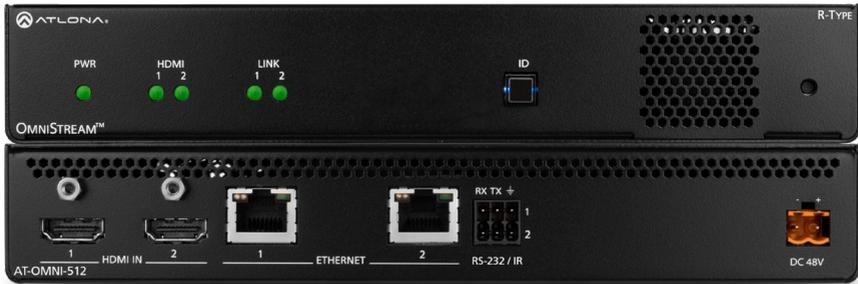# OmniStream R-Type Dual-Channel Networked AV Encoder
AT-OMNI-512

The Atlona **OmniStream™ R-Type (AT-OMNI-512)** is a networked AV encoder with two independent channels of encoding for two HDMI sources up to UHD @ 60 Hz and HDR, plus embedded audio and RS-232 or IR control pass-through. It is part of the **OmniStream R-Type Series**, designed for high performance, flexible distribution of AV over Gigabit Ethernet in residential and light commercial applications. The OmniStream 512 is HDCP 2.2 compliant and ideal for the latest as well as emerging UHD and HDR sources. It features visually lossless compression with pristine-quality video and graphics performance, plus extremely low, sub-frame latency from encode to decode – critical for demanding applications such as gaming. This dual-channel encoder is housed in a half-width rack enclosure and is ideal for high-density, compact installation in a centralized equipment location.

Package Contents

1 x AT-OMNI-512
1 x Push spring connector, 6-pin
1 x Wall/table mounting brackets
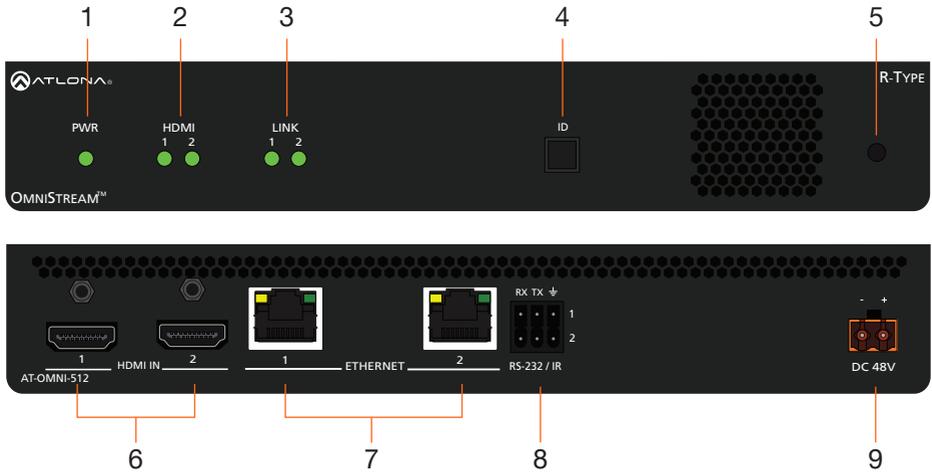4 x Rubber feet
1 x Installation Guide

Operating Notes

• OmniStream R-Type uses mDNS as the discovery mechanism. In order for mDNS to function properly, there must not be restrictions applied to the network.

> ⚠️ **IMPORTANT**: Visit http://www.atlona.com/product/AT-OMNI-512 for the latest firmware updates and User Manual.

Panel Descriptions

1 PWR
This LED indicator is green when the unit is powered.

2 HDMI 1 / HDMI 2
These LED indicators show the active input status.

3 LINK 1 / LINK 2
These LED indicators show the link status of the encoder.

4 ID
Press this button to identify the unit within the AMS software.

5 REBOOT
Use a pointed object to press this recessed button and reboot the unit.

6 HDMI 1 / HDMI 2
Connect HDMI cables from these ports to UHD/HD sources.

7 ETHERNET 1 / ETHERNET 2
Connect Ethernet cables from these ports to the Local Area Network (LAN).

8 RS-232 / IR
Use the included captive screw connector to connect an automation system and an IR emitter or extender. Refer to **RS-232** and **IR**, on the next page for more information.

