

BLACKBIRD™



Blackbird™ by Monoprice™

4K60 Seamless HDMI® 2.0
4X4 MATRIX

P/N **44556**

User Manual

Thank You for Purchasing this Product

To ensure optimum performance and safety, read the following instructions before connecting, operating, or adjusting the product. 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 shocks, lightning strikes, etc. The use of surge protection systems is highly recommended to protect and extend the life of your equipment.

Safety Warnings and Guidelines

Please read this entire manual before using this device, paying extra attention to these safety warnings and guidelines. Please keep this manual in a safe place for future reference.

- This device is intended for indoor use only.
- Do not expose this device to water or moisture of any kind. Do not place drinks or other containers with moisture on or near the device.
- If moisture does get in or on the device, immediately unplug it from the power outlet and allow it to fully dry before reapplying power.
- Do not touch the device, the power cord, or any other connected cables with wet hands.
- Do not expose this device to excessive vibration.
- Do not subject the product to extreme force, shock, or fluctuations in temperature or humidity.
- Do not expose this device to excessively high temperatures. Do not place it in, on, or near a heat source, such as a fireplace, stove, radiator, etc. Do not leave it in direct sunlight.
- This device ventilates excessive heat through the slots and openings in the case.

- Do not block or cover these openings. Ensure that the device is in an open area where it can get sufficient airflow to keep from overheating.
- Prior to operation, check the unit and power cord for physical damage. Do not use if physical damage has occurred.
- Before plugging the unit into a power outlet, ensure that the outlet provides the same type and level of power required by the device.
- Never unplug the unit by pulling on the power cord. Always grasp the connector head or adapter body.
- Ensure that power is turned off and disconnected before making any electrical connections.
- Clean using a soft, dry cloth only. Do not use chemical cleaners, solvents, or detergents. For stubborn deposits, moisten the cloth with warm water.
- This device has no user serviceable parts. Do not attempt to open, service, or modify this device.

Table of Contents

Introduction.....	4
Features.....	4
Package Contents.....	5
Operation Controls and Functions.....	5
IR Remote.....	6
IR Cable Pin Assignment.....	8
EDID Management.....	8
Video Wall.....	9
Web GUI User Guide.....	9
RS-232 Control Command.....	17
Application Example.....	27
Specifications.....	28

1. Introduction

The 4K60 4:4:4 HDMI matrix is a versatile and high-speed video processing system that serves multiple purposes. This system has two output modes that can be configured according to your needs. It can operate as a 4x4 seamless matrix switcher or a 2x2, 4x1, or 1x4 video wall solution, among others.

In addition, this system comes with a web browser interface module that enables you to control and configure the matrix either as a standalone device or in conjunction with a third-party control system. You can control the system using different methods, such as front-panel push buttons, IR remote control, RS-232 interface, and TCP/IP.

2. Features

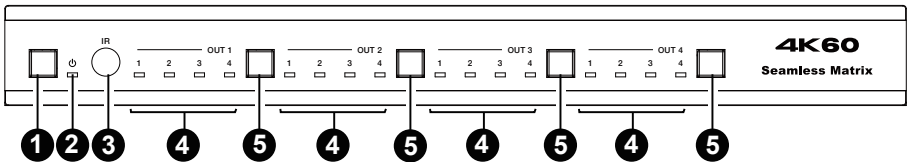
- HDMI 2.0b Compliant
- HDCP 2.2 and HDCP 1.4 Compliant
- Features 2 operational modes:
 - 4x4 Matrix (seamless switch)
 - Video wall (2x2, 4x1 or 1x4 etc configuration)
- Seamless video switching
- Video inputs support all industry standard video resolutions including VGA-WUXGA (up to 1920x1200 @60Hz) 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, DolbyDigital, DolbyDigital+, 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 × 18Gbps 4×4 Seamless Matrix
- 1 × Matrix IR Remote
- 1 × 3pin-3.81mm Phoenix Connector (male)
- 1 × 20-60KHz IR Wideband Receiver Cable (1.5 meters)
- 2 × Mounting Ears
- 4 × Machine Screws (KM3*4)
- 1 × 12V/2.5A Locking Power Adapter
- 1 × User Manual

