



BG-EXHOC

HDMI 2.0 Extender over Single Coax with Bi-directional IR

User Manual



Transmitter



Receiver

CONTACT

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INTRODUCTION

The **BG-EXHOC HDMI 2.0 Extender over Single Coax with Bi-directional IR** boosts your HDMI transmission range up to 110m (363ft) in Ultra HD 4K2K format over a single coaxial cable. BG-EXHOC is easy to install and works perfectly with Belden 1694A coaxial cables. This device is also equipped with bi-directional IR pass-through. This feature allows users to rely on the same coax cable to carry IR control data for devices like displays and media players.

The BG-EXHOC is comprised of two units: transmitter (BG-EXHOC[TX]) and receiver (BG-EXHOC[RX]). The transmission range between the sending and receiving units can be up to 110m (363ft) using Ultra HD (4K2K) with 2 channel audio.

FEATURES

- HDMI 2.0 compliant
- Supports up to 4K2K@60 4:4:4 8bits*
- Extends the transmission range up to 110m (363ft) from the HDMI sources at 4K2K@60 4:4:4 8bits
- HDCP input & output support
- Single coaxial cable
- Uncompressed HDMI over Coaxial cable transmission
- Audio sample rate supports 32KHz, 44.1KHz, 48KHz
- Auto signal equalization
- Supports full frequency IR signal from 20KHz to 60KHz
- Bi-directional IR path
- Wall mounting housing design for easy and robust installation



The range is dependent on the characteristics and quality of the coax cables. Higher resolutions and longer transmission distances require low skew cables for best performance. Solid and shielded coax cable, such as Belden 1694A, with metal 75ΩBNC connectors is recommended.

*Noted:

Supported Resolution		
480i 60Hz	1080P 29.97(30)Hz	4K2K 50Hz 4:2:0
480P 60Hz	1080P 50Hz	4K2K 50Hz 4:2:0 10/12bit**
576i 50Hz	1080P 59.94(60)Hz	4K2K 50Hz 4:2:2
576P 50Hz	1080P 59.94(60)Hz 10/12bit**	4K2K 50Hz 4:4:4
720P 50Hz	4K2K 24Hz 4:4:4	4K2K 60Hz 4:2:0
720P 59.94(60)Hz	4K2K 24Hz 4:4:4 10/12bit	4K2K 60Hz 4:2:0 10/12bit**
1080i 59.94(60)Hz	4K2K 25Hz 4:4:4	4K2K 60Hz 4:2:2
1080P 23.98(24)Hz	4K2K 30Hz 4:4:4	4K2K 60Hz 4:4:4
1080P 25Hz	4K2K 30Hz 4:4:4 10/12bit**	

** Resolution supports 10/12 bit

PACKAGE CONTENTS

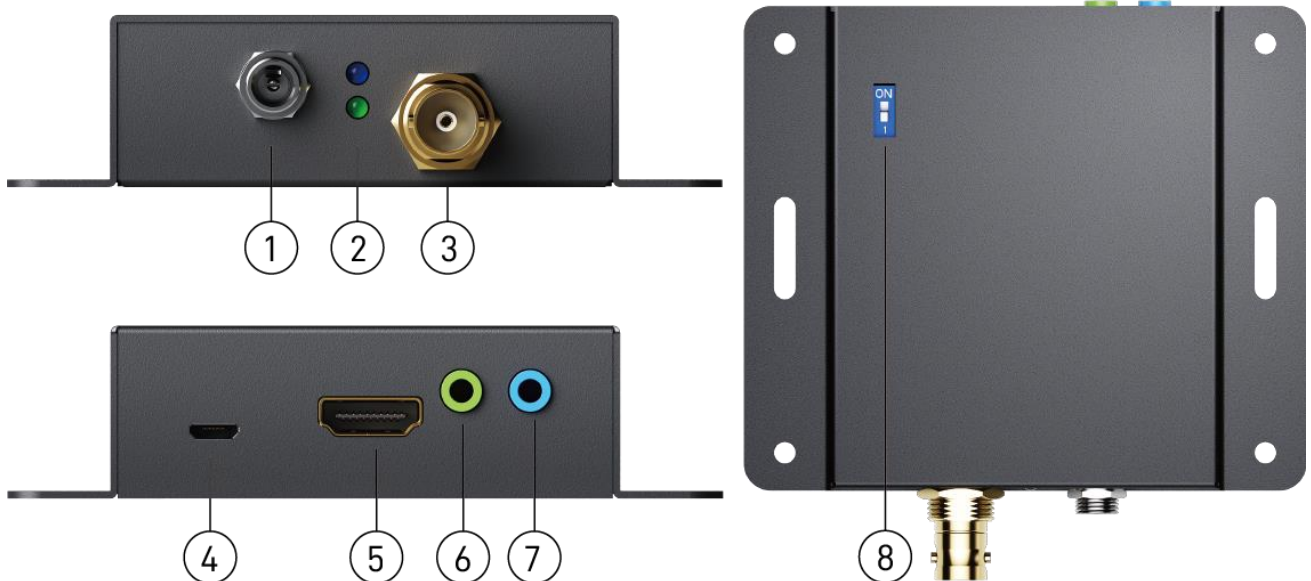
- 1x BG-EXHOC [TX & RX]
- 2x DC 5V wall wart
- 1x User Manual

