INSTRUCTION MANUAL

# ANI-HDFLIP-PRO

**4x4 4K60 UHD 18Gbps HDMI Quad Multiviewer Seamless Switcher Video Wall w/ Rotation**



**A-NeuVideo.com**
Frisco, Texas 75036

# A▸NEUVIDEO®

# SAFETY INFORMATION

1. To ensure the best results from this product, please read this manual and all other documentation before operating your equipment. Retain all documentation for future reference.

2. Follow all instructions printed on unit chassis for proper operation.

3. To reduce the risk of fire, do not spill water or other liquids into or on the unit, or operate the unit while standing in liquid.

4. Make sure power outlets conform to the power requirements listed on the back of the unit. Keep unit protected from rain, water and  excessive moisture.

5. Do not attempt to clean the unit with chemical solvents or aerosol cleaners, as this may damage the unit. Dust with a clean dry cloth.

6. Do not use the unit if the electrical power cord is frayed or broken. The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.

7. Do not force switched or external connections in any way. They should all connect easily, without needing to be forced.

8. Always operate the unit with the AC ground wire connected to the electrical system ground. Precautions should be taken so that the means of grounding of a piece of equipment is not defeated.

9. AC voltage must be correct and the same as that printed on the rear of the unit. Damage caused by connection to improper AC voltage is not covered by any warranty.

10. Turn power off and disconnect unit from AC current before making connections.

11. Never hold a power switch in the "ON" position.

12. This unit should be installed in a cool dry place, away from sources of excessive heat, vibration, dust, moisture and cold. Do not use the unit near stoves, heat registers, radiators, or other heat producing devices.

13. Do not block fan intake or exhaust ports. Do not operate equipment on a surface or in an environment which may impede the normal flow of air around the unit, such as a bed, rug, carpet, or completely enclosed rack. If the unit is used in an extremely dusty or smoky environment, the unit should be periodically "blown free" of foreign dust and matter.

14. To reduce the risk of electric shock, do not remove the cover. There are no user serviceable parts inside. Refer all servicing to qualified service personnel. There are no user serviceable parts inside.

15. When moving the unit, disconnect input ports first, then remove the power cable; finally, disconnect the interconnecting cables to other devices.

16. Do not drive the inputs with a signal level greater than that required to drive equipment to full output.

17. The equipment power cord should be unplugged from the outlet when left unused for a long period of time.

18. Save the carton and packing material even if the equipment has arrived in good condition. Should you ever need to ship the unit, use only the original factory packing.

19. Service Information Equipment should be serviced by qualified service personnel when:

    A. The power supply cord or the plug has been damaged.

    B. Objects have fallen, or liquid has been spilled into the equipment.

    C. The equipment has been exposed to rain.

    D. The equipment does not appear to operate normally, or exhibits a marked change in performance.

    E. The equipment has been dropped, or the enclosure damaged.

THIS SAFETY INFORMATION IS OF A GENERAL NATURE AND MAY BE SUPERSEDED BY IN-STRUCTIONS CONTAINED WITHIN THIS MANUAL.

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## SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

• Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
• To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
• Never spill liquid of any kind on or into this product.
• Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
• Do not attach the power supply cabling to building surfaces.
• Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
• Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
• To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

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Version 1.0 JULY 2023

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## 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 4x4 seamless matrix switcher, as a 2x2, 4x1 or 1x4 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. This product has a 3 year warranty.

## PACKAGE CONTENTS

Before attempting to use this unit, please check the packaging and make sure the following items are contained in the shipping carton:

- ANI-HDFLIP-PRO 4K60 18Gbps 4x4 Seamless Matrix
- Matrix IR Remote
- 3pin-3.81mm Phoenix Connector (male)
- 20-60KHz IR Wideband Receiver Cable (1.5M)
- (2) Mounting Ears
- (4) Machine Screws (KM3*4)
- 12V/2.5A Locking Power Adapter

# FEATURES

- Compliant HDMI 2.0b
- Compliant HDCP 2.2 and HDCP 1.4
- 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 (3840x2160@60Hz 4:4:4, 4096x2160@60Hz 4:4:4)
- HDMI outputs support upscale or downscale to any resolution, up to 4096x2160@60Hz4:4:4
- 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

