8x8 HDMI2.0 Matrix Support 4K@60hz YUV4:4:4, 18Gbps, HDR Operating Instruction





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.

SURGE PROTECTION DEVICE RECOMMENDED

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

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Dear Customer

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.

1. Features

- HDMI 2.0 version (Support 4K@60Hz YUV4:4:4)
- Support 3D
- Bandwidth upto 18Gbps
- HDCP2.2 input ,HDCP2.2 output
- HDCP1.4 input, HDCP1.4 output
- Support HDR10
- 8xHDMI Input, 8xHDMI output with 8xSPDIF Audio
- Any one of the 8 Ultra HD sources to any one of the 8 Ultra HD displays
- Support Panel Button, Local IR, RS232 Control with command, IP Control, Web GUI Control
- Support Dolby True HD and DTS-HD master audio
- 1U rack design, easy installment
- Unit size: L440XW220XH44.5mm

2. Package Contents

- 1). 1x HDMI Matrix
- 2). 1x 12V DC power supply
- 3). 1x Remote control
- 4). 1x IR Ext RX Cable
- 5). 1x mounting kit
- 6). 1x CD for control software & user manual

3. Specifications

Bandwidth	18 Gbps
Resolution	480p@60hz,576P@50hz,720P@60hz, 1080P@24hz,1080P@50hz,1080P@60hz,4K@24hz,4K@30hz, 4K@60hz YUV4:2:0, 4K@ 60hz YUV4:4:4
Video Input Connectors	8xHDMI Type A, 19-pin, female
Video Output Connectors	8xHDMI Type A, 19-pin, female
RS-232 serial port	DB9, female
Ethernet port (IP control)	RJ45, female
IR Ext port	1x3.5mm stereo jack
Rack-Mountable	Rack ears included
Dimensions(WxHxD)	L440XW220XH44.5mm
Net Weight	2.8kg
Operating Temperature	-4°F to 140°F (-20°C to 60°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)
Power consumption	19W(Max)

4. Panel Descriptions



 $\textcircled{1}\label{eq:receive}$ R receive window.

(2)Input button IN1~8: choose the desired input port from ports 1~8.

3 Output button OUT1~8: choose the desired output port from ports 1~8.



①IP control.

- 2 RS232 for control.
- ③For IR external receiver cable.
- 4 SPDIF Audio output.
- **5DC** power input.
- 6HDMI input port.
- 7HDMI output port.

Check the EDID Information by Panel button

① Press "In4" for 3 seconds ,then press "In1" or "Out1" to check the EDID information for each HDMI input.



O Press "In5" for 3 seconds, then press "In1" or "Out1" to check the device name , IP address and DHCP status.



5. Connecting and Operating

- 1. Connect source devices to input ports of the matrix
- 2. Connect HDMI output ports to TV or other HDMI sink devices.
- 3. Optional: connect RS232 cable from PC RS232 port.
- 4. Optional: connect an Ethernet cable from the TCP/IP port on the matrix to a local area

network.

- 5. Connect 12V POWER supply to DC power socket.
- 6. Power on the matrix, HDMI sources and displays.

6. Application Diagram



7. Remote Control Description



- 1 Standby Mode.
- 2 OUTPUT-X select INPUT-Y: Press OUTPUT-X (X means 1 to 8 of outputs)
 Press INPUT-Y (Y means 1 to 8 of inputs)
 3 All outputs select INPUT-Y: Press ALL button in zone OUTPUT Press INPUT-Y button (Y means 1 to 8 of inputs), then INPUT-Y switched to ALL OUTPUTS.
 4 Cancel Button: Cancel the switching operation
 - FTP button: Mirror all inputs and outputs
 (Ex. Input 1 to output 1, input 2 to output 2, etc):
 Press PTP button in Zone OUTPUT.

8. RS232 Pin Assignment

Ма	trix	Remote C	Control Console
PIN	Assignment	PIN	Assignment
1	NC	1	NC
2	Тx	2	Rx
3	Rx	3	Тх
4	NC	4	NC
5	GND	5	GND
6	NC	6	NC
7	NC	7	NC
8	NC	8	NC
9	NC	9	NC

Baud Rate: 115200 bps Data Bits: 8 bit Parity: None Stop Bit: 1 bit Flow Control: None

9. RS232 Control

9.1 Software control

Connect the 8x8 Matrix to PC with a RS232 cable, open the software on your PC. On the COM Setting session, select the COM port according to your PC and click Connect to get connected.

