

# MONOPRICE

Blackbird™ HDMI® Extender Over Cat6, 50m

P/N 18784

**User's Manual**

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## 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.
- Before plugging the unit into a power outlet, ensure that the outlet provides the same type and level of power required by the device.
- Unplug this device from the power source when not in use.
- 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.
- Keep away from corrosive materials.

## INTRODUCTION

Thank you for purchasing this Blackbird™ HDMI® Extender! This extender allows you to transmit a 1080p video signal to distances up to 164 feet over a single Cat6 UTP cable. It features a 4.95Gbps bandwidth and includes an HDMI pass-through port, which allows for cascading. Display EDID information can be set to either the display connected to the receiver or the display connected to the pass-through port on the transmitter. It supports Deep Color up to 12-bits/channel and multichannel high-definition audio streams, such as DTS-HD Master Audio™ and Dolby TrueHD™. This extender also features a bidirectional IR transmitter and receiver, which allows you to control your source device from the remote location or your remote display from the source location.

## FEATURES

- Supports HDMI® video resolutions up to 1920 x 1080p @ 60Hz
- 4.95 Gbps bandwidth
- Can transmit signals to distances up to 164 feet (50m) over a single Cat6 UTP cable
- EDID information can be obtained from the display connected to either the receiver or to the transmitter's pass-through port
- Includes a bidirectional IR extender for control of source devices from the remote location or the remote display from the source location
- Features a pass-through HDMI port on the transmitter for connecting a second display or another extender transmitter
- Supports HDCP version 1.4

## 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](http://www.monoprice.com) during normal business hours (Mon-Fri: 5am-7pm PT, Sat-Sun: 9am-6pm PT) or via email at [support@monoprice.com](mailto: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 HDMI® extender transmitter
- 1x HDMI extender receiver
- 1x Wideband IR transmitter (blaster)
- 1x Wideband IR receiver
- 2x 5 VDC, 1A AC power adapters
- 1x User's manual

