

# BG-EXHOC

**4K UHD 18Gbps HDMI Extender Over Single Coax Cable with  
2-Way IR up to 363ft**

## User Manual







## TABLE OF CONTENTS

Statement	4
Safety Precaution	4
Introduction	5
Features	5
Packing List	6
Specifications	7
Operation Controls and Functions	8
Application Diagram	9
HDMI Pin Definition	10
Tech Support	11
Warranty	11
Mission Statement	11
Copyright	12



## Statement

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Please read these instructions carefully before connecting, operating, or configuring this product. Please save this manual for future reference.

## Safety Precaution

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- 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

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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 composed 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

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- HDMI 2.0 compliant
- 4K2K@60 4:4:4 8 bits\*
- Extends the transmission range up to 110m (363ft) from the HDMI sources at 4K2K@60 4:4:4 8 bits
- HDCP input & output support
- Only needs a 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.



## Supported Resolutions

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

## Packing List

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



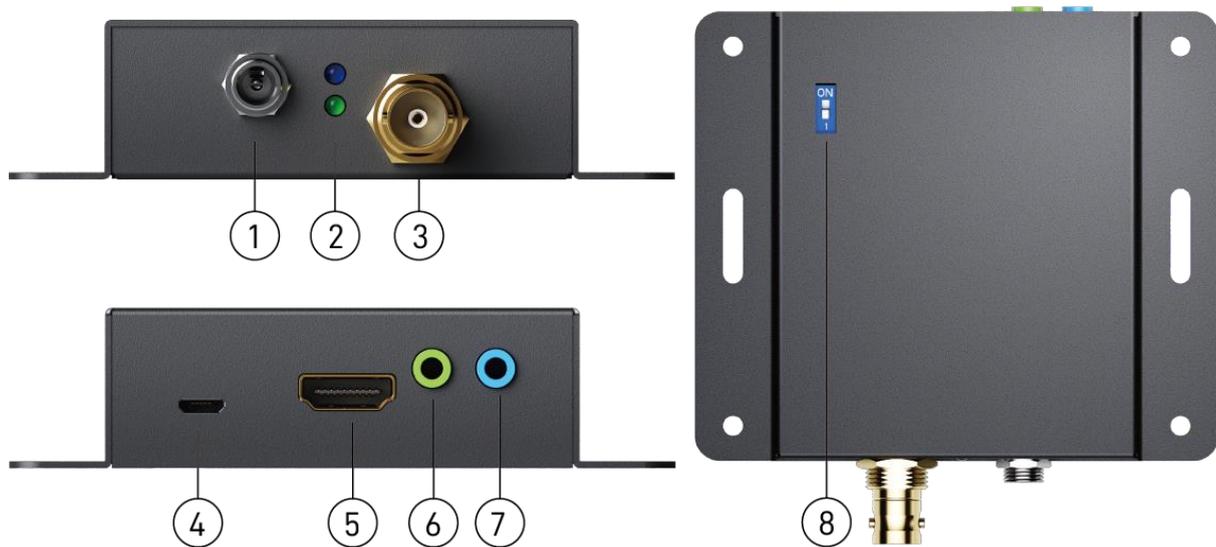
## Specifications

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 8 bits	
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: $\theta = 25^\circ$ / 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	3.5" x 3.7" x 1" [90 x 96 x 25mm]
	Package	10.3" x 6.7" x 3.8" [263 x 170 x 97mm]
	Carton	1'7" x 1.2' x 11.3" [512 x 364 x 288mm]
Weight	Model	4.5oz [127g]
	Package	2.5lbs [1140 g]
Fixedness	Interlocking power supply	
Power supply	5V DC	
Power consumption	10 Watt (max)	6 Watt (max)
Operation temperature	32~104°F / 0~40°C	
Storage temperature	-4~140°F / -20~60°C	
Relative humidity	20~90% RH (no condensation)	



