



# BLACK BOX VX-HDMI-TP-100M Extended Range HDMI and IR Extender User Manual

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## BLACK BOX VX-HDMI-TP-100M Extended Range HDMI and IR Extender



## Specifications

1. Approvals — Converter Unit: FCC
2. Power Supply: UL®, FCC
3. Input Video Signal — 1.2 volts p-p
4. Operating Frequency — Video Amplifier Bandwidth: 3.4 Gbps/340 MHz,
5. Vertical Frequency Range: 50/60 Hz
6. Output Video — HDMI
  - \*Transmission Distance — Using CAT5e/6 cable: 328 ft. (100 m) for 1080p/60 Hz
  - \* **NOTE:** Distance depends on the characteristics and quality of the cable and the type of HDMI source and display.
7. Resolutions (HDTV) — Interlaced: (50 and 60 Hz) 480i, 576i, 1080i;
8. Progressive: (50 and 60 Hz) 480p, 576p, 720p, 1080p
9. PC Resolutions — Up to 1920 x 1200/1920 x 1080
10. Connectors — Transmitter: (1) HDMI F input, (1) 3.5-mm IR emitter jack, (1) RJ-45 output (CATx interconnect); Receiver: (1) HDMI F output, (1) 3.5-mm IR receiver jack, (1) RJ-45 output (CATx interconnect)  
Indicators — (3) LEDs on both the transmitter and receiver: Power, Link, HDCP Power — For both the transmitter and receiver: AC input: 115–230 VAC, 50–60 Hz; Output: 5 VDC
11. Size — Each unit: 1"H x 2.6"W x 3.9"D (2.5 x 6.6 x 4 cm) Weight — Each unit: 0.4 lb. (0.2 kg)

## Overview

### Introduction

The Extended Range HDMI and IR Extender drives your HD display with resolutions of 1080p/60 Hz up to 328 feet (100 meters) away from your HDMI® or DVI-D source using one CAT5e/6 cable. A built-in IR extender function allows IR remote control of source devices from a remote viewing location. To do this, the extender sends IR commands received near the display back to the source devices.

### Features

- Supports HDCP.
- Supports uncompressed HDMI signals.
- Enables HDMI 10.2 Gbps over a single 328-ft. (100-m) CAT5e/6 cable.
- Supports 340-MHz/3.4-Gbps per channel (10.2 Gbps all channels) bandwidth.
- Supports 1080p @ 60 Hz @ 48-bit pixels.
- Enables 3D pass-through.
- Supports CEC pass-through.
- Works with uncompressed audio such as LPCM.
- Supports compressed audio such as DTS® Digital, Dolby® Digital, including DTS-HD® and Dolby True HD®.
- A built-in IR extender function allows IR remote control of source devices from a remote viewing location by sending IR commands received in the vicinity of the display back to the source devices.
- CAT5e/6 cable should conform to the IEEE-568B standard.

### What's Included

Your package should contain the following items. If anything is missing or damaged, contact Black Box Technical Support at 724-746-5500 or [info@blackbox.com](mailto:info@blackbox.com).

- Transmitter unit

- Receiver unit
- (2) 5-VDC power supplies
- Extender infrared receiver
- Extender infrared emitter
- (4) wallmount brackets with (8) screws
- This user’s manual

**Hardware Description**

**Transmitter**

Figures 2-1 and 2-2 show the front and back panels of the transmitter unit. Table 2-1 describes its components.

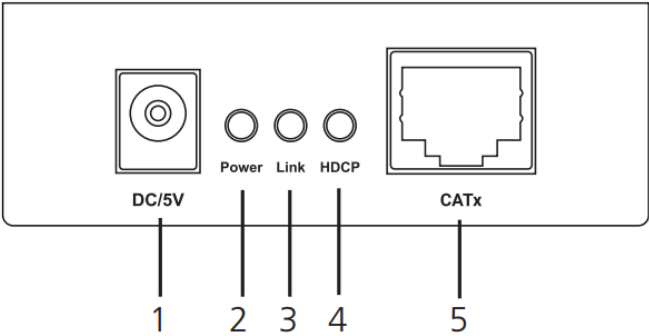


Figure 2-1. Transmitter’s front panel.

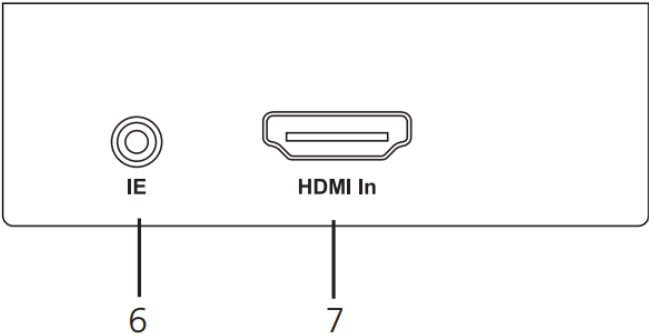


Figure 2-2. Transmitter’s back panel.

