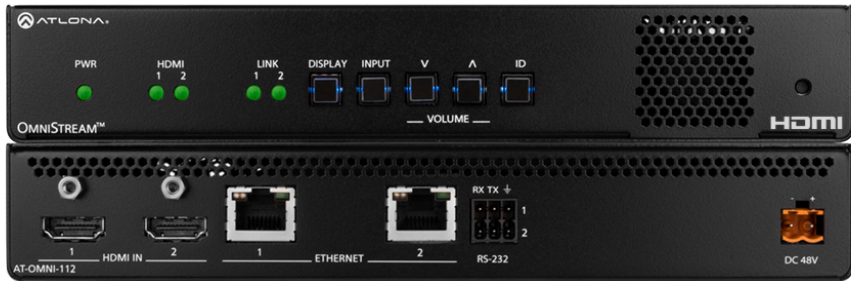# OmniStream 112 Dual-Channel Networked AV Encoder
AT-OMNI-112

The Atlona **OmniStream™ 112 (AT-OMNI-112)** is a networked AV encoder with two independent channels of encoding for two HDMI 2.0 sources up to 4K @ 60 Hz and HDR (High Dynamic Range), plus embedded audio 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. The OmniStream 112 is HDCP 2.2 compliant and ideal for the latest Ultra High-Definition and HDR sources. It features advanced high-quality VC-2 visually lossless video compression technology with user selectable video-quality optimization engines designed for computer-generated imaging, or motion video content. The Atlona OmniStream™ 112 achieves extremely low, sub-frame latency when paired with OmniStream Decoders. This dual-channel encoder 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-112
1 x Push spring connector, 6-pin
1 x Wall/table mounting brackets
4 x Rubber feet
1 x Installation Guide

Operating Notes

- Atlona recommends using the Velocity with Integrated AMS which provides discovery, management, and configuration assistance. Velocity with Integrated AMS is a free application that can be downloaded from the Atlona web site at http://atlona.com/product/at-ams-sw/.

- OmniStream uses mDNS as the discovery mechanism. In order for mDNS to function properly, there must not be restrictions applied to the network. Although VPN can be used to connect to a computer that is running Velocity, on the same network, it cannot be used when Velocity is running on the local machine.

⚠ **IMPORTANT**: Visit http://www.atlona.com/product/AT-OMNI-112 for the latest firmware updates and User Manual.

Panel Descriptions
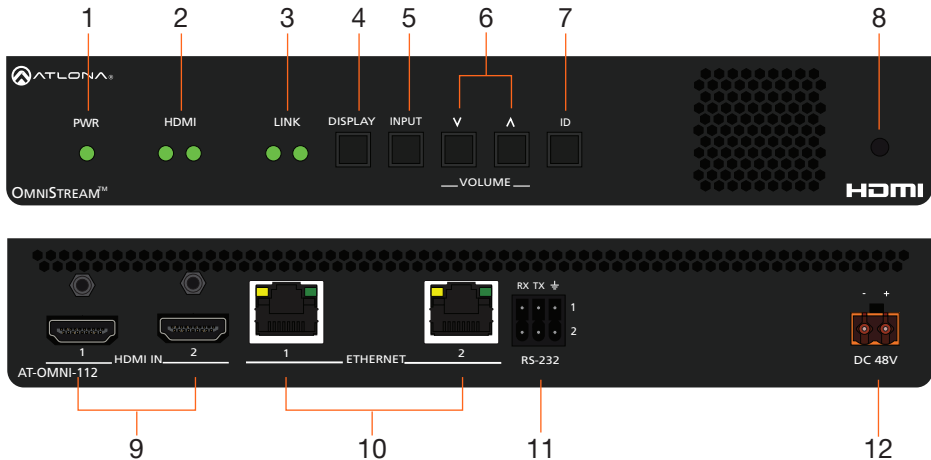
1   PWR
This LED indicator is green when the unit is powered and fully booted.

2   HDMI 1 / HDMI 2
These LED indicators are green when the link between source and encoder is good.

3   LINK 1 / LINK 2
These LED indicators will be green when the link integrity between the encoder and the network switch is good.

4   DISPLAY
Press this button to toggle the power state of the desired display.

5   INPUT
Press this button to switch between HDMI 1 and HDMI 2 inputs.

6   VOLUME
Press these buttons to adjust the output volume of the desired display.

7   ID
This button provides two functions:
(1) Press and release this button to send a broadcast network notification to any devices that may be listening (AMS).
(2) Press and hold this button for 30 seconds to perform a factory-reset of the unit. Refer to the OmniStream Encoder User Manual for more information.