## Operation Controls and Functions

### Transmitter 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

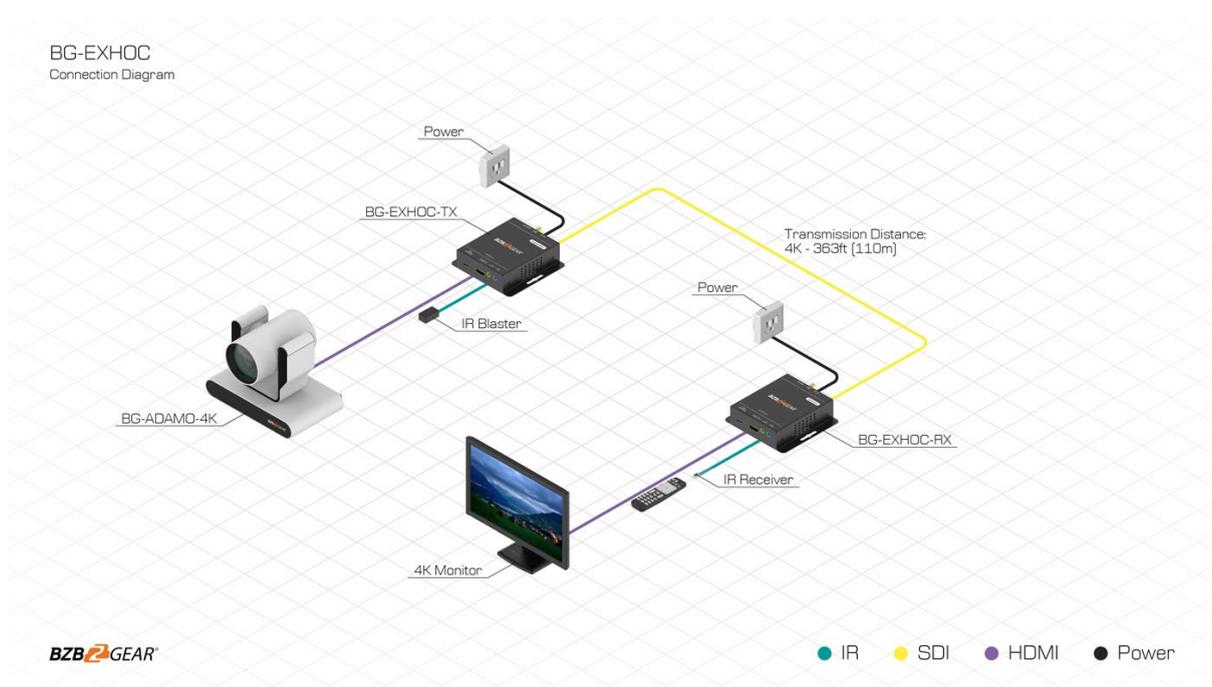


## Receiver Unit - BG-EXHOC-RX



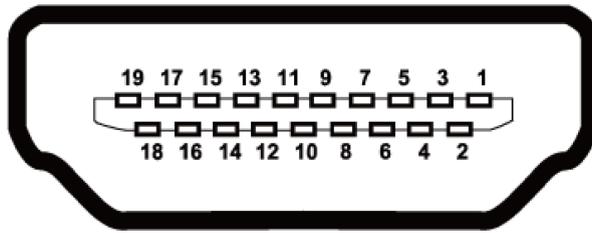
1. **+5V DC:** Connects to 5V DC power supply
2. **POWER/SIGNAL LED:** Blue light - POWER; Green light - SIGNAL ACTIVE
3. **COAX IN:** Connect to coaxial cable
4. **Micro-USB:** for F/W update
5. **HDMI OUT:** Connect to HDMI display
6. **IR Receiver:** Infrared 3.5mm socket for plugging in the extension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

## Application Diagram





## HDMI Pin Definition



**Type A (Receptacle) HDMI**

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



## Tech Support

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Have technical questions? We may have answered them already!

Please visit BZBGear's support page ([bzbgear.com/support](http://bzbgear.com/support)) for helpful information and tips regarding our products. Here you will find our Knowledge Base ([bzbgear.com/knowledge-base](http://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](http://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:

<b><u>Phone</u></b>	<b><u>Email</u></b>	<b><u>Live Chat</u></b>
1.888.499.9906	<a href="mailto:support@bzbgear.com">support@bzbgear.com</a>	<a href="http://bzbgear.com">bzbgear.com</a>

## Warranty

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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](http://bzbgear.com/warranty).

For questions, please call 1.888.499.9906 or email [support@bzbgear.com](mailto:support@bzbgear.com).

## Mission Statement

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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.



## Copyright

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