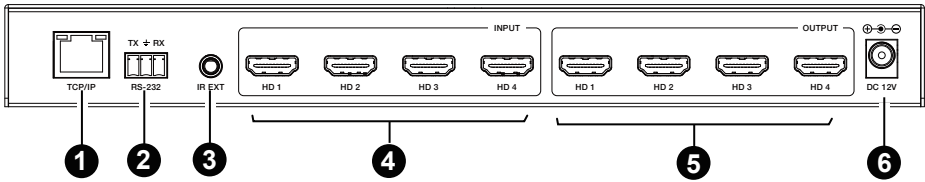
4. Operation Controls and Functions

Front Panel



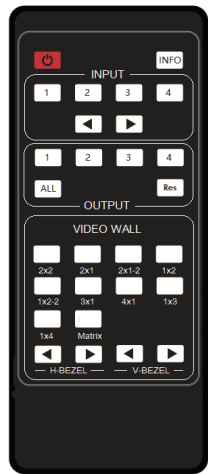
No.	Name	Function Description
1	Power button	▪ Short press this button to power on the device. ▪ Press this button for 1 seconds to enter the standby mode.
2	Power LED	The LED will illuminate in green when the product is working normally, and red when the product is on standby.
3	IR Window	IR receiver 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.

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.

5. IR Remote



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

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.)

INPUT 1/2/3/4:
Press these buttons to select the input source.


Select the last or next input source.

OUTPUT 1/2/3/4:

Press these buttons to select the output source.

All:

Select all output source simultaneously. For example, when you press the “All” button and then press input “1” button, at this time the input “1” source will 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).

VIDEO WALL:

Video wall mode selection:

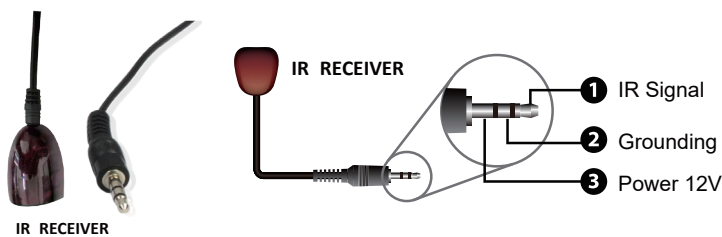
Press the video wall mode button directly to enter corresponding mode.

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.

6. IR Cable Pin Assignment



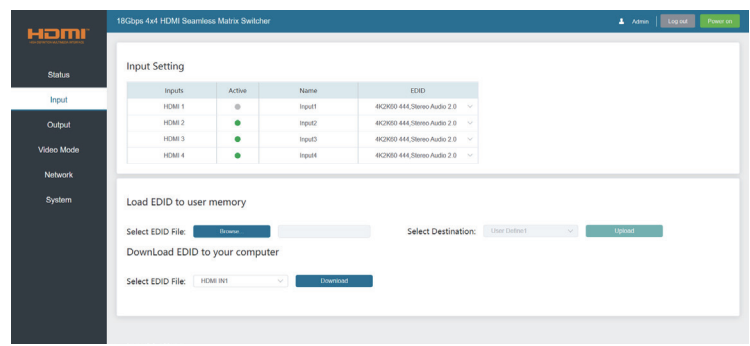
Note: When the angle between the IR receiver and the remote control is $\pm 45^\circ$, the transmission distance is 0-5 meters; when the angle between the IR receiver and the remote control is $\pm 90^\circ$, the transmission distance is 0-8 meters.

7. 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 the PC with a serial cable, then open a Serial Command tool on the PC to send the ASCII command “s edid in x from z!” to set EDID. For details, please refer to “EDID Setting” in the ASCII command list of “RS-232 Control Command”.