8   REBOOT
Press this button, using a small, pointed object, to reboot the unit.

9   HDMI 1 / HDMI 2
Connect HDMI cables from these ports to a UHD/HD source.

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

11   RS-232 1 / RS-232 2
Use the included captive screw connector to connect up to two RS-232 devices to this port. Refer to **RS-232** on page 5 for more information.

12   DC 48V
Connect the optional 48V DC power supply to this power receptacle. This power supply is available, separately, and is required when connecting the encoder to non-PoE compatible switch.

Mounting Instructions

The AT-OMNI-112 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.
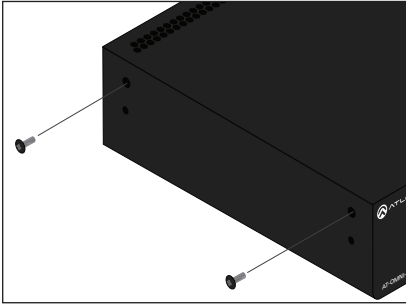

2. Position one of the mounting brackets, as shown below, aligning the holes on the side of the enclosure with one set of holes on the mounting bracket.

3. Use the enclosure screws to secure the mounting bracket to the enclosure.
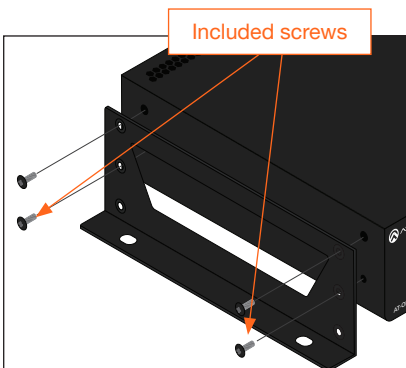
Included screws

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.
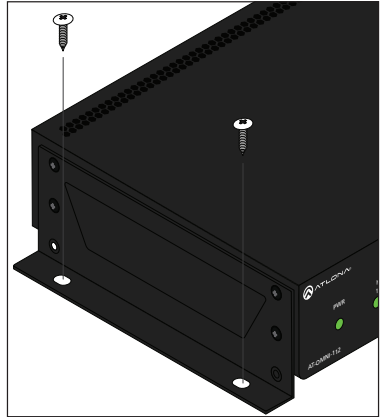

NOTE: Mounting brackets can also be inverted to mount the unit under a table or other flat surface.

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 UHD/HD source to the **HDMI 1** and **HDMI 2** ports on the encoder.

3. If using RS-232, connect the included 6-pin Euroblock push-spring connector to the **RS-232** 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.
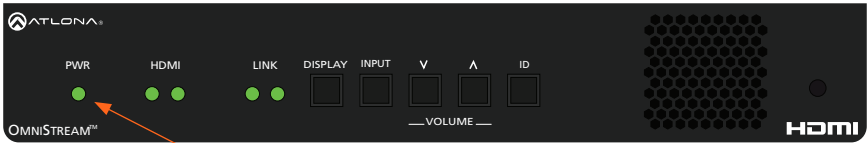
PWR indicator

Power Supply (optional)

The AT-OMNI-112 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.
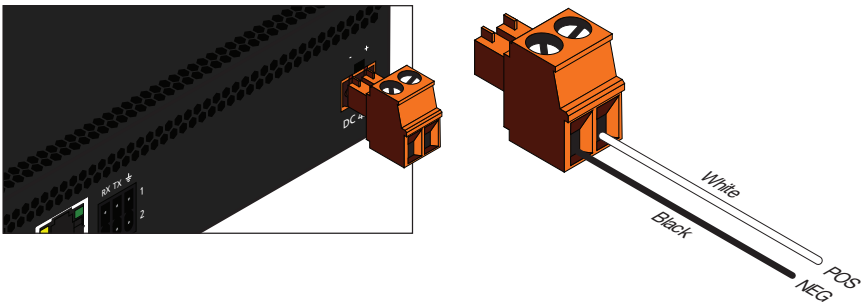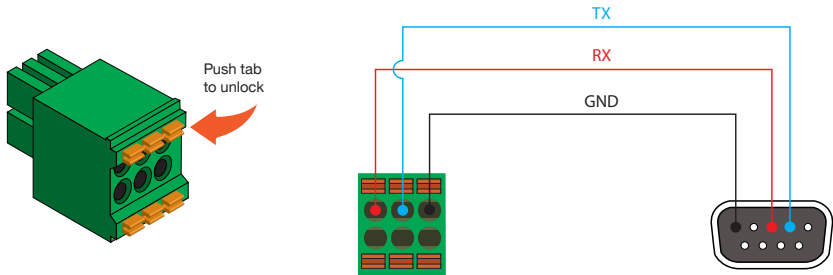
RS-232

