

BG-4K-VP88

**4K60Hz HDMI 8X8 Seamless Matrix
Video Wall / Multi-Viewer**

User Manual

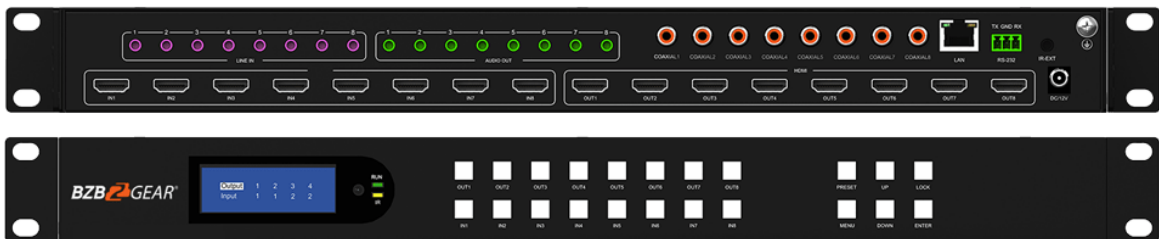






TABLE OF CONTENTS

Statement	4
Safety Precaution	4
Introduction	5
Features	5
Packing List	5
Specifications	6
Operation Controls and Functions	6
OSD Information	7
Video Wall Mode	19
Multi-Viewer Mode	22
Audio Description	26
WEB GUI	26
Remote Control	32
HDCP	33
Factory Default Setting	33
Tech Support	34
Warranty	34
Mission Statement	35
Copyright	36



Statement

Please read these instructions carefully before connecting, operating, or configuring this product. Please save this manual for future reference.

Safety Precaution

- To prevent damaging this product, avoid heavy pressure, strong vibration, or immersion during transportation, storage, and installation.
- The housing of this product is made of organic materials. Do not expose to any liquid, gas, or solids which may corrode the shell.
- Do not expose the product to rain or moisture.
- To prevent the risk of electric shock, do not open the case. Installation and maintenance should only be carried out by qualified technicians.
- Do not use the product beyond the specified temperature, humidity, or power supply specifications.
- This product does not contain parts that can be maintained or repaired by users. Damage caused by dismantling the product without authorization from BZBGear is not covered under the warranty policy.
- Installation and use of this product must strictly comply with local electrical safety standards.



Introduction

BG-4K-VP88 is a 4k60hz HDMI 2.0 Seamless Matrix with 8 hdmi inputs and 8 hdmi outputs supports Multi-viewer & Video wall

Control way: TCP / IP, RS232, Remote controller or Panel buttons

Application: The matrix has the ability to equalize and amplify to ensure that HDMI signal transmitted without loss of quality. Providing solutions for digital entertainment centers, HDTV retail and display websites, HDTV, set-top boxes, DVD and projector factories, noise, space and security issues, Solutions for data center control, information distribution, conference rooms, school and enterprise training environments.

Features

- 8 x HDMI Inputs and 8 x HDMI Outputs
- Supports HDMI 2.0 4K60Hz YUV 4:4:4 up to 18Gbps
- Supports Seamless Matrix switching, Multi-viewer, Video wall function
- Supports HDCP 1. x / 2.2
- Supports TCP/IP, RS232 Commands, IR and Panel buttons control
- Supports EDID management and USB firmware upgrade
- Analog audio extraction, and the audio can be independently switching
- Supports PCM2.0 analog audio embedded
- 1U Rack design with rack ears and using black buttons

Packing List

- 1x Main Unit (8x8 HDMI Matrix)
- 1x DC 12V/3A power adapter
- 1x Remote control
- 1x Wide-Band IR Receiver cables
- 1x CD for user manual & Command list
- 1x 3 Pin Phoenix terminal plug



Specifications

HDMI Ports	16x HDMI Type A 19 pin, HDMI 2.0b Standard
HDMI Audio	LPCM 5.1, DTS 5.1, Dolby 5.1
HDMI Resolution	4K60/50/30/25/24hz 1080P60/50/30/25/24hz 720P60/50/30hz
HDMI Version	HDMI 2.0b/HDCP1.4/2.2
Max Resolution	4K60Hz (4:4:4)
Data Speed	18Gbps (6Gbps per color)
Clock	600Mhz
Color space	RGB, YUV 4:4:4, 4:2:2
Bit	8bit, 10bit, 12bit
Distance	HDMI 2.0 (4K60) Input≤10m / Output≤10m, 4K30/1080P input≤15m / Output≤15

Operation Controls and Functions

Front Panel



No.	Name	Function Description
1	LCD Screen	192*64-LCD Screen for showing the running data like HDMI Matrix switch in for and menu setting
2	Output 1~8	Black button for Matrix switching, Long press means all selected
3	Input 1~8	Black button for Matrix switching, Long press means all selected
4	Preset	Easy for preset calling
5	UP	Function button: UP
6	Lock	Press over 1s, panel button will be locked Re-press to unlock
7	Menu	Function button: Menu
8	Down	Function button: Down
9	Enter	Function button: Enter
10	IR Ext	Build in IR Receiver
11	Power Indicator	showing the working data
12	IR Indicator	IR feedback indicator to receive the Remote controller command



Rear Panel



No.	Name	Function Description
1	Audio Embedded 1~8	3.5MM ports, Sampling Rate: 32K~192Khz
2	Audio Extraction 1~8	3.5MM ports, Sampling Rate: 32K~192Khz
3	SPDIF Extraction 1~8	Coaxial Port, Sampling Rate: 32K~192Khz
4	RS232 Port	3PIN Phoenix port: TX - GND - RX
5	IR EXT	3.5mm ports, supports 38~52Khz frequency
6	LAN Port	WEB GUI Control
7	HDMI Inputs 1~8	A type 19 PIN-HDMI Port
8	HDMI Outputs 1~8	A type 19 PIN-HDMI Port
9	Power	AC110V~240V

OSD Information

Signal switching includes 8 switching channels, which can be configured as input/output according to requirements to form a matrix of 1x8 ~ 8x8.

