



4x4 HDMI Matrix 4K60Hz BSC User's Guide



P/N:Matrix44HD2-BSC

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Important Safety Notices

Please read safety instructions carefully before installation and operation.

- Please pay close attention to all warnings and hints for this device
- Do not expose this unit to rain, heavy moisture, or liquid
- Do not put any items into the device or attempt to modify its operation
- Do not repair the device or open the enclosure without professional guidance to avoid electric shocks. Doing so may void your warranty
- Keep the product in a well-ventilated location to avoid damage from overheating
- Shut off power and make sure environment is safe before installation
- Do not plug the HDMI cables in/out when the device is in use to avoid cable damage. Make sure they are plugged into the correct ports
- Use the included 5VDC power adapter only. Make sure the specification matches if using 3rd-party DC power adapters

Introduction

The 4x4 HDMI Matrix 4K60Hz BSC allows you to connect up to four HDMI source devices and independently switch any source to any of the four HDMI displays.

Features

- Supports up to 4K@60Hz YUV 4:4:4 8-bit, HDR, HDCP 2.2/1.4, 18Gbps
- Supports LPCM 7.1/5.1, DTS/DTS-Audio, Dolby Digital Plus/Dolby TrueHD 7.1/Dolby Digital 7.1/Dolby Atmos
- 4K to 1080p auto downscaling on any two outputs to support mixed 4K & 1080p displays
- Control methods: Panel buttons, IR remote, RS232 commands
- EDID management: Built-in EDID, EDID learning
- Lightning, surge, and ESD protection

Installation Requirements

- HDMI source devices (DVD player, set top box, PC, etc.)
- HDMI displays (SDTV/Monitor, HDTV/Monitor, projector, etc.)
- HDMI cables (not included)

Package Contents

- 4x4 HDMI Matrix 4K60Hz BSC
- IR remote control
- Mounting accessories
- Power adapter
- User's guide

Product Layout

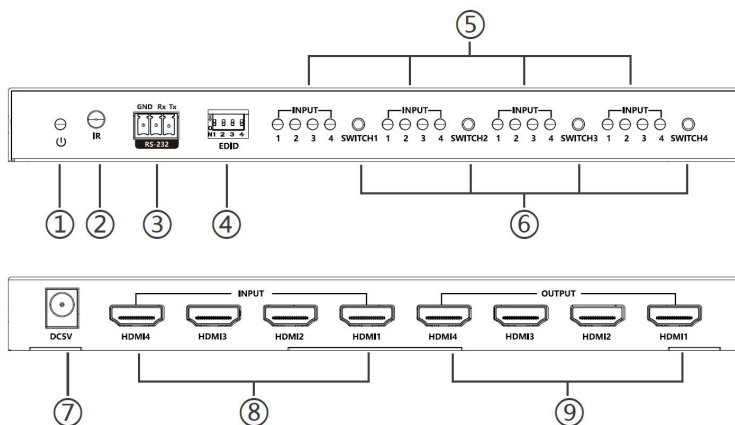


Figure 1: Product Layout

1. **Power LED:** On when the matrix is powered on
2. **IR Window:** Receives IR signals from the included remote control
3. **RS232:** For PC RS-232 control
4. **EDID Dip Switch:** Selects display resolution
5. **Input LED 1-4:** Displays the active HDMI input for the respective HDMI output port
6. **Input Selection Button 1-4:** Press to select the HDMI input to display on the respective HDMI output port
7. **Power Jack:** Connects to the included power adapter
8. **HDMI In (1-4):** Connect to your HDMI sources using HDMI cables (HDMI cables not included)
9. **HDMI Out (1-4):** Connect to your HDMI displays using HDMI cables (HDMI cables not included)

Hardware Installation

1. Power off all devices including your HDMI source(s) and HDMI display(s).
2. Connect your HDMI source devices to the Matrix's HDMI In connectors with HDMI cables (HDMI cables not included).
3. Connect your HDMI displays to the Matrix's HDMI Out connectors with HDMI cables (HDMI cables not included).
4. Plug the included power adapter into the Matrix's Power Jack, then plug the power adapter into a reliable power outlet.
5. Power on all connected devices. The Matrix is ready for use.

Matrix Device Control

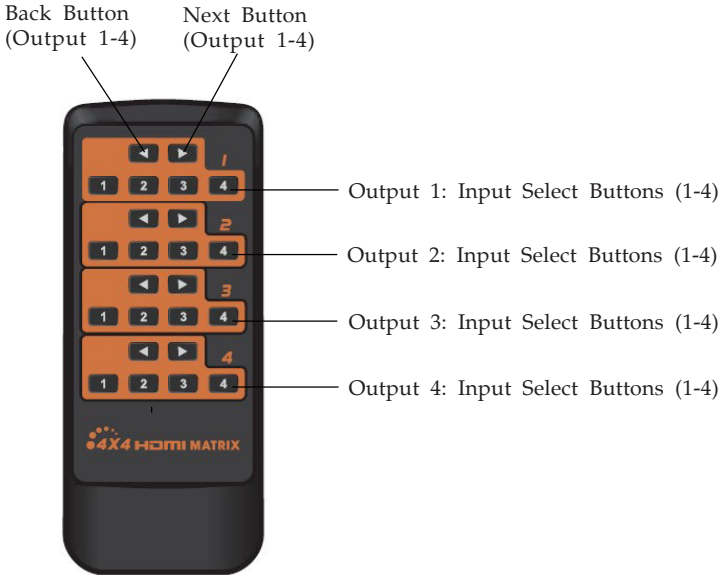
Input Selection Buttons

Use the Input Selection Buttons (1-4), located on the front panel, to select any of the 4 HDMI sources to display on any of the 4 HDMI displays.

