

BG-EXH-70C3

**4K UHD HDMI Extender Over Cat5e/6 with Bi-directional
IR/PoC/ARC and Audio De-embedding up to 230ft**

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.
- This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.



Introduction

The BG-EXH-70C3 is an 18Gbps HDMI extender that extends HDMI HD, and IR control signals to a distance of up to 230ft / 70m via a single CAT6/6a cable. The uncompressed, long-distance transmission between the transmitter and receiver is achieved with zero-delay. The extender features PoC, and EDID copy pass-through between the source and display devices. Video resolution is up to 4K2K@60Hz. The flexible design allows for a wide range of uses, such as large screen displays, multi-media conference halls, television, and education.

Features

- HDMI 2.0b and HDCP 2.2 compliant
- 18Gbps video bandwidth
- Video resolutions up to 4K2K@60Hz RGB/YCBCR 4:4:4
- The transmission extension distance is up to 230ft / 70m via a CAT6/6a cable
- HDR, HDR10, HDR10+, Dolby Vision, HLG
- Bi-directional IR control signal pass-through
- Audio formats: LPCM 5.1, Dolby True HD, DTS HD Master
- EDID copy pass-through function between the source and display devices
- The receiving unit (RX) can extract the digital audio from the transmitter via ARC from a display through the TOSLINK port.
- Bi-directional PoC (Power over Cable)
- Compact design for easy and flexible installation

Packing List

- 1 x 18Gbps HDMI Extender (Transmitter)
- 1 x 18Gbps HDMI Extender (Receiver)
- 1 x IR Blaster cable (1.5 meters)
- 1 x IR Wideband Receiver cable (1.5 meters)
- 4 x Mounting Ears
- 8 x Machine Screws (KM3*4)
- 1 x 12V/1A Locking Power Adapter
- 1 x User Manual



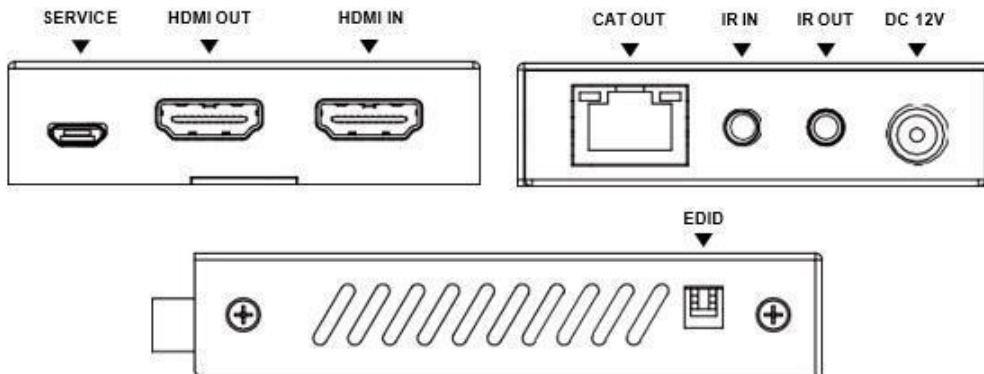
Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution	Up to 4K2K@60Hz RGB/YCBCR 4:4:4
IR Level	5Vp-p
IR Frequency	Wideband 20K-60KHz
Transmission Distance	4K2K@60Hz 4:4:4--70m, 1080P--70m (CAT6/6a cable)
Color Space	RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Color Depth	8/10/12bit
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
Audio Formats	HDMI: LPCM 5.1CH, Dolby True HD, DTS-HD Master Optical; Dolby 5.1, DTS 5.1, PCM 2.0
Connection	
Transmitter	Input: 1× HDMI IN [Type A, 19-pin female] Output: 1× HDMI OUT [Type A, 19-pin female] / 1× CAT OUT [RJ45] Control: 1× SERVICE [Micro-USB jack] 1× IR IN [3.5mm Stereo Mini jack] 1× IR OUT [3.5mm Stereo Mini jack]
Receiver	Input: 1×CAT IN [RJ45] Output: 1×HDMI OUT [Type A, 19-pin female] / 1×TOSLINK S/PDIF Control: 1×SERVICE [Micro-USB jack] 1×IR IN [3.5mm Stereo Mini jack] 1×IR OUT [3.5mm Stereo Mini jack]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter / Receiver: 90mm (W)×68mm (D)×18mm (H)
Weight	Transmitter: 160g, Receiver: 155g
Power Supply	DC 12V/1A; Supported bi-directional PoC function
Power Consumption	3.36 W (max)
Operating 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)



