

# **4 by 4 HDMI Matrix with ARC**

## **Operation Manual**

## I. Introduction

This is a high performance HDMI Matrix with four HDMI inputs & four outputs, it allows any source (Blue-Ray player, HD DVD player, satellite receiver, game system, etc.) to be shown on the any of the four displays simultaneously, and supports 4K×2K, 3D, 12-bit Deep Color. With its 3Gbps bandwidth and the additional features of the latest HDMI standards you can be sure of great HDMI distribution. It support four channel ARC fuciton also.

## II. Feature

- Compliant with HDMI 2.0,HDCP 2.2
- Supports multiplexed HDMI 4-input and 4-output
- Supports video format up to 4k2k@30Hz with 24bit RGB/YcbCR 4:4:4/YCBCR 4:2:2,and up to 4k2k@60Hz with 12bit YCBCR 4:2:0.
- Deep Color support 48/36/30/24-bit
- Supports reception of any audio data conforming to the HDMI specification such PCM at up to 192kHz,compressed audio(IEC 61937),DSD,DST,DTS and HBR.
- Supports four channel ARC control
- Supports button,IR,RS232 etc various controlled ways;

## III. Package Contents

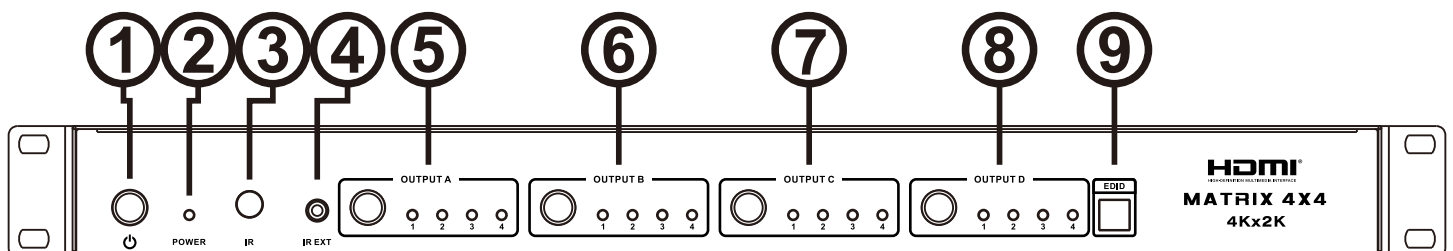
- 4x4 HDMI Matrix ----- 1pcs
- 12V/2.5A DC power adaptor ----- 1pcs
- Remote Control ----- 1pcs
- Operation Manual ----- 1pcs
- RS232 Cable ----- 1pcs
- WideBand IR Receiver Cable ----- 1pcs

## IV. Specifications

1. <b>Video Bandwidth</b>	300MHz/3 Gbps
2. <b>Input Ports</b>	4 × HDMI (Female type)
3. <b>Output Ports</b>	4 × HDMI (Female type)
4. <b>Output Resolution</b>	480i ~ 1080p50/60, 4Kx2K@24/30, 4k2k@60Hz with 12bit YCBCR 4:2:0
5. <b>HDMI Cable In</b>	1080p/12bits (15m)
6. <b>HDMI Cable Out</b>	1080p/12bits (15m)
7. <b>ESD Protection</b>	Human Body model: ±8 kV (air-gap discharge) ±4 kV (contact discharge)
8. <b>Power Supply</b>	12 V/2.5A DC (US/EU standards, CE/FCC/UL certified)
9. <b>Dimensions</b>	440 mm (D) × 110 mm (W) × 45 mm (H)
10. <b>Weight</b>	1150g
<b>Chassis Material</b>	Metal
<b>Silkscreen Color</b>	Black
<b>Operating Temperature</b>	0 °C ~ 40 °C / 32 °F ~ 104 °F
<b>Storage Temperature</b>	-20 °C ~ 60 °C / -4 °F ~ 140 °F
<b>Relative Humidity</b>	20 ~ 90 % RH (non-condensing)
<b>Power Consumption</b>	9 W

