BZB GEAR®

Solutions to Amplify Your World ™

BG-EXH-50C

4K UHD HDMI & IR Extender via CAT 5e/6/7 up to 164ft

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.

- Unplug this device during lightning storms

- Clean only with a soft dry microfiber cloth.

- 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.

- Only use accessories specified by the manufacture

- Product specifications may be subject to technical upgrades without further notice

Introduction

The BZB-EXH-50C can extend high definition AV signals and one-way IR up to 164 ft (50 m) between transmitter and receiver over a single Cat5e/6/7 cable. It supports resolutions up to 4K2K@60Hz 4:4:4 at 18Gbps and it is also HDCP 2.2 compliant. In addition, the extenders are equipped with one-way IR pass-through. This allows for a source to be controlled on the transmitter end. The transmitter also has one HDMI loop output to view source content locally.

The package includes two units: a transmitter (Tx) and a receiver (Rx). The transmitter is responsible for sending the HDMI signal via one cost effective CAT 5e/6/7 cable, and emitting IR control signals to source devices. The receiver unit is responsible for receiving the HDMI signal for use on displays and transmitting an IR control signal to the transmitter to control source devices. The Tx and Rx units are also PoC capable meaning only one device needs a power source for both to function.

The BZB-EXH-50C HDMI extender offers the most convenient solution for HDMI extension over a single Cat5e/6/7 with long distance capability, and is the perfect solution for many applications.

Features

- HDMI 2.0, HDCP 2.2 / HDCP 1.4 and DVI 1.0 compliant

- 18 Gbps bandwidth

- Input and output video resolutions up to 4k2k@60Hz 4:4:4 at a distance of up to 164ft / 50 meters

- One HDMI loop output on transmitter

- One-way IR pass-through from receiver to transmitter

- HDR functionality

- Power over CAT (PoC) 5e/6/7 functionality. Only one unit, either the transmitter or the receiver, is required to be powered by the supplied 12V/1A power adapter.

- Automatic copy EDID functionality

- Compact design for easy and flexible installation

Packing List

- 1x HDMI 18Gbps Extender (Transmitter)
- 1x HDMI 18Gbps Extender (Receiver)
- 1x IR Blaster cable (1.5 meters)
- 1x 20~60KHz IR Receiver cable (1.5 meters)
- 1x 12V/1A Locking Power adapter
- 1x User Manual
- 1x Quick Start Guide

Technical Specifications

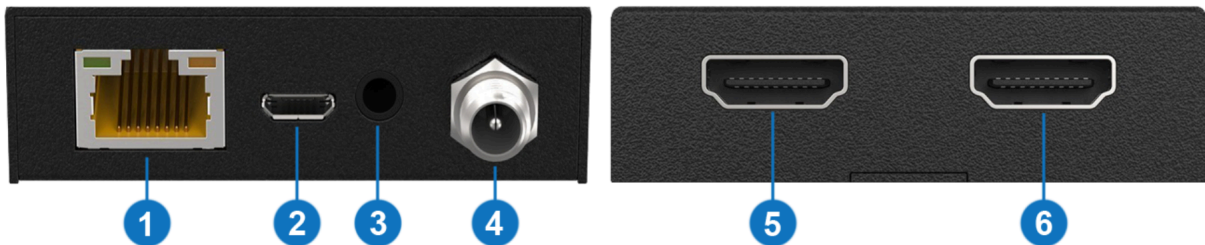| Technical	
HDMI Compliance	HDMI 2.0
HDCP Compliance	HDCP 2.2 / HDCP 1.4
Video Bandwidth	18 Gbps
Video Resolution	Up to 4K@60Hz 4:4:4
Color Space	RGB / YCbCr 4:4:4, YCbCr 4:2:2/4:2:0, YUV 4:4:4
Color Depth	8/10/12-bit (1080P@60Hz, 4K@30Hz, 4K@60Hz YCbCr 4:2:2/4:2:0) 8-bit (4K@60Hz 4:4:4)
HDMI Audio Formats	LPCM 2.0/2.1/5.1/6.1/7.1, Dolby Digital, Dolby TrueHD, Dolby Digital Plus(DD+), DTS-ES, DTS HD Master, DTS HD-HRA, DTS-X
ESD Protection	Human body model — ±8kV (Air-gap discharge) &±4kV (Contact discharge)
Connections	
Transmitter	**Inputs**: 1x HDMI Type A [19-pin female] 1x SERVICE [Micro USB, Update port] **Outputs**: 1x HDMI Type A [19-pin female] 1x IR OUT [3.5mm Stereo Mini-jack] 1x CAT OUT [RJ45, 8-pin female]
Receiver	**Inputs**: 1x IR IN [3.5mm Stereo Mini-jack] 1x CAT IN [RJ45, 8-pin female] 1x SERVICE [Micro USB, Update port] **Outputs**: 1x HDMI Type A [19-pin female]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter / Receiver: 2.4" (W) x 3.5" (D) x 0.7" (H) [61mm (W) x 88mm (D) x 18mm (H)]
Weight	Transmitter: 0.35lbs [160g], Receiver: 0.34lbs [155g]
Power Supply	Input: AC 100 - 240V 50/60Hz Output: DC 12V/1A
Power Consumption	3.84 W
Operating Temperature	32 - 104°F / 0 - 40°C

