# 8x8 Seamless UHD Matrix

Model No. UHD-808VW





- Do not expose this device to Rain, Moisture, and Dripping
- Only use accessories specified by the manufacture
- Unplug this device during Lightning Storms
- Product specifications may be subject to technical upgrades without further

notice

### • 1. Introduction

MXB88H is a high-performance seamless UHD matrix switcher with 8x HDMI inputs and 8x HDMI outputs. Audio extract or insert can also be enabled on this device. IR matrix routing on this video matrix is followed with video routing

MXB88H key features:

- Support HDMI 2.0/HDCP 2.2
- Support seamless switching
- Support IR matrix
- Support HDMI audio extract
- Support external LR audio insert on HDMI stream
- Support EDID management
- HDMI video output resolution:

3840x2160@60, 3840x2160@30,1920x1080@60,1280x720@60,

1920x1200@60,1360x768@60,1280x1024@60, 1024x768@60

• Front panel,RS232,TCP/IP (LAN 10M/100M) control

### 2. Front Panel Control



#### • OUTPUT/INPUT buttons

Press buttons OUTPUT n + INPUT m+ TAKE by sequence, user can switch matrix routing

- Press button POWER, to make the matrix enter or release standby state. When standby, the power LED will be lighted
- Press button LOCK, to lock or un-lock front buttons. When locked, the Lock LED will be lighted
- Press buttons ALL + INPUT m + TAKE by sequence, to switch input m to all the outputs
- Press button SAVE + OUTPUT n to save current routing scene as scene n. The maximum allowable scene No. is 8
- Press button RECALL + OUTPUT n to recall routing scene n as current routing
- Press buttons RES + OUTPUT n + NEXT + TAKE, to change output resolution of OUTPUT n

port

**Resolution option :** 

3840x2160@60, 3840x2160@30,1920x1080@60,1280x720@60,

1920x1200@60,1360x768@60,1280x1024@60, 1024x768@60

Press buttons EDID + INPUT m + NEXT + TAKE, change the EDID mode of port INPUT m
EDID option: Manual,3840x2160@60, 3840x2160@30, 1280x1024@60

1920x1080@60,1280x720@60,1920x1200@60

### 3. Back Panel



- LAN(10M/100M), RS232 are for PC control
- Analog Audio IN/OUT ports are bond with corresponding HDMI ports .

For example, if INPUT HDMI 1 signal is **DVI**, matrix will use analog AUDIO IN 1 as HDMI 1

audio source

Note, Analog AUDIO IN is only available when the corresponding video input is DVI signal.

Analog AUDIO OUT n will always output the same audio content with HDMI OUTPUT n

Analog Audio IN/OUT connection



• IR IN and IR OUT

IR IN/OUT is for remote control routing, and followed with video routing,

For example, if input HDMI m is routed to output HDMI n1 and n2 ports, then

IR IN n1 and n2 ports will be routed to IR OUT m port. Please refer to bellow

illustration.

Relationship between video and IR routing



IR extender connectors (not as accessories)



### 4. PC Tool and RS232/LAN Control

#### 4.1 RS232 connector

- RS-232 control, baud rate 9600, DB9 connector
- Pins configuration as bellow. User need use the corresponding cable, directly link cable



Index	Pin
1	N/u
2	Tx( Matrix $\rightarrow$ PC )
3	Rx( Matrix $\leftarrow$ PC )
4	N/u
5	Gnd
6	N/u
7	N/u
8	N/u
9	N/u





#### 4.2 Ethernet control and connection



#### Note: Factory default network setting:

IP Туре	Static IP 👻
Static IP	192.168.0.247
Subnet Mask	255.255.255.0
Gateway	192.168.0.1

#### 4.3 PC Tool

The PC tool needs no installation, support serial control and network control.