**Table 2-1. Transmitter’s components.**

Number	Component	Description
1	Barrel connector	Links to 5-VDC power supply
2	Power LED	Lights when the unit is receiving power.
3	Link LED	When this LED is "ON," a CATx link connection is established between the transmitter and the receiver over the CAT 5e/6 cable.
4	HDCP LED	<p>When this LED is "ON," video content with HDCP protection is being transferred.</p> <p>When the LED is "Blinking," video content without HDCP is being transferred.</p> <p>When the LED is "OFF," no video is connected.</p>
5	CATx	Connect the transmitter to the receiver using a CAT5e/6 cable.
6	IE port	Connect the extender infrared emitter cable from this port to the HDMI source to control the source from the viewing location.
7	HDMI In port	Connect the HDMI source to this port.

## Receiver

Figures 2-3 and 2-4 show the front and back panels of the receiver unit. Table 2-2 describes its components.

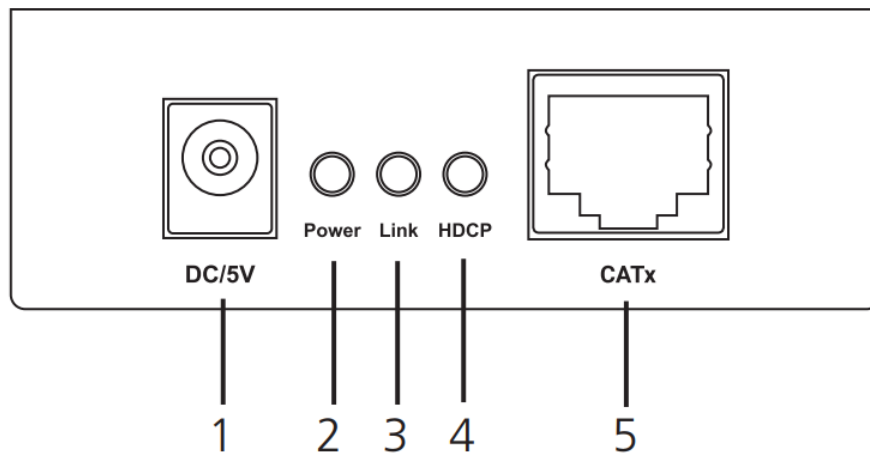


Figure 2-3. Receiver's front panel.

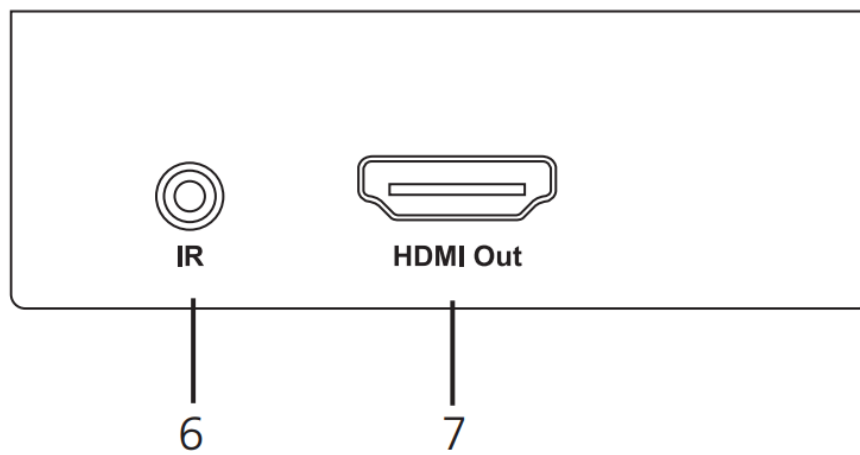


Figure 2-4. Receiver's back panel.

Number	Component	Description
1	Barrel connector	Links to 5-VDC power supply
2	Power LED	Lights when the unit is receiving power.
3	Link LED	When this LED is "ON," a CATx link connection is established between the transmitter and the receiver over the CAT 5e/6 cable.
4	HDCP LED	<p>When this LED is "ON," video content with HDCP protection is being transferred.</p> <p>When the LED is "Blinking," video content without HDCP is being transferred.</p> <p>When the LED is "OFF," no video is connected.</p>
5	CATx	Connect the transmitter to the receiver using a CAT5e/6 cable.
6	IR port	Connect the extender infrared receiver cable from this port to the IR command of the source.
7	HDMI Out port	Connect the HDMI sink to this port.

## Connection and Operation

1. Connect the HDMI source (such as DVD, PS3, STB ) to the input of the transmitter.
2. Connect the receiver's output to an HDTV display.
3. Use a CAT5e/6 cable up to 328 feet (100 m) to connect the transmitter and receiver.
4. Plug one power supply into the transmitter and the other into the receiver.
5. Power on the HDTV display and HDMI source.

**NOTE:** We recommend that you use one continuous run of CAT5e/6 cable from transmitter to receiver. Using patched connections may affect the maximum distance.