Storage Temperature	-4 - 140°F / -20 - 60°C	
Relative Humidity	20 - 90% RH (no condensation)	
Resolution / Distance	**4K@60 - Feet / Meters**	**4K@30 / 1080P - Feet / Meters**
CAT5e	164ft / 50M	164ft / 50M
CAT6/6a/7	197ft / 60M	230ft / 70M
HDMI IN/OUT	10ft / 3M	30ft / 10M

The use of "**Premium High Speed HDMI**" cables is highly recommended.
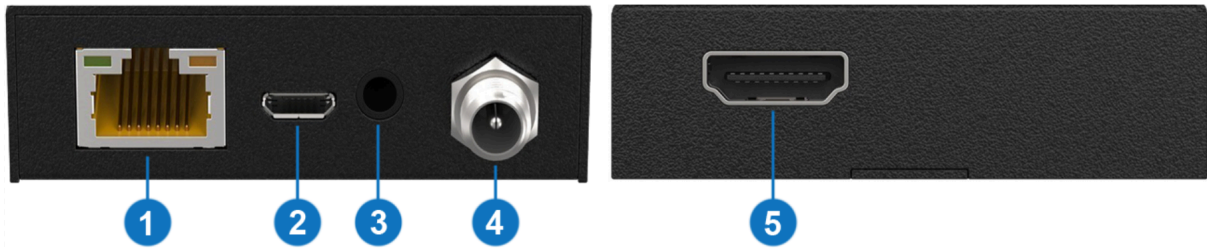
Operation Controls and Functions

Transmitter Panel

Number	Name	Function description
1	**CAT OUT**	Connect to the CAT IN port on the receiving unit with a CAT 5e/6/7 cable.
2	**SERVICE port**	Micro USB for firmware update use.
3	**IR OUT**	Connect to wideband IR Blaster cable. The IR signal is from the IR IN port of the receiver.
4	**DC 12V**	Plug DC 12V/1A power supply into the unit and connect the adapter to an AC outlet. (**Note**: The extender supports power over cat5e/6/7 functionality, transmitter or receiver is powered by 12V/1A power adapter; the other doesn't need a power supply.)
5	**HDMI OUT**	HDMI loop output port, connect to an HDMI display device such as TV with an HDMI cable.
6	**HDMI IN**	HDMI input port, connect to HDMI source device such as a media player with an HDMI cable.

