

4x4 4K HDR HDMI Matrix with Audio Breakout MX-0404-H2A



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.



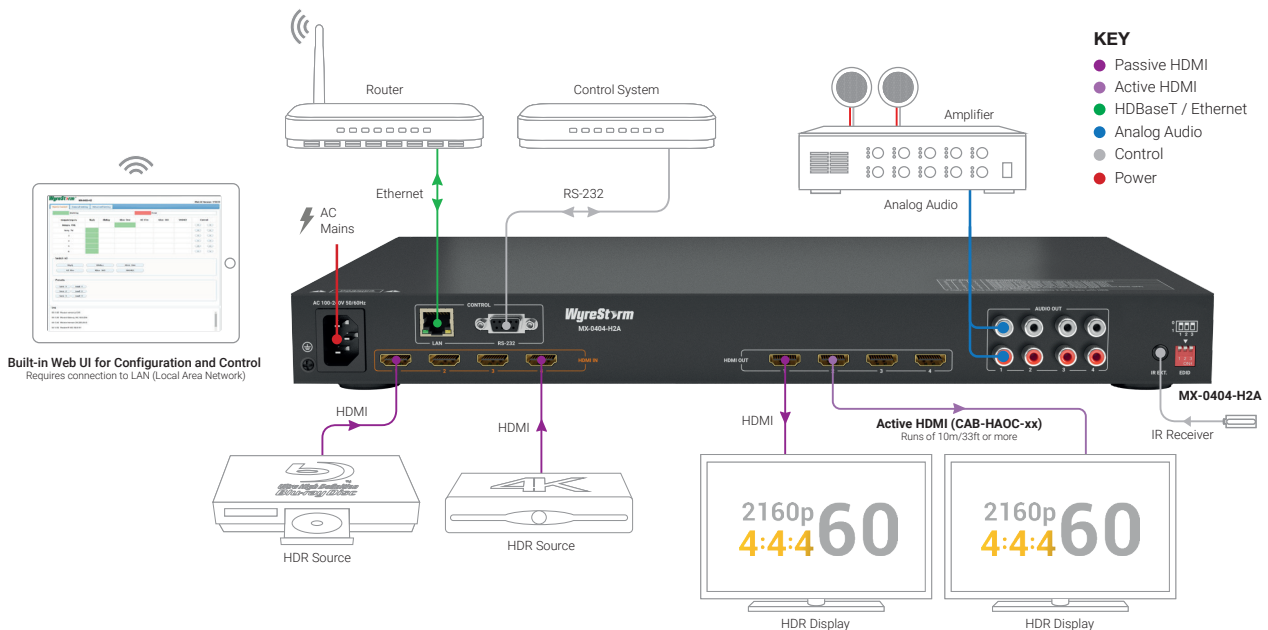
IMPORTANT! Installation Requirements

- 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.
- While this product supports CEC, WyreStorm cannot guarantee compatibility with all forms of CEC communication.

In the Box

- 1x MX-0404-H2A Matrix
- 1x AC Power Cord with EU pins
- 1x AC Power Cord with US pins
- 1x AC Power Cord with UK pins
- 1x AC Power Cord with AU pins
- 1x IR Remote (CR2025 Battery not Included)
- 1x IR Receiver
- 2x Matrix Mounting Brackets with screws
- 1x Quickstart Guide (this document)

Basic Wiring Diagram



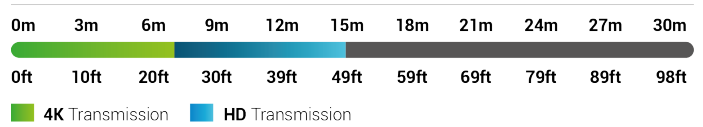
Wiring and Connections

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 the wires to ensure proper operation and to avoid damaging 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 HDMI 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.

