## HDMI Matrix 4 x 4



## User manual

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

#### Introduction

HDM-944 is a 4-by-4 DVI/HDMI matrix with 4Kx2K. It allows any source (Blue-Ray player, HD DVD player, satellite receiver, game system, etc.) to be shown on any of four displays simultaneously, no matter the source is HDCP or not. Extra infrared receiver port is supplied for remote control. HDM-944 offers solutions for digital entertainment center, HDTV retail and show site, HDTV, STB, DVD and projector factory, noise, space and security concerns, data center control, information distribution, conference room presentation. school and corporate training environments. etc.

#### Features

1. Supports display resolutions up to 4K x 2K@30Hz,1080P@120Hz,and 1080P 3D@60Hz

- 2. 3D HDMI 1.4a video format support.
- 3. 3D video support including Frame Packing for all 3D formats up to a 297MHz TMDS clock.
- Supports deep color up to 48-bit per pixel.
- 5. HDCP 1.4 support (INPUT), HDCP v1.4a protocol compliant (OUTPUT).
- Supports the reception of any audio data conforming to the HDMI specification 1.4 such ad L-PCM at up to 192kHz, compressed audio(IEC 61937), DSD, DST, DTS and HBR.
- Full colorimetry including sYCC601, Adobe RGB, Adobe YCC601, xvYCC extended gamut color.
- 8. Operates for TMDS clock frequencies up to 300MHz.

#### Package

1.	HDMI Matrix	1PCS
2.	12V2A DC Power Supply Adaptor	1PCS
3.	Operation Manual	1PCS

4. Remote Controller-----1PCS

#### Specifications

- 1. Frequency Bandwidth 2.97Gbps
- 2. Input Ports 4 x HDMI Female input ports
- 3. Output Ports 4 x HDMI Female output ports
- 4. Power Supply DC 12V 24
- 5. ESD Protection Human Body Model:
- 6. Dimensions (mm) 113(W) X 260 (D) X 26 (H
- 7. Weight(g)
- Operating Temperature
- 9. Storage Temperature
- Relative Humidity

- 4 x HDMI Female input ports 4 x HDMI Female output ports DC 12V 2A  $\pm$  8kV (air-gap discharge)  $\pm 4$ kV (contact discharge) 113(W) X 260 (D) X 26 (H) 750  $0^{\circ}C \sim 40^{\circ}C / 32^{\circ}F \sim 104^{\circ}F$
- -20°C  $\sim 60^\circ C$  / -4°F  $\sim 140^\circ F$
- 20~90% RH (Non-condensing)

- 11. Power Consumption (Max) 20W
- Operation Controls and Functions

#### Front Panel



- 1. ON/OFF: Power on/off switch.
- 2. **POWER:** This red LED illuminates when the device is connected with power supply.
- 3. IR IN: Remote control signal receive.
- OUTPUT A: Press this button to select the input source to HDMI OUTPUT A, and these red LED illuminate when the output select to the corresponding input.
- 5. OUTPUT B: Press this button to select the input source to HDMI OUTPUT B, and these red

LED illuminate when the output select to the corresponding input.

- OUTPUT C: Press this button to select the input source to HDMI OUTPUT C, and these red LED illuminate when the output select to the corresponding input.
- OUTPUT D: Press this button to select the input source to HDMI OUTPUT D, and these red LED illuminate when the output select to the corresponding input.

#### **Rear Panel**



1. INPUT PORTS: LED1-4 illuminate when the HDMI signal plug in INPUT 1-4 port.

INPUT 1-4 ports are where you connect the HDMI source.

- OUTPUT PORTS: LED A-D illuminate when the TV plug in OUTPUT A-D ports.
   OUTPUT A-D ports are where you connect the HDTV or monitor with HDMI cable
- 3. **RS232:** This port can control the matrix via PC.
- DC 12V: Plug the 12V DC power supply into the unit and connect the adaptor to AC wall outlet.
- Application Example



#### Remote control



**<u>OUT A</u>**: Press 1/2/3/4 button will fast switch to select input source to HDMI OUT A, and the LED will indicate the corresponding input source.

**<u>OUT B</u>**: Press 1/2/3/4 button will fast switch to select input source to HDMI OUT B, and the LED will indicate the corresponding input source.

**<u>OUT C</u>**: Press 1/2/3/4 button will fast switch to select input source to HDMI OUT C, and the LED will indicate the corresponding input source.

**<u>OUT D</u>**: Press 1/2/3/4 button will fast switch to select input source to HDMI OUT D, and the LED will indicate the corresponding input source.