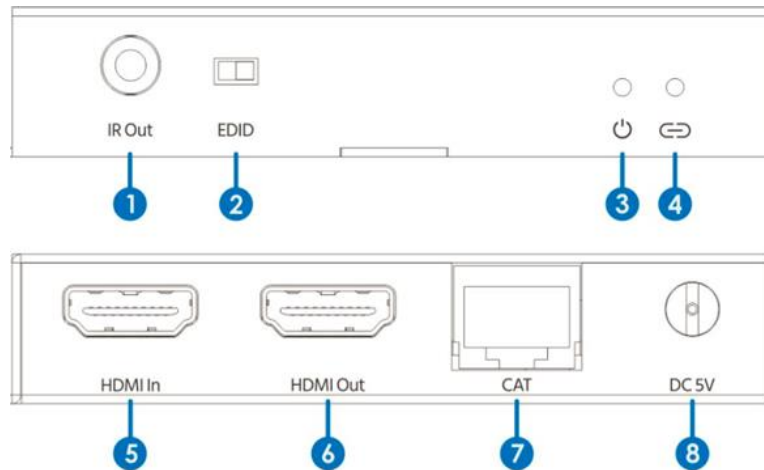


**IR RECEIVER**

**IR BLASTER**

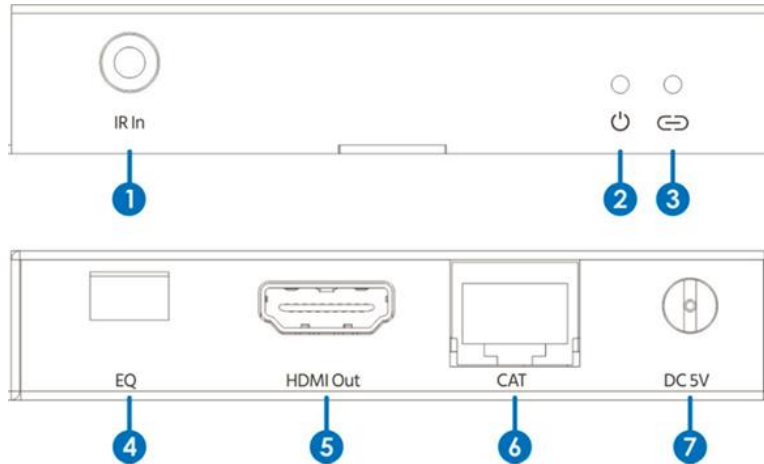
# PRODUCT OVERVIEW

## Transmitter



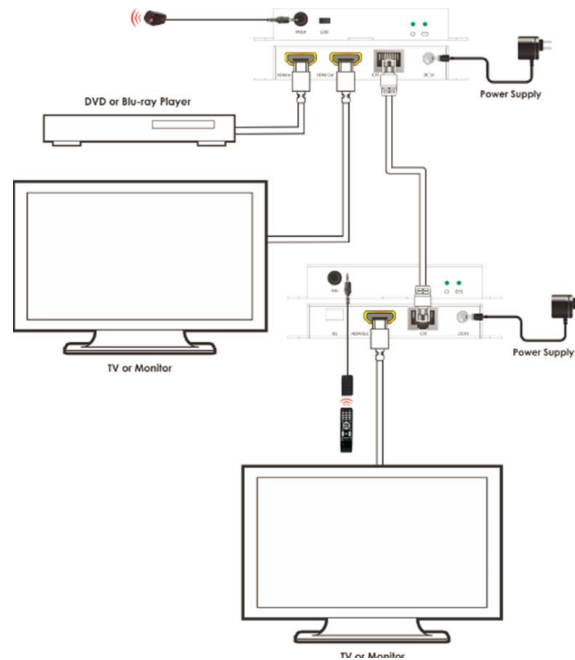
1. **IR Out:** Connection for the IR transmitter or IR receiver.
2. **EDID:** Switch to allow EDID information to be obtained from either the display connected to the receiver or the display connected to the pass-through port on the transmitter.
3. **Power LED:** Illuminates when power is applied.
4. **Link LED:** Illuminates when a valid link between the transmitter and receiver exists.
5. **HDMI® In:** Connection for the HDMI source device.
6. **HDMI Out:** Pass-through connector for connecting a display or cascading another extender transmitter.
7. **CAT:** Connection for the Cat6 Ethernet cable.
8. **DC5V:** Connection for the AC power adapter.

## Receiver



1. **IR In:** Connection for the IR receiver or transmitter.
2. **Power LED:** Illuminates when power is applied.
3. **Link LED:** Illuminates when a valid link between the transmitter and receiver exists.
4. **EQ:** Adjusts the signal strength to eliminate video noise or anomalies.
5. **HDMI Out:** Connection for the video display.
6. **CAT:** Connection for the Cat6 Ethernet cable.
7. **DC5V:** Connection for the AC power adapter.

# INSTALLATION



Perform the following steps to install the extender:

1. Ensure that all equipment to be connected is powered off and unplugged from its power source.
2. Place the extender receiver at the remote location.
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. (Optional) Plug either the IR receiver or IR transmitter into the **IR In** port on the receiver. If you want to control the source device from the remote location, use the IR receiver. If you want to control the remote display from the source location, use the IR transmitter instead.
5. If using the IR receiver, position the "bulb" where it can receive signals from your remote control. If using the IR transmitter, position the "bulb" where it can transmit signals to the IR receiver on your display.
6. Route a Cat6 Ethernet cable (not included) from the source location to the remote location. This cable can be no longer than 164 feet (50 meters) and must be rated for in-wall use if being routed inside or through the walls.







