

## Omega™ 4K/UHD HDMI Over HDBaseT Receiver with USB, Control, and PoE AT-OME-EX-RX



The Atlona **AT-OME-EX-RX** is an HDBaseT receiver for video up to 4K/60 4:2:0, plus embedded audio, control, Ethernet, and USB over distances up to 330 feet (100 meters). Part of the Omega™ Series of integration products for modern AV communications and collaboration, the OME-EX-RX is HDCP 2.2 compliant and receives IR, RS-232, and IP control signals. With a matching HDBaseT transmitter, the integrated USB extension is ideal for software video conferencing and the use of touch or interactive displays. The OME-EX-RX includes two USB interfaces for devices such as a camera or display. This receiver is ideal for use with Omega Series transmitters as well as switchers with HDBaseT outputs. Also available is the OME-EX-KIT which includes the OME-EX-TX and OME-EX-RX.\*

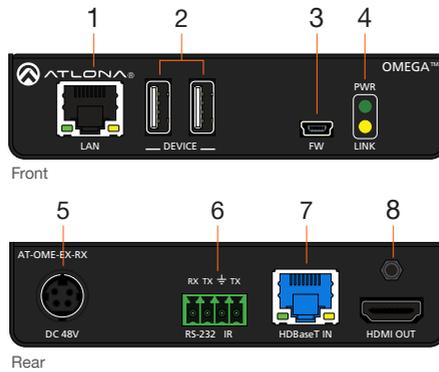
### Package Contents

- 1 x AT-OME-EX-RX
- 1 x Captive screw connectors, 4-pin
- 2 x Mounting plates
- 4 x Mounting screws
- 1 x 48 V DC power supply
- 1 x Installation Guide



**IMPORTANT:** Visit <http://www.atlona.com/product/AT-OME-EX-RX> for the latest firmware updates and User Manual.

\* The AT-OME-EX-RX is not compatible with the AT-UHD-HDVS-300 system for extending USB.



## 1 LAN

Connect a category cable from this port to the display (sink) device. This cable provides IP pass-through transport control to the display (sink) device, from a control system connected to the transmitter.

## 2 DEVICE

Connect up to two USB 2.0 devices (e.g. mouse, keyboard, etc.) to these ports. These ports provide 2.5 W per USB device.

## 3 FW

Connect a mini USB-to-USB cable from this port, to a computer, to update the firmware. Refer to [Updating the Firmware \(page 10\)](#) for more information.

## 4 PWR / LINK

The **PWR** LED indicator will glow green when the AT-OME-EX-RX is powered. The **LINK** LED indicator glows yellow when a solid link is established between the transmitter and the AT-OME-EX-RX. Refer to [LED Indicators \(page 5\)](#) for more information.

## 5 DC 48V

Connect the included 48 V DC power supply to this power receptacle.

## 6 RS-232 / IR

Connect the included 4-pin captive screw block to this receptacle. Refer to [RS-232 and IR \(page 3\)](#) for more information.

## 7 HDBaseT IN

Connect a category cable from this port to the **HDBaseT OUT** port of the AT-OME-EX-TX or other PoE-compatible transmitter.

## 8 HDMI OUT

Connect an HDMI cable from this port to the display (sink) device.

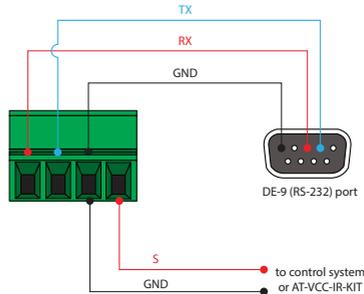
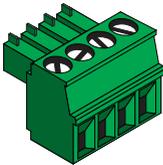
## RS-232 and IR

The AT-OME-EX-RX provides pass-through transport of RS-232 protocol and/or IR over HDBaseT, which allows communication between a control system and an RS-232 or IR device. This step is optional.

1. Use wire strippers to remove a portion of the cable jacket.
2. Remove at least 3/16" (5 mm) from the insulation of the RX, TX, and GND wires for the RS-232 connection.
3. Insert the TX, RX, and GND wires into correct terminal using one of the included 4-pin captive screw connectors.
4. Repeat step 2 for the S and GND wires for the IR connection.
5. Insert the S (signal) wire in to the TX terminal and the ground wire to the GND terminal.
6. Tighten the captive screws to secure the wires in place. Do not over-tighten or use high-torque devices to prevent damage to the connector block.

