

OmniStream 121 Single-Channel Networked AV Decoder

AT-OMNI-121



The Atlona **OmniStream™ 121 (AT-OMNI-121)** is a single-channel networked AV decoder for HDMI 2.0 / HDCP 2.2 output supporting resolutions up to 4K @ 60Hz and HDR (High Dynamic Range), plus audio embedding / de-embedding, and RS-232 or IR control pass-through. It is part of the OmniStream Series, designed for high performance, flexible distribution of AV over standard off-the-shelf Gigabit Ethernet switches in commercial audio visual applications. It features advanced high-quality VC-2 visually lossless video decoding technology with user selectable video-quality optimization engines designed for computer-generated imaging, or motion video content. The Atlona OmniStream™ 121 achieves extremely low, sub-frame latency when paired with OmniStream Encoders. This single-channel decoder is housed in a half-width rack with front-to-back air flow enclosure, and is ideal for high-density, compact installation in a centralized equipment location.

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



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

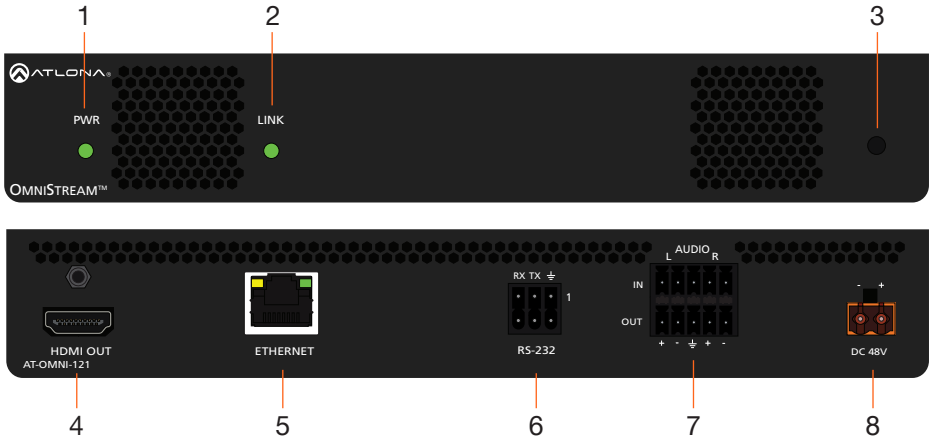


Operating Notes

- Atlona recommends using 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/>.
- This product includes a built-in web interface, which can be used to manage and configure this device.
- 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.



Panel Descriptions



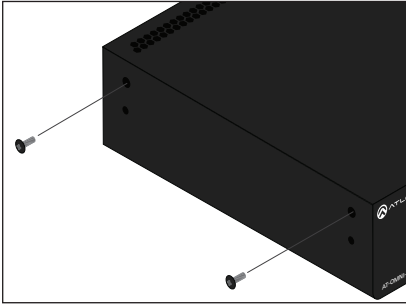
- 1 PWR**
This LED indicator is green when the unit is powered.
- 2 LINK**
This LED indicator is green when the link integrity between the decoder and the switch is good.
- 3 REBOOT**
Use a pointed object to press this recessed button and reboot the unit.
- 4 HDMI OUT**
Connect an HDMI cable from this port to a UHD/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 IN / OUT**
Connect the included push spring connectors to the **AUDIO IN** port to embed audio on the **HDMI OUT** port.
To de-embed the HDMI audio, connect the push-spring connectors to the **AUDIO OUT** port. Refer to **Audio** on page 6 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.



Mounting Instructions

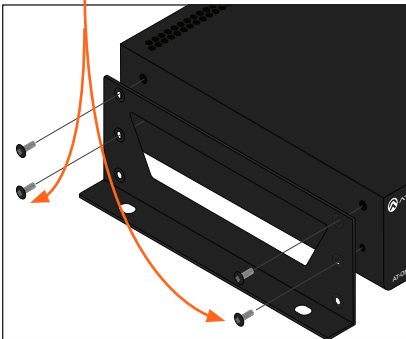
The AT-OMNI-121 decoder includes two mounting brackets and four mounting screws, which can be used to attach the unit to any flat surface.

