4K HDBaseT Transmitter with PoH

TX-70-4K

WyreStorm

Quickstart Guide

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

Before You Begin

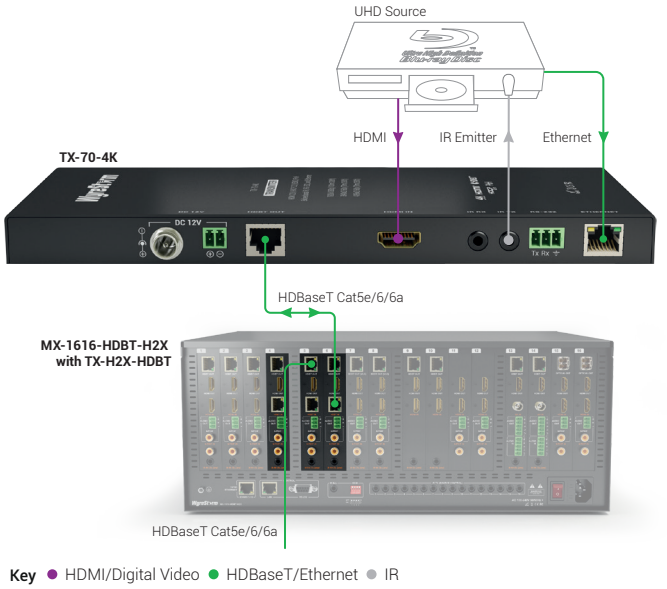
- WyreStorm recommends visiting the product page before installing this product for updates to this Quickstart Guide as well as other information about the product.
- Verify that all items are included in the packaging per the In The Box list.

Associated Products

The TX-70-4K transmitter is designed to work with WyreStorm HDBT Input cards as well as WyreStorm HDBaseT receivers allowing for flexibility in system designs.

- **H2X HDBaseT Matrix** (with TX-H2X-HDBT card installed) – Allows for the TX-70-4K to be used as a source on the matrix.
- **RX-70-4K HDBaseT Receiver** – Used when the output of the TX-70-4K is going to a single display.

Basic Wiring Diagram



Key ● HDMI/Digital Video ● HDBaseT/Ethernet ● IR

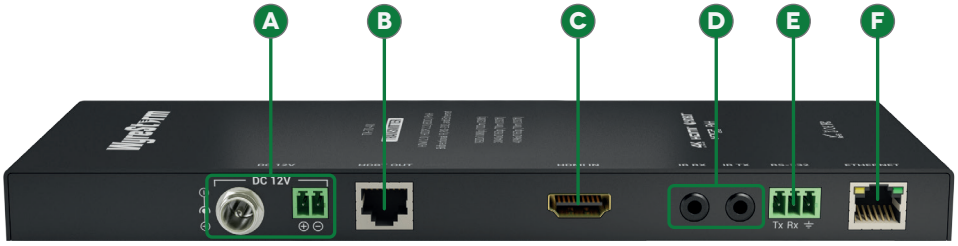
In The Box

1x TX-70-4K Transmitter
1x 3-pin Phoenix Connectors
1x Wide-band IR Emitter
1x Wide-band IR Receiver (30-50KHz)
2x Mounting Brackets
1x Quickstart Guide (this document)

Front Panel

A	**Set (TX)**	3 Position Dipswitch Used to enable/disable long cable mode and configure RS-232 port operation. See Set Switch section for operation.
B	**EDID**	3 Position Dipswitch Used to set EDIDs to correct resolution conflicts between the source and the display. See EDID Settings section for operation.
C	**Power LED**	**Solid:** The receiver is powered On **Off:** The receiver is powered Off
D	**Status LED**	**Flashing:** The receiver is operating normally. **Off:** The receiver is Not operating normally.
E	**HDCP LED**	**Solid:** HDCP content is present. **Flashing:** HDCP content is not present. **Off:** No signal.
F	**LINK LED**	**Solid:** Link to receiver has been established. **Flashing:** Link to receiver has not been established.

