BZB GEAR®
Solutions to Amplify Your World™

BG-USB3-LR100

Direktronik Art 20124462

USB 3.0 Extender (100M)

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

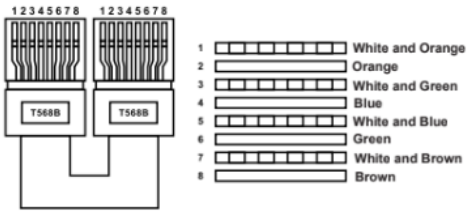
- To prevent damaging this product, avoid heavy pressure, strong vibration, or immersion during transportation, storage, and installation.
- The housing of this product is made of organic materials. Do not expose to any liquid, gas, or solids which may corrode the shell.
- Do not expose the product to 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.

Surge protection device recommended

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

Caution - UTP Connectors

The product requires the use of UTP connectors. Please connect in direct interconnection method and do not cross-connect.



Direct Interconnection Method

Introduction

The BG-USB3-LR100 USB 3.0 Extender can extend USB signals up to 100 meters (328 feet) using a single CAT6a cable. The transmitter features one USB 3.0 Type B input, one FSYNC GPIO input, and one RS-232 pass-through. The receiver has four USB 3.0 Type A outputs, one FSYNC GPIO output, and one RS-232 pass-through. Bi-directional 24V PoC is also supported.

This product is ideal for long-distance signal transmission between a PC and USB devices.

Features

- Extension of USB 3.0 up to 100m/328ft over CAT6a cable
- USB 3.0 connectivity with data transfer rate up to 5Gbps
- Backward compatible with USB 2.0 and 1.1
- Hardware acceleration for isochronous and bulk transfer
- USB-A port 1 and 2 support 5V/1.5A, port 3 and 4 support 5V/1A
- on the Receiver
- Support RS-232 pass-through and FSYNC GPIO pass-through (for industry camera use)
- Support bi-directional 24V PoC
- Simple plug and play, no driver and setting installation required

Packing List

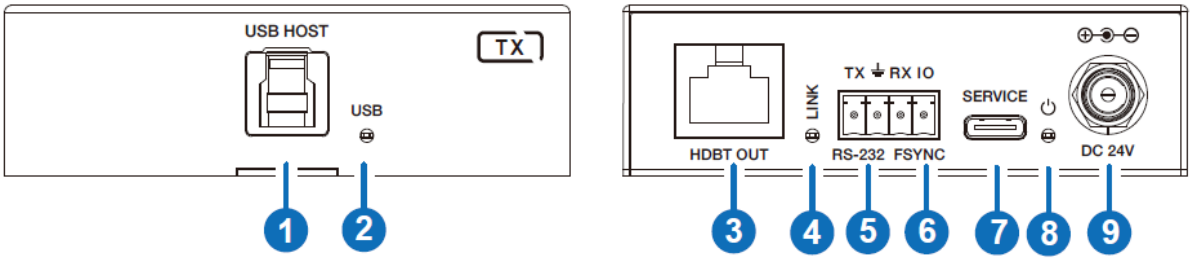
- 1× USB 3.0 Extender (Transmitter)
- 1× USB 3.0 Extender (Receiver)
- 1× 24V/2A Locking Power Supply
- 2× 4pin-3.5mm Phoenix Connector (Male)
- 4× Mounting Ear
- 8× Machine Screw (KM3*4)
- 1× User Manual

Specifications

Technical	
USB Protocol	USB 3.0
Transmission Rate	Up to 5Gbps
Network Bandwidth	10G
Transmission Distance	100m/328ft over CAT6a (F/FTP) cable
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge), ±4kV (Contact discharge)
Connections	
Transmitter	**Input:** 1 × USB HOST [USB-B, 9pin Female] **Output:** 1 × HDBT OUT [RJ45, Female] **Control:** 1 × RS-232 [3pin-3.5mm Phoenix Connector] 1 × FSYNC [1pin-3.5mm Phoenix Connector] 1 × SERVICE [USB-C, Update Port]
Receiver	**Input:** 1 × HDBT IN [RJ45, Female] **Output:** 4 × USB Devices [USB-A, 9pin Female] **Control:** 1 × RS-232 [3pin-3.5mm Phoenix Connector] 1 × FSYNC [1pin-3.5mm Phoenix Connector] 1 × SERVICE [USB-C, Update Port]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions (W x D x H)	Transmitter / Receiver: 3.3in x 3.9in x 1in [85mm x 100mm x 25.5mm]
Weight	Transmitter: 0.56 lbs [253g], Receiver: 0.57 lbs [260g]
Power Supply	Input: AC 100~240V 50/60Hz Output: DC 24V/2A
Power Consumption	PoC Power Supply: 40W (Max)
Operating Temperature	32°F ~ 104°F / 0°C ~ 40°C
Storage Temperature	-4°F ~ 140°F / -20°C ~ 60°C
Relative Humidity	20~90% RH (non-condensing)

