

4K HDMI over HDBaseT Transmitter with PoH | Bi-directional IR & RS-232 (70m/230ft) TX-70-POH

WyreStorm Quickstart Guide

PoH-Compatible HDBaseT transmitter to send HD Video & Audio 70m/230ft over HDBaseT.

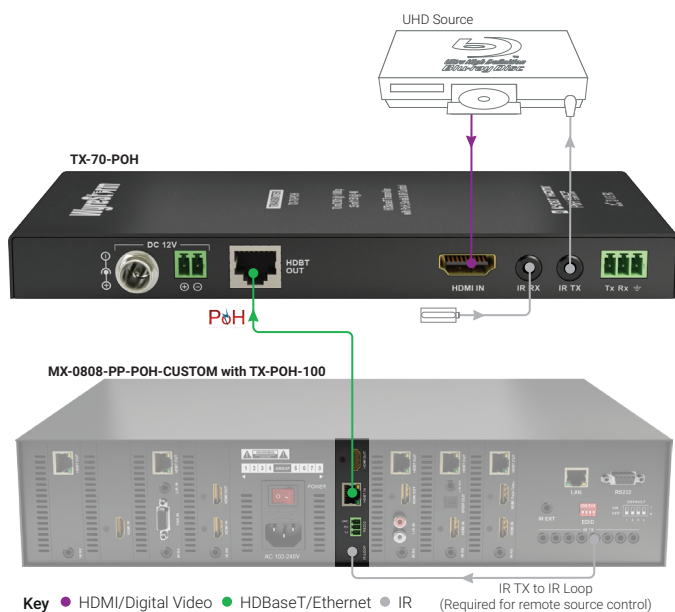
💡 WyreStorm recommends reading through this document in its entirety to become familiar with the product's features prior to starting the installation process.



In the Box

- 1x TX-70-POH Transmitter
- 1x 2-pin Screw Down Phoenix Connector
- 1x 3-pin Screw Down Phoenix Connector
- 1x IR Emitter
- 1x Broadband IR Receiver (30KHz~50KHz)
- 2x Mounting Brackets
- 1x Quickstart Guide (this document)

Basic Wiring Diagram



⚠️ IMPORTANT!

Do not connect or disconnect (hot plug) the HDMI, or HDBaseT connections while the transmitter or receiver is powered on. Doing so may cause damage to the units or connected devices.

Additional Information

This Quickstart Guide provides the basic steps for the common uses of this product. Refer to the Installation Guide and other documentation on the product page for additional information.

Recommended Products

To take full advantage of the features of this receiver, WyreStorm recommends the following products be used within the system.

- **HDBaseT Matrix Switchers with HDBT In**
The TX-70-POH was designed to be work with the **HDBT In** found on some WyreStorm matrixes to allow remote devices to be used as a source.
 - MX-0808/1616-PP-POH-CUSTOM with TX-POH-100
 - SW-1001-HDBT
- **Cable for Connecting to IR Connecting Blocks/Control Systems**
When connecting the IR RX to an IR connecting block or control system, use the **WyreStorm CAB-IR-LINK** cable to remove the sleeve +5V DC supplied by the IR Ext/IR RX ports.

Before Beginning

- WyreStorm recommends visiting the product page before installing this product for updates to this Quickstart Guide as well as other information about the product.
- Verify that all items are included in the packaging per the **In The Box** list.

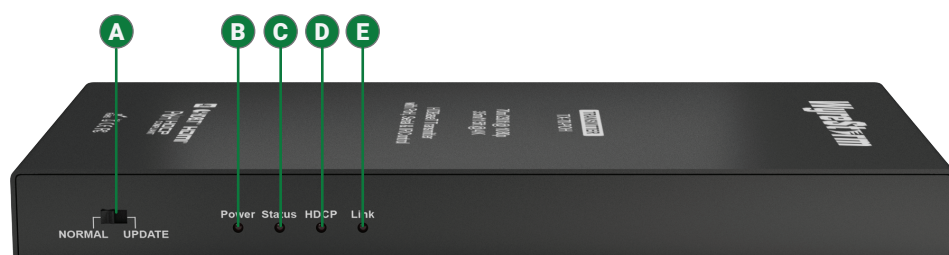
Pre Wire

1. Run a Cat5e/6/6a cable from the transmitter location to the matrix/receiver location. See **Supported Video Resolutions** for resolution distance restrictions. Terminate the cable per the **HDMI/HDBaseT Wiring** section.
2. (Optional) If using 3rd party IR emitters or connecting blocks, run the wire and terminate per the **IR TX (Emitter) Wiring** section.
3. (Optional) If using 3rd party IR receivers, run the wire and terminate per the **IR RX (Receiver) Wiring** section.
4. (Optional) If using RS-232 pass-through, run the wire and terminate per the **RS-232 Wiring** section.