**CAUTION:** Insert or remove the cable gently.

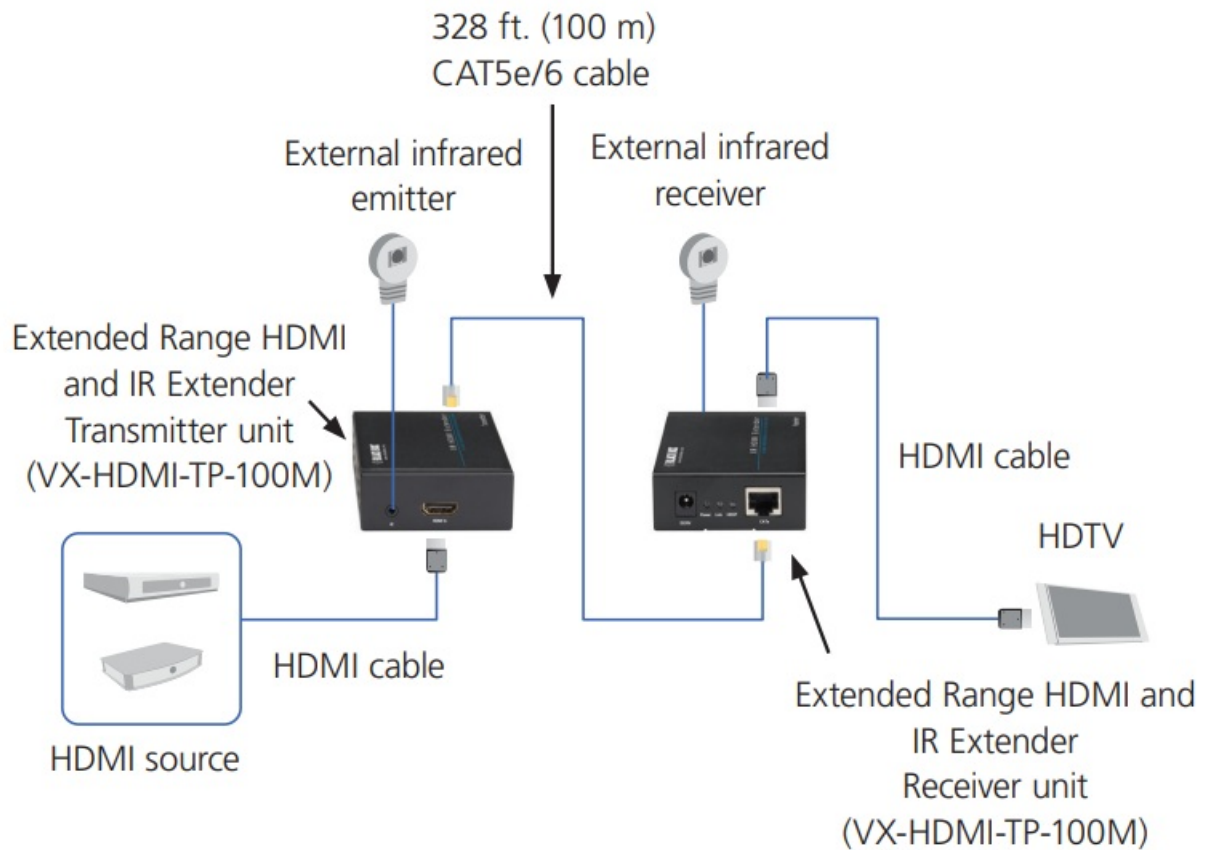


Figure 3-1. Connection diagram.

## Appendix: Troubleshooting

### 1. A.1 Contacting Black Box

If you determine that your extender is malfunctioning, do not attempt to alter or repair the unit. It contains no user-serviceable parts. Contact Black Box Technical Support at 724-746-5500 or [info@blackbox.com](mailto:info@blackbox.com). Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

1. the nature and duration of the problem.
2. when the problem occurs.
3. the components involved in the problem.
4. any particular application that, when used, appears to create the problem or make it worse.

### 2. A.2 Shipping and Packaging

If you need to transport or ship your extender:

1. Package it carefully. We recommend that you use the original container.
2. If you are returning the unit, make sure you include everything you received with it. Before you ship for return or repair, contact Black Box to get a Return Authorization (RA) number.

### About Black Box

Black Box provides an extensive range of networking and infrastructure products. You'll find everything from cabinets and racks and power and surge protection products to media converters and Ethernet switches all supported by free, live 24/7 Tech support available in 60 seconds or less.

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VX-HDMI-TP-100M, version 2

	<p><a href="#">BLACK BOX VX-HDMI-TP-100M Extended Range HDMI and IR Extender</a> [pdf] User Manual VX-HDMI-TP-100M, Extended Range HDMI and IR Extender</p>
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References

- [Global IT Products & Network Solutions Provider | Black Box](#)
- [Global IT Products & Network Solutions Provider | Black Box](#)