

# 4x3 Multi-Input Conference Room Switcher with Advanced USB-C Integration & HDBT 3.0 Output

**MX-0403-H3-MST**

**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.



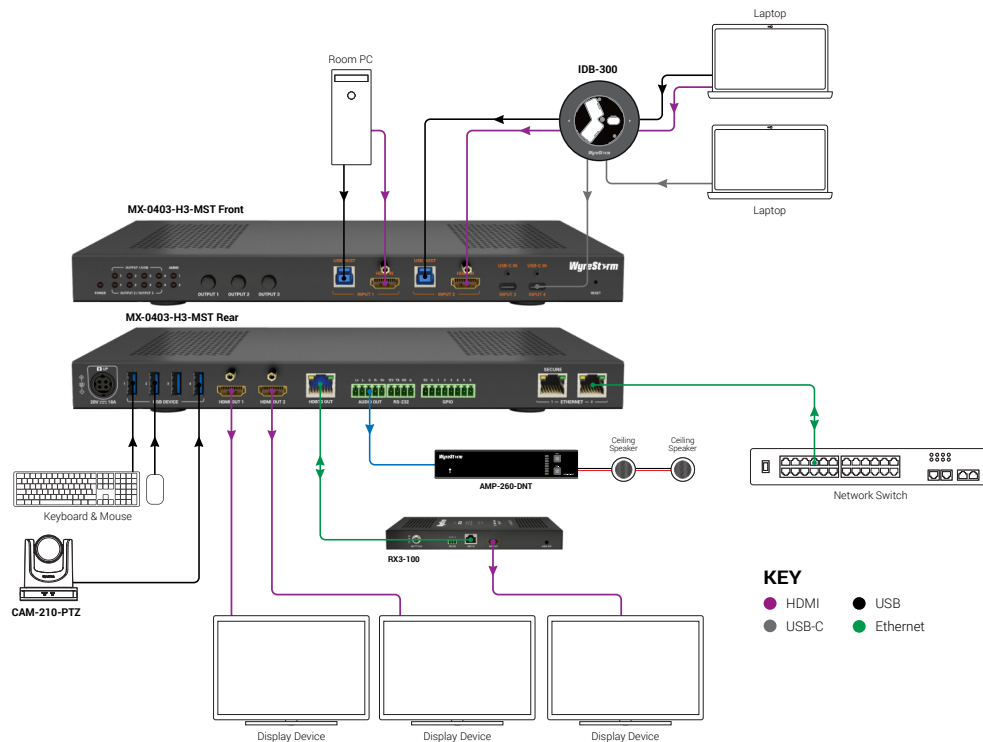
### ⚠️ IMPORTANT! Installation Requirements

- Read through the [Wiring and Connections](#) section for important wiring guidelines before creating or choosing premade cables.
- While these products support CEC for the HDMI outputs, WyreStorm cannot guarantee compatibility with all forms of CEC communication.
- Visit the product pages to download the latest firmware, document version, additional documentation, and configuration tools.

### In the Box

- 1x MX-0403-H3-MST
- 1x 20V 10A Power Supply (US/UK/EU/AU)
- 2x USB-C 2m cables
- 2x USB 3.0 A to B 1.8m Cables
- 4x Mounting Brackets
- 4x Bracket Screws
- 1x 5-pin Phoenix Connector
- 1x 3-pin Phoenix Connector
- 1x 8-pin 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 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 HDMI, USB and Ethernet 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 two USB-C connections 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.

Audio Connections

A 5-pin Phoenix connector is used for balanced stereo audio output.

|   | WyreStorm Connector       |              | 3rd Party Device    |
|---|---------------------------|--------------|---------------------|
| 1 | Pin 1 Left Positive (L+)  | ---> To ---> | Left Positive (L+)  |
| 2 | Pin 2 Left Negative (L-)  | ---> To ---> | Left Negative (L-)  |
| 3 | Pin 3 Ground (G)          | ---> To ---> | Ground (G)          |
| 4 | Pin 4 Right Negative (R-) | ---> To ---> | Right Negative (R-) |
| 5 | Pin 5 Right Positive (R+) | ---> To ---> | Right Positive (R+) |

GPIO Ports

8-pin 3.5mm Phoenix female connector. This connector features 5V, GND, and 6 GPIO pins. Each GPIO pin can be independently configured as either a Digital Input or a Digital Output, with the default setting being Digital Input.

GPIO Voltage and Current Specifications:

- 5V Pin: 5V/500mA
- GPIO Pins: 5V/50mA each



Communication Connections

RS-232 Wiring

The MX-0403-H3-MST uses a 4-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.

4-Pin Phoenix Terminal

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

Setup and Configuration

Access the MX-0403-H3-MST settings through its Web User Interface by entering the unit's IP address into your preferred web browser.

