

18Gbps 4K HDR HDBaseT Extender with HDCP 2.2 and 2-way PoH

EX-70-H2 v2



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.



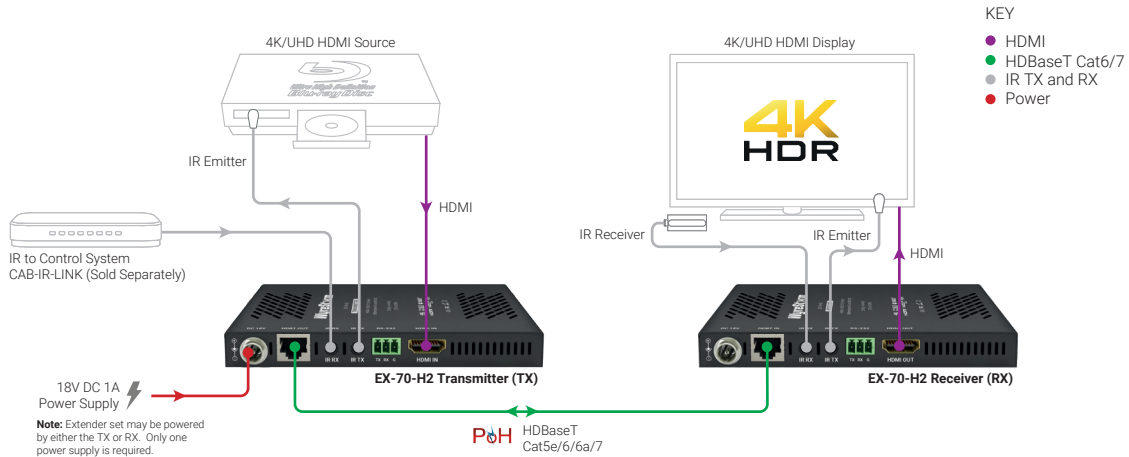
IMPORTANT! Installation Requirements

- This product was released in 2 different versions which contain different chassis designs and feature sets.
- See Identifying Product Versions for details.
- Visit the product page to download the latest firmware, document version, additional documentation, and configuration tools.
- Read through the [Wiring and Connections](#) section for important wiring guidelines before creating or choosing premade cables.
- While this product supports CEC, WyreStorm cannot guarantee compatibility with all forms of CEC communication.

In the Box

- 1x EX-70-H2 v2 Transmitter
- 1x EX-70-H2 v2 Receiver
- 1x IR Emitter
- 1x IR Receiver
- 2x 3-pin Terminal Block
- 1x 18V DC 1A Power Supply (US/UK/EU)
- 4x Mounting Brackets (2x for TX | 2x for RX)
- 1x Quickstart Guide (this document)

Basic Wiring Diagram

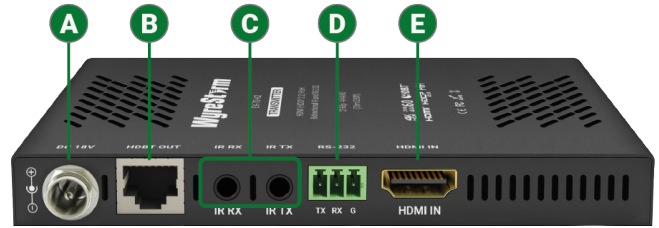


Front Panel (TX/RX)



A Power LED	Solid: The receiver is powered On Off: The receiver is powered Off
B Status LED	Flashing: The receiver is operating normally. Off: The receiver is Not operating normally.
C HDCP LED	Solid: HDCP content is present. Flashing: HDCP content is not present. Off: No signal.
D LINK LED	Solid: Link to receiver has been established. Flashing: Link to receiver has not been established.

Rear Panel (TX/RX)



A Power In	5.5mm Screw Down Barrel Jack Connect to the included 18V DC 1A power supply to the transmitter or receiver. A power supply is not required on the other end as it will be powered using PoH.
B HDBT In HDBT Out	8-pin RJ-45 female Connect the transmitters HDBT Out to receivers HDBT In .
C 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 TX/RX Guidelines for more information.
D RS-232	1x RS-232: 3-pin Phoenix
E HDMI In HDMI Out	19-pin type A HDMI female Supports HDMI and DVI/D with adapter

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 its entirety before running or terminating the wires to ensure proper operation and to avoid damaging equipment.

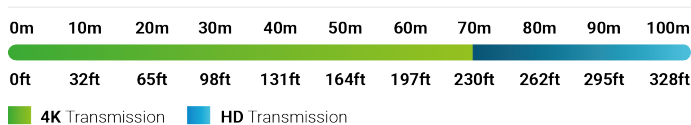
IMPORTANT! Wiring Guidelines

- The use of patch panels, wall plates, cable extenders, kinks in cables, and electrical or environmental interference will have an adverse effect on signal transmission which may limit performance. Steps should be taken to minimize or remove these factors completely during installation for best results.
- WyreStorm recommends the use of shielded category cable to minimize signal noise and interference.
- 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.

