BG-PSC6X2-4K

6X2 4K 18Gbps UHD HDMI/USB-C/DP/VGA & Audio Conference

Room Presentation Switcher/Scaler

User Manual

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Statement

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

Safety Precaution

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.

- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.

- To prevent damaging this product, avoid heavy pressure, strong vibration, or immersion during transportation, storage, and installation.

- Do not dismantle the housing or modify the module.

- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.

- Do not put any heavy items on the extension cable in case of extrusion.

- Install the device in a place with fine ventilation to avoid damage caused by overheat.

- Do not twist or pull by force ends of the optical cable. It can cause malfunction.

- The housing of this product is made of organic materials. Do not expose to any liquid, gas, or solids which may corrode the shell.

- Unplug this device during lightning storms.

- Do not use liquid or aerosol cleaners to clean this unit. Clean only with a soft dry microfiber cloth.

- Always unplug the power to the device before cleaning.

- If an object or liquid falls or spills on to the housing, unplug the module immediately.

- 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.

- Product specifications may be subject to technical upgrades without further notice.

- Unplug the power cord when left unused for a long period of time.

- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

Introduction

The BG-PSC6X2-4K is a 4K 18Gbps presentation scaler and switcher that supports 6 inputs including 3 HDMI inputs, 1 DisplayPort, 1 USB-C, and 1 VGA, with 2 HDMI mirrored outputs. Utilizing a built-in scaler chip, the video can be scaled to various aspect ratios and resolutions from 1024x768 up to 3840x 2160 @ 60Hz.

This presentation switcher also features advanced audio embedding and de-embedding, it can offer flexible applications of audio which includes analog and digital audio, MIC In, and Line out. Each source and display can be controlled and configured via front-panel buttons, the included IR remote, RS232, Telnet, or WebGUI.

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

Packing List

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

- 1x Mounting kit
- 1x User Manual
- 1x Quick Start Guide

Technical Specifications

| General	
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):	13.6" x 6.5" x 1.8" [345mm x 165mm x 45mm]
Shipping Weight:	4.4lbs [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

Operation Controls and Functions

Front Panel
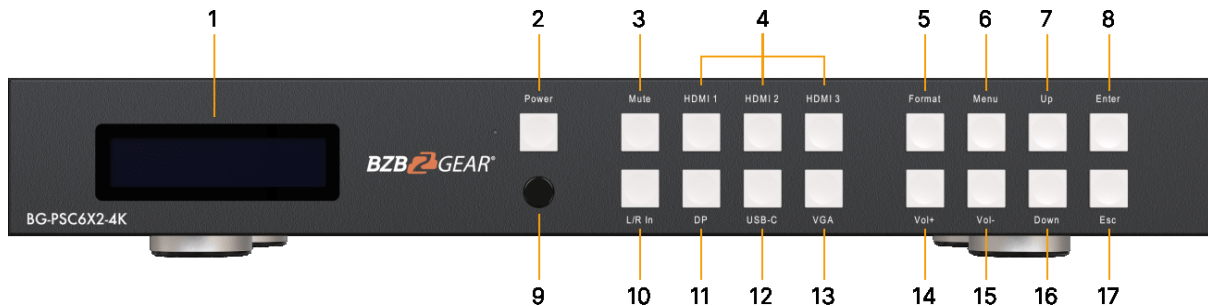
1. **LCD display**: It shows the status of input-to-output selection, EDID info, and the other information.

2. **Power button**: Press to power on the unit.

3. **Mute button**: Press to mute the HDMI outputs, L/R, & Coaxial audio outputs.

4. **HDMI 1-3 Input selection buttons**: Press to select the source for Output 1 & 2 from HDMI Input 1 through 3.

5. **Format set button**: Press to set the resolution for the output.

6. **Menu button**: Press to enter EDID settings, volume settings, or F/M information.

7. **Up selection button**: Press to change the segment's value.

8. **Enter button**: Press to confirm the settings.

9. **IR receiver window**: Receive the IR from the remote control.

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.

15. **Volume down**: Press to decrease audio's volume from HDMI outputs and Audio output.

16. **Down selection button**: Press to change the segment's value.

17. **ESC**: Press to quit EDID set mode.

Rear Panel
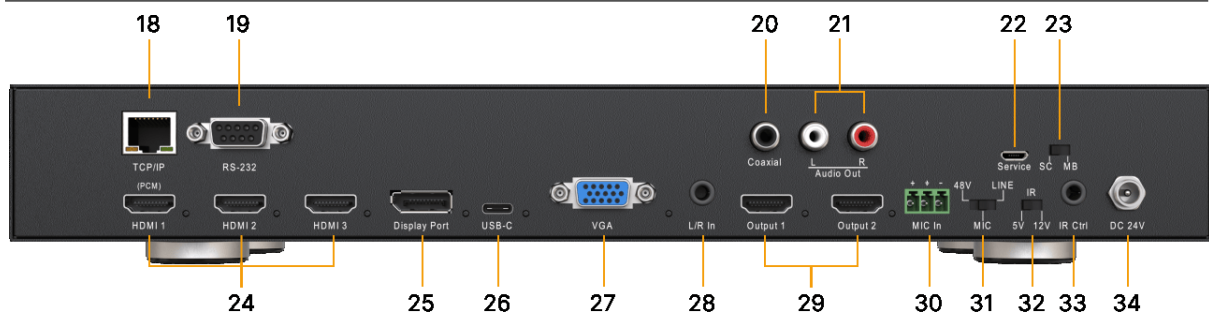
18. TCP/IP port: RJ45 connector, for TCP/IP control.

