

# 35m HDMI 2.1 8K HDBaseT Extender

## EX-35-8K

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



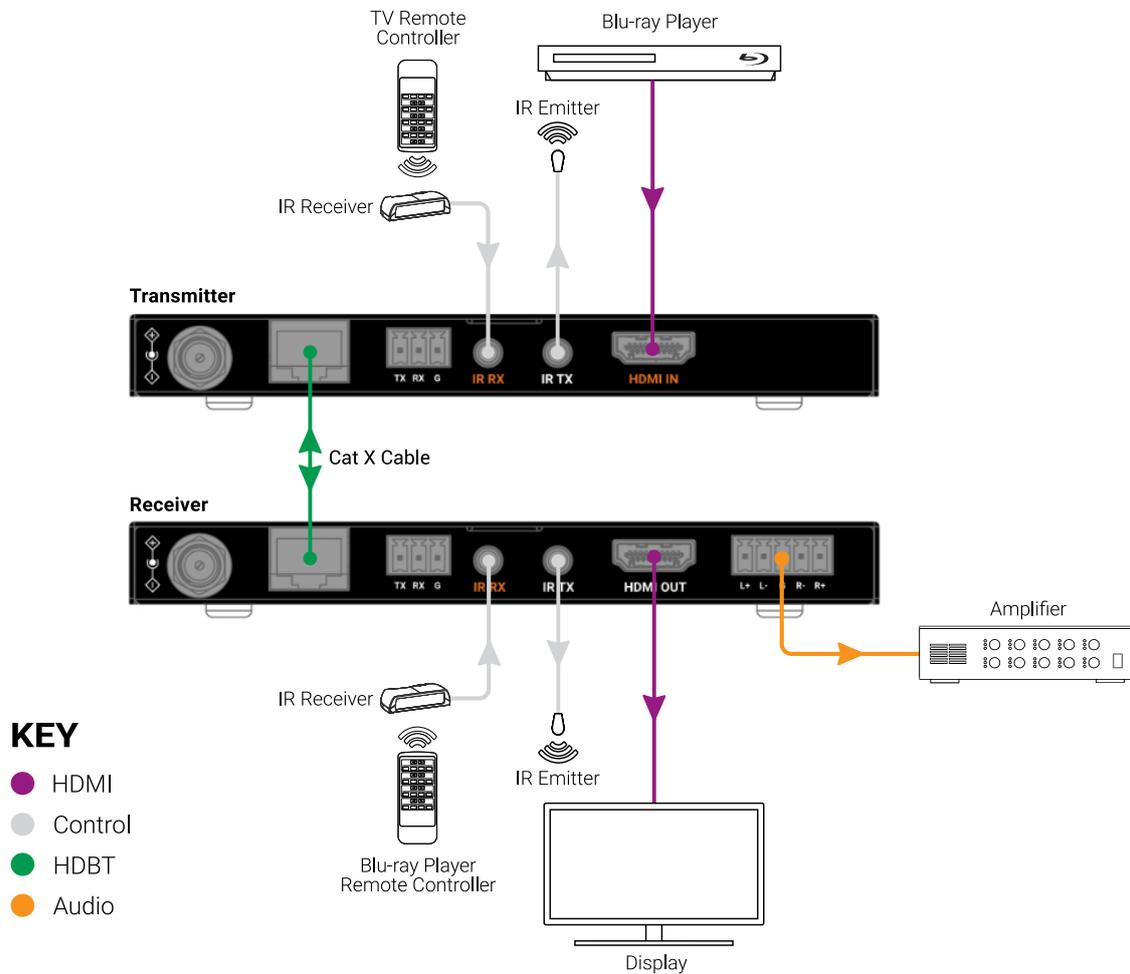
### ⚠️ IMPORTANT! Installation Requirements

- 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.

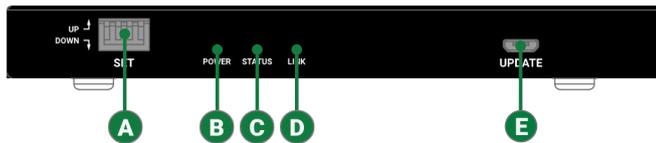
### In the Box

- 1x EX-35-8K Extender Set
- 1x 12V 2A DC Power Supply with US/UK/EU/AU Pins
- 8x Mounting Ears (with screws)
- 2x 3-pin Phoenix Terminal
- 1x 5-pin Phoenix Terminal (for the balanced audio out)
- 1x IR Receiver Cable (30-50KHz)
- 1x IR Emitter Cable
- 1x Quickstart Guide (this document)

