

# 4x4 4K UHD HDBaseT (35m/115ft) Matrix with audio breakout, HDCP 2.2 and PoH Receivers

## 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.



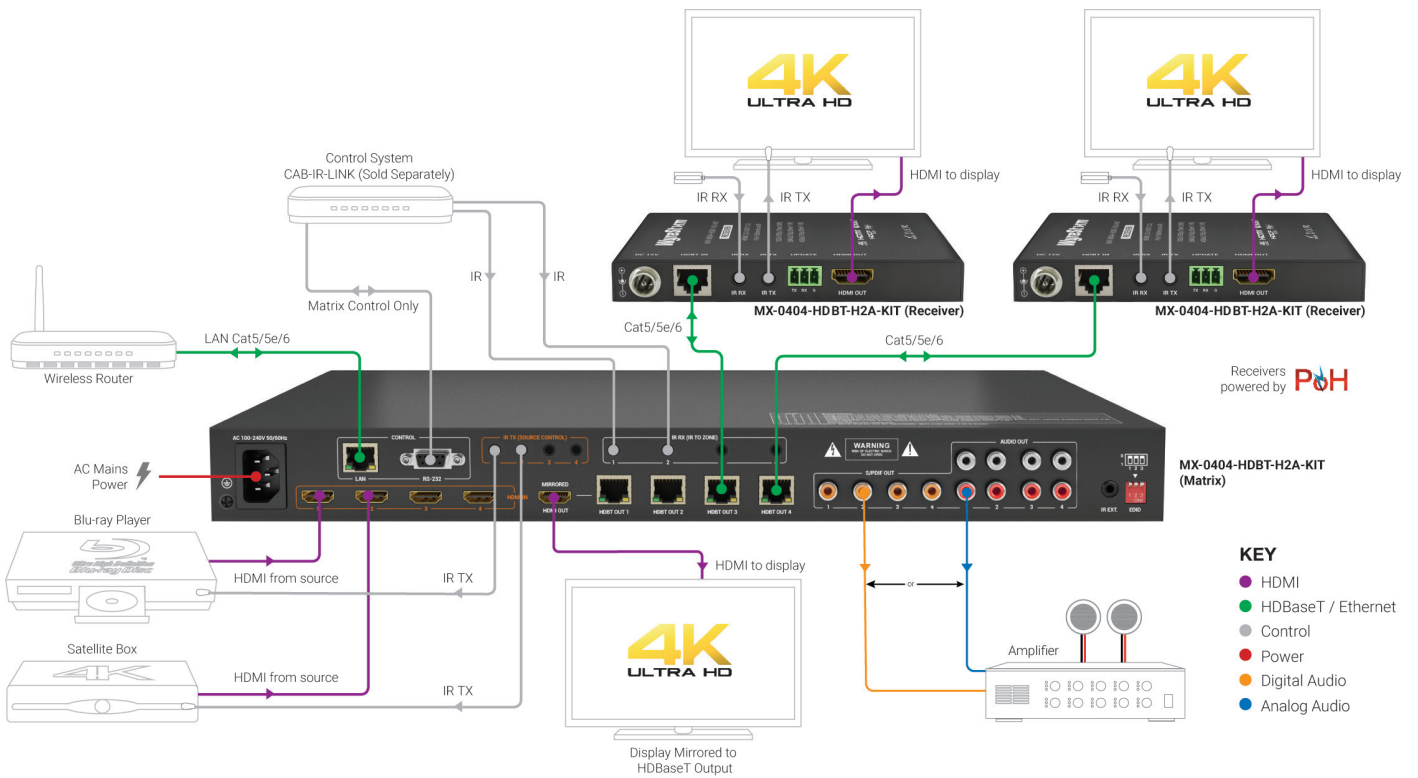
### **!** IMPORTANT! Installation Requirements

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

### In the Box

- 1 x MX-0404-HDBT-H2A-KIT HDBaseT Matrix Switcher
- 4 x HDBaseT PoC display receivers
- 1 x Handheld IR Remote (CR2025 Battery not Included)
- 4 x IR emitters
- 4 x IR Broadband Receiver (30KHz to 50KHz)
- 1 x IR Extension Cable
- 1x AC Power Cord with US Plug
- 1x AC Power Cord with UK Plug
- 1x AC Power Cord with EU Plug
- 2x Mounting Brackets and accessories (matrix)
- 1x Quickstart Guide (this document)

### Basic Wiring Diagram



## Wiring and Connections

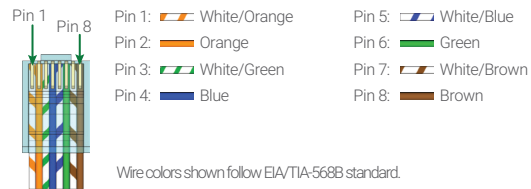
WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in this entirety before running or terminating the wires to ensure proper operation and to avoid damaging equipment.

### 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



### IR TX/RX Wiring

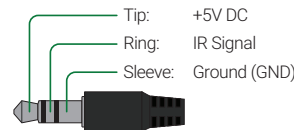
#### **⚠ IMPORTANT! IR TX/RX Guidelines**

- 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 TX Port Pinout

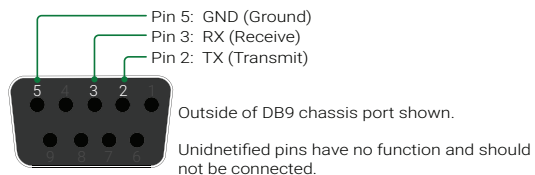


#### IR RX/Ext Port Pinout



### 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.



## EDID Settings

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.
- 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.