It can switch any input signal to the outputs

Operation format: “output channel” + “input channel”

Output	1	2	3	4	5	6	7	8
Input	1	2	3	4	5	6	7	8

Main menu including 5 Modes: Output, Input, Preset, Config, Info





Output including 9 sub-menu : output1~8 & all, each channel with video, audio, power options

```

Main > Output >
1 / 5           1 / 3
Output 1 >    Video >
Output 2 >    Audio >
Output 3 >    Power >
Output 4 >
All >
    
```

Video with 10 options : source, onoff, pattern, format, genlock, mirror, coord, PIP, wall, image

```

Main > Output > Output 1 >
1 / 3           1 / 10
Video >        Source >
Audio >        Onoff >
Power >        Pattern >
                   Format >
                   Genlock >
    
```

Audio with 4 options : HDMI onoff, HDMI SRC, DEC onoff, DEC SRC to control the audio switching, turn on or off

```

Main > Output > Output 1 >
2 / 3           1 / 4
Video >        HDMI On . . >
Audio >        HDMI SRC >
Power >        DEC Onoff >
                   DEC SRC >
    
```




Power for turn on or off the HDMI Output 5V

```
Main > Output > Output 1 >
3 / 3          2 / 2
Video         > Off
Audio         > On      @
Power         >
```

Input with video, audio, EDID options

```
Main >
2 / 5          1 / 5
Output         > Input 1      >
Input         > Input 2      >
Preset        > Input 3      >
Config        > Input 4      >
Info          > All          >
```

```
Main > Input >
1 / 5          1 / 3
Input 1       > Video       >
Input 2       > Audio       >
Input 3       > EDID       >
Input 4       >
All           >
```



Video with On off and Pattern option, Pattern is using to replace the picture of the signal

```

Main > Input > Input 1 >
1 / 3          1 / 2
Video >       On off >
Audio >       Pattern >
EDID >
    
```

Audio delay range (0~50, auto), Default setting: auto

```

Main > Input > Input 1 >
2 / 3          1 / 1
Video >       Delay >
Audio >
EDID >
    
```

EDID Including Build-in EDID, User EDID, Copy EDID, Temp, Default setting is using: Default1

Modify on, After copying the TVs EDID, the audio parameters are automatically changed to LPCM2.0. If turn off, The copied EDID will not modify the audio parameters

Default1	4K60 444-LPCM: 2.0-192Khz	Default2	4K60 420-LPCM: 2.0-192Khz
Default3	4K30 444-LPCM: 2.0-192Khz	Default4	1080P120 444-LPCM: 2.0-192Khz

```

Main > Input > Input 1 >
3 / 3          1 / 2
Video >       Copy >
Audio >       Modify . . >
EDID >
    
```



```

Main > Input > Input 1 > EDID >
1 / 2          11 / 13
Copy          > User 3
Modify      . . > User 4
              Output 1
              Output 2
              Output 3      @

```

```

Main > Input > Input 1 > EDID >
2 / 2          2 / 2
Copy          > Off
Modify au >   On      @

```

Preset can save the current video, audio, EDID and system settings, supports 8 different scenes. Preset can be modified and called using WEB, commands and panel. The default preset is consistent with its factory settings. There are 4 options as follow:

- **Clear:** Remove the selected preset.
- **Save:** Stores the current preset (can be covered).
- **Call:** Activates the currently selected preset.
- **Demo:** Plays the demo according to the scenes sequence.

```

Main >
3 / 5          1 / 4
Output        > Clear      >
Input         > Save       >
Preset       > Call       >
Config       > Demo       >
Info         >

```



```

Main > Preset >
2 / 4          2 / 2
Clear >      Mode >
Save >       Scene >
Call >
Demo >
    
```

```

Main > Preset > Clear >
2 / 2          1 / 9
Mode >        Scene 1 @
Scene >       Scene 2
              Scene 3
              Scene 4
              Scene 5
    
```

Demo:

Timer can set the demo's switching time

Select function for selecting the demo modes

```

Main > Preset > Demo >
1 / 2          10 / 10
Timer >        1 M
Select >       1 M 30 S
              2 M
              3 M
              Endless @
    
```

```

Main > Preset > Demo >
2 / 2          1 / 27
Timer >        S - P 2 P >
Select >       S - Input 1 >
              S - Input 2 >
              S - Input 3 >
              S - Input 4 >
    
```



Network, RS-232, LCD, OSD, MENU, user EDID, system setting page

```

Main >
4 / 5          1 / 7
Output >      Network >
Input  >      RS - 232 >
Preset >      LCD >
Config >      OSD >
Info   >      Menu >
    
```

DHCP, IP, mask, gateway, port, Mac page. Default IP: 192.168.1.168

```

Main > Config > Network >
1 / 6          1 / 2
DHCP >        No @
IP >          Yes
MASK >
Gateway >
Port >
    
```

TCP/UDP default Port: TCP 5000, UDP 5001

```

Main > Config > Network > Port >
1 / 2          5000 / 65534
TCP >         5000 @
UDP >         5001
                5002
                5003
                5004
    
```



```

. . . >> Network > Port > TCP >
5000 / 65534
5000 @ DHCP : Off
5001 IP : 192 . 168 . 0 . 57
5002 MASK : 255 . 255 . 255 . 0
5003 GW : 192 . 168 . 0 . 1
5004 MAC : 4658 - 4E9E - 0A6B
    
```

```

Main > Config >
2 / 7          1 / 4
Network > Baud >
RS - 232 > Data >
LCD > Stop >
OSD > Parity >
Menu >
    
```

```

Main > Config > RS - 232 >
1 / 4          6 / 6
Baud > 9600
Data > 19200
Stop > 38400
Parity > 57600
          115200 @
    
```

LCD setting with Bright level and off timing setting

```

Main > Config >
3 / 7          1 / 2
Network > Bright >
RS - 232 > Timer >
LCD >
OSD >
Menu >
    
```



```

Main > Config > LCD >
1 / 2          9 / 9
Bright >      4
Timer >       5
               6
               7
               8
               @
    
```

```

Main > Config > LCD >
2 / 2          6 / 1 1
Bright >      3 0 S
Timer >       1 M
               1 M 3 0 S
               2 M
               3 M
    
```

There are 4 options in OSD: User, Time, Menu, Info.

