60 4:4:4 HDMI matrix is a multi-purpose high-speed video processing system. It can be configured for 2 different output modes. It can perform as a 4×4 seamless matrix switcher, as a 2×2, 4×1 or 1×4 etc video wall solution. It also features a web browser interface module for control and configuration of the matrix when used stand-alone or with a third party control system. Control options include front-panel push buttons, IR remote control, RS-232 interface and TCP/IP.

2. Features

☆ Compliant HDMI 2.0b
☆ Compliant HDCP 2.2 and HDCP 1.4
☆ Features 2 operational modes:
  - 4×4 Matrix (seamless switch)
  - Video wall (2×2, 4×1 or 1×4 etc configuration)
☆ Seamless video switching
☆ Video inputs support all industry standard video resolutions including VGA-WUXGA (up to 1920×1200 @60Hz) and 480i-4K (3840 x 2160 @60Hz 4:4:4, 4096 x 2160 @60Hz 4:4:4)
☆ HDMI outputs support upscale or downscale to any resolution, up to 4096 x 2160@60Hz 4:4:4
☆ Support LPCM, DD, DD+, DTS, Dolby TrueHD, DTS HD-master pass-through
☆ Advanced EDID management
☆ Web interface module for control and configuration of Matrix
☆ Control via front panel, IR, RS-232 and TCP/IP
☆ 3rd Party drivers available for all major home control brands

3. Package Contents

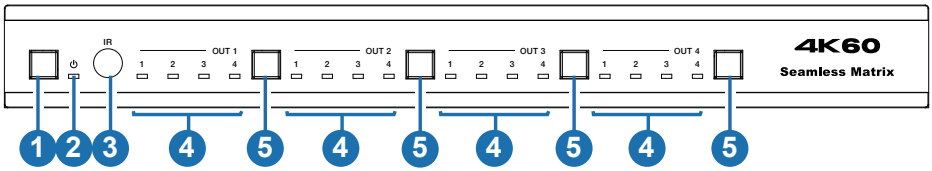
① 1 x 18Gbps 4x4 Seamless Matrix
② 1 x Matrix IR Remote
③ 1 x 3pin-3.81mm Phoenix Connector (male)
④ 1 x 38KHz IR Wideband Receiver Cable (1.5 meters)
⑤ 2 x Mounting Ears
⑥ 4 x Machine Screws (KM3*4)
⑦ 1 x 12V/2.5A Locking Power Adapter
⑧ 1x User Manual

4. Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2/1.4
Video Bandwidth	594MHz/18Gbps
Video Resolution	Input: VGA-WUXGA (up to 1920×1200@60Hz), 480i-4K (3840x2160@60Hz 4:4:4, 4096x2160@60Hz 4:4:4)
	Output: 4096x2160p60, 4096x2160p50, 3840x2160p60, 3840x2160p50, 3840x2160p30, 1920x1080p60, 1920x1080p50, 1920x1080i60, 1920x1080i50, 1920x1200p60rb, 1360x768p60, 1280x800p60, 1280x720p60, 1280x720p50, 1024x768p60, auto
Color Space	RGB, YCbCr 4:4:4/4:2:2, YUV 4:2:0
Color Depth	8/10/12-bit
IR Level	12Vp-p
IR Frequency	38KHz
HDMI Audio Formats	LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio
Connection	
Inputs	4 x HDMI Type A [19-pin female]
Outputs	4 × HDMI Type A [19-pin female]
Control	1 × RS-232 [3pin-3.81mm phoenix connector] 1 × TCP/IP [RJ45] 1 × IR EXT [3.5mm Stereo Mini-jack]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	270mm (W) × 166mm (D) × 30mm (H)
Weight	1165g
Power Supply	Input: AC 100 - 240V 50/60Hz Output: DC 12V/2.5A (US/EU standard, CE/FCC/UL certified)
Power Consumption	19.56W (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)

