HDMI over UTP Low Profile Extender Set with 2-way (40m/131ft)

EX-40-G2

WyreStorm

Quickstart Guide

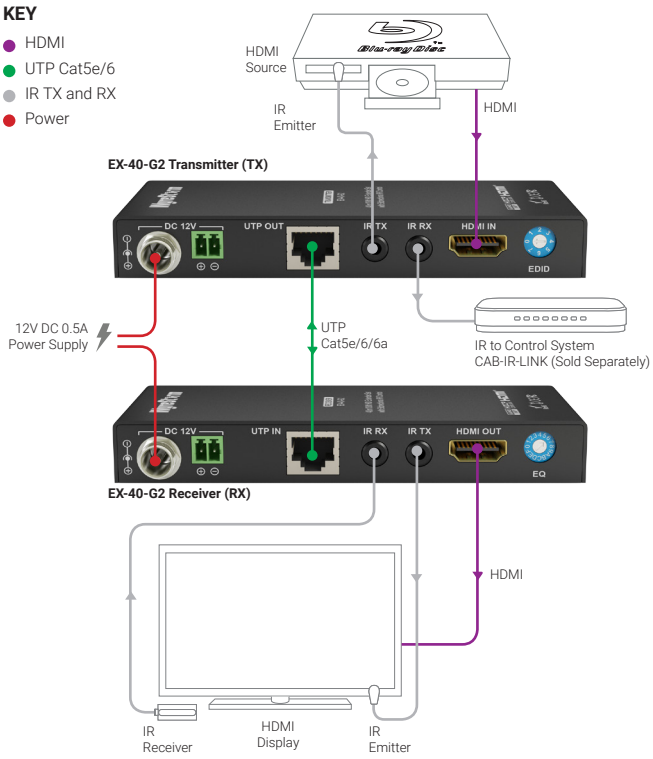
HDMI over UTP extender set, allowing extension of HDMI and IR control over 40m/131ft of Cat6 cable.

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-40-G2 Transmitter
1x EX-40-G2 Receiver
2x 12V DC 0.5A Power Supply
2x 2-pin Screw Down Phoenix Connectors
2x Wide-band IR Emitters
1x Wide-band IR Receivers (30-50KHz)
1x Dual-band IR Receivers
4 x Mounting Brackets (1pr for TX and 1pr for RX)
1x Quickstart Guide

Basic Wiring Diagram



IMPORTANT!

Do not connect or disconnect (hot plug) the HDMI or UTP 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.

Installation

Before Beginning

WyreStorm recommends visiting the product page before installing this product for updates to this Quickstart Guide as well as other information about this 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 receiver location. Terminate the cable per the UTP Wiring section.
2. (Optional) If using IR emitters or 3rd party connecting blocks at either the transmitter or receiver, run the wire and terminate per the IR TX (Emitter) Wiring section.
3. (Optional) If using IR receivers or an IR control system 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. Using the cable created in Pre Wire step 1, connect the 8-pin RJ-45 female plug to the **UTP Out** jack on the transmitter.
3. (Optional) Place an IR emitter onto the source device near the device's IR sensor and connect the 3.5mm (1/8in) Mono Plug to the **IR TX** port.
4. (Optional) Connect the 3.5mm (1/8in) stereo plug from an IR receiver to the transmitters **IR RX** port.
   Note: Use the included IR receiver labeled dual-band for devices that use dual-band IR.
   · If using a control system, refer to IR RX (Receiver) Wiring for important wiring guidelines.
5. Connect the included 12V DC 0.5A power supply to the **DC 12V** 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. Using the cable created in Pre Wire step 1, connect the 8-pin RJ-45 female plug to the **UTP In** jack on the receiver.
3. (Optional) Place an IR emitter onto the display device near the device's IR sensor and connect the 3.5mm (1/8in) Mono Plug to the **IR TX** port.
4. (Optional) Connect the 3.5mm (1/8in) stereo plug from an IR receiver to the receivers **IR RX** port.
   Note: Use the included IR receiver labeled dual-band for devices that use dual-band IR.
   If using a control system, refer to IR RX (Receiver) Wiring for important wiring guidelines.
5. Connect the included 12V DC 0.5A power supply to the **DC 12V** jack.

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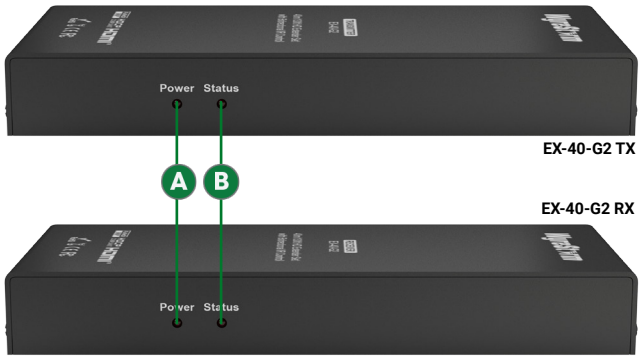
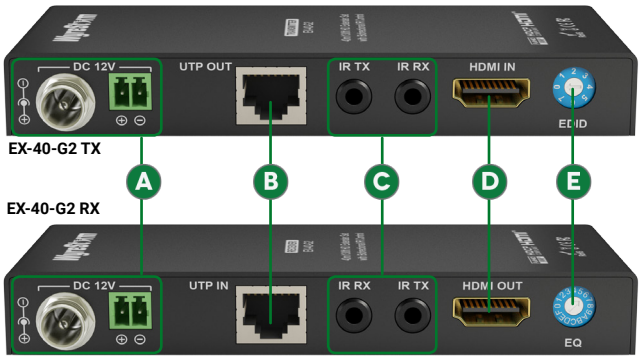
Front Panel (TX/RX)



