


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

SW-510-TX

WyreStorm

## 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.

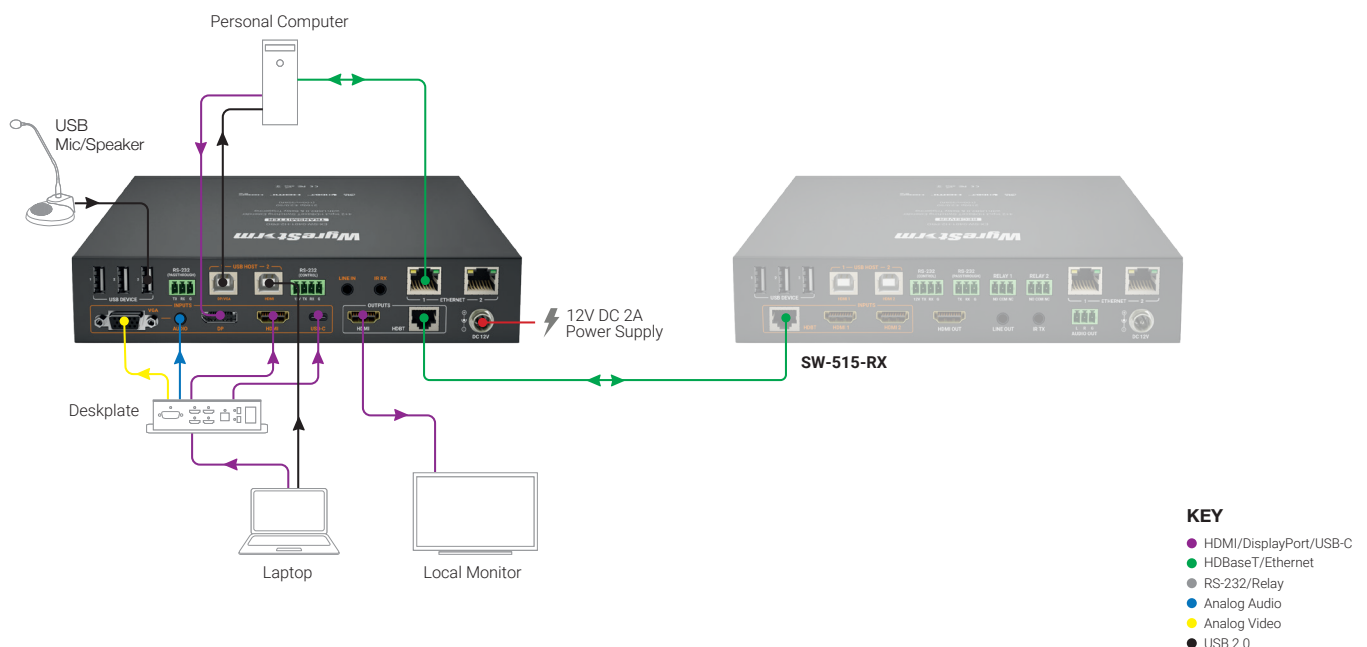
### Information and Parts Required for Installation

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



## Wiring and Connections

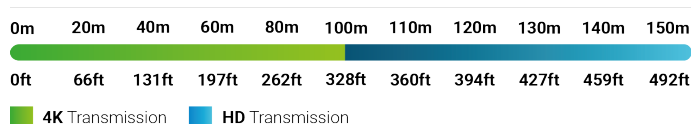
WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in its entirety before running or terminating any wires to ensure proper operation and to avoid damaging the equipment.

### ⚠ 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.

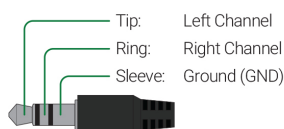
Cat6 Cable Performance Guide



## 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
Pin 1	TX (Transmit)	---> To --->	RX (Receive)
Pin 2	RX (Receive)	---> To --->	TX (Transmit)
Pin 3	G (Ground)	---> To --->	G (Ground)

### RS-232 Control

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

<b>Baud rate:</b>	115200
<b>Data Bits:</b>	8bits
<b>Parity:</b>	None
<b>Stop Bits:</b>	1bit
<b>Flow Control:</b>	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.

