

# BG-EXH-70C4

18Gbps HDBaseT Extender (70m) with ARC

## User Manual







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## 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.
- 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

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The BG-EXH-70C4 is an 18Gbps HDBaseT extender that extends HDMI, bi-directional IR control, ARC, and RS-232 control signals to a distance of up to 70m / 230ft over a single CAT5e/6 cable. The HDMI signal is converted to standard HDBaseT, and transmitted using a LAN cable. The bi-directional IR signal pass-through function from the remote easily controls signal source or display devices. The device also supports ARC and PoC. Video resolution is up to 4K2K @60Hz.

## Features

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- HDMI 2.0b and HDCP 2.2 compliant
- 18Gbps video bandwidth
- Video resolution up to 4K2K@60Hz RGB/YCBCR 4:4:4
- The transmission extension distance is up to 70m / 230ft via a CAT5e/6 cable
- Bi-directional IR and RS-232 control signal pass-through
- ARC functionality
- Audio formats supported: Dolby 5.1, DTS 5.1, PCM2.0, etc.
- Advanced EDID management
- PoC (Power over Cable) functionality
- Compact design for easy and flexible installation

## Packing List

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- |                                               |                                    |
|-----------------------------------------------|------------------------------------|
| • 1 x 18Gbps HDMI extender (transmitter)      | • 4 x Mounting Ears                |
| • 1 x 18Gbps HDMI extender (receiver)         | • 8 x Machine Screws               |
| • 1 x IR Blaster cable (1.5 meters)           | • 1 x 24V/1A Locking Power Adapter |
| • 1 x IR Wideband Receiver cable (1.5 meters) | • 1 x User Manual                  |
| • 2 x 3pin-3.81mm Phoenix Connectors (male)   |                                    |



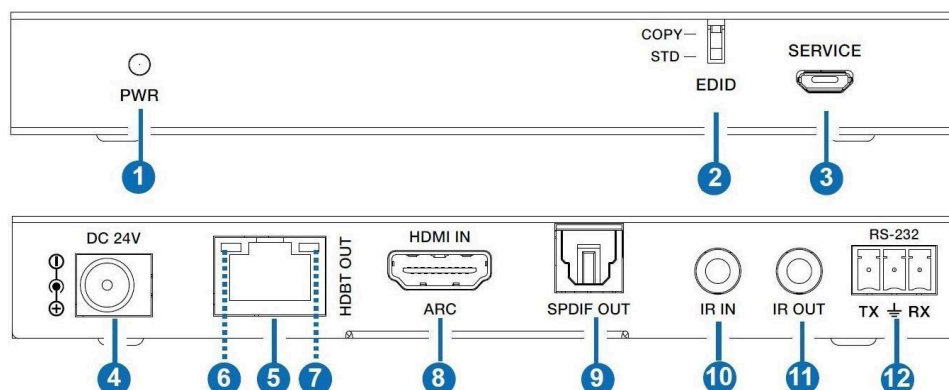
## Specifications

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	70m via a single CAT5e/6 cable
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2
Color Depth	8-bit, 10-bit, 12-bit (1080P) 8-bit (4K60) 8-bit, 10-bit, 12-bit (4K24/30)
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
Audio Formats	HDMI: LPCM 7.1CH, Dolby True HD, and 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× HDBT OUT [RJ45] / 1× SPDIF OUT Control: 1× RS-232 [3pin-3.81mm Phoenix connector] 1× SERVICE [Micro-USB jack] 1× IR IN [3.5mm Stereo Mini-jack] 1× IR OUT [3.5mm Stereo Mini-jack]
Receiver	Input: 1× HDBT IN [RJ45] / 1× SPDIF IN Output: 1× HDMI OUT [Type A, 19-pin female] Control: 1× RS-232 [3pin-3.81mm Phoenix connector] 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: 140mm (W) × 65mm (D) × 18mm (H)
Weight	Transmitter: 235 g, Receiver: 239 g
Power Supply	DC 24V/1A; Supports bi-directional Power over Cable (PoC) functionality
Power Consumption	9.6 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

