BZB GEAR®
Solutions to Amplify Your World™

BG-PSC7X2

7X2 4K UHD HDMI/Component/VGA/Composite Video & Audio 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-PSC7X2 multi-function presentation switcher provides users with a variety of inputs, allowing numerous devices to be displayed on a single HDMI display. Supporting input signals up to 4K@30Hz, this unit is also equipped with an integrated scaler which allows resolutions as low as 640 x 480 to be scaled up to 1920x1080@60Hz.

The powerful dual-switcher mode allows the BG-PSC7X2 to simultaneously function as a 4x1 4K HDMI switcher and a 7x1 1080P multi-format switcher. Featuring audio embedding, de-embedding, and supporting a variety of input connections, this unit is an effective solution for use in auditoriums, classrooms, and conference rooms.

Features

- 4K@30Hz 4:4:4, full 3D
- Switch & Scale 7 sources to 2 display
- 1x VGA,4x HDMI, 1xYPbPr, 1x AV for input, and 2x HDMI for output
- Splitter and Dual Switcher modes selectable
- Bypass and scaled formatted output selectable
- Audio embedding and de-embedding
- Scaling from 640x480 to 1920x1080@60Hz
- Front-panel LCD display for status feedback
- Multiple switching mode, push-in button, IR remote control, RS-232 control, and TCP/IP control
- Easy installation with rack-mounting ears
- HDCP 1.4 compliant

Packing List

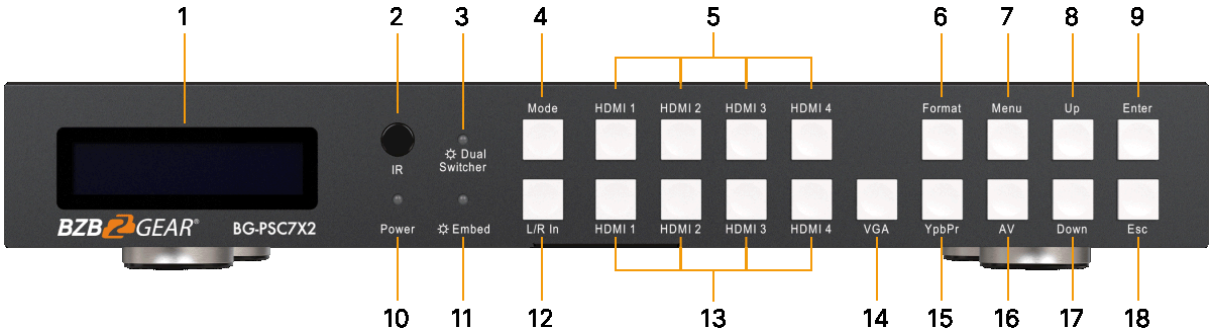
- 1x BG-PSC7X2
- 1x 5V/2A power supply
- 1x Remote control
- 1x IR Receiver
- 1x Mounting kit
- 1x User Manual
- 1x Quick Start Guide

Technical Specifications

General	
Bandwidth:	10.2Gbps
Video Input Connectors:	4x HDMI Type A, 1x VGA, 1xYPbPr, 1x AV
Video Output Connectors:	2x HDMI Type A
Audio Input Connectors:	2x 3.5mm stereo jack, 4x RCA (2 x L/R)
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):	12.7" x 5.3" x 1.7" [323mm x 135mm x 44mm]
Shipping Weight:	2.65lbs [1.2Kg]
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 5V/2A

