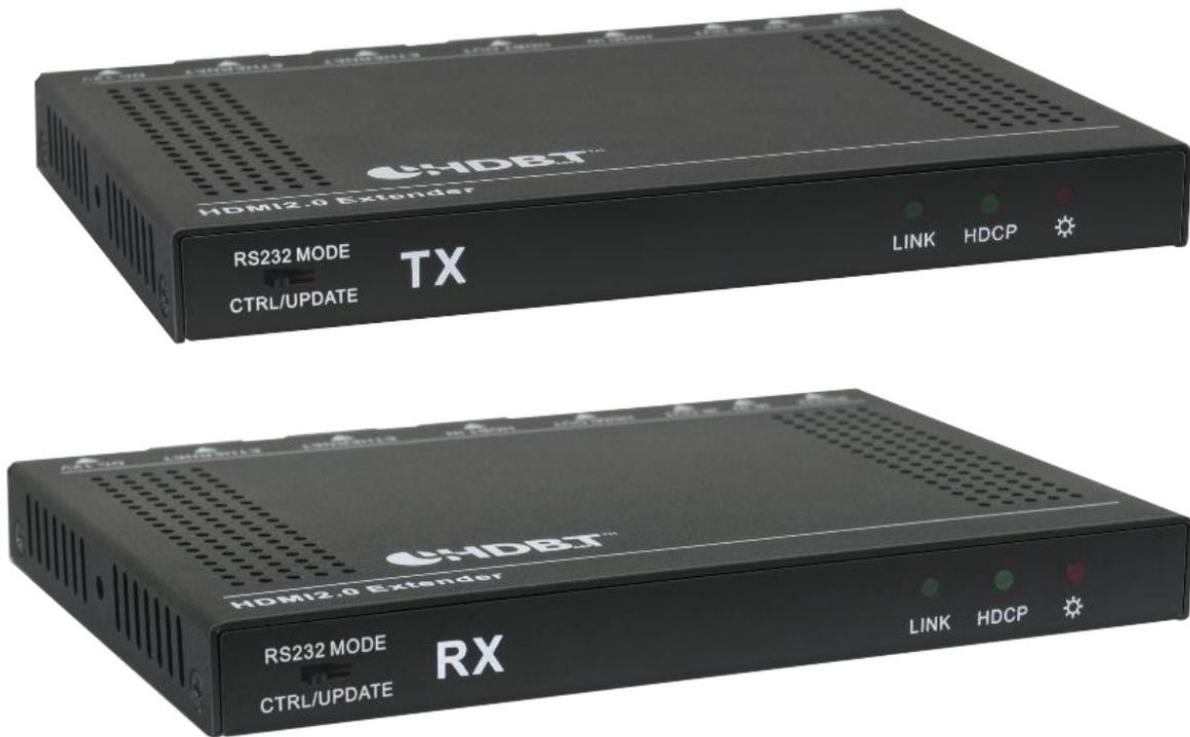


MONOPRICE

Blackbird™ 4K HDBaseT™ Extender Kit



P/N 21792

User's Manual

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 excessively high temperatures. Do not place it in, on, or near heat sources, such as a fireplace, stove, radiator, etc. Do not leave it in direct sunlight.
- Prior to operation, check the unit and power cord for physical damage. Do not use if physical damage has occurred.
- Unplug this device from the power source when not in use.
- Take care to prevent damage to the power cord. Do not allow it to become crimped, pinched, walked on, or become tangled with other cords. Ensure that the power cord does not present a tripping hazard.
- 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.

INTRODUCTION

Thank you for purchasing this Blackbird™ 4K HDBaseT™ Extender Kit! This kit consists of a transmitter and receiver, which allows a 1080p HDMI® signal to be transmitted to distances up to 328 feet (100 meters) and a 4K signal to be transmitted to distances up to 229 feet (70 meters) over a single Cat6 Ethernet cable. It supports video resolutions up to 4K@60Hz 4:4:4 and includes the Power over HDBaseT (PoH) feature, which allows the transmitter or receiver to be powered by the other device over the Ethernet cable. It supports bi-directional extension of infrared remote control, RS232 computer data, and 10/100Mbps Ethernet network traffic. It is fully compliant with the HDMI 2.0 and HDCP 2.2 specifications and provides up to 18Gbps bandwidth.