Matrix-PC-to	ool-vX.X.	XXX								
latrix Switch	Signal S	etting F	ineTune:	PQ&Posi	tion OS	D CTRL	TV Wall	Netwo	rk Setting	Englis
Input Output Name	Name	Input1	Input2	Input3	Input4	Input5	Input6	Input7	Input8	^
Output1	01									
Dutput2	0 2									
Dutput3	03									
Dutput4	04									
Dutput5	0 5									
Dutput6	06									Nisky Disco WATT will all big analise successf
Dutput7	01									
Illset Input1 Ctrl Mode— • UART •	• Networl	Reci	all Mod	e1 •	Sa St	veAs <mark>Ma</mark> atus <mark>Dis</mark>	ode1	d	EDID Reset	
Device Name	•	IP Add	ress		MA	C Addre	955	Ve	rsion	
				Find via	UART					

Please note, Fine Tune/OSD CTRL/TV Wall pages are reserved for future used

• 4.3.1 UART Control

Control steps as follows:

- 1. Connect PC and device with a straight serial port cable
- 2. Run PC control tool and switch to "Matrix Switch" page
- 3. Click to switch "Ctrl Mode" to "UART"
- 4. Click the combo box which is right to the "Port", select the right COM port (There may be some COM ports connected to the PC)
- 5. Click the "Disconnected" button (which is right to "Status") to connect to the device
- 6. If connected successfully, the "Disconnected" button will show "Connected"

Ctrl Mode	-	2		
O UART O Network	Port	COM5	-	Status Disconnected

The UI after connected successfully will be as follows:

atrix Switch	Signal	Setting F	ineTune:	PQ&Posi	tion OS	D CTRL	TV Wall	Networ	rk Setting		English
Inpu Output Name	t Name	Input1	Input2	Input3	Input4	Input5	Input6	Input7	Input8	Reading Reading: Matrix Size 8x8 success	^
Dutput1	01									Reading: Matrix Route success Reading: Input Board1 ->Signal Type success	
Dutput2	0 2									Reading: Input Board1 ->Signal Resolution success	
Dutput3	03									Reading: Input Board2 ->Signal Type success	
Dutput4	0 4									Reading: Input Board2 -> signar Resolution success	
output5	0 5										
utput6	0 6										-
utput7	07										
utput8	0 8										
lset <mark>Input1</mark> Ctrl Mode− ⊙ UART ©	Networ	Reca	all Mod	e1 🔻	Sa St	iveAs <mark>Mo</mark> atus	ode1		EDID Reset		
Device Name	•	IP Add	iress		MA	AC Addre	ss	Ve	rsion		
				Find via	LIART						

- 4.3.2 Network Control
- Direct connection via Ethernet cable

Control steps as follows:

- 1. Connect the PC and device directly via an Ethernet cable
- 2. Manually setting up the IP address of the PC, and the IP address of the PC and the device should be in a same network segment (The default IP address of the device is 192.168.0.247, and the default network mask of the device is 255.255.255.0). The screenshots of setting up the IP address are as follows:



Manually setting up the IP address of the PC

- 3. Run the PC control software (If the IP address of the PC changed after running the software, you should close it and run it again)
- 4. Click to switch "Ctrl Mode" to "Network"
- 5. Click the "Search Device" button
- 6. Click the device you want to control in the result list (When you click it, the software will

read the network configuration such as network port and so on of the device automatically)

- 7. Click the 'Disconnected' button (which is right to "Status") to connect to the device
- 8. If connected successfully, "Disconnected" button will show "Connected"

The UI after connected successfully will be as follows:

	Matrix-PC-to	ol-vX.X.)	xxx					er fins	Sec. Sec.			
N	latrix Switch	Signal S	etting F	ineTune:	PQ&Posi	tion OS	D CTRL	TV Wall	Networ	k Setting		English •
	Input Output Name Output1	Name	Input1	Input2	Input3	Input4	Input5	Input6	Input7 7	Input8	Reading Reading: Matrix Size 8x8 success Reading: Matrix Route success	^
	Output2 Output3	2									Reading: Input Board1 -> Signal Type success Reading: Input Board2 -> Signal Resolution succes Reading: Input Board2 -> Signal Type success	ss
	Output4 Output5 Output6	• 4 • 5 • 6										Ţ
	Output7 Output8	• 7 • 8										
ŕ	Allset Input1	•	Reca	all Mod	e1 •	Sa	veAs Mo	de1		EDID		
	OUARI O	Network	Port	COM	5 🔻	Sta	atus Co	onnected		Reset		
	Device Name		IP Add	ress		MA	C Addre	55	Ver	sion		
	USR-K3		192.16	8.0.247		D8	B0 4C B	9 47 DF	301	3		
				Ű,	Search	Device						

• Connection via LAN

Control steps as follows:

- 1. Connect the PC and the device to a same network router
- 2. Setting up the IP address of the PC. Either manual(Static) mode or automatic (DHCP) mode

is ok. Just make sure the IP address of the PC and the device are in a same network

segment (When the IP type is obtain automatically, the network router that PC and device

connected to should support HDCP function)

- 3. Run the PC control software (If the IP address of the PC changed after running the software, you should close it and run it again)
- 4. Click to switch "Ctrl Mode" to "Network"
- 5. Click the "Search Device" button
- 6. Click the device you want to control in the result list (When you click it, the software will read the network configuration such as network port and so on of the device automatically)
- 7. Click the 'Disconnected' button (which is right to "Status") to connect to the device
- 8. If connected successfully, "Status" button will show "Connected"
- 4.3.3 Configure the network module of the device
- 1. Configuration via UART

Step A: Connected to the device via serial port cable at "Matrix Route" page.



Setp B: Switch to "Network setting" page

Setp C: Click "Find via UART" button to read the configuration of the device

Setp D:Modify the IP address or the IP address type

Step E:Click the "Save Config" button to save modification

Setp F:When the software shows a message of "Success", Click "Find Via UART" to load

configuration again to make sure your modification is saved successfully.

x Switch   Signal Se	tting FineTune:PQ&Positi	on OSD CTRL TV	Wall Network Setting			
				Select config port		
Search List (Click	device to load configuration	on)		Port 0  Port 1	O Port 2	
Device Name	IP Address	MAC Address	Version	Baud Rate	9600	•
USR-K3	STATIC,192.168.0.247	D8 B0 4C B9 47	DF V1.1.0		None v 8 v	1 -
				Matrix-PC-tool-vX.X.X	×	*
	Course Davies On an We	Later The date 1140	T	success		
	Search Device Open we	Find Via UA	<u>.</u>		8.0.201	
Basic config					erver	*
UPNP Port	432	Device Name US	R-K3	确定		*
HTTP Port	0	MAC Address D8	B0 4C B9 47 DF	TCP Server style	Transparent transm	nis: •
		IP Type Sta	atic IP 👻	ModbusTCP	None	*
Device ID		Static IP 19	92.168.0.247	Package time(ms)	0	
Device ID 1 Device ID Type 0				Package Length(Byte)	0	
Device ID 1 Device ID Type 0 User Name a	dmin	Subnet Mask 25	55,255,255,0			
Device ID 1 Device ID Type 0 User Name a Password a	dmin dmin	Subnet Mask 25 Gateway 19	92,168,0,1	✓ Sync BaudRate(RFC2	217 similar)	

2. Configuration via Network

Setp A: Switch to Ctrl Mode to "Network" page

- Setp B: Click the "Search Device" button to search devices
- Setp C: Click the device you want to configure in the result list (When you click

it, the software will read the network configuration of the device

automatically)

- Setp D: Modify the IP address or the IP address type or other configuration.
- Step E: Click the 'Save Config' button to save data

Step F: When the tool shows message with "Success", Click "Search Device" button to search and load configuration again to make sure your modification savedsuccessfully