HDMI Cable Performance Guide

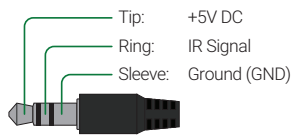


IR Guidelines

- Using WyreStorm infrared receivers is the best way to ensure that most IR coding formats are transmitted and received. Other 3rd party receivers can be used; however, these devices must operate in the same manner as the WyreStorm devices.
- Due to differences in IR across 3rd party control systems their IR ports should never be connected directly to a WyreStorm system as an incompatibility may exist. WyreStorm offers a cable that compensates for voltage differences as well adjusts for differences in the pins used within the port. Refer to the [CAB-IR-LINK](#) product page for more information.

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.



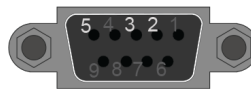
IR Code Settings

This matrix has 2 different IR code sets to help alleviate interference with devices that may contain a similar IR code. These various code sets can be set within the units web UI should the need arise to change them. We recommend that the IR code set be left to default unless absolutely required to resolve a code sharing issue.

- Access the Web UI. Refer to [Accessing the Web UI](#).
- Navigate to the Settings tab within the Admin section of the Web UI. Default password is admin.
- Under IR Code select one of the available IR code sets. Mode 1 (0x00) is the default setting.

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 functionality to ensure that the correct connections can be made.

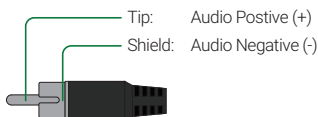


WyreStorm Connector		3rd Party Device
Pin 2	TX (Transmit)	---> To ---> RX (Receive)
Pin 3	RX (Receive)	---> To ---> TX (Transmit)
Pin 5	G (Ground)	---> To ---> G (Ground)

Note: Pins not shown in table have no connection.

Audio Wiring

This matrix contains audio connections for Analog Audio.



Setup and Configuration

EDID Settings

- Configuration for the EDIDs is through the rear panel dipswitches or via the Web UI. Refer to [Accessing the Web UI](#) for details on setting EDIDs in the Web UI.
- When set to Smart EDID (default) the matrix will scan all selected displays for the lowest resolution.
- When EDID Copy or a direct EDID is being used, SmartEDID is turned Off.
- Ensure that a display is connected and powered On to the selected output before copying EDIDs or the copy will fail. When this occurs, EDID will be set to 4K@30Hz 2ch.



Copying EDIDs

1. Set the EDID dipswitch to the **Front Panel, Web UI or API EDID Control** (all switches up).
2. Using the Left or Right front panel buttons navigate to the Output to copy the EDID from. Input number will flash.
3. Using the Up or Down front panel buttons select the Input to receive the EDID.
4. While the input number is flashing, Press and Hold the Enter button until the display states OK indicating that the copy was successful. FL-1 indicates that the copy has failed and will need to be redone.

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

Low Power Mode (Standby)

This matrix contains a Low Power Mode that will place the unit into Standby using less power than normal operating mode. While in this mode the Front Panel display and LEDs will be Off and outputs will be powered down. Once a command is sent via the Front Panel buttons, IR remote/control system, or RS-232/IP control system the unit will wake from Standby and be fully operational. The unit can be placed back into standby via the Web UI or by sending an API command as described in the following sections.

Enabling Low Power Mode via Web UI

1. Access the Web UI. Refer to [Accessing the Web UI](#).
2. Navigate to the Settings tab within the Admin section of the Web UI. Default password is admin.
3. Under Low Power Mode, select On to enable.

Troubleshooting

No or Poor-Quality Audio or Video (snow or noisy image)

- Verify that A/V mute is not enabled. Check Web UI for status on the selected output.
- Verify that the matrix is not in Standby. Refer to Low Power Mode (Standby) for details.
- Verify that power is being supplied to the source and receiving device and they are not in standby mode
- Verify that all HDMI connections are not loose and are functioning properly.
- Verify that the output resolution of the source and display is supported by this matrix and receiver.
- If transmitting 3D or 4K, verify that suitable HDMI cables are being used.