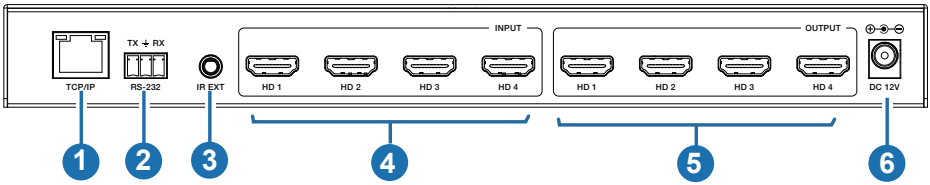
5. Operation Controls and Functions

5.1 Front Panel



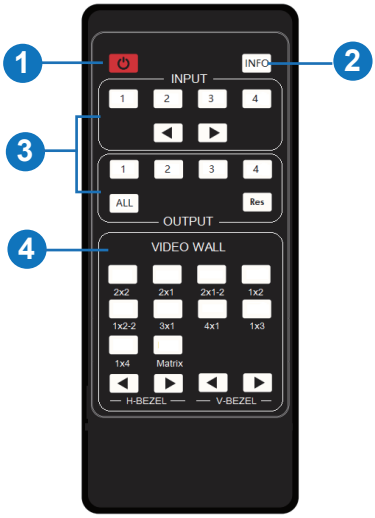
No.	Name	Function Description
1	Power button	▪ Short press this button to power on the device. ▪ Press this button for 1 seconds to enter the standby mode.
2	Power LED	The LED will illuminate in green when the product is working normally, and red when the product is on standby.
3	IR Window	IR receiver window, it only receives the IR remote signal from this product.
4	Signal source LED	Signal source indicator for the OUT 1 - OUT 4 port.
5	Input source switching button	Input source switching button for the OUT 1- OUT 4 port.

5.2 Rear Panel



No.	Name	Function Description
1	TCP/IP	The link port for TCP/IP control, connected to an active Ethernet link with an RJ45 cable to control the Matrix via Web.
2	RS-232	RS-232 serial command control port, connected to a PC or control system to control the Matrix.
3	IR EXT	If the IR receiver window of the unit is blocked or the unit is installed in a closed area out of infrared line of sight, the IR receiver cable can be inserted to the “IR EXT” port to receive the IR remote signal.
4	HDMI INPUT	HDMI signal input port, connected to signal source device.
5	HDMI OUTPUT	HDMI signal output port, connected to HDMI display device.
6	DC 12V	DC 12V/2.5A power input port.

6. IR Remote



① **Power on or Standby:** Power on the Matrix or set it to standby mode.

② **INFO:** Press this button to display the serial port baud rate and IP address in the upper right corner of the screen. (The information will disappear after 5 seconds.)

③ **INPUT/OUTPUT**

INPUT 1/2/3/4: Select the signal input channel.

◀ ▶: Select the last or next signal input channel.

OUTPUT 1/2/3/4: Select the signal output channel.

ALL: Select all output channels simultaneously. For example, when you press the "ALL" button and then press INPUT "1" button, at this time the input "1" source will be output to all display devices.

Res: Press this button to switch output channel resolution.

Matrix mode: Press **OUTPUT 1/2/3/4** or **ALL**, then press **Res** to switch the output resolution circularly.

Video wall mode: Press **Res** directly to switch the output resolution for four output channels simultaneously.

Operation Instruction: You need to press the OUTPUT button firstly and then press the INPUT button to select the corresponding input source. For example,
Press OUTPUT-X (X means output button from 1 to 4, including "ALL" button), then press INPUT-Y (Y means input button from 1 to 4).

④ **VIDEO WALL:**

Video wall mode selection:

Press the video wall mode button directly to enter corresponding mode.

Source selection for the video wall group:

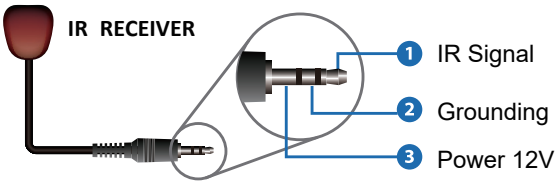
Press **OUTPUT 1/2/3/4** or ◀/▶ to select the video wall group firstly, then press **INPUT 1/2/3/4** or ◀/▶ to select the input source.

Bezel Adjustment: Press ◀/▶ of H-BEZEL / V-BEZEL to adjust the bezel.

7. IR Pin Definition

IR Receiver pin's definition is as below:

IR RECEIVER



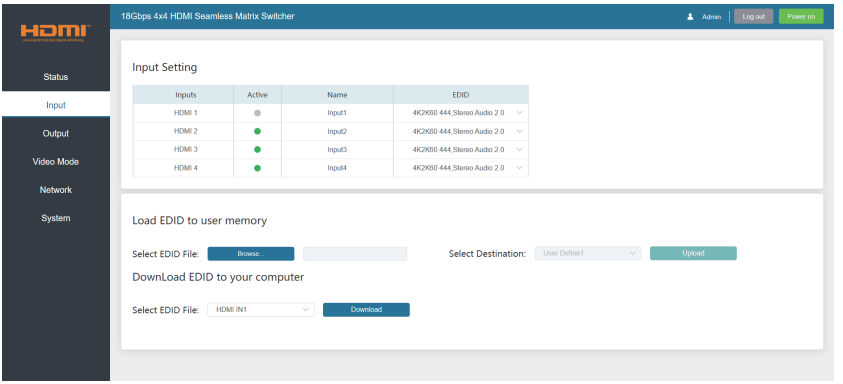
Note: When the angle between the IR receiver and the remote control is ± 45 °, the transmission distance is 0-5 meters; when the angle between the IR receiver and the remote control is ± 90 °, the transmission distance is 0-8 meters.

