4-input Desk-mounted 4K/60 HDBaseT Presentation Switcher with DSC Compression, Scaling & USB Host

SW-740-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

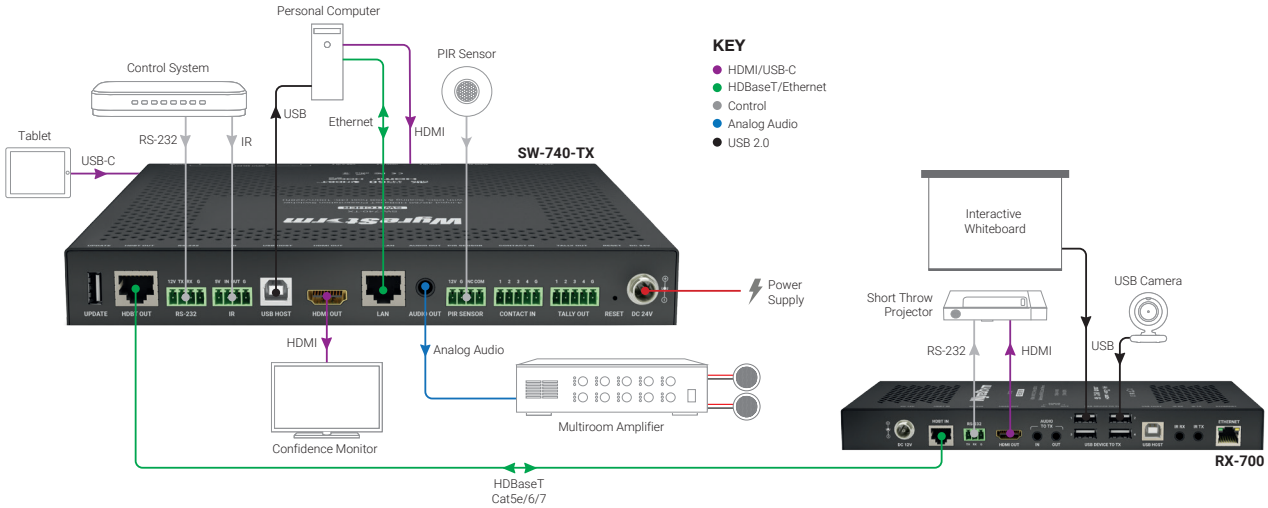
This transmitter requires connection via RS-232 or Ethernet in order to configure functions such as EDID. Ensure that the following items are on hand before proceeding with the installation.

- 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-740-TX API for advanced configuration not covered in this document.

In the Box

1x SW-740-TX Presentation Switcher
2x 5-pin Terminal Block
3x 4-pin Terminal Block
1x 24V DC 5A 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 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 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

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

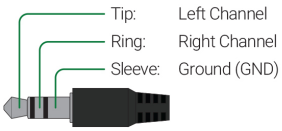
4K/HD Transmission

WyreStorm recommends the use of shielded cable to minimize signal noise and interference

Audio Connections

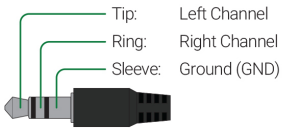
Audio In

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



Audio Out

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



Control Communication

RS-232 Wiring

The SW-740-TX uses a 4-pin RS-232 with no hardware flow control. Most control systems and computers are DTE where pin 3 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.

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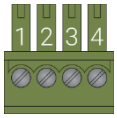
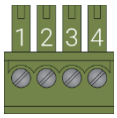


WyreStorm Connector			3rd Party Device
Pin 1	12V DC Out	No Connection	Reserved
Pin 2	TX (Transmit)	---> To --->	RX (Receive)
Pin 3	RX (Receive)	---> To --->	TX (Transmit)
Pin 4	G (Ground)	---> To --->	G (Ground)

IR Wiring

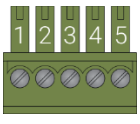
The 4-pin IR connector can be used to either transmit or receive IR signals, based on the type of cable and pin out you use. The IR emitter or receiver being used must support 5v for proper operation.



WyreStorm Connector			3rd Party Device
Pin 1	5V DC Out	No Connection	Reserved
Pin 2	IR (Receive)	---> To --->	IR (Transmit)
Pin 3	IR (Transmit)	---> To --->	IR (Receive)
Pin 4	G (Ground)	---> To --->	G (Ground)

Contact In/Tally Out

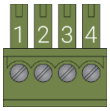
Contact connections are provided to allow for switching sources and feedback to a contact closure button on a desk or wall plate.



WyreStorm Connector			3rd Party Device
Pin 1	VGA IN 1	---> To --->	Source 1
Pin 2	HDMI IN 2	---> To --->	Source 2
Pin 3	HDMI IN 3	---> To --->	Source 3
Pin 4	USB-C IN 4	---> To --->	Source 4
Pin 5	G (Ground)	---> To --->	G (Ground)

PIR Sensor

Contact connections are provided to allow for automatic triggering of CEC display power.



