

4-input 4K UHD Switching HDBaseT Transmitter with USB host/device (4K: 100m/328ft)

SW-510-TX



Quickstart Guide

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



IMPORTANT! Installation Requirements

- 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.
- Visit the product page to download the latest firmware, document version, additional documentation, and configuration tools.

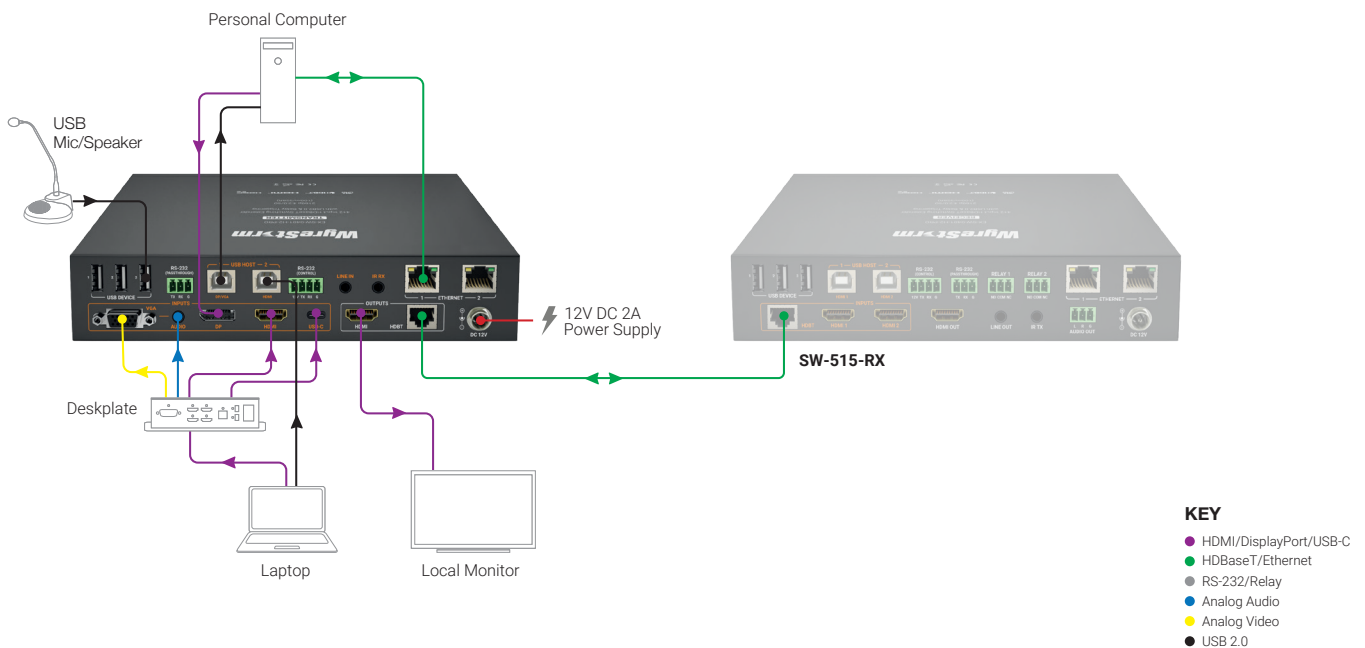
Information and Parts Required for Installation

This transmitter requires connection via RS-232 in order to configure functions such as EDID. Ensure that the following items are on hand before proceeding with the installation.

- PC or Mac
- Terminal software such as PuTTY
- USB COM Port Adapter (Not Included)
- WyreStorm Part: CAB-USB-3PIN
- Latest version of the SW-510-TX API for advanced configuration not covered in this document.

Note: IP control is only possible when the SW-510-TX and SW-515-RX are used as a kit. The web server exists only in the RX.

Basic Wiring Diagram



In the Box

- 1x SW-510-TX Transmitter
- 1x 12V 2A DC Power Supply (US/UK/EU/AU)
- 1x IR Receiver
- 2x Mounting Brackets
- 1x 3-pin Screw Down Phoenix Connector
- 1x 4-pin Screw Down Phoenix Connector
- 1x Quickstart Guide (This Document)

Wiring and Connections

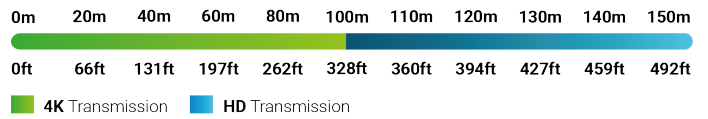
WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in its entirety before running or terminating any wires to ensure proper operation and to avoid damaging the equipment.

IMPORTANT! Wiring Guidelines

- The use of patch panels, wall plates, cable transmitters, 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 VGA, HDMI, DP and USB 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.

- This product contains a USB-C connection that can be used as an audio/video input. When using this connection verify that the USB-C cable used supports audio/video functionality as not all USB-C cables support this requirement.

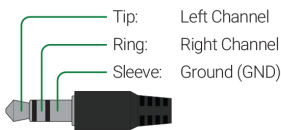
Cat6 Cable Performance Guide



Audio Connections

Audio In

The audio connections use a 3.5mm (1/8in) TRS Stereo Jack.



Communication Connections




RS-232 Wiring

The SW-510-TX 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.





PC Connection

Connection to a PC uses the RS-232 Control connection and requires the use of a USB to 3-pin Port Adapter cable (CAB-USB-3PIN) in order for a port to be provided on the PC. Note that this adaptor can be used on both v1 and v2 versions.