8. EDID Management

This Matrix has 12 factory defined EDID settings, 2 user-defined EDID modes and 4 copy EDID modes. You can select defined EDID mode or copy EDID mode to input port through RS-232 control or Web GUI.

RS-232 control operation: Connect the Matrix to PC with a serial 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 of “11. RS-232 Control Command”.

Web GUI Operation: Please check the EDID management in the “Input page” of “10. Web GUI User Guide”.

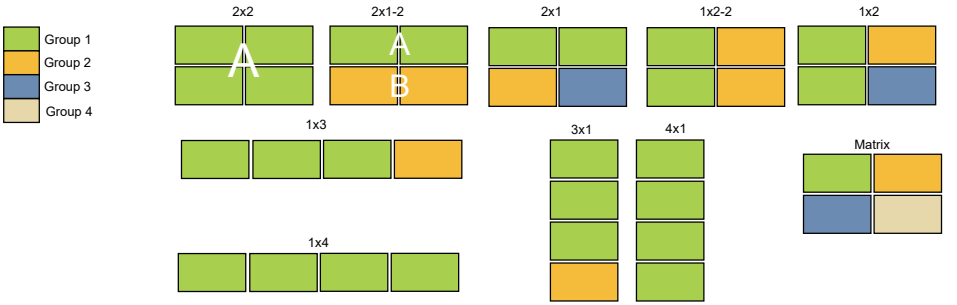


The defined EDID setting list of the product is shown as below:

EDID Mode	EDID Description
1	4k2k60_444,stereo audio 2.0
2	4k2k60_444,dolby/dts 5.1
3	4k2k60_444,hd audio 7.1
4	4k2k30_444,stereo audio 2.0
5	4k2k30_444,dolby/dts 5.1
6	4k2k30_444,hd audio 7.1
7	1080p,stereo audio 2.0
8	1080p,dolby/dts 5.1
9	1080p,hd audio 7.1
10	1920x1200,stereo audio 2.0
11	1360x768, stereo audio 2.0
12	1024x768, stereo audio 2.0
13	user define1
14	user define2
15	copy from hdmi output 1
16	copy from hdmi output 2
17	copy from hdmi output 3
18	copy from hdmi output 4

9. Video Wall

The matrix supports 10 categories of display modes as below:



User can select display modes via IR remote, Web GUI or RS-232 commands.

10. Web GUI User Guide

The Matrix can be controlled by Web GUI. The operation method is shown as below:

Step 1: Get the current IP Address.

The default IP address is 192.168.0.100. You can get the current Matrix IP address in two ways:

The first way: You can get the IP address via remote controller. Press “INFO” button, the IP address will show the upper right corner of the screen.

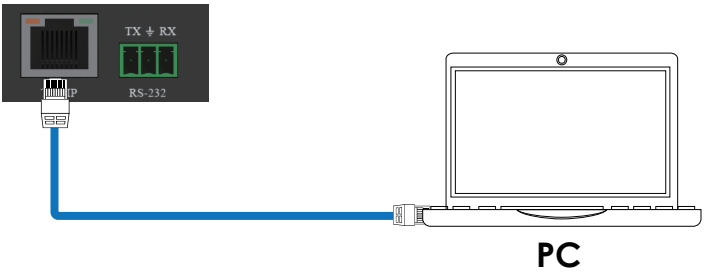
The second way: You can get the IP address via RS-232 control. Send the ASCII command “ r ip addr!” through a Serial Command tool, then you’ll get the feedback information as shown below:

```
ip address:192.168.0.100
```

IP:192.168.0.100 in the above figure is the current Matrix IP address (this IP address is variable, depending on what the specific machine returns).

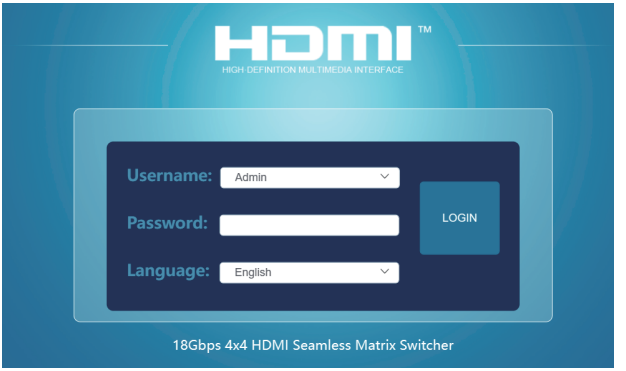
For the details of RS-232 control, please refer to “11. RS-232 Control Command”.