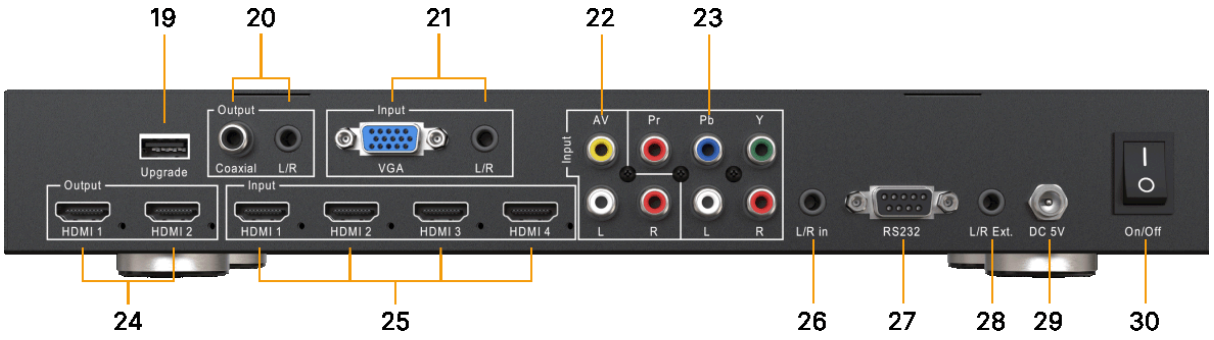
Operation Controls and Functions

Front Panel



1. **LCD display**: It shows the status of input-to-output selection, EDID info, and other information.
2. **IR receiver window**: Receive the IR from the remote control.
3. **Dual switcher LED indicator**: When the LED is lit, dual switcher mode is on.
4. **Mode button**: Press to set Dual Switcher mode ON/OFF.
5. **HDMI input 1-4 selection buttons**: Press to select the input 1 to 4 working as a 4K 4x1 switcher.
6. **Format set button**: Press to set the resolution for the output.
7. **Menu button**: Press to enter EDID set, volume setting or F/W information.
8. **Up selection button**: Press to change the segment's value.
9. **Enter button**: Press to confirm the settings.
10. **Power LED indicator**: Indicate the status of power.
11. **Embed LED indicator**: When the LED is lit, embed mode is on. When the embed mode is on, the L/R In will be embedded into the HDMI outputs.
12. **L/R in selection button**: Press to embed L/R audio to the HDMI output.
13. **HDMI input selection button 1-4**: Press to select the input from 1 to 4.
14. **VGA input selection button**: Press to select VGA input.
15. **YPbPr input selection button**: Press to select YPbPr input.
16. **AV input selection button**: Press to select AV input.
17. **Down selection button**: Press to change the segment's value.
18. **ESC**: Press to quit EDID set mode.

Rear Panel



19. USB Upgrade port: Used to upgrade the Scaler built-in BG-PSC7X2.

20. Audio output: It has coaxial and L/R outputs, the audio outputs will always follow HDMI output 2.

21. VGA input: VGA input with L/R audio input.

22. AV input: AV input with L/R audio input.

23. YPbPr input: YPbPr input with L/R audio input.

24. HDMI outputs: 2x HDMI output.

25. HDMI input 1-4: Connect to HDMI sources.

26. L/R In: Connect to additional audio input to embed to HDMI output.

27. RS232 port: DB9 connector.

28. IR Ext.: Connect to the IR receiver cable.

29. DC 5V: Connect to 5V/2A power supply.

30. Power switch: Power on/off the unit.

Menu Introduction

Three EDID segments will display on the LCD panel formatted as: INPUT VIDEO AUDIO, for example:

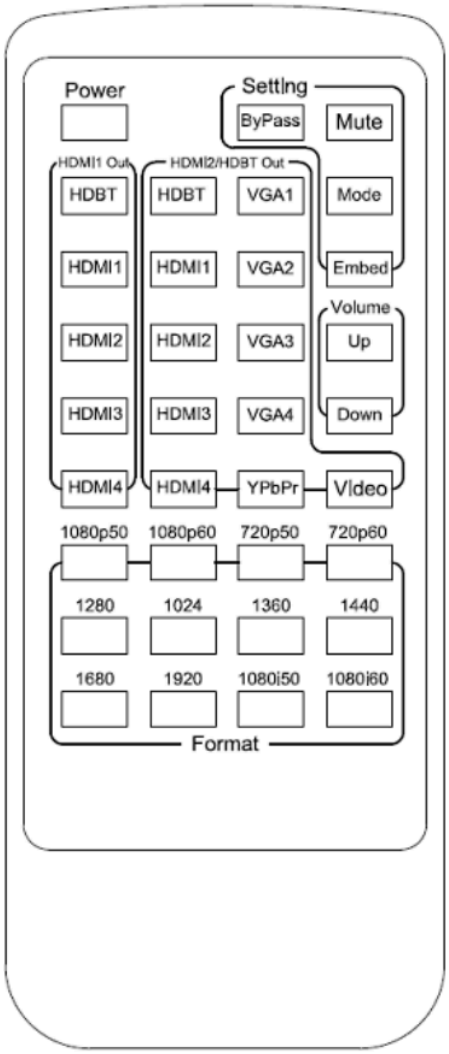
IN1 1080P 2.0CH, means to set 1080P 2.0CH EDID to INPUT1. The blinking segment is the one that can be changed currently, pressing the "**Menu**" button will change the segment.