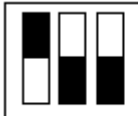
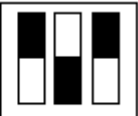


7. Connect one end of the Cat6 Ethernet cable to the **CAT** port on the receiver.
8. Place the extender transmitter at the source location.
9. Connect one end of the Cat6 Ethernet cable to the **CAT** port on the transmitter.
10. (Optional) Using a High Speed HDMI Cable (not included), plug one end into the HDMI® input on a display at the source location or into the HDMI input of another extender or other HDMI device. Plug the other end into the **HDMI Out** port on the transmitter.
11. 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 of your HDMI source device (e.g., DVD or Blu-ray Disc™ player).
12. (Optional) Plug either the IR receiver or IR transmitter into the **IR Out** port on the transmitter. If you want to control the source device from the remote location, use the IR transmitter. If you want to control the remote display from the source location, use the IR receiver instead.
13. If using the IR transmitter, position the "bulb" where it can transmit signals to the IR receiver on your source device. If using the IR receiver, position the "bulb" where it can receive signals from your remote control.
14. Slide the EDID switch on the transmitter to the **Left** position if you want to obtain EDID information from the remote display. If you want to obtain EDID information from a display connected to the pass-through HDMI connector on the transmitter, slide the switch to the **Right** position instead.
15. Plug the DC barrel connector on one of the AC power adapters into the **DC5V** jack on the receiver, then plug the adapter into a nearby AC power outlet. Verify that the **Power LED** illuminates.
16. Plug the DC barrel connector on the other AC power adapters into the **DC5V** jack on the transmitter, then plug the adapter into a nearby AC power outlet. Verify that the **Power LED** illuminates.
17. Verify that the **Link LED** illuminates. It may take several minutes before a handshake is achieved.

18. Plug in and power on all connected equipment. Start video playback on your HDMI® source device.
19. Verify that video is visible on the remote display
20. If you are using the IR extender, verify that you can control the source device from the remote location or the remote display from the source location.

*Congratulations, your HDMI extender is properly installed!*

## SETTING THE EQ SWITCH

If you see flickering, blinking, or other video anomalies on the remote display, use the EQ Switches to increase the signal strength. Start with the EQ set to 0, then increase it until the video anomalies are no longer present. The positions for each of the three DIP switches for each number value and the approximate HDMI cable length range can be found in the following table.

EQ Switch Positions	Approximate Cat6 Cable Length
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">   <b>0</b> </div> <div style="text-align: center;">   <b>1</b> </div> </div>	up to 49 feet (15 meters)
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">   <b>2</b> </div> <div style="text-align: center;">   <b>3</b> </div> </div>	49 ~ 98 feet (15 ~ 30 meters)
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">   <b>4</b> </div> <div style="text-align: center;">   <b>5</b> </div> </div>	98 ~ 131 feet (30 ~ 40 meters)
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">   <b>6</b> </div> <div style="text-align: center;">   <b>7</b> </div> </div>	131 ~ 164 feet (40 ~ 50 meters)

## SPECIFICATIONS

Model	18784
HDMI® Version	1.3
HDCP Version	1.4
Video Bandwidth	4.95 Gbps
Maximum Video Resolution	1920 x 1080p @ 50/60 Hz
Transmission Medium	Single Cat6 UTP cable
Maximum Transmission Distance	164 feet (50 meters)
Color Depth	10-bits or 12-bits / channel
Color Space	RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2
Supported Audio Formats (Pass-Through)	2/5.1/7.1-channel LPCM, Dolby® Digital™, 5.1-channel DTS®, Dolby Digital Plus™, Dolby TrueHD™, DTS-HD Master Audio™, Dolby Atmos®
IR Frequency Range	30 ~ 60 kHz
Power Source	5 VDC, 1A AC power adapter
AC Power Adapter Input Power	100 ~ 240 VAC, 50/60 Hz
Transmitter Power Consumption	1.5 watts
Receiver Power Consumption	1.0 watts
Operating Temperature	+32 ~ +104°F (0 ~ +40°C)
Storage Temperature	-4 ~ +140°C (-20 ~ +60°C)
Humidity	20 ~ 90% RH, non-condensing
Dimensions (each)	3.5" x 2.2" x 0.7" (88 x 57 x 18 mm)
Weight (each)	7.1 oz. (200g)
Regulatory Compliance	CE, FCC, UL

# 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.

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