HDMI 4×4 Matrix Switcher

Operation Manual
VER:1.0

Thank you for purchasing this product. For optimum performance and safety, please read the instruction carefully before connecting, operating or adjusting this product. Please keep the manual for future reference.

1.Introduction

The HDMI 4x4 matrix switcher features four HDMI inputs and four HDMI outputs. It provides true matrix routing for HDMI signals. It supports the transmission of video (resolutions up to 2160p@60Hz Ultra HD 4:4:4) and supports high resolution digital audio formats such as LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio. It works with Blue-Ray players, Set-Top boxes, Home Theater PCs, and game consoles. Any source is accessible at all times by any display by selecting it via the supplied IR Remote Control, RS-232, TCP/IP or the selection buttons on the front panel. This device supports all HDMI 3D formats.

2.Features

- HDMI2.0, HDCP2.2/HDCP1.4 compliant
- Support video format up to 4k2k@60Hz with 24bit RGB/YCbCr 4:4:4/YCbCr 4:2:2, and up to 4k2k@60Hz with 12bit YCBCR 4:2:0
- Support color space conversions among RGB, YCbCr4:4:4, YCbCr4:2:2 and xvYCC video formats
- Support all HDMI 3D formats up to 2160p@30
- Support high resolution VESA mode video format up to QSXGA@60Hz
- Support 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
- Support simultaneous HDMI Coax and L/R audio outputs
- Support smart EDID management
- Support RS-232, remote control, on-panel control and TCP/IP Control

3.Package Contents

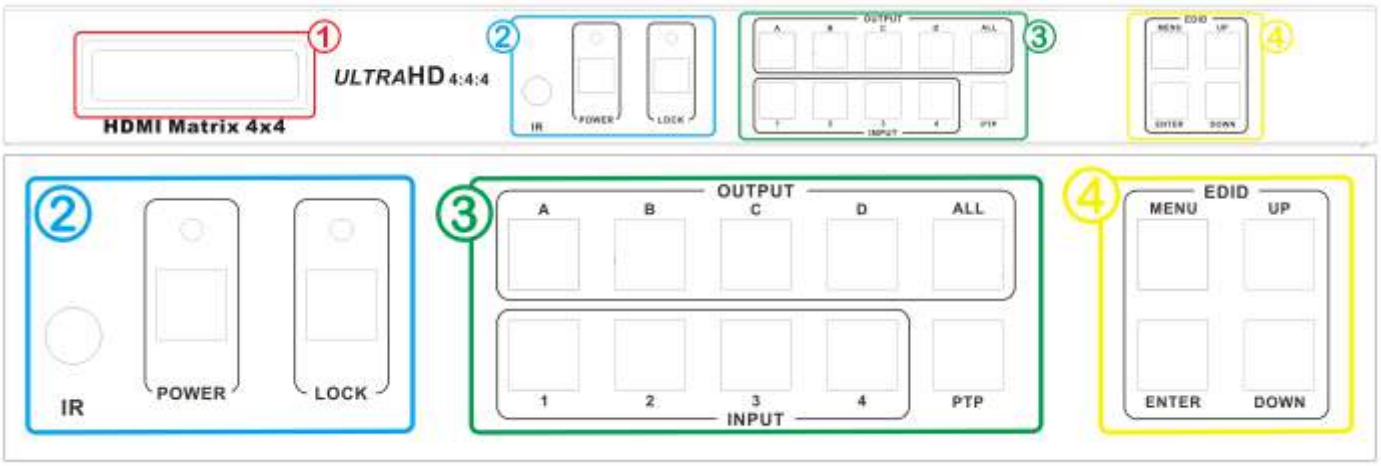
- 1 x HDMI 4x4 Matrix Switcher
- 1 x 12V/2.5A Power Adapter
- 1 x Operation Manual
- 1 x Wideband IR Rx cable
- 1 x HDMI Matrix IR Remote
- 2 x Mounting ears(Matrix)
- 1 x RS-232 cable

