

BZ-MVS8x8-4K

8x8 Seamless UHD Matrix





- 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

BZ-MVS8x8-4K is a 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.

Key Features:

- Supports HDMI 2.0/HDCP 2.2
- Supports seamless switching
- Supports IR matrix
- Supports HDMI audio extract
- Supports external LR audio insert on HDMI stream
- Supports 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 options:

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

Baud rate 9600



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							_	
1atrix Switch	Signal S	etting F	ineTune:	PQ&Posi	tion OS	D CTRL	TV Wall	Netwo	rk Setting	Engli
Input Output Name		Input1	Input2	Input3	Input4	Input5	Input6	Input7	Input8	
Output1	01									
Output2	0 2									
Output3	03									
Output4	<u></u> 4									
Output5	• 5									
Output6	06									Note: Please WAIT unit! all info reading success!
Output7 Output8	78									
Allset Input1 Ctrl Mode – O UART O	• Network	٦	all Mod	e1 •		veAs <mark>Mo</mark> atus <mark>Dis</mark>	ode1 ·	•	EDID Reset	
Device Name	,	 IP Add	ress		MA	C Addre	\$5	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"



The UI after connected successfully will be as follows:

	Name	Input1	Input?	Input?	Input/	Input5	Input6	Input7	Input9	Reading
Output Name		01	2	3	• 4	S 10 10 10 10 10 10 10 10 10 10 10 10 10	6	 7 	B	Reading: Matrix Size 8x8 success
Output1	01									Reading: Matrix Route success Reading: Input Board1 ->Signal Type success
Dutput2	0 2									Reading: Input Board1 ->Signal Resolution success
Output3	0 3									Reading: Input Board2 ->Signal Type success
Output4	0 4									Reading: Input Board2 ->Signal Resolution success
Output5	05									
Dutput6	06									· · · · · · · · · · · · · · · · · · ·
Output7	07									
Output8	08									
llset Input1	•	Reca	all Mod	e1 🔻	Sa	veAs Ma	de1 •		EDID	
Ctrl Mode		_								
	Network	< Port	COM	15 -	Sta	atus Co	onnected		Reset	
		_								
Device Name		IP Add	ress		MA	C Addre	55	Ver	rsion	

- 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-	tool-vX.X.>	xx						Ber 241				- 0 X
Matrix Switch	Signal S	etting F	ineTune:	:PQ&Posi	tion OS	D CTRL	TV Wall	Networ	rk Setting			English 👻
Inpu Output Nam		Input1	Input2	Input3	Input4	Input5	Input6	Input7	Input8	F	Reading Reading: Matrix Size 8x8 success	^
Output1	01										Reading: Matrix Route success Reading: Input Board1 ->Signal Type success	
Output2	0 2									F	Reading: Input Board1 ->Signal Resolution succe	ss
Output3	03										Reading: Input Board2 ->Signal Type success Reading: Input Board2 ->Signal Resolution succe	
Output4	04										Reading, input boardz -> signal Resolution succe	
Output5	05											
Output6	0 G											、
Output7 Output8	08											
Outputo				·				·				
Allset Input	1 -	Reca	all Mod	le1 🔻	Sa	veAs Mo	del ·	-	EDID			
Ctrl Mode		٦										
O UART	Network	Port	CON	15 👻	St	atus Co	onnected		Reset			
Device Nam		IP Add	1055		M	C Addre		Ve	rsion			
USR-K3	le		8.0.247			B0 4C B		30				
		102110				20 10 0						
				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.

