70m/230ft 2K HDMI Extender with IR control and CEC pass-through

EX-70-G2

WyreStorm

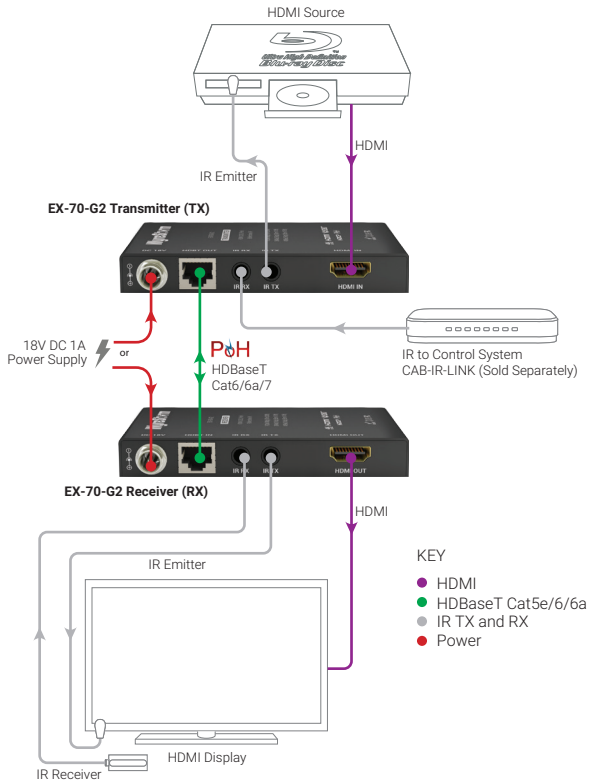
Quickstart Guide

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

In the Box

1x EX-70-G2 Transmitter
1x EX-70-G2 Receiver
1x 18V DC 1A Power Supply (US/UK/EU)
1x Wide-band IR Emitters
1x Wide-band IR Receivers (30-50KHz)
4x Mounting Brackets (1pr for TX and 1pr for RX)
1x Quickstart Guide (this document)

Basic Wiring Diagram



IMPORTANT!

Disconnecting and connecting (hot plugging) HDMI, or HDBaseT while devices are powered on may cause damage. WyreStorm recommends powering off devices before disconnecting these connections.

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.

Installation

Before Beginning

- 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 receiver location. Terminate the cable per the HDMI/HDBaseT Wiring section.
2. (Optional) If using 3rd party IR emitters or connecting blocks at either the transmitter or receiver, run the wire and terminate per the IR TX (Emitter) Wiring section.
3. (Optional) If using 3rd party IR receivers at either the transmitter or receiver, run the wire and terminate per the IR RX (Receiver) Wiring section.

Transmitter Installation

1. Connect an HDMI source to the **HDMI In** on the transmitter using an HDMI cable from a high quality brand such as WyreStorm Express.
2. (Optional) Place an IR emitter onto the source device near the device's IR receiver and connect it the **IR TX** port.
3. Connect the cable created in Pre Wire step 1 to the **HDBT Out**.
4. If using PoH from the transmitter to power the receiver, connect the included 18V DC 1A power supply to the **18V DC 1A** jack.

Receiver Installation

1. Connect the **HDMI Out** on the receiver to an input on the display using an HDMI cable from a high quality brand such as WyreStorm Express.
2. (Optional) Place an IR emitter onto the source device near the device's IR receiver and connect it the **IR TX** port.
3. Connect the cable created in Pre Wire step 1 to the **HDBT In**.
4. If not using PoH from the transmitter to power the receiver, connect the included 18V DC 1A power supply to the **18V DC 1A** jack.

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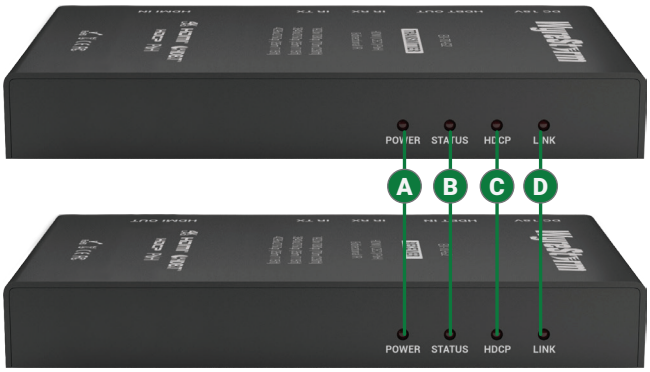
Front Panel (TX/RX)

EX-70-G2 Transmitter

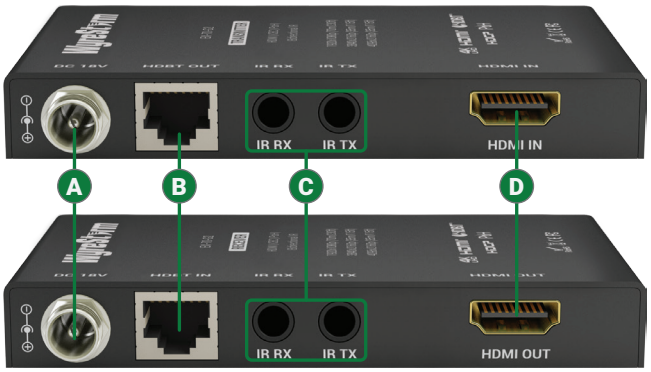


EX-70-G2 Receiver

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)

