

4K UHD HDBaseT™ Matrix Switchers with Included Receivers & Audio Breakout

MX-0404-KIT | MX-0808-KIT | MX-0404-HDBT-H2A-KIT



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 pages 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 these products support CEC for the HDMI outputs, WyreStorm cannot guarantee compatibility with all forms of CEC communication.

In the Box (MX-0x0x-KIT)

- 1x MX-0x0x-KIT Matrix
- 3/6x MX-KIT-RX Receivers
- 1x AC Power Cord (US/UK/EU/AU)
- 1x IR Remote (Battery not Included)

- 4/8x IR Emitters
- 3/6x IR Receivers
- 2x Matrix Mounting Brackets
- 6/12x Receiver Mounting Brackets (2 per RX)
- 1x Quickstart Guide (this document)

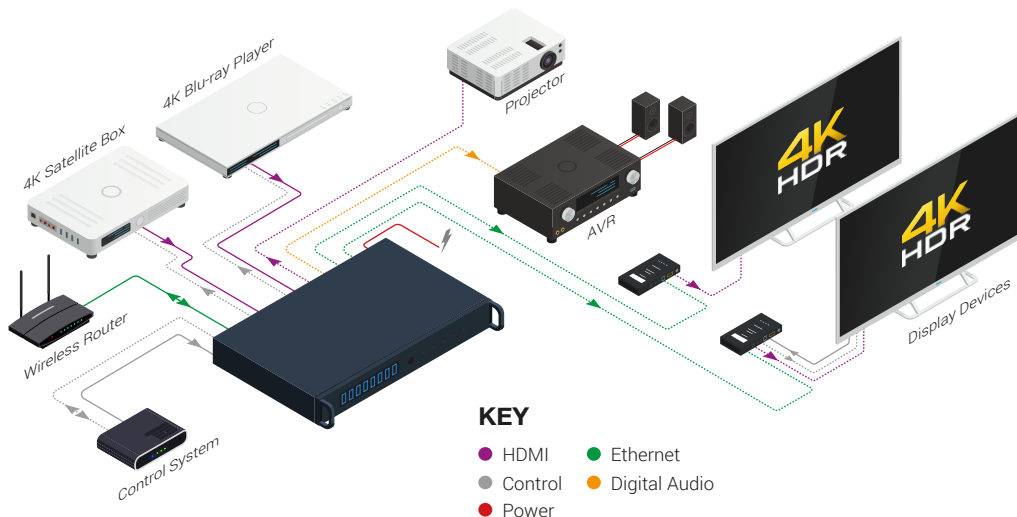
In the Box (MX-0404-HDBT-H2A-KIT)

- 1x MX-0404-HDBT-H2A-KIT HDBaseT Matrix Switcher
- 4x Receivers
- 1x AC Power Cord (US/UK/EU)
- 1x IR Remote (Battery not Included)
- 4x IR Emitters

- 4x IR Receivers
- 1x IR Extension Cable
- 2x Matrix Mounting Brackets
- 8x Receiver Mounting Brackets (2 per RX)
- 1x Quickstart Guide (this document)

! IMPORTANT! The MX-0404-KIT and MX-0808-KIT had the previous model number of EXP-MX-0404-KIT and EXP-MX-0808-KIT. If you would like to access previous documentation for these models, visit wyrestorm.com

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 it's entirety before running or terminating the wires to ensure proper operation and to avoid damaging equipment.

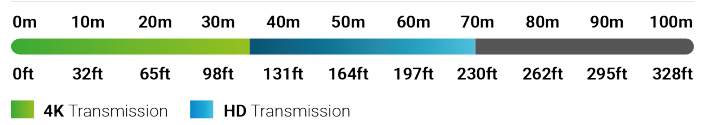
⚠ IMPORTANT! Wiring Guidelines

- 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 the use of shielded category cable to minimize signal noise and interference.
- WyreStorm recommends using pre-terminated HDMI 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.