<b>Set Input EDID</b> 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}	
	<b>VGA EDID</b>	<b>HDMI/USB-C EDIDs</b>
<b>Query Input EDID</b> GET EDID [Input] [Device]<CR><LF> Example: GET EDID in1 tx<CR><LF> Response: EDID GET in1 1 tx<CR><LF>	1024x768@60Hz 2CH	1024x768@60Hz 2CH
	1280x768@60Hz	1280x720@60Hz
	1360x768@60Hz	1360x768@60Hz
	1440x900@60Hz	1440x900@60Hz
	1600x900@60Hz	1600x900@60Hz
	1680x1050@60Hz	1680x1050@60Hz
	1920x1080@60Hz	1920x1080@60Hz
	1920x1200@60Hz	3840x2160@30Hz

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




# 3-input 4K UHD Switching HDBaseT Receiver with USB Host/Device Ports & Dual Ethernet (4K: 100m/328ft)

SW-515-RX

WyreStorm®

## 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

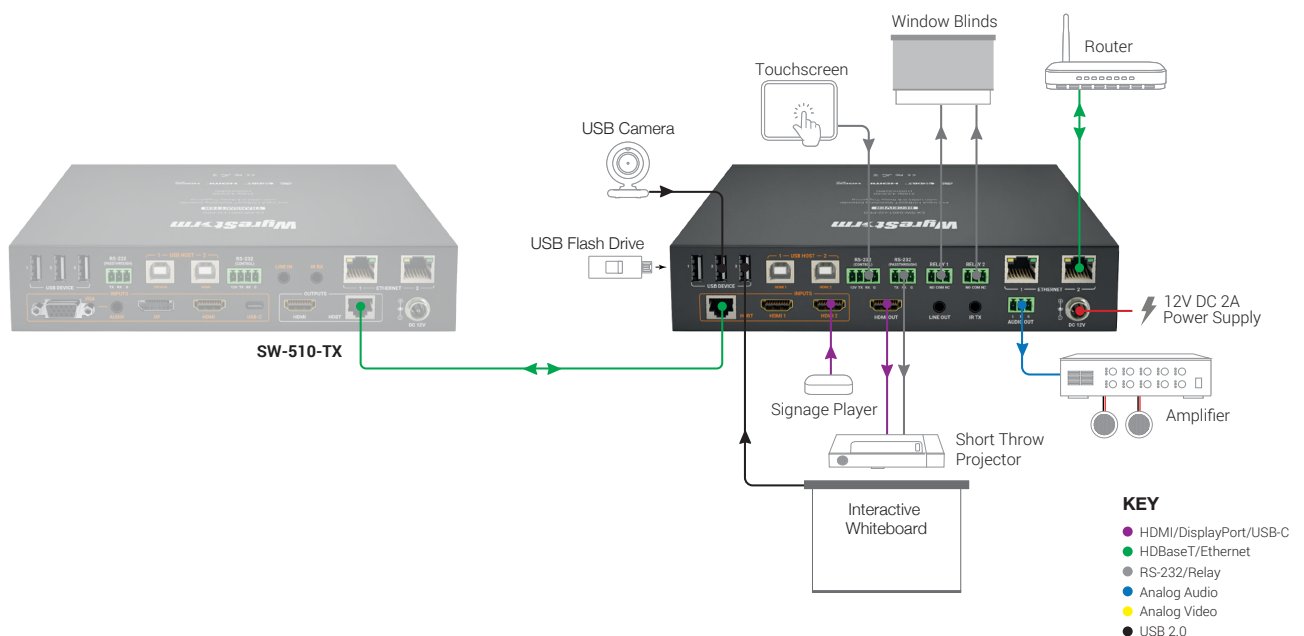
This extender requires connection via RS-232 or Ethernet in order to configure functions such as EDID. Ensure that the following items are on hand before proceeding with the installation.

