4K UHD HDBaseT Extender Set with HDCP 2.2 & 2-way PoH

EX-70-G2

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.

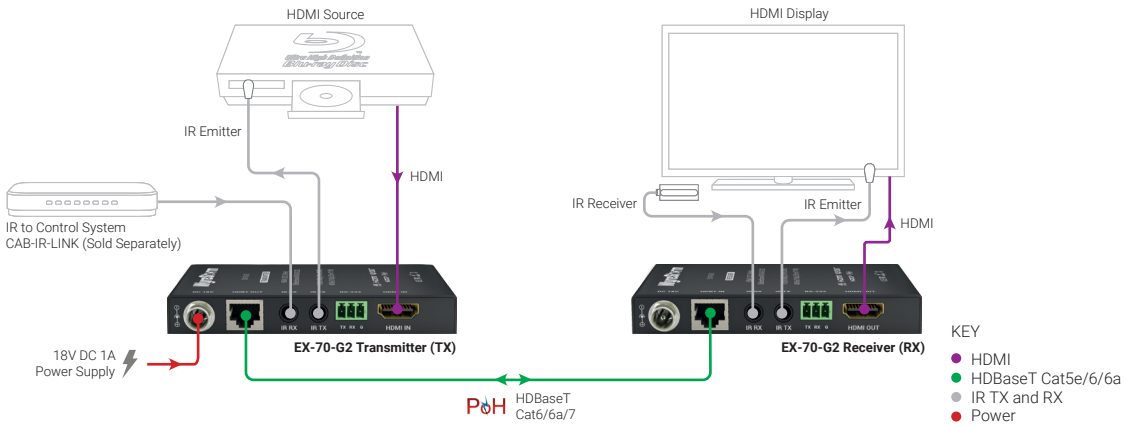
Identifying Product Versions

This product was released in 2 different versions which contain different chassis designs and feature sets. The differences are identified throughout this document in order to make installation and use easier. Versions can be identified by a v# after the model number on the product chassis model number sticker. Note that version 1 of this product may not contain a v1 after the product while all version 2s will contain a v2 after the model number.

In the Box

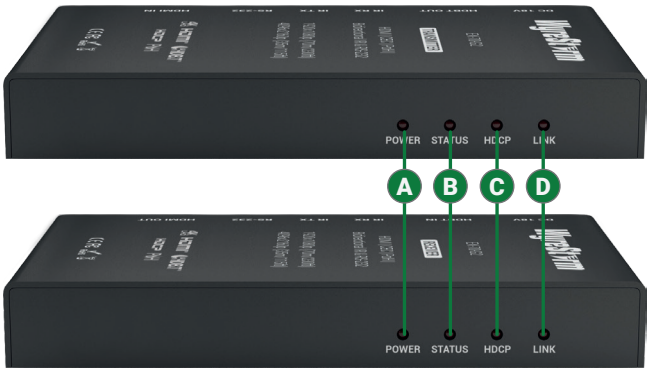
1x EX-70-G2 Transmitter
1x EX-70-G2 Receiver
1x 18V DC 1A Power Supply (US/UK/EU)
1x IR Emitters
1x IR Receivers
2x 3-pin Phoenix
4x Mounting Brackets (1pr for TX and 1pr for RX)
1x Quickstart Guide (this document)

Basic Wiring Diagram



Front Panel (TX/RX)

EX-70-G2 Transmitter

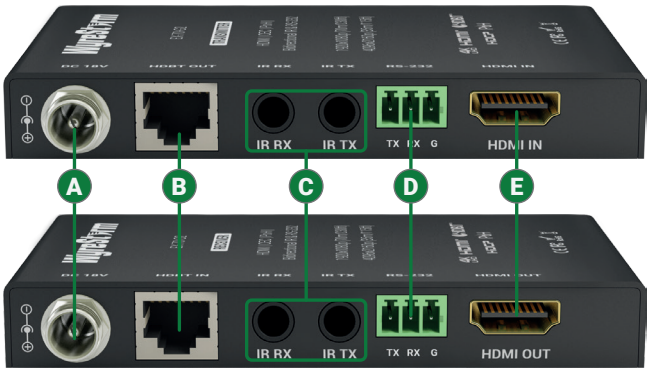


EX-70-G2 Receiver

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)

EX-70-G2 Transmitter



EX-70-G2 Receiver

A	**Power Input**	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. See Power Supply Wiring for important information.
B	**HDBT In** **HDBT Out**	8-pin RJ-45 female Connect the transmitters **HDBT Out** to receivers **HDBT In**.
C	**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 TX/RX Guidelines for more information.
D	**RS-232**	1x RS-232: 3-pin Phoenix (v2 chassis only)
E	**HDMI In (TX)** **HDMI Out (RX)**	19-pin type A HDMI female Supports HDMI and DVI/D (requires adapter - not included).