## V. Operation controls and Functions

### Front panel

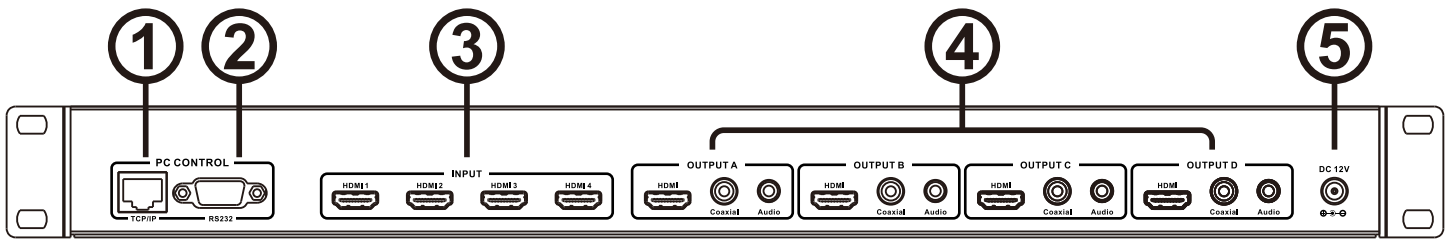


1. **ON/OFF:** Power on/off Button.
2. **POWER LED:** This LED illuminates when the device is connected with power supply.

3. **IR:** Remote control receiver window.
4. **IR EXT:** if the panel sensor is obstructed or the unit is installed in a closed area out of infrared line of sight, the IR RX receiver included can be inserted into the IR EXT port at the rear to extend the IR sensor range and enable local control of the matrix.
5. **OUT A:** These LED illuminates when the output A channel select to the corresponding input.
6. **OUT B:** These LED illuminates when the output B channel select to the corresponding input.
7. **OUT C:** These LED illuminates when the output C channel select to the corresponding input.
8. **OUT D:** These LED illuminates when the output D channel select to the corresponding input.
9. **EDID switch:**

<b>EDID Mode</b>	<b>EDID Description</b>
<b>0</b>	<b>1080p, 2CH AUDIO</b>
<b>1</b>	<b>1080p, DOLBY/DTS 5.1</b>
<b>2</b>	<b>1080p, HD AUDIO</b>
<b>3</b>	<b>1080i, 2CH AUDIO</b>
<b>4</b>	<b>1080i, DOLBY/DTS 5.1</b>
<b>5</b>	<b>1080i, HD AUDIO</b>
<b>6</b>	<b>3D, 1080p, 2CH AUDIO</b>
<b>7</b>	<b>3D, 1080p, DOLBY/DTS 5.1</b>
<b>8</b>	<b>3D, 1080p, HD AUDIO</b>
<b>9</b>	<b>4kx2k30, 2CH AUDIO</b>
<b>A</b>	<b>4kx2k30, DOLBY/DTS 5.1</b>
<b>B</b>	<b>4kx2k30, HD AUDIO</b>
<b>C</b>	<b>4kx2k60, 2CH AUDIO</b>
<b>D</b>	<b>4kx2k60, DOLBY/DTS 5.1</b>
<b>E</b>	<b>4kx2k60, HD AUDIO</b>
<b>F</b>	<b>RS232 Control mode</b>