FEATURES

- Supports video resolutions up to 4K@60Hz 4:4:4
- Extends 1080p signals to distances up to 328 feet (100 meters) and 4K signals to distances up to 229 feet (70 meters)
- Fully compliant with the HDMI 2.0 and HDCP 2.2 specifications
- Supports the Power over HDBaseT feature, which allows the transmitter or receiver to be powered by the other device over the Ethernet cable
- Supports bi-directional IR and RS232 pass-through
- Supports HDR
- Includes a 4-port 10/100Mbps Ethernet switch

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 problem 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 during normal business hours (Mon-Fri: 5am-7pm PT, Sat-Sun: 9am-6pm PT) or via email at support@monoprice.com

PACKAGE CONTENTS

Please take an inventory of the package contents to ensure you have all the items listed below. If anything is missing or damaged, please contact Monoprice Customer Service for a replacement.

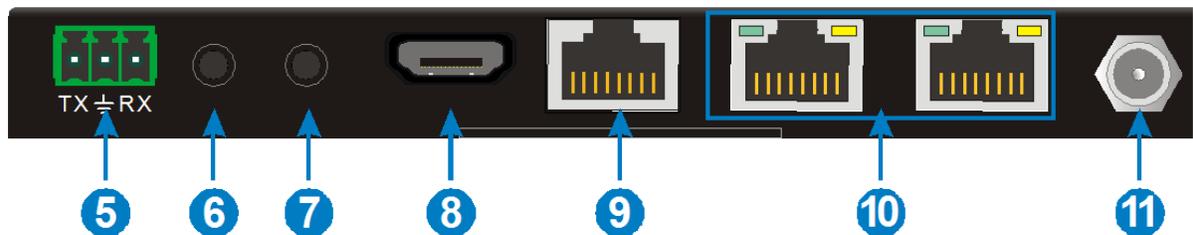
- 1x HDBaseT™ transmitter
- 1x HDBaseT receiver
- 2x 3-pin to DB9 RS232 cables
- 4x Mounting brackets
- 8x Screws
- 1x IR transmitter
- 1x IR receiver
- 8x Plastic cushions
- 1x User's manual

PRODUCT OVERVIEW

Transmitter



1. **RS232 MODE Switch:** Selects the RS232 mode. The **CTRL** position is the normal operating mode where RS232 data is passed back and forth with the receiver. The two **UPDATE** positions are for updating the transmitter's firmware using one of two methods. See the *FIRMWARE UPDATE* section for details.
2. **LINK LED Indicator:** The LED illuminates green when there is a valid HDBaseT connection with the receiver. The LED is off when there is no valid link.
3. **HDCP LED Indicator:** The LED illuminates green when there is HDMI video traffic with HDCP. It will blink green when there is HDMI® video traffic without HDCP and will be off when there is no HDMI video traffic.
4. **POWER LED Indicator:** The LED illuminates red when power is applied and is off when no power is present.



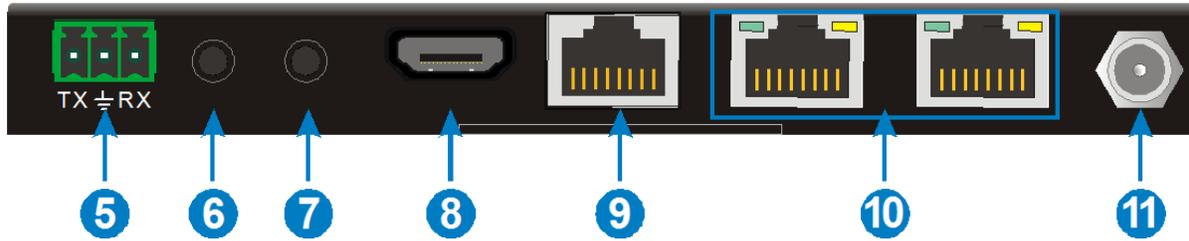
5. **RS232 Connector:** Connector for the included 3-pin to DB9 RS232 cable.
6. **IR IN Jack:** 3.5mm jack for connecting the IR receiver.
7. **IR OUT Jack:** 3.5mm jack for connecting the IR transmitter.