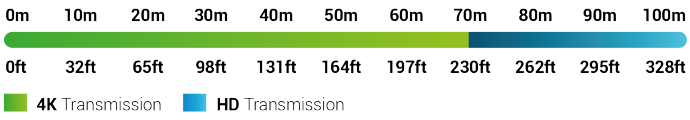
Wiring and Connections

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

IMPORTANT! Wiring Guidelines

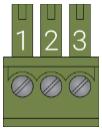
- The use of patch panels, wall plates, cable extenders, kinks in cables, and electrical or environmental interference will have an adverse effect on signal transmission which may limit performance. Steps should be taken to minimize or remove these factors completely during installation for best results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

Cat6 Cable Performance Guide



RS-232 Wiring

The EX-70-G2 v2 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 functionally to ensure that the correct connections can be made. This connection is not available on the v1 version of this product.



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)

IR TX/RX Guidelines

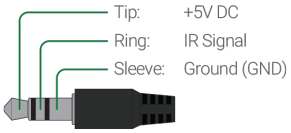
- Using WyreStorm infrared emitters and receivers is the best way to ensure that most IR coding formats are transmitted and received by the NetworkHD system. Other 3rd party emitters and receivers can be used; however, these devices must operate in the same manner as the WyreStorm devices.
- Due to differences 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.

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.



Power Supply Wiring

The EX-70-G2 can supply power from the transmitter to the receiver using PoH on the same category cable that transmits audio and video. The included power must be connected to the transmitter in order to power the receiver (or vise versa). Should distance of the category cable or other factors prevent PoH from being used, connect an 18V DC 1A power supply to both devices. Additional power supplies may be purchased from WyreStorm.

Troubleshooting

No or Poor Quality Picture (snow or noisy image)

- 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
- Configure EDID Settings to a lower resolution.
- 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

Audio and Video				
	Transmitter		**Receiver**	
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 B			
Encoding Data Rate	9.2Gbps			
End to End Latency (Max)	10µs (micro seconds)			
Audio Formats	2ch PCM | Multi Channel up to Dolby Atmos® and DTS-X™			
Video Resolutions (Max)	**Video Resolution**	**HDMI**	**Cat6**	**Cat6a/7**
	1920x1080p @60Hz 12bit	15m/49ft	70m/230ft	100m/328ft
	1920x1080p @60Hz 16bit	7m/23ft	70m/230ft	100m/328ft
	3840x2160p @30Hz 8bit 4:4:4	7m/23ft	35m/115ft	70m/230ft
	3840x2160p @60Hz 8bit 4:2:0	7m/23ft	35m/115ft	70m/230ft
	4096x2160p @60Hz 8bit 4:2:0	7m/23ft	35m/115ft	70m/230ft
Supported Standards	DCI | RGB			
Maximum Pixel Clock	HDMI: 300MHz | HDBaseT: 297MHz			
Communication and Control				
HDMI	HDMI | HDCP (v1 chassis 1.4 | v2 chassis 2.2) | EDID Pass-through | CEC Pass-through DVI/D supported with adapter (not included)			
HDBaseT	HDMI | HDCP (v1 chassis 1.4 | v2 chassis 2.2) | EDID Pass-through | 2-way PoH | Bidirectional IR			
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 Phoenix (v2 chassis only)			
Power				
Power Supply	18V DC 1A			
PoH	IEEE 802.3af 15.4W Max | 2-way			
Max Power Consumption	Transmitter: 7W | Receiver: 17W			
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	Transmitter: 24 BTU/hr | Receiver: 58 BTU/hr			
Dimensions and Weight				
	v1 Chassis	**v2 Chassis**		
Rack Units/Wall Box	<1U	<1U		
Height	15mm/0.6in	15mm/0.6in		
Width	109mm/4.3in	108.8mm/4.29in		
Depth	64.2mm/2.53in	64.2mm/2.53in		
Weight	0.36kg/0.79lbs	0.36kg/0.79lbs		
Regulatory				
Safety and Emission	CE | FCC | RoHS			

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.

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