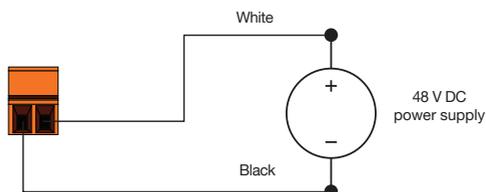


**NOTE:** Typical DB9 connectors use pin 2 for TX, pin 3 for RX, and pin 5 for ground. On some devices functions of pins 2 and 3 are reversed. Note that the signal (S) pin for the IR is labeled as "TX" on the port.



## Power

1. Locate the included orange captive-screw block, and loosen the screws to allow room to insert the copper wiring.
2. Wire the included power supply to the block, as shown below. Do not use high-torque devices, when securing the wires to the captive-screw terminal block, as this may damage the screws and/or block.



## Installation

1. Connect a UHD/HD display to the **HDMI OUT** port.
2. Connect up to two USB devices (mouse, keyboard, etc.) to the **DEVICE** ports. These ports provide 2.5 W per USB device.
3. Connect a category cable, from the **HDBaseT IN** port on the AT-OME-EX-RX, to the **HDBaseT OUT** port on the transmitter.
4. OPTIONAL: Connect an Ethernet cable from the **LAN** port on the AT-OME-EX-RX, to the display (sink) device. This cable provide IP pass-through transport control from a control system to the display (sink) device connected to the AT-OME-EX-RX.
5. OPTIONAL: Connect the RS-232 device to the **RS-232** port on the AT-OME-EX-RX. Refer to [RS-232 and IR \(page 3\)](#) for more information.
6. OPTIONAL: Connect the included IR emitter to the IR port on the AT-OME-EX-RX. Refer to [RS-232 and IR \(page 3\)](#) for more information.
7. Connect the included 48 V DC power supply to the **DC 48V** power receptacle on the transmitter.
8. Connect the power supply to an available AC outlet.

## Cable Recommendation Guidelines

Refer to the tables below for recommended cabling when using Altona products with HDBaseT. The green bars indicate the signal quality when using each type of cable. Higher-quality signals are represented by more bars.

Core	Shielding	CAT5e	CAT6	CAT6a	CAT7
Solid	UTP (unshielded)				N/A
	STP (shielded)				



**IMPORTANT:** Stranded or patch cables are not recommended due to performance issues.

Cable*	Max. Distance @ 4K	Max. Distance @ 1080p
CAT5e	295 feet (90 meters)	330 feet (100 meters)
CAT6 / CAT6a / CAT7	330 feet (100 meters)	330 feet (100 meters)

\*Altona recommends TIA/EIA 568-B termination for optimal performance.

## LED Indicators

The **PWR** and **LINK** LED indicator provide basic information on the current status of the AT-OME-EX-RX.

PWR		Description
Solid green		AT-OME-EX-RX is powered.
Off		AT-OME-EX-RX is not powered. <ul style="list-style-type: none"> <li>Verify that the locking connector is securely fastened to the power receptacle.</li> <li>Make sure that the power supply is connected to an active AC outlet.</li> </ul>

LINK		Description
Solid yellow		The link integrity between the transmitter and the AT-OME-EX-RX is good.
Blinking yellow		Poor signal integrity between the transmitter and the AT-OME-EX-RX. <ul style="list-style-type: none"> <li>Make sure that the category cable between the <b>HDBaseT IN</b> port on the transmitter and the <b>HDBaseT OUT</b> port on the AT-OME-EX-RX is secure.</li> <li>The category cable may be compromised. Try using a different category cable. Make sure that the cable is solid core. Stranded or patch cables are not recommended.</li> </ul>
Off		The link integrity between the transmitter and the AT-OME-EX-RX is compromised. <ul style="list-style-type: none"> <li>Check the category cable between the <b>HDBaseT IN</b> port on the transmitter and the <b>HDBaseT OUT</b> port on the AT-OME-EX-RX.</li> </ul>

## Mounting Instructions

The AT-OME-EX-RX provides two mounting brackets, which can be used to attach the AT-OME-EX-RX to any flat surface. Use the two enclosure screws, on the sides of the AT-OME-EX-RX to attach the mounting brackets.

1. Using a small Phillips screwdriver, remove the two screws from the left side of the enclosure.



2. Position one of the mounting brackets, as shown below, aligning the holes on the side of the enclosure with one set of holes on the mounting bracket.
3. Use the screws from Step 1 to attach the mounting bracket.