- PC or Mac
- Telnet and Terminal software such as [PuTTY](#)
- USB COM Port Adapter (Not Included)
- WyreStorm Part: CAB-USB-3PIN
- Network router and/or switch if using IP telnet for configuration.
- Latest version of the [SW-515-RX API](#) for advanced configuration not covered in this document.

### In the Box

- 1x SW-515-RX Receiver
- 1x 12V DC Power Supply (US/UK/EU)
- 1x IR Transmitter
- 2x Mounting Brackets
- 4x 3-pin Screw Down Phoenix Connector
- 1x 4-pin Screw Down Phoenix Connector
- 1x Quickstart Guide (This Document)

### Basic Wiring Diagram



## Wiring and Connections

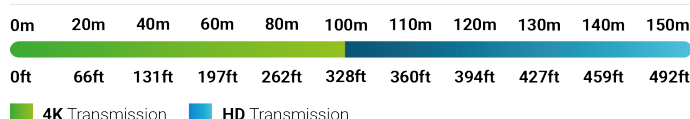
WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in its entirety before running or terminating any wires to ensure proper operation and to avoid damaging the equipment.

### ⚠ 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 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.

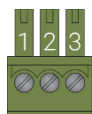
- This product contains a USB-C connection that can be used as an audio/video input. When using this connection verify that the USB-C cable used supports audio/video functionality as not all USB-C cables support this requirement.

#### Cat6 Cable Performance Guide



## Audio Connections

### Audio Out



WyreStorm Connector		3rd Party Device
Pin 1	L (Left Signal)	Left Signal (L+)
Pin 2	R (Right Signal)	Right Signal (R+)
Pin 3	GND (Ground)	Left Ground (L-) Right Ground (R-)

## Communication Connections

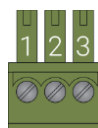
### RS-232 Wiring

The SW-515-RX 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

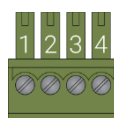
Connection to a PC uses the RS-232 Control connection and requires the use of a USB to 3-pin Port Adapter cable (CAB-USB-3PIN) in order for a port to be provided on the PC. Note that this adaptor can be used on both v1 and v2 versions.

### RS-232 Passthrough



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

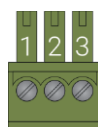
### RS-232 Control



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

### Relay Wiring

The relays on this extender can be used to trigger devices such as projector screens that are Normally Open (NO) or Normally Closed (NC).



WyreStorm Connector		3rd Party Device
Pin 1	NO (Normally Open)	NO (Normally Open)
Pin 2	Common (Ground)	Common (Ground)
Pin 3	NC (Normally Closed)	NC (Normally Closed)

## 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, 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-515-RX is configured using RS-232 and/or Telnet commands for IP address, Output Resolution, and EDID. Follow these steps to properly configure the extender based on the system requirement.

**Note:** The steps and information provided in this QSG are for basic operation of the extender out of the box. Refer to the SW-515-RX API for full configuration settings.

1. Assign a Static IP Address to ensure proper communication on an IP Network. See [Configuring a Static IP Address](#)
2. Set EDIDs to be used at each input of the device. See [Configuring Input EDIDs](#)

## Communication Settings

The commands listed below can be sent by connecting to either the TX or RX for RS-232 and the RX only for Ethernet. Each device must be connected together via HDBaseT in to 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.

The SW-515-RX contains a web UI that can be accessed by connecting to a network and entering the IP address. We recommend that the IP address is changed from default before accessing the web UI for the first time.

