4K HDR HDMI 2.0 HDBaseT Extender Over Single Cat5e/6 with RS-232 & IR - 60m

User Reference Guide

Introduction

The *4K HDR HDMI 2.0 HDBaseT Extender Over Single Cat5e/6 with RS-232 & IR - 60m e*xtends HDMI transmission distance up to 198ft (60m) at 1080p or 114ft (35m) at 4K over an economical CAT5e/6 cable.

Features and Benefits

- Supports video resolutions up to 4Kx2K @60Hz (4:4:4 8bit) or HDR 4Kx2K @60Hz (4:2:0 10bit) to deliver crystal clear images
- 7.1 Digital sound capabilities as well as uncompressed LPCM and compressed DTS-HD & Dolby True HD for a state-of-the-art entertainment experience
- PoC (Power over Cable) feature, only one power adapter is required to power both the transmitter and receiver units
- Bi-directional IR sensors allow you to remotely control the HDMI source device from the remote display side or control the remote display from the source device side
- Supports 3D, CEC, HDMI 2.0 and HDCP 2.2 protocols. Bandwidth up to 18Gb/s
- Premium metal housing with ventilation panels improve heat dissipation for enhanced safety and stability
- Built-in phoenix connector for RS232 control signal transmission or firmware update. Included mounting ears for easy installation

Specifications

Compliance	HDMI 2.0a / HDCP 2.2
Resolution	HDR 4Kx2K @60Hz (4:2:0 10bit) / 4Kx2K@60Hz (4:4:4 8bit)
Audio	LPCM, DTS-HD and Dolby True HD (7.1CH)
Transmission Distance	HDR 4Kx2K @60Hz: Up to 35m 1080p @60Hz: Up to 60m
IR Signal Frequency	20KHz to 60KHz
Connectors	TX: 1x Power jack 1x 8-pin RJ45 1x 3.5mm IR Receiver 1x 3.5mm IR Blaster 1x 3-pin phoenix connector (RS-232) 1x Dip switch 1x 19-pin HDMI Type-A, Female 3x LED indicator (Power/Link/Signal) RX: 1x Power jack 1x 8-pin RJ45 1x 3.5mm IR Receiver 1x 3.5mm IR Blaster 1x 3-pin phoenix connector (RS-232) 1x Dip switch 1x 19-pin HDMI Type-A, Female 3x LED indicator (Power/Link/Signal)
Housing Material	Metal
Power Adapter	Input: AC 100-240V/ 50~60Hz Output: DC 12V / 2A
Dimensions	4.7" x 2.9" x 0.8"
Weight	0.27lbs
Operating Temperature	32 to 104 degrees F
Storage Temperature	-4 to 140 degrees F

Package Contents

- *4K HDR HDMI 2.0 HDBaseT Extender (TX & RX)*
- Power adapter
- IR blaster extension cable & IR receiver extension cable
- Mounting ears & Screw kit
- Terminal block
- User Reference Guide

Layout

Note: With PoC technology, only one power adapter is needed to power both the Transmitter and Receiver.

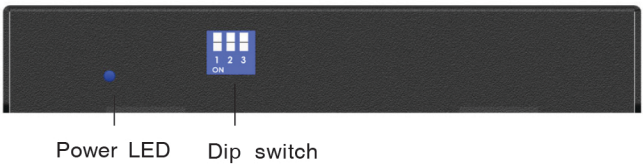


Figure 1: Transmitter (TX) - front

- **Power LED:** On when the Transmitter is powered
- **Dip switch:** Refer to below table for configuration
  - ON: In lower position
  - OFF: In upper position

DIP Switch Position				Description
PIN#1 (TX)		ON		EDID (4Kx2K @60Hz, 2CH)
		OFF		Auto EDID (Default)
PIN#1 (RX)				Reserved (no function)
PIN#2 (TX & RX)	PIN#3 (TX & RX)	ON	ON	For HDBaseT Firmware Update
		ON	OFF	For System Firmware Update
		OFF	ON	Reserved (no function)
		OFF	OFF	Normal use

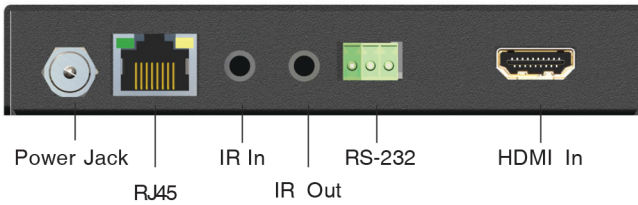


Figure 2: Transmitter (TX) - rear

- **Power Jack:** Connect the included 12V DC power adapter here (or the Receiver's power jack)
- **RJ45 (HDBT Out):** Connect the Cat5e/6 cable
- **IR In:** Infrared 3.5mm socket. Plug IR Receiver extension cable here. See instructions on page 8.
- **IR Out:** Infrared 3.5mm socket. Plug IR Blaster extension cable here. See instructions on page 8.
- **Phoenix connector (RS232):** Connect to the included terminal block and RS-232 connector (not included), then connect to a serial port device or computer for data transferring
- **HDMI In:** Connect your HDMI source here with an HDMI cable (cable not included)

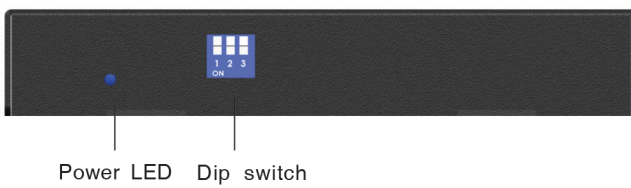


Figure 3: Receiver (RX) - front

- **Power LED:** On when the Receiver is powered
- **Dip switch:** Refer to the table on page 4 for details.

