

BG-8K-DA12A-G2

Direktronik Art 20124362

1x2 8K HDMI 2.1 Splitter with Audio De-Embedding

User Manual





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TABLE OF CONTENTS

Statement	4
Safety Precaution	4
Introduction	5
Features	5
Packing List	5
Specifications	6
Operation Controls and Functions	7
Auto Downscaling & Conversion	8
Connection Diagram	9
Troubleshooting	10
Tech Support	11
Limited Product Warranty Terms	11
Mission Statement	12
Copyright	12



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

The BG-8K-DA12A-G2 is a 1x2 HDMI 2.1 splitter that distributes one source to two displays while preserving top-tier video and audio quality. It supports up to 8K@60Hz (4:2:0, 12-bit) and 4K@120Hz (4:4:4, 12-bit) with 48 Gbps FRL bandwidth and HDCP 2.3 compliance for secure, uninterrupted transmission.

With HDR, HDR10+, Dolby Vision, and HLG pass-through, along with VRR, FVA, and ALLM, it enhances visual performance and gaming responsiveness. The built-in audio de-embedding extracts audio via optical (S/PDIF) and 3.5mm analog outputs. Advanced EDID management, auto downscaling, and HDR-to-SDR conversion ensure seamless compatibility.

Connectivity includes 1 HDMI input, 2 HDMI outputs, optical and analog audio outputs, and a USB-C port for firmware updates. It supports premium audio formats like LPCM 7.1CH, Dolby Atmos, and DTS-HD Master Audio, with optical/analog outputs handling LPCM 2CH and Dolby/DTS 5.1CH.

Features

- HDCP 2.3 Compliant for seamless content protection.
- Supports 48 Gbps FRL and 18 Gbps TMDS video bandwidth for high-speed data transmission.
- Supports resolutions up to 8K@60Hz (4:2:0, 12-bit) and 4K@120Hz (4:4:4, 12-bit), as specified in HDMI 2.1.
- Compatible with advanced gaming features, including VRR (Variable Refresh Rate), FVA (Fast VActive), and ALLM (Auto Low Latency Mode).
- Full HDR compatibility, supporting HDR, HDR10, HDR10+, Dolby Vision, and HLG pass-through.
- Supports high-definition HDMI audio formats, including LPCM 7.1CH, Dolby TrueHD, Dolby Atmos, and DTS-HD Master Audio.
- Integrated audio de-embedding with optical and analog output options.
- Automatic resolution downscaling on each output for optimal display compatibility.
- Auto HDR-to-SDR conversion on each output for enhanced flexibility.
- Advanced EDID management for seamless device communication and compatibility.

Packing List

- 1 × 8K HDMI 1x2 Splitter
- 1 × 5V/2A Multinational Power Supply
- 1 × User Manual



Specifications

Technical Specifications				
HDMI Compliance	HDMI 2.1			
HDCP Compliance	HDCP 2.3, HDCP 1.4			
Video Bandwidth	48Gbps FRL and 18Gbps TMDS			
Video Resolution	Up to 8K@60Hz 4:2:0 12bit, 4K@120Hz 4:4:4 12bit			
Color Depth	8/10/12bit			
Color Space	RGB, YCbCr_4:4:4, YCbCr_4:2:2, YCbCr_4:2:0			
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG			
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 Technical 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	1 × HDMI IN [Type A, 19-pin female]			
Output	2 × 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			
Dimensions (W × D × H)	5.7in x 2.7in x 0.67in / 145mm × 68mm × 17mm			
Weight	0.57 lbs [260g]			
Power Supply	Input: AC 100-240V 50/60Hz, Output: DC 5V/2A (US/EU standards, CE/FCC/UL certified)			
Power Consumption	4.5W (Max)			
Operation Temperature	0°C ~ 40°C / 32°F ~ 104°F			
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F			
Relative Humidity	20~90% RH (non-condensing)			
Recommended HDMI Cable				
Video Resolution	8K	4K60	4K24	1080P
HDMI Cable Length (HDMI IN / OUT)	3m/10ft (Ultra HDMI 2.1)	8m/26ft	12m/39ft	15m/49ft
The use of “Premium High Speed HDMI” cable is highly recommended.				