### Basic Wiring Diagram

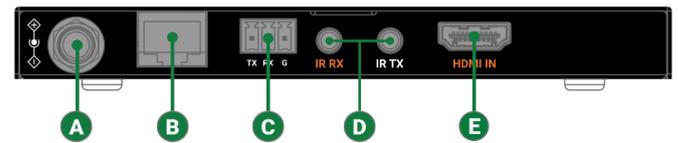


## EX-35-8K Transmitter (Front)



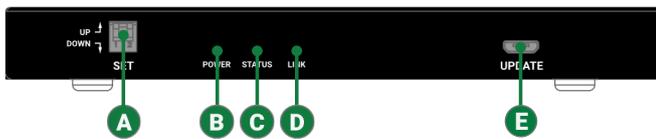
<b>A SET</b>	4-pin switch for RS-232, HDCP and EDID configurations. For more information, refer to the <i>DIP Switch Configurations</i> section.
<b>B Power LED</b>	<b>On/Off:</b> Indicates whether the device is powered on.
<b>C Status LED</b>	<ul style="list-style-type: none"> <li><b>Blinking:</b> The device is working properly.</li> <li><b>Off:</b> The device is not working properly.</li> </ul>
<b>D Link LED</b>	<ul style="list-style-type: none"> <li><b>On:</b> The link between the transmitter and receiver is normal.</li> <li><b>Blinking/Off:</b> Link error or no link.</li> </ul>
<b>E UPDATE</b>	Micro USB port. Connect to a PC for firmware update.

## EX-35-8K Transmitter (Rear)



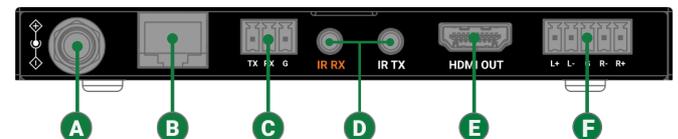
<b>A Power</b>	Connect to the included DC 12V 2A power adapter. <b>Note:</b> Connecting the power adapter to the transmitter or receiver can power both units through PoC.
<b>B HDBT Output</b>	Connect to the HDBT IN port of the receiver.
<b>C RS-232</b>	Connect to an RS-232 device for RS-232 data passthrough or to a PC for HDBT firmware update (available only when the first pin of the SET switch is set to the "down" position).
<b>D IR In/Out</b>	3.5mm jack: Bidirectional IR Connect to the IR emitter/receiver provided.
<b>E HDMI Input</b>	Connect to an HDMI source device.

## EX-35-8K Receiver (Front)



<b>A SET</b>	2-pin switch for RS-232 configurations. For more information, refer to the <i>DIP Switch Configurations</i> section.
<b>B Power LED</b>	<b>On/Off:</b> Indicates whether the device is powered on.
<b>C Status LED</b>	<ul style="list-style-type: none"> <li><b>Blinking:</b> The device is working properly.</li> <li><b>Off:</b> The device is not working properly.</li> </ul>
<b>D Link LED</b>	<ul style="list-style-type: none"> <li><b>On:</b> The link between the transmitter and receiver is normal.</li> <li><b>Blinking/Off:</b> Link error or no link.</li> </ul>
<b>E UPDATE</b>	Micro USB port. Connect to a PC for firmware update.

## EX-35-8K Receiver (Rear)



<b>A Power</b>	Connect to the included DC 12V 2A power adapter. <b>Note:</b> Connecting the power adapter to the transmitter or receiver can power both units through PoC.
<b>B HDBT Input</b>	Connect to the HDBT OUT port of the transmitter.
<b>C RS-232</b>	Connect to an RS-232 device for RS-232 data passthrough or to a PC for HDBT firmware update (available only when the first pin of the SET switch is set to the "down" position).
<b>D IR In/Out</b>	3.5mm jack: Bidirectional IR Connect to the IR emitter/receiver provided.
<b>E Audio Output</b>	Connect to an audio receiver for de-embedded balanced analog audio output.

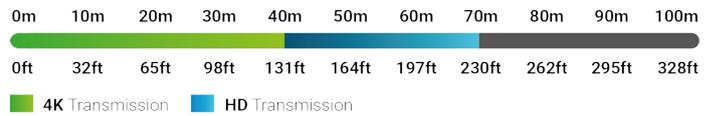
## Wiring and Connections

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 any wires to ensure proper operation and to avoid damaging the 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.

### Cat6a/7 Cable Performance Guide



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

## DIP Switch Configurations

### Transmitter

The 4-pin SET switch on the transmitter configures RS-232 mode, input HDCP, and input EDID. By default, pins 1 to 4 are set to the "Up" position.

Function	DIP Switch Position			
	1	2	3	4
RS232 Passthrough (Default)	Up	–	–	–
RS232 for HDBT Firmware Update	Down	–	–	–
Input HDCP on (Default)	–	Up	–	–
Input HDCP off	–	Down	–	–
Copy EDID (Default)	–	–	Up	Up
Use 4K@60 PCM 2CH as EDID	–	–	Up	Down
Use 4K@30 PCM 2CH as EDID	–	–	Down	Up
Use 1080P@60 PCM 2CH as EDID	–	–	Down	Down

### Receiver

The 2-pin SET switch on the receiver configures the RS-232 mode. By default, pin 1 is set to the "Up" position. pin 2 is reserved.

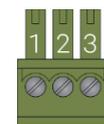
Function	DIP Switch Position	
	1	2
RS232 Passthrough (Default)	Up	–
RS232 for HDBT Firmware Update	Down	–

## RS-232 Operation

The RS-232 ports support bi-directional passthrough, allowing RS232 data to transfer between the transmitter and receiver. Before operation, ensure that pin 1 of the SET switches on both units is set to the "Up" position.