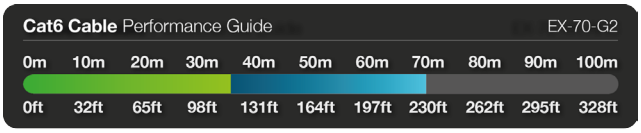
EX-70-G2 Transmitter



EX-70-G2 Receiver

A	**Power In**	5.5mm Screw Down Barrel Jack Connect to the included 18V DC 1A power supply to the transmitter. A power supply is not required on the receiver as it will be powered using PoH. See Power Supply Wiring for important information.
B	**HDBT Out (TX)** **HDBT In (RX)**	8-pin RJ-45 female | 10/100 Mbps auto-negotiating Connect the transmitter **HDBT Out** to receiver **HDBT In** using the cable created in Pre Wire step 1.
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 via HDBaseT. See IR Wiring for more information.
D	**HDMI In (TX)** **HDMI Out (RX)**	19-pin type A HDMI female Supports HDMI and DVI/D (requires adapter - not included).

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 and 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.

Resolutions Distances

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

Refer to **Video Resolutions** in the Specifications table for the max distance based on resolution.

IR Wiring

IR TX (Emitter) Wiring

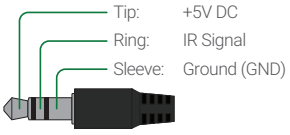
Connection for IR TX (transmit) uses a 3.5mm (1/8in) mono plug.

IR RX (Receiver) Wiring

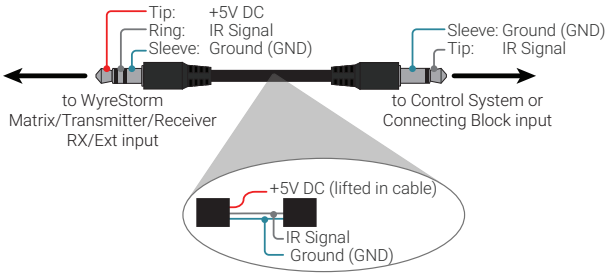
Connection for IR RX (receive) uses a 3.5mm (1/8in) stereo jack that outputs +5V DC to power the included IR receiver.

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 stereo to mono cable to remove the sleeve +5V DC.



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. 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.

Specifications

Audio and Video	
Inputs	**Transmitter:** 1x HDMI 19-pin type A | **Receiver:** 1x HDBaseT 8-pin RJ-45 female
Outputs	Transmitter: 1x HDBaseT 8-pin RJ-45 female | Receiver: 1x HDMI 19-pin type A
Audio Formats	2ch PCM | Multi Channel up to Dolby Atmos and DTS-X
Video Resolutions (Max)	**HDMI** 1920x1080p @60Hz 12bit (15m/50ft) | 1920x1080p @60Hz 16bit (7m/23ft) 3840x2160p @30Hz 4:4:4 8bit (7m/23ft) 3840x2160p @60Hz 4:2:0 8bit (7m/23ft) | 4096x2160p @60Hz 4:2:0 8bit (7m/23ft)
	Cat6 1920x1080p @60Hz 8bit (60m/197ft) | 1920x1080p @60Hz 12bit (60m/197ft) 3840x2160p @30Hz 4:4:4 8bit (35m/115ft) 4096x2160p @60Hz 4:2:0 8bit (35m/115ft)
	Cat6a/7 1920x1080p @60Hz 8bit (70m/230ft) | 1920x1080p @60Hz 12bit (70m/230ft) 3840x2160p @30Hz 4:4:4 8bit (40m/131ft) 4096x2160p @60Hz 4:2:0 8bit (40m/131ft)
Color Depth	1080p: 16bit | 4K UHD: 8bit
Maximum Pixel Clock	297MHz
Communication and Control	
HDMI	HDMI 2.0 | HDCP 2.2 | EDID pass-through | CEC Pass-through | DVI/D supported with adapter (not included)
HDBaseT	HDMI 2.0 | HDCP 2.2 | EDID pass-through | 2-way PoH | Bidirectional IR and RS-232
IR	1x IR TX 3.5mm (1/8in) Mono | Bidirectional over HDBaseT | 1x IR RX 3.5mm (1/8in) Stereo | Bidirectional over HDBaseT

Power	
Power Supply	Input: 100~240V AC 50/60Hz | Output: 18V DC 1A
Max Power Consumption	8.88W
PoH (2-way)	19V Non-Standard 13W
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	30.30 BTU/hr

Dimensions and Weight	
Rack Units/Wall Box	0.3U
Height	15mm/0.6in
Width	109mm/4.3in
Depth	64mm/2.5in
Weight (Each Unit)	0.36kg/0.79lbs
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 receiver, verify that the HDBaseT cable is properly terminated per the HDMI/HDBaseT Wiring section.

- Verify that the transmitter, 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.
- 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 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 the IR cable(s) is 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 control.

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.