Step 2: Connect the TCP/IP port of the Matrix to a PC with an UTP cable (as shown in the following figure), and set the IP address of the PC to be in the same network segment with the Matrix.



Step 3: Input the current IP address of Matrix into your browser on the PC to enter Web GUI page.

After entering the Web GUI page, there will be a Login page, as shown below:



Select the Language from the drop-down list to choose English or Simple Chinese.

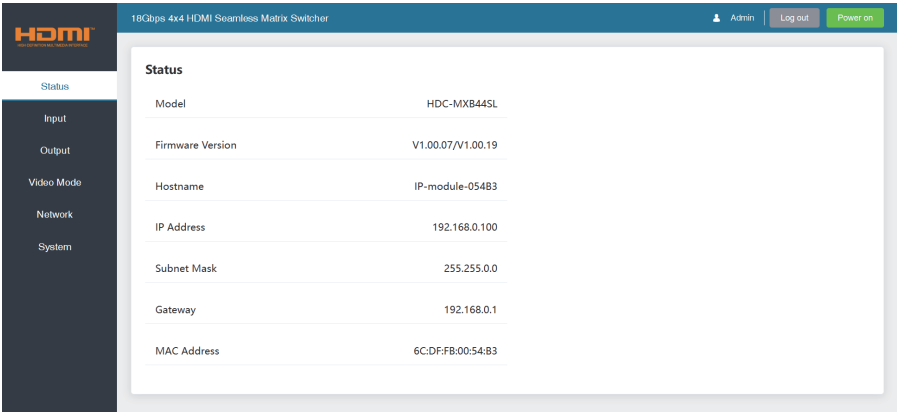
Select the Username from the drop-down list and enter the password. The default passwords are:

Username	**User**	**Admin**
Password	**user**	**admin**

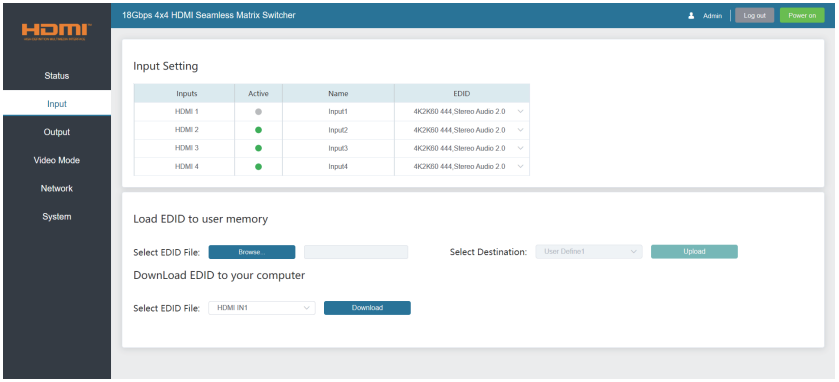
After entering the password, click the “LOGIN” button and the following Status page will appear.

■ Status Page

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

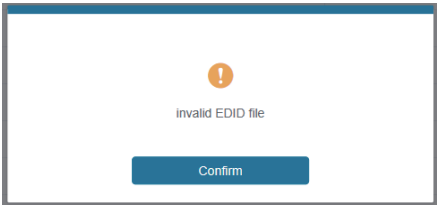


■ Input Page

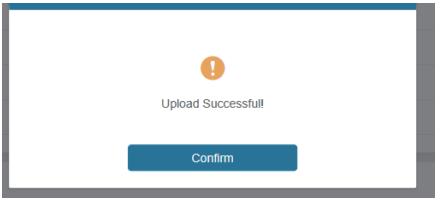


You can do the following operations on the Input page:
① **Inputs:** Input channel of the device.
② **Active:** It indicates whether the channel is connected to a signal source. When the input port is connected to the signal, it shows green, otherwise, it shows gray.
③ **Name:** The input channel's name. You can modify it by entering the corresponding name (max length: 31 characters for English and 15 characters for Chinese) in the input box. Chinese name is unsupported when the language is English; and when the language is Chinese, both English and Chinese name are available.
④ **EDID:** You can set the current channel's EDID. Click drop-down list to select.
⑤ **Load EDID to user memory:** Set EDID for the User.