19. RS232 port: DB9 female connector, to control the unit from a PC or control processor.

20. Coaxial audio output: Output coaxial audio which always follows HDMI outputs.

21. L/R audio output: Output analog audio which follows HDMI outputs.

22. Service port: Micro USB port, for firmware upgrade.

23. Upgrade slip switch: Used with a service port to upgrade SC/Scaler Chip or MB/Main Board.

24. HDMI Input 1-3: Connect to HDMI sources.

25. DP Input: Connect to DisplayPort source.

26. USB-C: Input – Micro USB port, connect to USB-C source.

27. VGA Input: Connect to VGA source.

28. L/R Input: L/R audio input with VGA input.

29. HDMI Output 1-2: Connect to an HDMI display.

30. MIC In: Plug microphone in for audio source output.

31. 48V/MIC/Line: Slip switcher.

32. IR slip switcher: Slip to select 5V IR or 12V IR.

33. IR Ctr: Connect to an IR receiver cable.

34. DC 24V: Use included 24V/1A power supply to power on the unit.

Remote Control Description
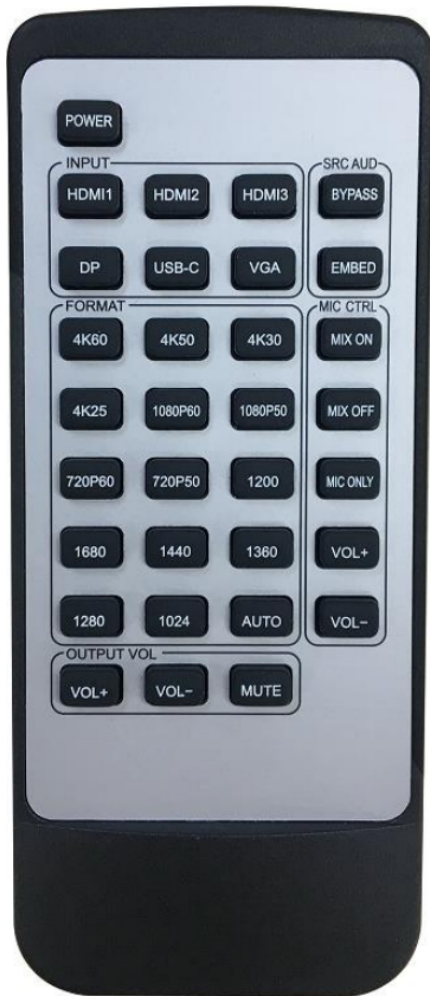
Input: Source selection for HDMI output 1 & output 2.

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 a built-in video scaler. Press the required resolution button on remote control to change the HDMI output video resolution

MIC control:
- Mix On: Turn on Mix Audio mode
- Mix Off: Turn off 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.

IR TX/RX Guidelines

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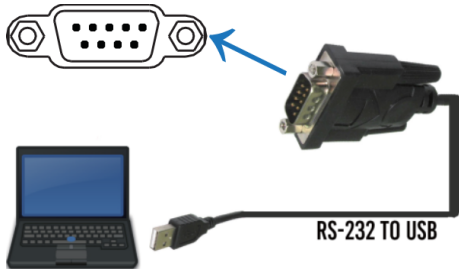- Tip: Anode (IR signal)
- Sleeve: Cathode (IR signal)

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

RS-232 Pin Assignment

The connection method is as follows:

Baud Rate: 57600 bps   **Data Bit**: 8-bit

Parity: None   **Stop Bit**: 1-bit

Flow Control: None

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

RS232 and Telnet Commands

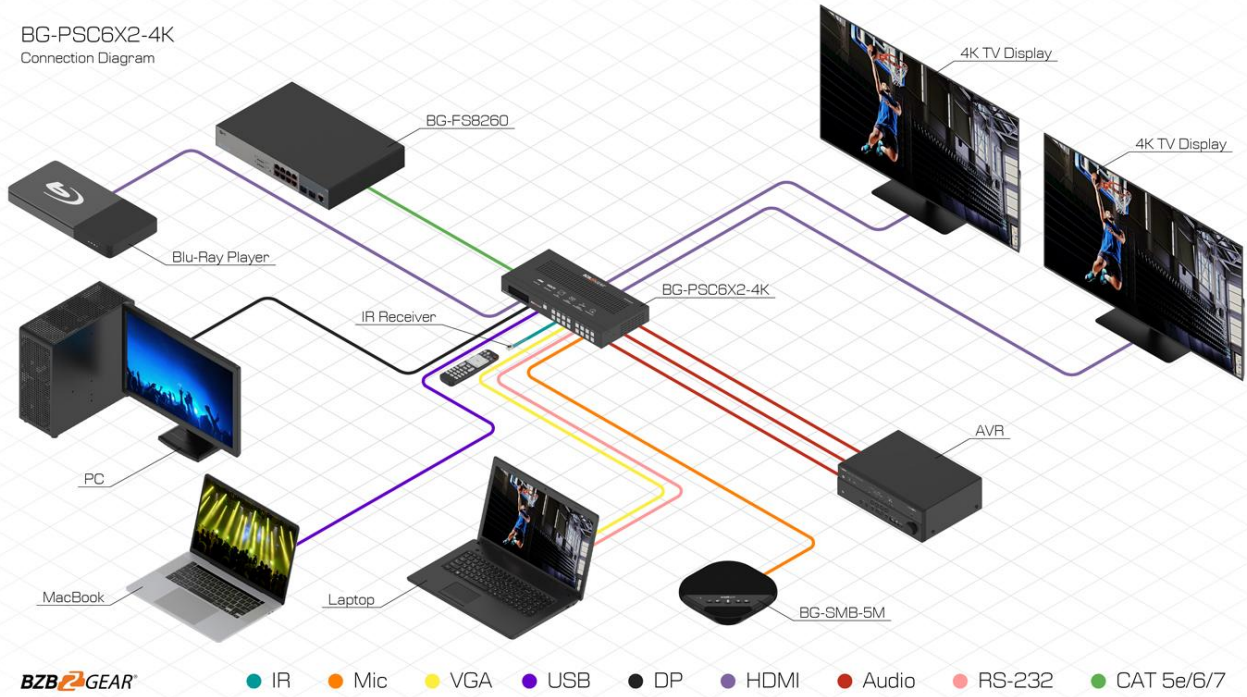| Command	Action
?	Print Help Information
HELP	Print Help Information
STATUS	Print System Status And Port Status
PON	Power On, System Run On Normal State
POFF	Power Off, System Run On Power Save State
IR ON/OFF	Set System IR Control On Or Off
KEY ON/OFF	Set System KEY Control On Or Off
LCD ON/OFF	Set LCD Always On or Auto Turn Off In Power On State
RSB x	Set RS232 Baud Rate to x bps X= [0:115200, 1:57600, 2:38400, 3:19200, 4:9600]
RESET	Reset System To Default Setting (Should Type "Yes" To Confirm, "No" To Discard)
RESET ALL	Reset System And Network To Default Setting (Should Type "Yes" To Confirm, "No" To Discard)
OUT xx ON/OFF	Set Output: xx On Or Off
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]
OUT OSD ON/OFF	Set Scaler OSD Show On or Off
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
EDID xx CP yy	Set Input:xx EDID Copy From Output:yy yy=[00]:
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

Command	Action
	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
AUD SCA ORG	Scaler Audio Input Follow Port Selection
AUD SCA ANA	Scaler Audio Input From Analog L/R Signal
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
AUD RX yy ORG	HDMI Input: yy Use Original HDMI/DVI Signal
AUD RX yy ANA	HDMI Input: yy Embedded Analog L/R When DVI Signal yy=[01…04]: HDMI Input 01 ~ 04
VOL xx	Set Scaler Audio Volume xx=[00…100]: Volume Value xx=+: Volume Increase xx=-: Volume Decrease
MUTE ON/OFF	Set Scaler Output Audio Mute ON Or OFF
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
MIC VOL xx	Set MIC Input Audio Volume xx=[00…01]:MIC Volume Value
MIC MUTE ON/OFF	Set MIC Mute On Or Off
MIC AUTOBG ON/OFF	Set Auto Decrease Background Audio When Detect MIC Voice
MIC BGVOL pp	Set Auto Decrease Background Audio To pp Percent of "VOL xx" pp=[00…100]:Percent of "VOL xx" Setting
MIC BGR dd	After Speaking, The MIC Takes dd Second To Raise The Volume dd=[01…20]: Delay Seconds
NET DHCP ON/OFF	Set Auto IP(DHCP) ON Or OFF
NET IP xxx.xxx.xxx.xxx	Set IP Address
NET GW xxx.xxx.xxx.xxx	Set Gateway Address
NET SM xxx.xxx.xxx.xxx	Set Subnet Mask Address
NET TN XXXX	Set Telnet Port
NET RB	Set Network Reboot and Apply New Config!!!

Application Example

BG-PSC6X2-4K
Connection Diagram

4K TV Display

4K TV Display

BG-FS8260

Blu-Ray Player

IR Receiver

BG-PSC6X2-4K

PC

AVR

MacBook

Laptop

BG-SMB-5M

BZBGEAR® ● IR ● Mic ● VGA ● USB ● DP ● HDMI ● Audio ● RS-232 ● CAT 5e/6/7

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.

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