## RS-232 and IP Settings

<b>Baud rate:</b>	115200
<b>Data Bits:</b>	8bits
<b>Parity:</b>	None
<b>Stop Bits:</b>	1bit
<b>Flow Control:</b>	None
<b>Default IP Address</b>	192.168.11.43
<b>Default IP Port</b>	23

## Configuring a Static IP Address

By default, the switcher is set to a static IP of 192.168.11.043. We recommend changing this as it shared with other WyreStorm products and may cause improper communication if left unchanged. Connect to the RX via RS-232 and send the following command to set the IP address.

```
SET IPADDR STATIC ip4addr [IP Address] netmask [Netmask]<CR><LF>
Example: SET IPADDR STATIC ip4addr 192.168.11.243 netmask 255.255.255.0 <CR><LF>
Response: IPADDR STATIC ip4addr 192.168.11.243 netmask 255.255.255.0 <CR><LF>
```

**Note:** This command can only be sent to the receivers (RX) RS-232 port.

## 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.

<b>Set Input EDID</b> 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}	
	<b>VGA EDID</b>	<b>HDMI/USB-C EDIDs</b>
<b>Query Input EDID</b> GET EDID [Input] [Device]<CR><LF> Example: GET EDID in1 tx<CR><LF> Response: EDID GET in1 1 tx<CR><LF>	1024x768@60Hz 2CH	1024x768@60Hz 2CH
	1280x768@60Hz	1280x720@60Hz
	1360x768@60Hz	1360x768@60Hz
	1440x900@60Hz	1440x900@60Hz
	1600x900@60Hz	1600x900@60Hz
	1680x1050@60Hz	1680x1050@60Hz
	1920x1080@60Hz	1920x1080@60Hz
	1920x1200@60Hz	3840x2160@30Hz

## Specifications

Audio and Video				
Inputs	2x HDMI: 19-pin type A 1x HDBT In: 8-pin RJ-45 Female			
Outputs	1x HDMI Out: 19-pin type A 1x Audio Out: 3-pin Phoenix 1x Line Out: 3.5mm (1/8in) TRS Stereo			
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)	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
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   Web UI   IP Control   Bidirectional over HDBaseT			
RS-232	1x RS-232 (Control): 3-pin Phoenix   1x RS-232 (Passthrough): 3-pin Phoenix			
IR	1x IR TX: 3.5mm (1/8in) TS Mono			
Relays	1x Screen UP: 3-pin Phoenix   1x Screen DWN: 3-pin Phoenix			
USB	2x USB Host: USB-B   3x USB Device: USB-A USB over HDBT limited to 190Mbps   Max 5v 500mA per USB Type A			
Power				
Power Supply	12V DC 2A			
Max Power Consumption	16.25W			
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	55BTU/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	0.95kg/2.09lbs			
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](https://www.wyrestorm.com) for more details on our limited product warranty.






## 2.8" Serial Control Color Touchscreen

### TS-280-US | TS-280-EU



## Quickstart Guide

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

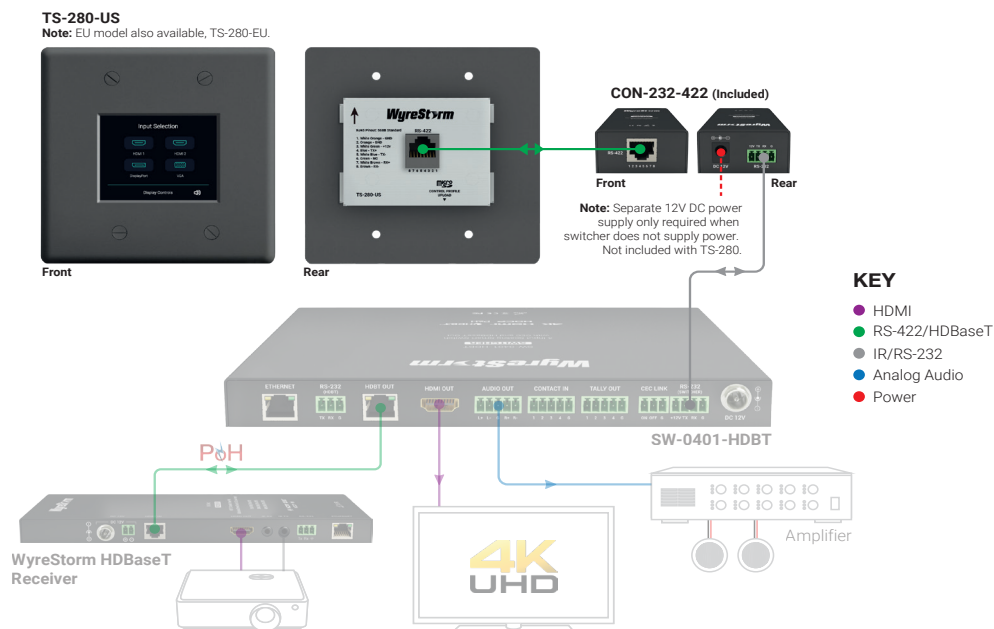
### IMPORTANT! Installation Requirements

