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

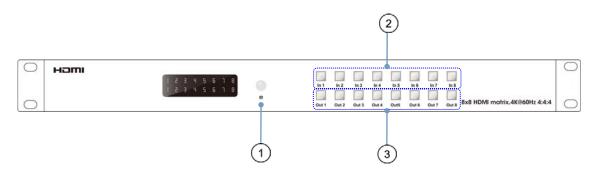
2. Package Contents

- 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

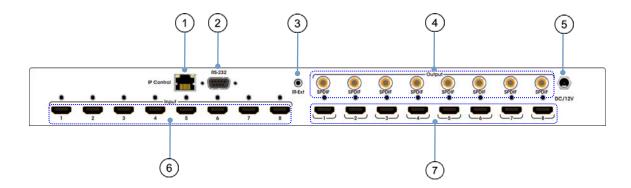
Bandwidth	18 Gbps
Resolution	480p@60hz,576P@50hz,720P@60hz, 1080P@24hz,1080P@50hz,1080P@60hz,4K@24hz,4K@30hz, 4K@60hz YUV4:2:0, 4K@ 60hz YUV4:4:4
Video Input Connectors	8xHDMI Type A, 19-pin, female
Video Output Connectors	8xHDMI Type A, 19-pin, female
RS-232 serial port	DB9, female
Ethernet port (IP 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



- ① IR 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.



- 1 IP control.
- 2 RS232 for control.
- 3 For IR external receiver cable.
- ④ SPDIF Audio output.
- \bigcirc DC power input.
- 6 HDMI input port.
- HDMI 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.



 $@\,{\rm Press}$ "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

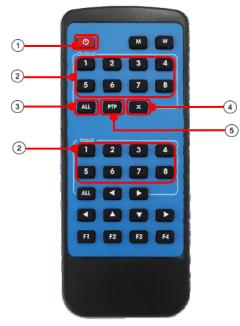
network.

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

HDMI cable RS232 cable Cat5e/6 cable ۲ ۲ ۲ ٥ 0 ۲ Audio cable SPDIF Audio Audio Output (SPDIF)x8 RS232 cabl Cat5e/6 cable • ----- **1**0 . 00.0000000 RS232 & LAN Control by PC HDMI sources x8 HDMI input HDMI output Amplifier x8 (DVD, HD Camera, Notebook etc) 4K TV1 4K TV2 4K TV3 4K TV4 4K TV7 4K TV5 4K TV6 **4K TV8**

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)
- 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
 - ⑤ PTP 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

Ma	ıtrix	Remote (Control Console
PIN	Assignment	PIN	Assignment
1	NC	1	NC
2	Tx	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.

M Setting rt: COM7 🚽	Port Set EDID Config IP Config Net Config System Config	
Search	Output 1 1 2 3 4 5 6 7 8 1	Status Clear
Disconnect!	Output 2 1 2 3 4 5 6 7 8 2	Get All Ports * Load All config data success! Load All config data success!
vice Name 8HDMI2.0Matrix	Output 3 1 2 3 4 5 6 7 8 3	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 1 2 3 4 5 6 7 8 1	
		• • •

Picture 1

COM Setting	Port Set EDID Config IP Config Net Confi	al Suntan Caud		
Port: COM7 🚽	Fort set LPTP course IF course Met cours	g System Cont.	TR	
	Set Input HDMI 1		Set Input HDMI 2	
Search	Mode: 4K2K@60Hz (YC444) -	Read	Mode: 4K2K@60Hz (YC420) -	Read
Disconnect!	F HDR 1080P		□ HDR	
	□ 30Bit 4K2K@30Hz 4K2K@60Hz (YC420)		🗆 🗆 30Bit 🗆 36Bit 🗆 48Bit —	
	© 71 C 4K2K@60Hz (YC444)	Apply	○ 7.1 CH ○ 5.1 CH ○ 2.0 CH	Apply
Device Name	Copy From TV1 Copy From TV2			
8*8HDMI2.0Matrix	Copy From TV3	1	Set Input HDMI 4	1
	Mode: Copy From TV4 Copy From TV5	Read	Mode: 4K2K@60Hz (YC420) 💌	Read
Get	HDR Conv From TV6		THDR 73D	
	Copy From TV7 Copy From TV8	Apply	□ 30Bit □ 36Bit □ 48Bit	Apply
Edit	C 7.1 CH C 5.1 CH € 2.0 CH -		⊂ 7.1 СН ⊂ 5.1 СН 🕫 2.0 СН —	,
	Set Input HDMI 5		Set Input HDMI 6	
	Mode: 4K2K@60Hz (YC420) 🔻	Read	Mode: 4K2K@60Hz (YC420) -	Read
	□ HDR		□ HDR	
	🗆 30Bit 🗆 36Bit 🗖 48Bit	1	🗆 🗆 30Bit 🗆 36Bit 🗖 48Bit 🚽	
	୦7.1 CH ଦ5.1 CH ଦ2.0 CH _	Apply	○ 7.1 CH ○ 5.1 CH ● 2.0 CH _	Apply
	Set Input HDMI 7		Set Input HDMI 8	
	Mode: 4K2K@60Hz (YC420) -	Read	Mode: 4K2K@60Hz (YC420) -	Read
	□ HDR		THDR F 3D	
	□ 30Bit □ 36Bit □ 48Bit	A	□ 30Bit □ 36Bit □ 48Bit □	Analy I
	ି 7.1 CH 🤉 5.1 CH ୮ ୧ 2.0 CH -	Apply	⊂ 7.1 CH ⊂ 5.1 CH 🤄 2.0 CH —	Apply

