BZB⚡**GEAR**®

BG-PSC6X2-4K
4K/18Gbps 6x2 Presentation Scaler Switcher

USER MANUAL

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.

Table of Content

Introduction

The BG-PSC6X2-4K is a 4K/18Gbps presentation scaler switcher supports 6 inputs including 3 HDMI inputs, 1 DisplayPort, 1 USB-C and 1 VGA, and 2 HDMI mirrored outputs. With built-in scaler chip, the video can be scaled to various aspect ratios and resolutions from 1024x 768 up to 3840x 2160 @ 60Hz.

The presentation switcher also features advanced audio embedding and de-embedding, it can offer flexible application of audio which includes analog and digital audio, MIC In and Line out. Each source and display could be controlled and configured via front-panel button, IR remote, RS232, Telnet, WebGUI. This product is a suitable solution for presentation purpose at classroom and conference room.

Features

- 4K@60Hz 4:4:4, HDR10, HLG and full 3D
- Switch & Scale 6 sources to 2 displays
- 3x HDMI input, 1x VGA w/Audio input, 1x USB-C input, 1x Display port input
- 2x HDMI mirrored outputs
- 1x MIC line level audio input (70 Db) with phantom power.
- Audio embedding and de-embedding
- 3x HDMI inputs support CEC pass-through
- Scaling from 640x480 to 4096x2160@60Hz
- Front-panel LCD display for status feedback
- Front-panel button, IR remote control, RS-232, TCP/IP and WebGUI for control
- HDCP 2.2 compliant

Panel Descriptions

Front Panel
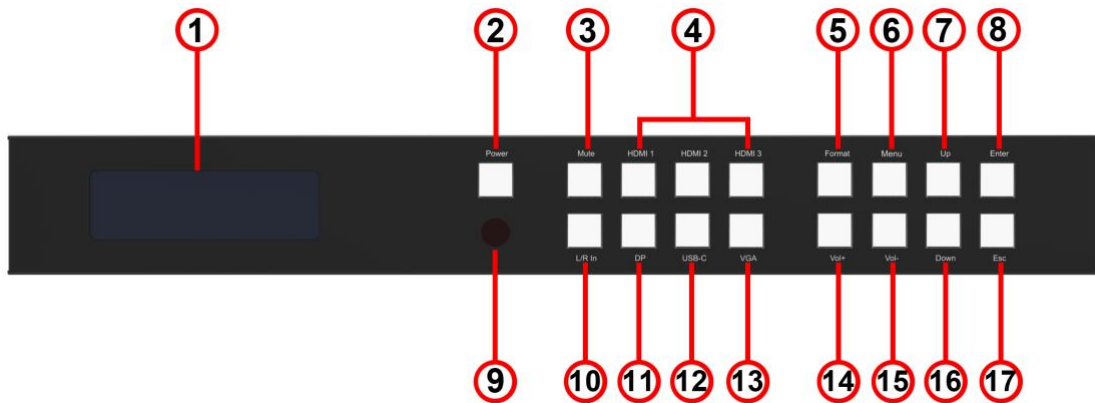
1. LCD display – Show the status of input-to-output selection, EDID info and so on.
2. Power button – Press to power on the unit
3. Mute button – Press to mute the HDMI outputs and L/R & Coaxial audio outputs.(Mute function only works for PCM format audio, other format audio will bypass)
4. HDMI Input selection button – Press to select Output1& 2 from HDMI Input 1 to 3.
5. Format set button – Press to set the resolution for the output
6. Menu button – Press to enter EDID setting, volume setting or F/M information.
    Three EDID segments will display on the LCD panel formatted as: INPUT VIDEO AUDIO, for example: IN1 1080P 2.0CH, it means to set 1080P 2.0CH EDID to Input1. The blinking segment is the one can be changed currently, press "Menu" button will change the segment.
7. Up selection button – Press to change segment's value
8. Enter button – Press to confirm the settings.
9. IR receiver window – Receive the IR from the remote control of BG-PSC6X2-4K
10. L/R In – Press to embed analog audio into the HDMI outputs.
11. DP Input button – Press to select DisplayPort Input.
12. USB-C Input button – Press to select USB-C Input.
13. VGA Input button – Press to select VGA Input
14. Volume up – Press to increase audio's volume from HDMI outputs and Audio output. (Volume adjustment function only works for PCM format audio, other format audio will bypass)
15. Volume down – Press to decrease audio's volume from HDMI outputs and Audio output. (Volume adjustment function only works for PCM format audio, other format audio will bypass)