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



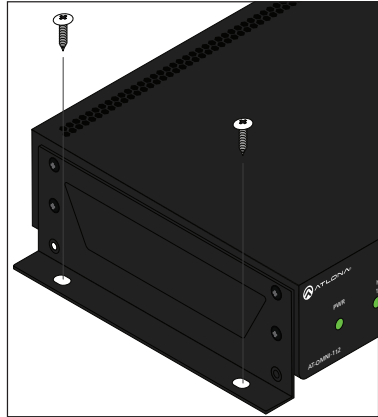
2. Position one of the mounting brackets, as shown below, aligning the holes on the side of the enclosure with one set of holes on the mounting bracket.
3. Use the enclosure screws to secure the mounting bracket to the enclosure.

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.

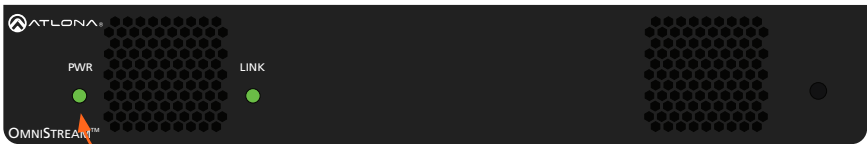
5. Repeat steps 1 through 4 to attach the second mounting bracket to the opposite side of the unit.
6. Mount the unit using the oval-shaped holes, on each mounting bracket. If using a drywall surface, a #6 drywall screw is recommended.



NOTE: Mounting brackets can also be inverted to mount the unit under a table or other flat surface.

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 UHD/HD display to the **HDMI OUT** port on the decoder.
3. If using RS-232, connect the included 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.

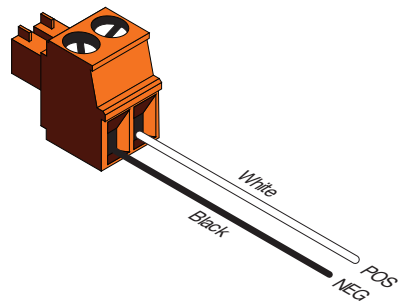
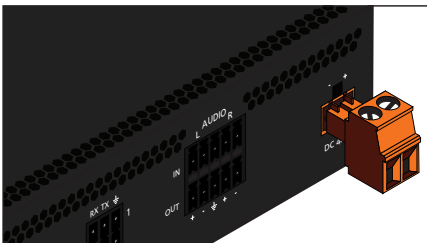


PWR indicator

Power Supply (optional)

The AT-OMNI-121 is powered by PoE (Power over Ethernet), when connected to a PoE-capable switch. If a PoE-switch is not used, then the optional 48 V power supply (Atlona part no. AT-PS-48083-C) can be purchased, separately. Insert the positive and negative leads, from the power supply, into the terminals of the 2-pin captive screw connector block, as shown. The orange 2-pin captive screw connector block is included with the OmniStream power supply package.

IMPORTANT: The external power supply must be connected to the decoder when embedding and de-embedding audio using the **AUDIO IN** and/or **AUDIO OUT** ports.





RS-232

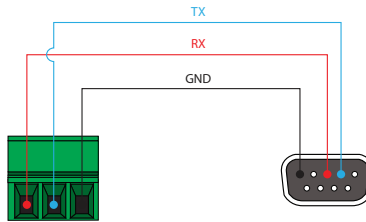
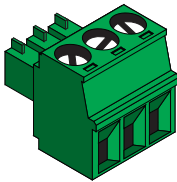
The AT-OMNI-121 provides transport of RS-232 protocol over IP which allows communication between a control system and an RS-232 device. This step is optional.

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. 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.