# SPECIFICATIONS

- **Inputs:** (4) HDMI Type A [19-pin female]
- **Outputs:** (4) HDMI Type A [19-pin female]
- **Control:**
  - RS-232 [3pin-3.81mm phoenix connector]
  - TCP/IP [RJ45]
  - IR EXT [3.5mm Stereo Mini-jack]
- **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
- **Housing:** Metal Enclosure
- **Color:** Black
- **Dimensions:** 10.6 x 6.5 x 1.2 in (270x166x30mm)
- **Weight:** 2.6 lbs / 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)

# OPERATION CONTROLS AND FUNCTIONS

## FRONT PANEL
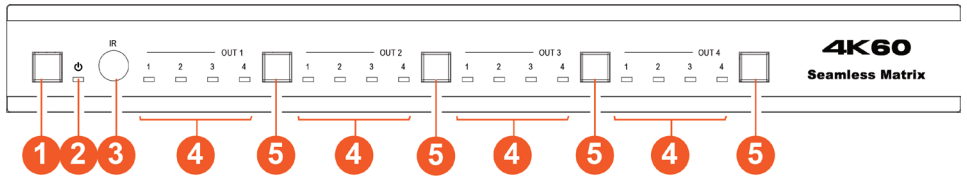


❶ **Power Button:** Press this button to power on the device. Hold this button for 1 second to enter the standby mode.

❷ **Power LED:** The LED will illuminate GREEN when the product is ON, and RED when in standby.

❸ **IR Window:** IR receiver window, receives the IR remote signal from the remote

❹ **Signal Source LED:** Signal source indicator for the OUT 1 - OUT 4 ports.

❺ **Input Source Switching Button:** Input source switching button for the OUT 1- OUT 4 ports.

## BACK PANEL
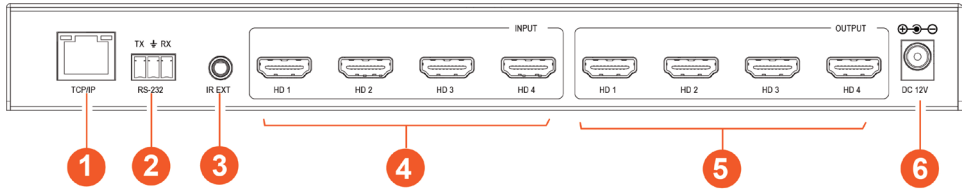


❶ **TCP/IP:** The link port for TCP/IP control, connects to an active Ethernet link with an RJ45 cable to control the Matrix via Web.

❷ **RS-232:** RS-232 serial command control port, connects to a PC or control system to control the Matrix.

❸ **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.

❹ **HDMI INPUT:** HDMI signal input port, connected to signal source device.

❺ **Input Source Switching Button:** Input source switching button for the OUT 1- OUT 4 ports.

❻ **HDMI OUTPUT:** HDMI signal output port, connects to HDMI display devices.

❼ **DC 12V:** DC 12V/2.5A power input port.

# OPERATION CONTROLS AND FUNCTIONS

## IR REMOTE
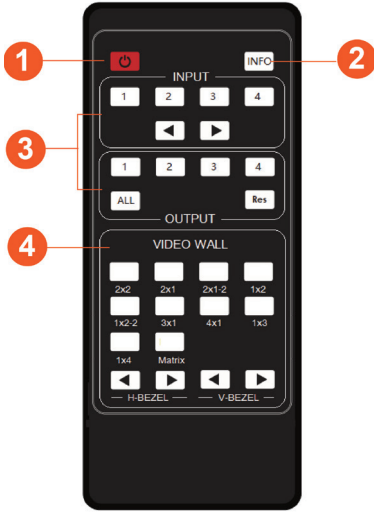
**❶ Power on or Standby:** Power on the Matrix or set it to standby mode.