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:



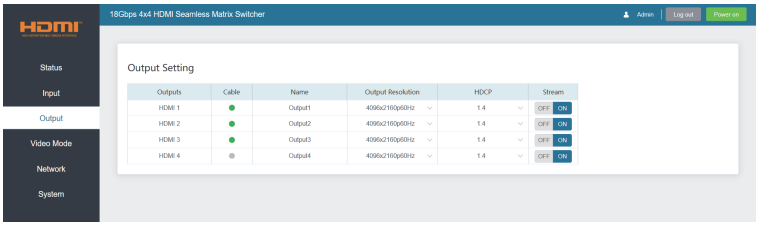
Make sure to select the correct file, then you can check the name of the selected file. Select "User 1" or "User 2", then click "Upload". After successful setting, it will prompt as follows:



⑥ **Download EDID to your computer:**

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

■ Output Page



You can do the following operations on the Output page:

① **Outputs:** Output channel of the device.

② **Cable:** It indicates the connection status of output ports. When the output port is connected to the display, it shows green, otherwise, it shows gray.

③ **Name:** The current output channel's name. You can modify it by entering the corresponding name (max length: 12 characters) in the input box. Chinese name is unsupported when the language is English; and when the language is Chinese, both English and Chinese name are available.

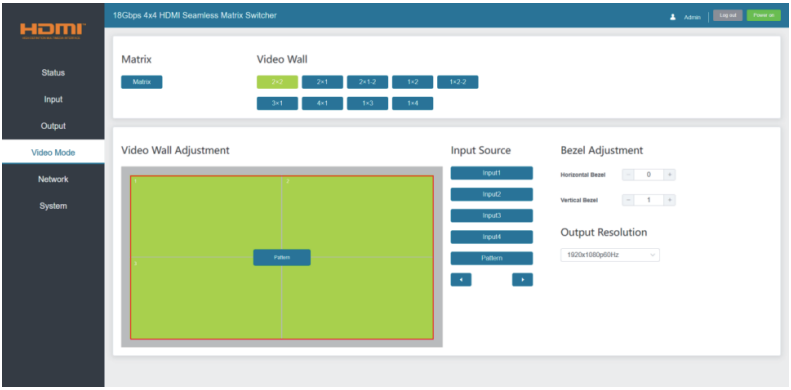
④ **Output Resolution:** Set the current output resolution mode. Click the drop-down list to select.

⑤ **HDCP:** The HDCP version that the current output port supports. Click the drop-down list to select.

⑥ **Stream:** Turn on/off the output stream.

Note: User cannot set each output resolution separately in video wall mode.

■ Video Mode Page



You can do the following operations on the Video page:

① **Matrix:** Click to select matrix mode.

② **Video Wall:** Click to select any multiview display mode.

③ **Video Wall Adjustment:** Display the input and output information.

④ **Input Source:** Three methods to select the input source:

Method 1: Drag Input1/2/3/4/Pattern to any box of Video Wall Adjustment.

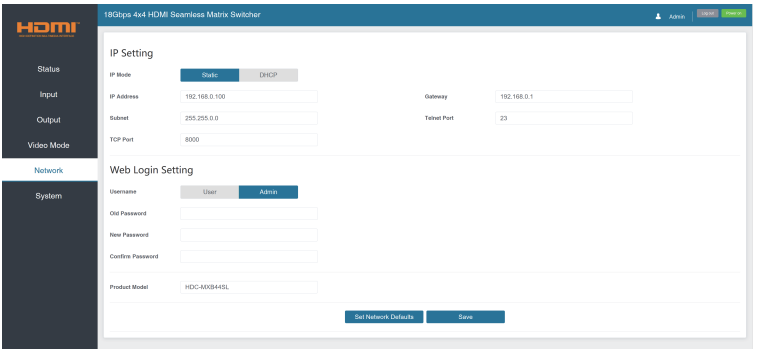
Method 2: Select any box in Video Wall Adjustment, then click Input1/2/3/4/Pattern in Input Source.

Method 3: Click ◀/▶ to select the last or next signal source.

⑤ **Bezel Adjustment:** Click +/- to adjust the corresponding Horizontal/Vertical Bezel (Up to 10 levels).

⑥ **Output Resolution:** Set the resolution of all current output ports. Click the drop-down list to select.

