



OmniStream 121 Single-Channel Networked AV Decoder

AT-OMNI-121



The Atlona **OmniStream™ 121 (AT-OMNI-121)** is a networked AV decoder for an OmniStream-encoded video stream up to 4K/UHD, as well as embedded audio and RS-232 control. OmniStream is designed for distributing AV over Gigabit Ethernet in enterprises and other large-scale installations. The OmniStream 121 features SMPTE VC-2 visually lossless compression with extremely low, sub-frame latency, as well as AES-128 encryption and SMPTE 2022-5 forward error correction. For professional AV integration, it includes an HDMI output, 4K/UHD scaling with 4:4:4 processing, aspect ratio control, multi-channel PCM audio downmixing, audio embedding and de-embedding, and more. This decoder is housed in a half rack width enclosure. The OmniStream 121 can conveniently be powered over the network through Power over Ethernet (PoE), as well as from local AC power.

Package Contents

- 1 x AT-OMNI-121
- 1 x Captive screw connector, 3-pin
- 1 x Captive screw connector, 5-pin
- 1 x Push spring connector, 6-pin
- 2 x Push spring connectors, 5-pin
- 1 x Wall/table mounting brackets
- 1 x Installation Guide

Operating Notes

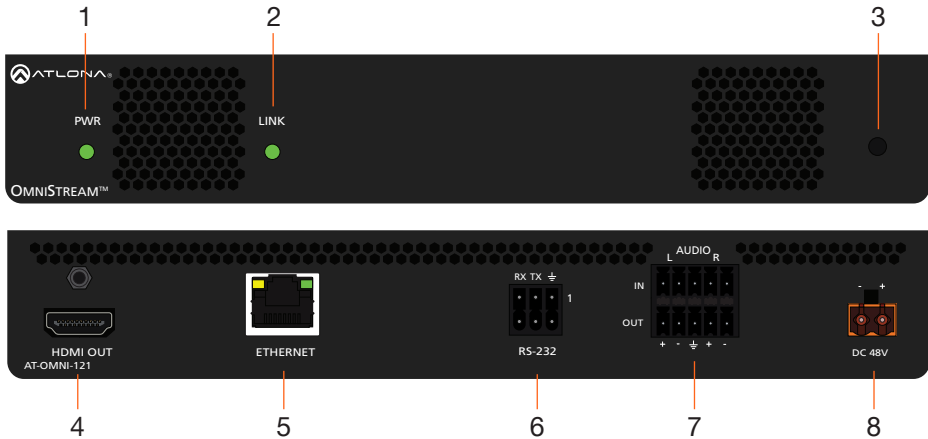
- OmniStream requires the Atlona Management System (AMS) which provides discovery, management, and configuration assistance. AMS is a free application that can be downloaded from the Atlona web site at <http://atlona.com/product/at-sw-ams/>
- OmniStream uses mDNS as the discovery mechanism. In order for mDNS to function properly, there must not be restrictions applied to the network. VPN can be used to connect to a computer that is running AMS, on the same network. However, VPN cannot be used when AMS is running on the local machine.



IMPORTANT: Visit <http://www.atlona.com/product/AT-OMNI-121> for the latest firmware updates and User Manual.



Panel Descriptions



- 1 PWR**
This LED indicator is green when the unit is powered.
- 2 LINK**
These LED indicators show the active input status.
- 3 REBOOT**
Use a pointed object to press this recessed button and reboot the unit.
- 4 HDMI OUT**
Connect an HDMI cable from this port to an HD display.
- 5 ETHERNET**
Connect an Ethernet cable from this port to the Local Area Network (LAN).
- 6 RS-232**
Use the included captive screw connector to connect an RS-232 device to this port.
- 7 AUDIO**
Connect the included push spring connectors to embed audio on the output stream and/or connect to an audio output device. Refer to **Audio** on page 3 for more information.
- 8 DC 48V**
Connect the optional 48V DC power supply to this power receptacle. This power supply is available, separately, and is required for embedding and de-embedding of analog audio.



RS-232

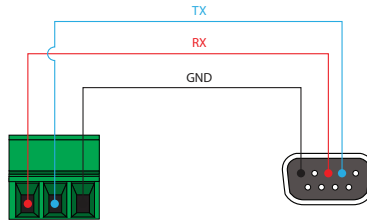
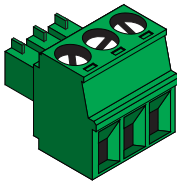
The AT-OMNI-121 provides RS-232 over IP which allows communication between an automation system and an RS-232 device. This step is optional.