4.Specifications

Video Bandwidth	594MHz [18Gbps]
Support Video Resolution	480i, 576i, 480p, 576p, 720p, 1080i, 1080p24/30/50/60, 2160p24/25/30/50/60;
Input Ports	4×HDMI, 1×IR Receiver, 1×RS-232, 1xRJ-45(Control)
Output Ports	4×HDMI, 4×Toslink, 4×L/R
HDMI connector	Type A 19 pin female
RJ-45 connector	WE/SS 8P8C
3.5mm connector	IR Receiver
ESD Protection	Human-body Model: ± 8kV (Air-gap discharge) ± 4kV (Contact discharge)
Power Supply	12V/2.5A DC (US/EU standards, CE/FCC/UL certified)
Dimensions	440 mm (W)×200 mm (D)×45 mm (H)
Weight	1820 g
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0 ºC~40 ºC/32 ºF~104 ºF
Storage Temperature	–20 ºC~60 ºC/–4 ºF~140 ºF
Relative Humidity	20~90 % RH (non-condensing)
Power Consumption	30 W(max)/0.5w(Standby)

5.PANEL FUNCTIONS

5.1 Front Panel



1. **LCM:** Display the information of each input and output setting and EDID management.
2. **IR:** IR Receiver window (accepts the remote control signal of this device only).
   POWER: Press this button to power the device on/off. The LED will illuminate green when the power is on, red when it is in 'Standby' mode.
   LOCK: Press this button to lock all the buttons on the panel, press again to unlock.
3. **OUTPUT/INPUT:** Press the OUTPUT and INPUT button to select the output corresponding input.
   For example: Press OUPUT ALL > INPUT 1, The OUTPUT A, B, C, D will be set to INPUT 1.
   Press PTP button, The OUTPUT A, B, C, D will be corresponding INPUT 1, 2, 3, 4.
4. **EDID:** Smart EDID management, the LCM will display the EDID operation.
   Press the MENU button and enter the EDID management window.
   Press UP or DOWN button to select the needed EDID setting.
   Press ENTER button to download EDID into input source, it can easily download any EDID setting to any input port.

Note: The EDID mode table as below

EDID Mode	EDID Description
1	1080p, 2CH AUDIO
2	1080p, DOLBY/DTS 5.1
3	1080p, HD AUDIO
4	1080i, 2CH AUDIO
5	1080i, DOLBY/DTS 5.1
6	1080i, HD AUDIO
7	3D,1080p, 2CH AUDIO
8	3D, 1080p, DOLBY/DTS 5.1
9	3D,1080p, HD AUDIO
10	4K30_444, 2CH AUDIO
11	4K30_444, DOLBY/DTS 5.1
12	4K30_444, HD AUDIO
13	4K60_420, 2CH AUDIO
14	4K60_420, DOLBY/DTS 5.1
15	4K60_420, HD AUDIO
16	4K60_444, 2CH AUDIO
17	4K60_444, DOLBY/DTS 5.1
18	4K60_444, HD AUDIO
19	Copy from HDMI OUTPUT A
20	Copy from HDMI OUTPUT B
21	Copy from HDMI OUTPUT C
22	Copy from HDMI OUTPUT D

EDID. What is it and what is it used for?

Under normal circumstances, a source device (digital and analog) will require information from a connected device/display to know what resolutions and features are available. The source can then cater its output to send only resolutions and features that are compatible with the attached device/display. This information is called EDID (Extended Display Information Data)

and a source device can only accept and read one EDID from a connected device/display. Likewise, the source can only output one resolution to a connected device/display.

