USER MANUAL

4K2K 4x4 and 8x8 HDMI Matrix Switcher with VW, seamless switch and EDID



Version: V2.0.1

Safety Reminder

To protect the device and operating personnel from electrostatic discharge, you need to check and ensure that the device is grounding well before the device is powered on. Please observe the following when you install, use, maintain this equipment.



Make sure the device ground connection.

Important Safety Instructions



 Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



6. Clean this apparatus only with dry cloth.



 Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.



7. Unplug this apparatus during lightning storms or when unused for long periods of time.



3. To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.



8. Protect the power cord from being walked on or pinched particularly at plugs.



4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.



 Only use attachments / accessories specified by the manufacturer.



 Do not place sources of naked flames, such as lighted candles, on the unit.



 Refer all servicing to qualified service personnel.

Warnings of FCC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- -- Reorient or relocate the receiving antenna.
- -- Increase the separation between the equipment and decoder.

-- Connect the equipment into an outlet on a circuit different from that to which the decoder is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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1. Product Introduction

This is a new fixed HDMI matrix switcher series with the seamless switch, Video Wall function, EDID management, audio breakouts and the resolution can up to 4K30Hz with scaling funtion and all ports are HDCP compliant. With the friendly user control methods: IR remote control, 2-Press push buttons with background blue light, WEB GUI/TCPIP/RS232/IR remote control, supports the WEB smart EDID management, this matrix switcher can work with the Blu-Ray Players, Set-Top boxes, Home Theater, and game consoles etc HDMI input sources to route to the HDMI displays, it has been widely used in different audio visual applications.

2. Features

- > The resolution can up to 4K@30Hz inputs and outputs with scaling
- Supports seamless switching, no black/blue screen during the sources switch
- Supports the video wall function and bezel corrections
- Supports the 3.5mm audio embedded and de-embedded
- Supports smart EDID management
- Supports RS-232 and TCP/IP Control(WEB GUI, APP), IR remote control
- Supports the push buttons control with blue lights
- Supports to rename the inputs and outputs
- Supports up to 20 scenes

3. Specification

	Desclution	Inputs UHD(3840x2160)/30Hz and under
	Resolution	Outputs 4K@30\1080P\720P\1366*768@60
	HDMI protocol	HDMI1.4
Video	HDCP protocol	HDCP1.4
	Color depth	8/10/12 bit
	Color space	YCbCr,RGB
	EDID	Built-in and output ports learning/copy
	HDMI output	4 inputs or 8 inputs
	HDMI output	4 outputs or 8 outputs

	Audio format	PCM 2.1Ch, Dolby Digital, Dolby True-HD, DTS-HD(Only supports 2.1)
Audio	Audio sampling	32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz
	Audio baud rate	Up to 16~24-bit
	RS232	DB9 female connector
Control	IR	IR receiver
	LAN	RJ45 for the TCP/IP control
	Power	Power adapter 24V/3A
	Consumption	20W
	Size	440*215*44mm
Other	Weight	3kg
	Working temp	0°C~50°C
	Storage temp	-20°C~ 60°C
	Working Humdity	20%-90%

4. Connection Diagram



5. Packing

No.	Name	Qty	Unit
1	Matrix switcher	1	Pcs.
2	DC 24V3A power adapter	1	Pcs
3	Remote Control	1	Pcs
4	IR remote extension cable	1	Pcs

6. Panel description



Front panel

- A: LCD screen for the switching, EDID, IP etc information display.
- **B:** Power indicator
- C: IR for the IR remote control
- D: Inputs and outputs buttons
- E: Control buttons

Back panel



4x4



- A: HDMI input ports
- B: 3.5mm audio embedded ports
- C: HDMI output ports
- D: 3.5mm audio de-embedded ports
- E: IR extension port for the IR remote control
- F: RS232 ports for the 3rd party control

- G: RJ45 port for the WEB GUI/TCP/IP control
- H: Power supply port
- I: Grounding

7. Matrix Switcher control

This Matrix switcher can support IR remote, WEB GUI browser, TCP/IP/RS232 control, or the front

push-buttons control.