Search List (Click	device to load configu	iration)		Select co	nfig port O Port 1	O Port 2		
Device Name	IP Address	MAC Addre	ss Version	Baud Rat		9600	-	
USR-K3	192.168.0.247	D8 B0 4C D	0 21 57 3013	Parity/Da	a Bit/Stop Bit	None v 8	· 1 ·	
			Matrix-PC-	tool-vX.X.XXX	×	None		
					_	23		
				Save Config: success!		23		
	Search Device Open	Website Find via		0				
			UART			192.168.0.201		
Basic config						192.168.0.201 TCP Server		
Basic config	5432	Device Name	USR-K3	确定		192.168.0.201 TCP Server 8		
Basic config UPNP Port [ HTTP Port [	5432	Device Name MAC Address	USR-K3 D8 B0 4C D0 21 57	确定 TCP Serve	ct cou	192.168.0.201 TCP Server 8 Transparent tra	v v insmise v	
Basic config UPNP Port [ HTTP Port [ Device ID [	5432] 80] 1]	Device Name MAC Address IP Type	USR-K3 D8 B0 4C D0 21 57 Static IP	通定 TCP Server ModbusT	er style	192.168.0.201 TCP Server 8 Transparent tra None	v Insmis: v	
Basic config UPNP Port [ HTTP Port [ Device ID [ Device ID Type]	5432	Device Name MAC Address IP Type Static IP	USR-K3 D8 B0 4C D0 21 57 Static IP 192, 168, 0, 24	确定 TCP Serv ModbusT 7 Package	r style CP	192.168.0.201 TCP Server 8 Transparent tra None	v insmis: v	
Basic config UPNP Port [ HTTP Port [ Device ID [ Device ID Type ] User Name [	5432 80 1 0	Device Name MAC Address IP Type Static IP Subnet Mask	USR-K3 D8 B0 4C D0 21 57 Static IP 192, 168, 0, 24 255, 255, 255, 0	→ TCP Serva → Modbus1 7 Package Package	r style CP cme(ms) cenath(Byte)	192.168.0.201 TCP Server 8 Transparent tra None 0	* * insmis: *	

NOTE:

- 1. Select the device, will display the matrix's network board information. User can edit the device' s name, in order to better identify matrix. User can set dynamic IP/ static IP, subnet mask, gateway and other network information. At the same time, user can also set the device port. Serial port baud rate is 9600 (the user cannot change the baud rate, otherwise it will lead to the network control failed).
- 2. Configuration via UART only support modify IP address or IP address type. If you want to modify other configuration, please configure it via Network

Matrix-PC-to	ool-vX.X.)	кXX			-43		article	(mark)	m1+		
Matrix Switch	Signal S	etting F	ineTune:	PQ&Posi	tion OS	D CTRL	TV Wall	Netwo	rk Setting		English 🔻
Input Output Name	Name	Input1	Input2	Input3	Input4	Input5	Input6	Input7	Input8	Reading Reading: Matrix Size 8x8 success	^
Output1	• 1									Reading: Matrix Route success Reading: Input Board1 ->Signal Type success	
Output2	0 2		_					_		Reading: Input Board1 -> Signal Resolution success	
Output3	03									Reading: Input Board2 ->Signal Type success Reading: Input Board2 ->Signal Resolution success	
Output4	04										
Output5	05										
Output6	0.0										-
Output7											
Output8	<u> </u>										
Allset Input1	•	Reca	all Mod	e1 🔻	Sa	veAs Mo	de <mark>1</mark>		EDID		
Ctrl Mode		٦	_			_		1			
O UART O	Network	Port	COM	5 🔻	St	atus Co	onnected		Reset		
Device Name		IP Add	lress		MA	AC Addre	ss	Ve	rsion		
USR-K3		192.16	8.0.247		D8	B0 4C B	9 47 DF	30	13		
				Search	Device						

#### • 4.3.4 Matrix Switch

When the PC-tool connect to the matrix via UART or Network, the PC-tool will display the matrix' s input and output information.