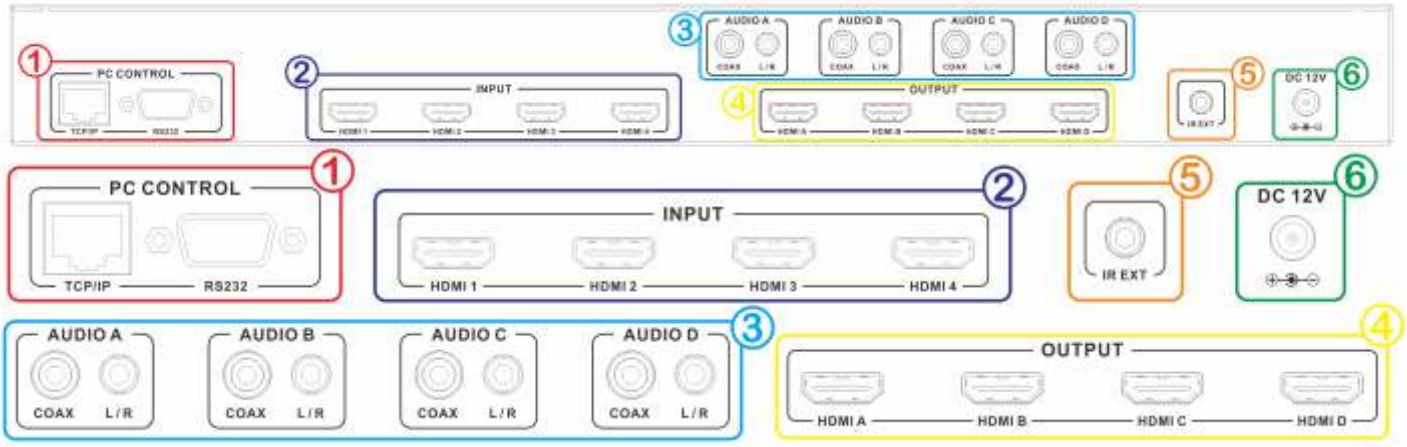
Why is EDID so important with the HDMI Matrix?

The Matrix is complex piece of technology that replicates and switches between multiple inputs and outputs. Each connected source device will require one EDID to read. EDID management is carefully handled by HDMI Matrix to provide a single EDID for each source to read.

What options do I have to manage the EDID in the HDMI Matrix?

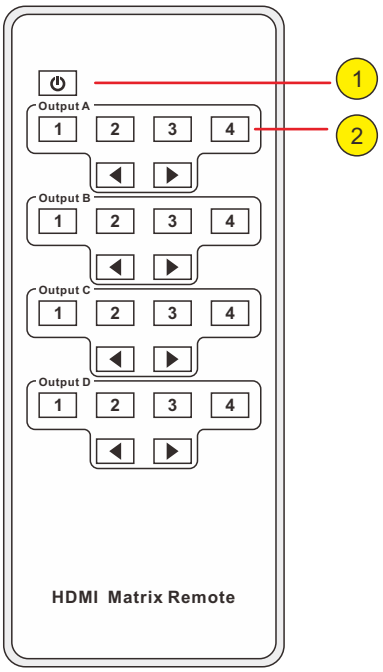
Firstly, it is important to note that each source device can only output one video/audio signal type. This includes resolutions and timings. When multiple devices/displays are used, such as with the HDMI Matrix, it is important to use devices/displays that have similar or compatible resolutions/features. This will ensure that the single video/audio signal produced by the source device is accepted by all of the connected output devices/displays. The user has the option, through the EDID management window, to choose how the unit will manage the EDID from multiple HDMI devices/displays. Therefore the user has some control over the resolutions/features that the source devices will output. The HDMI Matrix has a multiple EDID management modes that will control how the EDID information from multiple devices/displays are combined, ignored, and routed.