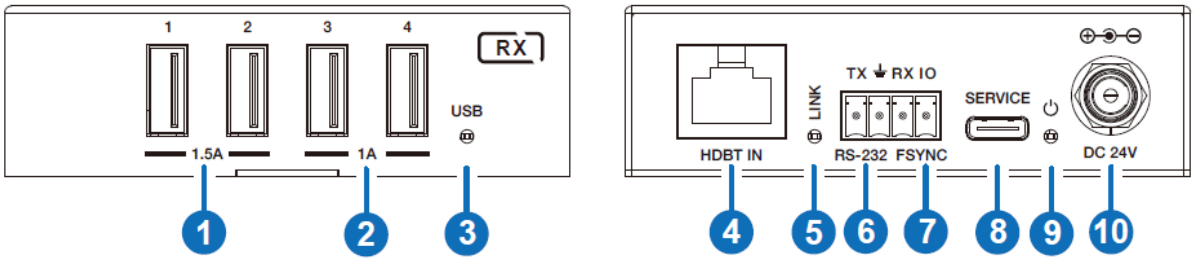
Operation Controls and Functions

Transmitter Panel



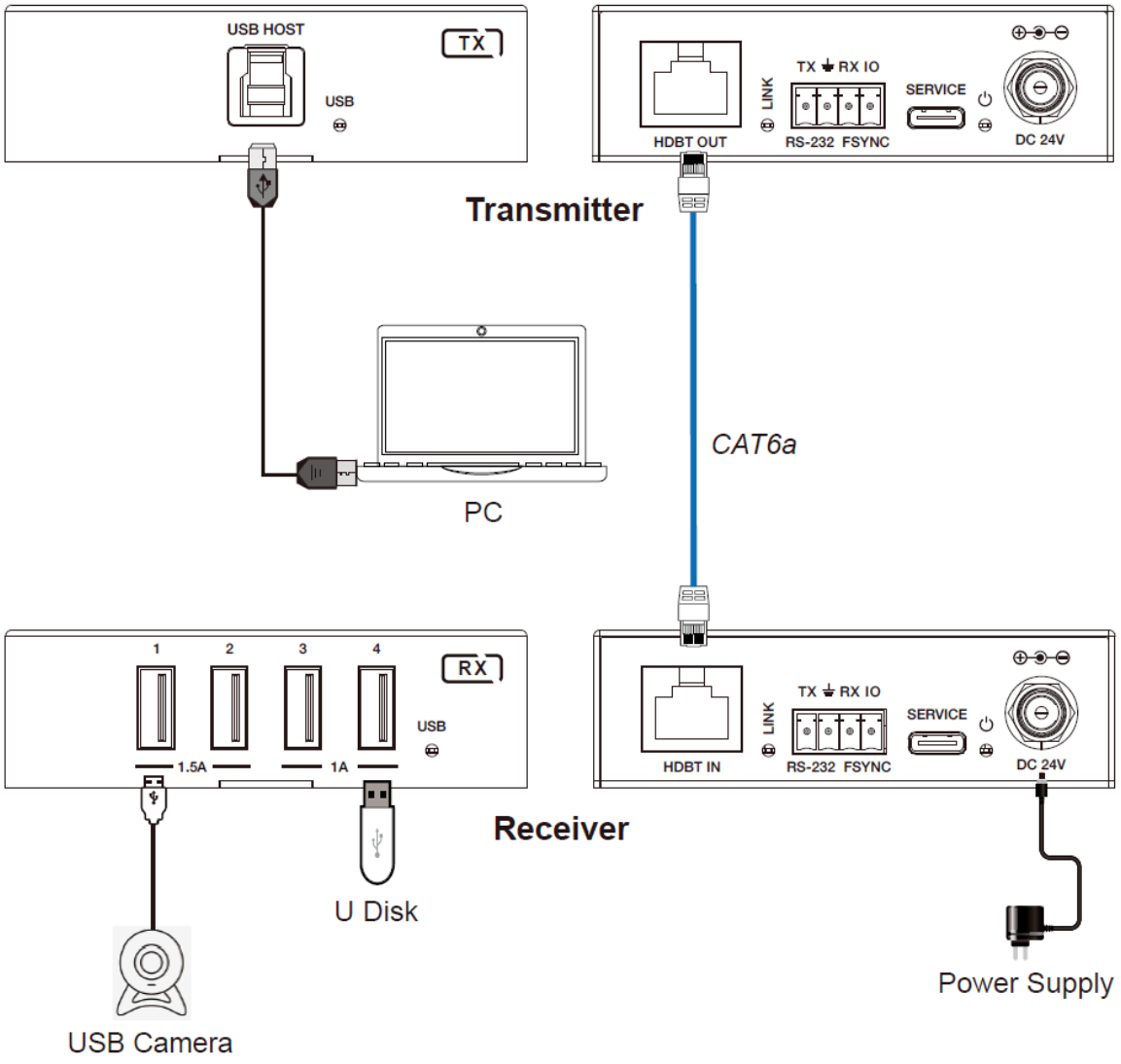
No.	Name	Function Description
1	USB HOST	Host port, supporting USB 3.0. Connects to a PC or host.
2	USB LED	USB signal indicator. ▪ **On:** USB signal is detected. ▪ **Off:** USB signal is not detected.
3	HDBT OUT	Connects to the HDBT IN port on the Receiver with CAT cable.
4	LINK LED	Connection signal indicator. ▪ **On:** Transmitter and Receiver are connected and linked. ▪ **Flashing: The** Transmitter and Receiver link are off due to USB low power mode. ▪ **Off:** Transmitter and Receiver are not connected.
5	RS-232	3pin Phoenix connector, connected to a PC or control system for RS-232 command pass-through.
6	FSYNC	FSYNC port, used for level pass-through to the Receiver and synchronizing the external devices. The default level is 3.3V.
7	SERVICE	Firmware update port.
8	POWER LED	The LED will be on when the Transmitter is powered on.
9	DC 24V	DC 24V/2A power input port.

