WyreStorm MX-1616-SCL: Advanced 16x16 Modular Seamless Scaling Matrix Chassis with HDMI & HDBT Transmission Cards

MX-1616-SCL

WyreStorm

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.

4K HDR | **2160p 4:4:4 60** | **HDMI** | **HDCP 2.2**

⚠️ **IMPORTANT! Installation Requirements**

- Read through the Wiring and Connections section for important wiring guidelines before creating or choosing pre-made cables.
- Visit the product page to download the latest firmware, document version, additional documentation, and configuration tools.
  Install the latest firmware to ensure that all features described in this document are available during and after installation.

In the Box

1x MX-1616-SCL Matrix
1x AC Power Cord (US/UK/EU/AU)
1x IR Remote (Batteries not included)
1x IR Extension Cable
1x USB-A to DB9 Cable
2x Mounting Brackets (with Screws)
1x Quick Start Guide

Recommended Products

To take full advantage of the features of this matrix, WyreStorm recommends the following products be used within this product.

TX-SCL-HDMI

INPUTS
1x HDMI In: Type A Female

OUTPUTS
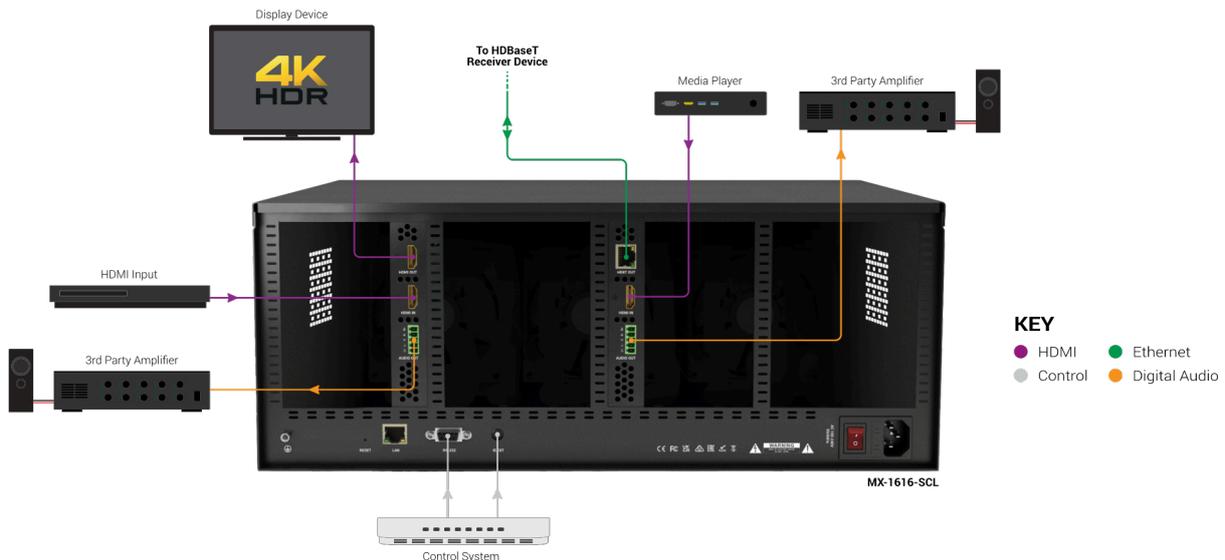1x HDMI Out: Type A Female
1x Audio Out: 5-Pin Phoenix

TX-SCL-HDBT

INPUTS
1x HDMI In: Type A Female

OUTPUTS
1x HDBaseT Out: RJ45 Female
1x Audio Out: 5-Pin Phoenix

Basic Wiring Diagram

KEY
- 🟣 HDMI
- 🟢 Ethernet
- ⚪ Control
- 🟠 Digital Audio

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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.

HDMI/HDBaseT Wiring

⚠️ **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 HDMI and Ethernet transmission limiting performance. Steps should be taken to minimize or remove these factors completely during installation for best results.
- WyreStorm recommends using high quality HDMI cables such as WyreStorm Express to ensure the highest content performance available.
- The type of category cable and length used can restrict the available video resolution. While Cat5e can be used, WyreStorm recommends using Cat6 or higher to ensure the highest content performance available. See Video Resolutions in the Specifications table before determining cable type and length.