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

## 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, FL-2 indicates that the copy failed.
5. Reboot the matrix

**Note:** EDID settings may also be configured using the Web UI. Refer to the [Accessing the Web UI](#) section.

## Accessing the Web UI

**Note:** 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. 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

**Note:** 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 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 3D or 4K, verify that the HDMI cables used are 3D or 4K rated.

### No or Intermittent 3<sup>rd</sup> 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.
- Use a flashlight to locate the IR receiver behind any tinted panels on the device being control

## Specifications

Audio and Video	
<b>Inputs</b>	Matrix: 4x HDMI 19-pin type A female   Receiver: 1x HDBaseT 8-pin RJ-45 female
<b>Outputs</b>	Matrix: 1x HDMI In 19-pin type A female   4x HDBaseT 8-pin RJ-45 female 4x S/PDIF Out RCA Digital Coax   4x Audio Out Stereo Pairs RCA Analog Coax (Audio from Source or HDMI Output) Receiver: 1x HDMI 19-pin type A female
<b>Audio Formats</b>	HDMI/HDBaseT: 2ch PCM   Multichannel: LPCM and Up to DTS-X and Dolby Atmos S/PDIF: 2ch PCM   Multichannel: Up to 5.1 DTS and Dolby Digital Analog: 2ch Analog
<b>Video Resolutions (Max)</b>	<b>HDMI</b> 1920x1080p @60Hz 12bit (15m/50ft)   @60Hz 16bit (7m/23ft) 3840x2160p @30Hz 4:4:4 8bit (7m/23ft)   @24Hz 4:2:0 HDR 10bit per channel (3m/9.8ft) 4096x2160p @60Hz 8bit 4:2:0 (7m/23ft)   @60Hz 8bit 4:4:4 (7m/23ft)
	<b>Using Cat6</b> 1920x1080p @60Hz 12bit (70m/230ft)   16bit (70m/230ft) 3840x2160p @30Hz 4:4:4 8bit (35m/115ft)   @24Hz 4:2:0 HDR 10bit (35m/115ft) 4096x2160p @60Hz 4:2:0 8bit (35m/115ft)
	<b>Using Cat6a/7</b> 1920x1080p @60Hz 12bit (70m/230ft)   @60Hz 16bit (70m/230ft) 3840x2160p @30Hz 4:4:4 8bit (40m/131ft)   @24Hz 4:2:0 HDR 10bit (40m/131ft) 4096x2160p @60Hz 4:2:0 8bit (40m/131ft)
<b>Color Depth</b>	1080p: 16bit   4K UHD: 8bit   HDR @24p: 10bit BT.2020
<b>Maximum Pixel Clock</b>	HDMI: 600MHz   HDBaseT: 297MHz
Communication and Control	
<b>HDMI</b>	HDMI   HDCP 2.2   EDID   DVI-D with adapter (not included)
<b>HDBaseT</b>	HDMI   HDCP 2.2   EDID   CEC   1-way PoC to receiver   Bidirectional IR
<b>Ethernet</b>	Matrix Only: 1x 8-pin RJ-45 female   10/100 Mbps auto-negotiating   Built-in Web UI   IP Control
<b>IR</b>	Matrix: 1x Front Panel IR Sensor   1x IR Ext 3.5mm (1/8in) TRS Stereo   Matrix Control 4x IR TX 3.5mm (1/8in) TS Mono   4x IR RX 3.5mm (1/8in) Stereo   Transmits via HDBaseT Receiver: 1x IR TX 3.5mm (1/8in) TS Mono   1x IR RX 3.5mm (1/8in) TRS Stereo   Transmits via HDBaseT
<b>RS-232</b>	Matrix Only: 1x 9-pin DB9 Female   Matrix Control (Telnet commands supported)
Power	
<b>Power Supply</b>	100~240V AC 50/60Hz
<b>PoC</b>	12V 5W(each HDBT output)
<b>Max Power Consumption</b>	54W
Environmental	
<b>Operating Temperature</b>	32°F ~ 113°F (0°C ~ 45°C)   10% ~ 90%, non-condensing
<b>Storage Temperature</b>	-4°F to ~ 158°F (-20°C ~ +70°C)   10% ~ 90%, non-condensing
<b>Maximum BTU</b>	184.25 BTU/hr
Dimensions and Weight	
<b>Rack Units/Wall Box</b>	Matrix: 1U Receivers: 0.34U
<b>Height With   Without Feet</b>	51.3mm/2.02in   N/A   43.5mm/1.72in   15mm/0.6in
<b>Width With   Without Brackets</b>	482.6mm/19in   N/A   440mm/17.33in   135mm/5.32in
<b>Depth With   Without Handles</b>	N/A   N/A   300.1mm/11.82in   74.2mm/2.93in
<b>Weight</b>	4.06kg/8.93lbs   0.22kg/0.48lbs
Regulatory	
<b>Safety and Emission</b>	CE   FCC   RoHS

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

