BZB GEAR®

Solutions to Amplify Your World ™

BG-8K-AD

48Gbps HDMI Audio De-embedder

User Manual

Table of Contents

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

The 48Gbps HDMI Audio De-embedder is a versatile and high-performance device designed to extract audio signals from HDMI sources or ARC-compatible TVs. This de-embedder outputs analog stereo and digital S/PDIF audio, while providing a buffered HDMI video output. With support for the latest HDMI 2.1 and HDCP 2.3 standards, it offers exceptional video quality and comprehensive audio pass-through capabilities, making it an ideal solution for advanced home theater setups and professional AV installations.

Features

- HDMI 2.1 and HDCP 2.3 compliant
- Support 48Gbps FRL and 18Gbps TMDS video bandwidth
- Support video resolution up to 8K@60Hz 4:2:0 12bit, 4K@120Hz 4:4:4 12bit
- HDMI 2.1 protocols: VRR, ALLM, QMS, QFT, and SBTM are supported
- HDR, HDR 10, HDR 10+, Dolby Vision, HLG pass-through
- LPCM 7.1CH, Dolby TrueHD, Atmos and DTS-HD Master, DTS:X Audio pass-through
- HDMI input audio or TV ARC audio de-embedded to S/PDIF and L/R audio output
- Support CEC control from output devices to input sources
- Advanced EDID management
- Compact design for easy and flexible installation

Packing List

- 1 × 48Gbps HDMI Audio De-embedder
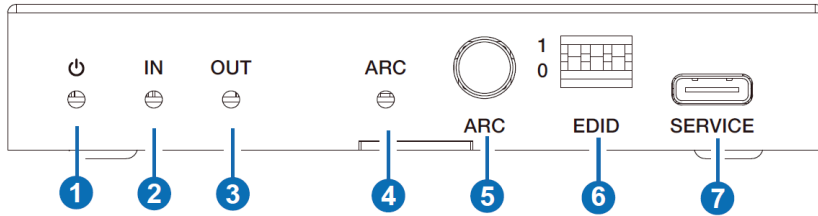- 1 × 5V/1A Multinational Power Supply
- 1 × User Manual

Specifications

Technical	
HDMI Compliance	HDMI 2.1
HDCP Compliance	HDCP 2.3
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	8/10/12-bit
Color Space	RGB, YCbCr_4:4:4, YCbCr_4:2:2, YCbCr_4:2:0
Audio Formats	**HDMI IN/OUT:** 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 BREAKOUT:** OPTICAL OUT: PCM 2.0CH, Dolby, DTS 5.1CH L/R OUT: PCM 2.0CH
HDR	HDR, HDR 10, HDR 10+, Dolby Vision, HLG
ESD Protection	Human body model — ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Connection	
Input	1 × Source IN [HDMI Type A, 19-pin female]
Output	1 × TV(ARC) OUT [HDMI Type A, 19-pin female] 1 × L/R [3.5mm Stereo mini-jack] 1 × OPTICAL [S/PDIF, female]
Control	1 × SERVICE [USB Type C, Update port]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	3.7in x 2.7in x 0.71in [95mm [W] × 68mm [D] × 18mm [H]]
Weight	0.39 lbs [178g]
Power Supply	Input: AC 100-240V 50/60Hz, Output: DC 5V/1A (US/EU standards, CE/FCC/UL certified)
Power Consumption	4W (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)

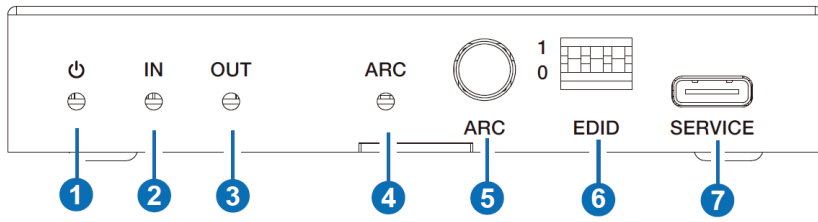| **Recommended HDMI Cable**			
Video Resolution	8K60	4K60	1080P
HDMI Cable Type	Ultra HDMI 2.1 cable	HDMI 2.0 cable	HDMI cable
HDMI Cable Length (HDMI IN / OUT)	2m/6.6ft ~ 3m/10ft	10m/33ft	15m/49ft
The use of "Premium High-Speed HDMI" cables is highly recommended.			