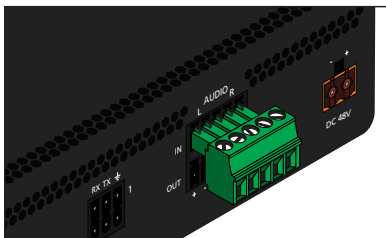
Audio

The AT-OMNI-121 provides the ability to embed 2-channel analog audio on the **HDMI OUT** port or de-embed HDMI audio on the **AUDIO OUT** port. De-embedded HDMI audio is downmixed to 2-channel PCM. This step is optional.

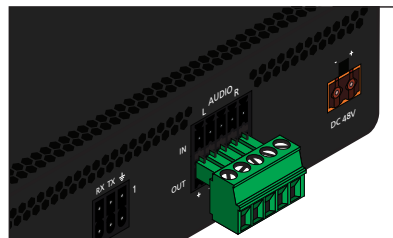


IMPORTANT: Audio embedding and de-embedding, using the analog audio outputs, requires the optional OmniStream power supply (AT-PS-48083-C).

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

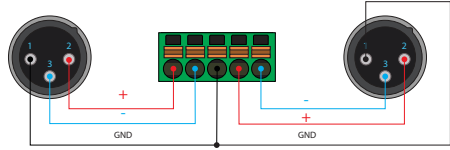
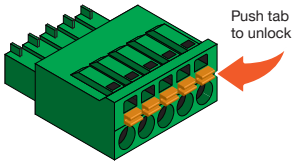
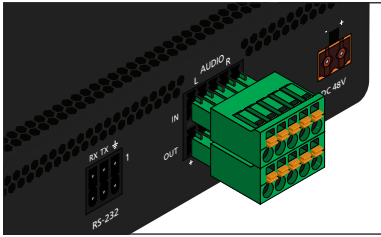


2-channel analog audio input (top)

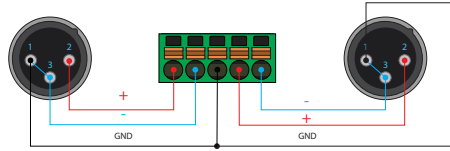


2-channel analog audio output (bottom)

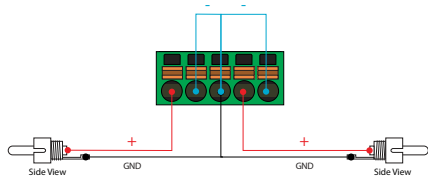
- If both **AUDIO IN** and **AUDIO OUT** ports will be used, then connect the included 5-pin push spring connectors, as shown on the next page.



Balanced XLR audio



Unbalanced XLR audio



Unbalanced RCA audio

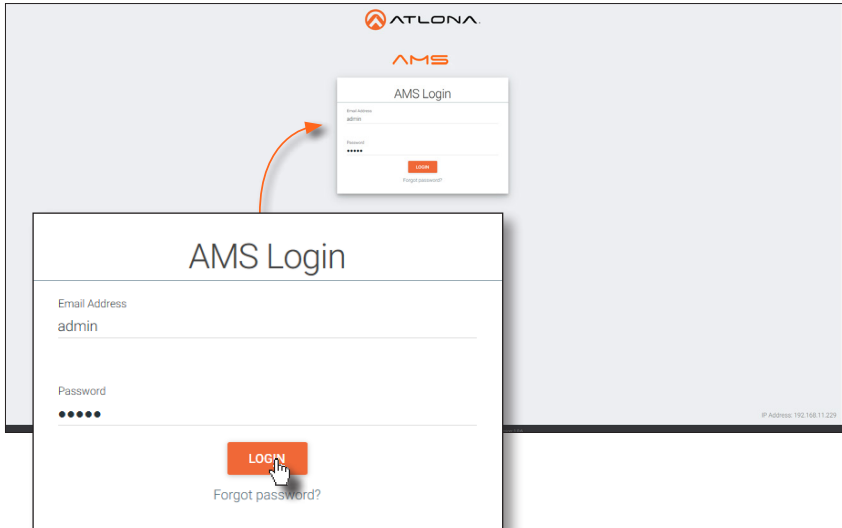
If using non-tinned stranded wire, press the orange tab, above the terminal, while inserting the exposed wire




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.