## Rear panel

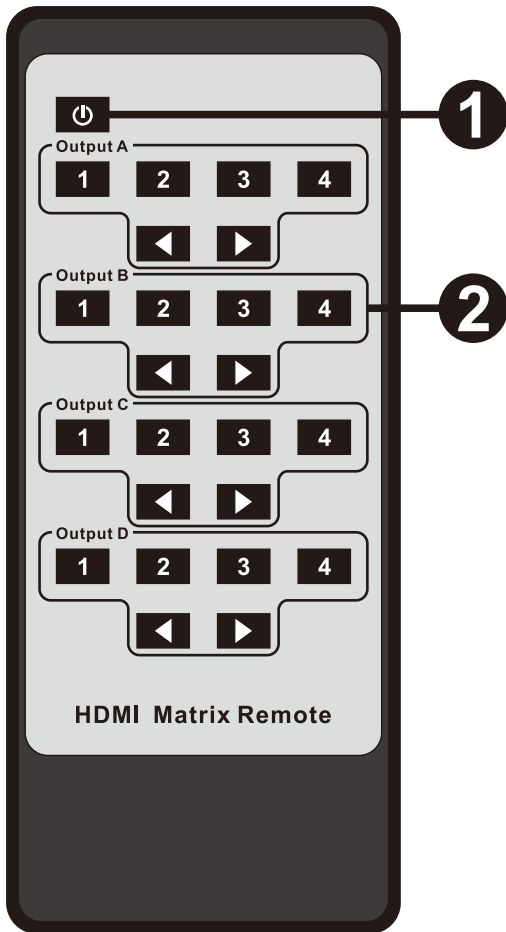


- 1. TCP/IP:** This port is the link for TCP/IP controls, connect to an active Ethernet link with an RJ45 terminated cable.
- 2. RS232:** Connect to a PC or control system with D-Sub 9-pin cable for the transmission of RS-232 commands.
- 3. Input:** These slot is where you connect the HDMI source output from DVD, PS3, Set-top Box or Note Book.
- 4. Output A, B, C, D:** The HDMI is where you connect the HDTV or monitor with HDMI cable for input source display. The Coaxial audio output is where you connect to the digital amplifier with coaxial cable. The audio output is where you connect to the speaker with earphone cable.
- 5. DC 12V:** Plug the 12V2.5A DC power supply into the unit and connect the adaptor to AC wall outlet.

## Connect and Operate

1. Connect the signal sources such as Blu-Ray Player, Play Station 3, audio/video receiver, satellite receivers and computers equipped with HDMI output interfaces with a short high-speed HDMI cable to the HDMI Matrix inputs.
2. Connect the HDMI output from the HDMI Matrix to a high-definition display device such as HD-LCD, HD-DLP and HD projectors with HDMI input interfaces. Use high-speed HDMI cables that are recommended for the distances that are required for each connection.
3. The Matrix is powered by an external power supply which is included. Connect power first to the source, then to the Matrix and then to each HD TV or projector.

## VI. Remote Control



**1. Standby:** Press this button to power on the matrix or set it to standby mode.

**2. OUTPUT A,B,C,D :** Press IN1\IN2\IN3\IN4 button will fast switch to select input source to HDMI OUTPUT A,B,C,D, and the LED will indicate the corresponding input source.

Press ◀ ▶ button OUTPUT A,B,C,D will cycle from input IN 1 \ I N 2 \ I N 3 \ I N 4 .

## VII. PC controller user guide

### Installation

The PC controller is green software. Just use a cable to connect the PC via RS232 port and copy “4x4 HDMI matrix Controller.exe” to PC to complete installation.

### Preparation

1. Connect PC and multi-viewer by RS232 cable (headers of both sides of cable should be FEMALE)
2. Power-up multi-viewer
3. Double click “4x4 HDMI matrix Controller.exe” icon to run it

## ◆ General Page

The screenshot shows the 'General' page of the '4x4 HDMI Matrix Controller' software interface. The page has a blue header with the title and window controls. Below the header are four tabs: 'General' (highlighted with a red box), 'EDID', 'Matrix', and 'FW Upgrade'. The main content area is divided into several sections:

- Control Mode Select:** Contains two radio buttons: 'COM Control Mode' (selected, marked with a circled '1') and 'TCP Control Mode'.
- COM:** Contains a 'Port' dropdown menu set to 'COM1' (marked with a circled '2') and a 'Connect' button.
- TCP Control Mode:** Contains a 'Switcher IP' input field (marked with a circled '3'), a 'Connect' button, a 'Search' button, and a 'Config...' button.
- Reset to the factory settings:** Contains a 'Factory Reset' button (marked with a circled '5').
- Device Information:** A large empty box (marked with a circled '4') with 'Status' and 'Clear' buttons at the bottom.
- Disable/Enable Beep:** Contains a checkbox labeled 'Enable Beep' (marked with a circled '6').

1. Select RS232 COM or TCP mode
2. Select RS232 COM port
3. Select TCP/IP control
4. Click to refresh device status: include device information and Input/Output Settings on “Matrix” page
5. Click to reset to the factory settings
6. Enable or disable Beep