Receiver Panel

Number	Name	Function description
1	**CAT IN**	Connect to the CAT OUT port on the transmitting unit with a CAT 5e/6/7 cable.
2	**SERVICE port**	Micro USB for firmware update use.
3	**IR IN**	Connect to the wideband IR Receiver cable. The IR signal will be sent to the IR OUT port of the transmitter.
4	**DC 12V**	Plug DC 12V/1A power supply into the unit and connect the adapter to an AC outlet. (**Note**: The extender supports power over cat5e/6/7 functionality, transmitter or receiver is powered by 12V/1A power adapter; the other doesn't need a power supply.)
5	**HDMI OUT**	HDMI output port, connect to an HDMI display device such as TV with an HDMI cable.

Data Signal (Yellow) Indicator Lamp

Connection Signal (Green) Indicator Lamp

● Solid: HDMI signal with HDCP.
● Flashing: HDMI signal without HDCP.
● Dark: No HDMI signal.

● Solid: Devices are in good connection status.
● Flashing: Devices are in poor connection status.
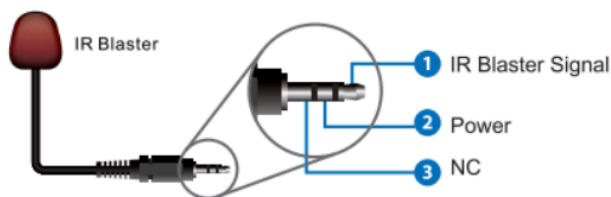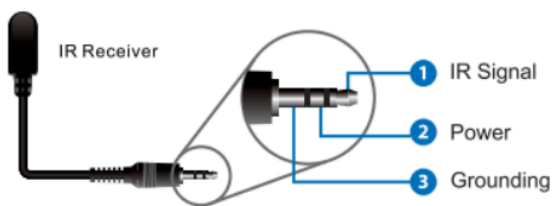● Dark: Devices are not connected.