Rear Panel



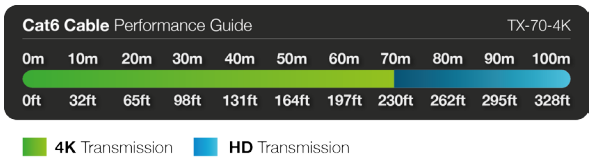
A	**Power Input**	5.5mm Screw Down Barrel Jack 2-pin Phoenix Connecter
B	**HDBT Out**	8-pin RJ-45 female
C	**HDMI In**	19-pin type A HDMI female | Supports HDMI and DVI/D with adapter
D	**IR TX** **IR RX**	IR TX - 3.5mm (1/8in) Mono Jack: Connect to the supplied IR emitter to control a local device from 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 for more information.
E	**RS-232**	3-pin Phoenix Connector Used to transmit RS-232 over HDBaseT to the remote location and for firmware updates. See RS-232 Wiring section for more information.
F	**Ethernet**	8-pin RJ-45 female | 10/100 Mbps auto-negotiating Connect to a Local Area Network or network device for Ethernet pass-through via HDBaseT.

Wiring and Connections

WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in this entirety before running or terminating the wires to ensure proper operation and to avoid damaging equipment.

⚠ IMPORTANT! Wiring Guidelines

- The use of patch panels, wall plates, cable extenders, kinks in cables, and electrical or environmental interference will have an adverse effect on HDMI and Ethernet transmission limiting performance. Steps should be taken to minimize or remove these factors completely during installation for best results.
- WyreStorm recommends using high quality HDMI cables such as WyreStorm Express to ensure the highest content performance available.
- The type of category cable and length used can restrict the available video resolution. While Cat5e can be used, WyreStorm recommends using Cat6 or higher to ensure the highest content performance available. See **Video Resolutions** in the Specifications table before determining cable type and length.



HDMI Wiring

WyreStorm recommends using pre-terminated HDMI cables due to the complexity of these connector types. Using pre-terminated cables will ensure that these connections are accurate and will not interfere with the performance of the product.

HDBaseT Wiring

Wire colors shown follow EIA/TIA-568B standard.

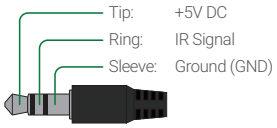
IR Wiring

⚠ IMPORTANT! IR TX/RX Guidelines

- WyreStorm IR ports function differently than standard IR ports. For this reason only WyreStorm IR emitters and receivers can be used.
- WyreStorm IR emitter and receiver cables cannot be spliced as cutting into the cables will short the shield. While an extension cable may be used, WyreStorm assumes no responsibility for operation using an extension cable.
- When connecting the IR TX to an IR connecting blocks or control system with different plugs, a cable must be made following the IR TX Port Pinout diagram.
- When connecting to an IR control system use the WyreStorm CAB-IR-LINK cable. This cable compensates for differences between the WyreStorm RX and the control systems TX connection. Visit the WyreStorm CAB-IR-LINK product page for details.

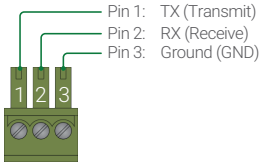
IR TX Port Pinout

IR RX Port Pinout



RS-232 Wiring

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 functionally to ensure that the correct connections can be made.



Setup and Configuration

Set Switch

Note: Switches shown in gray can be in any position for the described setting.