## ◆ EDID Page

4x4 HDMI Matrix Controller

General **EDID** Matrix FW Upgrade

Manual Mode

Set EDID Mode 1080p,Stereo Audio 2.C to IN1 Set 1

Copy EDID From HDMI OUTA to IN1 Set 2

Open EDID ... to IN1 Set 3

Input EDID List

IN1: Default EDID

IN2: Default EDID

IN3: Default EDID

IN4: Default EDID

Status

4

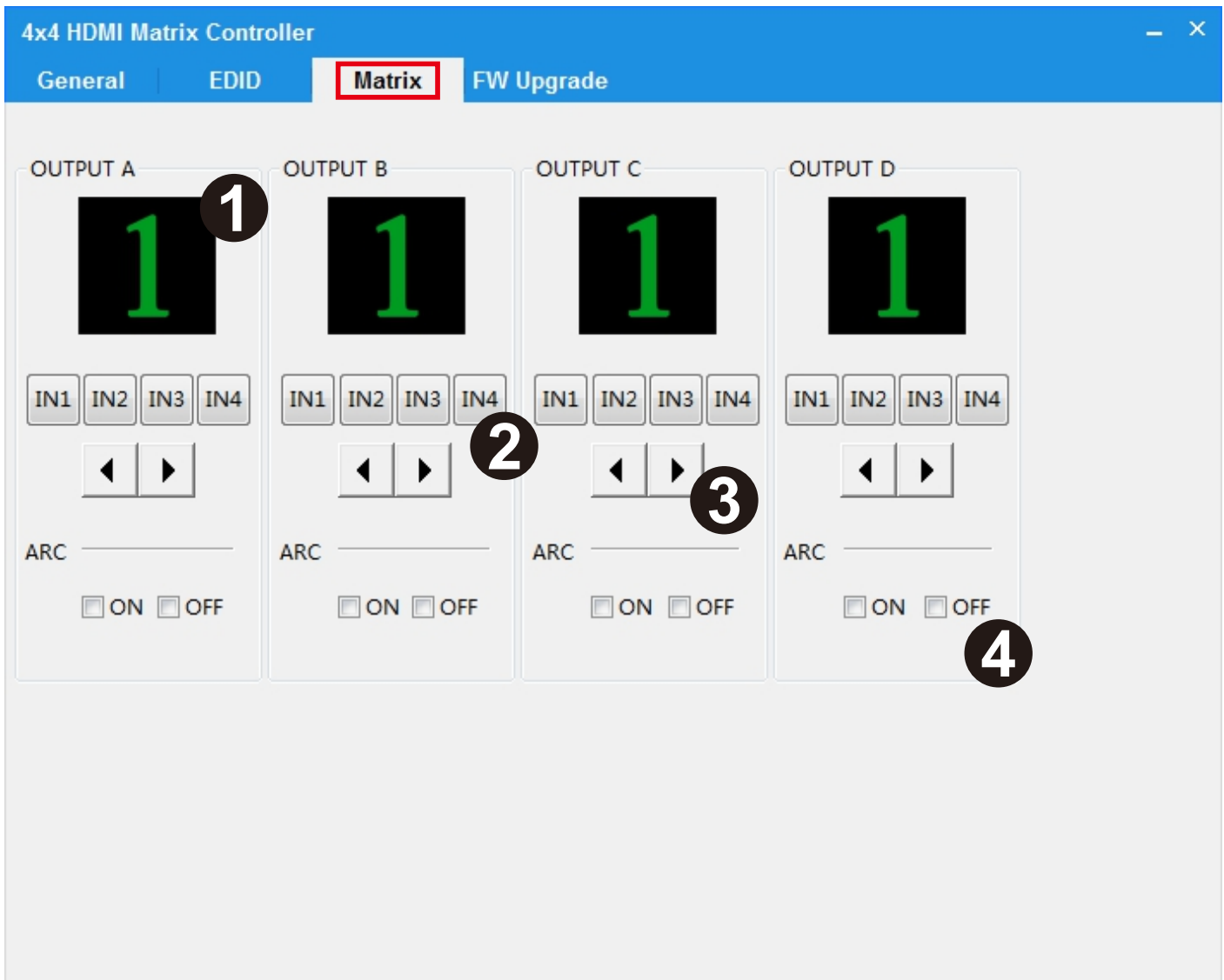
The controller have 3 methods to set the EDID mode. Manual mode, Copy mode and open EDID file mode.

1. Select the needed EDID to input port and click set button the EDID will write to the selected HDMI input ports.
2. Copy the selected HDMI output output EDID and click set button to write to the selected HDMI input ports.
3. Open the user define EDID file and click set button to write to the selected HDMI input ports.
4. Click the status button to refresh input EDID status.

**Attention:** If you want to control the EDID by RS232 or TCP/IP port,you must select the Matrix panel “EDID SWITCH” to “F” positon.