- 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.

### In the Box

- 1x TS-280-EU or TS-280-US
- 1x 4-pin Phoenix Terminal Block
- 1x CON-232-422 Touchscreen Interface Module
- 2x Mounting Brackets for interface module
- 1x MicroSD Card
- 1x MicroSD USB Adaptor
- 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 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.

## Touchscreen Interface Module RS-232 Wiring

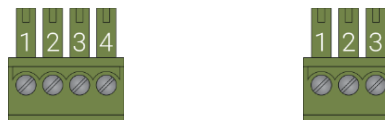
The touchscreen uses a separate component that connects to a WyreStorm switcher for RS-232 communication. This signal is converted to RS-422 for the touchscreen itself. Connection on the CON-232-422 is a 4-pin phoenix which not only contains the pins for communication, it also contains a pin for power from some of the currently available switchers. This can be used to power the converter from the switcher eliminating the need for a separate PSU. In the case of 3-pin connections on switchers, a separate PSU will be required.

### Switchers with 4-pin RS-232 Connection



Touchscreen Interface		Switcher with 4-pin
Pin 1	12V DC In	---> To ---> Pin 1 12V DC Out
Pin 2	TX (Transmit)	---> To ---> Pin 3 RX (Receive)
Pin 3	RX (Receive)	---> To ---> Pin 2 TX (Transmit)
Pin 4	G (Ground)	---> To ---> Pin 4 G (Ground)

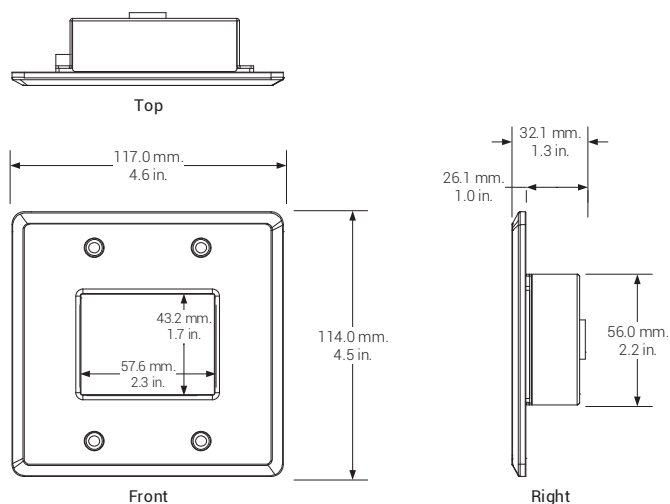
### Switchers with 3-pin RS-232 Connection



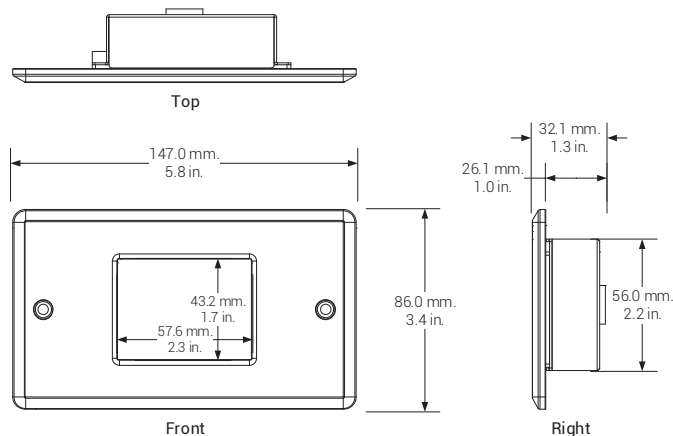
Touchscreen Interface		Switcher with 3-pin
Pin 1	12V DC In	---> To ---> No Connection
Pin 2	TX (Transmit)	---> To ---> Pin 2 RX (Receive)
Pin 3	RX (Receive)	---> To ---> Pin 1 TX (Transmit)
Pin 4	G (Ground)	---> To ---> Pin 3 G (Ground)