SPECIFICATIONS

Model Name		BG-EXHOC	
Technical			
Role of usage		Transmitter [TX]	Receiver [RX]
HDMI compliance		HDMI 2.0a	
HDCP compliance		Yes	
Video bandwidth		Single-link 594MHz [18Gbps]	
Video support		up to 4K2K@60 4:4:4 8bits	
Audio support		Stereo audio	
HDMI over Coax transmission range		Ultra HD [4K2K 24-bit color] – up to 110m [363ft]	
HDMI Equalization		Auto	
Input TMDS signal		1.2 Volts [peak-to-peak]	
Input DDC signal		5 Volts [peak-to-peak, TTL]	
ESD protection		Human body — ±15kV [air-gap discharge] & ±8kV [contact discharge]	
PCB stack-up		4-layer board [impedance control — differential 100Ω; single 50Ω]	
Input		1x HDMI/ 1x IR socket	1x BNC/ 1x IR socket
Output		1x BNC/ 1x IR socket	1x BNC/ 1x IR socket
IR remote control		Electro-optical characteristics: $\tau = 25^\circ$ / Carrier frequency: 20-60kHz	
HDMI connector		Type A [19-pin female]	
BNC connector		75Ω interlocking socket	
3.5mm connector		3.5mm earphone jack for IR blaster to control HDMI source device	
Mechanical			
Housing		Metal enclosure	
Dimensions [L x W x H]	Model	90 x 96 x 25mm[3.5" x 3.7" x 1"]	90 x 96 x 25mm[3.5" x 3.7" x 1"]
	Package	263 x 170 x 97mm [10.3" x 6.7" x 3.8"]	
	Carton	512 x 364 x 288mm [1'7" x 1.2' x 11.3"]	
Weight	Model	127g [4.5oz]	127g [4.5oz]
	Package	1140g [2.5lbs]	
Fixedness		Interlocking power supply	
Power supply		5V DC	
Power consumption		10 Watt [max]	6 Watt [max]
Operation temperature		0~40°C [32~104°F]	
Storage temperature		-20~60°C [-4~140°F]	
Relative humidity		20~90% RH [no condensation]	

PANEL DESCRIPTIONS

Transmitting unit ► BG-EXHOC-TX



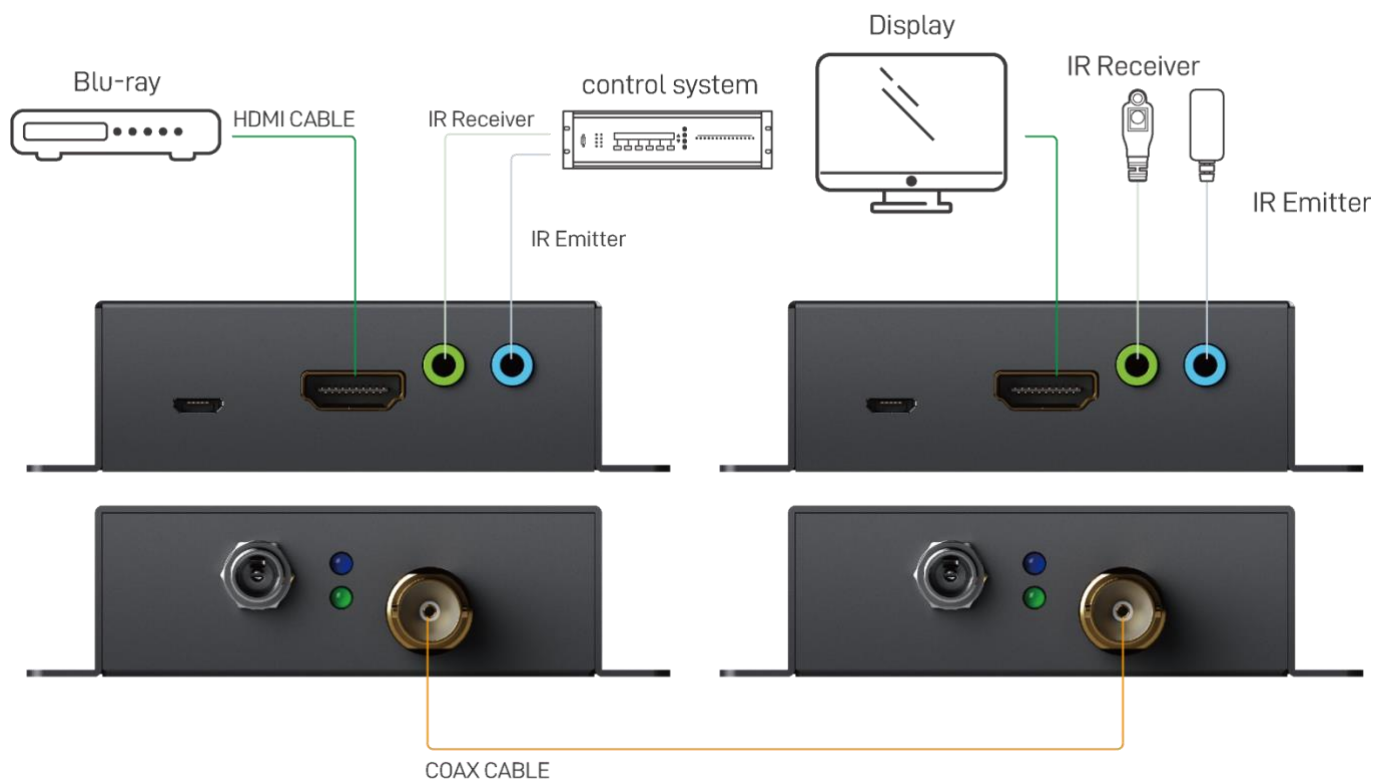
1. **+5V DC:** Connects to 5V DC power supply
2. **POWER/SIGNAL LED:** Blue light - POWER; Green light - SIGNAL ACTIVE
3. **COAX OUT:** Connect to coaxial cable
4. **Micro-USB:** for F/W update
5. **HDMI IN:** Connect to HDMI source device
6. **IR Receiver:** Infrared 3.5mm socket for plugging in the extension cable of an IR receiver
7. **IR Blaster:** Infrared 3.5mm socket for plugging in the extension cable of an IR blaster
8. **DIP Switch:** [ON] FW update mode; [OFF] Normal mode

