BZB**2**GEAR®
Solutions to Amplify Your World™

BG-8K-HS21A

2x1 8K UHD HDMI 2.1 Switcher with Audio De-embedder

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

- 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.

Surge protection device recommended

This product contains sensitive electrical components that electrical spikes, surges, electric shocks, lightning strikes, etc may damage. Use of surge protection systems is highly recommended to protect and extend the life of your equipment.

Introduction

This BG-8K-HS21A 48Gbps 2x1 Switcher allows you to switch between two HDMI sources to one HDMI display. It supports video resolutions up to 8K@60Hz 4:2:0. Additionally, it features advanced EDID management and an audio de-embedding function, with output available through optical and analog ports. This versatile device is ideal for demonstrations, video conferences, multimedia teaching, and other scenarios requiring large-screen displays.

Features

- HDCP 2.3 compliant
- Support 48Gbps video bandwidth
- Support video resolution up to 8K@60Hz YCbCr 4:2:0 12bit, 4K@120Hz RGB/YCbCr 4:4:4 12bit, as specified in HDMI 2.1
- VRR, FVA, and ALLM are supported
- Support HDR, HDR10, HDR10+, Dolby Vision, ALLM/VRR pass-through
- Support HDMI audio formats: LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
- Built-in Equalizer, Retiming and Driver
- Advanced EDID management
- Support audio de-embedding function (output through the optical and analog port)
- Support IR remote control and front panel button control

Packing List

- 1 × 48Gbps 2x1 Switcher
- 1 × IR Remote
- 1 × 5V/1A Multinational Power Supply
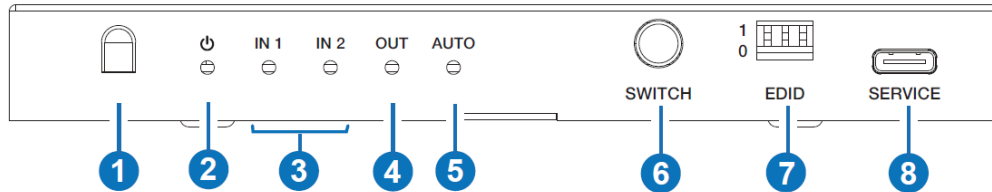- 1 × User Manual

Specifications

Technical	
HDMI Compliance	HDMI 2.1
HDCP Compliance	HDCP 2.3
Video Bandwidth	48Gbps
Video Resolution	Up to 8K@60Hz YCbCr 4:2:0 12bit, 4K@120Hz RGB/YCbCr 4:4:4 12bit
Color Depth	8/10/12bit
Color Space	RGB, YCbCr 4:4:4 / 4:2:2 / 4:2:0
Audio Formats	**HDMI input/output:** LPCM, Dolby Digital/Plus/EX, Dolby True HD, Dolby Atmos, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD **Audio de-embedding output:** Optical: LPCM/Dolby/DTS 5.1CH Analog: LPCM 2CH
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Connection	
Input	2 × HDMI IN [Type A, 19-pin female]
Output	1 × HDMI OUT [Type A, 19-pin female] 1 × OPTICAL [S/PDIF] 1 × L/R [3.5mm Stereo Mini-jack]
Control	1 × SERVICE [USB Type C, Update port]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions (W x D x H)	5.7in x 2.7in x 0.71in [145mm x 68mm x 18mm]
Weight	0.57 lbs [258g]
Power Supply	Input: AC 100-240V 50/60Hz, Output: DC 5V/1A (US/EU standards, CE/FCC/UL certified)
Power Consumption	3W (Max)
Operation Temperature	32°F ~ 104°F / 0°C ~ 40°C
Storage Temperature	-4°F ~ 140°F / -20°C ~ 60°C
Relative Humidity	20~90% RH (non-condensing)