User indicates the output coordinate time of OSD.

Time indicates the running time after the device is powered on.

Menu indicates that the LCD is mapped to the TV.

INFO indicates the displayed time of audio and video information.

When the parameter is set to 0 seconds, OSD display is turned off. By default, User and time are endless, menu and INFO are 30 seconds

```

Main > Config >
4 / 7          1 / 4
Network >     User >
RS - 2 3 2 >  Time >
LCD >         Menu >
OSD >        Info >
Menu >
    
```



Timer means back to menu page time, default for 30s

Select Run indicates whether the confirm button of the last sub-menu is enabled.

If it is set to disable, you need to press “ENTER”. If it is set to enable, you do not need to press “ENTER”

```

Main > Config >
5 / 7           1 / 2
Network >      Timer >
RS - 232 >     SelectRun >
LCD >
OSD >
Menu >
    
```

```

Main > Config > Menu >
1 / 2           10 / 10
Timer >        1 M
SelectRun >    1 M 30S
                2 M
                3 M
                Endless @
    
```

```

Main > Config > Menu >
2 / 2           2 / 2
Timer >        Disable
SelectRun >    Enable @
    
```




User EDID can store the EDID of the output display device of the connection matrix to user1~4, which can be stored in default, output, and temp1, and then used in the EDID list.

```

Main > Config >
6 / 7          1 / 5
LCD           > User 1           >
OSD          > User 2           >
Menu         > User 3           >
User EDID > User 4           >
System       > All             >
    
```

System Setting includes reboot, Power, and Factory. Reboot indicates device restart, power indicates device sleep, and factory indicates factory data reset.

```

Main > Config >
7 / 7          1 / 3
LCD           > Reboot          >
OSD          > Power           >
Menu         > Factory          >
User EDID >
System       >
    
```

```

Main > Config > System >
1 / 3          1 / 2
Reboot        > No              @
Power         > Yes
Factory       >
    
```



Timed Off indicates timed standby, Timed On indicates timed wake up, and Auto Sleep

```

Main > Config > System >
2 / 3           1 / 3
Reboot      > Timed Off >
Power       > Timed On  >
Factory     > Auto Sl.. >
    
```

Simple: Partially restores factory settings

User: Restores all factory settings

```

Main > Config > System >
3 / 3           1 / 2
Reboot      > Simple   >
Power       > User     >
Factory     >
    
```

Query device information, including input, output, system, and log. The information can only be queried and cannot be set or changed.

Input: resolution information of the signal sources input

Output: EDID information of the TV of outputs.

System: System information includes Web, version and company info.

Log: Matrix log

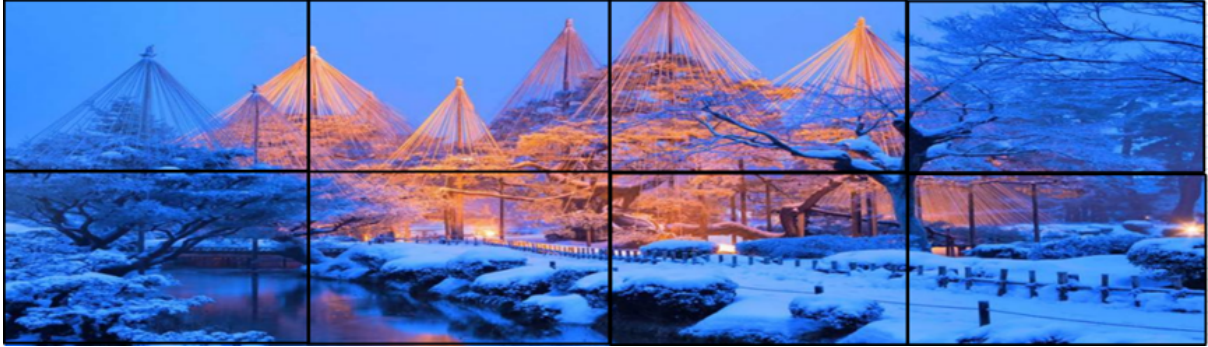
```

Main >
5 / 5           1 / 4
Output      > Input    >
Input       > Output  >
Preset     > System  >
Config     > LOG     >
Info       >
    
```

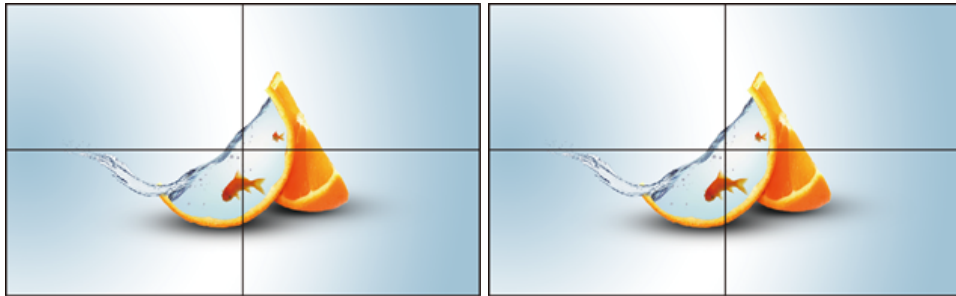


Video Wall Mode

1. Supports margin adjustment
2. Supports seamless switching the video wall
3. Support mirror the video wall
4. Supports multiple video wall setting