A	**Power LED**	**Solid:** The transmitter is powered On **Off:** The transmitter is powered Off
B	**Status LED**	**Flashing:** The transmitter is operating normally **Off:** The transmitter is Not operating normally

Rear Panel (TX/RX)



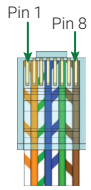
A	**Power In**	5.5mm Male Barrel Jack 2-pin Screw Down Phoenix Connector Connect to the included 12V DC 0.5A power supply. See Power Supply Wiring.
B	**UTP Out (TX)** **UTP In (RX)**	8-pin RJ-45 female Connect the transmitter **UTP Out** to receiver UTP In using the cable created in Pre Wire step 1.
C	**IR TX/RX**	3.5mm (1/8in) Mono Plug **IR TX:** Connect to the supplied IR emitter to control a local device from the remote display location via HDBaseT. **IR RX:** Connect to the supplied IR receiver to send IR to the remote display via HDBaseT. See IR Wiring for important connection information.
D	**HDMI In (TX)** **HDMI Out (RX)**	19-pin type A HDMI female digital video/audio: Supports HDMI and DVI/D (requires adapter-not included). Limited to 297MHz pixel clock
E	**EDID Settings (TX)** **EQ (RX)**	Rotary Dial: **EDID:** Used to set EDIDs to correct resolution conflicts between the source and the display. See EDID Settings. **EQ:** Used to fine tune the performance of the UTP signal based on the length of the cable. See UTP Distance Settings.

UTP 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 UTP transmission limiting performance. Steps should be taken to minimize these factors (or remove completely) during installation for best results.

Wiring for HDBaseT follows the EIA T568B standard.



Pin 1: White/Orange
Pin 2: Orange
Pin 3: White/Green
Pin 4: Blue
Pin 5: White/Blue
Pin 6: Green
Pin 7: White/Brown
Pin 8: Brown

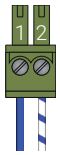
Wire colors shown follow EIA/TIA-568B standard.

Resolution 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.

Power Supply Wiring

The power supply may be connected using the attached 5.5mm barrel connector or using the supplied 2-pin Screw Down Phoenix Connector.



Pin 1: PWR - (GND)
Pin 2: PWR + (Positive)

Wire colors shown are for pin identificaiton only and do not represent any wiring standard.

IR Wiring

IR TX (Emitter) Wiring

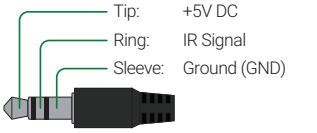
Connection for IR TX (transmit) uses a 3.5mm (1/8in) mono plug.

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.



EDID Settings

EDIDs can be configured to resolve issues with video output on displays that may not accept the maximum resolution available from the source.

1080p 2ch	0	
1080p 5.1ch	1	
EDID Copy Mode (Copy EDID from display)	2	
1080i 2ch	3	
1080p 2ch Long Cable mode (LC mode)	4	
1080p 5.1 LC mode	5	
EDID Copy Mode LC mode	6	
1080i 2ch LC mode	7	

UTP Distance Settings

Adjust the dial based on the distance (cable length) between the transmitter and receiver.

0-10m transmission distance	0 to 1
10-30m transmission distance. Default is 4.	2 to 5
30-40m transmission distance	6 to 7
Reserved	8 to F

Specifications

Audio and Video				
	Transmitter	**Receiver**		
Inputs	1x HDMI 19-pin type A	1x UTP 8-pin RJ-45 female		
Outputs	1x UTP 8-pin RJ-45 female	1x HDMI 19-pin type A		
Audio Formats	2ch PCM | Up to 7.1 DTS-HD Master Audio and Dolby TrueHD			
Video Resolutions (Max)	**Resoluton**	**HDMI**	**Cat6**	**Cat6a/7**
	1920x1080p @60Hz 16bit	15m/49ft	40m/131ft	40m/131ft
Supported Standards	DCI			
Maximum Pixel Clock	297MHz			
Communication and Control				
HDMI	HDCP | EDID | DVI/D supported with adapter (not included)			
UTP	EDID | Bidirectional IR			
IR	Bidirectional over UTP			
Power				
Power Supply	Input: 100~240V AC 50/60Hz | Output: 12V DC 0.5A			
Max Power Consumption	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	17.06 BTU/hr			
Dimensions and Weight				
Rack Units	1U			
Height	17mm/0.67in			
Width	127mm/5in			
Depth	53.8mm/2.12in			
Weight	0.3kg/0.66lbs			
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.
- 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.
  - Configure EDID Settings to a lower resolution.
  - Adjust UTP Distance Settings based on the length of the cable between the transmitter and receiver.
- If transmitting 3D, verify that the HDMI cables used are 3D rated.
- Verify that the UTP cable is properly terminated per the UTP Wiring section.
- Verify that all source and UTP 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 sensor on the device.
- Verify that the IR receiver labeled dual-band is being used with dual-band IR devices.

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.

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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