Operation Controls and Functions

Front and Rear Panel

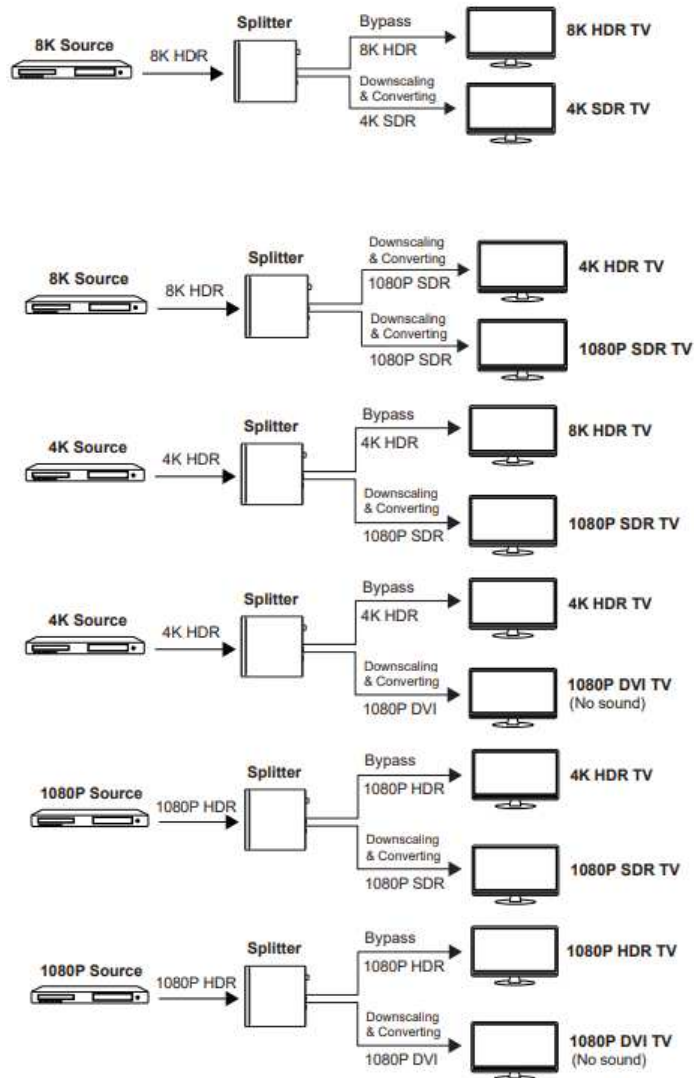


1	Power LED	The power LED lights in red when the device is working
2	IN LED	When the HDMI IN port connects to an active source device, the green LED will be on.
3	OUT LED (1~2)	When the HDMI OUT 1/2 port connects to a display device and outputs signal, the corresponding green LED will be on.
4	EDID DIP Switch	Use the DIP switch to set EDID. [DIP]=111: Copy OUT port sink EDID (as factory default) [DIP]=110: 4K60(4:4:4), 2.0CH [DIP]=101: FRL12G_8K_HDR, 2.0CH [DIP]=100: FRL12G_8K_HDR, 5.1CH [DIP]=011: FRL12G_8K_HDR, 7.1CH [DIP]=010: FRL10G_8K_HDR, 2.0CH [DIP]=001: FRL10G_8K_HDR, 5.1CH [DIP]=000: FRL10G_8K_HDR, 7.1CH
5	Service	Firmware update port.
6	IN Port	HDMI signal input port, connecting to HDMI source device such as DVD or PS5 with an HDMI cable.
7	OUT Port (1~2)	HDMI signal output port, connecting to HDMI display device such as TV or Monitor with an HDMI cable.
8	Optical	Optical fiber audio output port.
9	L/R	Analog audio output port.
10	DC 5V	DC 5V/2A power input port.



Auto Downscaling & Conversion

This 1x2 splitter features automatic downscaling and format conversion on all outputs. Before downscaling, it analyzes the EDID data from all connected display devices and selects the lowest supported resolution to ensure optimal compatibility. For example:



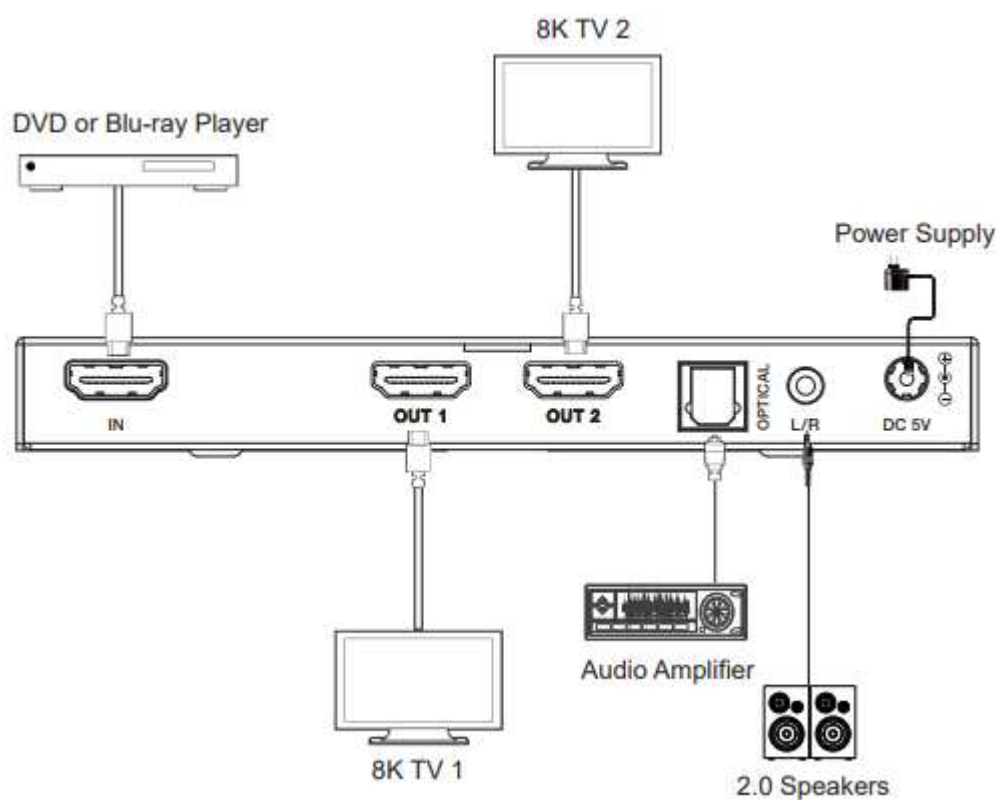
Note: If the source resolution is downscaled and converted to 1080P DVI according to the EDID of display devices, it will be output without sound on the TV.

Downscaling will not work in the following conditions:

1. The input source is 8K DSC format.
2. The resolution of the input source is not supported by the splitter.



Connection Diagram





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

1.888.499.9906

Email

support@bzbgear.com

Live Chat

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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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