

BLACKBIRD™



Blackbird™ by Monoprice™

HDBaseT 3.0 Extender 70M 4K60Hz KVM USB 2.0 / Audio / RS-232

P/N **44571**
User Manual

Thank You for Purchasing this Product

To ensure optimum performance and safety, read the following instructions before connecting, operating, or adjusting the product. Keep this manual for future reference.

Surge Protection Device Recommended

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

Safety Warnings and Guidelines

Please read this entire manual before using this device, paying extra attention to these safety warnings and guidelines. Please keep this manual in a safe place for future reference.

- This device is intended for indoor use only.
- Do not expose this device to water or moisture of any kind. Do not place drinks or other containers with moisture on or near the device.
- If moisture does get in or on the device, immediately unplug it from the power outlet and allow it to fully dry before reapplying power.
- Do not touch the device, the power cord, or any other connected cables with wet hands.
- Do not expose this device to excessive vibration.
- Do not subject the product to extreme force, shock, or fluctuations in temperature or humidity.
- Do not expose this device to excessively high temperatures. Do not place it in, on, or near a heat source, such as a fireplace, stove, radiator, etc. Do not leave it in direct sunlight.

- This device ventilates excessive heat through the slots and openings in the case.
- Do not block or cover these openings. Ensure that the device is in an open area where it can get sufficient airflow to keep from overheating.
- Prior to operation, check the unit and power cord for physical damage. Do not use if physical damage has occurred.
- Before plugging the unit into a power outlet, ensure that the outlet provides the same type and level of power required by the device.
- Never unplug the unit by pulling on the power cord. Always grasp the connector head or adapter body.
- Ensure that power is turned off and disconnected before making any electrical connections.
- Clean using a soft, dry cloth only. Do not use chemical cleaners, solvents, or detergents. For stubborn deposits, moisten the cloth with warm water.
- This device has no user serviceable parts. Do not attempt to open, service, or modify this device.

Table of Contents

Introduction.....	4
Features.....	4
Package Contents.....	5
Operation Controls and Functions.....	6
Transmitter Panel.....	6
Receiver Panel.....	8
IR Pin Definition.....	9
Application Example.....	10
Specifications.....	11

1. Introduction

The 18Gbps HDBaseT 3.0 Extender extends uncompressed HDMI signals, RS-232, bi-directional IR, and USB2.0 signals up to 230ft (70m) (4K30/1080P) or 131ft (40m) 4K60 using a single CAT6A cable. It supports video resolution up to 4K2K@60Hz YUV 4:4:4. The Transmitter has HDMI input and audio extraction capabilities; whereas, the Receiver has HDMI output and audio extraction capabilities. The Extender supports bi-directional RS- 232 and IR signal pass-through, EDID management, USB2.0 signal transmission, and bi- directional POC function.

This Extender provides a convenient solution for HDMI extension via a single CAT cable with long-distance capability, making it ideal for both home and commercial applications.

2. Features

- HDMI 2.0b and HDCP 2.2 compliant
- 18Gbps Video Bandwidth
- Up to 4K2K@60Hz (YUV 4:4:4) of video resolution supported
- HDR, HDR10, HDR10+, Dolby Vision LLM, and HLG pass-through
- LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS96/24, DTS High Res, DTS-HD Master Audio, and DSD pass-through
- Transmission distance of up to 230ft/70m (4K30/1080P) or 131ft/40m (4K60) via a single CAT6A cable
- Bi-Directional POC (Power over Cable) is supported when TX or RX gets power, and the other end does not need an external power supply

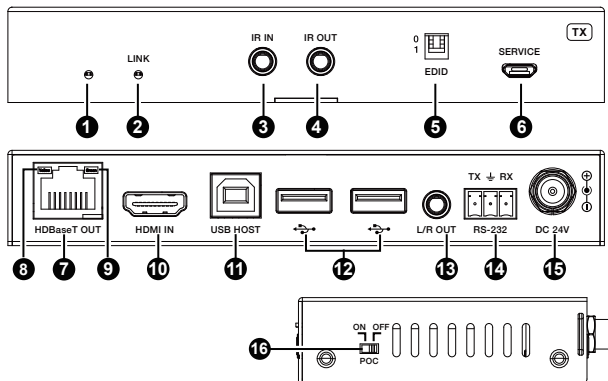
- Over 3.5mm Analog Audio De-Embedding at TX and RX
- EDID Management
- Bi-directional RS-232 signal pass-through, bi-directional IR signal
- Control, and USB2.0 signal transmission
- Compact design for easy and flexible installation

3. Package Contents

- 1 × HDBaseT 3.0 Extender (Transmitter)
- 1 × HDBaseT 3.0 Extender (Receiver)
- 1 × IR Blaster Cable (1.5 meters)
- 1 × IR Receiver Cable (1.5 meters)
- 2 × 3pin-3.81mm Phoenix Connectors (Male)
- 4 × Mounting Ears
- 8 × Machine Screws (KM3*4)
- 1 × 24V/1A Locking Power Adapter
- 1 × User Manual