5.2 Rear Panel



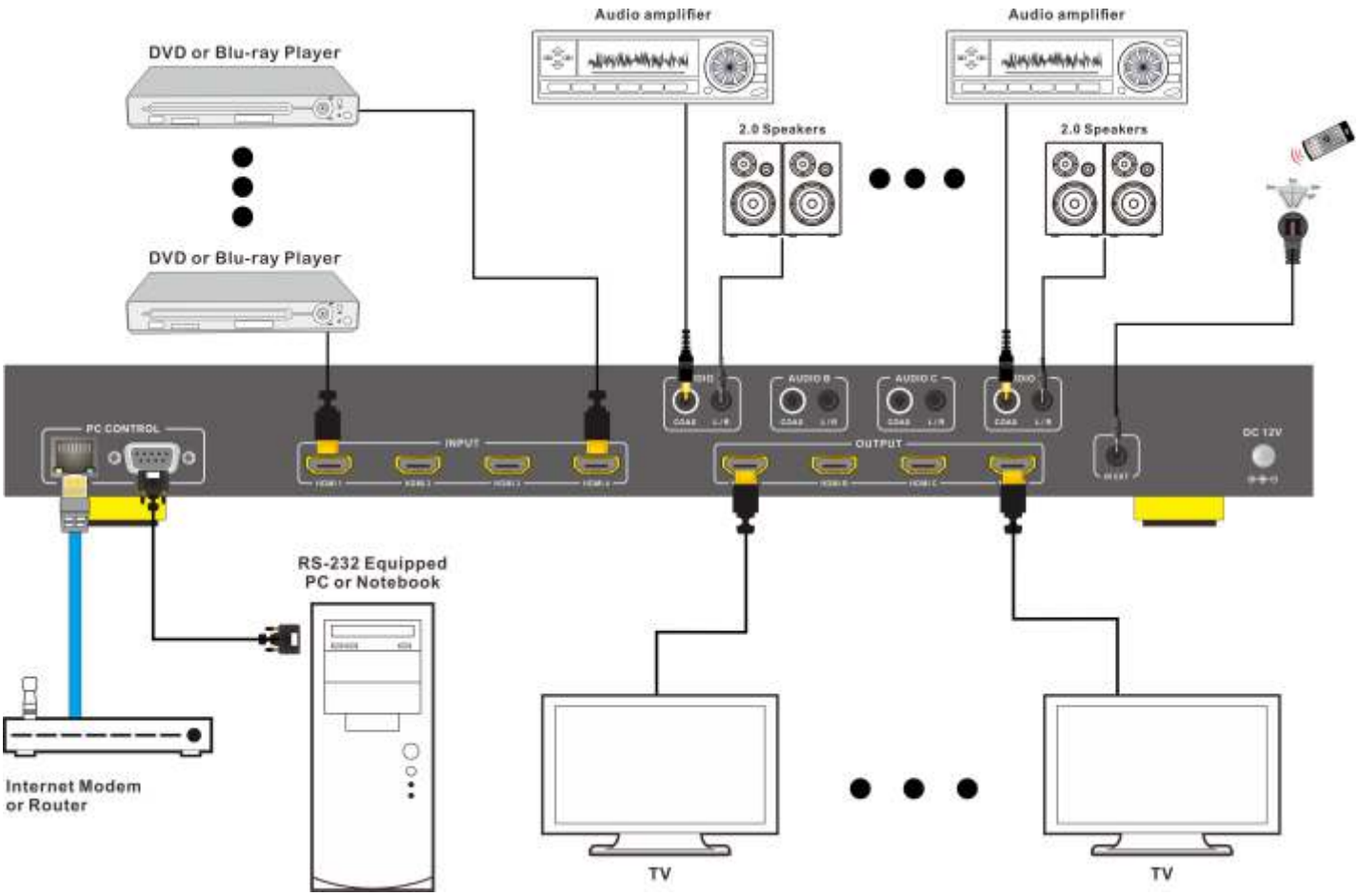
1. **PC CONTROL**
   TCP/IP: This port is the link for TCP/IP control and connects to an active Ethernet link by an RJ-45 cable.
   RS232: Connect to a PC or control system by D-Sub 9-pin cable for the transmission of RS-232 commands.
2. **HDMI INPUT:** Connect to the HDMI sources device such as a DVD player or a Set-top Box by HDMI cable.
3. **AUDIO OUPUT:** The coaxial and L/R audio output to audio amplifiers or speakers.
4. **HDMI OUTPUT:** Connect to HDMI equipped TVs or monitors.
5. **IR EXT:** If the front IR sensor of unit 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.
6. **DC POWER INPUT:** Connect to 12V/2.5A DC power adapter.

6. Remote Control



1. Press this button to power on the matrix or set it to standby mode.
2. Press these buttons to select output A, B, C, D for input 1, 2, 3, 4 ports.

7. Basic Installation Diagram



1. Connect up to 4 sources such as a Blue-Ray Player, game console, A/V Receiver, Cable or Satellite Receiver, etc. to each HDMI input port on the unit. Do not hot plug! Insert and extract cables carefully with the power switch off. Connecting and disconnecting while the unit is powered can result in damage to circuitry.
2. Connect each HDMI output to high-definition displays such as a HDTV or HD projector that has HDMI input. Note that high-speed HDMI cables are recommended for the distances that are required for each connection.
3. Plug in IR receiver to the port of the IR EXT on rear unit if need.
4. Plug in DC power adapter firstly, followed by each display device and source device.