- User can click the mouse to switch the input; Can edit the input source name (for example, the user can edit the input 1 name to set-top box); Can also edit the output name to show which sink is connected (for example, the output 1 users can edit the name to TV)
- Support scene save (the user can pull down the corresponding drop-down menu, to save the current input and output relationship to mode X, support 8 different modes)
- 3. Support scene recalls (the user can drop down the corresponding drop-down menu, to set the mode X input and output relationship to the matrix)
- 4. Support one input output to all outputs(the user can drop down the "Allset" drop-down menu, to set the input X output to all the output ports)
- 5. Support system reset: click "Reset" button, after the user confirmed, then will reset the matrix to the factory default settings

### • 4.3.5 Signal Setting

Ma	trix PC tool	-v1.0.620									X
Matrix	Switch Signal	Setting FineTune	PQ&Position	OSD CTRL TV Wall	UART	Setting	Network Set	ting			
[-Input	Board Rea	ad All				T <sup>Outpu</sup>	it Board-Rea	ad All			
Label	Input Type	Input Format	Output Type	Output Format		Label	Input Type	Input Format	Output Type	Output Format	
1		No Signal	HDMI	<b></b>	Read	1	HDMI	3840x2160p60	HDMI 🔻	1920x1080p60 -	Read
2	HDMI 🔻	No Signal	HDMI	<b></b>	Read	2	HDMI	3840x2160p60	HDMI 🔻	1920x1080p6C 🔻	Read
3	<b>•</b>			•	Read	3				<b></b>	Read
4	<b>•</b>			<b></b>	Read	4			<b>•</b>	<b></b>	Read
5	HDMI 🔻	No Signal	HDMI	•	Read	5	HDMI	3840x2160p60	HDMI 🔻	1920x1080p6C 🔻	Read
6	HDMI 🔻	No Signal	HDMI	•	Read	6	HDMI	3840x2160p60	HDMI 🔻	1920x1080p6C 🔻	Read
7	HDMI 🔻	No Signal	HDMI	•	Read	7	HDMI	3840x2160p60	HDMI 🔻	1920x1080p6C 🔻	Read
8	HDMI 🔻	No Signal	HDMI	•	Read	8	HDMI	3840x2160p60	HDMI 🔻	1020x1080p6C V	Read
				<u></u>						$\overline{\mathbf{\nabla}}$	

Only the red field can be changed for different output resolution, others are only for read

#### • 4.3.6 EDID control

```
Click the 'EDID' button on "Matrix Switch" page, open EDID control Window
```

(C) 1	02	62	01	05	06	07	00	
01	02	03	04	05	00	07	0.	
						Save	Read	
EDID	Write P	ort (inpu	it)			No.	iding: inpu	
01	02	O 3	<b>0</b> 4	<b>5</b>	06	⊚ 7	08	
						Open	Write	
006	_	_	_	_			100%	
0.00			-				100%	
e	0 01 0	2 03 04	05 06	07 08	09 0A	0B 0C 0	D ØE ØF	
aa [								
10								
20								
20								
30								
30 40								
30 40 50								
30 40 50 60								
30 40 50 60 70 80								
30 40 50 60 70 80 90								
30 40 50 60 70 80 90 A0								
30 40 50 60 70 80 90 A0 80								
30 40 50 60 70 80 90 A0 B0 C0								
30 40 50 60 70 80 90 A0 B0 C0 D0								
30 40 50 50 50 70 30 30 30 30 30 30								

- 1. Read EDID: Select the output port, then click the "Read " button to read EDID
- 2. Write EDID: First read a EDID from output port, or open a EDID file that saved before, then select the input port, and click the "Write" button to write EDID
- 3. Save EDID: After reading EDID successfully, Click "Save" button, and select the save path and file name for saving.
- 4. EDID Manual: The written EDID above will be as the manual EDID data. When user select EDID mode with Manual mode by front panel for one input port, matrix system will use this data as the EDID data for the port

