

18Gbps 4K HDR HDBaseT Extender with True ARC and Audio Breakout

EX-35-H2-ARC

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.



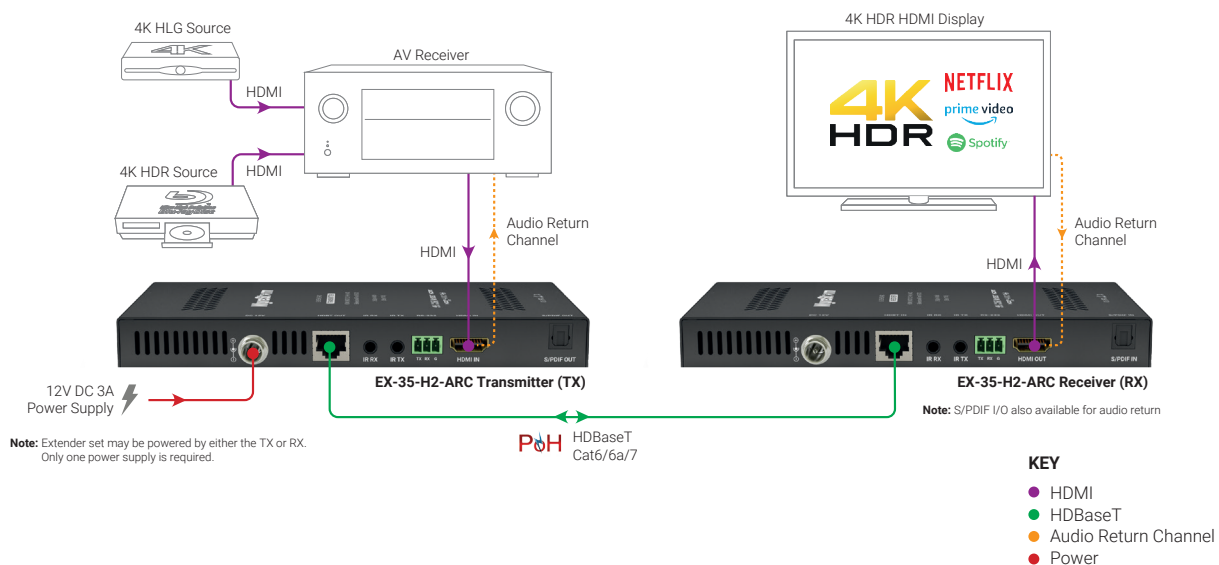
IMPORTANT! Installation Requirements

- 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.

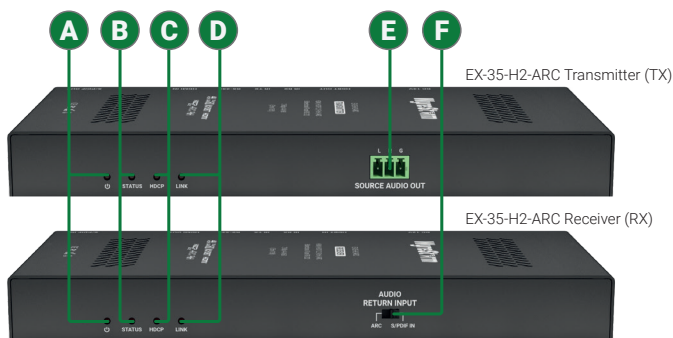
In the Box

- 1x EX-35-H2-ARC Transmitter
- 1x EX-35-H2-ARC Receiver
- 1x 12V DC 3A Power Supply (US/EU/UK)
- 3x 3-pin Screw Down Male Phoenix Connectors
- 1x IR Emitter
- 1x IR Receiver
- 4x Mounting Brackets (2x for TX | 2x for RX)
- 1x Quickstart Guide (this document)

Basic Wiring Diagram

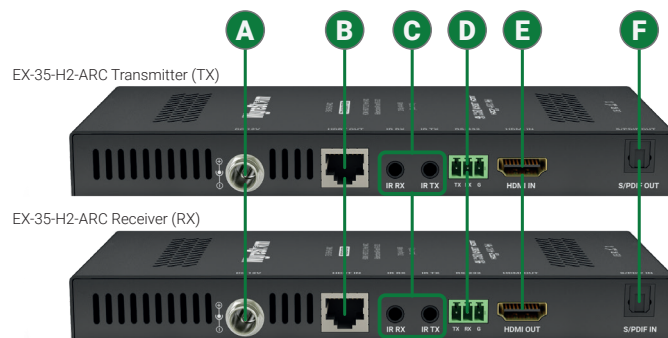


Front Panel (TX/RX)



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.
E Source Audio Out	Use this connection to send audio separate from the HDMI connection to the RX.
F Audio Return Input	Set the switch to ARC to receive audio from the display via the HDMI connection. Set the switch to S/PDIF In to receive audio from the display via the S/PDIF In connection.