4. Repeat these steps to attach the second mounting bracket to the opposite side of the AT-OME-EX-RX.
5. Mount the AT-OME-EX-RX to a flat surface using the oval-shaped holes, on each mounting bracket. If using a drywall surface, a #6 drywall screw is recommended.

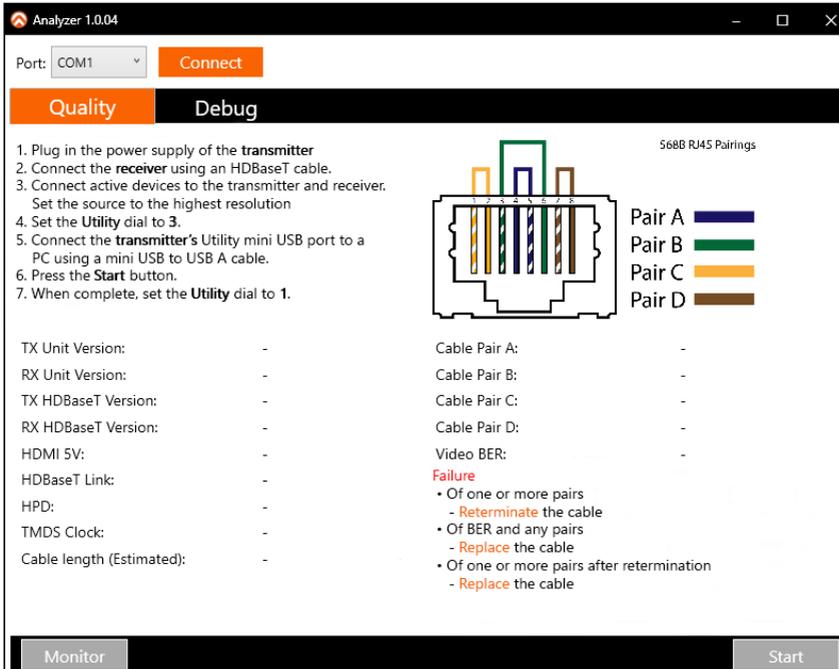


## Analyzer Software

The Analyzer software provides HDBaseT testing, debugging, and firmware update utilities. The software can be downloaded from the Resource tab located at <https://atlon.com/product/at-ome-ex-kit/>.

### HDBaseT Testing

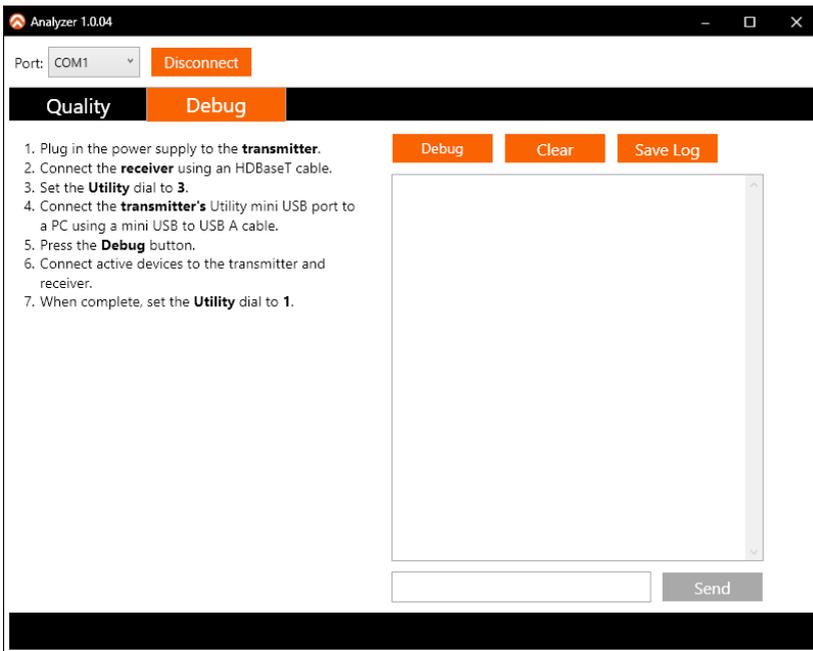
1. Launch the Analyzer software.
2. Make sure the system is powered and the transmitter and receiver are connected using the **HDBaseT OUT** and **HDBaseT IN** ports.
3. Connect an active source to the transmitter and an active display to the receiver. Set the source to the highest resolution.
4. Connect a mini-USB to USB-A cable from the **FW** port, on the transmitter, to a computer.
5. Click the **Port** drop-down list and select the COM port, then click the **Connect** button.