9 DC 48V
Connect the optional 48V DC power supply to this power receptacle. This power supply is available, separately.
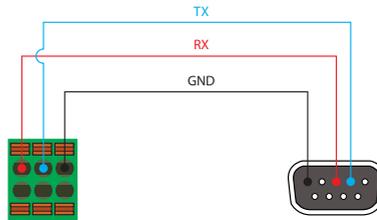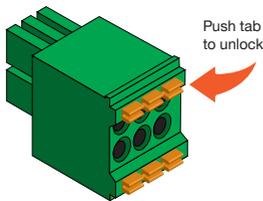
RS-232

The AT-OMNI-512 provides RS-232 over IP which allows communication between an automation system and an RS-232 device. This step is optional. Either the top three or bottom three set of terminals can be used for RS-232.

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.

3. Insert the TX, RX, and GND wires into correct terminal on the included push spring connector, following the wiring diagram below. If using non-tinned stranded wire, press the orange tab, above the terminal, while inserting the exposed wire.

> **NOTE:** Typical DB9 connectors use pin 2 for TX, pin 3 for RX, and pin 5 for ground. On some devices, the function of pins 2 and 3 are reversed.
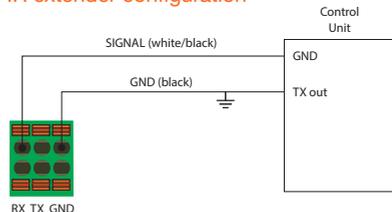
Push tab to unlock

TX
RX
GND

IR

The same port that provides RS-232 connections also supports either an IR extender or IR emitter. This step is optional. Either the top three or bottom three set of terminals can be used for RS-232.

1. Use wire strippers to remove a portion of the cable jacket.

2. Remove at least 3/16" (5 mm) from the insulation from each of the two wires.

3. Insert the wires into the correct terminal on the included push spring connector, following the desired wiring diagram below.

IR emitter configuration

SIGNAL (white/black)
GND (black)
IR emitter
RX TX GND
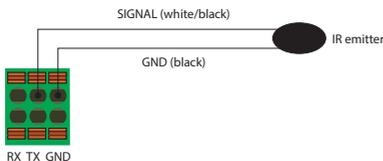
IR extender configuration

SIGNAL (white/black)
GND (black)
Control Unit
GND
TX out
RX TX GND

> **IMPORTANT**: The IR emitter must be placed no more than 1" from the IR sensor on the device, in order to function properly.

Installation

1. Connect an Ethernet cable from the **ETHERNET 1** and **ETHERNET 2** ports on the encoder to a PoE-capable switch on the Local Area Network (LAN). Note that if a PoE-capable switch is not available, the 48V DC power supply (sold separately) must be connected to the encoder.

2. Connect an HDMI cable from each HD/Ultra HD source to the **HDMI 1** and **HDMI 2** ports on the encoder.

3. If using RS-232 and/or IR, connect the 6-pin captive screw connector to the **RS-232 / IR** port on the encoder.

4. The **PWR** indicator, on the front panel, displays the power status of the encoder. When the encoder is powered, using either PoE or the optional 48V DC power supply (not included), the LED initially turns red. After a few moments it will turn amber, and finally green.
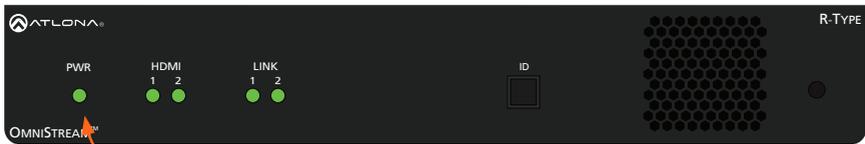
PWR indicator

IP Configuration

The AT-OMNI-512 is shipped in DHCP mode. If a DHCP server is not found within 60 seconds, the unit will automatically be placed in Auto IP mode and will be assigned an IP address within the range 169.254.xxx.xxx.   If this occurs, a static IP address can be assigned to the encoder, allowing it to be access on the network.

1. Disconnect the AT-OMNI-512 from the network.

2. Make sure that the encoder is powered. Power will need to be supplied either by the external 48V power supply (not included) or by connecting an Ethernet cable, from either **ETHERNET 1** or **ETHERNET 2**, to a PoE-capable switch.

3. Connect an Ethernet cable from the PC, to the other unused **ETHERNET** port on the encoder.

4. Click **Start** > **Settings** > **Control Panel** > **Network and Sharing Center**.

5. Click **Change adapter settings**.

6. Right-click on the adapter that is used to establish a wired connection to the network, and select **Properties** from the context menu.

7. Under the **Ethernet Properties** dialog box, select **Internet Protocol Version 4** and then click the **Properties** button.

8. Click the **Use the following IP address** radio button.

> **IMPORTANT**: Before continuing, write down the current IP settings in order to restore them, later. If *Obtain an IP address automatically* and *Obtain DNS server automatically* are selected, then this step is not required.