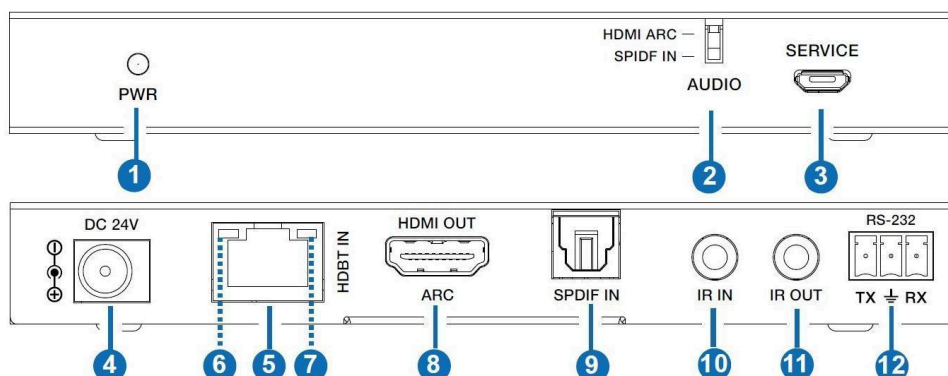
### TRANSMITTER PANEL



No.	Name	Function Description
1	Power LED	The red LED will illuminate when the transmitter is powered on.
2	EDID DIP switch	Used for audio EDID setting (COPY on by default). COPY: Copy the EDID of the HDMI OUT port of Receiver. STD: Default 1080P 2CH
3	SERVICE	Firmware update port.
4	DC 24V	DC 24V/1A power input port. <b>Note:</b> 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.
5	HDBT OUT	RJ45 port to connect to the HDBT IN port of the receiver using a CAT5e/6 cable.
6	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.
7	Data Signal Indicator (Orange)	Solid: HDMI signal with HDCP. Flashing: HDMI signal without HDCP. Dark: No HDMI signal.
8	HDMI IN	HDMI signal input port. Connect to the HDMI source device using an HDMI cable.
9	SPDIF OUT	Optical fiber audio signal output port.
10	IR IN	Connect to the IR receiver cable. The IR receive signal will emit to the IR OUT port of the receiver.
11	IR OUT	Connect to the IR blaster cable. The IR will emit a signal from the IR IN port of the receiver.
12	RS-232	3-pin Phoenix connector for RS-232 command transmission. The RS-232 command will pass between the transmitter and receiver.



## RECEIVER PANEL



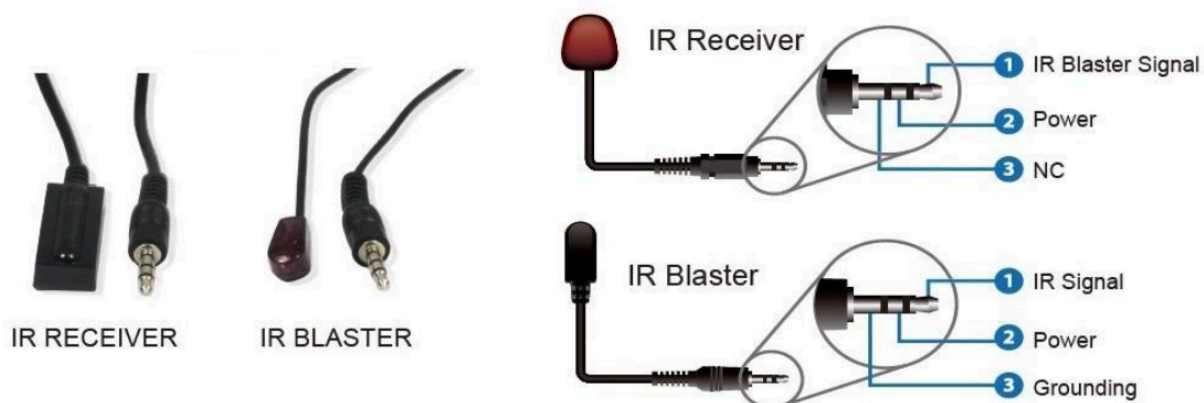
No.	Name	Function Description
1	Power LED	The red LED will illuminate when the transmitter is powered on.
2	AUDIO DIP switch	<p>The extender's ARC function is automatically enabled when the HDMI OUT port is connected to a source device with ARC functionality (e.g. amplifier or soundbar):</p> <p><b>Switch to "HDMI ARC"</b>: The audio returned from the HDMI OUT port of the receiver will be output through the HDMI IN port and SPDIF OUT port of the transmitter.</p> <p><b>Switch to "SPDIF IN"</b>: The audio returned from the SPDIF IN port of the receiver will be output through the HDMI IN port and SPDIF OUT port of the transmitter.</p> <p>The ARC function of the extender is disabled when the HDMI IN port is connected to a common source device. The audio from the SPDIF IN port of the receiver will then be output through the SPDIF OUT port of the transmitter.</p>
3	SERVICE	Firmware update port.
4	DC 24V	DC 24V/1A power input port. <b>Note:</b> The extender supports PoC functionality. Either the transmitter or receiver must be connected to a 24V/1A power supply. The other does not need a power supply.
5	HDBT IN	RJ45 port to connect to the HDBT OUT port of the transmitter using a CAT6/6a cable.
6	Link Signal Indicator (Green)	<p>Solid: The transmitter and receiver have a good connection status.</p> <p>Flashing: The transmitter and receiver have a poor connection status.</p> <p>Dark: The transmitter and receiver are not connected.</p>
7	Data Signal Indicator (Orange)	<p>Solid: HDMI signal with HDCP.</p> <p>Flash: HDMI signal without HDCP.</p> <p>Dark: No HDMI signal.</p>
8	HDMI OUT	HDMI signal output port. Connect to the HDMI display device using an HDMI cable.
9	SPDIF IN	Optical fiber audio signal input port.
10	IR IN	Connect to the IR receiver cable. The IR signal will emit to the IR OUT port of the transmitter.
11	IR OUT	Connect to IR blaster cable. The IR signal is from the IR IN port of the transmitter.
12	RS-232	<p>3-pin Phoenix connector for RS-232 command transmission.</p> <p>The RS-232 command will pass-through between the transmitter and receiver.</p>





