


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

MX-0606-HDBT-H2C | MX-0808-HDBT-H2C

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

- 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

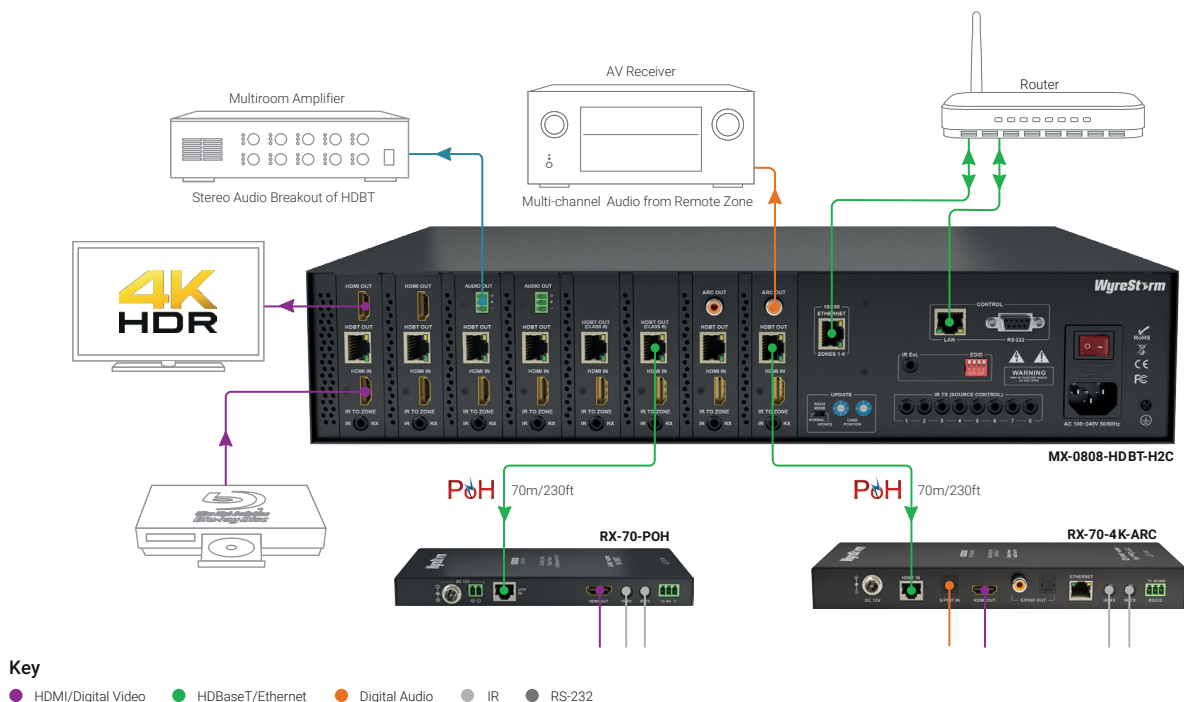
- 1x MX-0606-HDBT-H2C or MX-0808-HDBT-H2C Matrix Switcher
- 1x IR Remote Handset
- 1x IR Receiver (38Khz)
- 6/8x Wide-band IR Receivers (30-50KHz)
- 6/8x IR Emitters
- 1x USB to DB9 RS-232 Cable
- 1x 100~240V AC 50/60Hz Power Cord with US Plug
- 1x 100~240V AC 50/60Hz Power Cord with UK Plug
- 1x 100~240V 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
- H2C 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

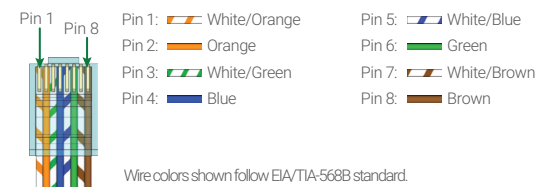
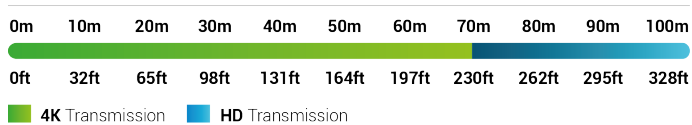
WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in this entirety before running or terminating the wires to ensure proper operation and to avoid damaging equipment.

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.

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

IR TX Port Pinout

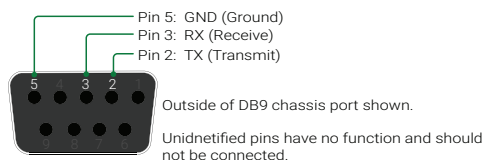


IR RX Port Pinout



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

- An EDID 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 SmartEDID (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 an EDID 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 and EDID

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
SmartEDID 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 IP Address, configure the PC back to a 192.168.1.xxx IP address with a subnet of 255.255.255.0.

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 3rd 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.