Receiving unit ► BG-EXHOC-RX

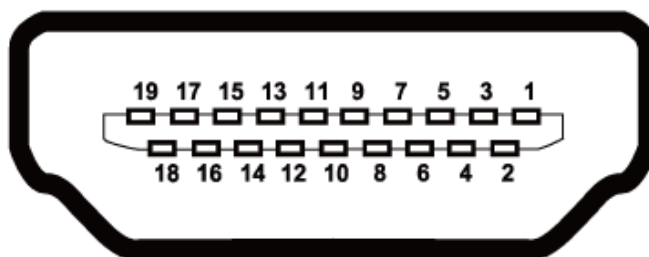


1. **+5V DC:** Connects to 5V DC power supply
2. **POWER/SIGNAL LED:** Blue light - POWER; Green light - SIGNAL ACTIVE
3. **COAX IN:** Connect to coaxial cable
4. **Micro-USB:** for F/W update
5. **HDMI OUT:** Connect to HDMI display
6. **IR Receiver:** Infrared 3.5mm socket for plugging in the extension cable of an IR receiver
7. **IR Blaster:** Infrared 3.5mm socket for plugging in the extension cable of an IR blaster

CONNECTION DIAGRAM



HDMI PIN DEFINITION



Type A

Pin 1	TMDS Data2+	Pin 11	TMDS Clock Shield
Pin 2	TMDS Data2 Shield	Pin 12	TMDS Clock-
Pin 3	TMDS Data2-	Pin 13	CEC
Pin 4	TMDS Data1+	Pin 14	Reserved (N.C. on device)
Pin 5	TMDS Data1 Shield	Pin 15	SCL
Pin 6	TMDS Data1-	Pin 16	SDA
Pin 7	TMDS Data0+	Pin 17	DDC/CEC Ground
Pin 8	TMDS Data0 Shield	Pin 18	+5V Power
Pin 9	TMDS Data0-	Pin 19	Hot Plug Detect
Pin 10	TMDS Clock+		

(Receptacle) HDMI

TECH SUPPORT

Before contacting tech support, we may have answered your question already! Visit our BZBGear support page at bzbgear.com/support for valuable information on our products.

Here you will find our Knowledge Base (bzbgear.com/knowledge-base) consisting of tutorials, quick start guides, and step-by-step troubleshooting instructions. Also visit our YouTube channel BZB TV at youtube.com/c/BZBTVchannel for help setting up, connecting, and other how-to videos regarding our products.

If you still need answers, please call 1.888.499.9906, email support@bzbgear.com, or chat at 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 an extended two-year warranty on our Cameras, follow these steps:

1. Register your Camera within 90 days of purchase by visiting bzbgear.com/warranty.
2. Complete the registration form. Provide all necessary proof of purchase details, including serial number and a copy of your sales receipt.

For complete warranty information, please visit bzbgear.com/warranty or scan the QR code below.



MISSION STATEMENT

BZBGear manifests from the competitive nature of the audiovisual and live streaming industry to innovate while keeping the customer in mind. AV solutions can cost a pretty penny, and new technology only adds to it. We believe everyone deserves to see, hear, and feel the advancements made in today's AV world without having to break the bank. BZBGear is your answer for applications requiring the latest pro AV and live streaming solutions.

You'll notice comparably lower prices with BZBGear while the performance and quality are on par with the top brands in the industry. Our team offers system design consultation and expert tech support seven days a week for all BZBGear products. Our unparalleled support is our way of showing we care for every one of our customers. Whether you're an integrator, home theater enthusiast, or a do-it-yourselfer, BZBGear offers solutions allowing you to focus on your project and not your budget.