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

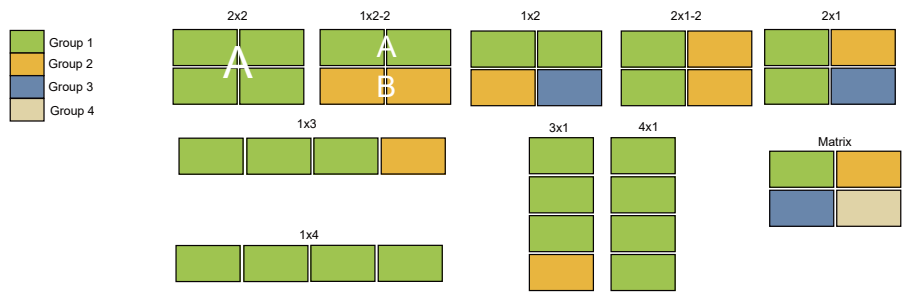


The defined EDID setting list of the product is shown as below:

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

8. 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.

9. Web GUI User Guide

The Matrix can be controlled by Web GUI. The operation method is shown 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 1: You can get the IP address via panel buttons. On the initial OLED display, press the “MENU” button three times to enter the IP interface and check the current IP address.

The second way 2: You can get the IP address is 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:

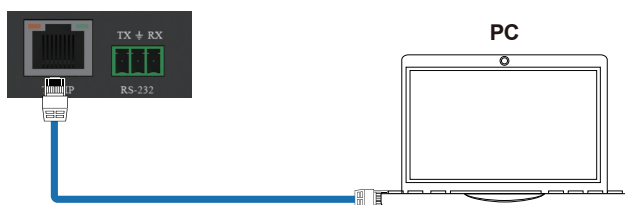
```
ip address:192.168.0.100
```

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 “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.

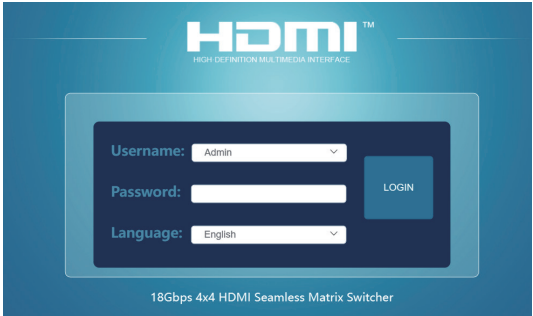


Step 3

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

← → × <http://192.168.62.109>

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



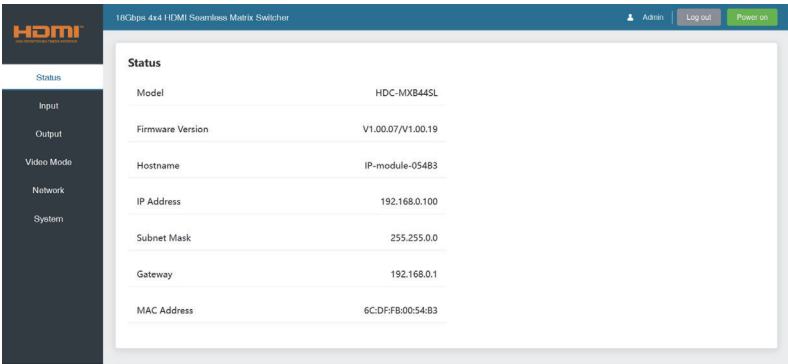
Select the Language from the drop-down list to choose English or Simple Chinese. Select the Username from the list and enter the password. The default passwords are:

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

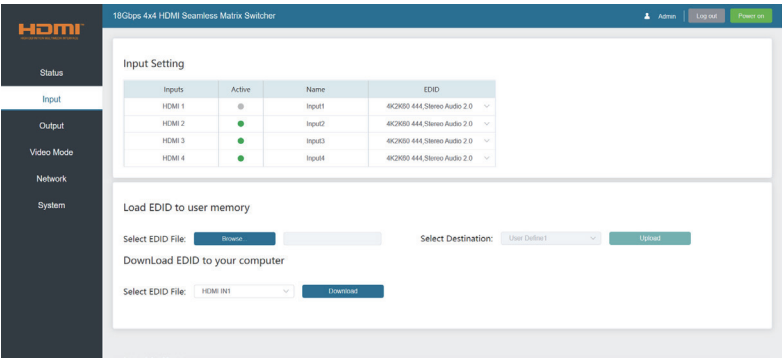
After entering the password, click the “LOGIN” button and the following Status page will appear.