## ◆ Matrix Page

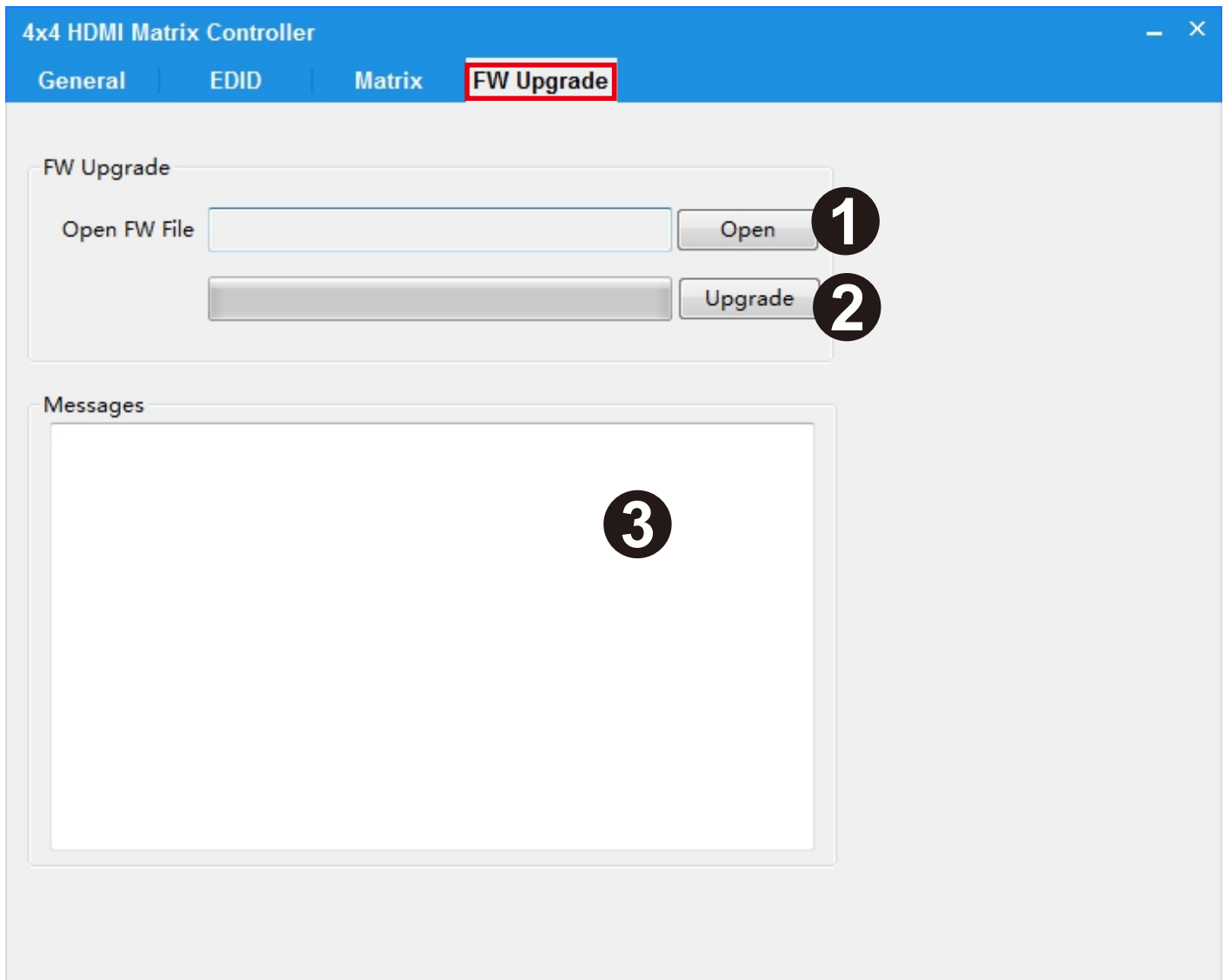


1. LED which display Input number for respective Output
2. Click to select Input port for respective Output port
3. Click to select previous or next Input port for respective Output port
4. Click to open or close output ARC fuction

### **Attention:**

ARC fuction : If you need use ARC,your HDTV must support this fuction, When you open the ARC fuction,the COAXIAL of matrix will output the HDTV current display content audio signal. Otherwise it will output the selected HDMI source(DVD,set-top-box ,etc) audio signal.

## ◆ Firmware Upgrade Page



1. Click to open FW file(file extension is “.fw”)
2. Click to upgrade the Matrix software
3. Display the message of the software upgrade process.

## VIII. Connection Diagram