Transmitter Installation

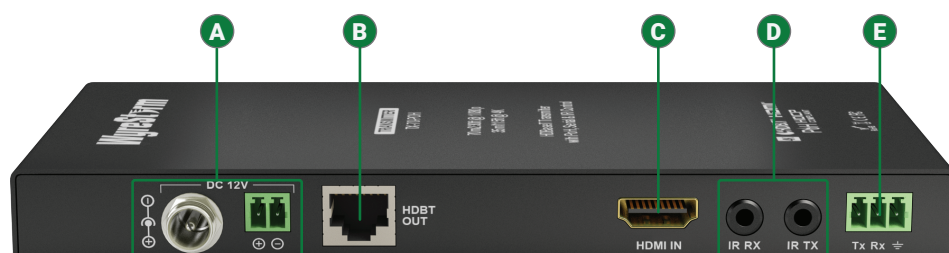
1. Install the matrix/receiver following the documentation provided with the product.
2. Connect an HDMI source to the **HDMI In** on the transmitter using an HDMI cable from a high quality brand such as **WyreStorm Express**.
3. Using the cable created in **Pre Wire** step 1, connect the 8-pin RJ-45 female plug to the **HDBT In** jack.
4. (Optional) Using the included IR emitter or the cable created in **Pre Wire** step 2, place an IR emitter onto a source device near the device's IR sensor. Connect the 3.5mm (1/8in) Mono Plug to an **IR TX** port.
5. (Optional) Using an included IR receiver, connect the 3.5mm (1/8in) Stereo Plug to an **IR Ext** port. If using a control system, use the **WyreStorm CAB-IR-LINK** or the cable created in **Pre Wire** step 3.
6. (Optional) If using RS-232 pass-through, connect the 3-pin connector to the **RS-232** port on the receiver and the opposite end to a port on the device being controlled.

Front Panel



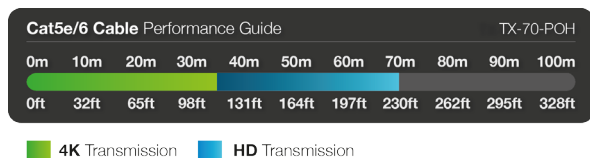
A RS-232 Mode	Switches the mode for the RS-232 port. Normal: RS-232 HDBaseT pass-through. Update: RS-232 firmware update.
B Power LED	Solid: The transmitter is powered On Off: The transmitter is powered Off
C Status LED	Flashing: The transmitter is operating normally. Off: The transmitter is Not operating normally.
D HDCP LED	Solid: Audio and Video signal is HDCP protected. Flashing: Audio and Video signal is not HDCP protected. Off: No Audio and Video signal.
E LINK LED	Solid: Link to receiver has been established Flashing: Link to receiver has not been established

Rear Panel



A Power In	5.5mm Male Barrel Jack Connection to this jack is not required when using PoH. See Power Supply Wiring .
B HDBT Out	8-pin RJ-45 female Connect to the HDBT Out of a matrix or HDBaseT transmitter.
C HDMI In	19-pin type A HDMI female: Supports HDMI and DVI/D (requires adapter-not included).
D IR TX/RX	IR TX - 3.5mm (1/8in) Mono Jack: Connect to the supplied IR emitter to control a local device from the remote display location via HDBaseT. IR RX - 3.5mm (1/8in) Stereo Jack: Connect to the supplied IR receiver to send IR to the remote display location via HDBaseT. See IR Wiring .
E RS-232	3-pin Screw Down Phoenix Connector Used to send and receive RS-232 signals to/from the source location via HDBaseT and firmware updates. See RS-232 Wiring .

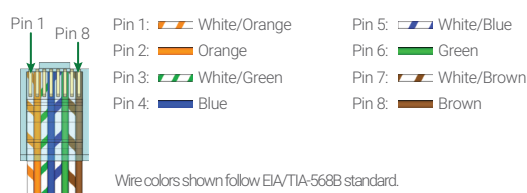
HDMI/HDBaseT Wiring



⚠ IMPORTANT! Wiring Guidelines

- The use of patch panels, wall plates, cable extenders, kinks in cables, and electrical or environmental interference can have an adverse effect on HDMI or HDBaseT transmission limiting performance. Steps should be taken to minimize these factors (or remove completely) during installation for best results.
- While similar in nature, the HDBaseT protocol is different than Ethernet and voltages provided for PoH can be higher than those provided by PoE. For this reason, never connect an HDBaseT link to an Ethernet router or switch to avoid damaging the connected devices.

Wiring for HDBaseT follows the EIA T568B standard.



Supported Video Resolutions

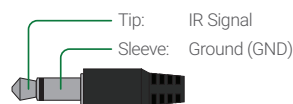
The type of category cable used and the distance between the transmitter and receiver can restrict the available video resolution.

Cable Type	Range	Supported Resolution
Cat5/5e/6	70m/230ft	1080p@60Hz 48bit
	35m/115ft	1080p@60Hz 3D 4K@60Hz 4:2:0 24bit
Cat6a	100m/328ft	1080p@60Hz 48bit 1080p@60Hz 3D

IR Wiring

IR TX (Emitter) Wiring

Connection for IR TX (transmit) uses a 3.5mm (1/8in) mono plug.