16. Down selection button – Press to change segment's value
17. ESC – Press to quit EDID set mode.

Rear Panel
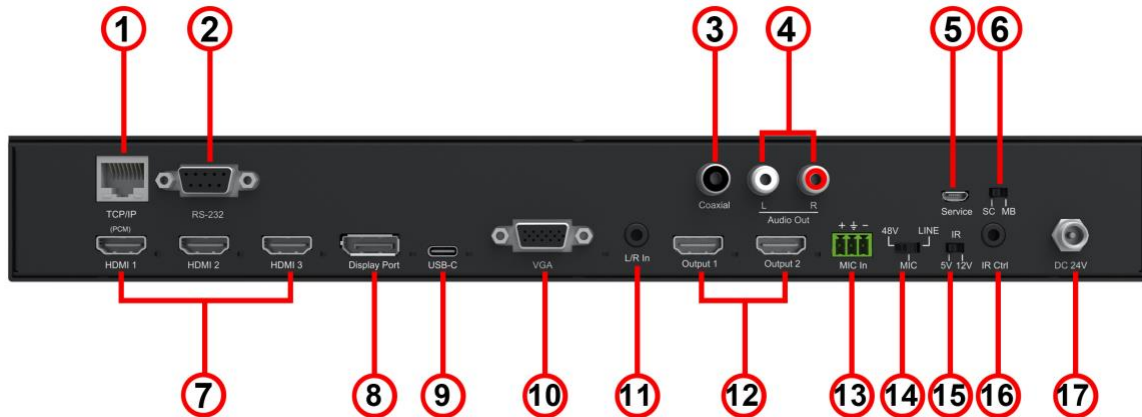
1. TCP/IP port – RJ45 connector, for TCP/IP control.
2. RS232 port – DB9 female connector, to control the unit from a PC or control processor.
3. Coaxial audio output – Output coaxial audio which always follow HDMI outputs
4. L/R audio output – Output analog audio which follow HDMI outputs.
5. Service port – Micro USB port, for firmware upgrade.(Upgrade cable should be purchased separately).
6. Upgrade slip switch – Used with service port to upgrade SC/Scaler Chip or MB/Main Board
7. HDMI Input 1 to 3 – Connect to HDMI sources.
8. DP Input – Connect to DisplayPort source.
9. USB-C Input – Micro USB port, connect to USB-C source
10. VGA Input – Connect to VGA source.
11. L/R Input – L/R audio input with VGA input
12. HDMI Output 1 to 2 – Connect to HDMI display.
13. MIC In – Plug microphone in for audio source output.
14. 48V/MIC/Line – Slip switcher
    ➢ 48V phantom power mode: connects with phantom condenser microphone
    ➢ MIC mode: connects with dynamic microphone and electrets condenser microphone
    ➢ Line mode: connects with wireless microphone or line audio input.
15. IR slip switcher – Slip to select 5V IR or 12V IR
16. IR Ctrl – Connect to IR receiver cable
17. DC 24V – Use included 24V/1A power supply to power on the unit.

Remote Control Description

Input: Source selection for HDMI output 1 & output 2.

SRC AUD/Source Audio:

➢ Bypass: Audio on HDMI outputs is from HDMI input selected.

➢ Embed: Audio on HDMI outputs is from L/R Analogue audio input (3.5mm Jack)

Format: Video output resolution selection. The BG-PSC6X2-4K includes built-in video scaler. Press the required resolution button on remote control to change the HDMI output video resolution

MIC control:

➢ Mix On: Open Mix Audio mode
➢ Mix Off: Close Mix Audio mode
➢ Mic Only: Only microphone has audio output
➢ Vol+: Increase the volume of microphone
➢ Vol-: Decrease the volume of microphone

Output Vol: Press to Increase/Decrease/Mute the volume of Audio from HDMI outputs and De-embedded audio output.