- **Select an input source to display on an output port:**
Example: To select Input 1 source to display on Output 1 port - Press Output 1's Input Selection button 1 (see #6 on page 4) until Input LED 1 (see #5 on page 4) is solid on.

Remote Control

Users can control the Matrix 4K using the included IR remote control. Point the remote control towards the built-in IR receiver window located on the front panel.



- Back Button (Output 1-4): Press to select the previous input source for this display (output)
- Next Button (Output 1-4): Press to select the next input source for this display (output)
- Input Select Buttons (1-4): Press to select an input source for this display (output)

RS232 Control

Connect the 4x4 Matrix to a PC using an RS232 cable (cable not included).

COM Port Setting

Baud Rate: 9600 bps

Data Bits: 8

Stop Bits: 1

Parity: None

RS232 Command List

Use any RS232 terminal program of your choice, such as Hyperterminal for RS232 control.

Operation mode one	/	HDMI1 input	HDMI2 input	HDMI3 input	HDMI4 input
	HDMI1 output	PS11R	PS12R	PS13R	PS14R
	HDMI2 output	PS21R	PS22R	PS23R	PS24R
	HDMI3 output	PS31R	PS32R	PS33R	PS34R
	HDMI4 output	PS41R	PS42R	PS43R	PS44R
HDMI1/2/3/4 output	PA1R	PA2R	PA3R	PA4R	
Operation mode two	<p style="text-align: center;">PAPXPXPXPX</p> <p>Content for output port HDMI 4 Content for output port HDMI 3 Content for output port HDMI 2 Content for output port HDMI 1</p>				
Return value	PAXXR is the command to read the status of all interfaces; after sending the command, OKPXPXPXPX is displayed, where X is 1 to 4; if the command sent is incorrect, ERR appears.				

RS232 Command List Continued

Reset	Device restart
Recover	Restore device factory setting
BaudXX	Set baud rate value: 9600 (default), 19200

Application Diagram

The application diagram shows the most typical input and output devices used with the 4x4 HDMI Matrix 4K60Hz BSC.

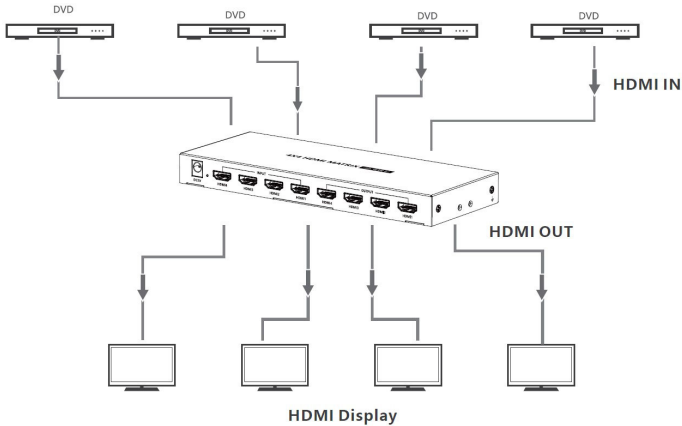


Figure 2: Application Diagram

EDID Management

Allows you to choose the output EDID. There are 16 built-in EDIDs.

DIP Switch Position

0 = Down

1 = Up

DIP Switch Status				Resolution
1	2	3	4	
0	0	0	0	4K@60Hz 2CH
1	0	0	0	4K@60Hz 5.1CH
0	1	0	0	4K@60Hz 7.1CH
0	0	1	0	4K@60Hz HDR 7.1CH
0	0	0	1	4K@30Hz 2CH
1	1	0	0	4K@30Hz 5.1CH
1	0	1	0	4K@30Hz 7.1CH
1	0	0	1	4K@30Hz HDR 7.1CH
0	1	1	0	1080p@60Hz 2CH
0	1	0	1	1080p@60Hz 5.1CH
0	0	1	1	1080p@60Hz 7.1CH
1	1	1	0	1080i@60Hz 2CH
1	1	0	1	1080i@60Hz 5.1CH
1	0	1	1	1080i@60Hz 7.1CH
0	1	1	1	1080p@60Hz HDR 7.1CH
1	1	1	1	1) Read only the EDID that was first connected to the output 2) Connect 4 outputs at the same time, only read the EDID of HDMI 1 output

EDID Table

- **Note:** 4K to 1080p auto downscaling on any two outputs to support mixed 4K & 1080p displays

Specifications

HDCP Version	HDCP 2.2/1.4
HDMI Interface	4 HDMI Inputs, 4 HDMI Outputs
Resolution	480i@60Hz, 480p@60Hz, 576i@50Hz, 576p@60Hz, 720p@50/60Hz, 1080i@50/60Hz, 1080p@50/60Hz, 3840x2160@24/25/30/60Hz, 4096x2160@24/25/30/60Hz
Audio Format	LPCM 7.1/5.1, DTS/DTS-Audio, Dolby Digital Plus/Dolby TrueHD 7.1/Dolby Digital 7.1/Dolby Atmos
Transmission	18Gbps
RS232	3-pin (Gnd/Rx/Tx) Baud rate: 9600 bps
Power Adapter	DC5V/1A
Power Consumption	4W (max)
Environmental Conditions	Operating Temperature: -4 to 140 F (-20 to 60 C) Storage Temperature: -22 to 158 F (-30 to 70 C) Humidity: 0 to 90% RH, non-condensing
Dimensions (LxWxH)	8.3"x3.15"x0.83" (210x80x21 mm)
Weight	0.83 lbs (375g)

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