**❷ 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.)

**❸ 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).

**❹ 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.

| HEX CODES: | | | Output 2 | 08F7 | 19 | VW 1x2-2 | 08F7 | 4F |
|---|---|---|---|---|---|---|---|---|
| Power Toggle | 08F7 | 4D | Output 3 | 08F7 | 0F | VW 3x1 | 08F7 | 44 |
| Info | 08F7 | 0B | Output 4 | 08F7 | 03 | VW 4x1 | 08F7 | 50 |
| Input 1 | 08F7 | 09 | Output ALL | 08F7 | 55 | VW 1x3 | 08F7 | 0E |
| Input 2 | 08F7 | 54 | Output Res | 08F7 | 17 | VW 1x4 | 08F7 | 13 |
| Input 3 | 08F7 | 47 | VW 2x2 | 08F7 | 40 | Matrix | 08F7 | 12 |
| Input 4 | 08F7 | 42 | VW 2x1 | 08F7 | 10 | H-Bezel Left | 08F7 | 18 |
| Left | 08F7 | 48 | VW 2x1-2 | 08F7 | 11 | H-Bezel Right | 08F7 | 45 |
| Right | 08F7 | 4B | VW 1x2 | 08F7 | 52 | V-Bezel Left | 08F7 | 14 |
| Output 1 | 08F7 | 0C | | | | V-Bezel Right | 08F7 | 51 |

# IR PIN DEFINITION

IR Receiver pin's definition is as below:



**IR  RECEIVER**



**IR  RECEIVER**

1. IR Signal
2. Grounding
3. Power 12V
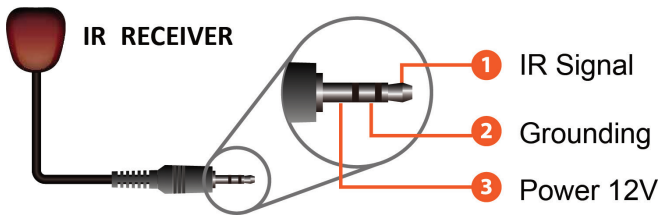
*__Note:__ When the angle between the IR receiver and the remote control is ± 45 °, the transmission distance is 0-5 meters; when the angle between the IR receiver and the remote control is ± 90 °, the transmission distance is 0-8 meters.*

# 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 Settings"** in the ASCII command list of **"RS-232 Control Commands"**.

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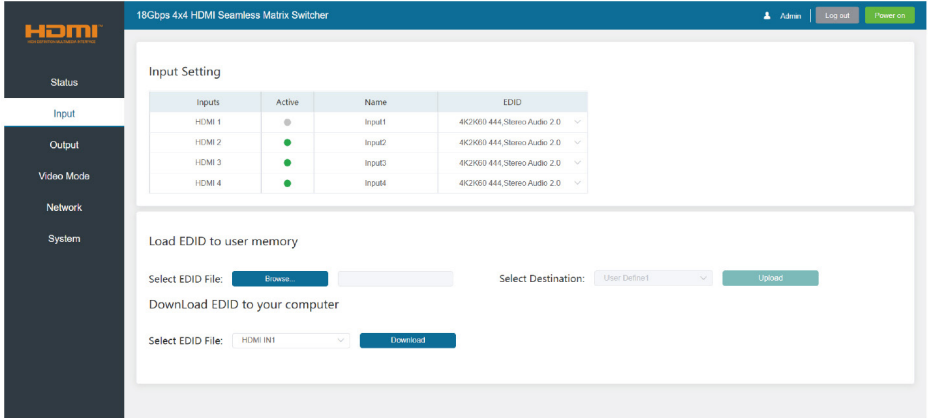


The defined EDID setting list of the product is shown as below:

| 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,hd audio 7.1 | | 14 | user define2 |
| 6 | 4k2k30_444,dolby/dts 5.1 | | 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 |

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# VIDEO WALL

The matrix supports (10) categories of display modes as below:
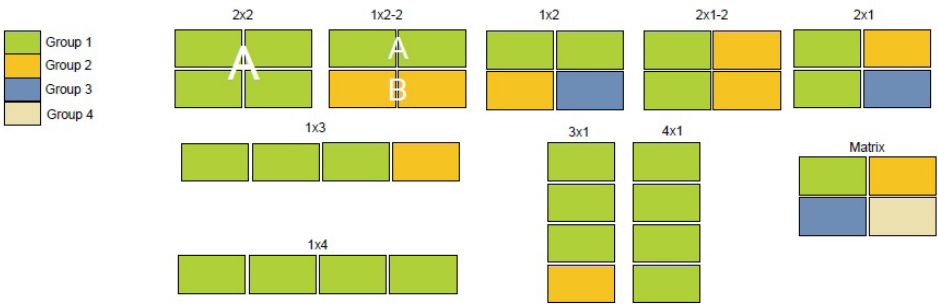


User can select display modes via IR remote, Web GUI or RS-232 commands.