	Setting FineTune:PQ&Posit	on OSD CTRL TV Wal	Network Setting					
2				Selec	t config port			
Search List (Clic	k device to load configurat	ion)		Por	rt 0 🔿 Port 1	O Port 2		
Device Name	IP Address	MAC Address	Version	Baud	Rate	9600	Ŧ	
USR-K3	STATIC,192.168.0.247	D8 B0 4C B9 47 DF	V1.1.0	Parity,		None 🔻	8 • 1 •	
				Matrix-	PC-tool-vX.X.X	×	Ŧ	
]
								1
		L S CL L L LUNDT			success			
	Search Device Open We	bsite Find via UART			success	8.0.20	1]
Basic config	Search Device Open We	bsite Find via UART			success	8.0.20	1]
Ŭ	Search Device Open We	bsite Find via UART	3		success 确定	erver	1]]]
Ŭ		Device Name USR-K	3 4C B9 47 DF			erver	v v]]]
UPNP Port	6432	Device Name USR-K	4C B9 47 DF	TCP S Modb	确定 erver style	rver	v v]]]]
UPNP Port HTTP Port	6432 80 1	Device Name USR-K3 MAC Address D8 B0 IP Type Static I	4C B9 47 DF	Modb	确定 erver style	Transparent	v v]]]]
UPNP Port HTTP Port Device ID	6432 80 1	Device Name USR-K3 MAC Address D8 B0 IP Type Static I Static IP 192, 1	4C B9 47 DF	Modb Packa	确定 erver style pusTCP	Transparent None	v v]]]]]
UPNP Port HTTP Port Device ID Device ID Type	6432 80 1 0	Device Name USR-K3 MAC Address D8 B0 IP Type Static I Static IP 192, 1 Subnet Mask 255, 2	4C B9 47 DF IP • 168 0 ,247	Modb Packa Packa	确定 enver style busTCP ge time(ms)	Transparent None 0	v v	

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 saved successfully

				Select config	port			
Search List (Click o	device to load configur	ation)		Port 0	Port 1	O Port 2		
Device Name	IP Address	MAC Addres	s Version	Baud Rate		9600	-	
USR-K3	192.168.0.247	D8 B0 4C D0	21 57 3013	Parity/Data Bit	/Stop Bit	None - 8	- 1 -	
			Matrix-PC-to	ool-vX.X.XXX		None	•	
					1	23		
	Search Davise Onen V	Malasta Etad da I		ave Config: success!		23		
2	Search Device Open V	Website Find via U	UART S	ave Config: success!		23		
Basic config	Search Device Open V	Nebsite Find via U						
Basic config	Search Device Open V		USR-K3	ave Config: success! 确定	ct cou	192.168.0.201 TCP Server		
Basic config	432	Device Name				192.168.0.201 TCP Server	→ → ansmis: →	
Basic config	432	Device Name [MAC Address [USR-K3	确定		192.168.0.201 TCP Server 8	ansmis: T	
Basic config UPNP Port 64 HTTP Port 80	432	Device Name [MAC Address [USR-K3 D8 B0 4C D0 21 57	确定 TCP Server sty	le	192.168.0.201 TCP Server 8 Transparent tra	v v ansmis: v	
Basic config UPNP Port 64 HTTP Port 80 Device ID 1 Device ID Type 0	432	Device Name (MAC Address IP Type	USR-K3 D8 B0 4C D0 21 57 Static IP	确定 TCP Server sby ModbusTCP	le ms)	192,168.0.201 TCP Server 8 Transparent tra None	ansmis: *	

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.

• 4.3.4 Matrix Switch

Matrix Switch Signal	Setting FineTune:	PQ&Posit	tion OS	D CTRL	TV Wall	Netwo	k Setting	English
Input Name Output Name Output1 Output2 Output3 Output4 Output5 Output6 Output8 Output8 Allset Input1	Input1 Input2 Input1 Input2 I I Input2 I I Input1 Input1 Input2 I	3	4	Input5	6	Input7	Input8 8	Reading ^ Reading: Matrix Size &x8 success
O UART O Netwo Device Name	rk Port COM	15 👻		atus Co	onnected		Reset	
USR-K3	192.168.0.247			B0 4C B		30		
		Search I	Device					

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

- 1. 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).
- 2. 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

latrix	Switch Sign	al Setting FineTune	e:PQ&Position	OSD CTRL TV Wall	UART	Setting	Network Set	ting			
Input	Board-R	ead All				Outpu	t Board-Rea	ad All			
Label	Input Type	Input Format	Output Type	Output Format		- · ·	Input Type	Input Format	Output Type	Output Format	
1	HDMI -	No Signal	HDMI	•	Read	1	HDMI	3840x2160p60	HDMI 🔻	1920x1080p6C 🔻	Rea
2	HDMI -	No Signal	HDMI	•	Read	2	HDMI	3840x2160p60	HDMI -	1920x1080p6C 🔻	Rea
3				•	Read	3			-		Rea
4				•	Read	4				•	Rea
5	HDMI -	No Signal	HDMI	•	Read	5	HDMI	3840x2160p60	HDMI -	1920x1080p6C 🔻	Rea
6	HDMI	No Signal	HDMI	•	Read	6	HDMI	3840x2160p60	HDMI 🔻	1920x1080p6C 🔻	Rea
7	HDMI -	No Signal	HDMI	•	Read	7	HDMI	3840x2160p60	HDMI -	1920x1080p6C 🔻	Rea
8	HDMI	No Signal	HDMI	•	Read	8	HDMI	3840x2160p60	HDMI -	1020x1080p6C 🔻	Rea
										\checkmark	_