Segment content items as below:

INPUT	VIDEO	AUDIO	Note
IN1	1080I	2.0CH.	
IN2	1080P	5.1CH	
IN3	3D	7.1CH	
IN4	4K2K	NONE	
IN5	D1024		D1024=DVI 1024 x 768
IN6	D1080		D1080=DVI 1920 x 1080
IN7	D1200		D1200=DVI 1920 x 1200
IN8	OUT1		OUT1=Copy OUTPUT1 EDID to INPUTx
ALL	OUT2		ALL=Set EDID to ALL INPUTs OUT2=Copy OUTPUT2 EDID to INPUTx
	OUT3		OUT3=Copy OUTPUT3 EDID to INPUTx
	OUT4		OUT4=Copy OUTPUT4 EDID to INPUTx
	OUT5		OUT5=Copy OUTPUT5 EDID to INPUTx
	OUT6		OUT6=Copy OUTPUT6 EDID to INPUTx
	OUT7		OUT7=Copy OUTPUT7 EDID to INPUTx
	OUT8		OUT8=Copy OUTPUT8 EDID to INPUTx

Note: Volume can be changed by pressing the **UP** and **Down** buttons. During F/W mode, pressing the **Enter** button will show the current F/W information.

Remote Control Description



HDMI1 Out: Source selection for HDMI output 1 when in Matrix Switcher mode.

HDMI2/HDBT Out: Source selection for HDMI output 2 when in Matrix Switcher mode or when in Splitter mode

Format: Video output resolution selection.
The BG-PSC7X2 includes a built-in video scaler. Press the required resolution button on the remote control to change the HDMI output video resolution.

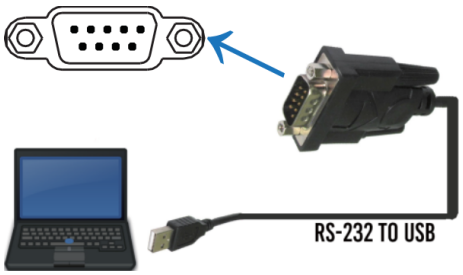
Setting:

- Bypass: Audio on HDMI outputs is from HDMI input selected.
- Mute: Mutes the audio on all outputs (HDMI, Coaxial digital and Analogue audio)
- Mode: Switches between Matrix Switcher mode and Splitter mode
- Embed: Audio on HDMI outputs is from L/R Analogue audio input (3.5mm Jack)

Volume: Adjust the audio Volume on all outputs (HDMI, Coaxial digital and Analogue audio)

RS-232 Pin Assignment

The connection method is as follows:



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

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

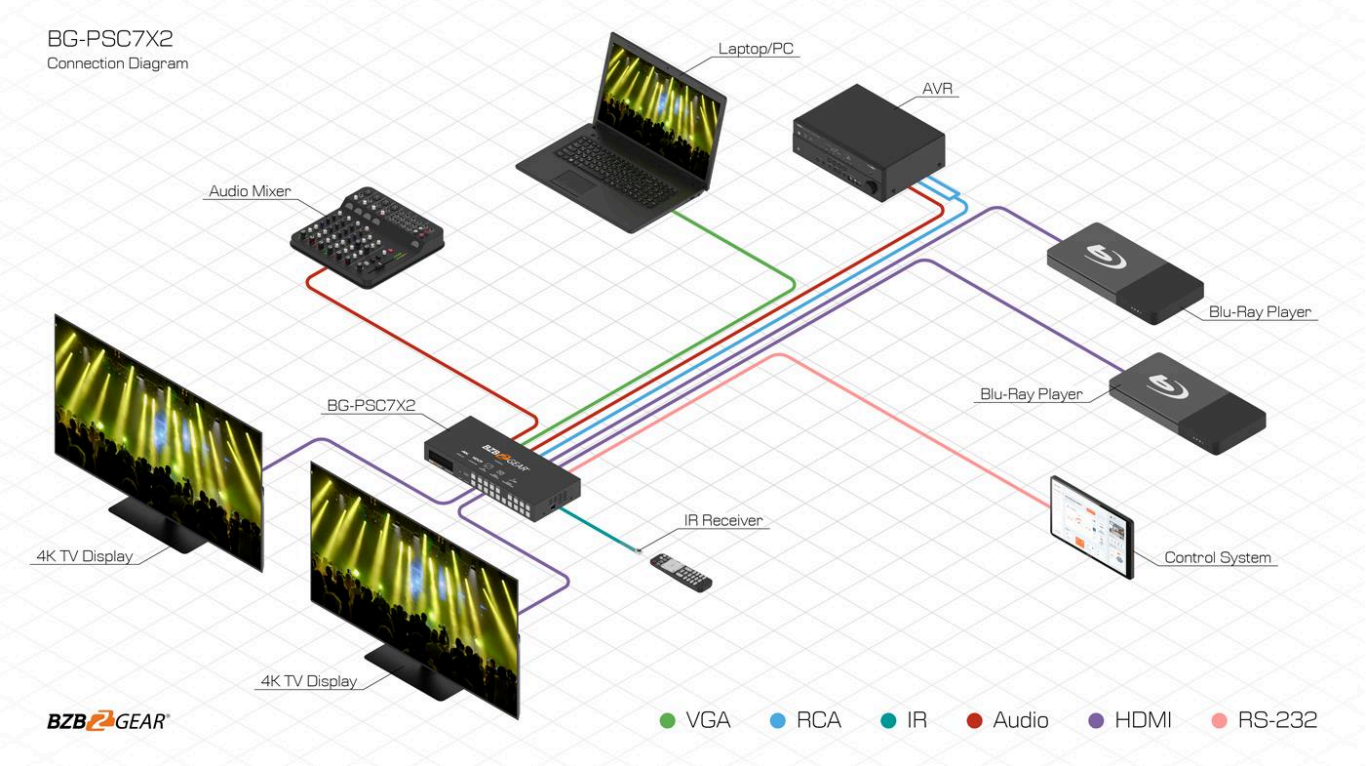
Flow Control: None

BG-PSC7X2		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
DBG ON/OFF	Set Debug Mode On Or Off
BEEP ON/OFF	Set Onboard Beep On Or Off
RESET	Reset System To Default Setting (Should Type "Yes" To Confirm, "No" To Discard)
OUT xx FR yy	Set OUTPUT:xx From INPUT:yy xx=00: Select All OUTPUT Port xx=[01...02]: Select One OUTPUT Port yy=[01...04]: HDMI Input 01 ~ 04 yy=AV: AV Input(Output 02 Only) yy=COMP: Component Input(Output 02 Only) yy=VGA: VGA Input(Output 02 Only)
OUT SP/MX	Set OUTPUT To Splitter or Matrix Mode
OUT RES rr	Set Scaler Output Resolution rr=01: 1080P@50Hz rr=02: 1080P@60Hz rr=03: 720P@60Hz rr=04: 720P@50Hz rr=05: 1280x1024@60Hz rr=06: 1024x768@60Hz rr=07: 1360x768@60Hz rr=08: 1440x900@60Hz rr=09: 1680x1050@60Hz
EDID xx CP yy	Set Input:xx EDID Copy From Output:yy yy=[00]: yy=[01...08]
EDID xx DF zz	Set Input:xx EDID To Default EDID:zz xx=00: Select All INPUT Port xx=[01...04]: 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 PCM/DTS/DOLBY zz=02: HDMI 1080p@60Hz, Audio 7.1CH PCM/DTS/DOLBY/HD zz=03: HDMI 1080i@60Hz, Audio 2CH PCM zz=04: HDMI 1080i@60Hz, Audio 5.1CH PCM/DTS/DOLBY zz=05: HDMI 1080i@60Hz, Audio 7.1CH PCM/DTS/DOLBY/HD zz=06: HDMI 1080p@60Hz/3D, Audio 2CH PCM zz=07: HDMI 1080p@60Hz/3D, Audio 5.1CH PCM/DTS/DOLBY zz=08: HDMI 1080p@60Hz/3D, Audio 7.1CH PCM/DTS/DOLBY/HD zz=09: HDMI 4K2K, Audio 2CH PCM zz=10: HDMI 4K2K, Audio 5.1CH PCM/DTS/DOLBY zz=11: HDMI 4K2K, Audio 7.1CH PCM/DTS/DOLBY/HD zz=12: DVI 1280x1024@60Hz, Audio None zz=13: DVI 1920x1080@60Hz, Audio None zz=14: DVI 1920x1200@60Hz, Audio None
AUD SCA ORG	Scaler Audio Input Follow Port Selection
AUD SCA ANA	Scaler Audio Input From Analog L/R Signal
AUD xx	Set Scaler Audio Volume xx=[00...30]: Volume Value

Application Example



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

Limited Product Warranty Terms

Pro Line: 5-year warranty from the date of purchase for AV/Broadcasting products bought on or after August 1, 2024.

Essential Line: 3-year warranty from the date of purchase for AV/Broadcasting products bought on or after August 1, 2024.

Cables: Lifetime Limited Product Warranty.

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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