On this COM setting session, you can also change the Device name, Device name support up to 16 characters. Save or edit your status by clicking the Edit button.

Come to Port Set session to select or switch your input sources for each output, We can read the current status by clicking the "Status" button, or Clear our historical operating record by clicking "Clear" button. The right down blank shows the operating history.

Search	Output 1 1 2 3 4 5 6 7 8 1	Status Clear
sconnect		
	1 2 3 4 5 6 7 8 2	Load All config data success!
ce Name DMI2.0Matrix	Output 3 1 2 3 4 5 6 7 8 3	Get All Config data success! Get All Ports Load All config data success! Load All config data success!
Get	Output 4 1 2 3 4 5 6 7 8 4	Get All Ports Load All config data success! Load All config data success!
Edit	Output 5 1 2 3 4 5 6 7 8 5	
	Output 6 1 2 3 4 5 6 7 8 6	
	Output 7 1 2 3 4 5 6 7 8 7	
	Output 8 1 2 3 4 5 6 7 8 8	
	Output All	*

Picture 1

The EDID session helps us to Read and Configure EDID for each input, such as HDR, 3D, Data rates and Audio channel.

	Set Input HDMI 1		Set Input HDMI 2		
Search	Mode: 4K2K@50Hz (YC444) -	Read	Mode: 4K2K@60Hz (YC420) - Read		
Disconnect!	□ HDR 1080P 4K2K@30Hz □ 30Bit 4K2K@60Hz YC420J □ 30Bit 4K2K@60Hz YC420J	Apply	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □		
evice Name	Copy From TV1				
CANTO OBSERVE	Copy From TV3		Set Input HDMI 4		
seond and the second of the second se	Mode: Copy From TV4	Read	Mode: 4K2K@60Hz (YC420) - Read		
Get	HDR Copy From TV6 SOPY From TV7 SOBit Copy From TV7	4	□ HDR □ 3D □ 30Bit □ 36Bit □ 48Bit 41-		
Edit	Copy From TV8 C 7.1 CH C 5.1 CH C 2.0 CH -	Арріу	С 7.1 СН С 5.1 СН 🦷 2.0 СН — Арриу		
2	Set Input HDMI 5		Set Input HDMI 6		
	Mode: 4K2K@60Hz (YC420) 🔹	Read	Mode: 4K2K@60Hz (YC420)		
	⊟ HDR 🔽 3D °		F HDR 🔽 3D		
	□ 30Bit □ 36Bit □ 48Bit ○ 7.1 CH ○ 5.1 CH ○ 2.0 CH	Apply	□ 30Bit □ 36Bit □ 48Bit ○ 7.1 CH ○ 5.1 CH ● 2.0 CH Apply		
	Set Input HDMI 7		Set Input HDML 8		
	Mode: 4K2K@60Hz (YC420) •	Read	Mode: 4K2K@60Hz (YC420) · Read		
	THDR F 3D		F HDR F 3D		
	□ 30Bit □ 36Bit □ 48Bit	Apply	□ 30Bit □ 36Bit □ 48Bit Apply		

Picture 2

The IP configure session helps to read and configure the IP address and MAC of the Matrix. Check DHCP if you want the router assign an automatic IP for the Matrix.

Search	- IP Address Setting							
Disconnect!	Host IP Address:	192	. 168	. 0	. 11	11		
	Net Mask:	255	. 255	. 255	. ()		
wice Name 8HDMI2.0Matrix	Router IP Address:	192	. 160	. 0	. I			
Get								
Edit	MAC Address: 7C: 47	:3F:11	: 7A : BI	2	v	DHCP		
	I the same same	i.				-1		
	Get IP Config			Save	P Confi	g		
	-							
	-							

The Net Config session allows us to configure the PC and Matrix in the same LAN with the IP Address and connection.

Click "Net config" \rightarrow "Connect" \rightarrow "Search Device" \rightarrow "Sel Device Number" \rightarrow "Connect" then you can see the device name, it meas connect successfully.