4. Operation Controls and Functions

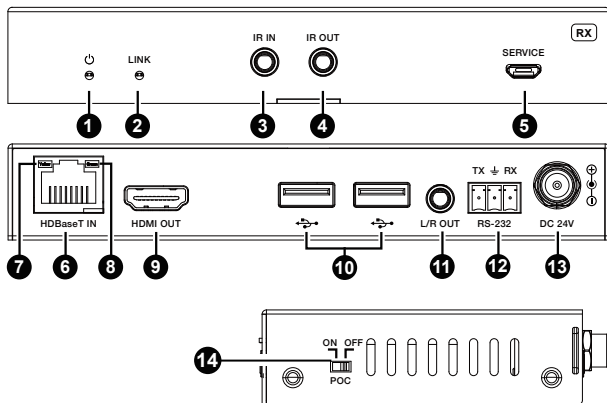
Transmitter Panel



No.	Name	Function Description
1	Power LED	The red LED is on when the Transmitter is powered on.
2	LINK LED	- Light on: Transmitter and Receiver are in good connection status. - Light flashing: Transmitter and Receiver are in poor connection status or connected to the same device. - Light off: Transmitter and Receiver are not connected.
3	IR IN	IR signal input port, connected to IR Receiver cable.
4	IR OUT	IR signal output port, connected to IR Blaster cable.
5	EDID DIP switch	Used for EDID setting: 00-Copy display's EDID (as factory default) 01-4K30 4:4:4 10-1080p60 4:4:4 11-1200p60 4:4:4

No.	Name	Function Description
6	SERVICE	Firmware update port.
7	HDBaseT OUT	HDBaseT output port, connected to the HDBaseT IN port of Receiver with a CAT6A cable. It is used for various signals pass-through.
8	Data Signal Indicator (Yellow)	▪ Illuminating: HDMI signal with HDCP. ▪ Flashing: HDMI signal without HDCP. ▪ Dark: No HDMI signal.
9	Link Signal Indicator (Green)	▪ Illuminating: Transmitter and Receiver are in good connection status. ▪ Flashing: Transmitter and Receiver are in poor connection status or connected to the same device. ▪ Dark: Transmitter and Receiver are not connected.
10	HDMI IN	HDMI signal input port, connected to signal source device.
11	USB HOST	USB extension host port, connected to PC.
12	USB DEVICES	Two USB device ports, connected to U disk, mouse or keyboard.
13	L/R OUT	Analog audio output port, used for audio de-embedding output.
14	RS-232	RS-232 serial port, used for serial port command transmission.
15	DC 24V	DC 24V/1A power supply input port. Note that the extender supports POC function, it means that either transmitter or receiver is powered on by 24V/1A power adapter, the other one doesn't need power supply.
16	POC switch	Use the switch to turn on/off POC function.

Receiver Panel

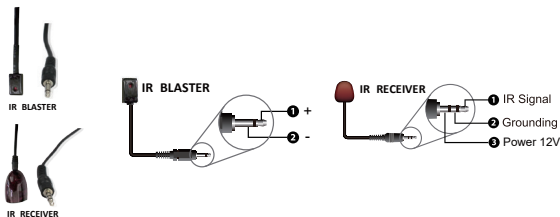


No.	Name	Function Description
1	Power LED	Red LED indicates that the Receiver is powered on.
2	LINK LED	- Light on: Transmitter and Receiver are in good connection status. - Light flashing: Transmitter and Receiver are in poor connection status or connected to the same device. - Light off: Transmitter and Receiver are not connected.
3	IR IN	IR signal input port, connected to IR Receiver cable.
4	IR OUT	IR signal output port, connected to IR Blaster cable.
5	SERVICE	Firmware update port.
6	HDBaseT IN	HDBaseT input port, connected to the HDBaseT OUT port of Transmitter with a CAT6A cable. It is used for various signals pass-through.

No.	Name	Function Description
7	Data Signal Indicator (Yellow)	• Illuminating: HDMI signal with HDCP. • Flashing: HDMI signal without HDCP. • Dark: No HDMI signal.
8	Link Signal Indicator (Green)	• Illuminating: Transmitter and Receiver are in good connection status. • Flashing: Transmitter and Receiver are in poor connection status or connected to the same device. • Dark: Transmitter and Receiver are not connected.
9	HDMI OUT	HDMI signal output port, connected to HDMI display device.
10	USB DEVICES	Two USB device ports, connected to U disk, mouse or keyboard.
11	L/R OUT	Analog audio output port, used for audio de-embedding output.
12	RS-232	RS-232 serial port, used for serial port command transmission.
13	DC 24V	DC 24V/1A power supply input port. Note that the extender supports POC function, it means that either transmitter or receiver is powered on by 24V/1A power adapter, the other one doesn't need power supply.
14	POC switch	Use the switch to turn on/off POC function.

