4K HDR 4:4:4 60Hz HDBaseT2.0 Receiver with USB Device Inputs, Ethernet & PoH (4K: 100m/328ft)

RX-700

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.

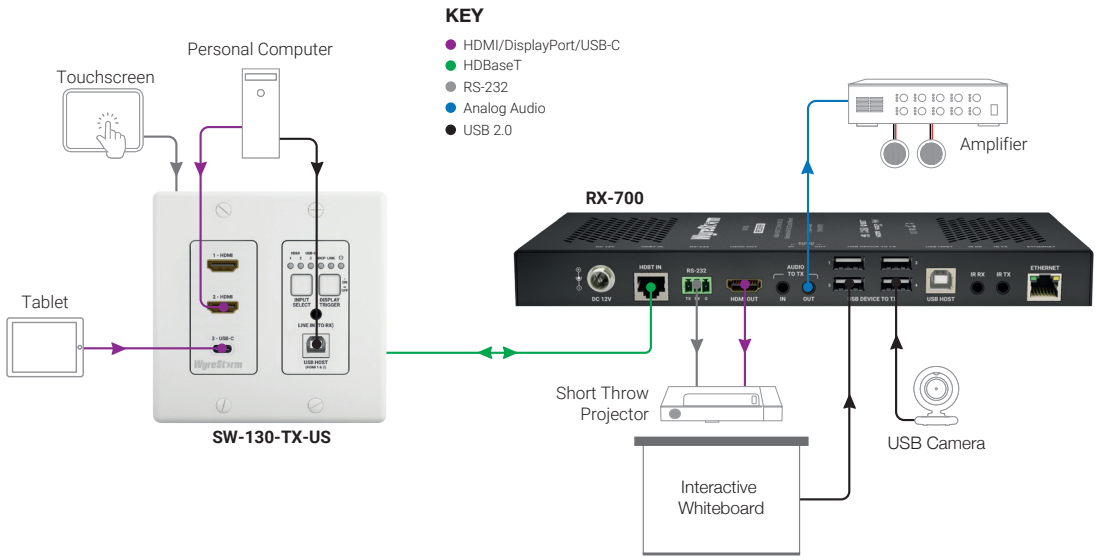
IMPORTANT! Installation Requirements

- Visit the product page to download the latest firmware, document versions, 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 RX-700 Receiver
1x IR Emitter
1x IR Receiver
1x 3-pin Terminal Block
1x 12V DC 3A Power Supply (US/UK/EU/AU)
2x Mounting Brackets
1x Quickstart Guide (This Document)

Basic Wiring Diagram



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 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.

Cat6 Cable Performance Guide

0m	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
0ft	32ft	65ft	98ft	131ft	164ft	197ft	230ft	262ft	295ft	328ft

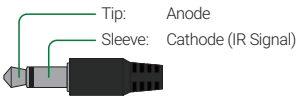
4K/HD Transmission

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 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 WyreStorm 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.

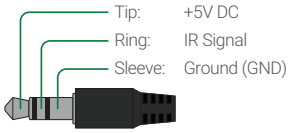
IR TX Port Pinout

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



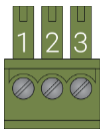
IR RX Port Pinout

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



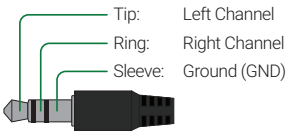
RS-232 Wiring

The RX-700 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.
Refer to RS-232 Mode Settings for details on setting RS-232 modes.



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)

Audio Connections



Setup and Configuration

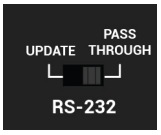
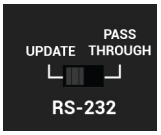
USB Operation

When using the USB ports one of the units needs to set as a host while the other is set as a device connection. The host can be either the TX or RX as long as the other unit is set to device.

Set the switch to **Host** to connect to a host device such as a PC or Mac. Requires that the opposite unit is set to **Device.**	
Set the switch to **Device** to connect devices such keyboards or USB cameras to the unit. Requires that the opposite unit is set to **Host.**	

RS-232 Port Configuration

The RS-232 port on this extender has 2 settings that are important to the operation of the unit. While being used the RS-232 switch should be in the Pass-through position.