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     |

USB-C MST

The MX-0403-H3-MST features two USB-C ports, labeled USB-C IN 3 and USB-C IN 4, for connecting laptop devices. By default, both ports operate in SST mode (Single Screen). However, the USB-C IN 4 port can also support MST mode (Multi-Stream Transport), enabling dual-screen output. When USB-C IN 4 is in MST mode, the USB-C IN 3 port will be disabled. The USB-C IN 4 port will then transmit two video streams through a single USB-C cable, with these streams being output to both HDMI OUT ports. The resolution of the video streams will be limited to 4K at 30Hz, and the priority of the USB-C IN 4 port will be set to the highest level.

LED & Button

LED Indicators

- The MX-0403-H3-MST has video, USB, and audio indicator LEDs on the front panel.
- All LEDs support two colors: green and red
- The color of the LED indicators corresponds to different statuses.

- Red: Selected USB input
- Green: Selected video/audio input
- White: Unselected input

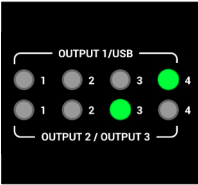
Button

- Two buttons are provided for video switching.
- One button is available for audio switching.

**Note:** There is no independent button for USB switching. When USB follows video, the video button is used to switch the USB.

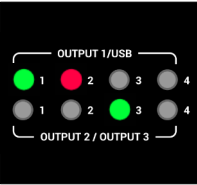
Example:

**Example 1:** USB Follow HDMI OUT1.



OUT1 & USB » USB-C IN 4  
OUT 2/3 » USB-C IN 3

**Example 2:** USB Independent switch.



OUT1 » HDMI IN 1  
USB » USB HOST IN 2  
OUT2/3 » USB-C IN 3

Troubleshooting

No or Poor Quality Picture (snow or noisy image)

- Verify that the USB-C & HDMI inputs and HDMI output connections are not loose and are functioning properly.
- Make sure you are using full featured USB Type-C cables made by WyreStorm or other reliable brands.
- Verify that the output resolution of the source and display is supported by this switcher.
- Configure EDID Settings to a lower resolution.
- If transmitting 4K, verify that the HDMI & USB-C cables used are 4K rated.

No or Intermittent 3rd party Device Control

Verify that the IR, RS-232, and Ethernet cables are properly terminated.

Reset

- Click the "RESET" button through the Web UI.
- Send "RESET" API via RS232 or Telnet.
- Hardware: Press and hold the Reset button for 15 seconds, all LEDs will flash 4 times quickly.

💡 Troubleshooting Tips:

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

Specifications

| Audio and Video         |                                                                                                                                                                                                                                                     |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inputs                  | 2x HDMI In: 19-pin Type A<br>2x USB-C                                                                                                                                                                                                               |
| Outputs                 | 2x HDMI Out: 19-pin Type A<br>1x Analog Audio Out (5-pin Phoenix Male Connector)<br>1x HDBaseT3 Out: RJ45                                                                                                                                           |
| Output Video Encoding   | 18Gbps                                                                                                                                                                                                                                              |
| Audio Formats           | <b>USB-C IN/HDMI IN/ HDMI OUT:</b> Up to 7.1ch, including PCM 2.0/5.1/7.1ch, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS 5.1, DTS-HD Master Audio and DTS:X.<br><b>Analog Audio de-embedding:</b> 2ch Analog/PCM              |
| Video Resolutions (Max) | 3840x2160p @60Hz 4:4:4 8bit                                                                                                                                                                                                                         |
| Data Rate               | <b>USB-C IN:</b> 10Gbit/s (per lane).<br><b>HDMI:</b> 18Gbps.<br><b>USB 3.2:</b> 5Gbit/s.                                                                                                                                                           |
| HDR Format              | All HDR formats, including HDR 10, HLG, HDR 10+ and Dolby Vision                                                                                                                                                                                    |
| Supported Standards     | DCI   RGB                                                                                                                                                                                                                                           |
| Maximum Pixel Clock     | 600MHz                                                                                                                                                                                                                                              |
| Power                   |                                                                                                                                                                                                                                                     |
| Power Supply            | 20V                                                                                                                                                                                                                                                 |
| Power Consumption       | Up to 200W                                                                                                                                                                                                                                          |
| 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             | Power consumption 13.1W (No USB-A load and USB-C charging) = 44.7 BTU/hr<br>Power consumption 35.6W (with 22.5W USB-A and no USB-C charging) = 121.5 BTU/hr<br>Power consumption 155.6W (with 22.5W USB-A and 2x 60W USB-C charging) = 531.1 BTU/hr |
| Dimensions and Weight   |                                                                                                                                                                                                                                                     |
| Length x Width x Height | 300mm x 180mm x 25mm                                                                                                                                                                                                                                |
| Weight                  | 1.37kg/3.02lbs                                                                                                                                                                                                                                      |
| Regulatory              |                                                                                                                                                                                                                                                     |
| Safety and Emission     | CE   FCC   RoHS   RCM   EAC   UKCA                                                                                                                                                                                                                  |

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

