OmniStream™
Multi-Channel
Dante Networked Audio Interface
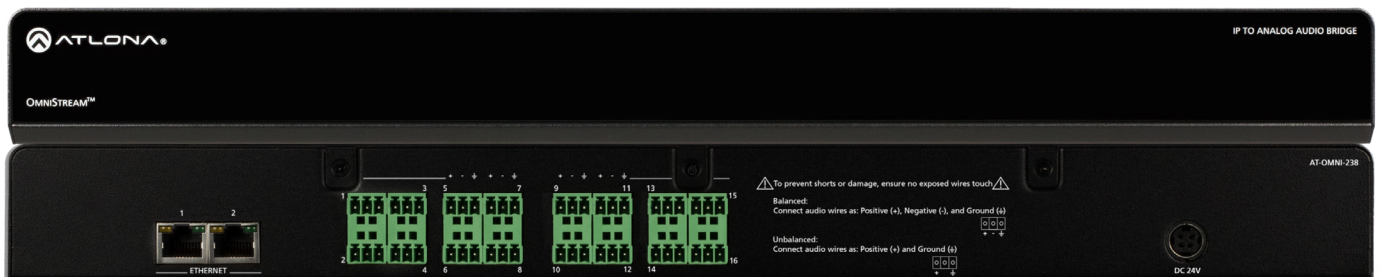
Version Information

Version	Release Date	Notes
1	04/18	Initial release

Welcome to Atlona!

Thank you for purchasing this Atlona product. We hope you enjoy it and will take a extra few moments to register your new purchase.

Registration only takes a few minutes and protects this product against theft or loss. In addition, you will receive notifications of product updates and firmware. Atlona product registration is voluntary and failure to register will not affect the product warranty.

To register your product, go to https://atlona.com/registration

Sales, Marketing, and Customer Support

Main Office

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Sales and Customer Service Hours
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Sales and Customer Service Hours
Monday - Friday: 09:00 - 17:00 (UTC +1)

Notes

As of this writing, there are no firmware updates for this product. When new firmware is released, update instructions will be included with the firmware and will be appended to this manual.

⚠️ **IMPORTANT:** Visit https://atlona.com/product/AT-OMNI-238 for the latest documentation.

Atlona, Inc. ("Atlona") Limited Product Warranty

Coverage

Atlona warrants its products will substantially perform to their published specifications and will be free from defects in materials and workmanship under normal use, conditions and service.

Under its Limited Product Warranty, Atlona, at its sole discretion, will either:

- repair or facilitate the repair of defective products within a reasonable period of time, restore products to their proper operating condition and return defective products free of any charge for necessary parts, labor and shipping.

OR

- replace and return, free of charge, any defective products with direct replacement or with similar products deemed by Atlona to perform substantially the same function as the original products.

OR

- refund the pro-rated value based on the remaining term of the warranty period, not to exceed MSRP, in cases where products are beyond repair and/or no direct or substantially similar replacement products exist.

Repair, replacement or refund of Atlona products is the purchaser's exclusive remedy and Atlona liability does not extend to any other damages, incidental, consequential or otherwise.

This Limited Product Warranty extends to the original end-user purchaser of Atlona products and is non-transferrable to any subsequent purchaser(s) or owner(s) of these products.

Coverage Periods

Atlona Limited Product Warranty Period begins on the date of purchase by the end-purchaser. The date contained on the end-purchaser 's sales or delivery receipt is the proof purchase date.

Limited Product Warranty Terms – New Products

- 10 years from proof of purchase date for hardware/electronics products purchased on or after June 1, 2013.
- 3 years from proof of purchase date for hardware/electronics products purchased before June 1, 2013.
- Lifetime Limited Product Warranty for all cable products.

Limited Product Warranty Terms – Refurbished (B-Stock) Products

- 3 years from proof of purchase date for all Refurbished (B-Stock) hardware and electronic products purchased on or after June 1, 2013.

Remedy

Atlona recommends that end-purchasers contact their authorized Atlona dealer or reseller from whom they purchased their products. Atlona can also be contacted directly. Visit https://atlona.com for Atlona's contact information and hours of operation. Atlona requires that a dated sales or delivery receipt from an authorized dealer, reseller or end-purchaser is provided before Atlona extends its warranty services. Additionally, a return merchandise authorization (RMA) and/or case number, is required to be obtained from Atlona in advance of returns.