W-2x4



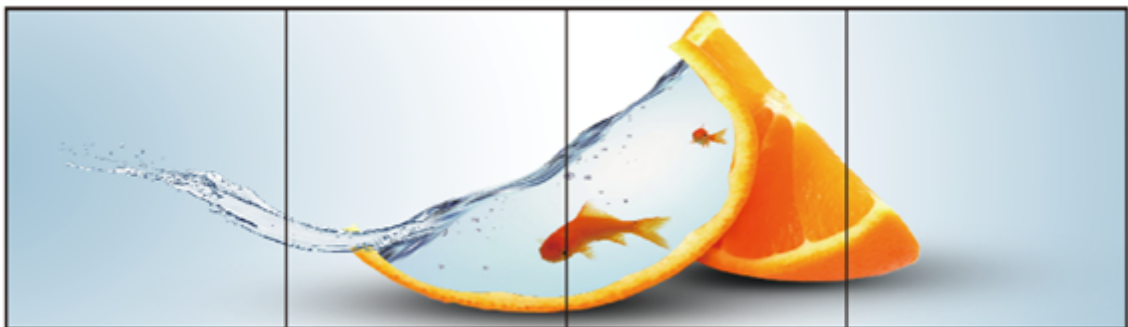
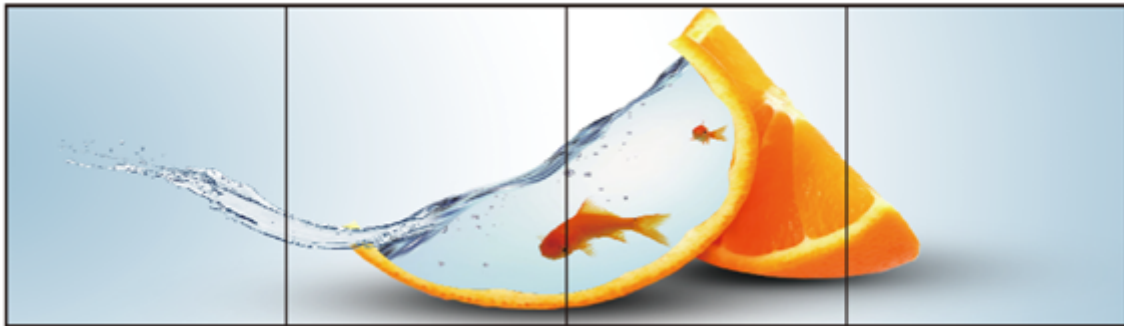
W-2x2