The AT-OMNI-112 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 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.
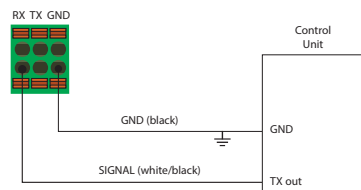
Push tab to unlock

TX

RX

GND

IR

The same port that provides RS-232 connections also supports bidirectional IR pass-through, allowing a device to be controlled from either the headend or the decoder endpoint. This step is optional. IR control is supported on both **RS-232** connectors.
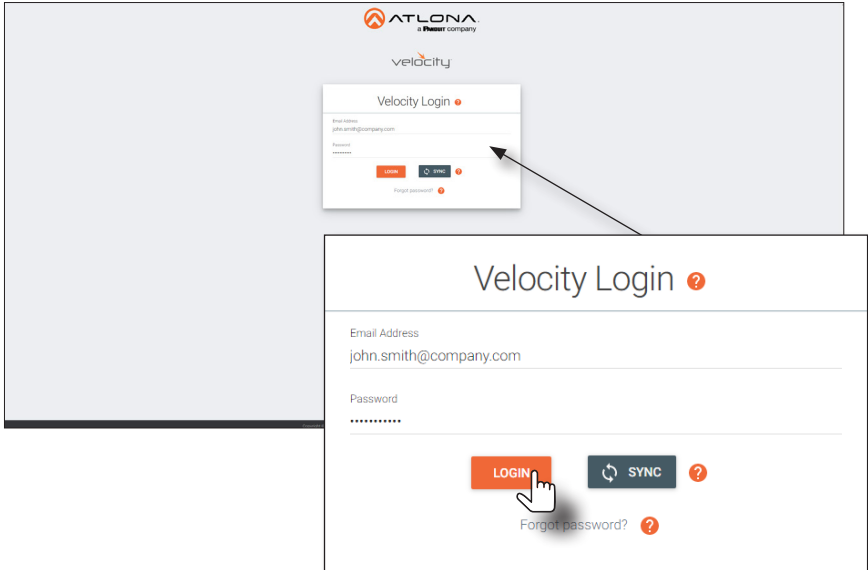
IR emitter configuration

RX TX GND

GND (black)

SIGNAL (white/black)

IR emitter
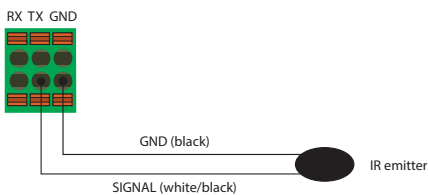
IR extender configuration

RX TX GND

Control Unit

GND (black)

SIGNAL (white/black)

GND

TX out

Accessing devices using Velocity with Integrated AMS

1. Launch a web browser and enter the IP address of Velocity, in the address bar.

2. Enter the required login credentials.

3. Click the **Login** button.

4. The Velocity with Integrated AMS Dashboard will be displayed.

5. Click the ☰ icon, in the upper-left corner.

6. Click **Management** > **AMS Device Manager** from the fly-out menu.

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

   If a DHCP server is not found within 60 seconds, the encoder 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 encoders are found, then verify the following:

   • The computer that is running Velocity 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.

7.   Click the desired encoder from the **Unassigned** device list or from under the **Device List** column.

Once the unit is selected, the Velocity with Integrated AMS interface for the encoder will be displayed. Refer to the User Manual for more information on the interface.
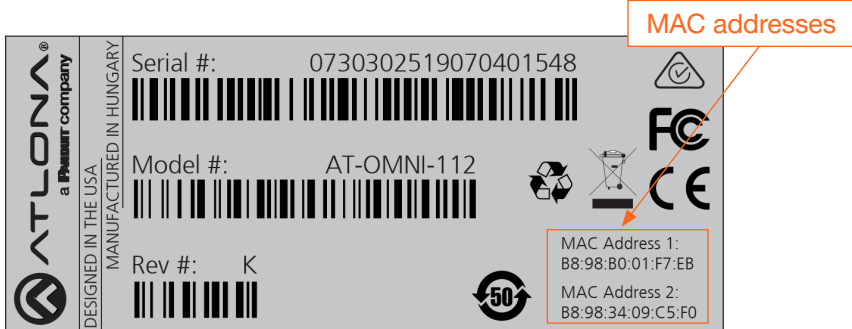
## Accessing devices using the built-in Web Server