RS-232 Passthrough

	WyreStorm Connector		3rd Party Device
 1	TX (Transmit)	---> To --->	RX (Receive)
 2	RX (Receive)	---> To --->	TX (Transmit)
 3	G (Ground)	---> To --->	G (Ground)

RS-232 Control

	WyreStorm Connector		3rd Party Device
 1	12V DC Out	No Connection	Reserved
 2	TX (Transmit)	---> To --->	RX (Receive)
 3	RX (Receive)	---> To --->	TX (Transmit)
 4	G (Ground)	---> To --->	G (Ground)

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 transmitter.
- 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, RS-232, and Ethernet cables are properly terminated following the [Wiring and Connections](#) section.

Relays Not Functioning

- Verify polarity of the relay connections.

Troubleshooting Tips

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

Setup and Configuration

The SW-510-TX is configured using RS-232 commands for Output Resolution, and EDID. Follow these steps to properly configure the transmitter based on the system requirement.

Note: The steps and information provided in this QSG are for basic operation of the transmitter out of the box. Refer to the SW-510-TX API for full configuration settings.

Communication Settings

The commands listed below can be sent to the TX through a direct RS-232 connection or via a LAN connection if used as a kit with the SW-515-RX. Each device must be connected together via HDBaseT in order to send a command from one device to the other. The only exception is [Configuring a Static IP Address](#) which requires connection to the RX.

RS-232 Settings

Baud rate:	115200
Data Bits:	8bits
Parity:	None
Stop Bits:	1bit
Flow Control:	None

Configuring Input EDIDs

By default, all inputs are set to an EDID or 1920x1080@60Hz 2CH. However, this can be configured to suit the installation.

Set Input EDID

SET EDID [Input] [Resolution] [Device]<CR><LF>
Example: SET EDID in1 1 tx<CR><LF>
Response: EDID SET in1 1 tx<CR><LF>

Input= VGA | DP | TXHDMI | USBC | RXHDMI1 | RXHDMI2
Resolution={Below tables based on connection}

VGA EDID

1024x768@60Hz 2CH
1280x768@60Hz
1360x768@60Hz
1440x900@60Hz
1600x900@60Hz
1680x1050@60Hz
1920x1080@60Hz
1920x1200@60Hz

HDMI/USB-C EDIDs

1024x768@60Hz 2CH
1280x720@60Hz
1360x768@60Hz
1440x900@60Hz
1600x900@60Hz
1680x1050@60Hz
1920x1080@60Hz
3840x2160@30Hz

Query Input EDID

GET EDID [Input] [Device]<CR><LF>
Example: GET EDID in1 tx<CR><LF>
Response: EDID GET in1 1 tx<CR><LF>

Specifications

Audio and Video																					
Inputs	1x VGA In: 15-pin VGA 1x Display Port In: DisplayPort 1.3 1x HDMI In: 19-pin type A 1x Audio In: 3.5mm (1/8in) TRS Stereo 1x Line In: 3.5mm (1/8in) TRS Stereo																				
Outputs	1x HDMI Out: 19-pin type A 1x HDBT Out: 8-pin RJ-45 Female																				
Video Encoding	HDBaseT Class C																				
Encoding Data Rate	9.2Gbps																				
End to End Latency	10µs (micro seconds)																				
Audio Formats	2ch Analog/PCM Multichannel: LPCM																				
Video Resolutions (Max)	<table border="1"> <thead> <tr> <th>Video Resolution</th> <th>HDMI</th> <th>Cat6</th> <th>Cat6a/7</th> </tr> </thead> <tbody> <tr> <td>1920x1200p @60Hz 8bit</td> <td>15m/49ft</td> <td>150m/492ft</td> <td>150m/492ft</td> </tr> <tr> <td>1920x1080p @60Hz 8bit</td> <td>15m/49ft</td> <td>150m/492ft</td> <td>150m/492ft</td> </tr> <tr> <td>3840x2160p @30Hz 8bit 4:4:4</td> <td>7m/23ft</td> <td>100m/328ft</td> <td>100m/328ft</td> </tr> <tr> <td>4096x2160p @60Hz 8bit 4:2:0</td> <td>7m/23ft</td> <td>100m/328ft</td> <td>100m/328ft</td> </tr> </tbody> </table>	Video Resolution	HDMI	Cat6	Cat6a/7	1920x1200p @60Hz 8bit	15m/49ft	150m/492ft	150m/492ft	1920x1080p @60Hz 8bit	15m/49ft	150m/492ft	150m/492ft	3840x2160p @30Hz 8bit 4:4:4	7m/23ft	100m/328ft	100m/328ft	4096x2160p @60Hz 8bit 4:2:0	7m/23ft	100m/328ft	100m/328ft
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Supported Standards	DCI RGB																				
Maximum Pixel Clock	297MHz																				
Communication and Control																					
HDMI	HDMI HDCP 2.2 EDID DVI/D supported with adapter (not included)																				
HDBaseT	HDMI HDCP 2.2 EDID CEC 2ch audio USB																				
Ethernet	2x 8-pin RJ-45 female Bidirectional over HDBaseT																				
RS-232	1x RS-232 (Control): 3-pin Phoenix 1x RS-232 (Passthrough): 3-pin Phoenix																				
IR	1x IR RX: 3.5mm (1/8in) TS Mono																				
USB	1x USB-C: USB 3.1 Audio/Video 2x USB Host: USB-B 3x USB Device: USB-A USB over HDBT limited to 190Mbps Max 5v 500mA per Type A port																				
Power																					
Power Supply	12V DC 2A																				
Max Power Consumption	14.02W																				
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	56.3BTU/hr																				
Dimensions and Weight																					
Rack Units/Wall Box	<1U																				
Height With Without Feet	44.5mm/1.76in 42mm/1.66in																				
Width With Without Brackets	263mm/10.36in 220mm/8.67in																				
Depth With Without Handles	148.7mm/5.86in 148.7mm/5.86in																				
Weight	0.97kg/2.13lbs																				
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.