6. Click **Quality** in the menu bar.
7. Click the **Start** button in the lower-right right corner of the window. The link information and cable pairing test results will display. Follow the instructions on the Analyzer software for any pair failures.

## Debug

1. Launch the Analyzer software.
2. Make sure the system is powered and the transmitter and receiver are connected using the **HDBaseT OUT** and **HDBaseT IN** ports.
3. Connect an active source to the transmitter and an active display to the receiver. Set the source to the highest resolution.
4. Connect a mini-USB to USB-A cable from the **FW** port, on the transmitter, to a computer.
5. Click the **Port** drop-down list and select the COM port, then click the **Connect** button
6. Click **Debug** in the menu bar.



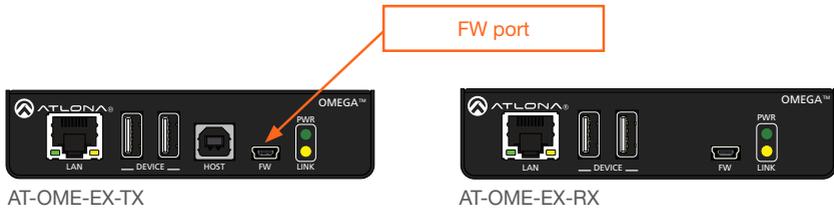
7. Click the **Debug** button. Information will appear in the box field if there is any data that can be logged. The log can be saved to the local computer if needed.

## Updating the Firmware

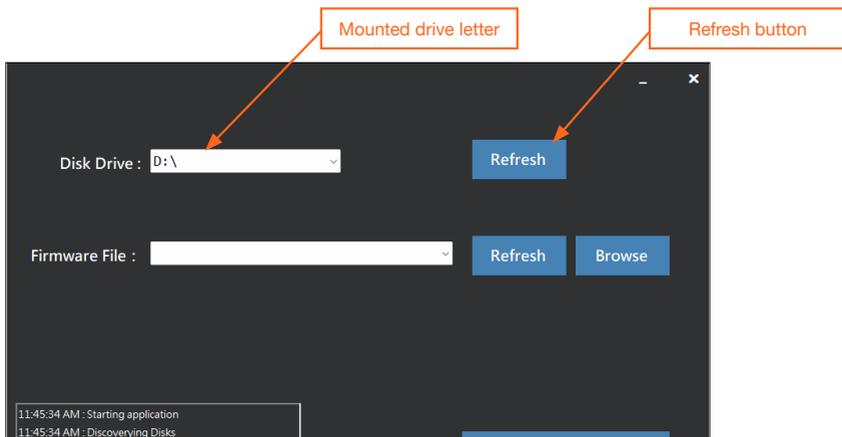
Requirements:

- AT-OME-EX-TX
- AT-OME-EX-RX
- Firmware file
- Computer running Windows
- USB-A to USB mini-B cable
- USB Firmware Update Tool

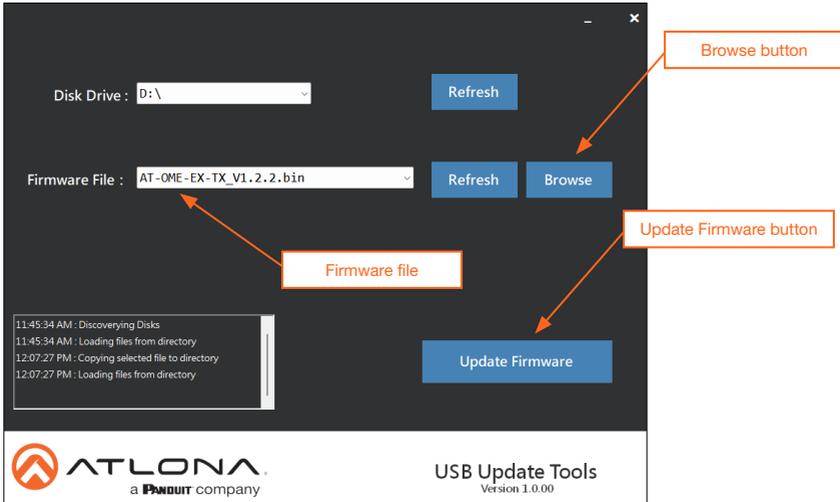
1. Disconnect power from the unit.
2. Connect a USB-A to USB mini-B cable between the computer and the **FW** port on the unit. Either the TX or RX can be updated first.