Status Page

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



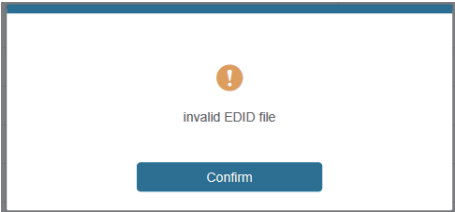
Input Page



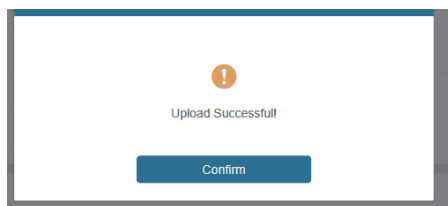
You can do the following operations on the Input page:

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 the EDID File for the Corresponding Input Channel

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

Outputs	Cable	Name	Output Resolution	Color Space	HDCP	H mirror	V mirror	Stream
HDMI 1	●	Output1	AUTO	RGB 4:4:4	1.4	Off	Off	Off
HDMI 2	●	Output2	AUTO	YCbCr 4:4:4	1.4	Off	Off	Off
HDMI 3	●	Output3	AUTO	YCbCr 4:2:2	1.4	Off	Off	Off
HDMI 4	●	Output4	AUTO	YCbCr 4:2:0	1.4	Off	Off	Off

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: 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. Output Resolution:** Set the current output resolution mode. Click the drop-down list to select other resolutions.
 - 5. Color Space:** Set the color space of the output signal.
 - 6. HDCP:** Set the HDCP version that the current output port supports.
 - 7. H mirror:** Turn on/off the horizontal mirroring of the output signal.
 - 8. V mirror:** Turn on/off the vertical mirroring of the output signal.
 - 9. Stream:** Turn on/off the signal output stream of the output port.
- Note:** User cannot set each output resolution separately in video wall mode.

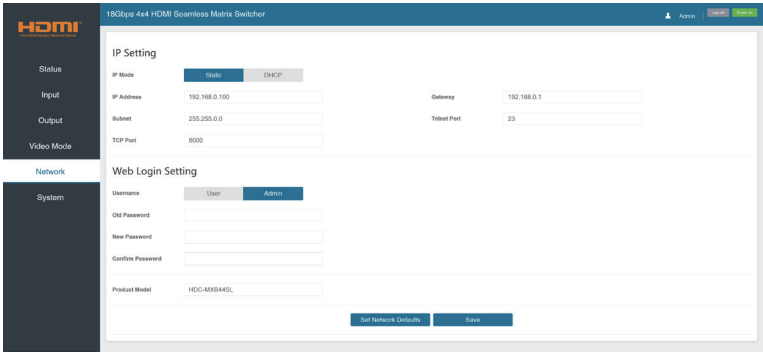
Video Mode Page



You can do the following operations on the Video Modepage:

1. **Matrix:** Click to select Matrix mode.
2. **Video Wall:** Click to select any multiview display mode.
3. **Matrix/Video Wall Adjustment:** Display the input and output information.
4. **Input Source:** Two methods to select the input source:
Method 1: Drag Input1/2/3/4/Pattern to any window of Matrix/Video Wall Adjustment.
Method 2: Select any window in Matrix/Video Wall Adjustment, then click Input1/2/3/4/ Pattern in Input Source, or 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 dropdown 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.

IP Setting

IP Mode

Static

DHCP

IP Address

192.168.0.100

Gateway

192.168.0.1

Subnet

255.255.0.0

Telnet Port

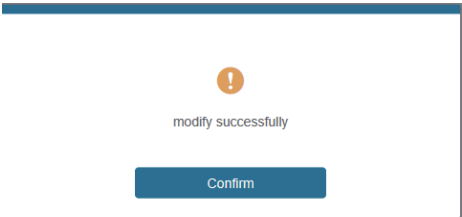
23

TCP Port

8000

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:

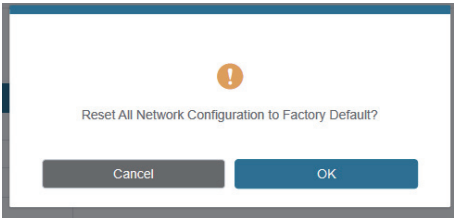


Note: Input rules for changing passwords:

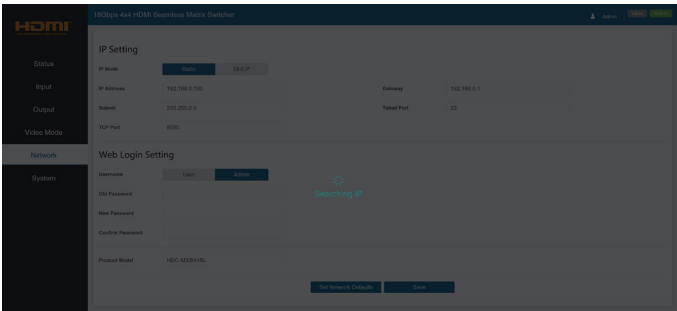
- (1) The password can't be empty.
- (2) New Password can't be the same as Old Password.
- (3) New Password and Confirm Password must be the same.

Set the Default Network

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

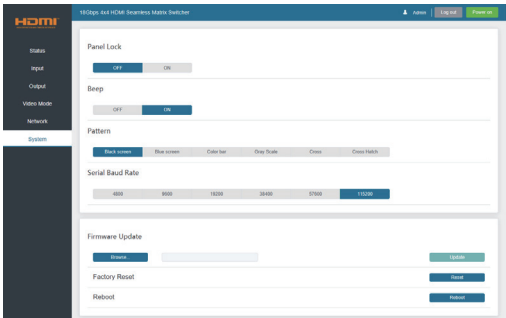


Click “OK” to search the IP Address again, as shown in the following figure:



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

System Page



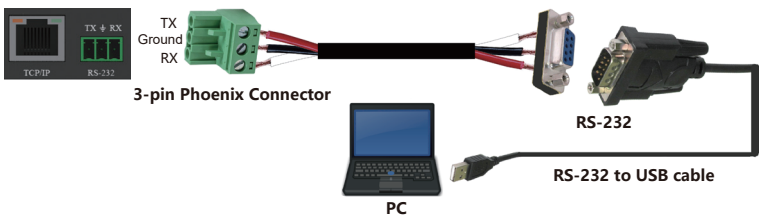
You can do the following operations on the System page:

- 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 the 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.

10. 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 and an RS-232 to USB 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!	List all commands	help!		
r type!	Get device model	r type!	4x4 hdmi seamless matrix	
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 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	
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	

Command Code	Function Description	Example	Feedback	Default Setting
System Setting				
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
Output 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: s output 1 csc 1! 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=1~4) 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: s output 1 hdcp 1! hdcp 1.4	hdcp1.4

Command Code	Function Description	Example	Feedback	Default Setting
Output Setting				
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 hmirror x!	Set output y h mirror(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. h mirror off x=1. h mirror on	s output 1 hmirror 1!	output1 h mirror on	output 1 h mirror off output 2 h mirror off output 3 h mirror off output 4 h mirror off
s output y vmirror x!	set output y v mirror(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. v mirror off x=1. v mirror on	s output 1 vmirror 0!	output1 v mirror off	output 1 v mirror off output 2 v mirror off output 3 v mirror off output 4 v mirror off
r output y mirror!	Get output y mirror 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 0 mirror!	output 1 h mirror on, v mirror off output 2 h mirror on, v mirror off output 3 h mirror on, v mirror off output 4 h mirror on, v mirror off	

Command Code	Function Description	Example	Feedback	Default Setting
Output Setting				
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 !	output 1 stream: enable	enable
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	

Command Code	Function Description	Example	Feedback	Default Setting
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	s edid in 1 from 1! s edid in 0 from 1!	input 2 edid: 1080p, stereo audio 2.0 all inputs edid: 1080p, stereo audio 2.0	4k2k60_444, stereo audio 2.0
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	