Receiver Panel



No.	Name	Function Description
1	USB 1/2	Connect to USB devices, and max output power is up to 5V/1.5A.
2	USB 3/4	Connect to USB devices, and max output power is up to 5V/1A.
3	USB LED	USB signal indicator. ▪ **On:** USB signal is detected. ▪ **Off:** USB signal is not detected.
4	HDBT IN	Connects to the HDBT OUT port on the Transmitter with CAT cable.
5	LINK LED	Connection signal indicator. ▪ **On:** Transmitter and Receiver are connected and linked. ▪ **Flashing:** The Transmitter and Receiver link is off due to USB low power mode. ▪ **Off:** Transmitter and Receiver are not connected.
6	RS-232	3pin Phoenix connector, connected to a PC or control system for RS-232 command pass-through.
7	FSYNC	FSYNC port, receiving level pass-through from the Transmitter and synchronizing the external devices. The default level is 3.3V.
8	SERVICE	Firmware update port.
9	POWER LED	The LED will be on when the Receiver is powered on.
10	DC 24V	DC 24V/2A power input port.

Connection Diagram



Troubleshooting

Problems	Causes	Solutions
No Power / All LED off	Power supply not connected, connected fully, or wrong power supply.	Check if the power supply is connected correctly and the output voltage value is within recommended specifications.
No sound or sound issues	The HDMI connection is faulty, the audio format is not supported by the displays, or the source player is set to another port for audio output	Check if the HDMI cables are connected correctly. Check if the audio format is supported by the display and that a user has not changed the supported audio format on the player`s audio output. Ensure output settings from the HDMI source device as set correctly.
No picture or picture flickers	The HDMI cable may be faulty or the category cable quality is faulty.	Check if the HDMI and category cable connections are correct and undamaged. Change to another good working HDMI cable or category cable (CAT6 or better cable is recommended).

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

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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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