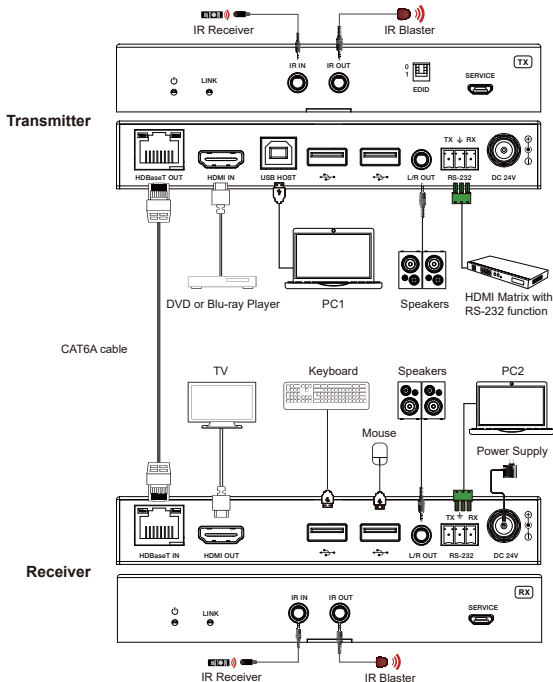
IR Pin Definition

IR Receiver and Blaster pin's definition as below:



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.

5. Application Example



6. Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution	Up to 4K@60Hz
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Color Depth	8/10/12-bit
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
Audio Format	LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
IR Level	12Vp-p
Transmission Distance	4K60 / 40m; 4K30 / 70m; 1080P / 70m (CAT6A cable)
Connection	
Transmitter	Input: 1 × HDMI IN [Type A, 19-pin female] Outputs: 1 × HDBaseT OUT [RJ45 connector] 1 × L/R OUT [3.5mm Stereo Mini-jack] Controls: 1 × IR IN [3.5mm Stereo Mini-jack] 1 × IR OUT [3.5mm Stereo Mini-jack] 1 × RS-232 [3pin-3.81mm Phoenix jack] 1 × SERVICE [Micro USB, 5-pin female] 1 × USB HOST [USB Type B] 2 × USB DEVICES [USB Type A]
Receiver	Input: 1 × HDBaseT IN [RJ45, 8-pin female] Outputs: 1 × HDMI OUT [Type A, 19-pin female] 1 × L/R OUT [3.5mm Stereo Mini-jack] Controls: 1 × IR IN [3.5mm Stereo Mini-jack] 1 × IR OUT [3.5mm Stereo Mini-jack] 1 × RS-232 [3pin-3.81mm Phoenix jack] 1 × SERVICE [Micro USB, 5-pin female] 2 × USB DEVICES [USB Type A]

Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter/Receiver: 144mm [W] × 78mm [D] × 23mm [H]
Weight	Transmitter: 323g, Receiver: 319g
Power Supply	Input: AC 100-240V 50/60Hz; Output: DC 24V/1A (US/EU standard, CE/FCC/UL certified)
Power Consumption	14.28W (POC)
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)

Customer Service

The Monoprice Customer Service department is dedicated to ensuring that your ordering, purchasing, and delivery experience is second to none. If you have any problems with your order, please give us an opportunity to make it right. You can contact a Monoprice Customer Service representative through the Live Chat link on our website www.monoprice.com or via email at support@monoprice.com. Check the website for support times and links.

Technical Support

Monoprice™ is pleased to provide free, live, online technical support to assist you with any questions you may have about installation, setup, troubleshooting, or product recommendations. If you ever

need assistance with your new product, please come online to talk to one of our friendly and knowledgeable Tech Support Associates. Technical support is available through the online chat button on our website www.monoprice.com or through email by sending a message to tech@monoprice.com. Check the website for support times and links. To download the latest drivers, firmware, manuals, etc., go to www.monoprice.com and type 44571 into the search bar. If available, support files are linked at the bottom of the product page.

Notice for FCC



This device complies with Part 15 of the FCC rules.

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Modifying the equipment without Monoprice's authorization may result in the equipment no longer complying with FCC requirements for Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful

interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Notice for ISED Canada

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



The Adopted Trademarks HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and other countries.

All other trademarks, registered trademarks, or service marks are the property of their respective owners.

Monoprice™ and all Monoprice logos are trademarks of Monoprice Inc.



TECHNOLOGY AT PRICES THAT MAKE SENSE

www.monoprice.com

Need Help? We're here for you!

Contact us: www.monoprice.com/contactus

Product pictures are for reference only.

Specifications described herein are subject to change without prior notification. Monoprice™ and all Monoprice logos are trademarks of Monoprice Inc.

Copyright © 2023 Monoprice, Inc. All rights reserved.

Monoprice, Inc.

1 Pointe Drive, Suite 400 Brea,
CA 92821 – USA

www.monoprice.com