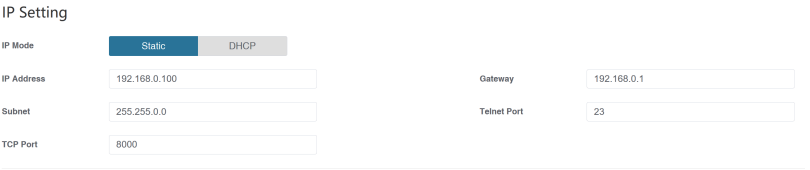
■ Network Page



You can do the following operations on the Network page:

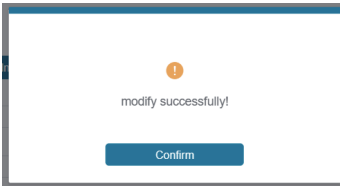
Modify Network Setting

Modify the IP Mode Address/Gateway/Subnet Mask/Telnet Port as required, 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.



Modify User Password

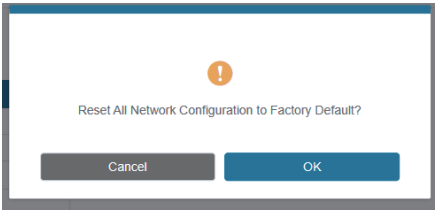
Click the “User” button, enter the correct Old Password, New Password, and Confirm Password, then click “Save”. After successful modification, there will be a prompt, as shown in the following figure:



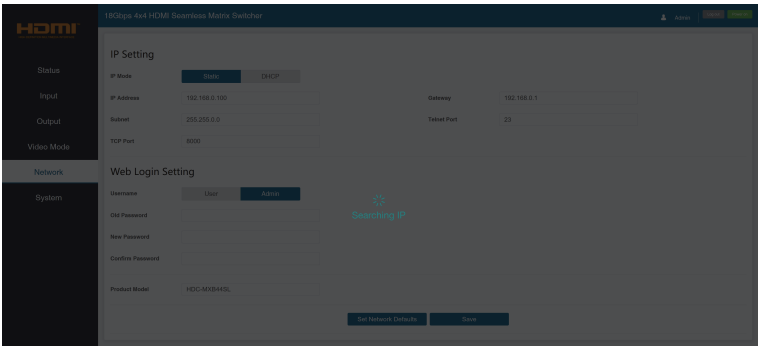
Note: Input rules for changing passwords:
(1) The password can’t be empty.
(2) New Password can’t be the same as Old Password.
(3) New Password and Confirm Password must be the same.

Set the Default Network

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

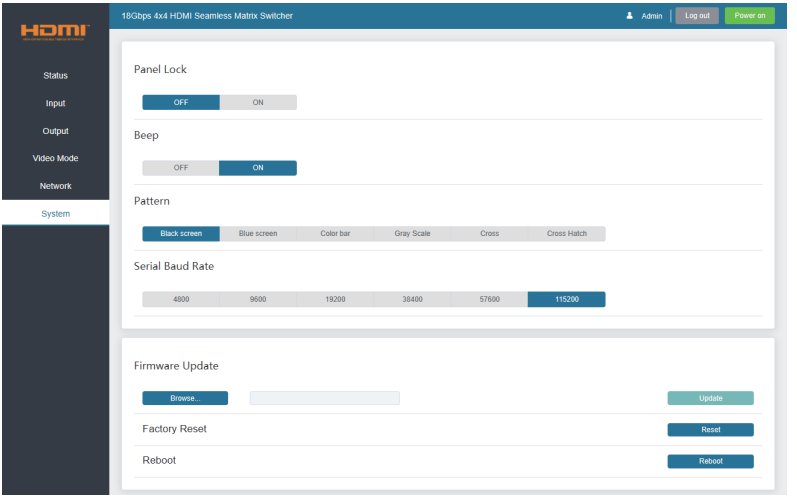


Click “OK” to search the IP Address again, as shown in the following figure:



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

■ 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 **Pattern:** Click to select 6 patterns.

④ **Serial Baud Rate:** Click the value to set the Serial Baud Rate.

⑤ **Firmware Update:** Click “Browse” to select the update file, then click “Update” to complete firmware update.

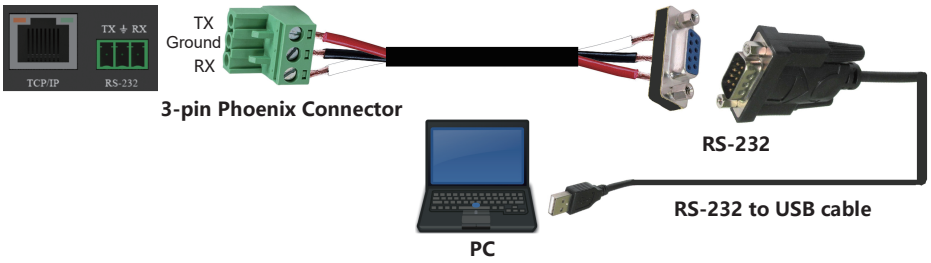
⑥ **Factory Reset:** You can reset the machine to factory defaults by clicking “Reset”.