Configuration

1. Launch a web browser and enter the IP address of AMS, in the address bar.
2. Enter the required login credentials.



3. Click the **Login** button.
4. The AMS Dashboard will be displayed.
5. Click the  icon, in the upper-left corner of the AMS Dashboard.
6. Click **Devices** from the fly-out menu.
7. Click the **Unassigned** option.

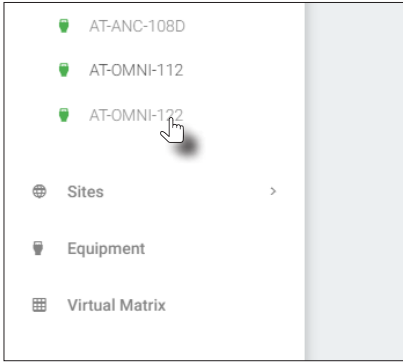
All available decoders will be displayed under the **Unassigned** category. When a decoder is unassigned, it means that it has not been assigned to a site, building, and/or room. Refer to the AMS User Manual for more information on these topics.

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 this occurs, configure the network interface of the computer that is running AMS, located on the same subnet (169.254.xxx.xxx, subnet mask 255.255.0.0). Refer to User Manual for more information.

If no OmniStream decoders are found, then verify the following:

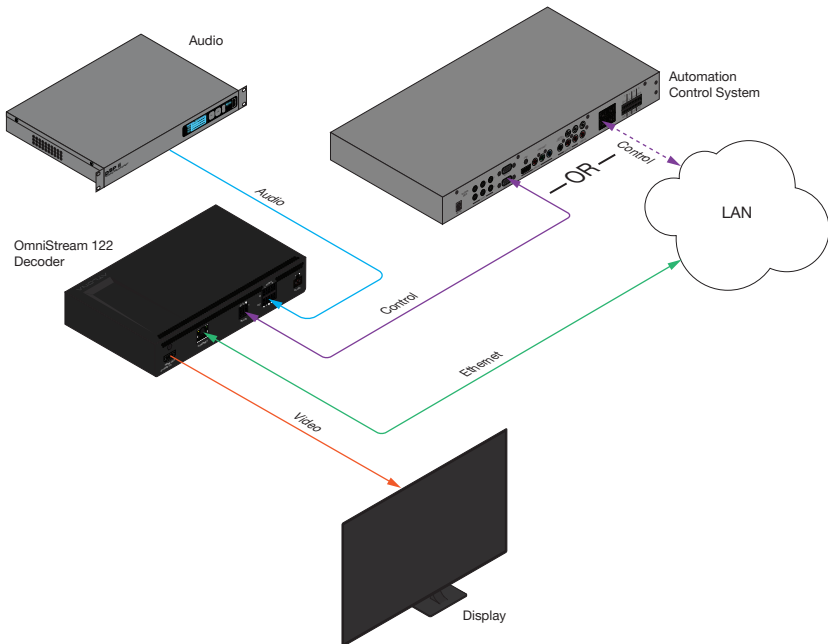
- The computer that is running AMS must be on the same network as the OmniStream device.
- Remove any network restrictions that may be in place. In order for mDNS to function properly, there must not be restrictions applied to the network.

8. Click the desired decoder from the **Unassigned** device list.



Once the unit is selected, the AMS interface for the decoder will be displayed. Refer to the User Manual for more information on the AMS interface.

Connection Diagram



Troubleshooting

Problem	Solution
<p>PWR indicator is off.</p>	<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.
<p>LINK indicator is red.</p>	<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.
<p>OmniStream decoders are not displayed in AMS.</p>	<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. • Make sure that mDNS is enabled on the network. Also, in order for mDNS to function properly, there must not be any restrictions applied to the network.
<p>Analog audio embedding/de-embedding is not working.</p>	<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.

Notes



atlona.com • Toll free US 877.536.3976 • International 41.43.508.4321

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