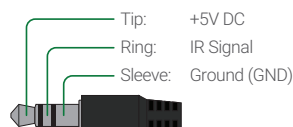
IR RX (Receiver) Wiring

Connection for IR RX (receive) uses a 3.5mm (1/8in) stereo jack that outputs +5V DC to power the included IR receiver.

⚠ IMPORTANT! IR TX Connection Guidelines

3rd party IR receivers may require a different voltage, refer to the documentation provided with the IR receiver before making any connections to avoid damaging the device.

When connecting to an IR control system use the **WyreStorm CAB-IR-LINK** cable to remove the sleeve +5V DC.

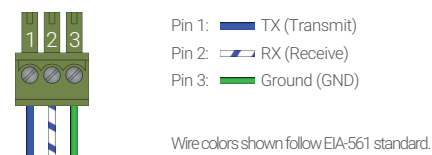


RS-232 Wiring

RS-232 Connection Guidelines

The following wiring diagram shows the pinouts for the extender set. While not shown, connect the TX (transmit) to RX (receive) pins at the control system or PC side of the cable.

Most control systems and computers are DTE where pin 2 is RX, this can vary from device to device. Refer to the documentation for the connected device for pin functionality to ensure that the correct connections can be made.



Power Supply Wiring

The TX-70-POH can receive power via PoH from a compatible HDBaseT matrix. Should the distance or other factors prevent PoH from being used, connect a 12V DC 1A power supply (sold separately) to the receiver.

Specifications

Audio and Video	
Inputs	1x HDMI 19-pin type A
Outputs	1x HDBaseT 8-pin RJ-45 female
Audio Formats	2ch analog and Up to 7.1 DTS-HD Master Audio and Dolby TrueHD
Max Video Resolution	1920x1080@60Hz (1080p60 @ 70m/230ft) 4096x2160p@60Hz 4:2:0 (4K @ 35m/115ft)
Color Depth	1080p: 48bit 4K: 24bit
Maximum Pixel Clock	297 MHz
Maximum Bandwidth	10.2Gbps
Communication and Control	
HDMI	HDCP 2.2 EDID DVI/D supported with adapter (not included)
HDBaseT	HDCP 2.2 EDID PoH Bi-directional IR and RS-232
IR	1x 3.5mm (1/8in) Stereo (IR RX) 1x 3.5mm (1/8in) Mono (IR TX) Bi-directional over HDBaseT
RS-232	1x 3-pin Screw Down Phoenix Connector Bi-directional over HDBaseT
Power	
Power Supply	Input: 100~240V AC 50/60Hz Output: 12V DC 1A
PoH	48V 15.4W
Max Power Consumption	3W
Environmental	
Operating Temperature	32°F ~ 113°F (0°C ~ 45°C) 10% ~ 90%, non-condensing
Storage Temperature	-4°F ~ 158°F (-20°C ~ +70°C) 10% ~ 90%, non-condensing
Maximum BTU	10.2 BTU/hr
Dimensions and Weight	
Height	18mm/0.71in
Width	181.7mm/7.16in
Depth	94mm/3.71in
Weight	0.38kg/0.84lbs
Regulatory	
Safety and Emission	CE FCC RoHS

Troubleshooting

No or Poor Quality Picture (snow or noisy image)

- Verify that power is being supplied to the transmitter and receiving device and that both devices are powered on.

Note:

When using PoH, to power the transmitter, verify that the HDBaseT cable is properly terminated per the [HDMI/HDBaseT Wiring](#) section.

- Verify that the transmitter supports the output resolution of the source. See [Supported Video Resolutions](#).
- Verify that the receiving device and display support the output resolution of the source.
- If transmitting 3D or 4K, verify that the HDMI cables used are 3D or 4K rated.
- Verify that the HDBaseT cable is properly terminated per the [HDMI/HDBaseT Wiring](#) section.
- Verify that all source and HDBaseT connections are not loose and are functioning properly.

No or Intermittent 3rd party Device Control

- Verify that IR and RS-232 cable(s) are properly terminated per the appropriate wiring section:
 - IR: [IR Wiring](#)
 - RS-232: [RS-232 Wiring](#)
- Verify that the IR emitter is located over or near the IR sensor on the device. Move the emitter closer or further from the sensor as the IR signal can be too strong in some cases.
- Verify that the IR receiver is in line of sight of the handheld remote.



Troubleshooting Tips:

- WyreStorm recommends using a cable tester or connecting the cable to other devices to verify functionality.
- Use a flashlight to locate the IR receiver behind any tinted panels on the device being controlled. It will likely appear as a small round disc.

Warranty Information

This product is covered by a 3 year limited parts and labor warranty. During this period there will be no charge for unit repair, component replacement or complete product replacement in the event of malfunction. The decision to repair or replace will be made by the manufacturer. This limited warranty only covers defects in materials or workmanship and excludes normal wear and tear or cosmetic damage.

Visit the product page located at wyrestorm.com for additional information on this product including important technical information not provided in this document and warranty terms & conditions.