W-1x2



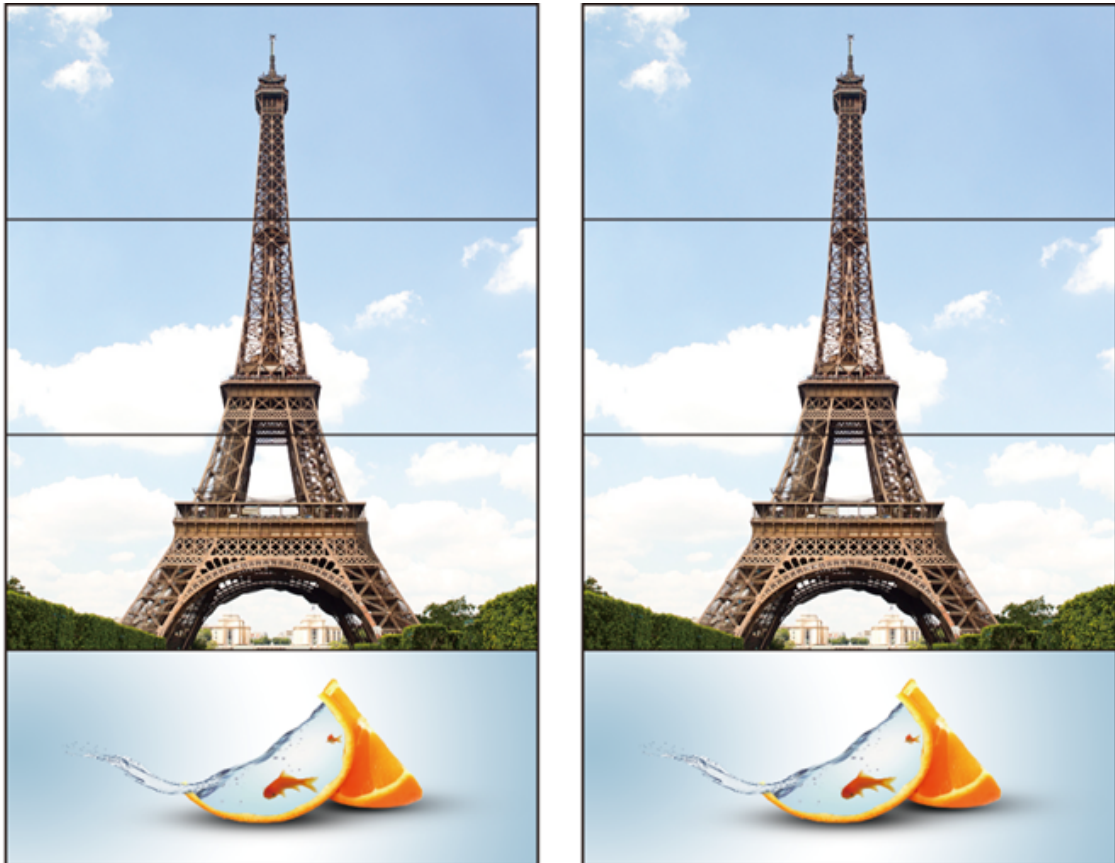
W-1x3



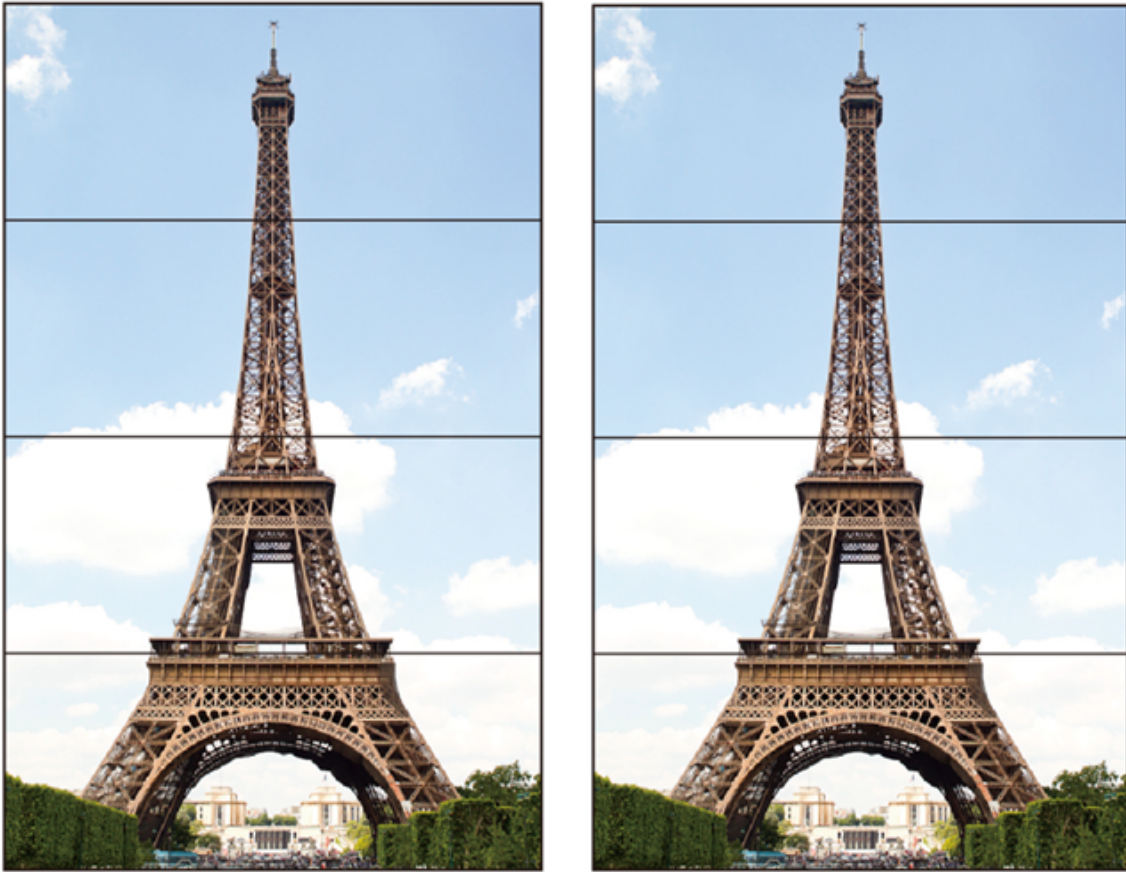
W-1x4



W-2x1 W-2x1



W-3x1



W-4x1

Multi-Viewer Mode



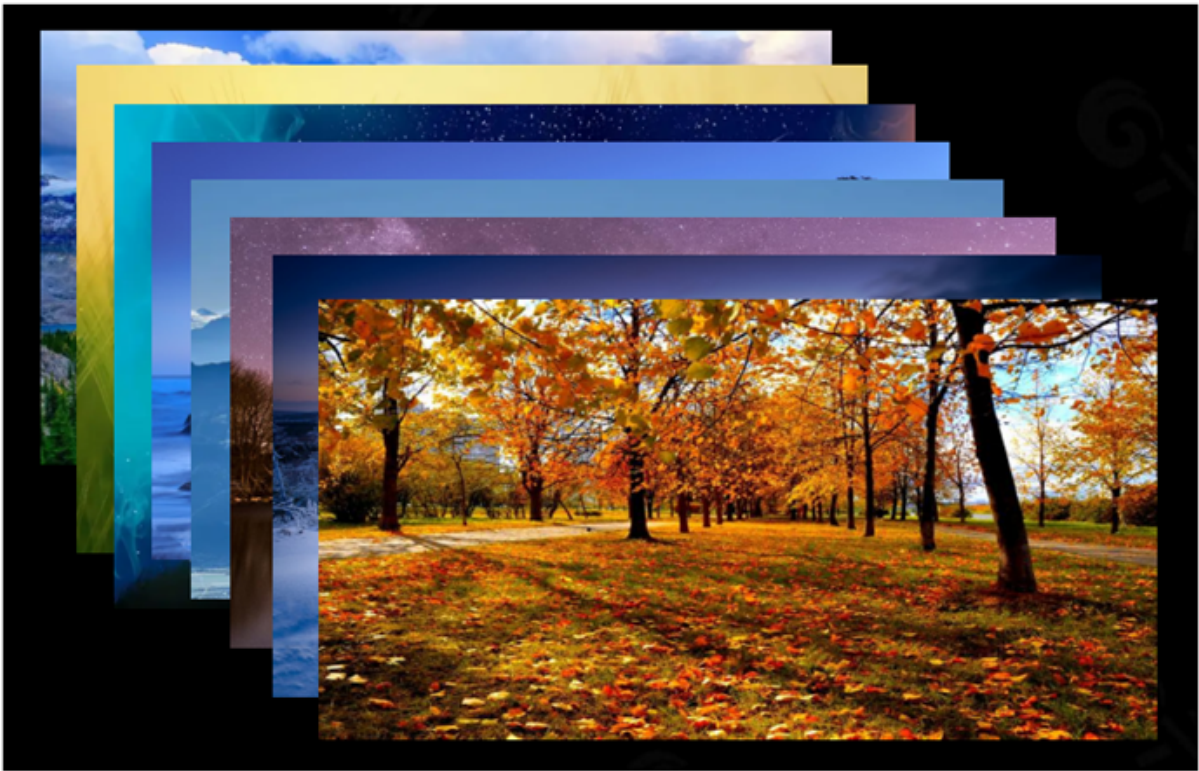
Mode 1



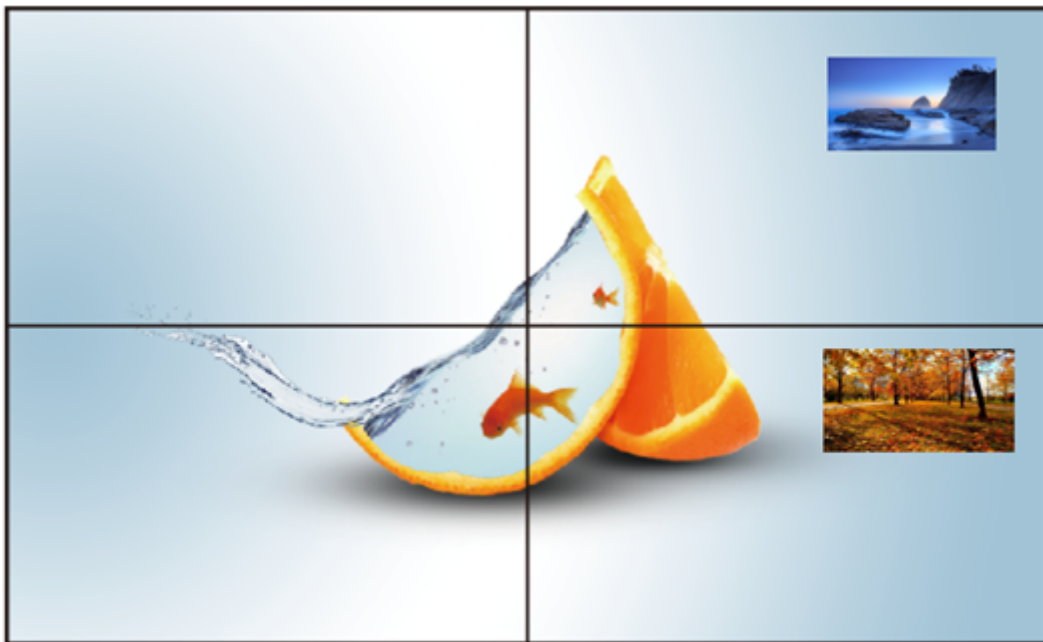
Mode 2



Mode 3



Mode 4



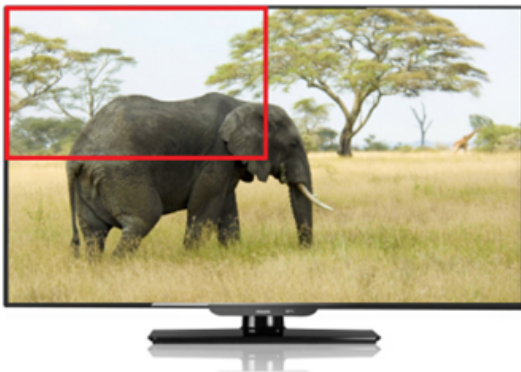
Mode 5



Mode 6

Image cropping and TV coordinate change

- Input starting point: CROP X0(0), CROP Y (0),
- Input ending point: CROP X1(3000), CROP Y0(3000)
- Input scaling starting point: ZOOM X0(0), ZOOM Y0(0),
- Input scaling ending point: ZOOM X1(6000), ZOOM Y0(6000)



Before cropping



After cropping

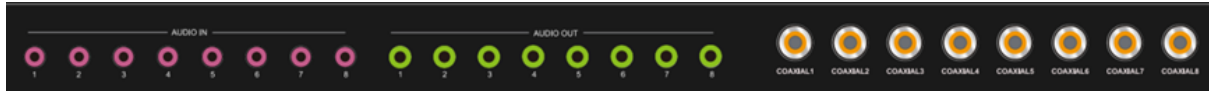


Audio Description

Default HDMI audio output support uncompressed audio PCM, LPCM2.0. SPDIF: 5.1

The maximum sampling rate support 192KHZ

COPY EDID audio format are forced into LPCM2.0.