The EDID session helps us to Read and Configure EDID for each input, such as HDR, 3D, D

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	. 16	8.	0	. 111			
Device Name	Net Mask:	255	. 25	5.	255	. 0			
3*8HDMI2. OMatrix	Router IP Address:	192	. 16	8.	0	. 1			
Get									
Edit	MAC Address: 7C:47	: 3F : 11	:7A:I	BE		₽ D	НСР		
Edit		: 3F : 11	:7A:I				нср		
Edit	MAC Address: 7C : 47 Get IP Config	: 3F : 11	:7A:I		Save IP		нср		
Edit		: 3F : 11	: 7A : I		Save IP		нср		
Edit		: 3F : 11	: 7A : I		Save IP		нср		
Edit		: 3F : 11	: 7A : I		Save IP		нср		

Picture 3

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.

COM Setting Port Set EDID Config IP Config Net Config System Config	
Search 2 Connect IP Address: 192 . 168 . 0 . 103 Ports: 5001 Connect	
Device Name 3 Get Edit	

Picture 4

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

COM Setting	Port Set EDID Config IP Config Net Config System Config
Search Connect	Current PC Information IP Address: 192 168 0 140 Ports: 5001 Disconnect
Device Name	Host Device Information 6 4
Get	IP Address: 192 168 0 173 Connect Search Device 1->IP=192.168.0.173 Name=4*4HDMI2.0Matri 5 5 5
Edit	Sel Device Number:
	(7) Reset IE

Picture 5

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

HDMI 2.0 8*8 Matrix	And Personal Property in the local division in the local divisione	×
HDMI 2.0 8°8 Matrix COM Setting Port: COM7 Search Disconnect! Device Name 8*8HDMI2.0Matrix Get Edit	Port Set EDID Config IP Config Net Config System Config Command: Apply Reset OnOff	

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

3). Enter Port Command in Send options.

••	CommUart Assistant	× 🗆 - 🖉 💘
COM Settings	Data receive	SAVAGE V4.2.0
PortNum COM9 BaudR 115200 DPaity NONE DataB 8 StopB 1 Recv Options	Data receive MtP@W0E000203010203020203030203342s3448444d49322s304d6174726970 MtP@W0E000203010203020203030203342s3448444d49322s304d6174726970 MtP@W0E000203010203020203030203342s3448444d49322s304d6174726970 MtP@W0E000203010203020203030203342s3448444d49322s304d6174726970 MtP@W0901# MtP@W0901#	8# 6# 8#
Receive to file Auto linefeed Show timestamp Receive as hex Pause receive <u>Save</u> <u>Clear</u>		
Send Options Data from file Auto checksum Auto clear input Send as hex	1.DCD ● 2.RXD ● 3.TXD ● <u>4.DTR</u> ● 5.GND ● 6.DSR ● <u>7.RTS</u> ●	8.CTS • 9.RI •
Period 1000 ms Load Clear	@# 04 03 02 01 00 #	Send
🎯 COM Settings	* Send : 67 Recv : 181	6 Reset

Picture 7

4). Command

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

5). Select HDMI	input for HDMI output
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 "INPUT EDID"

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.