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.
3. Insert the TX, RX, and GND wires into correct terminal on the included captive screw connector, following the wiring diagram below.

Note that the included 6-pin push spring connector can be used, if desired, in place of the captive screw connector. However, only the **RS-232 1** port is available on the decoder.



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.



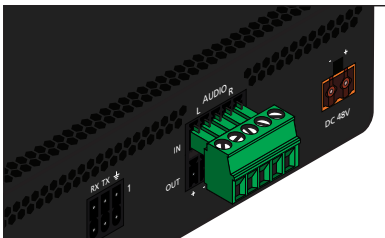
Audio

The AT-OMNI-121 provides the ability to embed analog audio on the output stream and output downmixed 2-channel PCM, using the included captive screw or push spring connectors. This step is optional.

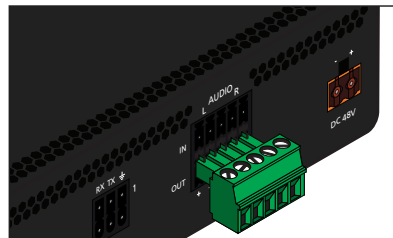


IMPORTANT: Audio embedding and de-embedding, using the analog audio outputs, requires the optional OmniStream power supply (AT-PS-48083-C).

- If **AUDIO IN** or **AUDIO OUT** will be used, then connect the included 5-pin captive screw connectors, as shown below.

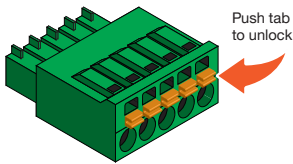
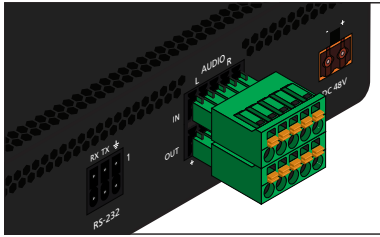


2-channel analog audio input (top)

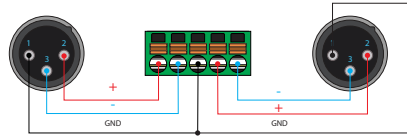


2-channel analog audio output (bottom)

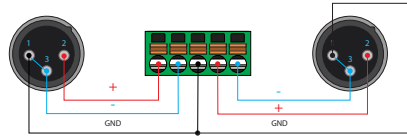
- If both **AUDIO IN** and **AUDIO OUT** ports will be used, then connect the included 5-pin push spring connectors, as shown on the next page.



Balanced XLR audio



Unbalanced XLR audio



If using non-tinned stranded wire, press the orange tab, above the terminal, while inserting the exposed wire



NOTE: Unbalanced XLR audio requires Pin 1 and Pin 3 to be connected.
The same wiring applies to both captive screw and push spring connectors.

Installation

1. Connect an Ethernet cable from the **ETHERNET** port on the decoder 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 decoder.
2. Connect an HDMI cable from the HD/Ultra HD display to the **HDMI OUT** port on the decoder.
3. If using RS-232, connect the 6-pin captive screw connector to the **RS-232** port on the decoder.
4. The **PWR** indicator, on the front panel, display the power status of the decoder. When the decoder 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.



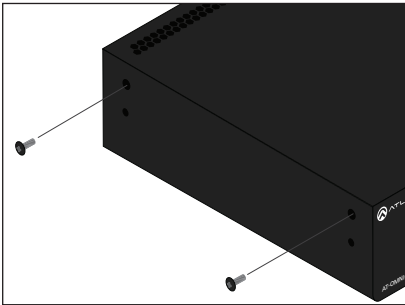
PWR indicator



Mounting Instructions

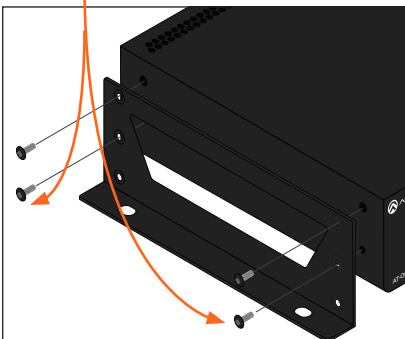
The AT-OMNI-121 decoder includes two mounting brackets and four mounting screws, which can be used to attach the unit to any flat surface.