### 5. Control via Web

 If do not know the matrix IP address: Click on the Network Settings page, and then click Search Device, and then select the device that found, click Open Website to open the web control web site, or can input the IP on the web browser, then enter the username: admin Password: admin, then can control the matrix switch function use the website; NOTE: The computer IP and matrix IP must be in the same segment and the same local area network; For example, the matrix' s IP is 192.168.1.xxx, then the computer IP must be 192.168.1.yyy; Otherwise need to change the matrix' s IP or the computer's IP. The browser must support HTML5 feature, which must be IE10 and above.

<b>b</b>				Select config port	
Search List (Click	device to load configur	ation)		Port 0 OPort 1	O Port 2
Device Name	IP Address	MAC Address	Version	Baud Rate	9600 -
USR-K3	192.168.0.247	D8 B0 4C B9 4	47 DF 3013	Parity/Data Bit/Stop Bit	None • 8 • 1 •
				Stream Control	None 👻
				Device Port	23
6	Coarsh Davisa	Nobeita Find via II	APT	PC Port	23
ť	Open (	rind via o		PC IP/Domain	192.168.0.201
Basic config				Work Mode	TCP Server 🔻
UPNP Port 6	432	Device Name	JSR-K3	TCP Server connect cou	8 *
HTTP Port	0	MAC Address	08 B0 4C B9 47 DF	TCP Server style	Transparent transmis: *
Device ID 1		IP Туре	itatic IP 👻	ModbusTCP	None 🔻
		Static IP	192,168,0,247	Package time(ms)	0
Device ID Type	dmin	Subnet Mask	255.255.255.0	Package Length(Byte)	0
Device ID Type 0 User Name a	umm				
Device ID Type 0 User Name a Password a	dmin	Gateway	192.168.0.1	Sync BaudRate(RFC22	21/ similar)

• If the matrix IP address is known: Input the IP on the web browser, then enter the username: admin Password: admin, then can control the matrix switch function use the website;

Note: the browser must support HTML5 feature, which must be IE10 and above

# 6. Electrical parameters

Electrical parameter		
Interface	HDMI-A	
HDMI /DP /VGA Version	HDMI2.0,HDCP2.2	
Bandwidth	18Gbps	
Video Resolution		
	800x600@60Hz,1024x768@60Hz,	
	1280x768@60Hz,1280x800@60Hz,	
	1280x1024@60Hz,1360x768@60Hz,	
	1366x768@60Hz,1400x1050@60Hz,	
Input	1440x900@60Hz,1600x1200@60Hz,	
	1680x1050@60Hz, 1920x1200@60Hz.	
	480p,576p,720p,1920x1080i,1920x1080p,	
	3840x2160@24Hz/25Hz/30Hz/50Hz/60Hz,	
	4096x2160@24Hz/25Hz/30Hz/50Hz/60Hz.	
Output	1920x1080@60Hz, 3840x2160@30Hz,	
	3840x2160@60Hz, 1280x720@60Hz,	
	1024x768@60Hz, 1360x768@60Hz,	
	1600x1200@60Hz, 1920x1200@60Hz,	
HDMI Amplitude	T.M.D.S +/- 0.4Vpp	
Differential impedance	100±15ohm	
RS232/Ethernet control		
Baud rate and protocol	Baud rate: 9600, data bit: 8,	
	stop bit: 1,no parity checking	
Ethernet	IE10.0+,HTML5	
Power		
Max Consumption	100W, 110-240VAC	
Matrix Mechanical dimensions		
Size(mm)	430(L)X300(W)X44 (H)	
Weight	5Kg	
Other		
Operating temperature	0 to 40°C	
Storage temperature	-20 to 70°C	
Permissible humidity	10%-50%	

## 7. Package Contents

Item	Quantity
UHD-808VW unit	1
UHD-808VW User Manual	1
Bracket	0
AC Power Cord	1