# 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 on the remote control, 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.
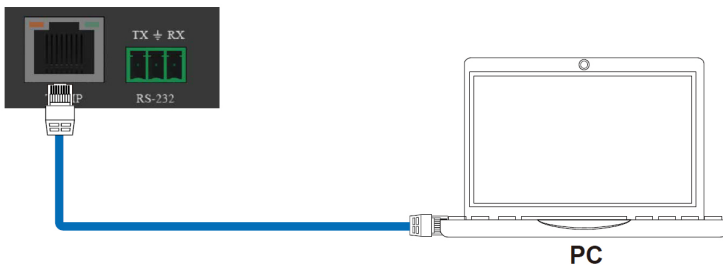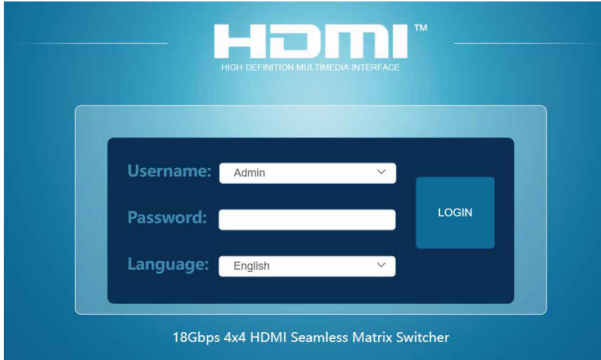
# WEB GUI USER GUIDE

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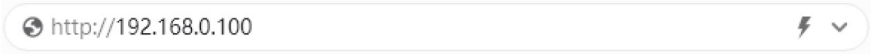


After entering the Web GUI page, there will be a Login page, as shown below:
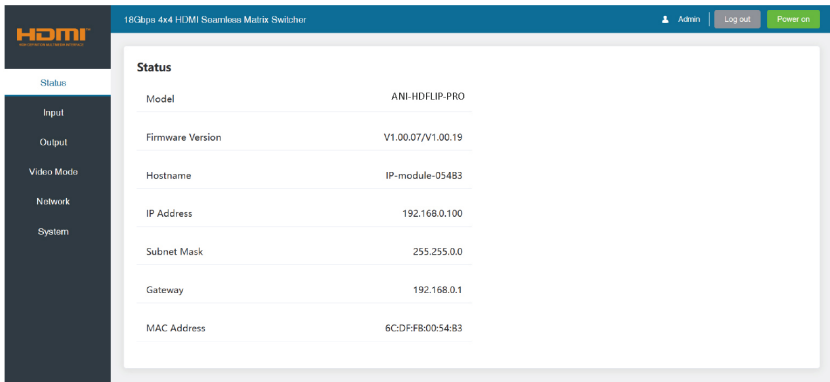


Select the Language from the drop-down list.

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.

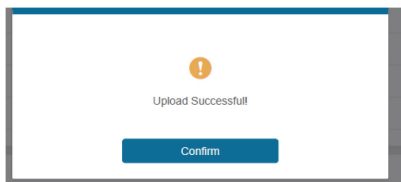## Input Page



You can do the following operations on the Input page:

❶ **Inputs:** Input channel of the device.

❷ **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.

❸ **Name:** The input channel's name. You can modify it by entering the corresponding name (max length: 31 characters supported.

❹ **EDID:** You can set the current channel's EDID. Click drop-down list to select.

❺ **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:
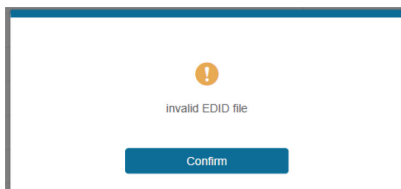


Make sure to select the correct file, then you can check the name of the selected file. Select **"User 1"** or **"User 2"**, then click **"Upload"**. After successful setting, it will prompt as follows:



❻ **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
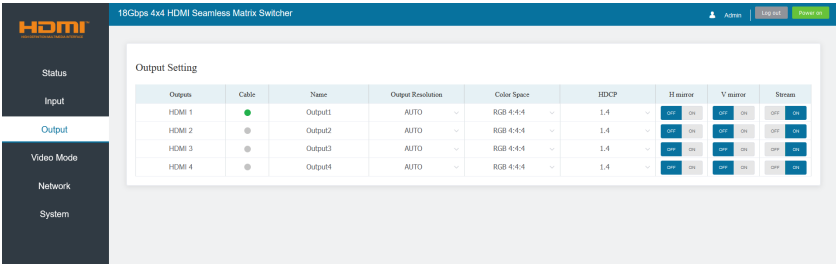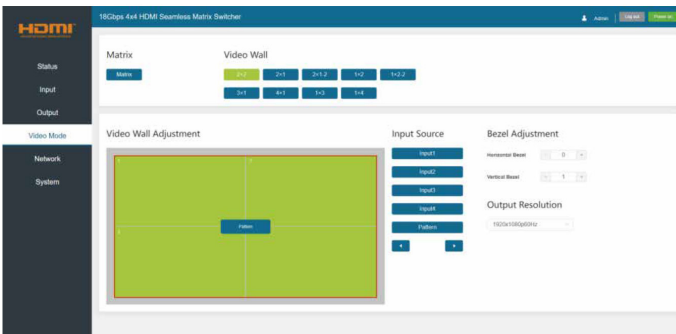


You can do the following operations on the Output page:

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

❷ **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.

❸ **Name:** The current output channel's name. You can modify it by entering the corresponding name (max length: 31 characters supported.)

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

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

❻ **H Mirror**: OFF = Image displays as normal

ON= Image flips on the horizonal plane (flips 180 degrees)

❼ **V Mirror:** OFF=Image display as normal

ON=Image flips on the vertical plane (like that used for rear projection)

❽ **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:

❶ **Matrix:** Click to select Matrix mode.

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

❸ **Matrix/Video Wall Adjustment:** Display the input and output information.

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

**Method 1:** Drag Input1/2/3/4/Pattern to any box of Matrix/Video Wall Adjustment.
**Method 2:** Select any box in Matrix/Video Wall Adjustment, then click Input1/2/3/4/Pattern in Input Source.
**Method 3:** Click ◄ / ► to select the last or next signal source.

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

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

## Network Page
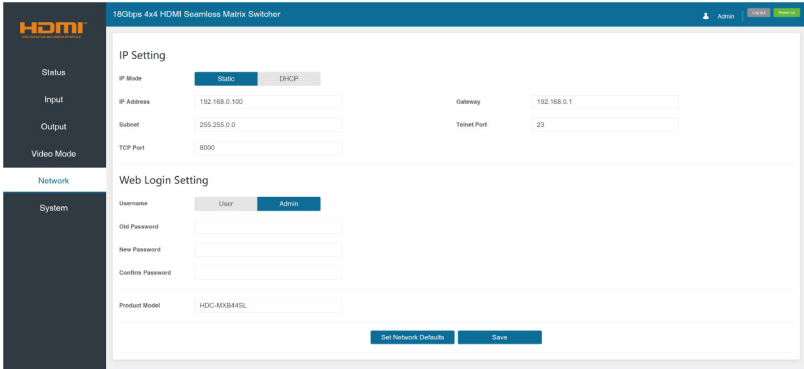


You can do the following operations on the Network page:

### 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:
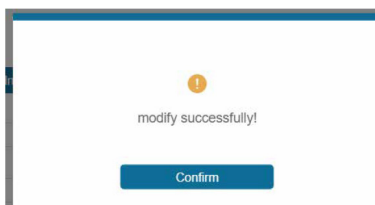


*Note:* Input rules for changing passwords:
(1) The password can't be empty.
(2) New Password can't be the same as Old Password.
(3) New Password and Confirm Password must be the same.

# WEB GUI USER GUIDE

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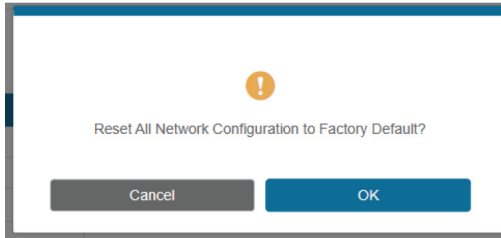