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

• 4.3.6 EDID control

Click the	'FDID'	hutton on	"Matrix Switch"	nage	onen FDID	control	Window
		Dullon on		page,	Open EDID	CONTROL	VVIIIUOVV

EDID		TV Wall	Netwo	rk Setti	na			x
EDI	D Read Po	ort (outp	uit) out7.					
	O 2			S	© 6	⊚ 7	© 8	it Board It Board
						Save	Read	it Board
-EDI	D Write Po	ort (inpu	t)			Ke	adings inpu	ut Boars
01	© 2	3	0 4	© 5	© 6	⊚ 7	© 8	
						Open	Write	
0%							100%	
	00 01 0	0 0 2 04	05 06	07 09	00 01	AR AC A		
00	00 01 0.	2 05 04	05 00	07 00	05 04	00 00 0		
10	veAs Moo							
20 30								
40 50	atus Co							
60								
70 80	C Addres							
90								
A0 B0								
C0 D0								
UAREØ								
FØ								

- 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.

L.					Select config port		
Search List (Click o	device to load configur	ation)			Port 0 Port 1	O Port 2	
Device Name	IP Address	MAC Addres	s Versi	on	Baud Rate	9600 👻	
USR-K3	192.168.0.247	D8 B0 4C B9	47 DF 3013		Parity/Data Bit/Stop Bit	None • 8 • 1 •	
					Stream Control	None	
					Device Port	23	
6	earch Device Open \	Vebsite Find via l	IART		PC Port	23	
Ľ	open i	Tind via t			PC IP/Domain	192.168.0.201	
Basic config					Work Mode	TCP Server 👻	
UPNP Port 64	132	Device Name	USR-K3		TCP Server connect col	8 -	
		MAC Address	D8 B0 4C B9 4	7 DF	TCP Server style	Transparent transmis: *	
HTTP Port 80)						
)	IP Туре	Static IP	•	ModbusTCP	None 🔻	
HTTP Port 80		IP Type Static IP	Static IP 192,168, 0	. 247	ModbusTCP Package time(ms)	None 👻	
HTTP Port 8 Device ID 1 Device ID Type 0) Jmin						
HTTP Port 8 Device ID 1 Device ID Type 0 User Name 8		Static IP	192 168 0	5.0	Package time(ms)	0	

• 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) X 300 (W) X 44 (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
BZB-MVS8x8-4K unit	1
User Manual	1
Bracket	0
AC Power Cord	1

8. Mission Statement

BZB Gear manifests from the competitive nature of the audiovisual industry to innovate while keeping the customer in mind. AV solutions can cost a pretty penny, and new technology only adds to it. We believe everyone deserves to see, hear, and feel the advancements made in today' s AV world without having to break the bank. BZB Gear is the solution for small to medium-sized applications requiring the latest professional products in AV.

We live in a DIY era where resources are abundant on the internet. With that in mind, our team offers system design consultation and expert tech support seven days a week for the products in our BZB Gear catalog. You' II notice comparably lower prices with BZB Gear solutions, but the quality of the products is on par with the top brands in the industry. The unparalleled support from our team is our way of showing we care for every one of our customers. Whether you' re an integrator, home theater enthusiast, or a do-it-yourselfer, BZB Gear offers the solutions to allow you to focus on your project and not your budget.

9. Warranty Information

BZB Gear | Second Year Assurance

BZB Gear wants to assure you peace of mind. We're so confident in the quality of our products that along with the manufacturer's one-year limited warranty, we are offering free second-year warranty coverage upon registration*.

Taking advantage of this program is simple, just follow the steps below:

1. Register your product within 90 days of purchase by visiting BZBGear.com/warranty.

2. Complete the registration form. Provide all necessary proof of purchase details, including serial number and a copy of your sales receipt.

For questions, please call 1.888.660.2962 or email support@bzbgear.com.

For complete warranty information, please visit BZBGear.com/warranty or scan the QR code below.



*Terms and conditions apply. Registration is required.