Application Diagram
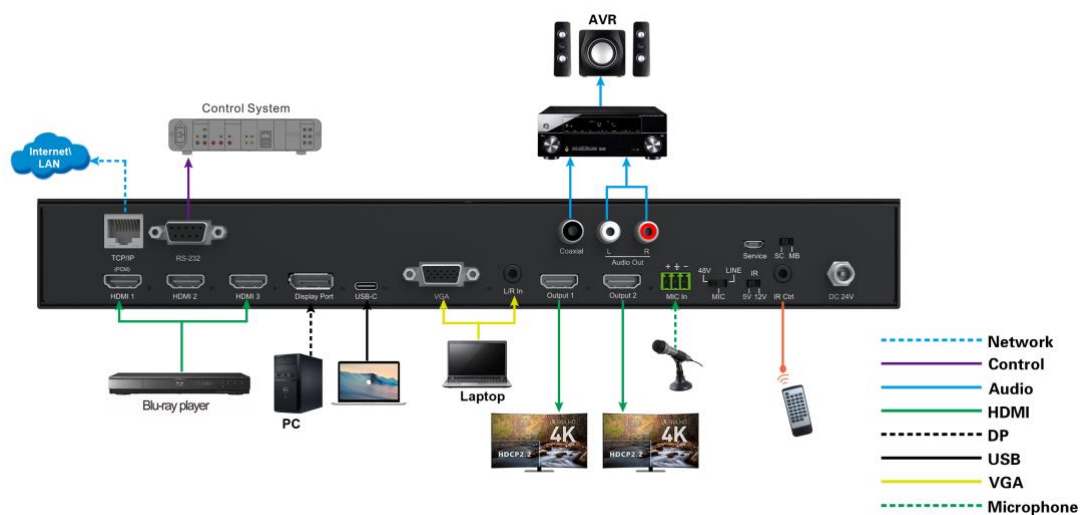
Specifications

Bandwidth：	18Gbps
Video Input Connectors:	3x HDMI Type A, 1x VGA, 1x USB-C,1x DP
Video Output Connectors:	2x HDMI Type A
Audio Input Connectors:	1x 3.5mm stereo jack
Audio Output Connectors:	1x 3.5mm stereo jack,1x RCA (SPDIF)
RS-232 serial port:	1x DB 9 connector
IR Input ports:	1x 3.5mm stereo jack
Dimensions (W x H x D):	345mm x 165mm x 45mm , without feet
Shipping Weight:	2.0Kg
Operating Temperature:	32°F to 104°F (0°C to 40°C)
Storage Temperature :	-4°F to 140°F (-20°C to 60°C)
Power Supply:	DC 24V/1A

IR TX/RX Guidelines

IR Emitter

IR Receiver

IR Emitter: Plug in the IR emitter to emit all IR command signals received from the IR receiver from the other end to control the devices corresponding to the IR signals.

IR Receiver: Plug in the IR receiver to receiver all IR command signals from the IR remote controls of the corresponding devices.

IR Emitter
- Tip: Anode (IR signal)
- Sleeve: Cathode (IR signal)

IR Receiver
- Tip: IR signal (20-60kHz)
- Ring: Power 5V
- Sleeve: Grounding

RS-232 Pin Assignment

BG-PSC6X2-4K		Remote Control Console	
PIN	Assignment	PIN	Assignment
1	NC	1	NC
2	Tx	2	Rx
3	Rx	3	Tx
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: 57600 bps

Data Bit: 8-bit

Parity: None

Stop Bit: 1-bit

Flow Control: None

RS232 and Telnet Commands

No.	Command	Action
1	?	Print Help Information
2	HELP	Print Help Information
3	STATUS	Print System Status And Port Status
4	PON	Power On, System Run On Normal State
5	POFF	Power Off, System Run On Power Save State
6	IR ON/OFF	Set System IR Control On Or Off
7	KEY ON/OFF	Set System KEY Control On Or Off
8	LCD ON/OFF	Set LCD Always On or Auto Turn Off In Power On State
9	RSB x	Set RS232 Baud Rate to x bps X= [0:115200, 1:57600, 2:38400, 3:19200, 4:9600]
10	RESET	Reset System To Default Setting (Should Type "Yes" To Confirm, "No" To Discard)
11	RESET ALL	Reset System And Network To Default Setting (Should Type "Yes" To Confirm, "No" To Discard)
12	OUT xx ON/OFF	Set Output: xx On Or Off
13	OUT xx FR yy	Set OUTPUT:xx From INPUT:yy xx=00: Select All OUTPUT Port xx=[01...02]: Select One OUTPUT Port yy=Select One Input Port [01…03:HDMI, 04:DP, 05:USB-C, 06:VGA]
14	OUT OSD ON/OFF	Set Scaler OSD Show On or Off
15	OUT RES rr	Set Scaler Output Resolution (Change Output Resolution Will Effect VGA EDID Setting) Rr=00: 1024x768@60Hz rr=01: 1280x1024@60Hz rr=02: 1360x768@60Hz rr=03: 1440x900@60Hz rr=04: 1680x1050@60Hz rr=05: 1920x1200@60Hz rr=06: 720p@50Hz rr=07: 720p@60Hz rr=08: 1080p@50Hz rr=09: 1080p@60Hz rr=10: 4K2K@25Hz rr=11: 4K2K@30Hz