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

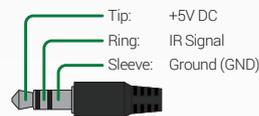🟩 **4K** Transmission   🟦 **HD** Transmission

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

IR Ext Guidelines

- WyreStorm IR ports function differently than standard IR ports. For this reason only WyreStorm IR emitters and receivers can be used.
- WyreStorm IR emitter and receiver cables cannot be spliced as cutting into the cables will short the shield. While an extension cable may be used, WyreStorm assumes no responsibility for operation using an extension cable.
- When connecting the IR TX to an IR connecting blocks or control system with different plugs, a cable must be made following the IR TX Port Pinout diagram.
- When connecting to an IR control system use the WyreStorm CAB-IR-LINK cable. This cable compensates for differences between the WyreStorm RX and the control systems TX connection. Visit the CAB-IR-LINK product page for details.
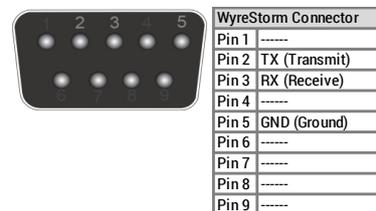
IR Ext Port Pinout

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

Tip:	+5V DC
Ring:	IR Signal
Sleeve:	Ground (GND)

RS-232 Wiring

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.

WyreStorm Connector	
Pin 1	------
Pin 2	TX (Transmit)
Pin 3	RX (Receive)
Pin 4	------
Pin 5	GND (Ground)
Pin 6	------
Pin 7	------
Pin 8	------
Pin 9	------

Accessing the Web UI

This matrix uses an Auto IP method to generate the initial IP address based on the network connections.
By default the IP address is set to DHCP and will pull the IP address from a connected DHCP server.
Should the network not contain a DHCP server the IP address will be generated based on the units mac address.

The above operation will occur unless the IP Address setting in the web UI is set to static.

1. Connect the matrix to the same network as a PC
2. Using a 3rd party network scanner, scan the network for the IP address of the matrix
3. Open a web browser and enter the IP Address of the matrix
4. Enter the password for the matrix. Default Password: admin

Troubleshooting

No or Poor Quality Picture (snow or noisy image)

- Verify that power is being supplied to all devices in the system and that they are powered on.
- Verify that all source and HDBaseT connections are not loose and are functioning properly.
- Verify that the HDBaseT cable is properly terminated per the HDMI/HDBaseT Wiring section.
- Verify that the matrix, receiving device, and display support the output resolution of the source. Refer to **Video Resolutions** in the Specifications table for the max distance based on resolution.
- If transmitting 4K, verify that the HDMI cables used are 4K rated.

No or Intermittent 3rd party Device Control

Verify that the IR cable(s) is properly terminated.See IR TX/RX Wiring.
Verify that the IR emitter is located near the IR receiver on the device.

💡 **Troubleshooting Tips:**

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

Warranty Information

WyreStorm Technologies ProAV Corporation 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

Audio and Video	
Inputs	Dependent on Cards implemented: 16 Cards : **TX-HDBT-SCL** 1x HDMI IN **TX-HDMI-SCL** 1x HDMI IN
Outputs	**TX-HDBT-SCL** 1x HDBT Out 1x 5 Pin Balanced Audio Output **TX-HDMI-SCL** 1x HDMI Out 1x 5 Pin Balanced Audio Output
Output Video Encoding	HDBaseT, Uncompressed HDMI
Encoding Data Rate	**HDBaseT** 10.2Gbps **HDMI** 18Gbps
Audio Formats	2ch PCM | Multichannel: LPCM and Up to DTS-X and Dolby Atmos
Video Resolutions (Max)	1920x1080p @60Hz 16bit 7m/23ft 3840x2160p @60Hz 10bit 4:2:2 HDR10/10+ 5m/16ft 3840x2160p @60Hz 12bit 4:2:0 Dolby Vision 5m/16ft 3840x2160p @50Hz 10bit 4:2:2 HLG 5m/16ft 4096x2160p @60Hz 8bit 4:4:4 5m/16ft
Supported Standards	DCI (4096x2160) | RGB | HDR | HDR10 | Dolby Vision | HLG | BT.2020 | HDBT
Maximum Pixel Clock	600MHz
Communication and Control	
HDMI	HDMI 2.0 | HDCP 2.2 | EDID | CEC
HDBaseT	HDMI 1.4 | HDCP 2.2 | EDID | CEC | RS-232 | 1-way PoH
RS-232	1x RS-232: DB9 | Matrix Control Routable RS-232 Device Control | Telnet commands supported
Ethernet	1x LAN: 8-pin RJ-45 Female | Web UI | Matrix Control and Ethernet
Power	
Power Supply	100V-240V AC 50/60Hz
Max Power Consumption	190W
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
Dimensions and Weight	
Rack Units/Wall Box	4U
Height	177.8mm/7in
Width	482.6mm/19in
Depth	382.7mm/15in
Weight	Approx. 13.5kg/29.76lbs (Dependent on transmission cards used)
Regulatory	
Safety and Emission	CE | FCC | RoHS | RCM | EAC | UKCA