## Product Dimensions

### TS-280-US Dimensions



### TS-280-EU Dimensions



## Setup and Configuration

1. In any browser Go to [wyrestorm.com](https://wyrestorm.com) and navigate to the TS-280 product page
2. Scroll down and click on **User Interfaces** under Downloads.
3. Select the appropriate UI file for the product being installed and download the file.
4. Once downloaded, unzip the contents to ensure they are available for the next steps.
5. Insert the microSD card into the USB reader and connect to a PC or Mac.
6. Select the appropriate xxxx.tft file based on the actions required for the installation and copy to the MicroSD card drive.
7. Once the file has downloaded, eject the MicroSD card from the PC/Mac and remove from the reader.
8. Insert the MicroSD card into the card slot located on the rear of the touchscreen.
9. Connect the CON-232-422 to the switcher or a PSU. If connecting to a switcher, power on the switcher.
10. Connect the touchscreen to the CON-232-422. Once connected the download will begin.
11. The screen will show the progress and indicate when it is complete. Once completed and verified, disconnect the screen from the CON-232-422 and/or the PSU from the CON-232-422 and ensure the MicroSD card is removed.
12. The touchscreen is now ready to be installed and used with the switcher.

## Troubleshooting

### Touchscreen not Powering On

- Verify that power is being supplied to the CON-232-422 either via power from the switcher on the RS-232 connection or a separate 12V DC PSU (not included).
- Verify that the category cable between the CON-232-422 is properly terminated following EIA568B standard.
- Verify that the cable between the switcher and the CON-232-422 is properly terminated following the [Wiring and Connections](#) section.

### File Fails to Upload

- Ensure the .tft file is loaded to the root folder of the MicroSD card.
- Other folders may be stored to the MicroSD card but only the .tft UI file can exist in the root folder.

### Touchscreen not Controlling Switcher

- Verify that the category cable between the CON-232-422 is properly terminated following EIA568B standard.
- Verify that the cable between the switcher and the CON-232-422 is properly terminated following the [Wiring and Connections](#) section.
- Verify that the appropriate UI file for the switcher was downloaded and installed on the touchscreen.



### Troubleshooting Tips

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

## Specifications

	Touchscreen		Touchscreen Interface Module
Audio and Video			
Switcher Control	1x RS-422: 8-pin RJ-45 Female		1x RS-232: 4-pin Phoenix
Max Communication Distance	100m/328ft Interface to Touchscreen		15.24m/50ft Switcher to Interface
Power			
Power Supply	12VDC from Touchscreen Interface Module		12V DC from switcher or separate PSU (not included)
Max Power Consumption	0.84W		0.36W
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	Transmitter: 24 BTU/hr   Receiver: 58 BTU/hr		
Dimensions and Weight			
	TS-280-US	TS-280-EU	
Rack Units/Wall Box	2 Gang	2 Gang	<1U
Height With   Without Feet	114mm/4.49in	86mm/3.39in	25mm/0.99in
Width With   Without Brackets	117mm/4.61in	147mm/5.79in	80.2mm/3.16in
Depth With   Without Handles	32.1mm/1.27in	32.1mm/1.27in	50mm/1.97in
Weight	0.30kg/0.66lbs	0.28kg/0.62lbs	0.14kg/0.30lbs
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](http://wyrestorm.com) for more details on our limited product warranty.

