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 RXV-70-4K-ARC Receiver
- 1x IR Emitter
- 1x IR Receiver
- 1x 3-pin Terminal Block
- 2x Mounting Brackets
- 1x Quickstart Guide (this document)

**Basic Wiring Diagram**

**KEY**
- HDMI
- HDBaseT / Ethernet
- Digital Audio
- Audio Return Channel

Note: HDMI or S/PDIF I/O available for audio return
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 VGA, HDMI, and DP 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.

- **Tip**: Anode
- **Sleeve**: Cathode (IR Signal)

**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.

- **Tip**: +5V DC
- **Ring**: IR Signal
- **Sleeve**: Ground (GND)

RS-232 Wiring

The RXV-70-4K-ARC uses a 3-pin RS-232 with no hardware flow control. 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.

<table>
<thead>
<tr>
<th>WyreStorm Connector</th>
<th>3rd Party Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 1 TX (Transmit)</td>
<td>--- To --- RX (Receive)</td>
</tr>
<tr>
<td>Pin 2 RX (Receive)</td>
<td>--- To --- TX (Transmit)</td>
</tr>
<tr>
<td>Pin 3 G (Ground)</td>
<td>--- To --- G (Ground)</td>
</tr>
</tbody>
</table>

Audio Wiring

This receiver contains audio connections for S/PDIF TOSLINK (Digital Optical) input. Due to the nature of optical cables we recombed using pre-terminated cables for this connection.
Setup and Configuration

ARC and Audio In Settings
The audio returned to the matrix can be configured to be either from the displays HDMI ARC channel or the S/PDIF In on the receiver. Set the switch on the front of the receiver accordingly.

Set the switch to **ARC** to send the audio returned from the display connected to the receivers HDMI Out via Audio Return Channel back to the matrix.

Set the switch to the **S/PDIF In** to send audio from the receivers S/PDIF In back to the matrix.

EDID Configuration
This receiver uses EDID pass-through from the display to the source. No configuration is required for EDID settings.

Troubleshooting

**No or Poor Quality Picture (snow or noisy image)**
- Verify that power is being supplied to the transmitter and receiver.
- 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 extender.
- If transmitting 3D or 4K, verify that the HDMI cables used are 3D or 4K rated.
- Verify that all source and HDBaseT connections are not loose and are functioning properly.

**No or Intermittent 3rd party Device Control**
- Verify that the RS-232/Ethernet cables are properly terminated.
- Verify that emitters/receivers are compatible with WyreStorm IR.
- If using an IR control system, verify that it is connected using the CAB-IR-LINK cable.
### Audio and Video

**Inputs**
- 1x S/PDIF In: TOSLINK (Digital Optical)
- 1x HDBT In: 8-pin RJ-45 Female

**Outputs**
- 1x HDMI Out: 19-pin type A

**Video Encoding**
- HDBaseT Class A

**Encoding Data Rate**
- 10Gbps

**End to End Latency (Max)**
- 10μs (micro seconds)

**Audio Formats**
- 2ch PCM | Multichannel: LPCM and Up to DTS-X and Dolby Atmos

### 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>100m/328ft</td>
<td>100m/328ft</td>
</tr>
<tr>
<td>3840x2160p @24Hz 10bit 4:2:0 HDR</td>
<td>7m/23ft</td>
<td>7m/23ft</td>
<td>7m/23ft</td>
</tr>
<tr>
<td>3840x2160p @30Hz 8bit 4:4:4</td>
<td>7m/23ft</td>
<td>7m/23ft</td>
<td>7m/23ft</td>
</tr>
<tr>
<td>3840x2160p @60Hz 10bit 4:2:0 HDR</td>
<td>5m/16ft</td>
<td>7m/23ft</td>
<td>7m/23ft</td>
</tr>
<tr>
<td>3840x2160p @60Hz 12bit 4:2:2 HDR</td>
<td>3m/10ft</td>
<td>7m/23ft</td>
<td>7m/23ft</td>
</tr>
<tr>
<td>4096x2160p @60Hz 8bit 4:2:0</td>
<td>7m/23ft</td>
<td>7m/23ft</td>
<td>7m/23ft</td>
</tr>
<tr>
<td>4096x2160p @60Hz 8bit 4:4:4</td>
<td>3m/10ft</td>
<td>7m/23ft</td>
<td>7m/23ft</td>
</tr>
</tbody>
</table>

Note: WyreStorm recommends the use of shielded category cable to minimize signal noise and interference.

### Supported Standards
- DCI | RGB | HDR | HDR10 | Dolby Vision up to 30Hz | HLG | BT.2020 | BT.2100

### Maximum Pixel Clock
- HDMI: 600MHz | HDBaseT: 297MHz

### Communication and Control

**HDMI**
- HDCP 2.2 | EDID | CEC | DVI-D supported with adapter (not included)

**HDBaseT**
- HDMI | HDCP 2.2 | EDID | CEC | 1-way PoH to Receiver | Bidirectional IR

**CEC**
- Power Triggering from Matrix | Requires CEC Compatibility at Display

**Ethernet**
- 1x Ethernet: 8-pin RJ-45 Female | Bidirectional over HDBaseT

**IR**
- 1x IR RX 3.5mm (1/8in) TRS Stereo | 1x IR TX: 3.5mm (1/8in) TS Mono | Bidirectional over HDBaseT

**RS-232**
- 1x RS-232: 3-pin Phoenix | Bidirectional over HDBaseT

**ARC (Audio Return Channel)**
- Supports True ARC (via HDMI) or S/PDIF optical return from display to the matrix over HDBaseT

### Power

**Power Supply**
- 18V DC (Optional)

**PoH**
- 48V 15.4W

**Max Power Consumption**
- 12.5W

### 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**
- 43 BTU/hr

### Dimensions and Weight

**Rack Units/Wall Box**
- <1U

**Height**
- 21mm/0.83in

**Width**
- 195mm/7.68in

**Depth**
- 94.8mm/3.74in

**Weight**
- 0.4kg/0.88lbs

### Regulatory

**Safety and Emission**
- CE | FCC | RoHS | RCM

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**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.