Search Connect	– Current PC Inform IP Address:	nation 192 . 168 . 0 . 103	Ports: 5001	(2) Connect	
Device Name 3					

Picture 4

You can also click "IE", easy and click to enter into web.

COM Setting Port: COMI V Search Connect	Port Set EDID Config IP Config Net Config System Config Current PC Information IP Address: 192 . 158 . 0 . 140 Ports: 5001 Disconnect	
Device Name	Host Device Information IP Address: 192 . 160 . 0 . 173 1->IP=192.168.0.173 Name=4*4HDMI2.0Matri Sel Device Number: 1	
	(7) Reset IE	

Picture 5

Operating Instruction

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The last session is System Config, which allows power ON/OFF or reset, default the Matrix.

HDMI 2.0 8*8 Matrix	The second division of	A Carl Contraction	and the second	×
COM Setting Port: COM7 _	Port Set EDID Config IP C	onfig Net Config System Config		
Search	Command:		Арріу	
Disconnect		Downer Ctel		
	Reset	Power Ctri		
Device Name 8*8HDMI2.0Matrix				
Get	Default			
Edit				
_				

Picture 6

9.2 Command Control

1). Open CommUart Assistant.

2). Comport setting:

Baud Rate:	115200 bps
Parity:	None
Data Bits:	8 bit
Stop Bits:	1 bit

	CommUart Assistant	
OM Settings	Data receive	SAVAGE V4.2.0
PortNum COM9 PortNum COM9 BaudR 115200 DPaity NONE DataB 8 StopB 1 Close ecv Options Receive to file Auto linefeed Show timestamp Receive as hex Pause receive Pause receive	MtP@W0E000203010203020203030203342 s3448444d49322s304d6174726978 MtP@W0901# MtP@W0E000203010203020203030203342s3448444d49322s304d6174726978 MtP@W0E000203010203020203030203342s3448444d49322s304d6174726978 MtP@W0901# MtP@W0E000203010203020203030203342s3448444d49322s304d6174726978 MtP@W0901#	;# ;# ;#
Save Clear end Options Data from file Auto checksum Auto clear input Send as hex Period 1000 ms Load Clear	1.DCD ● 2.RXD ● 3.TXD ● <u>4.DTR</u> ● 5.GND ● 6.DSR ● <u>7.RTS</u> ● @W 04 03 02 01 00 #	8.CTS • 9.RI • Send

3). Enter Port Command in Send options.

Picture 7

4). Command

Command	Function	Note
@W 04 00 01 02 03 04 05 06 07 #	PTP Function	Mirror all inputs and outputs (Ex. Input 1 to output 1, input 2 to output 2, etc)
@W 50 #	Reboot	
@W 51 #	Restore Factory Setting	
@W 0F 00 #	Standby	00: Standby Mode 01: Cancel "Standby Mode"

5). Select HDMI input for HDMI out

Command	Description
00	Output1
01	Output2
02	Output3
03	Output4
11	Output5
12	Output6
13	Output7
14	Output8
04	All Output
00	Input1
01	Input2
02	Input3
03	Input4
04	Input5
05	Input6
06	Input7
07	Input8

E.g: @W 00 00 #: Output 1 display Input1

Output 1 L Input1

6). EDID Setting @W XX AA BB #:

Parameter Description: XX for configuration of "INPLIT FDID"

AA IOI COIIIigu			טוכ					
Command	05	06	07	08	15	16	17	18
Description	Input1	Input2	Input3	Input4	Input5	Input6	Input7	Input8

AA for selecting "Video Mode"

Command	00	01	02	03
Description	1080P	4K2K_30	4K2K_60(YC420)	4K2K_60(YC444)
Command	04	05	06	07
Description	Copy From TV1	Copy From TV2	Copy From TV3	Copy From TV4
Command	08	09	0a	0b
Description	Copy From TV5	Copy From TV6	Copy From TV7	Copy From TV8

BB for selecting belowing function

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
HDR	48Bit	36Bit	30Bit	7.1CH	5.1CH	2CH	3D
1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

"1" : select the function, "0" : not select the function. E.g: 11001001: HDR, 48Bit, 7.1CH, 3D

Chang Binary code "11001001" to hexadecimal format "C9".