IR TX/RX Guidelines

- Using WyreStorm infrared emitters and receivers is the best way to ensure that most IR coding formats are transmitted and received by the system. Other 3rd party emitters and 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 NetworkHD 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.

Cat6 Cable Performance Guide



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

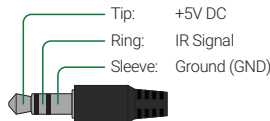
IR TX Port Pinout

Connection for IR TX (transmit) uses a 3.5mm (1/8in) mono plug.



IR RX 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.



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.

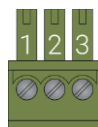
Matrix RS-232 Port



| 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.

Receiver (RX) RS-232 Port



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

Audio Wiring

This matrix contains audio connections for S/PDIF digital.



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.



EDID Settings (MX-0404-KIT/MX-0404-HDBT-H2A-KIT)








EDIDs can be configured to resolve issues with video output on displays that may not accept the maximum resolution available from the source.

- When set to Smart EDID (default) the matrix will scan all selected displays for the lowest resolution to dynamically adjust the source content to allow output on 2K and 4K displays sharing the same source.
- 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.
- Power to the matrix must be cycled (Off/On) after changing dip switches in order for the setting to take effect.



Copying EDIDs

1. Set the EDID dipswitch to the **Front Panel, Web UI or API EDID Control** (all switches up).
2. Reboot the matrix.
3. Using the front navigation buttons, select the input port for the output. Example: Input 2 for Output 2
4. Once the output port indicator blinks, press and hold **Enter** for 5 seconds. **OK** indicates that the copy was successful, **FAIL** indicates that the copy failed.
5. Reboot the matrix

| SmartEDID/Front Panel/Web UI | 4K UHD | 1080p |
|--|--|--|
| SmartEDID - Dynamic EDID Based on Display - 2ch only (default) |  4K @30Hz (8bit only) 2ch with HDR (SmartEDID OFF, HDCP 2.2 Support) |  1080P @60Hz 2.0ch audio (SmartEDID OFF, HDCP 1.4 Support) |
| Front Panel, Web UI, or API Control |  4K @30Hz 2ch with HDR (SmartEDID OFF, HDCP 2.2 Support) |  |
| | 4K@30Hz 5.1ch with HDR (SmartEDID OFF, HDCP 2.2 Support) |  |
| | 4K@30Hz 7.1ch with HDR (SmartEDID OFF, HDCP 2.2 Support) |  |
| | 4K @60Hz 2ch (MX-0404-HDBT-H2A-KIT) |  |

Accessing the Web UI

This matrix is set to a default static IP Address (192.168.11.143). In order to communicate with it initially the PC must be set to a 192.168.11.xxx address with a subnet of 255.255.0.0. This can be changed back once a static IP is set within a different range.

1. Connect the matrix to the same network as a PC.
2. Open a web browser and enter the IP Address of the matrix.
Default: 192.168.11.143 | Password: admin

IP Address Notes

- When set to DHCP the IP address of the unit can be displayed by pressing and holding the front panel Enter and Down buttons 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.

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 matrix and receiver.
- 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 and RS-232 cables are properly terminated following the [Wiring and Connections](#) section.

Troubleshooting Tips:

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

Specifications

| | MX-0404-KIT | | MX-0808-KIT | |
|---|---|---|--|----------------|
| Audio and Video | | | | |
| Inputs | 4x HDMI In: 19-pin type A | 4x HDMI In: 19-pin type A | 8x HDMI In: 19-pin type A | |
| Outputs | 1x HDMI In 19-pin type A 4x HDBaseT 8-pin RJ-45 female 4x S/PDIF Out: RCA Female 4x Analog Audio Out: RCA Female | 4x S/PDIF Out: RCA Female 3x HDBT Out: 8-pin RJ-45 Female 1x HDMI Out: 19-pin type A | 8x Optical Audio Out: Toslink Female 6x HDBT Out: 8-pin RJ-45 Female 2x Switched HDMI Out: 19-pin type A | |
| Output Video Encoding | HDBaseT Class B | | | |
| Encoding Data Rate | 9.2Gbps | | | |
| End to End Latency (Max) | 10µs (micro seconds) | | | |
| Audio Formats | HDMI/HDBaseT: 2ch LPCM Multichannel up to Dolby Atmos and DTS-X S/PDIF: 2ch LPCM Dolby Digital/DTS up to 5.1ch Analog: 2ch Analog | | | |
| Supported Standards | DCI (4096x2160) RGB HDR HDR10 Dolby Vision up to 30Hz HLG BT.2020 BT.2100 | | | |
| Video Resolutions (Max) | Video Resolution | HDMI | Cat6 | Cat6a/7 |
| | 1920x1080p @60Hz 12bit | 15m/49ft | 60m/197ft | 70m/230ft |
| | 1920x1080p @60Hz 16bit | 7m/23ft | 35m/115ft | 40m/131ft |
| | 3840x2160p @24Hz 10bit 4:2:0 HDR | 15m/49ft | 60m/197ft | 70m/230ft |
| | 3840x2160p @30Hz 8bit 4:4:4 | 7m/23ft | 35m/115ft | 40m/131ft |
| | 3840x2160p @60Hz 8bit 4:2:0 | 7m/23ft | 35m/115ft | 40m/131ft |
| | Note: WyreStorm recommends the use of shielded category cable to minimize signal noise and interference | | | |
| Maximum Pixel Clock | HDMI: 600MHz HDBaseT: 297MHz | HDBaseT: 340MHz | HDBaseT: 340MHz | |
| Communication and Control | | | | |
| HDMI | HDMI 2.0 HDCP 2.2 EDID CEC DVI/D supported with adapter (not included) | | | |
| HDBaseT | HDMI 2.0 HDCP 2.2 EDID CEC 1-way PoH Bidirectional IR | | | |
| Consumer Electronics Control (CEC) | CEC power triggering for connected screens – Requires CEC compatibility | | | |
| IR | 1x IR Ext 3.5mm (1/8in) TRS Stereo 4x IR TX 3.5mm (1/8in) TS Mono 4x IR RX 3.5mm (1/8in) Stereo Bidirectional over HDBaseT | 3x IR RX: 3.5mm (1/8in) TRS Stereo 4x IR TX: 3.5mm (1/8in) TS Mono Bidirectional over HDBaseT | 6x IR RX: 3.5mm (1/8in) TRS Stereo 8x IR TX: 3.5mm (1/8in) TS Mono Bidirectional over HDBaseT | |
| RS-232 | 1x RS-232: 9-pin DB9 Female (matrix control only) | 1x RS-232: 9-pin DB9 Female (matrix control only) | 1x RS-232: 9-pin DB9 Female (matrix control only) | |
| Ethernet | 1x LAN: 8-pin RJ-45 Female | 1x LAN: 8-pin RJ-45 Female | 1x LAN: 8-pin RJ-45 Female | |
| Power | | | | |
| Power Supply | 100~240V AC 50/60Hz | 100~240V AC 50/60Hz | 100~240V AC 50/60Hz | |
| PoH | 1-way Matrix to Receiver | | | |
| Max Power Consumption | 54W | 48.2W | 109.5W | |
| 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 | 184.25 BTU/hr | 164 BTU/hr | 374 BTU/hr | |
| Dimensions and Weight | | | | |
| Rack Units/Wall Box | 1U | 1U | 1U | |
| Height | 43.5mm/1.72in | 43.5mm/1.72in | 43.5mm/1.72in | |
| Width | 440mm/17.33in | 440mm/17.33in | 440mm/17.33in | |
| Depth | 300mm/11.82in | 300mm/11.82in | 300mm/11.82in | |
| Weight | 4.06kg/8.93lbs | 4.06kg/8.93lbs | 4.06kg/8.93lbs | |
| Regulatory | | | | |
| Safety and Emission | CE FCC RoHS RCM EAC | | | |

Note: WyreStorm reserves the right to change product specification, appearance or dimensions of this product at any time without prior notice.