

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

SW-515-RX



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

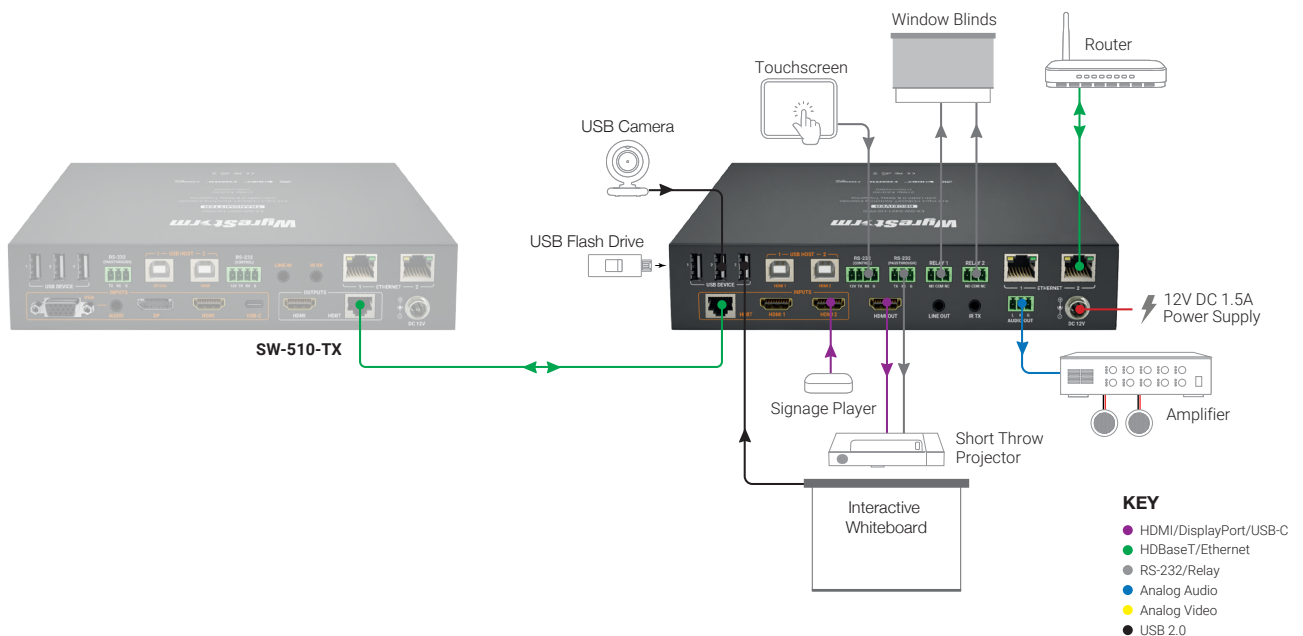
This extender requires connection via RS-232 or Ethernet in order to configure functions such as EDID. Ensure that the following items are on hand before proceeding with the installation.

- 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
- 3x 3-pin Screw Down Phoenix Connector
- 1x 4-pin Screw Down Phoenix Connector
- 1x Quickstart Guide (This Document)

Basic Wiring Diagram



Wiring and Connections

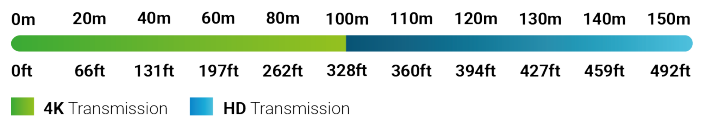
WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in its entirety before running or terminating any wires to ensure proper operation and to avoid damaging the equipment.

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.

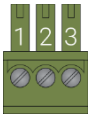
- This product contains a USB-C connection that can be used as an audio/video input. When using this connection verify that the USB-C cable used supports audio/video functionality as not all USB-C cables support this requirement.

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.

Relay Wiring

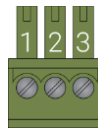
The relays on this extender can be used to be trigger devices such as projector screens that are Normally Open (NO) or Normally Closed (NC).

Troubleshooting

No or Poor Quality Picture (snow or noisy image)

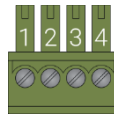
- Verify that power is being supplied to the transmitter and receiving device.
- Verify that all HDMI and HDBaseT connections are not loose and are functioning properly.
- Verify that the HDBaseT cable is properly terminated following EIA568B standard.
- Verify that the output resolution of the source 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.

RS-232 Passthrough

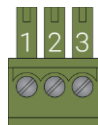


| WyreStorm Connector | | 3rd Party Device |
|---------------------|---------------|------------------|
| Pin 1 | TX (Transmit) | RX (Receive) |
| Pin 2 | RX (Receive) | TX (Transmit) |
| Pin 3 | G (Ground) | G (Ground) |

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) |



| 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) |

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

| | |
|---------------------------|---------------|
| Baud rate: | 115200 |
| Data Bits: | 8bits |
| Parity: | None |
| Stop Bits: | 1bit |
| Flow Control: | None |
| Default IP Address | 192.168.11.43 |
| Default IP Port | 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.

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 | 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 | | | |
| 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 for more details on our limited product warranty.