1. Identify the desired encoder by locating the MAC address on the bottom of the unit.

   In the following example, the label indicates the MAC address for each physical interface. The Ethernet cable can be connected either interface.
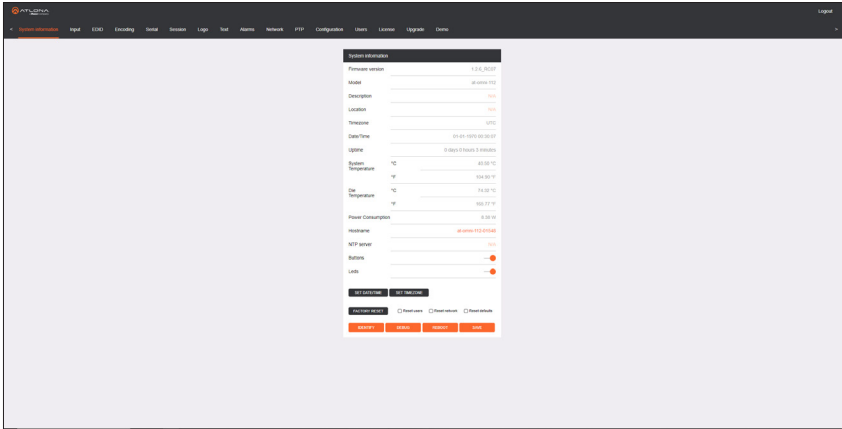

2. Connect a PC to the same network where the OmniStream encoders/decoders are connected.

3. Locate the IP address, matching it with the MAC address of the device, using an IP scanner or ARP.

4. Launch the desired web browser and enter the IP address of the encoder in the address bar.

5. Enter the username and password. Note that the password field will always be masked. The default credentials are:

   Username: admin
   Password: Atlona
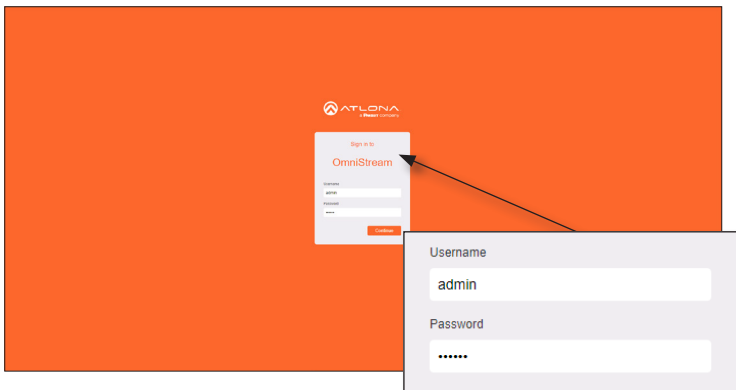
NOTE: Atlona recommends changing both the username and password for security purposes. Refer to the OmniStream User Manual for more information.

6. The **System Information** screen will be displayed. Refer to the User Manual for more information on the web server interface.

7. The login process is complete.

Troubleshooting

Problem	Solution
PWR indicator is off.	• If using a PoE (Power-over-Ethernet) 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 green.
LINK indicator is red.	• Connect an Ethernet cable to the **ETHERNET** port. • Check the Ethernet cable for possible damage or loose connections.
OmniStream encoders are not displayed in Velocity with AMS Integration.	• Verify that AMS and the encoder are on the same network. • If a DHCP server is not found within 60 seconds, the encoder will be placed in Auto IP mode and assigned an IP address within the range of 169.254.xxx.xxx. To access the encoder, configure a static IP on the PC within the same IP range, then connect the PC directly to the encoder and configure a static IP address for the encoder. This static IP address must be within the same IP range that is used by the Velocity with AMS Integration software. Otherwise, the encoder will not show up. • 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.

Notes

Version 3

English Declaration of Conformity

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

https://atlona.com/product/at-omni-112/.

Chinese Declaration of Conformity 中国RoHS合格声明

由SKU列出於:

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

HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE

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