9. Enter the desired static IP address or the IP address provided by the network administrator.

    If the PC does not require Internet access or if a statically-assigned IP address is being used, then an IP address of 169.254.xxx.xxx can be entered.

10. Set the subnet mask to 255.255.0.0.

11. Click the **OK** button then close all **Control Panel** windows.

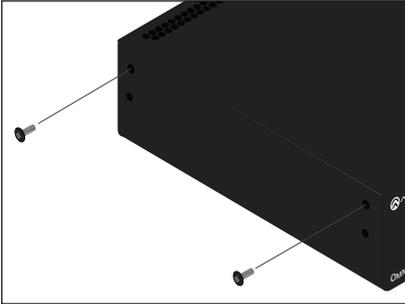12. Reconnect the AT-OMNI-512 to the network.

Connection Diagram
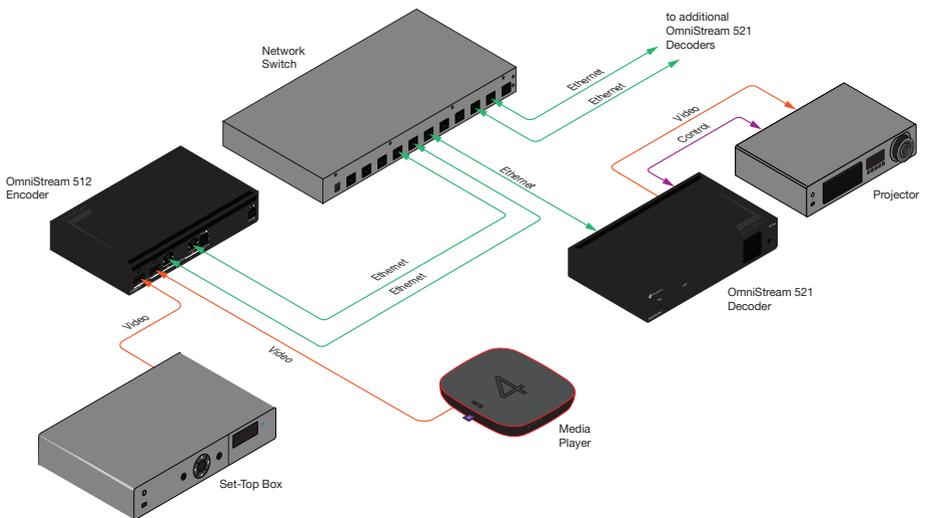
Mounting Instructions

The AT-OMNI-512 encoder includes two mounting brackets and four mounting screws, which can be used to attach the unit to any flat surface.

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 enclosure screws to secure the mounting bracket to the enclosure.

Included screws
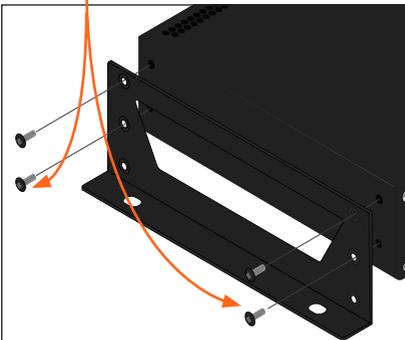
4. To provide added stability to the mounting bracket, use two of the included screws and attach them to the two holes, directly below the enclosure screws, as shown above.

5. Repeat steps 1 through 4 to attach the second mounting bracket to the opposite side of the unit.

6. Mount the unit using the oval-shaped holes, on each mounting bracket. If using a drywall surface, a #6 drywall screw is recommended.
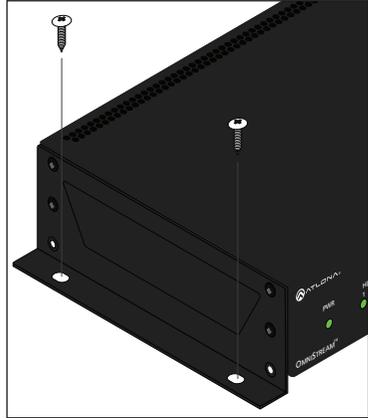
NOTE: Mounting brackets can also be inverted to mount the unit under a table or other flat surface.

Troubleshooting

Problem	Solution
PWR indicator is off.	• If using a PoE switch, make sure that the port on the switch that is connected to the encoder, has PoE enabled. When the encoder is powered using PoE, the **PWR** indicator will be green. • Check the Ethernet cable for possible damage or loose connections. • Connect the optional 48V DC power supply (available from atlona.com) to the encoder. When using an external power supply, the **PWR** indicator will be red.
LINK indicator is red.	• The optional 48V DC power supply is connected, but no Ethernet cables are connected between the switch and the **ETHERNET** port(s). • Check the Ethernet cable for possible damage or loose connections.

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