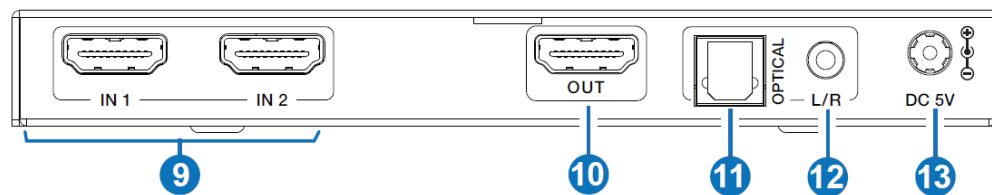| Recommended HDMI Cable				
Video Resolution	8K	4K60	4K24	1080P
HDMI Cable Length (HDMI in / out)	2m/6.6ft (Ultra HDMI 2.1)	8m/26ft	12m/39ft	15m/49ft
The use of "Premium High-Speed HDMI" cables is highly recommended.				

Operation Controls and Functions

Front and Rear Panel

Front Panel

Rear Panel

No.	Name	Function Description
1	IR Window	IR input signal receiving window.
2	POWER LED	The power LED lights in green when the device is working, and red when the device is on standby.
3	IN LED (1~2)	When the HDMI IN 1/2 port is selected as the signal source input channel, the corresponding green LED will be on.
4	OUT LED	When the HDMI OUT port connects to a display device and outputs a signal, the green LED will be on.
5	AUTO LED	When the auto-switching function (switch to the corresponding signal input channel when the signal source is connected.) is turned on, the green LED will be on.
6	SWITCH button	Used to select a signal source for the OUT port. Short pressing this button will allow the device to switch any of the two HDMI input signals to the OUT port. Long pressing this button for 3 seconds will turn on/off the auto-switching function.
7	EDID Dip switch	Use the DIP switch to set EDID. 111- Copy OUT port sink EDID (as factory default) 110- 4K@60Hz 4:4:4, Audio 2ch PCM 101- FRL 12G_8K_HDR, Audio 2ch PCM 100- FRL 12G_8K_HDR, Audio 5.1ch PCM/DTS/DOLBY 011- FRL 12G_8K_HDR, Audio 7.1ch PCM/DTS/DOLBY/HD