Specifications

Audio and Video		
Inputs	Up to 8x HDMI In: 19-pin type A	
Outputs	All cards: Up to 8x HDBaseT 8-pin RJ-45 female Plus Up to 8x of the following card dependent connections: TX-H2-MIR: HDMI 19-pin type A female TX-H2-ARC: Audio Out Digital coaxial S/PDIF TX-H2-AUD: Audio Out 3pin Phoenix Connector	
Output Video Encoding	TX-H2-MIR/ARC/AUD: HDBaseT Class A TX-H2-CLB: HDBaseT Class B	
Encoding Data Rate	9.2Gbps	
End to End Latency	<1 frame 10µs (micro seconds)	
Audio Formats	All Cards HDMI/HDBaseT: 2ch PCM Multichannel: LPCM and Up to DTS-X and Dolby Atmos TX-H2-AUD adds 2ch Analog Output TX-H2-ARC S/PDIF: 2ch PCM Multichannel: Up to 5.1 DTS and Dolby Digital	
Video Resolutions (Max)	All Cards HDMI 1920x1080p @60Hz 12bit (15m/50ft) @60Hz 16bit (7m/23ft) 3840x2160p @30Hz 4:4:4 8bit (7m/23ft) @24Hz 4:2:0 HDR 10bit (3m/9.8ft) 4096x2160p @60Hz 4:2:0 8bit (7m/23ft) @60Hz 4:4:4 8bit (7m/23ft)	
	TX-H2-MIR/ARC/AUD	TX-H2-CLB
	Cat6 1920x1080p @60Hz 12bit (100m/328ft) 1920x1080p @60Hz 16bit (70m/230ft) 3840x2160p @30Hz 4:4:4 8bit (70m/230ft) 3840x2160p @24Hz 4:2:0 HDR 10bit (70m/230ft) 4096x2160p @60Hz 4:2:0 8bit (70m/230ft)	Cat6 1920x1080p @60Hz 12bit (70m/230ft) 1920x1080p @60Hz 16bit (35m/114ft) 3840x2160p @30Hz 4:4:4 8bit (35m/114ft) 3840x2160p @24Hz 4:2:0 HDR 10bit (35m/114ft) 4096x2160p @60Hz 4:2:0 8bit (35m/114ft)
	Cat6a/7 1920x1080p @60Hz 12bit (100m/328ft) 3840x2160p @30Hz 4:4:4 8bit (100m/328ft) 3840x2160p @24Hz 4:2:0 HDR 10bit (100m/328ft) 4096x2160p @60Hz 4:2:0 8bit (100m/328ft)	Cat6a/7 1920x1080p @60Hz 12bit (70m/230ft) 1920x1080p @60Hz 16bit (70m/230ft) 3840x2160p @30Hz 4:4:4 8bit (70m/230ft) 3840x2160p @24Hz 4:2:0 HDR 10bit (70m/230ft) 4096x2160p @60Hz 4:2:0 8bit (70m/230ft)
Color Depth	1080p: 16bit 4K UHD: 8bit HDR @24p: 10bit BT.2020	
Maximum Pixel Clock	HDMI: 600mHz HDBaseT: 297MHz	
Communication and Control		
HDMI	HDMI HDCP 2.2 EDID DVI-D supported with adapter (not included)	
HDBaseT	HDMI HDCP 2.2 1-way PoH to Receiver IR RX to Zone Ethernet to Zone from Chassis (Except CLB) TX-H2-ARC adds ARC (Audio Return Channel) from Zone	
Ethernet	1x 8-pin RJ-45 female 10/100 Mbps auto-negotiating Web UI IP Control Bidirectional over HDBaseT except when using TX-H2-CLB	
IR	1x IR Ext - 3.5mm (1/8in) TRS Stereo Matrix Control 8x IR TX - 3.5mm (1/8in) TS Mono Up to 8x IR RX - 3.5mm (1/8in) TRS Stereo Transmits over HDBaseT to receiver	
RS-232	1x RS-232: 9-pin DB9 Female Matrix Control Firmware Updates	
ARC (Audio Return Channel)	Up to 8x using TX-H2-ARC only Returns audio to source location from remote display via HDBaseT	
Power		
Power Supply	Input: 100~240V AC 50/60Hz	
PoH	48V 15.4W (each HDBT output)	
Max Power Consumption	120W	
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	MX-0606-HDBT-H2C: 409.4 BTU/hr MX-0808-HDBT-H2C: 477.6 BTU/hr	
Dimensions and Weight		
Rack Units/Wall Box	2U	
Height	87.7mm/3.46in	
Width	438mm/17.25in	
Depth	396mm/15.6in	
Weight	MX-0606-HDBT-H2C: 8.2kg/18.04lbs MX-0808-HDBT-H2C: 8.48kg/18.66lbs	
Regulatory		
Safety and Emission	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 for more details on our limited product warranty.