Click **"OK"** to search the IP Address again, as shown in the following figure:
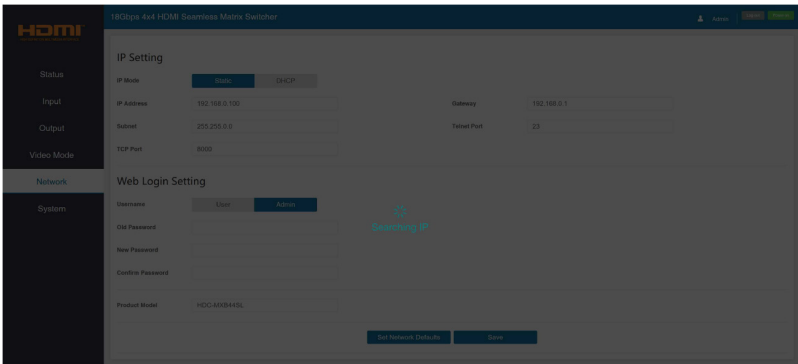


After searching is completed, it will switch to the login page, the default network setting is completed.

## System Page
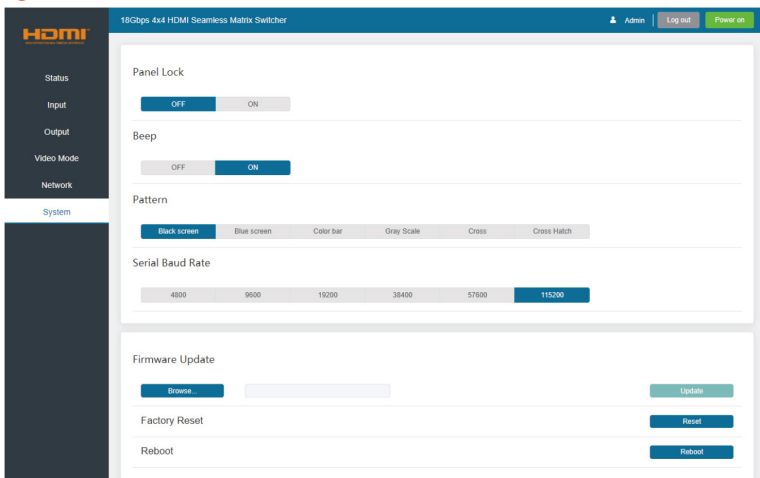
# WEB GUI USER GUIDE

You can do the following operations on the System page:

❶ **Panel Lock:** Click to lock/unlock panel buttons. **"ON"** indicates that panel buttons are unavailable; **"OFF"** indicates panel buttons are available.

❷ **Beep:** Click to turn on/off the beep.

❸ **Pattern:** Click to select (6) patterns.

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

❺ **Firmware Update:** Click **"Browse"** to select the update file, then click **"Update"** to complete firmware update.

❻ **Factory Reset:** You can reset the machine to factory defaults by clicking **"Reset"**.

❼ **Reboot:** You can reboot the machine by clicking **"Reboot"**.

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

# 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.
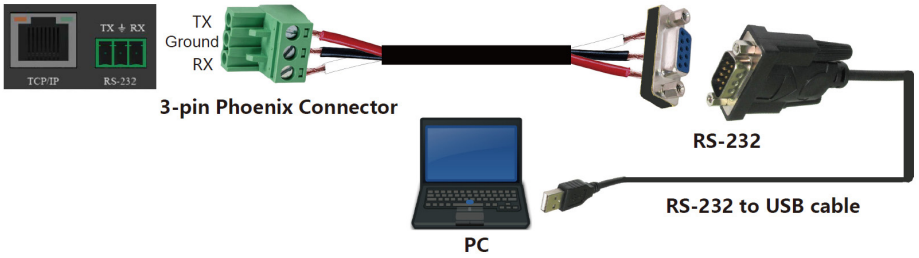


Then open a Serial Command tool on PC to send ASCII commands to control the product. The ASCII command list about the product is shown as below.

| ASCII Command | | | | |
|---|---|---|---|---|
| Serial port protocol: | Baud rate: 115200 (default) | Data bits: 8 | Stop bits: 1 | Check bit: 0 |
| x - Parameter 1 <br> y - Parameter 2 <br> ! - 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 | |
| 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 |

# RS-232 CONTROL COMMAND

| Command Code | Function Description | Example | Feedback | Default Setting |
|---|---|---|---|---|
| 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 |