IR TX/RX Guidelines

- Using WyreStorm infrared emitters and receivers is the best way to ensure that most IR coding formats are transmitted and received by the NetworkHD system. Other 3rd party emitters and receivers can be used; however, these devices must operate in the same manner as the WyreStorm devices.
- Due to differences in IR across 3rd party control systems their IR ports should never be connected directly to a NetworkHD system as an incompatibility may exist. WyreStorm offers a cable that compensates for voltage differences as well adjusts for differences in the pins used within the port. Refer to the [CAB-IR-LINK](#) product page for more information.

Cat6 Cable Performance Guide



WyreStorm recommends the use of shielded cable to minimize signal noise and interference

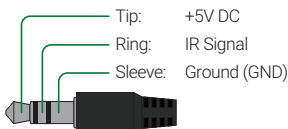
IR TX Port Pinout

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



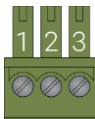
IR RX Port Pinout

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



RS-232 Wiring

The EX-70-H2 uses a 3-pin RS-232 with no hardware flow control. 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.



WyreStorm Connector		3rd Party Device
Pin 1 TX (Transmit)	---> To --->	RX (Receive)
Pin 2 RX (Receive)	---> To --->	TX (Transmit)
Pin 3 G (Ground)	---> To --->	G (Ground)

Troubleshooting

No or Poor Quality Picture (snow or noisy image)

- Verify that power is being supplied to the transmitter and receiving device
- Verify that all HDMI and HDBaseT connections are not loose and are functioning properly
- Verify that the HDBaseT cable is properly terminated following EIA568B standard
- Verify that the output resolution of the source and display is supported by this extender
- If transmitting 3D or 4K, verify that the HDMI cables used are 3D or 4K rated.

No or Intermittent 3rd party Device Control

- Verify that the IR and RS-232 cables are properly terminated following the [Wiring and Connections](#) section.

Troubleshooting Tips:

- WyreStorm recommends using a cable tester or connecting the cable to other devices to verify functionality.

Specifications

	Transmitter	Receiver		
Audio and Video				
Inputs	1x HDMI In: 19-pin type A	1x HDBT In: 8-pin RJ-45 Female		
Outputs	1x HDBT Out: 8-pin RJ-45 Female	1x HDMI Out: 19-pin type A		
Output Video Encoding	HDBaseT Class A			
Encoding Data Rate	9.2Gbps			
End to End Latency (Max)	10µs (micro seconds)			
Audio Formats	2ch PCM Multichannel up to DTS-X and Dolby Atmos			
Video Resolutions (Max)	Video Resolution	HDMI	Cat6	Cat6a/7
	1920x1080p @60Hz 12bit	15m/49ft	100m/328ft	100m/328ft
	3840x2160p @24Hz 10bit 4:2:0 HDR	7m/23ft	70m/230ft	100m/328ft
	3840x2160p @30Hz 8bit 4:4:4	7m/23ft	70m/230ft	100m/328ft
	3840x2160p @60Hz 10bit 4:2:0 HDR	3m/10ft	70m/230ft	70m/230ft
	4096x2160p @60Hz 8bit 4:2:0	7m/23ft	70m/230ft	100m/328ft
	4096x2160p @60Hz 8bit 4:4:4	3m/10ft	70m/230ft	70m/230ft
Note: WyreStorm recommends the use of shielded category cable to minimize signal noise and interference				
Supported Standards	DCI RGB Dolby Vision @ 30Hz HLG HDR-10			
Maximum Pixel Clock	HDMI: 600MHz HDBaseT: 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			
CEC	CEC Pass-through – Requires CEC compatibility between source and display			
IR	1x IR TX: 3.5mm (1/8in) TS Mono 1x IR RX: 3.5mm (1/8in) TRS Stereo			
RS-232	1x RS-232: 3-pin Terminal Block			
Power				
Power Supply	18V DC 1A			
PoH	IEEE 802.3af 48V 15.4W Max 2-way			
Max Power Consumption	4.68W	6.84W		
Environmental				
Operating Temperature	0 to +45°C (32 to +113 °F), 10% to 90%, non-condensing			
Storage Temperature	-20 to +70°C (-4 to +158 °F), 10% to 90%, non-condensing			
Maximum BTU	16 BTU/hr	24 BTU/hr		
Dimensions and Weight				
Rack Units/Wall Box	<1U			
Height	15.2mm/0.6in			
Width	136.4mm/5.38in			
Depth	74.2mm/2.93in			
Weight	0.24Kg/0.53lbs			
Regulatory				
Safety and Emission	CE FCC RoHS RCM			

Note: WyreStorm reserves the right to change product specification, appearance or dimensions of this product at any time without prior notice.

Warranty Information

WyreStorm Technologies LLC warrants that its products to be free from defects in material and workmanship under normal use for a period of five (5) years from the date of purchase. Refer to the Product Warranty page on wyrestorm.com for more details on our limited product warranty.