3. Power the unit. If updating the AT-OME-EX-TX, then make sure the receiver is powered using the included power supply or a category cable is connected between the HDBaseT ports of both the transmitter and receiver units.
4. If a USB UPDATE folder is opened automatically, notate the drive letter and close the folder.
5. Launch the USB Update Tool.
6. The drive letter of the mounted drive for the unit will be displayed in the **Disk Drive** field. If it is not, click the **Refresh** button.

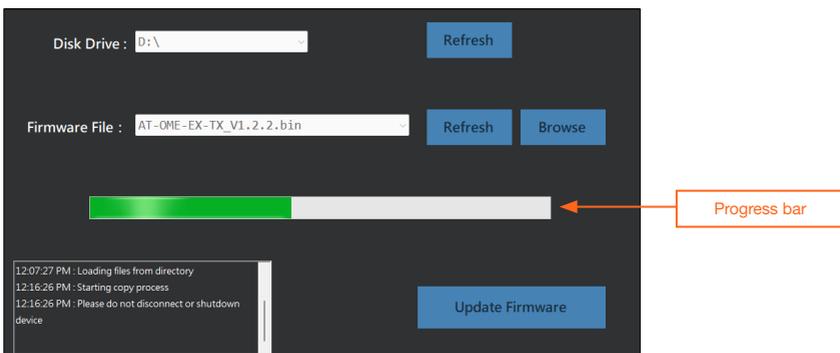


- Click the **Browse** button and select the firmware file. Once the firmware file is selected, it will appear in the **Firmware File** field. If the firmware file is not displayed in this field, click the **Refresh** button.
- Click the **Update Firmware** button.



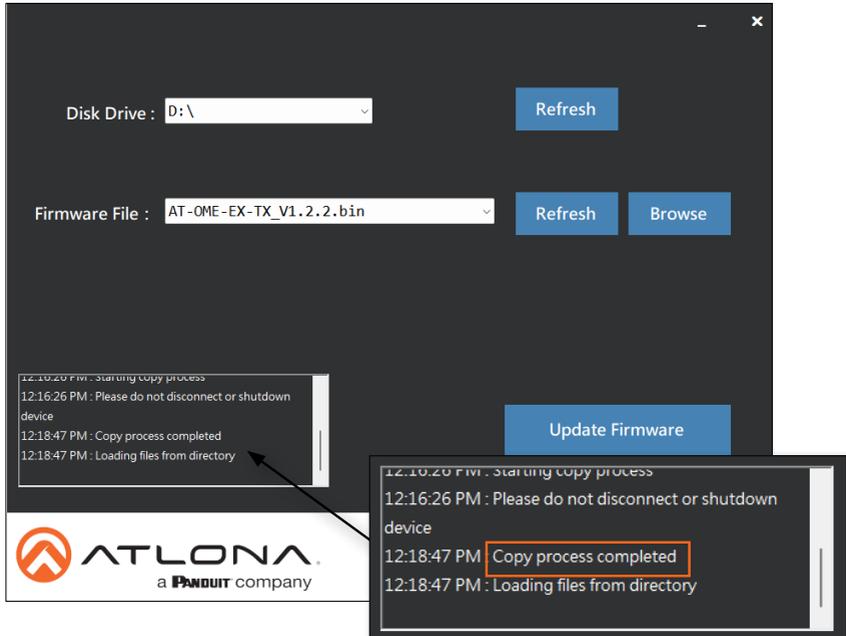
- The firmware update process will begin and will be monitored by a progress bar.

 **IMPORTANT:** Do not disconnect power from the unit while performing the firmware update procedure.



10. After the update process has completed, the `Copy process completed` message will be displayed in the message window.

The **PWR** LED indicator, on the front panel, will flash green while the unit is being updated. Do not disconnect the USB cable during the update process. When the **PWR** LED stops flashing and is solid green, the update process will be complete.



11. Repeat the above steps for each transmitter and receiver.



**Notes**



## Notes



## Notes

## Warranty

To view the product warranty, use the following link or QR code:

<https://atlona.com/warranty/>.



## English Declaration of Conformity

The English version can be found under the resources tab at:

<https://atlona.com/product/at-ome-ex-rx/>.



## Chinese Declaration of Conformity 中国RoHS合格声明

由SKU列出於:

<https://atlona.com/about-us/china-rohs/>.



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