

# 6x6/8x8 HDBaseT 4K Matrix with ARC and HDCP 2.2 support (70m/230ft)

MX-0606-HDBT-H2L v2 | MX-0808-HDBT-H2L v2

WyreStorm

## Quickstart Guide

A 6x6 or 8x8 Class A HDBaseT 4K Matrix Switcher with support for 2 or 3 ARC zones, using the latest in HDCP 2.2 encryption technology.

**Note:** The following information applies to version 2 of this product as identified by v2 after the model number on the product label.

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 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.

### Recommended Products

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

- RX-70-4K-ARC HDBaseT Receiver** – Use this receiver when support for ARC functions of outputs 5-6 (6x6) and 6-8 (8x8) is required.
- RX-70-4K HDBaseT Receiver** – Use this receiver for outputs 1-4 (6x6) and 1-5 (8x8) or when ARC is not required.
- CAB-IR-LINK** – Use this cable when using an IR control system for matrix control of HDBaseT pass-through.

### In The Box

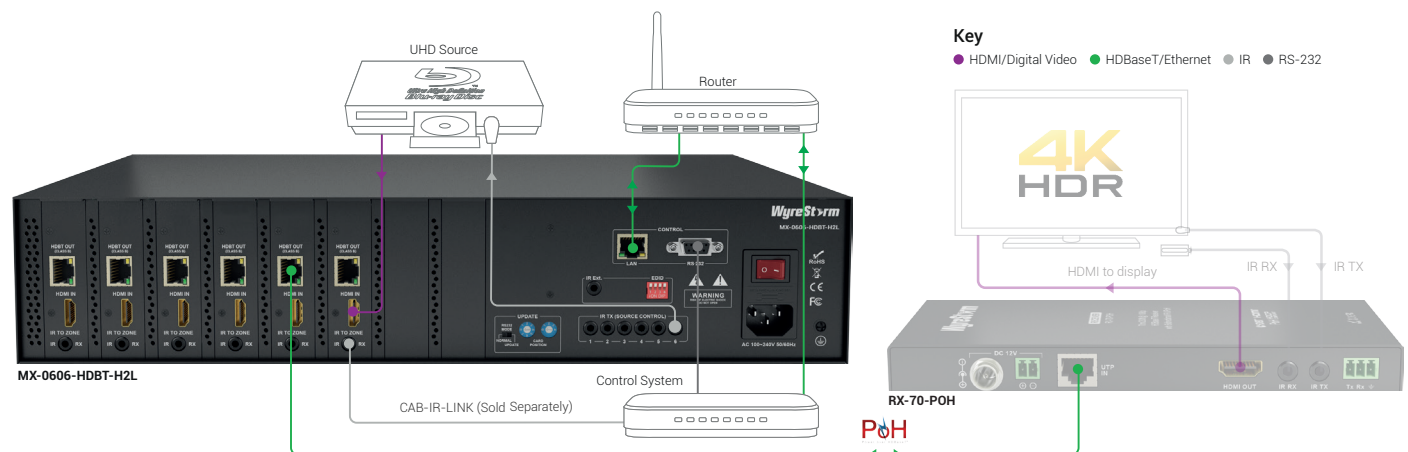
- 1x MX-0606-HDBT-H2L or MX-0808-HDBT-H2L Matrix Switcher
- 1x IR Remote Handset
- 1x IR Receiver (38Khz)
- 6/8x Wide-band IR Receivers (30-50KHz)
- 6/8x IR Emitters
- 1x USB to DB9 RS-232 Cable
- 1x 100~240V AC 50/60Hz Power Cord with US Plug
- 1x 100~240V AC 50/60Hz Power Cord with UK Plug
- 1x 100~240V AC 50/60Hz Power Cord with EU Plug
- 2x Mounting Brackets
- 1x Quickstart Guide (this document)

### Additional Information

This Quickstart Guide provides the basic steps for the common uses of this product. Detailed installation and configuration information may be found in the download tab located on the product page.

- WebUI Reference Guide – Setup for advanced Matrix features such as IP and testing of connections
- H2L Matrix Operation User Guide – Single page document showing the operation via front panel and included IR remote.
- Drivers and API – Preconfigured drivers for popular control systems and API document.

### Basic Wiring Diagram



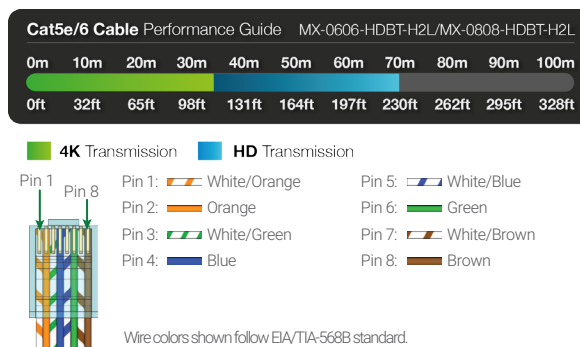
## Wiring and Connections

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.

