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 MXV-0404-H2A-KIT Matrix
- 4x MXV-0404-H2A-KIT Receivers
- 1 x AC Power Cord with EU pins
- 1 x AC Power Cord with US pins
- 1 x AC Power Cord with UK pins
- 1 x AC Power Cord with AU pins
- 1x IR Remote
- 4x IR Emitter
- 4x IR Receiver
- 1x IR Receiver for Matrix IR Ext.
- 2x Matrix Mounting Brackets with screws
- 8x Receiver Mounting Brackets with screws (2 per RX)
- 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 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 NetworkHD 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.

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 functionally to ensure that the correct connections can be made.

Matrix RS-232 Port

Receiver (RX) RS-232 Port

Audio Wiring
This matrix contains audio connections for Analog Audio as well as S/PDIF digital.

Analog Audio

S/PDIF Digital Coax Audio
Setup and Configuration

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. OK indicates that the copy was successful, FAIL indicates that the copy failed.
5. Reboot the matrix

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

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 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

### Audio and Video

**Matrix**

<table>
<thead>
<tr>
<th>Audio and Video</th>
<th>Matrix</th>
<th>Receiver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inputs</td>
<td>4x HDMI In: 19-pin type A</td>
<td>1x HDBT In: 8-pin RJ-45 Female</td>
</tr>
<tr>
<td>Outputs</td>
<td>4x Audio Out: RCA Female Stereo (L/R)</td>
<td>1x HDMI Out: 19-pin type A</td>
</tr>
<tr>
<td></td>
<td>4x S/PDIF Out: RCA Female</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4x HDBT Out: 8-pin RJ-45 Female</td>
<td></td>
</tr>
<tr>
<td>Output Video Encoding</td>
<td>HDBaseT Class B</td>
<td></td>
</tr>
<tr>
<td>Encoding Data Rate</td>
<td>9.2Gbps</td>
<td></td>
</tr>
<tr>
<td>End to End Latency (Max)</td>
<td>10μs (micro seconds)</td>
<td></td>
</tr>
</tbody>
</table>

### Video Formats

<table>
<thead>
<tr>
<th>Analog</th>
<th>S/PDIF</th>
<th>Dolby Digital/DTS up to 5.1ch</th>
<th>HDMI: 2ch LPCM</th>
<th>Multichannel up to Dolby Atmos and DTS-X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio</td>
<td>LPCM</td>
<td>Dolby Digital/DTS up to 5.1ch</td>
<td>HDMI: 2ch LPCM</td>
<td>Multichannel up to Dolby Atmos and DTS-X</td>
</tr>
</tbody>
</table>

### Video Resolutions (Max)

<table>
<thead>
<tr>
<th>Video Resolution</th>
<th>HDMI</th>
<th>Cat6</th>
<th>Cat6a/7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920x1080p @60Hz 12bit</td>
<td>15m/49ft</td>
<td>60m/197ft</td>
<td>70m/230ft</td>
</tr>
<tr>
<td>1920x1080p @60Hz 16bit</td>
<td>7m/23ft</td>
<td>35m/115ft</td>
<td>40m/131ft</td>
</tr>
<tr>
<td>3840x2160p @24Hz 10bit 4:2:0 HDR</td>
<td>3m/10ft</td>
<td>35m/115ft</td>
<td>40m/131ft</td>
</tr>
<tr>
<td>3840x2160p @30Hz 8bit 4:4:4</td>
<td>7m/23ft</td>
<td>35m/115ft</td>
<td>40m/131ft</td>
</tr>
<tr>
<td>3840x2160p @60Hz 10bit 4:2:0 HDR</td>
<td>3m/10ft</td>
<td>35m/115ft</td>
<td>40m/131ft</td>
</tr>
<tr>
<td>4096x2160p @60Hz 8bit 4:2:0</td>
<td>7m/23ft</td>
<td>35m/115ft</td>
<td>40m/131ft</td>
</tr>
<tr>
<td>4096x2160p @60Hz 8bit 4:4:4</td>
<td>3m/10ft</td>
<td>35m/115ft</td>
<td>40m/131ft</td>
</tr>
</tbody>
</table>

### Supported Standards

<table>
<thead>
<tr>
<th>DVI</th>
<th>HDCP 2.2</th>
<th>EDID</th>
<th>CEC</th>
<th>DVI/D supported with adapter (not included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDMI 2.0</td>
<td>HDCP 2.2</td>
<td>EDID</td>
<td>CEC</td>
<td>1-way PoH</td>
</tr>
<tr>
<td>CEC</td>
<td>CEC power triggering for connected screens – Requires CEC compatibility</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Power Supply

| 1-way Matrix to Receiver | 8W with External PSU each receiver |
| 85W with 4 RXs connected via PoH | 12.5W via PoH each receiver |

### 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/hr | 28 BTU/hr with External PSU each receiver |
| 290 BTU/hr | 43 BTU/hr via PoH each receiver |

### Dimensions and Weight

| Rack Units/Wall Box | 1U | <1U |
| Height | 43.5mm/1.72in | 15.2mm/0.6in |
| Width | 440mm/17.33in | 136.4mm/5.38in |
| Depth | 300mm/11.82in | 74.2mm/2.93in |
| Weight | 4.06kg/8.93lbs | 0.24kg/0.53lbs |

### Regulatory

| 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.

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