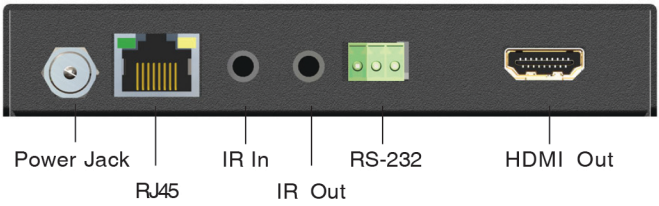


Figure 4: Receiver (RX) - rear

- **Power Jack:** Connect the included 12V DC power adapter here (or the Transmitter's power jack)
- **RJ45 (HDBT In):** Connect the Cat5e/6 cable
- **IR In:** Infrared 3.5mm socket. Plug IR Receiver extension cable here. See instructions on page 8.
- **IR Out:** Infrared 3.5mm socket. Plug IR Blaster extension cable here. See instructions on page 8.
- **Phoenix connector (RS232):** Connect to the included terminal block and RS-232 connector (not included), then connect to a serial port device or computer for data transferring
- **HDMI Out:** Connect your HDMI display with an HDMI cable (cable not included)

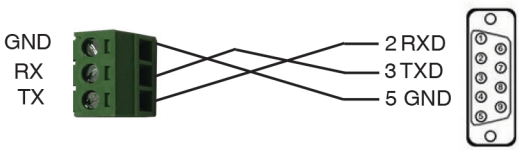
RS-232 Wire Connection

1. Insert the included terminal block to **Phoenix connector**.

Figure 5

2. Connect the wires (not included) to the included Terminal Block and the RS232 connector as below diagram.

   - Via pin to pin (Parallel) connector or cable:



   - Via null connector or cable:

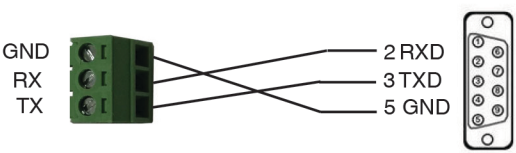


Figure 6

IR Extenders (20~60kHz IR devices supported)

Figure 7: IR Blaster cable (Connect to IR Out)

Figure 8: IR Receiver cable (Connect to IR In)

- **IR Blaster cable:** Plug into the Transmitter's or Receiver's IR Out to emit IR signals
- **IR Receiver cable:** Plug into the Receiver's or Transmitter's IR In to receive IR signals

Control your media player (such as DVD) at the TV side using the media player's remote controller

- Plug the **IR Receiver** cable to the **Receiver's IR In** port
- Plug the **IR Blaster** cable to the **Transmitter's IR Out** port.

Control your TV at the media player side using the TV's remote controller

- Plug the **IR Receiver** cable to the **Transmitter's IR In** port.
- Plug the **IR Blaster** cable to the **Receiver's IR Out** port.

Important Note: Incorrect placement of IR Receiver and IR Blaster cables may result in cable failures. Please check carefully before plugging in the IR cables to proper IR sockets.

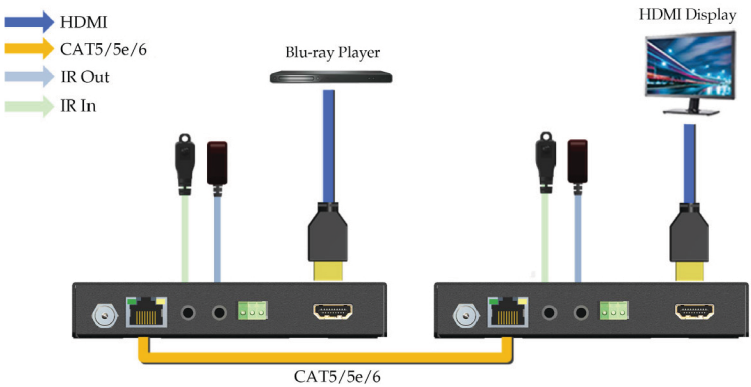
Hardware Installation

Note: To achieve optimal performance, a shielded 100% copper wire CAT6/7 cable is recommended.

1. Power off all devices including your HDMI source and display.
2. Connect your HDMI source to the Transmitter's **HDMI IN** connector with an HDMI cable (not included).
3. Optional: Connect the IR Receiver or Blaster extension cable according to the instructions on page 8.
4. Connect your HDMI display to the Receiver's **HDMI OUT** connector with a HDMI cable (not included).
5. Optional: Connect the IR Receiver or Blaster extension cable according to the instructions on page 8.
6. Connect and link the Transmitter and Receiver by a CAT5e/6 cable.
7. Plug the included power adapter into the Transmitter's or Receiver's **Power Jack**, then plug the power adapter into a reliable power outlet. (*Note:* It's recommended to connect it to the Transmitter)
8. Power on your HDMI device and HDMI display.
9. The HDMI Extender is ready for use.

Application

Extends HDMI signals such as game consoles, DVD players or computers up to 60m (198ft). Equipped with bi-directional IR pass-through path and RS-232 serial port control, makes it a great solution for digital signage with long distance A/V transmission.



* When using the remote control, please make sure its distance to the IR Receiver extension cable is within 5m (16.4ft) and without obstructions.

Figure 9: Application