WyreStorm Connector			3rd Party Sensor
Pin 1	12V DC Out	---> To --->	12v of Sensor
Pin 2	G (Ground)	---> To --->	G (Ground)
Pin 3	NC	---> To --->	NC of Sensor
Pin 4	COM (Common)	---> To --->	COM (Common)

Setup and Configuration

The SW-740-TX is configured using RS-232 or IP 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-740-TX API for full configuration settings.

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

Communication Settings

The SW-740-TX 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	DHCP
Default IP Port	23

Configuring Input EDIDs

Set Input EDID
SET EDID [Input] [Prm]
Example: SET EDID in1 1
Response: EDID SET in1 1

Query Input EDID
GET EDID [Input]
Example: GET EDID in1
Response: EDID in1 1

[Input]= in1 ~ in4
[Prm]={Below tables based on connection}

VGA EDID	HDMI/USB-C EDIDs
8: 1024x768@60Hz 2CH	8: 1600x900@60Hz 2CH
7: 1280x768@60Hz 2CH	7: 1600x1200@60Hz 2CH
6: 1360x768@60Hz 2CH	6: 1680x1050@60Hz 2CH
5: 1440x900@60Hz 2CH	5: 1920x1200@60Hz 2CH
4: 1600x900@60Hz 2CH	4: 1280x720@60Hz 2CH
3: 1680x1050@60Hz 2CH	3: 1920x1080@60Hz 2CH
2: 1920x1080@60Hz 2CH	2: 3840x2160@30Hz 2CH
1: 1920x1200@60Hz 2CH	1: 3840x2160@60Hz 2CH

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.

Troubleshotting Tips

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

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Specifications

Audio and Video				
Inputs	1x VGA In: 15-pin VGA 1x USB-C 2x HDMI In: 19-pin type A 1x Audio In: 3.5mm (1/8in) TRS Stereo			
Outputs	1x HDMI Out: 19-pin type A 1x Audio Out: 3.5mm (1/8in) TRS Stereo 1x HDBT Out: 8-pin RJ-45 Female			
Output Video Encoding	HDBaseT Class C			
Encoding Data Rate	9.2Gbps			
End to End Latency (Max)	10µs (micro seconds)			
Audio Formats	2ch and multi-channel LPCM			
Video Resolutions (Max)	**Video Resolution**	**HDMI**	**Cat6**	**Cat6a/7**
	1920x1080p @60Hz 8bit	15m/49ft	100m/328ft	100m/328ft
	1920x1080p @60Hz 16bit	7m/22ft	100m/328ft	100m/328ft
	3840x2160p @60Hz 8bit 4:4:4	7m/22ft	100m/328ft	100m/328ft
	4096x2160p @60Hz 8bit 4:4:4	3m/10ft	100m/328ft	100m/328ft
	Note: WyreStorm recommends the use of shielded category cable to minimize signal noise and interference			
Supported Standards	DCI | RGB			
Maximum Pixel Clock	600MHz			
Communication and Control				
HDMI	HDMI | HDCP 2.2 | EDID | CEC | DVI/D supported with adapter (not included)			
HDBaseT	HDMI | HDCP 2.2 | EDID | CEC | 2ch audio | USB | Serial			
RS-232	1x 4-pin Phoenix (Control)			
Ethernet	1x 8-pin RJ-45 female | Bidirectional over HDBaseT			
IR	1x 4-pin Phoenix (Pass-through)			
USB	1x USB-C: USB 3.1 1x USB Host: USB-B Data Rate: 190Mbps			
CEC	Auto, Manual Display Power through HDMI & HDBT Output			
Other	PIR Sensor: 1 x 4-pin Phoenix Contact Input: 1 x 5-pin Phoenix Tally Output: 1 x 5-pin Phoenix			
Power				
Power Supply	24V DC 5A			
Max Power Consumption	Standard: 45W | With USB Charging: 90W			
USB-C	Up to 45 watt charging			
Environmental				
Operating Temperature	0 ~ +45°C (32 ~ +113 °F), 10% ~ 90%, non-condensing			
Storage Temperature	-20 ~ +70°C (-4 ~ +158 °F), 10% ~ 90%, non-condensing			
Maximum BTU/hr	Standard: 153.5 | With USB Charging: 310			
Dimensions and Weight				
Rack Units/Wall Box	<1U			
Height	30mm/1.18in			
Width	240mm/9.44in			
Depth	200.2mm/7.88in			
Weight	1.34kg/2.96lbs			
Regulatory				
Safety and Emission	CE | FCC | RoHS | EAC | RCM			

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.