E.g: @W 05 03 C9 #

The EDID of input 1 is: 4K2K_60(YC444)、HDR、48Bit、7.1CH、3D.

10. Web Control

1). Connect the HDMI Matrix and PC to the LAN.



2). Open the PC tool (included in the CD).

```
    PC tool
    2017-01-16 17:47 应
```

3). Search the IP address of HDMI Matrix, please refer to picture 4 & picture 5.

4). Open the web browser and enter the IP address you searched, then you can set the function as below pictures:

HDMI2.0 8*8 Mat	rix ×			4	
	192.168.0.45				S :
🕒 FOXUN 💓 SAT	🗅 GB 📋 DTMB	ASIATVRO	TRANSLATE		rs 📕 4K 🚿
Port Se	et j	EDID Config	2	IP Config	<u>^</u>
		Port Set pa	ae.		
Output1: Input 1	Input 2 Input 3	Input 4 Inp	ut 5 Input 6	Input 7 Input 8] 1
Output2: Input 1	Input 2 Input 3	Input 4 Inp	ut 5 Input 6	Input 7 Input 8	2
Output3: Input 1	Input 2 Input 3	Input 4 Inp	ut 5 Input 6	Input 7 Input 8	3
Output4: Input 1	Input 2 Input 3	Input 4 Inp	ut 5 Input 6	Input 7 Input 8	4
Output5: Input 1	Input 2 Input 3	Input 4 Inp	ut 5 Input 6	Input 7 Input 8	5
Output6: Input 1	Input 2 Input 3	Input 4 Inp	ut 5 Input 6	Input 7 Input 8	6
Output7: Input 1	Input 2 Input 3	Input 4 Inp	ut 5 Input 6	Input 7 Input 8] 7
Output8: Input 1	Input 2 Input 3	Input 4 Inp	ut 5 Input 6	Input 7 Input 8	8
Output All: Input 1	Input 2 Input 3	3 Input 4 In	put 5 Input 6	Input 7 Input 8	3 1

Picture 8: Port Setting Page

Port Set	EDID Config	IP Config	
	EDID Set page		
Input HDMI1: 4K	2K@60Hz[YC444] •	Apply	
#HDR #3D □ 30B	it ◎36Bit #48Bit #7.1Ch ◎5.	1Ch @ 2.0Ch	
Input HDMI2: 4K	2K@60Hz[YC420] •	Apply	
⊖HDR #3D ∋30B	it ⊜36Bit ⊜48Bit ⊙7.1Ch ⊙5	1Ch #2.0Ch	
Input HDMI3: 4K	2K@60Hz[YC420] •	Apply	
■HDR ¥3D ■30B	it © 36Bit © 48Bit © 7.1Ch © 5.	1Ch *2.0Ch	
Input HDMI4: 4K	2K@60Hz[YC420] •	Apply	
⊌HDR ≠3D ⊌30B	it ⊜36Bit ⊜48Bit ⊙7.1Ch ⊙5.	1Ch #2.0Ch	
Input HDMI5: 4K	2K@60Hz[YC420] •	Apply	
HDR #3D #30B	it ⊜36Bit ⊜48Bit ©7.1Ch ©5.	1Ch # 2.0Ch	
Input HDMI6: 4K	2K@60Hz[YC420] •	Apply	
HDR #3D 0308	it ⊜36Bit ⊜48Bit ©7.1Ch ©5.	1Ch # 2.0Ch	
Input HDMI7: 4K	2K@60Hz[YC420] •	Apply	
HDR #3D 308	it ⊜36Bit ⊜48Bit ⊙7.1Ch ⊙5.	1Ch * 2.0Ch	
Input HDMI8: 4K	2K@60Hz[YC420] •	Apply	
⊎HDR #3D ⊎30B	it #36Bit #48Bit #7.1Ch #5.	1Ch #2.0Ch	

Port Set	ED	IP Config	
	IP C	onfig page	
	MAC Address:	7C:47:3F:11:7A:BE	
	Host IP Address	: 192.168.0.111	
	Net Mask		
	Address:	255.255.255.0	
	Router IP		
	Address:	192.168.0.1	
	Device Name:	8*8HDMI2.0Matrix	
	DHC	CP	
		Apply	
	Picture 10: I	P Configuration Page	