Atlona requires that products returned are properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization or case number will be refused. Atlona, at its sole discretion, reserves the right to reject any products received without advanced authorization. Authorizations can be requested by calling 1-877-536-3976 (US toll free) or 1-408- 962-0515 (US/international) or via Atlona's website at https://atlona.com.

Exclusions

This Limited Product Warranty excludes:
- Damage, deterioration or malfunction caused by any alteration, modification, improper use, neglect, improper packaging or shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature.

- Damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Atlona to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product.

- Equipment enclosures, cables, power supplies, batteries, LCD displays, and any accessories used in conjunction with the product(s).

- Products purchased from unauthorized distributors, dealers, resellers, auction websites and similar unauthorized channels of distribution.

Disclaimers

This Limited Product Warranty does not imply that the electronic components contained within Atlona's products will not become obsolete nor does it imply Atlona products or their electronic components will remain compatible with any other current product, technology or any future products or technologies in which Atlona's products may be used in conjunction with. Atlona, at its sole discretion, reserves the right not to extend its warranty offering in instances arising outside its normal course of business including, but not limited to, damage inflicted to its products from acts of god.

Limitation on Liability

The maximum liability of Atlona under this limited product warranty shall not exceed the original Atlona MSRP for its products. To the maximum extent permitted by law, Atlona is not responsible for the direct, special, incidental or consequential damages resulting from any breach of warranty or condition, or under any other legal theory. Some countries, districts or states do not allow the exclusion or limitation of relief, special, incidental, consequential or indirect damages, or the limitation of liability to specified amounts, so the above limitations or exclusions may not apply to you.

Exclusive Remedy

To the maximum extent permitted by law, this limited product warranty and the remedies set forth above are exclusive and in lieu of all other warranties, remedies and conditions, whether oral or written, express or implied. To the maximum extent permitted by law, Atlona specifically disclaims all implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose. If Atlona cannot lawfully disclaim or exclude implied warranties under applicable law, then all implied warranties covering its products including warranties of merchantability and fitness for a particular purpose, shall provide to its products under applicable law. If any product to which this limited warranty applies is a "Consumer Product" under the Magnuson-Moss Warranty Act (15 U.S.C.A. §2301, ET SEQ.) or other applicable law, the foregoing disclaimer of implied warranties shall not apply, and all implied warranties on its products, including warranties of merchantability and fitness for the particular purpose, shall apply as provided under applicable law.

Other Conditions

Atlona's Limited Product Warranty offering gives legal rights, and other rights may apply and vary from country to country or state to state. This limited warranty is void if (i) the label bearing the serial number of products have been removed or defaced, (ii) products are not purchased from an authorized Atlona dealer or reseller. A comprehensive list of Atlona's authorized distributors, dealers and resellers can be found at https://atlona.com.

Important Safety Information

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCT THE RISK OF
ELECTRIC SHOCK
DO NOT OPEN ENCLOSURE OR EXPOSE
TO RAIN OR MOISTURE.
NO USER-SERVICEABLE PARTS
INSIDE REFER SERVICING TO
QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the product.

The information bubble is intended to alert the user to helpful or optional operational instructions in the literature accompanying the product.

1. Read these instructions.

2. Keep these instructions.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this product near water.

6. Clean only with a dry cloth.

7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of a polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the product.

11. Only use attachments/accessories specified by Atlona.

12. To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.

13. Unplug this product during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the product has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the product, the product has been exposed to rain or moisture, does not operate normally, or has been dropped.

FCC Statement
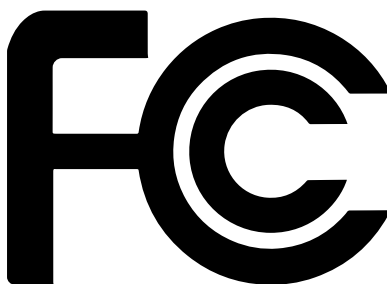
FCC Compliance and Advisory Statement: This hardware device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed or used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) reorient or relocate the receiving antenna; 2) increase the separation between the equipment and the receiver; 3) connect the equipment to an outlet on a circuit different from that to which the receiver is connected; 4) consult the dealer or an experienced radio/TV technician for help. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Where shielded interface cables have been provided with the product or specified additional components or accessories elsewhere defined to be used with the installation of the product, they must be used in order to ensure compliance with FCC regulations.