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
F S/PDIF In/Out	S/PDIF Out on the TX transmits audio from the RX received via HDBaseT. S/PDIF In on the RX receives audio to be sent to the TX via HDBaseT. Audio Return Input switch must be set to S/PDIF in order for audio to be transmitted.

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.
- 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:

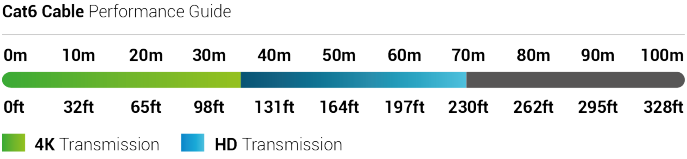
- WyreStorm recommends using a cable tester or connecting the cable to other devices to verify functionality.

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.



RS-232 Wiring

The EX-35-H2-ARC 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 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.

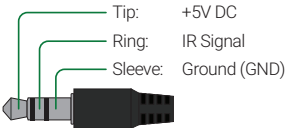
IR TX Port Pinout

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



IR RX Port Pinout

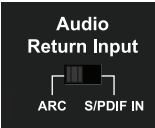
Connection for IR RX (receive) uses a 3.5mm (1/8in) stereo jack that outputs +5V DC to power the included IR receiver.



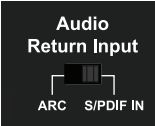
Audio Return Input

This receiver contains a switch that determines where the Audio Return is received to be sent back to the transmitter. Set this switch based on the connections being used to send and receive audio.

Set the switch to **ARC** to receive audio from the display via the HDMI connection.



Set the switch to **S/PDIF In** to receive audio from the display via the S/PDI In connection.



Specifications

Audio and Video				
	Transmitter		Receiver	
Inputs	1x HDMI In: 19-pin type A		1x HDBT In: 8-pin RJ-45 Female 1x S/PDIF In: TOSLINK (Digital Optical)	
Outputs	1x HDBT Out: 8-pin RJ-45 Female 1x S/PDIF Out: TOSLINK (Digital Optical) 1x Source Audio Out: 3-pin Phoenix		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 Analog/PCM Multichannel: LPCM up to DTS-X and Dolby Atmos			
Video Resolutions (Max)	Video Resolution	HDMI	Cat6	Cat6a/7
	1920x1080p @60Hz 12bit	15m/49ft	70m/230ft	70m/230ft
	1920x1080p @60Hz 16bit	7m/23ft	35m/115ft	70m/230ft
	3840x2160p @24Hz 10bit 4:2:0 HDR	3m/10ft	35m/115ft	70m/230ft
	3840x2160p @30Hz 8bit 4:4:4	7m/23ft	35m/115ft	70m/230ft
	4096x2160p @60Hz 8bit 4:2:0	7m/23ft	35m/115ft	70m/230ft
	4096x2160p @60Hz 8bit 4:4:4	7m/23ft	35m/115ft	70m/230ft
Supported Standards	DCI RGB HDR HDR10 Dolby Vision up to 30Hz HLG BT.2020 BT.2100			
Maximum Pixel Clock	HDMI: 600MHz HDBaseT: 297MHz			
Communication and Control				
HDMI	HDMI HDCP 2.2 EDID ARC DVI/D supported with adapter (not included)			
HDBaseT	HDMI HDCP 2.2 EDID ARC 2-way PoH Bidirectional IR and RS-232			
CEC	CEC Pass-through – Requires CEC compatibility between source and display			
IR	1x IR RX: 3.5mm (1/8in) TRS Stereo 1x IR TX: 3.5mm (1/8in) TS Mono (Transmitter and Receiver)			
RS-232	1x RS-232: 3-pin Phoenix (Transmitter and Receiver)			
ARC (Audio Return Channel)	Supports true ARC from display to the transmitter over HDBaseT.			
Power				
Power Supply	12V DC 3A			
PoH	48V 15.4W 2-way			
Max Power Consumption	8.88W			
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	30.30 BTU/hr			
Dimensions and Weight				
Rack Units/Wall Box	<1U			
Height	21mm/0.83in			
Width	195mm/7.68in			
Depth	94.8mm/3.74in			
Weight	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.