8. **HDMI IN Port:** HDMI® port for connecting the HDMI cable from the video source device.
9. **HDBT OUT Jack:** RJ45 jack for connecting the Ethernet cable to the receiver.
10. **ETHERNET Jacks:** RJ45 jacks for connecting to an existing Ethernet network and/or devices.
11. **DC IN Jack:** DC barrel connector for connecting the included AC power adapter.

Receiver

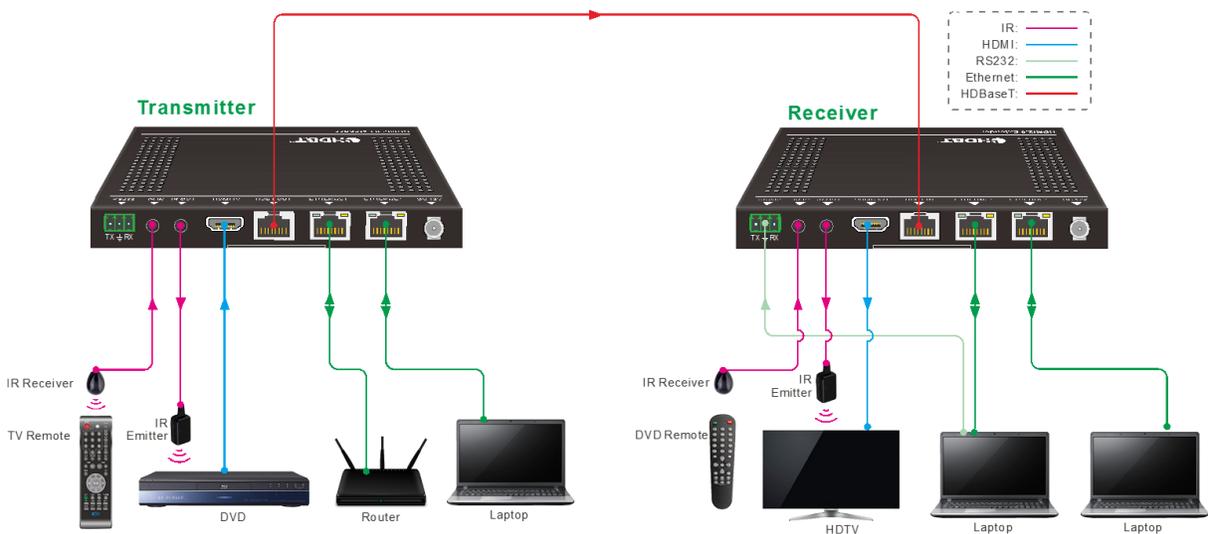


1. **RS232 MODE Switch:** Selects the RS232 mode. The **CTRL** position is the normal operating mode where RS232 data is passed back and forth with the transmitter. The two **UPDATE** positions are for updating the receiver's firmware using one of two methods. See the *FIRMWARE UPDATE* section for details.
2. **LINK LED Indicator:** The LED illuminates green when there is a valid HDBaseT™ connection with the receiver. The LED is off when there is no valid link.
3. **HDCP LED Indicator:** The LED illuminates green when there is HDMI® video traffic with HDCP. It will blink green when there is HDMI video traffic without HDCP. It will be off when there is no HDMI video traffic.
4. **POWER LED Indicator:** The LED illuminates red when power is applied and is off when no power is present.



5. **RS232 Connector:** Connector for the included 3-pin to DB9 RS232 cable.
6. **IR IN Jack:** 3.5mm jack for connecting the IR receiver.
7. **IR OUT Jack:** 3.5mm jack for connecting the IR transmitter.
8. **HDMI OUT Port:** HDMI port for connecting the HDMI® cable to the video display.
9. **HDBaseT IN Jack:** RJ45 jack for connecting the Ethernet cable to the transmitter.
10. **ETHERNET Jacks:** RJ45 jacks for connecting to an existing Ethernet network and/or devices.
11. **DC IN Jack:** DC barrel connector for connecting the included AC power adapter.

SAMPLE CONNECTION DIAGRAM



INSTALLATION

Perform the following steps to install this HDBaseT™ Extender Kit.