Table of Contents

Introduction

The Atlona OmniStream™ 238 (AT-OMNI-238) receives audio streamed from OmniStream encoders, and delivers up to 16 audio outputs, configurable as eight stereo pairs or sixteen mono channels. 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. OmniStream features industry standard, AES67-compatible audio over IP streaming. Up to sixteen channels of PCM audio can be received by the OmniStream 238. An audio stream can be routed to one or more unbalanced or balanced outputs, each with programmable gain control. The OmniStream 238 is ideal for feeding audio from HDMI sources into a whole-house audio system, as well as multiple audio zones in a commercial AV application.

Features

- Transmits and receives Dante audio over the network
- 1 Gigabit LAN connection
- Easy routing using AMS 2.0 or Dante Controller
- Balanced audio output
- Adjustable output volume

Package Contents

1 x OmniStream 238
16 x Captive screw connector (3 pin)
1 x Wall/Rack mounting brackets
1 x 24V DC locking power supply
1 x Installation Guide

Operating Notes

- To ensure stable connection, disable 802.3 Energy Efficient Ethernet (EEE) on connected Ethernet switches.
- OmniStream requires AMS 2.0 (Atlona Management System) for discovery and management. AMS 2.0 is available from https://atlona.com/AMS for free. Two options can be used for installation: The free Linux based software download or the easy to install server hardware (AT-AMS-HW).
- Connection issues may occur if control software is used over VPN. Ensure the software and OMNI-238 are on the same network.

⚠️ **IMPORTANT:** When AES67 is enabled, the maximum audio sampling frequency is restricted to 48 kHz.

Panel Description
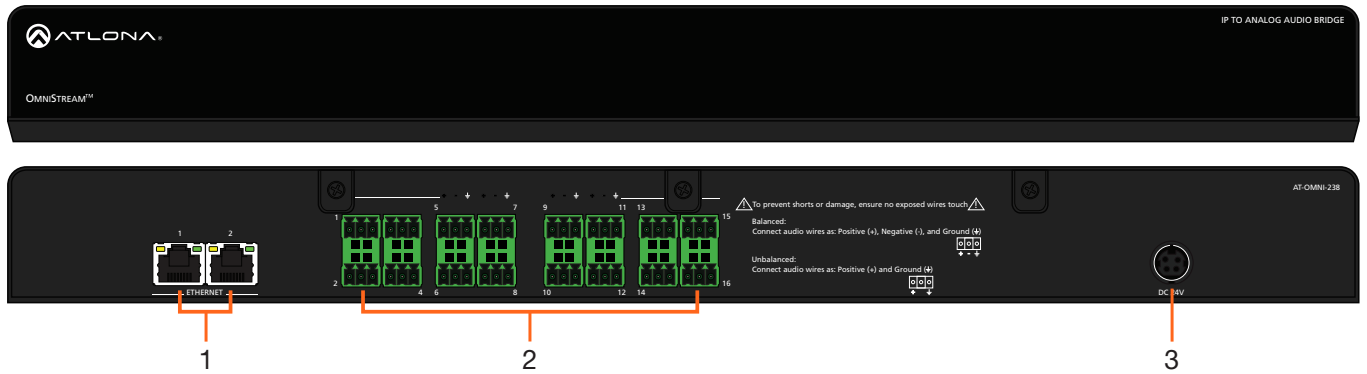
1. ETHERNET
   Connect one port to an Ethernet switch for audio streams and control and one port to another AT-OMNI-238 for up to 8 cascades.

2. LINE OUT
   Connect to an audio DSP, amplifier, or other audio players/distribution devices.

3. DC 24V
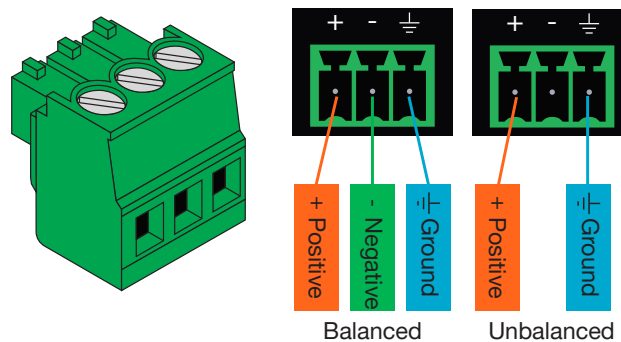   Connect included power supply from an outlet to this port.

> ⚠️ **IMPORTANT:** Do not connect both Ethernet interfaces to the same network switch. By default, the Network Interface Controller (NIC) operates in switched mode.

Installation

Audio Connector

Connect to an audio DSP, amplifier, or other audio distribution or player devices. Either balanced or unbalanced connections may be used.