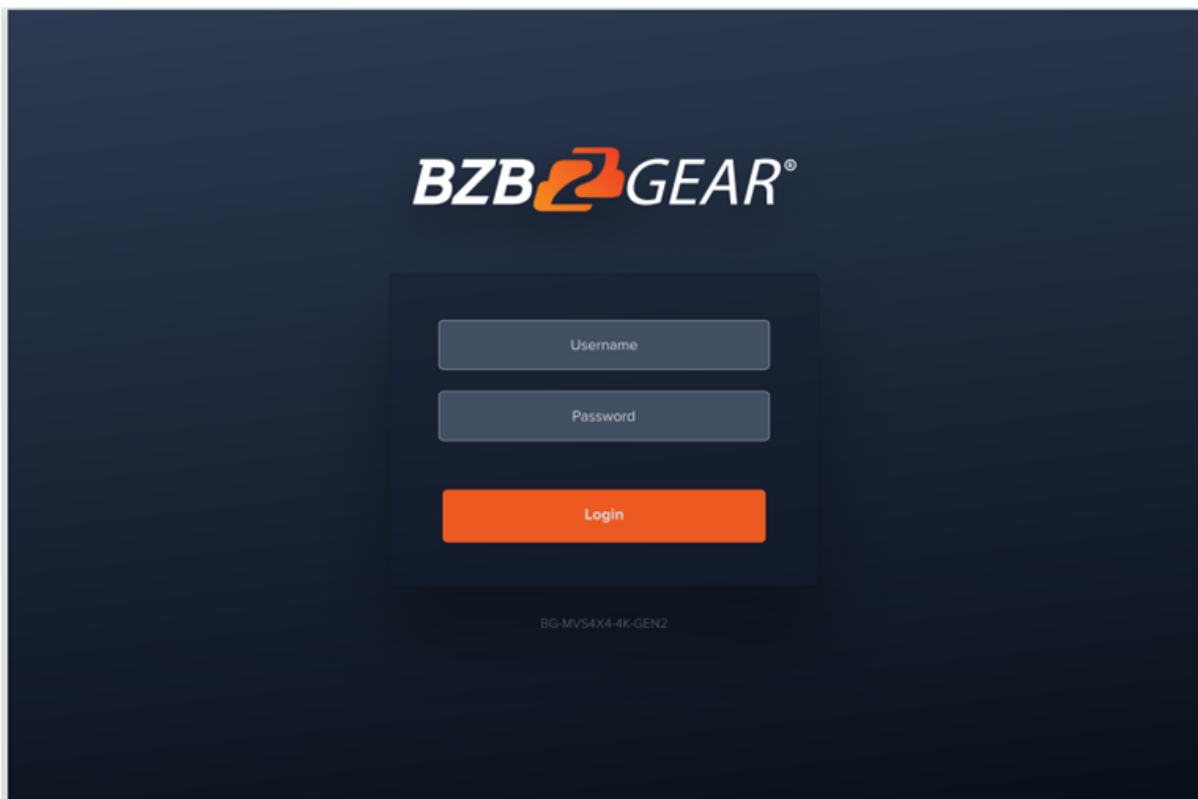


HDMI Source:

1. ENC1~8 indicates that HDMI outputs select the embedding audio
2. HDMI1~8 indicates that HDMI outputs select other audio source
3. Auto HDMI indicates that the input signal source is switched with the matrix, but the audio state is not switched
4. Auto ENC indicates the HDMI sound will be overwritten and replaced with the corresponding embedded audio

WEB GUI

Login page





Status Page

BG-MVS4X4-4K-GEN2
Log Out

Status

↶ Input

↷ Output

⌘ Matrix

⌂ Preset

⌚ Advanced

⚙️ System

Need Help?
support@bzbgear.com
 (888) 499-9906

Input Info

	Connected	Resolution	Color	Audio	HDCP
In 1	X	X	X	X	X
In 1	X	X	X	X	X
In 3	X	X	X	X	X
In 4	X	X	X	X	X

Output EDID Info

	Connected	Resolution	Color	Audio	Product
Out 1	✓	4096*2160P 60	420 HLG	MAT-8 192K	SAM7150
Out 2	✓	1920*1080P 60	444 None	None AC3-6	NEC2870
Out 3	✓	1920*1080P 60	444 None	None AC3-6	NEC2870
Out 4	✓	1920*1080P 60	444 None	None AC3-6	NEC2870

Device Info

MCU Version: **V0.2.9**

HTML Version: **V0.0.9**



Input Page

BG-MVS4X4-4K-GEN2
Log Out

Input

Input	Rename	Video		Audio Delay		Copy EDID From	
In 1	Input 1	On	Off	-	Auto	+	Default:4096x2160P@60-444 HDR-HLG LPCM2.0 XXX1234
In 2	Input 2	On	Off	-	Auto	+	Default:4096x2160P@60-444 HDR-HLG LPCM2.0 XXX1234
In 3	Input 3	On	Off	-	30	+	Default:4096x2160P@60-444 HDR-HLG LPCM2.0 XXX1234
In 4	Input 4	On	Off	-	Auto	+	Default:4096x2160P@60-444 HDR-HLG LPCM2.0 XXX1234
All		On	Off	-	Auto	+	Default:4096x2160P@60-444 HDR-HLG LPCM2.0 XXX1234

Copy EDID From: Default:4096x2160P@60-444 HDR-HLG... to User 1 Apply

User EDID: Browse config.exe to User 1 Upload

Need Help?
support@bzbgear.com
(888) 499-9906

Output Page

BG-MVS4X4-4K-GEN2
Log Out

Output

Output	Rename	Video		Audio HDMI		HDMI Src	Audio Dec		Dec Src	Format
Out 1	Output 1	On	Off	On	Off	Auto HDMI	On	Off	Auto HDMI	4K60
Out 2	Output 2	On	Off	On	Off	Auto HDMI	On	Off	Auto HDMI	4K60
Out 3	Output 3	On	Off	On	Off	Auto HDMI	On	Off	Auto HDMI	4K60
Out 4	Output 4	On	Off	On	Off	Auto HDMI	On	Off	Auto HDMI	4K60
All		On	Off	On	Off	Auto HDMI	On	Off	Auto HDMI	4K60

Need Help?
support@bzbgear.com
(888) 499-9906



Matrix Page

BG-MVS4X4-4K-GEN2

Log Out

Matrix

	Input 1	Input 2	Input 3	Input 4
Output 1	Input 1	Input 2	Input 3	Input 4
Output 2	Input 1	Input 2	Input 3	Input 4
Output 3	Input 1	Input 2	Input 3	Input 4
Output 4	Input 1	Input 2	Input 3	Input 4
Output All	Input 1	Input 2	Input 3	Input 4