Operation Controls and Functions

Front Panel

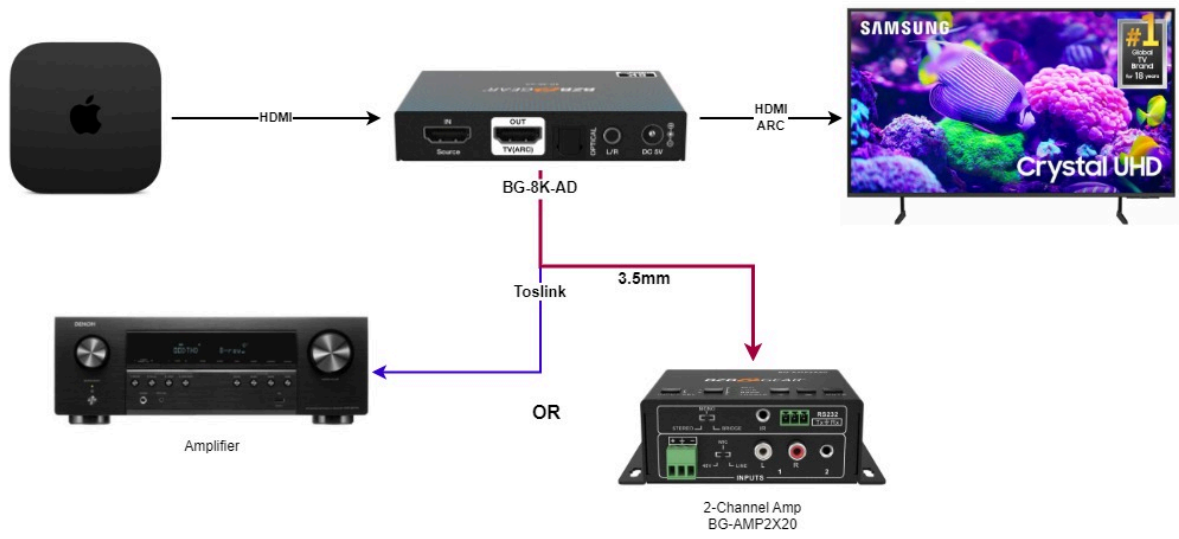| No.	Name	Function Description
1	Power LED	When the device is powered on, the red LED will be on.
2	IN LED	When the IN port connects to an active source device, the green LED will be on.
3	OUT LED	When the OUT port connects to a display device and outputs a signal, the corresponding green LED will be on.
4	ARC LED	•**Light on:** The ARC is enabled with normal CEC communication. The audio is returned to output via the optical port. •**Light flashing:** The ARC is enabled with an abnormal CEC communication. The audio failed to return to the output optical port. •**Light off:** The ARC is disabled.
5	ARC button	Press this button to enable or disable the ARC function.
6	EDID DIP Switch	Use the DIP switch to set EDID. [DIP]=111: Copy OUT port sink video and audio EDID [DIP]=110: Copy OUT port sink video EDID, Audio 2.0CH [DIP]=101: Copy OUT port sink video EDID, Audio 5.1CH [DIP]=100: FRL12G_8K_HDR, 2.0CH [DIP]=011: FRL12G_8K_HDR, 5.1CH [DIP]=010: FRL10G_8K_HDR, 2.0CH [DIP]=001: FRL10G_8K_HDR, 5.1CH
7	SERVICE	Firmware update and debug port.

Rear Panel

No.	Name	Function Description
1	IN port	HDMI signal input port, connected to HDMI source device such as DVD or PS5 with an HDMI cable.
2	OUT port	HDMI signal output port, connected to HDMI display devices such as TV or Monitor with an HDMI cable. It can be used as the ARC audio channel when the ARC function is enabled.
3	OPTICAL	Optical audio output port.
4	L/R	•Analog audio output port.
5	DC 5V	DC 5V/1A power input port.

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	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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