		rr=12: 4K2K@50Hz
		rr=13: 4K2K@60Hz
		rr=14: Auto
16	EDID xx CP yy	Set Input:xx EDID Copy From Output:yy yy=[00]:
17	EDID xx DF zz	Set Input:xx EDID To Default EDID:zz xx=00: Select All INPUT Port xx=[01...05]: Select One INPUT Port yy=[01...02]: Select One OUTPUT Port zz=00: HDMI 1080p@60Hz, Audio 2CH PCM zz=01: HDMI 1080p@60Hz, Audio 5.1CH DTS/DOLBY zz=02: HDMI 1080p@60Hz, Audio 7.1CH DTS/DOLBY/HD zz=03: HDMI 1080i@60Hz, Audio 2CH PCM zz=04: HDMI 1080i@60Hz, Audio 5.1CH DTS/DOLBY zz=05: HDMI 1080i@60Hz, Audio 7.1CH DTS/DOLBY/HD zz=06: HDMI 1080p@60Hz/3D, Audio 2CH PCM zz=07: HDMI 1080p@60Hz/3D, Audio 5.1CH DTS/DOLBY zz=08: HDMI 1080p@60Hz/3D, Audio 7.1CH DTS/DOLBY/HD zz=09: HDMI 4K@30Hz 4:4:4, Audio 2CH PCM zz=10: HDMI 4K@30Hz 4:4:4, Audio 5.1CH DTS/DOLBY zz=11: HDMI 4K@30Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD zz=12: DVI 1280x1024@60Hz, Audio None zz=13: DVI 1920x1080@60Hz, Audio None zz=14: DVI 1920x1200@60Hz, Audio None zz=15: User EDID 1 zz=16: User EDID 2 zz=17: GUI Download EDID zz=18: HDMI 4K@60Hz 4:2:0, Audio 2CH PCM zz=19: HDMI 4K@60Hz 4:2:0, Audio 5.1CH DTS/DOLBY zz=20: HDMI 4K@60Hz 4:2:0, Audio 7.1CH DTS/DOLBY/HD zz=21: HDMI 4K@60Hz 4:2:0, Audio 2CH PCM zz=22: HDMI 4K@60Hz 4:2:0, Audio 5.1CH DTS/DOLBY zz=23: HDMI 4K@60Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD
18	AUD SCA ORG	Scaler Audio Input Follow Port Selection
19	AUD SCA ANA	Scaler Audio Input From Analog L/R Signal
20	AUC PCM SCA/BYP	When Input PCM Audio, Use Scaler To Process Or Just Bypass To Output. Bitstream Audio Always Bypass HDMI 1 And VGA Input Audio Always Use Scaler Process
21	AUD RX yy ORG	HDMI Input: yy Use Original HDMI/DVI Signal
22	AUD RX yy ANA	HDMI Input: yy Embedded Analog L/R When DVI Signal yy=[01…04]: HDMI Input 01 ~ 04
23	VOL xx	Set Scaler Audio Volume xx=[00…100]: Volume Value

		xx=+: Volume Increase xx=-: Volume Decrease
24	MUTE ON/OFF	Set Scaler Output Audio Mute ON Or OFF

25	MIC MIX mm	Set MIC And Background Audio Mix Mode
		  mm=ON: Mix MIC And Background Audio
		  mm=BGO: Background Audio Only
		  mm= MICO: MIC Audio Only

26	MIC VOL xx	Set MIC Input Audio Volume xx=[00…01]:MIC Volume Value
27	MIC MUTE ON/OFF	Set MIC Mute On Or Off
28	MIC AUTOBG ON/OFF	Set Auto Decrease Background Audio When Detect MIC Voice
29	MIC BGVOL pp	Set Auto Decrease Background Audio To pp Percent of "VOL xx" pp=[00…100]:Percent of "VOL xx" Setting
30	MIC BGR dd	After Speaking, The MIC Takes dd Second To Raise The Volume dd=[01…20]: Delay Seconds
31	NET DHCP ON/OFF	Set Auto IP(DHCP) ON Or Off
32	NET IP xxx.xxx.xxx.xxx	Set IP Address
33	NET GW xxx.xxx.xxx.xxx	Set Gateway Address
34	NET SM xxx.xxx.xxx.xxx	Set Subnet Mask Address
35	NET TN XXXX	Set Telnet Port
36	NET RB	Set Network Reboot and Apply New Config!!!

Package Contents

- 1x BG-PSC6X2-4K
- 1x 24V/1A power supply
- 1x Remote control
- 1x IR Receiver cable.
- 1x mounting kit.

Maintenance

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

Warranty Policy

BZBGEAR products are warranted against defects in material and workmanship for one year from the date of shipment. During the warranty period, BZBGEAR will, at its option, repair or replace products that prove to be defective. Repairs are warranted for the remainder of the original warranty.