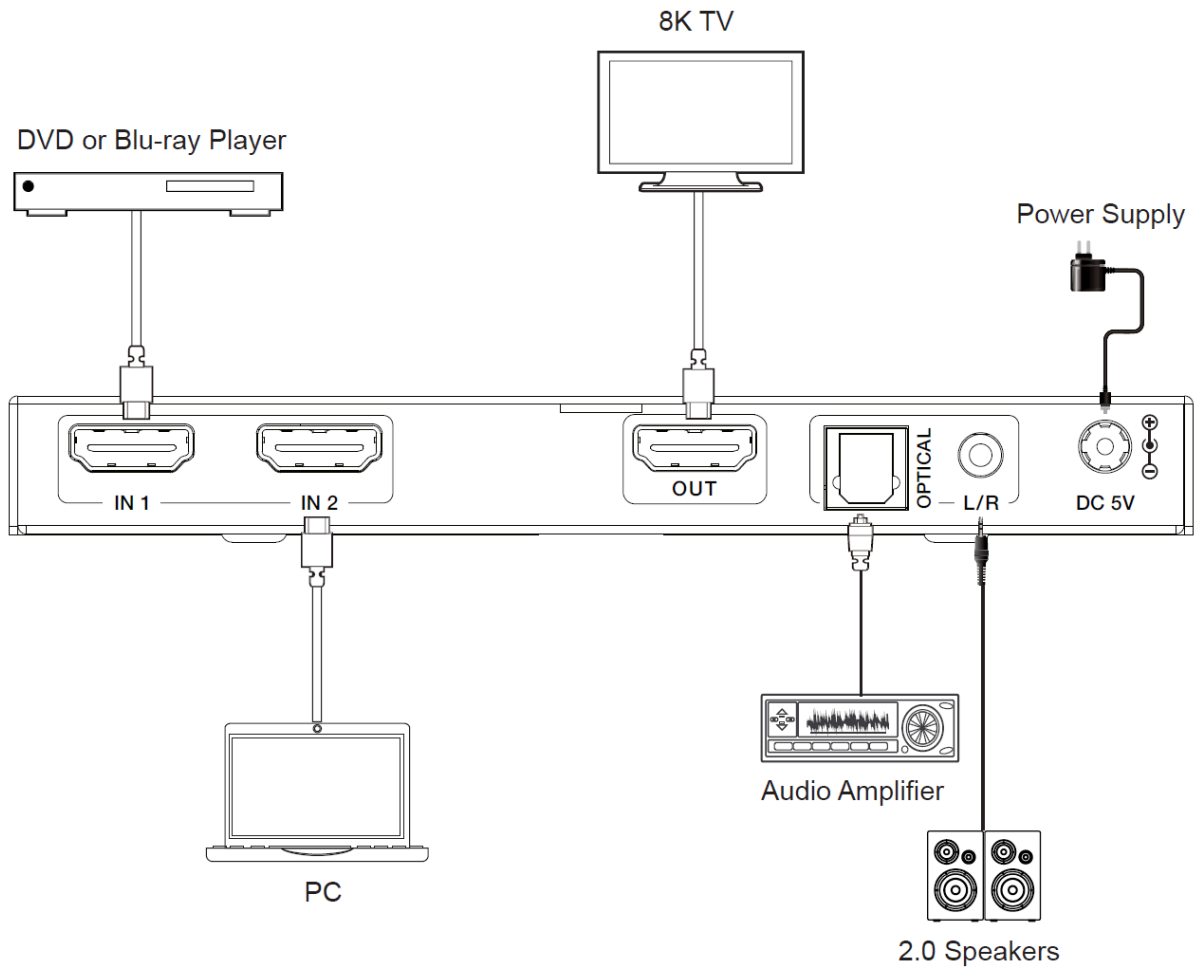|		
		010- FRL 10G_8K_HDR, Audio 2ch PCM 001- FRL 10G_8K_HDR, Audio 5.1ch PCM/DTS/DOLBY 000- FRL 10G_8K_HDR, Audio 7.1ch PCM/DTS/DOLBY/HD
8	SERVICE	Firmware update and debug port.
9	IN port (1~2)	HDMI signal input port, connecting to HDMI source device such as DVD or PS5 with an HDMI cable.
10	OUT port	HDMI signal output port, connecting to HDMI display device such as TV or Monitor with an HDMI cable.
11	OPTICAL	Optical fiber audio output port.
12	L/R	Analog audio output port.
13	DC 5V	DC 5V/1A Power input port.

IR Remote

☉ : Power on the product or set it to standby mode.

1/2 : Press 1/2 button to select HDMI signal source IN 1/2 to the OUT port.

↻ : Press this button to cyclically switch HDMI signal source IN 1/2 to the OUT port.

Connection Diagram

8K TV

DVD or Blu-ray Player

Power Supply

IN 1   IN 2   OUT   OPTICAL   L/R   DC 5V

PC

Audio Amplifier

2.0 Speakers

Troubleshooting

Problems	Causes	Solutions
No Power / All LED off	Power supply not connected, connected fully, or wrong power supply.	Check if the power supply is connected correctly and the output voltage value is within recommended specifications.
No sound or sound issues	The HDMI connection is faulty, the audio format is not supported by the displays, or the source player is set to another port for audio output	Check if the HDMI cables are connected correctly. Check if the audio format is supported by the display and that a user has not changed the supported audio format on the player`s audio output. Ensure output settings from the HDMI source device as set correctly.
No picture or picture flickers	The HDMI cable may be faulty or the category cable quality is faulty.	Check if the HDMI and category cable connections are correct and undamaged. Change to another good working HDMI cable or category cable (CAT6 or better cable is recommended).

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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