Smart EDID – Display Lowest Resolution - 2ch only (default)	
Front Panel, Web UI or API EDID Control	
1080p @60Hz 2.0ch audio	
4K @30Hz 2ch with HDR Support	
4K @30Hz 5.1ch with HDR Support	
4K @60Hz 2ch with HDR Support	
4K @30Hz (8bit only) 2ch with HDR Support	
4K @30Hz 7.1ch with HDR Support	

IP Address Notes

- The IP address of the unit can be displayed by pressing and holding the **UP** and **Down** buttons on the front panel for 3 seconds. The IP address will be displayed on the front panel.
- The installer password and general password are the same by default. WyreStorm recommends changing the password for installer login to avoid any unwanted changes being made to the matrix configuration.

Enabling via RS-232/IP

Refer to the products API document for information on Com port and IP addressing settings.

- To place the unit into Standby send the command STANDBY<CR><LF>.
- To remove the unit from Standby send the command WAKE<CR><LF>.
- To query the current Standby state send the command GET STANDBY<CR><LF>.

No or Intermittent 3rd party Device Control

- Verify that the IR and RS-232 cables are properly terminated following the [Wiring and Connections](#) section.
- Change the matrix IR code set in order to avoid interference with other devices. Refer to [IR Code Settings](#).

Troubleshooting Tips:

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

Specifications

Audio and Video		
Inputs	4x HDMI In: 19-pin type A	
Outputs	4x HDMI Out: 19-pin type A 4x Audio Out: RCA Female Stereo (L/R)	
Audio Formats	Analog: 2ch Analog HDMI: 2ch LPCM Multichannel up to Dolby Atmos and DTS-X	
Video Resolutions (Max)	Video Resolution	HDMI
	1920x1080p @60Hz 12bit	15m/49ft
	1920x1080p @120Hz 12bit	7m/23ft
	3840x2160p @24Hz 10bit 4:2:0 HDR	15m/49ft
	3840x2160p @30Hz 8bit 4:4:4	7m/23ft
	3840x2160p @60Hz 10bit 4:2:0 HDR	5m/16ft
	3840x2160p @60Hz 12bit 4:2:2 HDR	5m/16ft
	4096x2160p @60Hz 8bit 4:2:0	7m/23ft
4096x2160p @60Hz 8bit 4:4:4	5m/16ft	
Supported Standards	DCI RGB HDR HDR10 Dolby Vision up to 60Hz HLG BT.2020 BT.2100	
Maximum Pixel Clock	600MHz	
Communication and Control		
HDMI	HDMI 2.0 HDCP 2.2 EDID Input supports DVI/D and DisplayPort Dual-Mode (DP++) v1.3 with adapter (not included)	
CEC	CEC power triggering Requires CEC compatibility	
IR	1x Front Panel IR Sensor Handheld IR Remote Included 1x IR Ext 3.5mm (1/8in) TRS Stereo	
RS-232	1x RS-232: 9-pin DB9 Female Matrix Control Telnet commands supported	
Ethernet	1x LAN: 8-pin RJ-45 Female 10/100 Mbps auto-negotiating Built-in Web UI IP Control	
Power		
Power Supply	100~240V AC 50/60Hz	
Max Power Consumption	27.5W	
Environmental		
Operating Temperature	32°F ~ 113°F (0°C ~ 45°C) 10% ~ 90%, non-condensing	
Storage Temperature	-4°F to ~ 158°F (-20°C ~ +70°C) 10% ~ 90%, non-condensing	
Maximum BTU	94 BTU/hr	
Dimensions and Weight		
Rack Units/Wall Box	1U	
Height	43.5mm/1.72in	
Width	440mm/17.33in	
Depth	300mm/11.82in	
Weight	3.58kg/7.88lbs	
Regulatory		
Safety and Emission	CE FCC RoHS 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.