⑦ **Reboot:** You can reboot the machine by clicking “Reboot”.

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

11. RS-232 Control Command

The product also supports RS-232 command control. Connect the RS-232 port of the product to a PC with a 3-pin phoenix connector cable. The connection method is as follows.



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

ASCII Command				
Serial port protocol: Baud rate: 115200(default) Data bits: 8 Stop bits: 1 Check bit: 0				
x - Parameter 1 y - Parameter 2 ! - Delimiter				
Command Code	**Function Description**	**Example**	**Feedback**	**Default Setting**
System setting				
help!	Lists all commands	help!		
r status!	Get device current status	r status!	get the unit all status: power, beep, lock, in / out connection, video/ audio crosspoint, edid, scaler, network status	
r type!	Get device model	r type!	4x4 hdmi seamless matrix	

Command Code	Function Description	Example	Feedback	Default Setting
r fw version!	Get firmware version	r fw version!	mcu fw version x.xx.xx	
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! mcu fw version x.xx.xx	
r power!	Get current power state	r power!	power on /power off	3840x2160p60
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	beep on
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	
s reboot!	Reboot the device	s reboot!	reboot… system initializing... initialization finished! mcu fw version x.xx.xx	
s reset!	Reset to factory defaults	s reset!	reset to factory defaults system initializing... initialization finished! mcu fw version x.xx.xx	
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 4 -> output 4	
s output y res x!	Set output y resolution (y=0~4, x=1~16) y=0. output all y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4 1. 4096x2160p60, 2. 4096x2160p50, 3. 3840x2160p60, 4. 3840x2160p50, 5. 3840x2160p30, 6. 1920x1080p60, 7. 1920x1080p50, 8. 1920x1080i60, 9.1920x1080i50, 10. 1920x1200p60rb, 11.1360x768p60, 12.1280x800p60, 13.1280x720p60, 14.1280x720p50, 15.1024x768p60, 16. auto	s output 1 res 3!	output 1 resolution: 3840x2160p60	3840x2160p60

Command Code	Function Description	Example	Feedback	Default Setting
r output y res!	Get output y resolution(y=0~4) y=0. output all y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4	s output 1 csc 1!	output 1 resolution: 3840x2160p60	
s output y csc x!	Set output y color space (y=0~4, x=1~4) y=0. output all y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4 x=1. rgb444 x=2. ycbcr444 x=3. ycbcr422 x=4. ycbcr420	s output 1 csc 1!	output 1 csc: rgb444	rgb444
r output y csc!	Get output y color space status. (y=0~4) y=0. output all y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4	r output 1 csc!	output 1 csc: rgb444	
s output y hdcp x!	Set output hdcp(y=0~4, x=1~5) y=0. output all y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4 x=1. hdcp 1.4 x=2. hdcp 2.2 x=3. follow sink x=4. follow source	s output 1 hdcp 1!	output 1 hdcp: hdcp 1.4	hdcp1.4
r output y hdcp!	Get output y hdcp status.(y=0~4) y=0. output all y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4	r output 1 hdcp!	output 1 hdcp: hdcp 1.4	
s output y stream x!	Set output y stream enable/disable (y=0~4, x=0~1) y=0. output all y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4 x=0. stream disable x=1. stream enable	s output 1 stream 1!	output 1 stream: enable	enable

Command Code	Function Description	Example	Feedback	Default Setting
r output y stream!	Get output y stream status. (y=0~4) y=0. output all y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4	r output 1 stream!	output 1 stream: enable	
s output bg x!	Set output no signal background display mode (x=1~6) x=1. black screen x=2. blue screen x=3. color bar x=4. gray scale x=5. cross x=6. cross hatch	s output bg 1!	output background: black screen	black screen
r output bg!	Get output no signal background display mode	r output bg!	output background: black screen	
EDID setting				
s edid in x from z!	Set hdmi input x edid mode (x=0~4,z=1~18) x=0. all input x=1. input1 x=2. input2 x=3. input3 x=4. input4 z=1. 4k2k60_444,stereo audio 2.0 z=2. 4k2k60_444,dolby/dts 5.1 z=3. 4k2k60_444,hd audio 7.1 z=4. 4k2k30_444,stereo audio 2.0 z=5. 4k2k30_444,dolby/dts 5.1 z=6. 4k2k30_444,hd audio 7.1 z=7. 1080p,stereo audio 2.0 z=8. 1080p,dolby/dts 5.1 z=9. 1080p,hd audio 7.1 z=10.1920x1200,stereo audio 2.0 z=11.1360x768, stereo audio 2.0 z=12.1024x768, stereo audio 2.0 z=13.user define1 z=14.user define2 z=15.copy from hdmi output 1 z=16.copy from hdmi output 2 z=17.copy from hdmi output 3 z=18.copy from hdmi output 4	r output bg!	output background: black screen	
r edid in x!	Get input x edid mode(x=0~4) x=0. all input x=1. input1 x=2. input2 x=3. input3 x=4. input4	r edid in 0!	input 1 edid: 4k2k60_444, stereo audio 2.0 input 2 edid: 4k2k60_444, stereo audio 2.0 input 3 edid: 4k2k60_444, stereo audio 2.0 input 4 edid: 4k2k60_444, stereo audio 2.0	