RS-232 Pass-through (default)		HDBaseT Update Updates to the HDBT chip	
Firmware Updates Allows for updating the extenders firmware			
Long Cable Mode On Extends transmission of HDBT up to 140m/439ft		Long Cable Mode Off Maintains standard HDBT distances	

EDID Settings

EDID Copy		4K @60Hz 2ch	
1080p @60Hz 2ch		1080i @60Hz 2ch	
1080p @60Hz 5.1ch		1080p @60Hz 7.1ch	

Specifications

Audio and Video	
Inputs	1x HDMI In: 19-pin HDMI type A female
Outputs	1x HDBaseT Out: 8-pin RJ-45 female
Audio Formats	2ch PCM | Up to DTS-X and Dolby Atmos
Output Video Encoding	HDBaseT Class A
Video Resolutions (Max)	**HDMI** 1920x1080p @60Hz 12bit (15m/50ft) | 16bit (7m/23ft) 3840x2160p @30Hz 4:4:4 8bit (7m/23ft) | @24Hz 4:2:0 HDR 10bit (3m/9.8ft) 4096x2160p @60Hz 8bit 4:2:0/4:4:4 (7m/23ft)
	Using Cat6 1920x1080 @60Hz 12bit (100m/328ft) | 16bit (70m/230ft) 3840x2160p @30Hz 4:4:4 8bit (70m/230ft) | @24Hz 4:2:0 HDR 10bit (70m/230ft) 4096x2160p @60Hz 4:2:0 8bit (70m/230ft)
	Using Cat6a/7 1920x1080 @60Hz 12bit (100m/328ft) | 16bit (100m/328ft) 3840x2160p @30Hz 4:4:4 8bit (100m/328ft) | @24Hz 4:2:0 HDR 10bit (100m/328ft) 4096x2160p @60Hz 4:2:0 8bit (100m/328ft)
Color Depth (Max)	1080p: 12bit | 4K UHD: 8bit | HDR @24p: 10bit BT.2020
Maximum Pixel Clock	297MHz
Communication and Control	
HDMI	HDMI | HDCP 2.2 | EDID | DVI/D supported with adapter (not included)
HDBaseT	HDMI | HDCP 2.2 | EDID | 2-way PoH | Bidirectional IR, RS-232, and Ethernet
IR	1x IR TX 3.5mm (1/8in) TS Mono | Bidirectional over HDBaseT 1x IR RX 3.5mm (1/8in) TRS Stereo | Bidirectional over HDBaseT
RS-232	1x 3-pin Screw Down Phoenix Connector | Bidirectional over HDBaseT
Ethernet	1x 8-pin RJ-45 female | 10/100 Mbps auto-negotiating | Bidirectional over HDBaseT

Power	
Power Supply	Input: 100~240V AC 50/60Hz | Output: 12V DC 2A
PoH	48V 15.4W
Max Power Consumption	26.5W
Environmental	
Operating Temperature	32°F ~ 113°F (0°C ~ 45°C) | 10% ~ 90%, non-condensing
Storage Temperature	-4°F to ~ 158°F (-20°C ~ +70°C) | 10% ~ 90%, non-condensing
Maximum BTU	90.42 BTU/hr

Dimensions and Weight	
Rack Units/Wall Box	<1U
Height	24.9mm/0.99in
Width	220mm/8.67in
Depth	89.9mm/3.54in
Weight	0.52kg/1.14lbs
Regulatory	
Safety and Emission	CE | FCC | RoHS

Troubleshooting

No or Poor Quality Picture (snow or noisy image)

- Verify that power is being supplied to all devices in the system and that they are powered on.
- Verify that all source and HDBaseT connections are not loose and are functioning properly.
- Verify that the HDBaseT cable is properly terminated per the HDBaseT Wiring section.
- Verify that the matrix, receiving device, and display support the output resolution of the source.
- Refer to Video Resolutions in the Specifications table for the max distance based on resolution.
- If transmitting 3D or 4K, verify that the HDMI cables used are 3D or 4K rated.

No or Intermittent Matrix or 3rd party Device Control

- Verify that IR cable(s) are properly terminated. See IR Wiring.
- Verify that the IR emitter is located near the IR receiver on the device.

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.

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.

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