Set the switch to **Pass Through** for normal RS-232 operation. This is the default setting.	
Set the switch to **Update** when updating firmware.	

Troubleshooting

No or Poor Quality Picture (snow or noisy image)

- Verify that power is being supplied to the transmitter and receiver.
- 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.
- If transmitting 3D or 4K, verify that the HDMI cables used are 3D or 4K rated.
- 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, RS-232, and Ethernet cables are properly terminated following the Wiring and Connections section.
- Verify that RS-232 modes are properly selected for the desired operation. Refer to RS-232 Mode Settings for details.

Troubleshooting Tips:

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

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.

Specifications

Transmission				
Transmission Encoding	HDBaseT Class C | PAM16 Encoding			
End to End Latency	10µs			
Maximum Transmission Bit Rate	10.2Gbps			
Video				
HDMI	v2.0b TMDS | 600MHz Maximum | With DSC (Display Stream Compression)			
Input	1x HDBT In: 8-pin RJ45			
Output	1x HDMI Out: 19-pin type A			
Maximum Pixel Clock	HDMI: 600MHz | HDBaseT: 340MHz			
Video Resolutions (Max)	**Video Resolution**	**HDMI**	**Cat6**	**Cat6a/7**
	1920x1080p @60Hz	15m/49ft	70m/230ft	100m/328ft
	2560x1440p @144Hz	15m/49ft	100m/328ft	100m/328ft
	3840x2160p @60Hz 8bit 4:4:4	7m/23ft	70m/230ft	100m/328ft
	3840x2160p @60Hz 10bit 4:2:0 HDR	5m/16ft	70m/230ft	100m/328ft
	3840x2160p @60Hz 12bit 4:2:2 HDR	5m/16ft	70m/230ft	100m/328ft
	Note: WyreStorm recommends the use of shielded category cable to minimize signal noise and interference.			
Supported Standards	DCI | RGB | HDR | HDR10 | Dolby Vision up to 30Hz | HLG | BT.2020 | BT.2100			
Audio				
Inputs	1x Audio In: 3.5mm (1/8in) TRS Stereo | 2ch audio over HDBaseT | 1-way to TX			
Outputs	1x Audio Out: 3.5mm (1/8in) TRS Stereo | 2ch audio over HDBaseT | 1-way from RX			
Audio Formats	2ch PCM | Multichannel LPCM | DTS-X | Dolby Atmos			
Maximum Sampling Rate	192KHz			
Maximum Audio Channels	32			
Communication and Control				
USB	1x Type B (host) | 4x Type A (device)* USB direction must be set using switch before operation USB hub compatible | Maximum: 7 devices, 23 endpoints Maximum uplink speed: 190Mbps *USB direction must be set using switch before operation			
IR	1x IR RX: 3.5mm (1/8in) TRS Stereo | 1x IR TX: 3.5mm (1/8in) TS Mono			
RS-232	1x RS-232: 3-pin Phoenix			
HDCP	Pass-through, 2.3 Supported			
EDID	Pass-through, RX>TX			
Ethernet	1x Ethernet: 8-pin RJ-45 Female | Bidirectional over HDBaseT | 100Mbps Supported			
Consumer Electronics Control (CEC)	One-way display trigger from TX			
Auto Low Latency Mode (ALLM)	Supported			
Variable Refresh Rate (VRR)	Supported			
Power				
Power Supply	18V DC 3A			
Max Power Consumption	10W			
Power-over-HDBaseT (PoH)	Supported, 2-way			
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	2.93 BTU/hr			
Dimensions and Weight				
Installation	Wall mounted | Free standing			
Height	25mm/0.98in			
Width	245mm/9.64in			
Depth	90mm/3.54in			
Weight	0.62kg/1.36lbs			
Regulatory				
Safety and Emission	CE | FCC | RoHS | RCM | EAC			