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



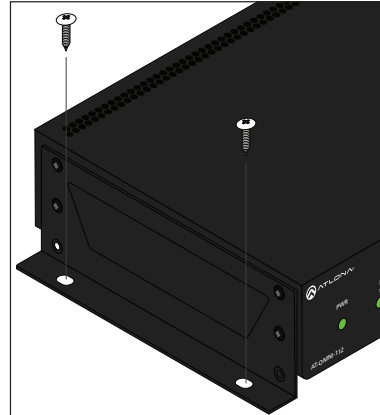
2. Position one of the mounting brackets, as shown below, aligning the holes on the side of the enclosure with one set of holes on the mounting bracket.
3. Use the enclosure screws to secure the mounting bracket to the enclosure.

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.



Configuration

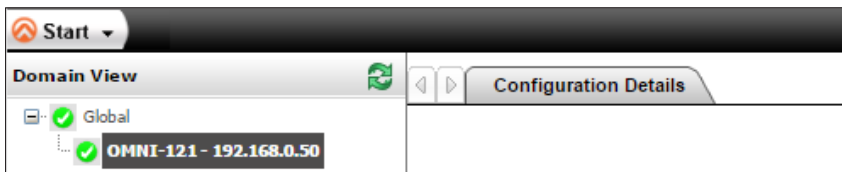
By default, the AT-OMNI-121 is set to DHCP mode. In this mode, each decoder that is connected to the Local Area Network (LAN) will automatically be assigned an IP address by the DHCP server, allowing communication with AMS. AMS will only be able to discover the decoders if they are on the same VLAN. Refer to the User Manual for details on configuring decoders to static IP mode.

To determine the IP address of the decoder, use the Atlona Management System (AMS) app. AMS is available only for the Windows® Operating System. If necessary, mDNS/Bonjour can also be used to discover the IP address of the decoder.

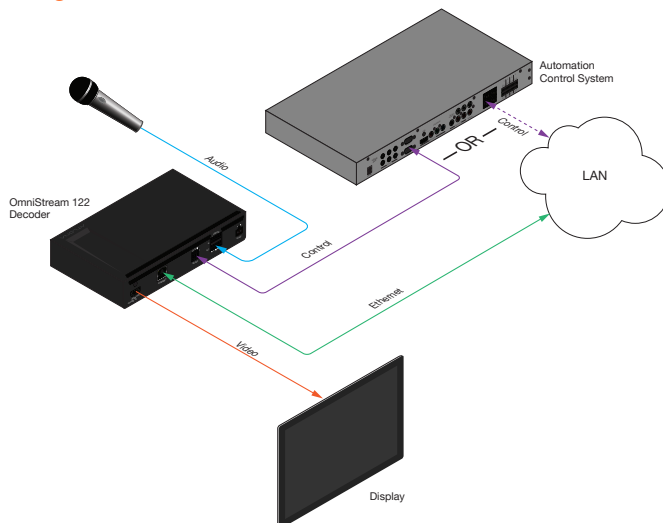
1. Launch the Atlona Management System app.
2. Launch a web browser and enter **localhost:8080** in the address field.
3. Enter the login information on the AMS web page, then click the **Login** button.

Login: admin
Password: admin123

4. Under the **Domain View** panel, locate the IP address for the decoder. Decoders will be labeled as **OMNI-121**.



Connection Diagram





Troubleshooting

Problem	Solution
PWR indicator is off.	<ul style="list-style-type: none">• If using a PoE (Power-over-Ethernet) switch, make sure that the port on the switch that is connected to the decoder, has PoE enabled. When the decoder 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 decoder. When using an external power supply, the PWR indicator will be red.
LINK indicator is red.	<ul style="list-style-type: none">• Connect an Ethernet cable to the ETHERNET port(s).• Check the Ethernet cable for possible damage or loose connections.
OmniStream decoders are not displayed in AMS.	<ul style="list-style-type: none">• Verify that AMS and the decoder are on the same network.• If a DHCP server is not found within 60 seconds, the decoder will be placed in Auto IP mode and assigned an IP address within the range of 169.254.xxx.xxx. If so, then connect a laptop directly to the decoder and configure a static IP address for the decoder.• Check the Ethernet cable for possible damage or loose connections.
Analog audio embedding/de-embedding is not working.	<ul style="list-style-type: none">• The power supply (AT-PS-48083-C) must be connected to the decoder. Contact Atlona to purchase this power supply.

