



# RED-EXT-4K-HDMI

Product Manual

## HDMI Extender

40M 4K30 4:4:4



# Introduction

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The **RED-EXT-4K-HDMI** is an HDMI extender featuring GSC Extension technology, allowing for the extension of 4K HDMI signals up to 40 meters. Equipped with Bi-directional POC and IR extension, the **RED-EXT-4K-HDMI** makes extension easy by transmitting video, control, and power over a single piece of Category cable

## Features:

- HDMI 1.4
- Max Resolution 4K30 4:4:4
- HDCP 1.X/2.2 Support
- CEC Pass-Through
- Up to 40 meters (Cat6a) at 4K
- Up to 70 meters (Cat6a) at 1080p
- Bi-Directional POC
- 12V IR Support
- Supports audio formats up to uncompressed LPCM 7.1, Dolby TrueHD (including Atmos), and DTS (up to DTS:X)

## Specifications

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### Video:

- Video Resolutions: Up to 4K30 4:4:4
- VESA Resolutions: Up to 4096X2160 (DCI 4K)
- Chroma Supported: 4:4:4, 4:2:2, 4:2:0, RGB (Limited and Full)
- Deep Color: Up to 16 Bit (1080p) Up to 12 Bit (4K)

### Audio:

- LPCM (Up to 192KHz 24 bit): 2.0, 5.1, 7.1
- Dolby: Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos
- DTS: DTS 6.1 ES, DTS HRA, DTS Master Audio, DTS:X

### GSC Distance (CAT 6A):

- 4K Resolutions: 40 meters (131 feet)
- 1080p Resolutions: 70 meters (230 feet)

### Dimensions:

- Block Size: 4" x 2.75" x .75" (WxLxH) each

### Included in the Box:

- Transmitter
- Receiver
- IR Receiver
- IR Emitter
- Power cord
- Mounting brackets

# Panel Descriptions

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## Transmitter Front Panel:

- SERVICE USB input — For service & firmware updates only; **Do not use.**
- IR Transmitter input
- IR Receiver input
- HDMI IN input
- SYNC LED
  - Light On — HDMI Source is Active on the HDMI input
  - Light Off — HDMI Source is not Active, or HDMI input does not sense active HDMI Source



## Transmitter Back Panel:

- AV-LINK OUT category cable input
- ACTIVITY LED
  - Light On — Transmitter is sending the signal to the Receiver
  - Light Off — Transmitter is not sending a signal
- DC/12V — power supply input
- Power LED
  - Light On — Power Supply/POC Connected and Unit is operating
  - Light Off — Power Supply is not connected, or no power is present

# Panel Descriptions

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## Receiver Front Panel:

- SERVICE USB input — For service & firmware updates only; **Do not use.**
- IR Transmitter input
- IR Receiver input
- HDMI OUT input
- SYNC LED
  - Light On — HDMI Source is Active on the HDMI input
  - Light Off — HDMI Source is not Active, or HDMI input does not sense active HDMI Source



## Receiver Back Panel:

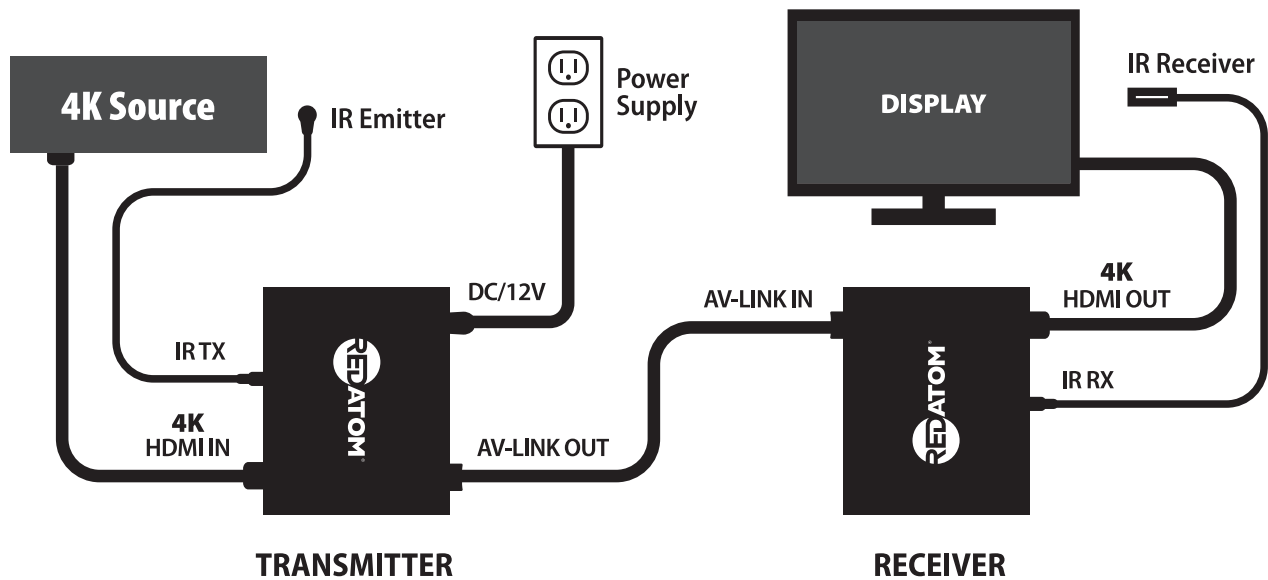
- AV-LINK IN category cable input
- ACTIVITY LED
  - Light On — Receiver has an active signal from the Transmitter
  - Light Off — Receiver does not have an active signal from the Transmitter
- DC/12V — power supply input
- Power LED
  - Light On — Power Supply/POC Connected and Unit is operating
  - Light Off — Power Supply is not connected, or no power is present