	Router		
/	/		
HDMI Matrix]	Γ	PC

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

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 Matrix	×			
← → C ☆ □ 192	.168.0.45			S :
🗅 FOXUN 💹 SAT 🗋 G		ATVRO 🍄 TRANS		📕 4K 🔉
Port Set	EDI	D Config	IP Config	
	Port	Set page		
Output1: Input 1 Inp	ut 2 Input 3 Input	4 Input 5 Inpu	ut 6 Input 7 Input 8	1
Output2: Input 1 Inp	ut 2 Input 3 Input	4 Input 5 Inpu	ut 6 Input 7 Input 8	2
Output3: Input 1 Inp	ut 2 Input 3 Input	4 Input 5 Inpu	ut 6 Input 7 Input 8	3
Output4: Input 1 Inp	ut 2 Input 3 Input	4 Input 5 Inpu	ut 6 Input 7 Input 8	4
Output5: Input 1 Inp	ut 2 Input 3 Input	4 Input 5 Inpu	ut 6 Input 7 Input 8	5
Output6: Input 1 Inp	ut 2 Input 3 Input	4 Input 5 Inpu	ut 6 Input 7 Input 8	6
Output7: Input 1 Inp	ut 2 Input 3 Input	4 Input 5 Inpu	ut 6 Input 7 Input 8	7
Output8: Input 1 Inp	ut 2 Input 3 Input	4 Input 5 Inpu	ut 6 Input 7 Input 8	8
Output All: Input 1 Inp	ut 2 Input 3 Inpu	ut 4 Input 5 Inp	out 6 Input 7 Input 8	1

Picture 8: Port Setting Page

Operating Instruction

Port Set	EDID Config	IP Config	
	EDID Set page		
Input HDMI1:	4K2K@60Hz[YC444] •	Apply	
HDR ≥ 3D = 30	0Bit ◎36Bit ≈48Bit ≈7.1Ch	≥5.1Ch ⊜2.0Ch	
Input HDMI2:	4K2K@60Hz[YC420] •	Apply	
HDR #3D =30	0Bit ∋36Bit ∋48Bit ∘7.1Ch	⊙5.1Ch *2.0Ch	
Input HDMI3:	4K2K@60Hz[YC420] •	Apply	
■HDR ¥3D ■30	0Bit ⊜36Bit ⊜48Bit ∮7.1Ch	⇒5.1Ch *2.0Ch	
Input HDMI4:	4K2K@60Hz[YC420] •	Apply	
■HDR #3D ■30	0Bit 🛛 36Bit 🔍 48Bit 🔍 7.1Ch	05.1Ch ≋2.0Ch	
Input HDMI5:	4K2K@60Hz[YC420] •	Apply	
■HDR #3D ■30	0Bit ⊜36Bit ⊜48Bit ⊜7.1Ch	5.1Ch *2.0Ch	
Input HDMI6:	4K2K@60Hz[YC420] •	Apply	
HDR #3D 030	0Bit ⊜36Bit ⊜48Bit ⊜7.1Ch	5.1Ch #2.0Ch	
Input HDMI7:	4K2K@60Hz[YC420] •	Apply	
⊟HDR #3D ⊕30	0Bit @36Bit @48Bit @7.1Ch	5.1Ch *2.0Ch	
Input HDMI8:	4K2K@60Hz[YC420] •	Apply	
●HDR #3D ●30	0Bit ∎36Bit ∎48Bit ●7.1Ch	5.1Ch #2.0Ch	
Pictu	re 9: EDID Setting Pa	age	

Port Set	EDI	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	Apply	

Picture 10: IP Configuration Page

MAINTENANCE

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner of benzine to clean this unit.

PRODUCT SERVICE

(1) Damage requiring service:

The unit should be serviced by qualified service personnel if:

- (a) The DC power supply cord or AC adaptor has been damaged;
- (b) Objects or liquids have gotten into the unit;
- (c) The unit has been exposed to rain;

(d) The unit does not operate normally or exhibits a marked change in performance; The unit has been dropped or the cabinet damaged.

(2) **Servicing Personnel:** Do not attempt to service the unit beyond that described in these operating instructions.Refer all other servicing to authorized servicing personnel.

(3) **Replacement parts:** When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other Hazards.

(4) **Safety check:** After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

WARRANTY

If your product does not work properly because of a defect in materials or workmanship, our Company (referred to as "the warrantor") will, for the length of the period indicated as below, **(Parts(2)Year, Labor(90) Days)** which starts with the date of original purchase ("Limited Warranty period"), at its option either(a) repair your product with new or refurbished parts, or (b) replace it with a new of a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" Limited Warranty period there will be no charge for labor.

During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

MAIL-IN SERVICE

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

LIMITED WARRANTY LIMITS AND EXCLUSIONS

 This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage.
 The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributable to acts of God.

 2) THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRNTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.)
 3) PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.