#### Matrix controller user guide

#### Installation

Matrix controller is a green software. Just copy MatrixController.exe to PC which is used to control the Matrix by RS232 COM port to complete installation.

#### Preparation

- 1. Connect PC and Matrix by RS232 cable (headers of both sides of cable should be FEMALE)
- 2. Power-up Matrix
- 3. Double click MatirxController.exe icon to run it

#### Introduction

General" Page:

4x4 HDMI Matrix Controller - ver1.	2 [Debug] (Built2013.0609.1210) [Merge]	- ×
Control mode relect COM control mode COM control mode COM Control mode Port COM1	Device information Device: Not known Version: Not known	00.00.00.00.00.00
TCP control mode	Input 1: Not known Input 2: Not known Output 2: Not known Input 3: Not known Input 4: Not known Input 4: Not known	
Connection		
Refresh device status Device status Device status		
Display tags setting		
Duplay Input. Output tags when focus reting battom     (5)     (6)     (9)     (7		Step clear
Dirconnect	2013-06-21 10.36	



Control mode select: Only COM control mode supported.



2 Select RS232 COM port.



(3) Click to connect or disconnect PC and Matrix.



4 Click to refresh device status: include device information displayed in 8 area and

Input/Output settings

(5) To enable or disable Input/Output tags displaying when setting buttons on "Setting" page focused.



6 Click to select page

(7)Status bar:

- ۶ RS232 COM port connection
- ≻ Communication status
- ≻ Prompt of operation messages
- ≻ Time and Date
- (8) Device information display area
  - "Port Tag" page

0	4x4 HDMI Matrix Controller - ve	1.2 [Debug] (Built2013.0609.1210) [Merge] X
Input port tags	Output port tags	00-00-00-00-00
Tag of Input1	Tag of Output1	
)		
Tag of Input2	Tag of Output2	
Tag of Input3	Tag of Output3	
Tag of Input4	Tag of Output4	
J		
	Edit	
(		
(	2) (4)	
	9	
		7 7
	man alla dana d	Stop clear
General Port Tag Setting	hDiD control Advanced FW upgrade	
Disconnect		2013:06:21 10:44



Input port tags.



2 Click to edit Input port tags.



3 Output port tags.



(4) Click to edit Output port tags.

Edit Input port tags:

After action of 2, edit form will pop-up as below:

0	Edit Input port tags			
	nput port tags			
	Device name connect Input1		Device name connect Input3	
	Blue-ray DVD	• ×	Set-top Box	• ×
	Device name connect Input2		Device name connect Input4	
	Game player	• ×	PC	• ×
			OK	Cancel

Define tags for respective Input port, then devices connect the Input ports can be easily remembered.

Click buttons with "×" caption to delete tag which is no use any more, if tag is still used by any other Input port, delete action will be discarded.

Edit Output port tags:

After action of ④, edit form will pop-up as below:

0	Edit Output port tags			
<b>[</b>	Output port tags			
	Display name connect Output1 Meeting room	• ×	Display name connect Output3	• ×
	Display name connect Output2		Display name connect Output4	
	Entertainment room	• ×	Office	▼ ×
			OK	Cancel

Define tags for respective Output port, then displays connect the Output ports can be easily remembered.

Click buttons with "×" caption to delete tag which is no use any more, if tag is still used by any other

Output port, delete action will be discarded.



"Setting" page

		4x4 HDMI Matrix Cont	roller - ver1.2 [Debug] (Built2013.0609.1210) [Merge]	- ×
Cutput 1 1 2 3 4 Output from	Cutyu2 Cutyu2 Cutyu2 Cutyu2 12 12 12 12 12 12 12 12 12 1		1) 2) 3)	00.00.00.00.00 2010 20100 20100 2010 20100 2010 200 20
Pre-Settings Name Setting1 Setting2 Setting4 Setting5 Setting6 Setting7 Setting8 General Port Tag	Output1         Output2         Output2           2         1         1           2         4         2           3         2         3           1         1         2           4         2         3           2         3         2           2         3         2           2         1         1           2         3         2           2         1         1           2         4         2           3         2         4           2         4         2           4         2         4           2         4         2           Setting         EDD control         Advant	a3 Coupuel 3 4 5 4 2 2 3 2 2 2 4 2 3 2 2 4 5 4 2 2 2 3 2 2 4 5 5 4 5 5 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7	6) 7)	N N N N N N N N N N N N N N N N N N N
Connected: COM1	Getting Output1		2013-06-21 10:46	

- (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) Display Input to Output with tag information when mouse moves over (2) buttons.

5 Pre-Setting items.



6 Click to edit selected pre-setting item.

⑦ Set selected pre-setting item to Matrix.