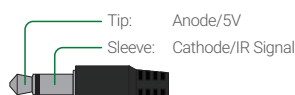


### IR TX/RX Wiring

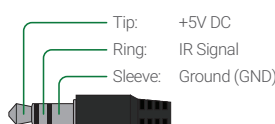
#### ⚠ IMPORTANT! IR TX/RX Guidelines

- 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 [WyreStorm CAB-IR-LINK](#) product page for details.

#### IR TX Port Pinout

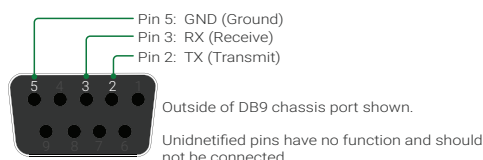


#### IR RX Port Pinout



### 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 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. An **OK** message of the display indicates that the copy was successful, an **FL-2** indicates that the copy failed.
5. Reboot the matrix.

**Note:** EDID Copy feature is not available when Matrix in Smart EDID mode.

SmartEDID/Front Panel/ Web UI	4K UHD	1080p	Standard Video
Smart EDID- Display Lowest Resolution - 2ch only (default)	 4K @60Hz 2ch No HDR	 1080p @60Hz 7.1ch	 1920x1200 2ch
Front Panel, Web UI or API EDID Control	 4K @30Hz 5.1ch With HDR	 1080p @60Hz 5.1ch	 1920x1200 No Audio
	 4K @30Hz 7.1ch With HDR	 1080p @60Hz 2ch	
	 4K @30Hz 2ch With HDR		
	 4K @30Hz 8bit 2ch No HDR		

## Accessing the Web UI

While the matrix will connect to a network out the box, it has a default static IP address that may interfere with other WyreStorm devices on the same network. WyreStorm recommends changing the IP address of the matrix to one other than the default.

1. Connect the matrix and the PC to the same network.
2. Configure the PC to a 192.168.11.xxx IP address with a subnet of 255.255.0.0.
3. Open a web browser and enter the IP Address of the matrix.  
Default: 192.168.11.143 | Password: admin
4. Login to the Installer Section by using the Installer Password  
Default: admin
5. Navigate to Advanced Setting> Network.
6. Change the IP Address to match the range of the network and subnet mask or use DHCP.
7. After updating the matrixes IP Address, configure the PC back to a 192.168.1.xxx IP address with a subnet of 255.255.255.0.

Specifications

Audio and Video	
Inputs	6/8x HDMI 19-pin type A
Outputs	6/8x HDBaseT 8-pin RJ-45 female
Audio Formats	2ch PCM   Up to DTS-X and Dolby Atmos
Output Video Encoding	HDBaseT Class B
Encoding Data Rate	10.2Gbps
End to End Latency	10µs (micro seconds)
Video Resolutions (Max)	<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 (3m/9.8ft)
	<b>Using Cat6</b> 1920x1080p @60Hz 12bit (70m/230ft)   16bit (35m/114ft) 3840x2160p @30Hz 4:4:4 8bit (35m/114ft)   @24Hz 4:2:0 HDR 10bit (35m/114ft) 4096x2160p @60Hz 4:2:0 8bit (35m/114ft)
	<b>Using Cat6a/7</b> 1920x1080p @60Hz 12bit (70m/230ft)   @60Hz 16bit (40m/131ft) 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	
HDMI	HDMI 2.0   HDCP 2.2   EDID   DVI/D supported with adapter (not included)
HDBaseT	HDCP 2.2   EDID   1-way PoH   Bidirectional IR
IR	1x IR Ext - 3.5mm (1/8in) Stereo   Matrix Control 6/8x IR TX - 3.5mm (1/8in) Mono   6/8x IR RX - 3.5mm (1/8in) Stereo   Bidirectional over HDBaseT
RS-232	Matrix Control   Firmware Updates
Power	
Power Supply	Input: 100~240V AC 50/60Hz
PoH	48V 15.4W (each HDBT output)
Max Power Consumption	120W
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	409.4 BTU/hr
Dimensions and Weight	
Rack Units/Wall Box	2U
Height With   Without Feet	95.7mm/3.7in   87.7mm/3.4in
Width With   Without Rack Ears	487.2mm/19in   438mm/17.1in
Depth With   Without Handles	423.7mm/16.5in   397.5mm/15.5in
Weight	8.2kg/18.04lbs
Regulatory	
Safety and Emission	CE   FCC   RoHS

Troubleshooting

No or Poor Quality Picture (snow or noisy image)

- Verify that power is being supplied to 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 supports 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 and/or 4K rated.

No or Intermittent Matrix or 3<sup>rd</sup> party Device Control

- Verify that IR cable(s) are 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 controlled.

Warranty Information

This product is covered by a 3 year limited parts and labor warranty. During this period there will be no charge for unit repair, component replacement or complete product replacement in the event of malfunction. The decision to repair or replace will be made by the manufacturer. This limited warranty only covers defects in materials or workmanship and excludes normal wear and tear or cosmetic damage. Visit the product page located at [wyrestorm.com](#) for additional information on this product including important technical information not provided in this document and warranty terms & conditions.