# RS-232 CONTROL COMMAND

| Command Code | Function Description | Example | Feedback | Default Setting |
|---|---|---|---|---|
| r output y res! | Get output y resolution (y=0~4)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>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)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4<br>x=1. rgb444<br>x=2. ycbcr444<br>x=3. ycbcr422<br>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)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>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)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4<br>x=1. hdcp 1.4<br>x=2. hdcp 2.2<br>x=3. follow sink<br>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)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4 | r output 1 hdcp! | output 1 hdcp: hdcp 1.4 | |

# RS-232 CONTROL COMMAND

| Command Code | Function Description | Example | Feedback | Default Setting |
|---|---|---|---|---|
| s output y stream x! | Set output y stream enable/disable (y=0~4, x=0~1)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4<br>x=0. stream disable<br>x=1. stream enable | s output 1 stream 1! | output 1 stream: enable | enable |
| r output y stream! | Get output y stream status. (y=0~4)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>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)<br>x=1. black screen<br>x=2. blue screen<br>x=3. color bar<br>x=4. gray scale<br>x=5. cross<br>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)<br>x=0. all input<br>x=1. input1<br>x=2. input2<br>x=3. input3<br>x=4. input4<br>z=1. 4k2k60_444,stereo audio 2.0<br>z=2. 4k2k60_444,dolby/dts 5.1<br>z=3. 4k2k60_444,hd audio 7.1<br>z=4. 4k2k30_444,stereo audio 2.0<br>z=5. 4k2k30_444,dolby/dts 5.1 | r output bg! | output background: black screen | |

| Command Code | Function Description | Example | Feedback | Default Setting |
|---|---|---|---|---|
| s edid in x from z! (cont'd) | z=6. 4k2k30_444,hd audio 7.1<br>z=7. 1080p,stereo audio 2.0<br>z=8. 1080p,dolby/dts 5.1<br>z=9. 1080p,hd audio 7.1<br>z=10.1920x1200,stereo audio 2.0<br>z=11.1360x768, stereo audio 2.0<br>z=12.1024x768, stereo audio 2.0<br>z=13.user define1<br>z=14.user define2<br>z=15.copy from hdmi output 1<br>z=16.copy from hdmi output 2<br>z=17.copy from hdmi output 3<br>z=18.copy from hdmi | r output bg! | output background: black screen | |
| r edid in x! | Get input x edid mode(x=0~4)<br>x=0. all input<br>x=1. input1<br>x=2. input2<br>x=3. input3<br>x=4. input4 | r edid in 0! | input 1 edid: 4k2k60_444, stereo audio 2.0<br>input 2 edid: 4k2k60_444, stereo audio 2.0<br>input 3 edid: 4k2k60_444, stereo audio 2.0<br>input 4 edid: 4k2k60_444, stereo audio 2.0 | |
| **Video Wall Setting** | | | | |
| s tw mode x! | Set tv wall display mode(x=1~10)<br>x=1. 2x2 mode<br>x=2. 2x1 mode<br>x=3. 2x1-2 mode<br>x=4. 1x2 mode<br>x=5. 1x2-2 mode<br>x=6. 3x1 mode<br>x=7. 4x1 mode<br>x=8. 1x3 mode<br>x=9. 1x4 mode<br>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 |

# RS-232 CONTROL COMMAND

| Command Code | Function Description | Example | Feedback | Default Setting |
|---|---|---|---|---|
| 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 input x! | Set tv wall group y display which source input (y=0~4, x=1~4)<br>y=0. tv wall group all<br>y=1. tv wall group 1<br>y=2. tv wall group 2<br>y=3. tv wall group 3<br>y=4. tv wall group 4<br>x=1. hdmi input 1<br>x=2. hdmi input 2<br>x=3. hdmi input 3<br>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)<br>y=0. tv wall group all<br>y=1. tv wall group 1<br>y=2. tv wall group 2<br>y=3. tv wall group 3<br>y=4. tv wall group 4 | r tw group 0 source! | tv wall group 1 input: hdmi input 1<br>tv wall group 2 input: hdmi input 2<br>tv wall group 3 input: hdmi input 3<br>tv wall group 4 input: hdmi input 4 | |
| s tw res x! | Set tv wall resolution (x=1~15)<br>1. 4096x2160p60,<br>2. 4096x2160p50,<br>3. 3840x2160p60,<br>4. 3840x2160p50,<br>5. 3840x2160p30,<br>6. 1920x1080p60,<br>7. 1920x1080p50,<br>8. 1920x1080i60,<br>9.1920x1080i50,<br>10. 1920x1200p60rb,<br>11.1360x768p60,<br>12.1280x800p60,<br>13.1280x720p60,<br>14.1280x720p50,<br>15.1024x768p60 | s tw res 3! | tv wall resolution: 3840x2160p60 | 3840x2160p60 |