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

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

3. Insert the wires into the correct terminal on the included Phoenix connector, as shown below.

4. Tighten the screws to secure the wires. Do not use high-torque devices as this may damage the screws and/or connector block.

Balanced   Unbalanced

Connection Instructions

1. Connect an Ethernet cable from the network switch to one of the Ethernet ports.

2. Connect included DC 24V power supply into the unit and the wall/power management switcher.

3. *Optional* Connect an Ethernet cable from the remaining Ethernet port to one of the Ethernet ports of another AT-OMNI-238 for cascading without the need to connect each individual OMNI 238 directly to a network switch.

    ⚠ **IMPORTANT:** Do not connect both Ethernet interfaces to the same network switch. By default, the Network Interface Controller (NIC) operates in switched mode.

4. Connect captive screw connectors from the outputs to audio players/distribution devices.

Mounting Instructions

1. Remove the AT-OMNI-238 from the box.

2. Install the OMNI-238 into a rack, using four rack screws.

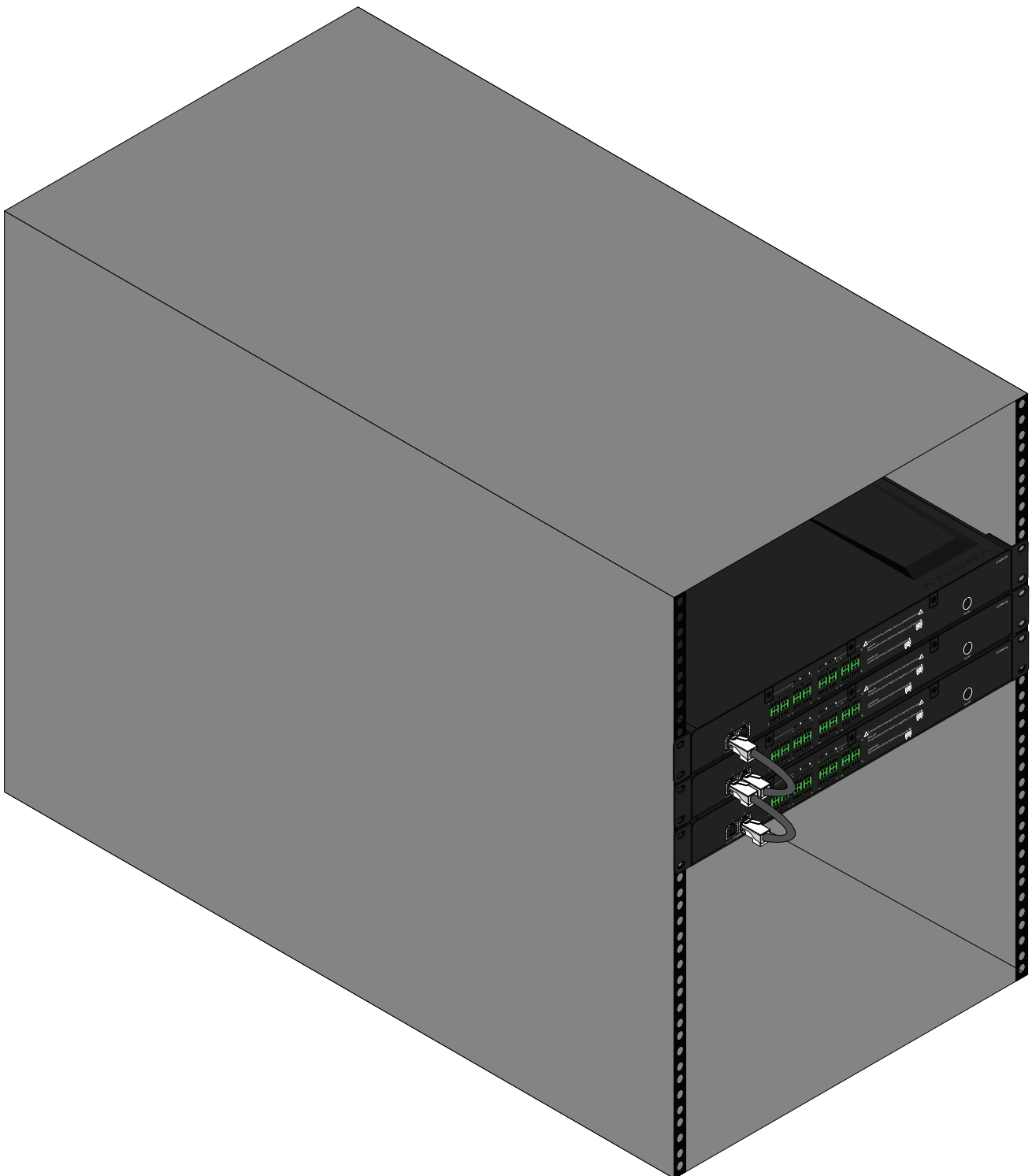   **NOTE:** Increase the air flow as needed to maintain the recommended temperature inside the rack.