Operation Controls and Functions

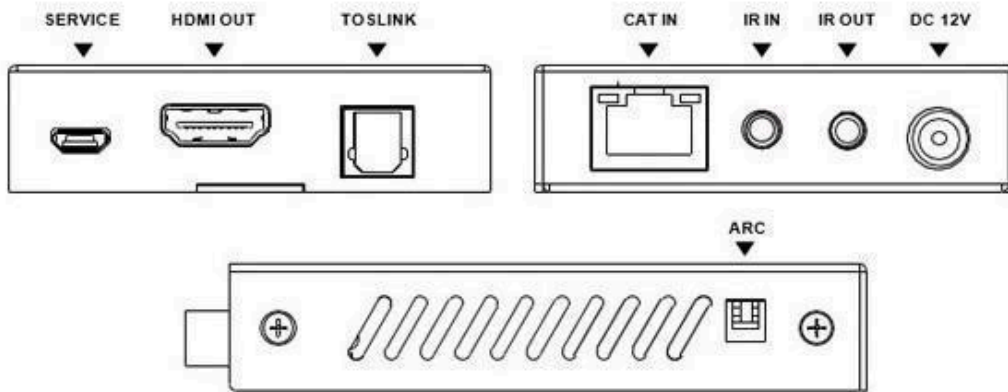
TRANSMITTER PANEL



Name	Function Description
SERVICE	Firmware update port.
HDMI OUT	HDMI signal loop output port. Connect to the HDMI display devices using an HDMI cable.
HDMI IN	HDMI signal input port. Connect to the HDMI source device using an HDMI cable.
CAT OUT	RJ45 port to connect to the CAT IN port of the receiver using a CAT6/6a cable.
Link Signal Indicator (Green)	Solid: The transmitter and receiver have a good connection status. Flashing: The transmitter and receiver have a poor connection status. Dark: The transmitter and receiver are not connected.
Data Signal Indicator (Orange)	Solid: HDMI signal with HDCP. Flashing: HDMI signal without HDCP. Dark: No HDMI signal.
IR IN	Connect to the IR receiver cable. The IR receive signal will emit to the IR OUT port of the receiver.
IR OUT	Connect to the IR blaster cable. The IR will emit a signal from the IR IN port of the receiver.
DC 12V	DC 12V/1A power input port. Note: The extender supports PoC functionality. Either the transmitter or receiver must be connected to a 24V/1A power supply. The other does not require a power supply.
EDID DIP switch	Use the DIP switch to set EDID. Switching to the upper end indicates 1; switching to the lower end indicates 0. 11 - EDID information is copied from the display at the RX. 10 - EDID is preset to 4K@60Hz Stereo 01 - EDID is preset to 1080p Stereo 00 - EDID information is copied from the HDMI OUT at the TX.



RECEIVER PANEL



Name	Function Description
SERVICE	Firmware update port.
HDMI OUT	HDMI signal output port. Connect to the HDMI display devices using an HDMI cable.
TOSLINK	Optical fiber audio output port. Connect to the amplifier, receiver, or speaker with an optical cable.
CAT IN	RJ45 port to connect to the CAT OUT port of the transmitter using a CAT6/6a cable.
Link Signal Indicator (Green)	Solid: The transmitter and receiver have a good connection status. Flashing: The transmitter and receiver have a poor connection status. Dark: The transmitter and receiver are not connected.
Data Signal Indicator (Orange)	Solid: HDMI signal with HDCP. Flashing: HDMI signal without HDCP. Dark: No HDMI signal.
IR IN	Connect to the IR receiver cable. The IR receive signal will emit to the IR OUT port of the transmitter.
IR OUT	Connect to the IR blaster cable. The IR will emit a signal from the IR IN port of the transmitter.
DC 12V	DC 12V/1A power input port. Note: The extender supports PoC functionality. Either the transmitter or receiver must be connected to a 24V/1A power supply. The other does not require a power supply.
ARC DIP switch	Use the DIP switches to enable ARC audio from display to be extracted at the TOSLINK on the receiver unit (RX). Switching to the up position indicates 1; switching to the down position indicates 0. Note that only the left switch is used. 1X - Disable the ARC to TOSLINK (Audio passes from TX HDMI to RX HDMI only) 0X - Enable the ARC to TOSLINK (Audio can be sent from the display via ARC to the RX TOSLINK)



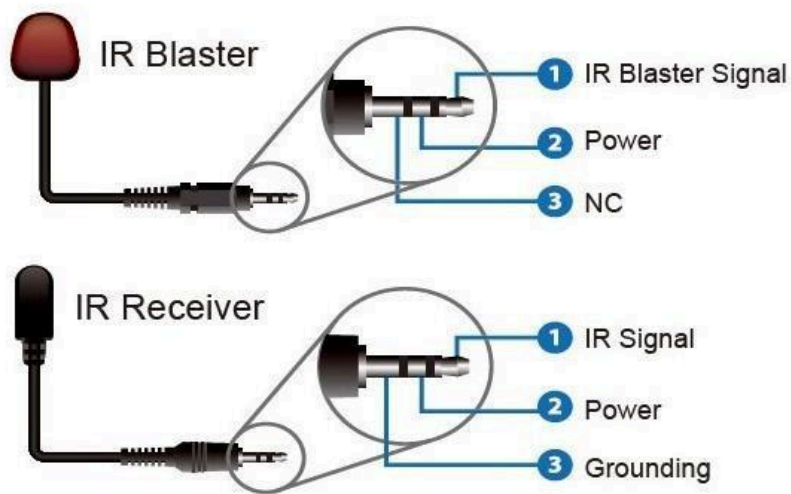
IR PIN DEFINITION

IR Receiver and Blaster Descriptions:



IR RECEIVER

IR BLASTER

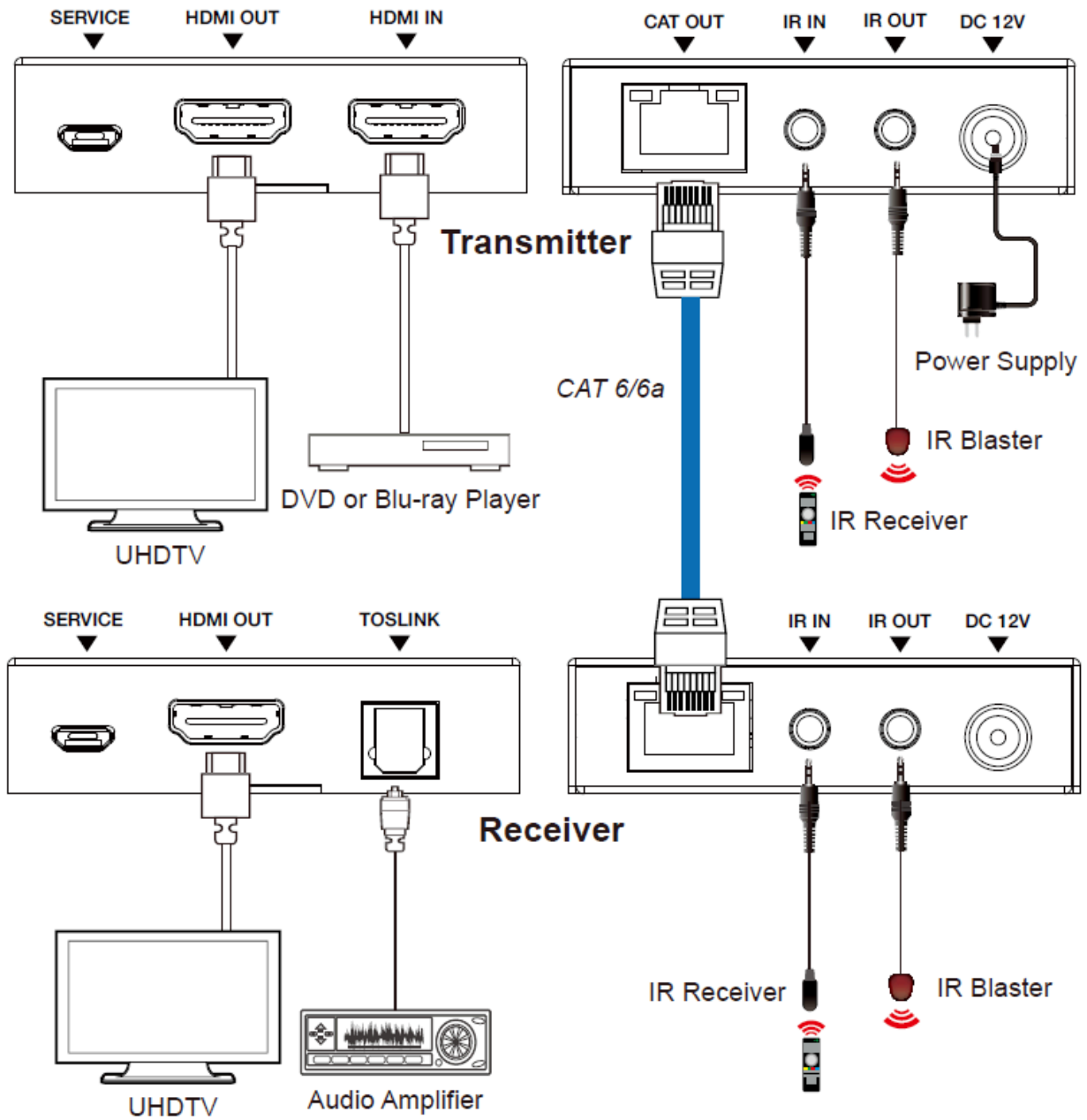


Note: When the angle between the IR receiver and the remote control is $\pm 45^\circ$, the transmission distance is 0-5 meters.

When the angle between the IR receiver and the remote control is $\pm 90^\circ$, the transmission distance is 0-8 meters.



Application Example





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:

<u>Phone</u>	<u>Email</u>	<u>Live Chat</u>
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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