## RS-232 Wiring

The EX-35-8K 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)

## 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 system. Other 3rd party emitters and receivers can be used; however, these devices must operate in the same manner as the WyreStorm devices.

### 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.



## Troubleshooting

### Why is there no power to the device?

- Ensure the device is powered on.
- Use the power adapter included in the package.

### Why is there no picture, or is the video flashing?

- Make sure all devices are powered on and all cables are properly connected and of good quality.
- Check that cable lengths are within the recommended range (see Specifications table).
- Verify that all LED indicators are functioning normally.
- If connecting a source directly to a display, ensure they can work properly.
- Confirm that the input resolution is supported by the device

### Why is the IR signal weak or not working?

- Confirm that the devices support IR control (not Bluetooth/Wi-Fi).
- Use the IR cables provided in the package and connect them correctly according to the Application Diagram.
- Pay attention to the control angle and distance.

IR Cable	IR Emitter	IR Receiver
Suggested Angle	0°	0°
Distance (Max)	30cm	8m

### Troubleshooting Tips:

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

## Specifications

<b>Audio and Video</b>			
<b>Input/Output Signal Type</b>	HDMI 2.1, HDCP 2.3		
<b>Input/Output Resolutions</b>	<b>VESA:</b> 800 x 600 <sup>6</sup> , 1024 x 768 <sup>6</sup> , 1280 x 768 <sup>6</sup> , 1280 x 800 <sup>6</sup> , 1280 x 960 <sup>6</sup> , 1280 x 1024 <sup>6</sup> , 1360 x 768 <sup>6</sup> , 1366 x 768 <sup>6</sup> , 1440 x 900 <sup>6</sup> , 1600 x 900 <sup>6</sup> , 1600 x 1200 <sup>6</sup> , 1680 x 1050 <sup>6</sup> , 1920 x 1200 <sup>6</sup> , 2048 x 1152 <sup>6</sup> , 2560 x 1440 <sup>6</sup> , 5120x1440 <sup>6</sup> , 5120x2160 <sup>6</sup> <b>HDTV:</b> 1280 x 720P <sup>5,6,7,8</sup> , 1920 x 1080P <sup>5,6,7,8,9,10,11</sup> , 3840 x 2160P <sup>1,2,3,4,5,6,7,8</sup> , 4096 x 2160P <sup>1,2,3,4,5,6,7,8</sup> , 7680 x 4320P <sup>1,2,3,4,5,6</sup> 1 = at 24 (23.98) Hz, 2 = at 25 Hz, 3 = at 30 (29.97) Hz, 4 = at 48 Hz, 5 = at 50 Hz, 6 = 60 (59.94) Hz, 7 = at 100Hz, 8 = at 120Hz, 9 = at 144Hz, 10 = at 165Hz, 11 = at 240Hz <b>Note:</b> 7680 x 4320P @48Hz/50Hz/60Hz supports only YCbCr 4:2:0.		
<b>Maximum Data Rate</b>	HDMI: 40Gbps		
<b>Audio Formats</b>	<b>HDMI IN/OUT:</b> Supports multichannel audio up to PCM 7.1, including PCM 2.0/5.1/7.1ch, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS 5.1, DTS-HD Master Audio and DTS:X <b>AUDIO OUT:</b> PCM 2.0ch		
<b>Transmission Distance</b>	<b>Cable Type</b>	<b>Range</b>	<b>Supported Video</b>
	Cat 5e/6	197ft/60m	1080P@60Hz
		115ft/35m	4K@60Hz, 8K@60Hz 4:2:0
	Cat 6a/7	230ft/70m	1080P@60Hz
		131ft/40m	4K@60Hz, 8K@60Hz 4:2:0
	HDMI	Input/Output: 33ft/10m	4K@30Hz, 1080P@60Hz
Input: 33ft/10m Output: 16ft/5m		4K@60Hz	
Input/Output: 10ft/3m		8K@60Hz 4:2:0, 4K@120Hz, 8K@30Hz	
<b>Power</b>			
<b>Power Supply</b>	DC 12V 2A		
<b>Power Consumption (Maximum)</b>	11.4W (Pair, via PoC)		
<b>Environmental</b>			
<b>Operating Temperature</b>	0°C to 45°C (32°F to 113°F)		
<b>Storage Temperature</b>	-20°C to 70°C (-4°F to 158°F)		
<b>Humidity</b>	10% to 90%, non-condensing		
<b>ESD Protection</b>	Human-body Model: ±8kV (Air-gap discharge) / ±4kV (Contact discharge)		
<b>Dimensions</b>			
<b>Height</b>	15.3mm / 0.60in		
<b>Width</b>	140mm / 5.51in		
<b>Depth</b>	90.2mm / 3.55in		
<b>Weight</b>	0.59lb/0.27kg per unit (TX/RX)		
<b>Regulatory</b>			
<b>Safety and Emission</b>	CE   FCC   RoHS   RCM   EAC   UKCA		

**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 ProAV Corporation 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](http://wyrestorm.com) for more details on our limited product warranty.