# Connections and Operations

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1. Connect an HDMI input source into the RED-EXT-4K-HDMI Transmitter HDMI IN input
2. Connect an HDMI from a display into the RED- EXT-4K-HDMI Receiver HDMI OUT input
3. Connect a single Category 5e/6/7 cable to the Transmitter AV-LINK OUT input, then connect the other end of the category cable to the Receiver AV-LINK IN input
4. Insert the DC end of the power supply into either the Transmitter or the Receiver of the RED- EXT-4K-HDMI — the opposite unit does not need to be plugged in as it features Power over Cable (PoC)
5. The units automatically power up when plugged in

## Connection Diagram:



## IR Configuration

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IR communication can be sent two ways:

1. Downstream (from Transmitter)
  - a. Plug an IR Receiving Eye directly into the IR RX port of the Transmitter to pass infrared signals to the IR TX port on the Receiver
  - b. Connect an IR Emitter or Direct IR Input to the IR TX port of the Receiver
2. Upstream (from Receiver)
  - a. Plug an IR Receiving Eye into the IR RX port of the Receiver to pass infrared signals to the IR TX port on the Transmitter
  - b. Connect an IR Emitter or Direct IR Input to the IR TX Port of the Transmitter

# Troubleshooting

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## **TRANSMITTER**

### **No power LED**

- Ensure power supply unit is sending proper voltage
- If using POC, ensure that the unit sending POC is connected to power
- If using POC, try powering the unit directly to ensure unit operates stand alone

### **No HDMI LED**

- Plug Source directly into Display to ensure operability
- Change the resolution of the source device to 1080p or 4K30 (No HDR)
- Set a canned EDID; Source may require power cycle
- Swap HDMI cable between Transmitter and Source
  - *HDMI Handshakes with cables under 2 meters may not sync properly*

## **RECEIVER**

### **No power LED**

- Ensure power supply unit is sending proper voltage
- If using POC, ensure that the unit sending POC is connected to power
- If using POC, try powering the unit directly to ensure unit operates stand alone

### **No HDMI LED**

- Plug Source directly into Display to ensure operability
- Change the resolution of the source device to 1080p or 4K30 (No HDR)
- Set a canned EDID; Source may require power cycle
- Swap HDMI cable between Receiver and Source
  - *HDMI Handshakes with cables under 2 meters may not sync properly*

## **IR TRANSMISSION**

- The Visible IR Emitters can be used to ensure signal is being sent from one point to the other

# Warranty Information

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- This warranty applies to US Residents who purchase from an authorized RED ATOM Dealer. RED ATOM media distribution products are covered against defects in materials and workmanship for 1 year from date of purchase.
- Within the warranty period, RED ATOM will repair or replace the defective component or product, at its sole discretion.
- **For warranty service:**
  - For RED ATOM media distribution products that were professionally installed, contact your installer directly.
  - For all other service requests, contact RED ATOM at [info@redatomproducts.com](mailto:info@redatomproducts.com).
- For all warranty service requests, you must supply a copy of your original receipt and installation service order if applicable. If your product must be shipped to RED ATOM for inspection, you will be responsible for the shipping charges. For warranty replacements, RED ATOM will ship product back to you for free.
- RED ATOM disclaims any liability for modifications, improper installations, accidental damage, or failure to follow care instructions provided by RED ATOM. To the maximum extent permitted by law, RED ATOM disclaims any other warranties, expressed or implied, including warranties of fitness for a particular purpose and warranties of merchantability. RED ATOM will not be liable for any damages arising out of the use of, or inability to use, RED ATOM. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Specifications are subject to change without prior notice.



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