Need Help?
support@bzbgear.com
 (888) 499-9906

Preset Page

BG-MVS4X4-4K-GEN2

Log Out

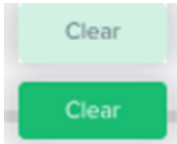
Preset

Mode	Mode Num	Rename	Clear	Save	Call
Seamless Matrix	S-P2P	▼ S-P2P	Clear	Save	Clear
Video Wall	W-2x2	▼ W-2x2	Clear	Save	Clear
Multiview	M-2x2	▼ M-2x2	Clear	Save	Clear
Scene	Scene1	▼ Scene1	Clear	Save	Clear

Need Help?
support@bzbgear.com
 (888) 499-9906



Button color



Advance Page

BZB GEAR BG-MVS4X4-4K-GEN2 Log Out

Advanced

Output	PIP	Crop-X0	Crop-Y0	Crop-X1	Crop-Y1	Zoom-X0	Zoom-Y0	Zoom-X1	Zoom-Y1	Confirm
Out 1	<input checked="" type="checkbox"/> On <input type="checkbox"/> Off	0	0	6000	6000	0	0	3000	3000	<input type="button" value="Apply"/>
Out 2	<input type="checkbox"/> On <input checked="" type="checkbox"/> Off	0	0	6000	6000	3000	0	6000	3000	<input type="button" value="Apply"/>
Out 3	<input checked="" type="checkbox"/> On <input type="checkbox"/> Off	0	0	6000	6000	0	0	3000	6000	<input type="button" value="Apply"/>
Out 4	<input checked="" type="checkbox"/> On <input type="checkbox"/> Off	0	0	6000	6000	3000	3000	6000	6000	<input type="button" value="Apply"/>
All	<input checked="" type="checkbox"/> On <input type="checkbox"/> Off	0	0	6000	6000	0	0	3000	6000	<input type="button" value="Apply"/>

Need Help?
support@bzbgear.com
(888) 499-9906



System Page

BZBGEAR BG-MVS4X4-4K-GEN2 Log Out

- Status
- Input
- Output
- Matrix
- Preset
- Advanced
- System**

Need Help?
support@bzbgear.com
(888) 499-9906

Network

Mac Address	46:58:4E:95:58:29
IP Address	192.168.30.252
Net Mask Address	255.255.255.0
Gate Way Address	192.168.30.1
DHCP	<input checked="" type="checkbox"/> On <input type="checkbox"/> Off
TCP Port	5000

Apply

Account management

















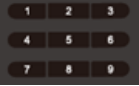
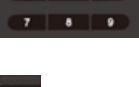



User Name	<input type="text"/>
New Password	<input type="text"/>
Confirm Password	<input type="text"/>

Apply

Reboot	Reboot
Factory Simple	Factory Simple
Factory User	Factory All



Remote Control

-  : Standby or power on
-  : Mute button
-  : Return to upper level
-  : Move to next level
-  : Picture off
-  : Page turn by 100 of the last sub-menu
-  : Page turn by 10 of the last sub-menu
-  : Menu
-  : All output
-  : Up
-  : Menu
-  : OK
-  : Enter
-  : Down
-  : Return or exit
-  : Menu
-  When selecting Output, means Out1--out8
-  When selecting Input, means In1--In8
-  : Preset
-  : (N/A)
-  : Point to Point 1-1, 2-2, 3-3, 4-4...





HDPCP

HDMI Output	Device1 HDCP2.2/1.4	Device2 HDCP1.4	Device3 NO HDCP
HDCP2.2	HDCP2.2	/	No signal
HDCP1.4	HDCP1.4	HDCP1.4	No signal
Off HDCP	NO HDCP	NO HDCP	NO HDCP

Factory Default Setting

1) Video: P-to P, 1x1, 2x2, 3x3, 4x4, 5x5, 6x6, 7x7, 8x8

2) Audio: Audio Embedded turn off, HDMI Output audio on, Extraction on

3) Network:

- Static IP address
- 192.168.1.168
- Sub net: 255.255.255.000
- Gateway: 192.168.1.1
- Port: TCP: 5000, UDP:5001, Telnet:23
- Web GUI & Telnet:
- Login: admin
- Password: admin
- MAC Address (Please provide if needed)



Tech Support

Have technical questions? We may have answered them already!

Please visit BZBGEAR's support page (bzbgear.com/support) for helpful information and tips regarding our products. Here you will find our Knowledge Base (bzbgear.com/knowledge-base) with detailed tutorials, quick start guides, and step-by-step troubleshooting instructions. Or explore our YouTube channel, BZB TV (youtube.com/c/BZBTVchannel), for help setting up, configuring, and other helpful how-to videos about our gear.

Need more in-depth support? Connect with one of our technical specialists directly:

Phone	Email	Live Chat
1.888.499.9906	support@bzbgear.com	bzbgear.com

Warranty

BZBGEAR Pro AV products and cameras come with a three-year warranty. An extended two-year warranty is available for our cameras upon registration for a total of five years.

For complete warranty information, please visit bzbgear.com/warranty.

For questions, please call 1.888.499.9906 or email support@bzbgear.com.



Mission Statement

BZBGear is a breakthrough manufacturer of high-quality, innovative audiovisual equipment ranging from AVoIP, professional broadcasting, conferencing, home theater, to live streaming solutions. We pride ourselves on unparalleled customer support and services. Our team offers system design consultation, and highly reviewed technical support for all the products in our catalog. BZBGear delivers quality products designed with users in mind.



Copyright

All the contents in this manual and its copyright are owned by BZBGear. No one is allowed to imitate, copy, or translate this manual without BZBGear's permission. This manual contains no guarantee, standpoint expression or other implies in any form. Product specification and information in this manual is for reference only and subject to change without notice.

All rights reserved. No reproducing is allowed without acknowledgement.