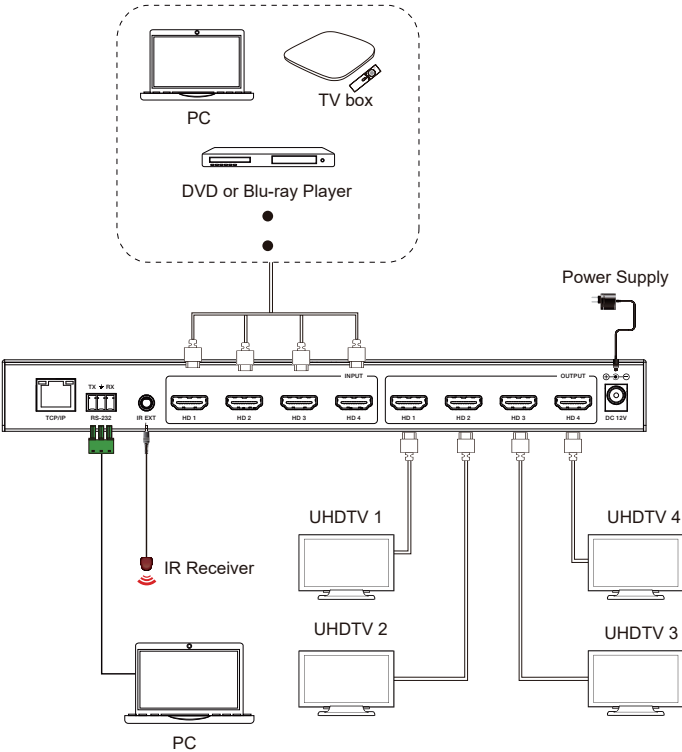
Command Code	Function Description	Example	Feedback	Default Setting
Video Wall setting				
s tw mode x!	Set tv wall display mode(x=1~10) x=1. 2x2 mode x=2. 2x1 mode x=3. 2x1-2 mode x=4. 1x2 mode x=5. 1x2-2 mode x=6. 3x1 mode x=7. 4x1 mode x=8. 1x3 mode x=9. 1x4 mode x=10. matrix mode	s tw mode 1!	tv wall mode: 2x2	tv wall mode: 2x2
r tw mode!	Get tv wall display mode	r tw mode!	tv wall mode: 2x2	
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	tv wall vertical bezel: 0
r tw v bezel!	Get tv wall vertical bezel	r tw v bezel!	tv wall vertical bezel: 0	
s tw group y input 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	

Command Code	Function Description	Example	Feedback	Default Setting
Video Wall setting				
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: r tw res! 3840x2160p60	3840x2160p60
Network Setting				
r ipconfig!	Get the Current IP Configuration	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	

Command Code	Function Description	Example	Feedback	Default Setting
Network Setting				
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	

Command Code	Function Description	Example	Feedback	Default Setting
Network Setting				
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	

11. Application Example



12. Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2 and HDCP 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-bit, 10-bit, 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	
Input Ports	4 × HDMI Type A [19-pin female]
Output Ports	4 × HDMI Type A [19-pin female]
Control Ports	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)

Customer Service

The Monoprice Customer Service department is dedicated to ensuring that your ordering, purchasing, and delivery experience is second to none. If you have any problems with your order, please give us an opportunity to make it right. You can contact a Monoprice Customer Service representative through the Live Chat link on our website www.monoprice.com or via email at support@monoprice.com. Check the website for support times and links.

Technical Support

Monoprice™ is pleased to provide free, live, online technical support to assist you with any questions you may have about installation, setup, troubleshooting, or product recommendations. If you ever need assistance with your new product, please come online to talk to one of our friendly and knowledgeable Tech Support Associates. Technical support is available through the online chat button on our website www.monoprice.com or through email by sending a message to tech@monoprice.com. Check the website for support times and links. To download the latest drivers, firmware, manuals, etc., go to www.monoprice.com and type 44556 into the search bar. If available, support files are linked at the bottom of the product page.

Notice for FCC



This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Modifying the equipment without Monoprice's authorization may result in the equipment no longer complying with FCC requirements for Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Notice for ISED Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



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