## IR PIN DEFINITION

IR Receiver and Blaster Descriptions:

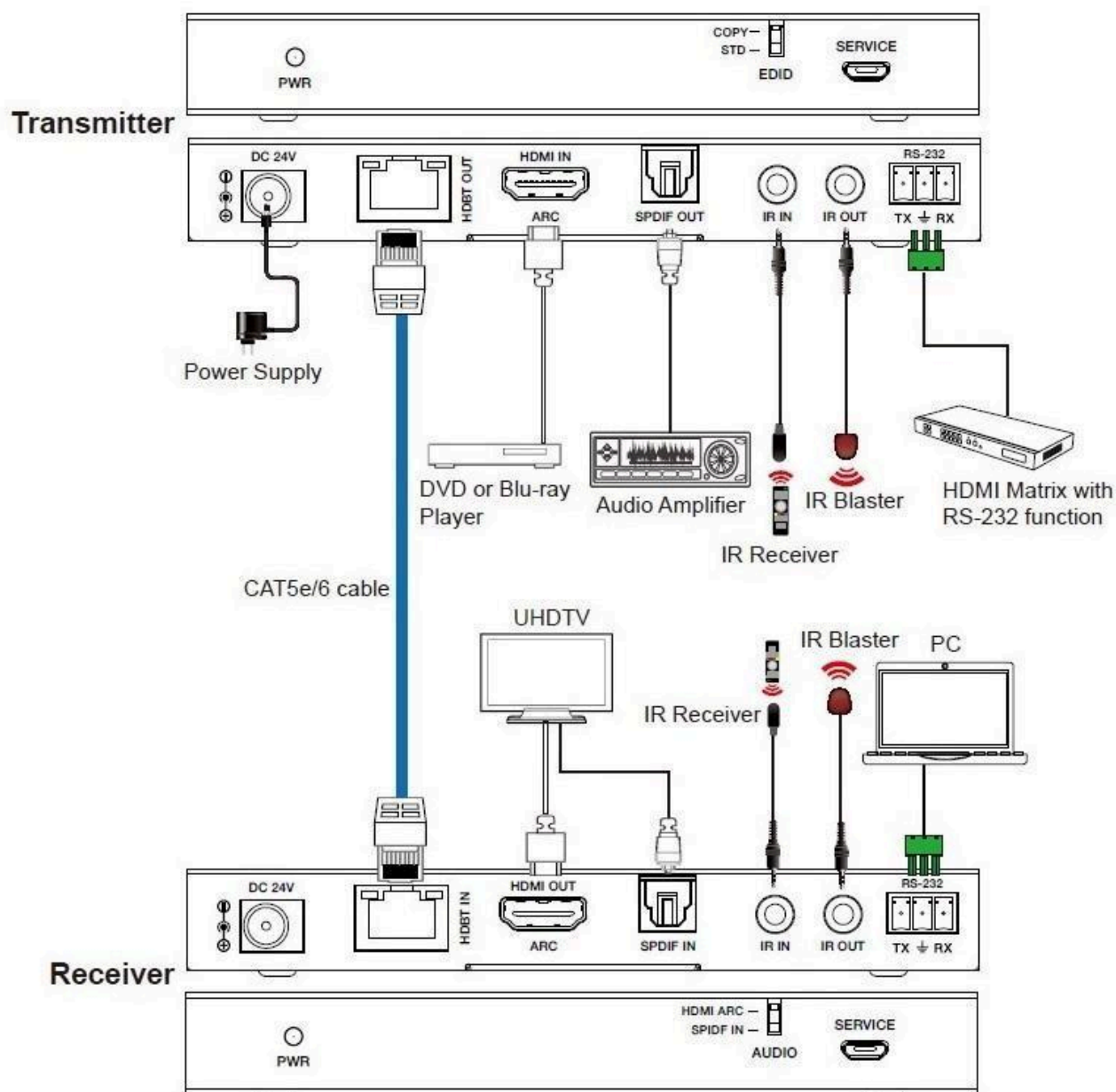


**Note:** When the angle between the IR receiver and the remote control is  $\pm 45^\circ$ , the transmission distance is 0-5 meters.

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

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Have technical questions? We may have answered them already!

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

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

For questions, please call 1.888.499.9906 or email 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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