Remote Control

Standby: for the matrix to standby or back to working status Input: 1~8/1~4 HDMI input buttons Clear: Clear all the selected channels Enter: Press to confirm the operations All: to select all the output channels EDID: EDID \rightarrow F1/F2(select the built in EDID or copy/learn from the outputs)EDID \rightarrow press Enter to confirm the EDID \rightarrow Then will need to select the Input channel \rightarrow then press Enter to confirm Output: 1~8/1~4 HDMI output buttons F1/F2: to work with the EDID button



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WEB GUI browser Control

Users also can use the WEB browser to control the matrix switcher, users can have the matrix switcher connected with the PC with the LAN cable directly or have the matrix switcher connected the same network switch. The default IP address of the matrix switcher is 192.168.10.205. After opening the browser, users can type the matrix switcher IP address and press enter: The default user name is admin and the password is admin.





After login, it will turn to "Video Matrix" interface, users can do the sources switching, scenes recall and save.

On the input and output buttons, users also can view the active ports by the button color, 3 steps for the switching



Input button rename: right click on the input button, it will pop-up the window for users to change the names, and option for the Display OSD function.

											Mode	I Number:1
Video Matrix	v	ideo Wall	Et	DD Config	Output S	ettings	Audio Se	ttings	C	levice	U	lser
Rename the	input	Input							Outpu	ıt		
Laptop	2			4		1				3	4	
Right click on t	this buttor			Please	enter the r	nodified na	ame			-		
	•				aptop			0		· '	8	
				Font Size: B Text Display: E can	ig ✓ F nabk ✓ cel	ont Color: Rec BgColor: Trai Confirm	1 × nsparer v	Enter				
					Scer	1e						
	2x2 VW				5	6	7		8	9		10
11	12	13		14	15	16	17	1	18	19		20
					Save	Recall						

For the output buttons and scenes renaming will the same way to use the right click on the button, it will also pop-up the window:



Laptop		3	4	1	2	3	4
		7	Please enter 2	the modified name	6	7	8
			cancel	Confirm	Enter		
1 2	v2 \W	3 4		Scene			10
11	12	13 14	1 15	16	17	18 19	20
			Save	Recall			

Scenes Save and Recall: It will take 2 steps to Save or Recall the scenes, select the scene number first, and then click "Save" or "Recall" button:



Video Wall: users can setup the VW wall, adjust the bezel, VW resolution, or save/recall the VW scenes:

Step1: Configure the VW size by entering the columns&rows number, and then hit the Apply button:

Step2: Drag the outputs from the right side to this VW boxes accordingly, will need to use the right click to confirm the output after dragged to the VW box, the box edge will in yellow color(Without the right click to confirm, it will be white edge)

Step3: After confirmed the outputs in the VW box(all edge in yellow), then drag the input to this VW to finish the switching

Video Wall box edge in yellow color means that outputs to this VW are all confirmed(use the mouse right click to confirm after drag the outputs)

Apply

Apply

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ws: 2

mm Display

Layout

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← → C ▲ Not secure 192.168.10.205	5/pub/videowall.html?name=	11		☆ 🕈 🖲 😁 🌾 🧿	:
				Model Number:11	
	Video Matrix			User User	
	Input		2	Output	
	1 2	Input 1	Input 1	1 2	
	3 4			3 4	
	5 6	3	4	5 6	
	7 8	locut 1	toput 4	7 8	
		Unput 3 Output 3	input 1 Output 4		
	Lay Videowall M Disp Video Bor	Video Wall Control out: Columns (2 x Rows (2 Apply de: Deable Deable All lary: 1050P 144630 der: Widh mm Height mm Display Apply	Scene Save 1 2 3 Scene Recall 1 2 3	4 5	

EDID Management:

									Model Number:11
	Video Matrix	Vide	o Wall	EDID Config	Output	Settings	Audio Settings	Device	User
	input 1 - 4		Input		EDID Inform	ation		EDID Cor	ntrol
				Resolution:	1080P	@60 Hz	Stop 1	Edit Step 2 Resolution: 1920x1080@	60Hz v
	Input 5 - 8		1	Color Depth:	8Bit		step i	Color Space: YUV	~
				Channel:	2CH		Select	Color Depth: 8Bit	~
			Input		EDID Inform	ation		Sound Track: 2CH	~
				Resolution:	4K	@30Hz		Cancel	Apply Step 3
				Color Space:	YUV				Jtep 3
				Color Depth:	8Bit		Select	Output 1 - Copy	to Input Apply
				Channel	201				
			Input		EDID Inform	ation		Pre-Stored 4K@30 v Copy	to Input Apply
				Resolution:		@30Hz		User-Defined	to Input
				Color Space:	YUV				
				Color Depth:	8Bit		Select	Open	Apply
				Channel:	2CH				
			Input		EDID Inform	ation			
				Resolution:	4K	@30Hz			
			4	Color Space:	YUV				
				Color Depth:	8Bit				
				Channel:	2CH		Select		

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Output Settings:

Output 1 - 4	Output		Resolution		Resolution N	lode	Format
Output 5 - 8		⊖ 3840x2160	1920x1080P	O 1280x720	O Auto		O DVI
		O 1920x1200	○ 1920x1080i	○ 1024x768	 Manual 	al	• HDMI
	Output		Resolution		Resolution M	lode	Format
		⊖ 3840x2160	○ 1920x1080P	O 1280x720	 Auto 		O DVI
		O 1920x1200	○ 1920x1080i	O 1024x768	O Manu	al	• HDMI
	Output		Resolution		Resolution N	lode	Format
		⊖ 3840x2160	○ 1920x1080P	○ 1280x720	Auto		O DVI
		O 1920x1200	O 1920x1080i	O 1024x768	O Manu	al	• HDMI
	Output		Resolution		Resolution M	lode	Format
	4	⊖ 3840x2160	○ 1920x1080P	O 1280x720	 Auto 		O DVI
		O 1920x1200	O 1920x1080i	O 1024x768	O Manua	al	• HDMI

Audio Settings: users can select audio either from the 3.5mm or from the HDMI Disable means: disable the HDMI sound, but use the 3.5mm embedded audio Enable means to use the HDMI sound $\begin{array}{|} \bullet \text{ to singular} \\ \bullet \text{ to singul$



For the Audio out:

ON means to turn on the HDMI sound, but use the 3.5mm de-embedded still have the sound OFF means to turn off the HDMI sound, but use the 3.5mm de-embedded still have the sound

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Device is for users to set up the IP address, RS232, or lock the front panel push-button, language or factory default settings:

User tap is user the users to change the password, model number and the WEB GUI logo:



🕲 User.html		< +										•	-	σ	×
$\ \ \leftarrow \ \ \rightarrow \ \ G$	A Not secure	192.168.10.205	i/pub/user.html?name=11							☆	۰ 🔸	•	Ø	୭	:
									Model Number:11						
			Video Matrix	Video Wall	EDID Config	Output Settings	Audio Settings	Device	User						
						Change User Passy	vord								
					Current Password:										
					New Password:										
					Confirm New Password										
					Ca		эртү								
						Change Model Nur	iber								
					Model Number.										
						Apply									
						Change Webpage I	000								
					Webpage Logo	·	Waming The ima		than 15K in size						
					Ope	n File A	oply								

Upgrade page will need to enter the IP/upload in the browser:

🗧 🕆 🕐 🗛 Not secure 192.168.10.255/upload/upgrade.app	Ø Upgrade.at	sp x +		o - o ×
	$\ \ \in \ \rightarrow \ G$	A Not secure 192.168.10.205/upload/upgrade.asp		🖈 🔸 🖲 😁 🖑 🎋 🧿 E

				Model Number:11
Upgrade				
Webpage:	Open File	Upgrade	Versions: R00A06	
Control Board:	Open File	Upgrade	Versions: R01A06	
Video Chip:	Open File	Upgrade	Versions: R00A05	

TCP/IP/RS232 control details and commands: The default IP IS 192.168.10.205, Port number: 4001 The default RS232 baud rate is 115200, 8, 1, none