For equipment under warranty, the owner is responsible for freight to BZBGEAR and all related customs, taxes, tariffs, insurance, etc. BZBGEAR is responsible for the freight charges only for return of the equipment from the factory to the owner. BZBGEAR will return the equipment by the same method (i.e., Air, Express, Surface) as the equipment was sent to BZBGEAR.

All equipment returned for warranty repair must have a valid RMA number issued prior to return and be marked clearly on the return packaging. BZBGEAR strongly recommends all equipment be returned in its original packaging.

BZBGEAR's obligations under this warranty are limited to repair or replacement of failed parts, and the return shipment to the buyer of the repaired or replaced parts.

Limitations of Warranty

The warranty does not apply to any part of a product that has been installed, altered, repaired, or misused in any way that, in the opinion of BZBGEAR, would affect the reliability or detracts from the performance of any part of the product, or is damaged as the result of use in a way or with equipment that had not been previously approved by BZBGEAR.

The warranty does not apply to any product or parts thereof where the serial number or the serial number of any of its parts has been altered, defaced, or removed.

The warranty does not cover damage or loss incurred in transportation of the product.

The warranty does not cover replacement or repair necessitated by loss or damage from any cause beyond the control of BZBGEAR, such as lightning or other natural and weather-related events or wartime environments.

The warranty does not cover any labor involved in the removal and or reinstallation of warranted equipment or parts on site, or any labor required to diagnose the necessity for repair or replacement.

The warranty excludes any responsibility by BZBGEAR for incidental or consequential damages arising from the use of the equipment or products, or for any inability to use them either separate from or in combination with any other equipment or products.

A fixed charge established for each product will be imposed for all equipment returned for warranty repair where BZBGEAR cannot identify the cause of the reported failure.

Exclusive Remedies

BZBGEAR's warranty, as stated is in lieu of all other warranties, expressed, implied, or statutory, including those of merchantability and fitness for a particular purpose. The buyer shall pass on to any purchaser, lessee, or other user of BZBGEAR's products, the aforementioned warranty, and shall indemnify and hold harmless BZBGEAR from any claims or liability of such purchaser, lessee, or user based upon allegations that the buyer, its agents, or employees have made additional warranties or representations as to product preference or use.

The remedies provided herein are the buyer's sole and exclusive remedies. BZBGEAR shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory.

RMA Policy

When returning product to BZBGEAR for any reason, the customer should fill out the official RMA form to obtain an RMA number. Without the permission or approval, BZBGEAR will not be responsible for any return. This can be initiated by emailing or calling your related sales. All requests are processed within 48 hours.

Standard Replacement

For customers that agree to return defective product to BZBGEAR first, a Standard Replacement option is available.

An RMA number must first be issued by sales. This RMA number will need to be referenced on the outside of the return shipment.

Upon receipt of the defective product, BZBGEAR will, at its discretion, either repair or replace the product and ship it out in the most expeditious manner possible. Subject to availability, the replacement product will be shipped on the business day following receipt of the defective product.

In the event the product returned to BZBGEAR has been discontinued (i.e. the product is no longer being manufactured by BZBGEAR but is still under warranty), BZBGEAR will, at its discretion, either repair or replace with recertified product.

Once you have obtained an RMA number

After obtaining an RMA number from BZBGEAR, you must send the product - freight prepaid - to BZBGEAR Technology Co., Ltd. The BZBGEAR RMA number must be prominently displayed on the outside of your package. If you send your product to BZBGEAR without the RMA number prominently displayed on the outside of the package, it will be returned to you unopened.

Please use a shipping company that can demonstrate proof of delivery. BZBGEAR does not accept responsibility for any lost shipments unless proof of delivery to BZBGEAR is provided.

Please note:

Product shipped to BZBGEAR must be properly packaged to prevent loss or damage in transit.

Shipping your RMA to BZBGEAR using regular mailing envelopes is not acceptable, as they do not protect the product from damage during shipping.

BZBGEAR will not repair or replace a module that is shipped in such a way that the product is not properly protected.

BZBGEAR will not accept any product that has been damaged as a result of accident, abuse, misuse, natural or personal disaster, or any unauthorized disassemble, repair or modification.

Warranty Information (Second Year Assurance)

BZBGEAR 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.

Mission Statement

BZBGEAR 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. BZBGEAR 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 BZBGEAR catalog. You'll notice comparably lower prices with BZBGEAR 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, BZBGEAR offers the solutions to allow you to focus on your project and not your budget.