# RS-232 CONTROL COMMAND

| Command Code | Function Description | Example | Feedback | Default Setting |
|---|---|---|---|---|
| r tw res! | Get tv wall resolution | r tw res! | tv wall resolution: 3840x2160p60 | 3840x2160p60 |
| **NetworkSetting** | | | | |
| r ipconfig! | Get the current ip configuration | r ipconfig ! | ip mode: static<br>ip: 192.168.0.100<br>subnet mask: 255.255.255.0<br>gateway: 192.168.0.1<br>tcp/ip port=8000<br>telnet port=23<br>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 | |

# RS-232 CONTROL COMMAND

| Command Code | Function Description | Example | Feedback | Default Setting |
|---|---|---|---|---|
| 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 | |

# APPLICATION EXAMPLE
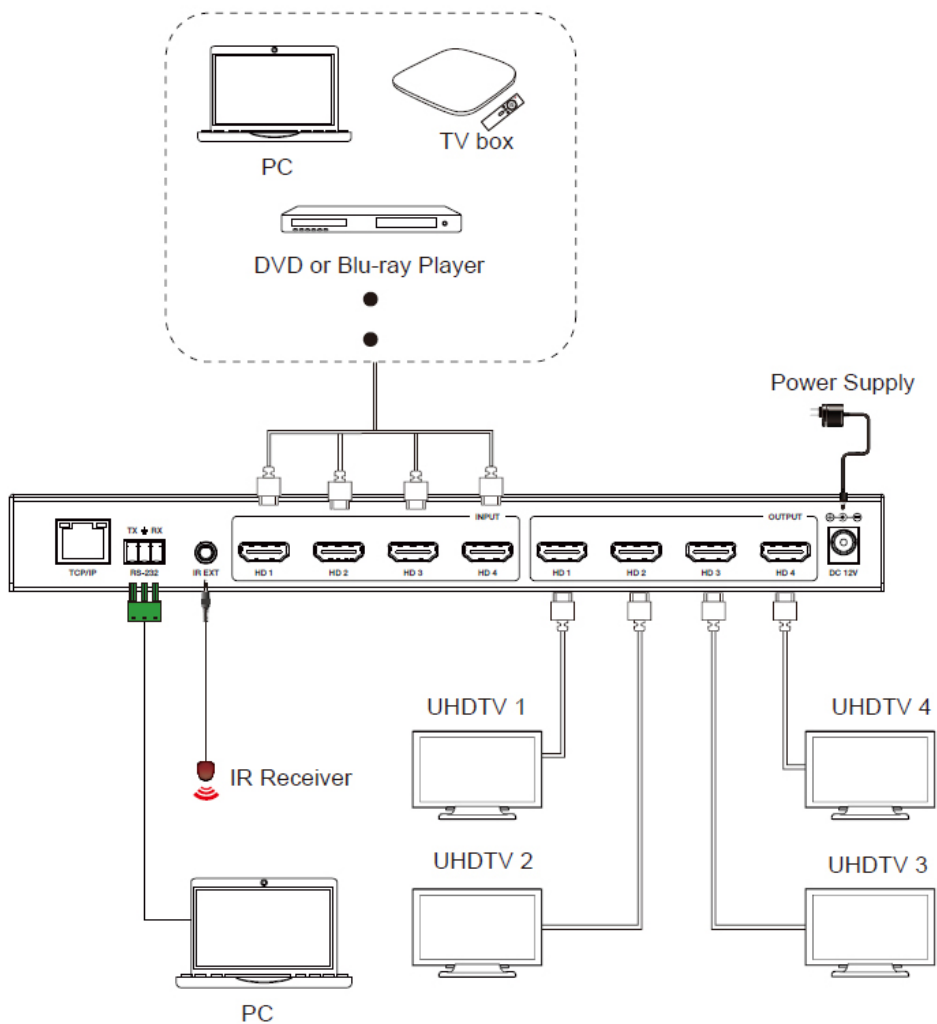


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