Command Code	Function Description	Example	Feedback	Default Setting
Video wall setting				
s tw mode x!	Set tv wall display mode(x=1~10) x=1. 2x2 mode x=2. 2x1 mode x=3. 2x1-2 mode x=4. 1x2 mode x=5. 1x2-2 mode x=6. 3x1 mode x=7. 4x1 mode x=8. 1x3 mode x=9. 1x4 mode x=10. matrix mode	s tw mode 1!	tv wall mode: 2x2	tv wall mode: 2x2
r tw mode!	Get tv wall display mode	r tw mode!	tv wall mode: 2x2	hdmi all oumode
s tw h bezel x!	set tv wall horizontal bezel (x=0~10,+,-)	s tw h bezel 0!	tv wall horizontal bezel: 0	tv wall horizontal bezel: 0
r tw h bezel!	Get tv wall row bezel	r tw h bezel!	tv wall horizontal bezel: 0	
s tw v bezel x!	Set tv wall vertical bezel (x=0~10,+,-)	s tw v bezel 0!	tv wall vertical bezel: 0	
r tw v bezel!	Get tv wall vertical bezel	r tw v bezel!	tv wall vertical bezel: 0	hdmi all oumode
s tw group y i nput x!	Set tv wall group y display which source input(y=0~4, x=1~4) y=0. tv wall group all y=1. tv wall group 1 y=2. tv wall group 2 y=3. tv wall group 3 y=4. tv wall group 4 x=1. hdmi input 1 x=2. hdmi input 2 x=3. hdmi input 3 x=4. hdmi input 4	s tw group 1 input 1!	tv wall group 1 input: hdmi input 1	tv wall group 1 input: hdmi input 1
r tw group y source!	Get tv wall group y display which source input(y=0~4) y=0. tv wall group all y=1. tv wall group 1 y=2. tv wall group 2 y=3. tv wall group 3 y=4. tv wall group 4	r tw group 0 source!	tv wall group 1 input: hdmi input 1 tv wall group 2 input: hdmi input 2 tv wall group 3 input: hdmi input 3 tv wall group 4 input: hdmi input 4	
s tw res x!	Set tv wall resolution (x=1~15) 1. 4096x2160p60, 2. 4096x2160p50, 3. 3840x2160p60, 4. 3840x2160p50, 5. 3840x2160p30, 6. 1920x1080p60, 7. 1920x1080p50, 8. 1920x1080i60, 9.1920x1080i50, 10. 1920x1200p60rb, 11.1360x768p60, 12.1280x800p60, 13.1280x720p60, 14.1280x720p50, 15.1024x768p60,	s tw res 3!	tv wall resolution: 3840x2160p60	3840x2160p60
r tw res!	Get tv wall resolution	r tw res!	tv wall resolution: 3840x2160p60	3840x2160p60

Command Code	Function Description	Example	Feedback	Default Setting
Network setting				
r ipconfig!	Get the current ip configauration	r ipconfig !	ip mode: static ip: 192.168.0.100 subnet mask: 255.255.255.0 gateway: 192.168.0.1 tcp/ip port=8000 telnet port=23 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 192.168.0.100!	set ip address: 192.168.0.100 (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 address: 192.168.0.100	
s subnet xxx.xxx.xxx.xxx!	Set network subnet mask	s subnet 255.255.255.0!	set subnet mask: 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.	
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 192.168.0.1!	set gateway: 192.168.0.1 (please use "s net reboot!" command or repower device to apply new config!) dhcp on, device can't config gateway, set dhcp off first.	
r gateway!	Get network gateway	r gateway!	gateway:192.168.0.1	
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: 192.168.0.100 subnet mask: 255.255.255.0 gateway: 192.168.0.1 tcp/ip port=8000 telnet port=10 mac address: 00:1c:91:03:80:01	

12. Application Example