1. Ensure that all equipment to be connected is powered off and unplugged from its power source.
2. Place the transmitter and receiver in their intended locations. Use the included mounting brackets to secure the units in place, as desired.
3. Using a High Speed HDMI® Cable (not included), plug one end into the HDMI input on your display, then plug the other end into the **HDMI OUT** port on the receiver.
4. Using a Cat6 Ethernet cable (not included), plug one end into the **HDBT IN** jack on the receiver, then plug the other end into the **HDBT OUT** jack on the transmitter. Note that if this cable is to be run in or through wall, it must be rated for in-wall use.
5. Using a High Speed HDMI Cable (not included), plug one end into the **HDMI IN** port on the transmitter, then plug the other end into the HDMI output on your video source device (e.g., Blu-ray Disc™ player, DVD player, game console, etc.).
6. (Optional) Using an Ethernet cable (not included), plug one end into one of the **ETHERNET** ports on either the transmitter or receiver, then plug the other end into an Ethernet port on a network router or switch.
7. (Optional) Using an Ethernet cable (not included), plug one end into an available **ETHERNET** port on the transmitter or receiver, then plug the other end into the Ethernet port on your computer, Ethernet switch, or other network device. Repeat for up to two additional network connections.
8. (Optional) If you want to control the video source device from the remote location, plug the included IR receiver into the **IR IN** jack on the receiver, then position the IR "eye" where it can receive IR signals from your remote control. Alternatively, if you want to control the remote display from the source side, plug the included IR receiver into the **IR IN** jack on the transmitter, then position the IR "eye" where it can receive IR signals from your remote control.
9. (Optional) If you want to control the video source device from the remote location, plug the included IR transmitter into the **IR OUT** jack on the transmitter, then position the IR emitter where it can transmit IR signals to the IR "eye" on the video

source device. Alternatively, if you want to control the remote display from the source end, plug the include IR transmitter into the **IR OUT** jack on the receiver, then position the IR emitter where it can transmit IR signals to the IR "eye" on the display.

10. Plug the DC barrel connector on the included AC power adapter into the **DC IN** jack on either the transmitter or the receiver, then plug the adapter into a nearby AC power outlet. Note that the unit that is not connected to the AC power adapter will receive its power from the other unit over the Cat6 Ethernet cable.
11. Plug in and power on all connected equipment. Start video playback on your source device, then verify that you can see the video on the remote display. If you are using the IR extension feature, verify that you can control the intended device from the other end. If you connected computers or other network devices to the ETHERNET ports, verify that you have network access to the connected device.

FIRMWARE UPDATE

Perform the following steps to update the firmware for both the transmitter and receiver.

1. Plug the included **3-pin to DB9 RS232 Cable** into the **3-pin RS232** connector on the receiver or transmitter, then plug the other end into the RS232 serial connector on your PC.
2. If you will be updating the Valens IC program, slide the **RS232 Mode Switch** to the **UPDATE A** position. If you will be update the Compression IC program, slide the **RS232 Mode Switch** to the **UPDATE B** position instead.
3. Locate the update batch (.bat) file on your computer and double-click it to run it.

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 during regular business hours, 7 days a week. You can also get assistance through email by sending a message to tech@monoprice.com

SPECIFICATIONS

Model	21792
Maximum Transmission Distance	up to 328 feet (100m) for 1080p signals up to 229 feet (70m) for 4K signals
Maximum Resolution	4K@60Hz 4:4:4
Maximum Bandwidth	18Gbps
HDMI® Standards	HDMI 2.0 and HDCP 2.2
Ethernet Standard	10/100Mbps
Power Source	24 VDC, 1.25A AC adapter or PoH
AC Adapter Input Power	100 ~ 240 VAC, 50/60 Hz
Maximum Power Consumption	20 watts
Operating Temperature	+14 ~ +122°F (-10 ~ +50°C)
Operating Humidity	0 ~ 90% RH, non-condensing
Dimensions (each)	6.0" x 0.6" x 4.1" (152 x 16 x 104 mm)
Weight (each)	8.5 oz. (240g)

REGULATORY COMPLIANCE

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 Industry 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.

Blackbird™ is a trademark of Monoprice Inc.

HDBaseT™ and the HDBaseT Alliance logo are trademarks of the HDBaseT Alliance.

HDMI®, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.