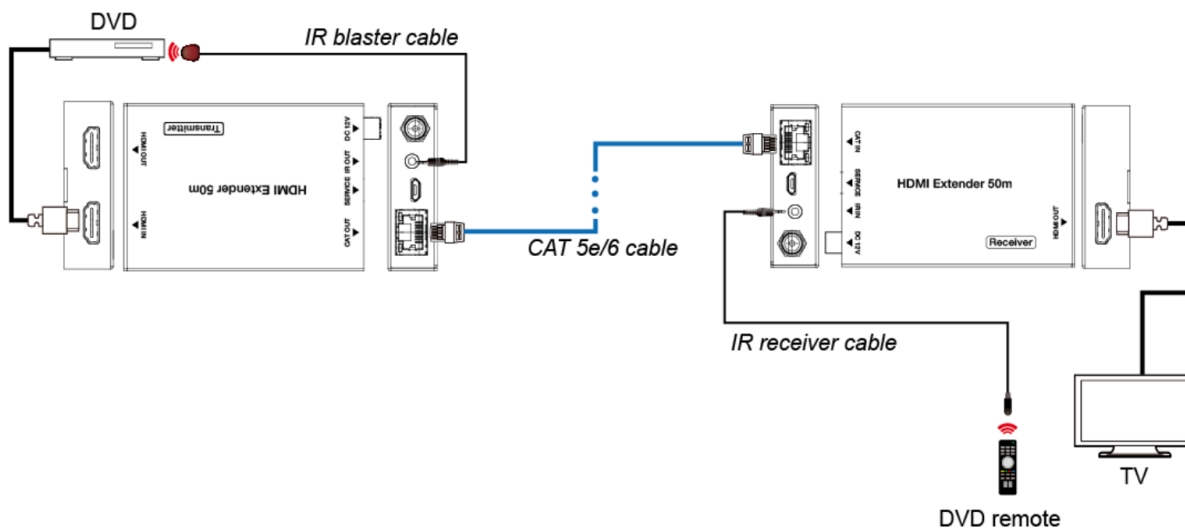## IR Cable Pin Assignments
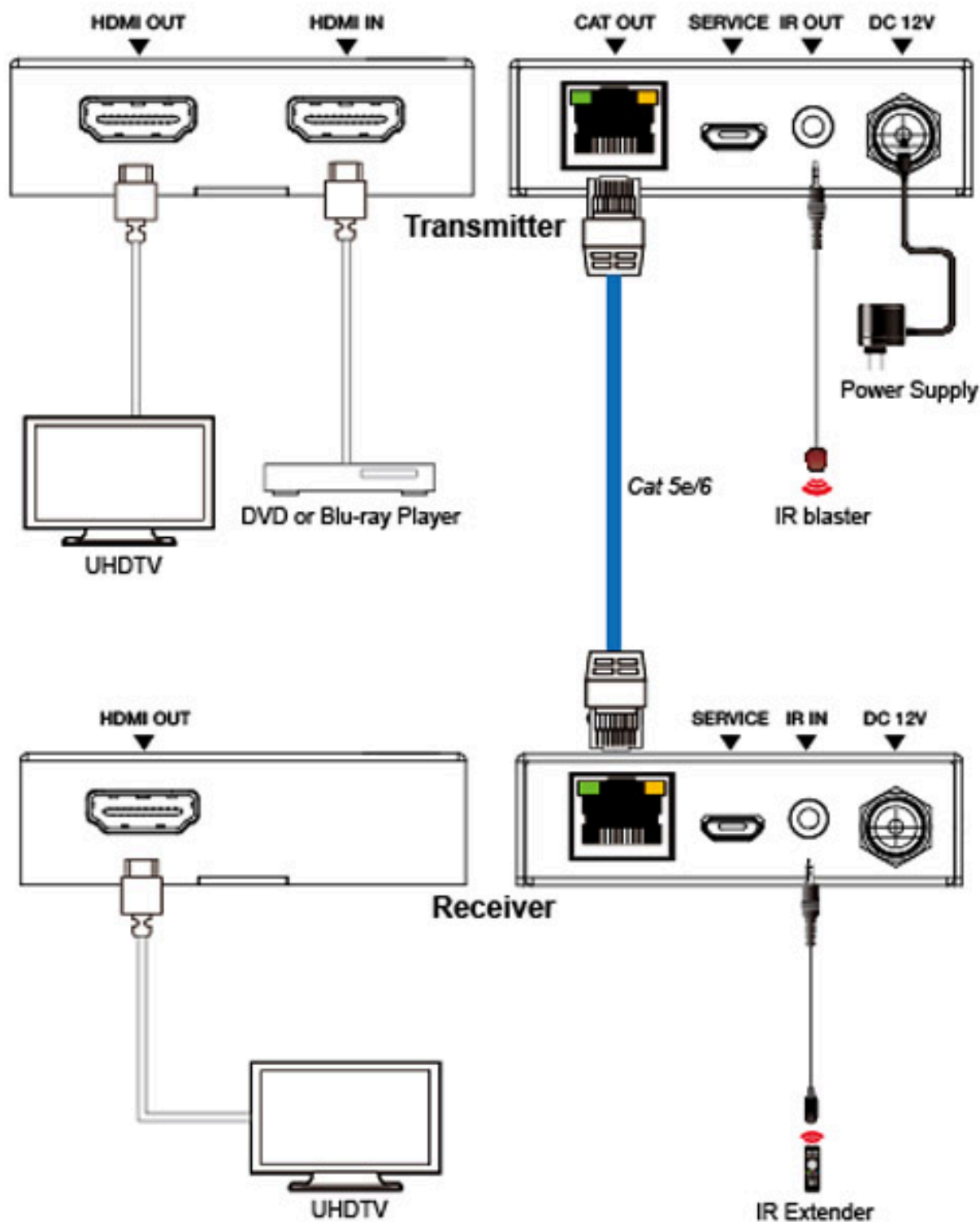
IR Receiver and Blaster pin's descriptions:

IR system diagram:

Note: The IR remote can send signals up to a distance of 5~8 meters at an angle of plus-minus 45 degrees.

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:

Phone	**Email**	**Live Chat**
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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