۶ Edit selected pre-setting item

After action of <sup>(6)</sup>, edit form will pop-up as below:

Sedit Output setting	
Output setting Setting name Setting 1 Out1 - [Meeting room] from In4 - [PC] Out2 - [Entertainment room] from	All Outputs from Select Input Out3 - [VIP] from In2 - [Game player]
In3 - [Set-top Box]	In1 - [Blue-ray DVD]
	OK Cancel



1 Pre-Setting name

- ② Select Input for respective Output
- 3 Set all Output ports from same Input

### "EDID control" page

0		43:4 14	DMI Matrix Controller - wir1.2 [	Debug] (Bult2013.0609.1210) [Merge]	×
	EDID mode control	Information		EDID content	00.00.00.00.00.00 weak rand A 5 50 00.01 [01 00] [00 00] [00 00] [00 00] FC
	Select EDID	• to Select input		10 7	11) and clear PTP: A 5 5B 02 01 (01 UU 00] [00 00] [00 00] [00 00] FC, RC- [2] and clear PTP: A 5 5B 02 01 [01 UU 00] [00 00] [00 00] [00 00] FC, RC-
	Copy EDID from Select Output	to Select Input	2 Gopy	30 40 50	[5] and could PPP: A 5 5B 02 01 [01 UII on] [00 on] [00 on] [00 on] FC, RC+
	EDID data control		$\bigcirc$	60 70	
	Read EDID data from Select Output		3 Read	80	
	Save to EDID file		<b>4</b>	A0 B0 C0	
	Open EDID file		<u>∞</u> <sup>∞</sup> (5)		
	Download EDID data to Select Input		<b>b</b> <u>Download</u>		
	Sentral Port Tag Setting EDID control Ad	vanced FW upgrade			Stop
C	onnected: COM1 Time out			2013-06-21 10:48	

Set EDID mode for selected Input port or All Input ports, click "Set" button to complete action.
 "Auto EDID mode" can only be set for "All Inputs".

② Copy EDID from Output port to selected Input port or All Input ports, click "Copy" button to complete action.

- 3 Read EDID content from Output port and display in grid, click "Read" button to complete action.
- (4) Save EDID content which displayed in grid to binary file (file extension is ".bin")
- (5) Open EDID binary file and display in grid
- (6) Download EDID content which displayed in grid to selected Input port or All Input ports, click
- "Download" button to complete action.
  - EDID content displaying grid
- 8 Click to clear EDID content displayed in grid
  - "Advanced" page

a	4x4 HDMI Matrix Controller - ver1.2 [Debug] (Built2013.0609.1210) [Merge]	- ×
IR control enable/disable setting		00-00-00-00-00 seed crud: A 5 50 02 01 (01 00] [00 00] [00 00] [00 00] FC [1] and rand FFP: A 5 50 02 01 [01 101 000] [00 00] [00 00] FC, RC- [2] and rand FFP:
TCP Module infomation Version: DHCP: Th Address		A 5 3B 02 01 (01 UU 00] (00 00] (00 00] (00 00] PC, RC+ [3] and rad PPP: A 5 3B 02 01 (01 UU 00] (00 00] (00 00] (00 00] PC, RC+
Reset 4		
		Stop clear
General Port Tag Setting EDID control Advanced FW up	grade	orep ordi
Connected: COM1 Time out!	2013-06-21 10:50	





## • "FW upgrade" page

4x4 HDMI Matrix Ci	ntroller - ver1.2 [Debug] (Built2013.0609.1210) [Merge]	- × `
FW upgrade	Merge FW	0-00-00-00-00 send mad
Open FW file	Open Main MCU FW	A5 5B 02 01 [01 00] [00 00] [00 00] [00 00] FC [1] and coul FPP:
Transferences	Main Verl Main Ver2	A5 5B 02 01 (01 UU 00) [00 00] [00 00] [00 00] FC, RC- [2] sud cand FPP:
Upgrade progress 074		A5 5B 02 01 [01 UU 00] [00 00] [00 00] [00 00] FC, RC+ [3] and coul FPP:
Upgrade	Open Slave MCUL FW	A5 5B 02 01 (01 UU 00) [00 00] [00 00] [00 00] PC, RC-
Messages	Slave Ver1 Slave Ver2	
	Open IR MCU2 FW	
	IR Veri IR Veri	
	Open Panel MCU3 FW Banel Ver1 Banel Ver2	
	More	
	Dist.	
Clear		2
General Port Tag Setting EDID control Advanced FW upgrade		J Stop clear
Connected: COM1 Time out	2013-06-21 10:51	



# (1) Firmware upgrade is not supported.