Function	Command Format	Function	Remark	
Video Switch	AT+HTO2A=MX88,IN\$	One switch to all output channel	+RSPHTO2A=MX88,IN\$	
	e.g. AT+HTO2A=MX88,1\$			
	AT+HTO2M=MX88,IN,O1,O2ON\$ e.g. AT+HTO2M=MX88,1,5,6,7,8\$	One switch to many output Channel	+RSPHTO2M=MX88,IN,O1,O2ON\$	
Output Setup	AT+HTSETAUTORES=MX88,Mode,On\$			
	Mode 1:Auto 0:Manual	Set output resolution mode	+RSPSETAUTORES=MX88,Mode\$	
	On:output channel number(1-8)			
	AT+HTSETOUTRES=MX88,Res,O1,O2,On,\$	Set output resolution	+RSPHTSETOUTRES=MX88,Res\$	
	On:output channel number(1-8)			

	AT+HTTVBLACK=MX88,mod,O1,O2,On\$ On:output channel number(1-8) mod:set TV black (0–1) 0:no black 1:black	Set TV black	
	AT+HTTVSET=MX88,On,mod\$ On:output channel number(1-8) mod:set TV mute or unmute(12) 1:mute 2:unmute	set TV MUTE	
	AT+HTOUTMOD=MX88,Mode,On\$ Mode 1:HDMI 2:DVI On:output channel number(1-8)	Set output mode(DVI or HDMI)	+RSPHTOUTMOD=MX88,Mode\$
	AT+HTEDIDH=MX88,In,On\$ In: input chnnel number(1-8) On:output channel number(1-8)	Switch corresponding output's EDID to	+RSPHTEDIDH=MX88,In,On\$
EDID Setup	AT+HTEDIDINT=MX88,INTn,In\$ In: input chnnel number(1-8) INTn: one certain internal EDID number. (2-5)	Switch one Internal EDID to certain input's EDID	+RSPHTEDIDINT=MX88,In,INTn\$
	AT+HTEDIDINFOSET=MX88,CHn,ResID,ColorSpace,ColorDepth,A udioCh\$ CHn: the input Card's channel number; ResIDn:Resolution ID, ResIDn(13);1:720P@60,2:1080P@60,3:4k@30 ColorSpaceN: color space id, ColorSpaceN(12);1:RGB,2:YUV ColorDepthN: color depth id;ColorDepthN(14);1:8bit,2:10bit,3:12bit,4:16bit AudioChN:Audio ID,AudioChN(13);1:2Ch,2:6Ch,3:8Ch	Set one input card's certain channel's edid information	+RSPHTEDIDINFOSET=MX88,CHn\$
	AT+HTEDIDUPLOAD=MX88,In\$ In, (18); When received this command, delay 100ms, send the EDID data.	Upload EDID from WebPage	+RSPHTEDIDUPLOAD=MX88,In\$
Scene Setup	AT+HTSCESA=MX88,N\$	scene save	+RSPHTSCESA=MX88,N\$
	AT+HTSCERC=MX88,N\$	scene recall	+RSPHTSCERC=MX88,N\$
System Setup	AT+HTFACT=MX88\$ When No Cn parameter, factory set main control board and GUI model.	Factory setup	+RSPHTFACT=MX88\$ No Cn parameter, if using to factory set main control board and GUI model

	AT+HTUILOCK=MX88,Val\$ Val: 1, locked; 2, Unlocked;	GUI Lock	+RSPHTUILOCK=MX88,Val\$
	AT+HTUARTCFG=MX88,Baud,Databits,Stopbits,Parity\$ Baud: 0, 9600; 1, 19200; 2, 38400;3, 57600; 3, 115200; Databits: 0, 8bits; 1, 9bits; Stopbits: 0, 1stopbit; 1, 2stopbits; Parity: 0, none; 1, ODD; 2, even;	UART configure	
Audio Setup	AT+HTAUDSET=MX88,On,Mode\$ Mode:Enable(1)/Disable(2) On:output channel number(1-8)	Set input card's Audio	AT+HTAUDSET=MX88,Val\$
Video wall	AT+HTVIDJNTSA=MX88,N\$ N=1~5	scene save	+RSPHTVIDJNTSA=MX88,N\$
	AT+HTVDWALLRC=MX88,N\$ N=1~5	scene recall	
Video Border	AT+HTBEZEL=MX16,N1,N2,N3\$ N= width ,height , out	Video Border	+RSPHTBEZEL=MX16,N1,N2,N3\$ //width,height,out