    NOTE: Do not exceed the maximum weight loads for the rack. Install heaver equipment in the lower part of the rack for stability.
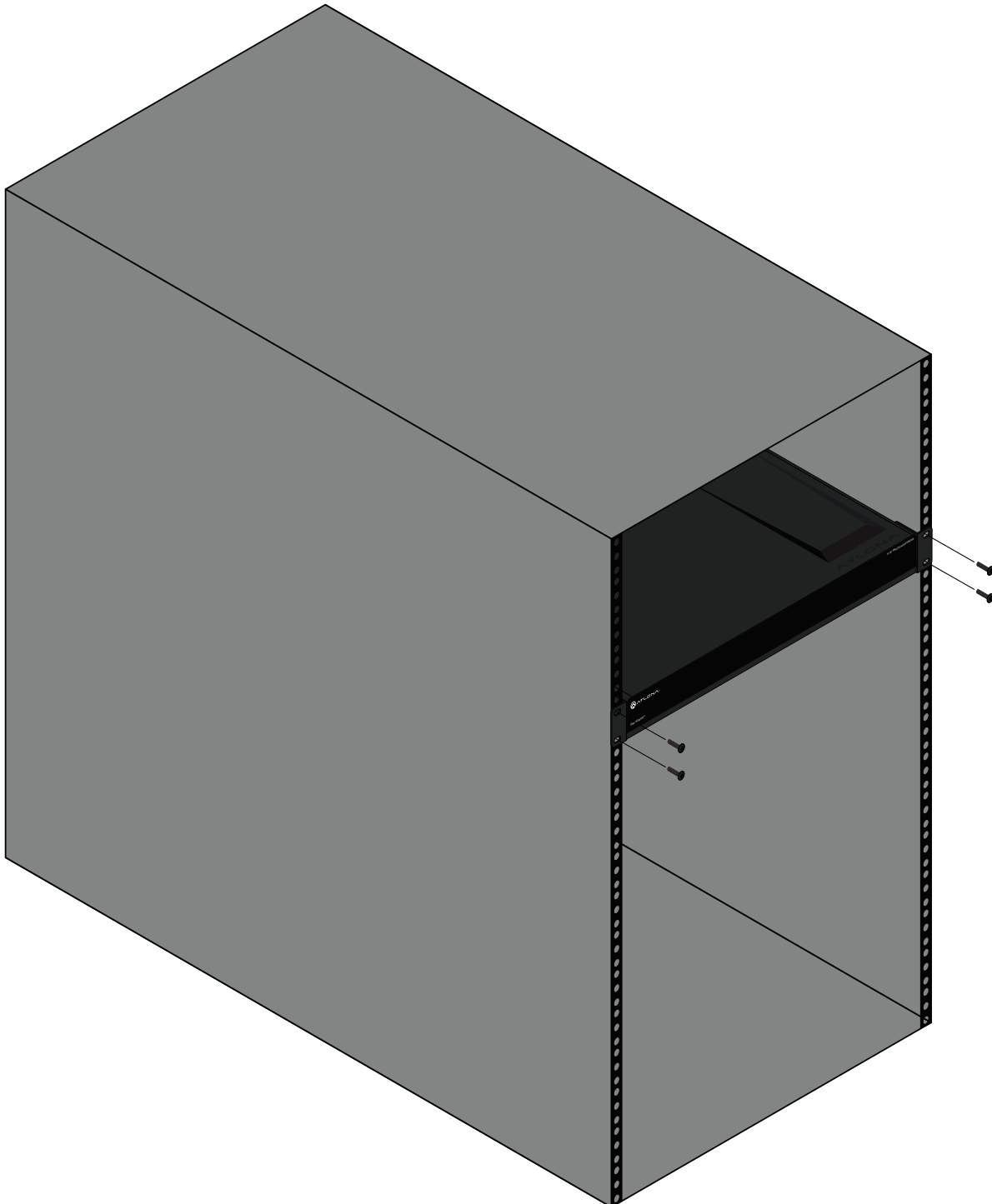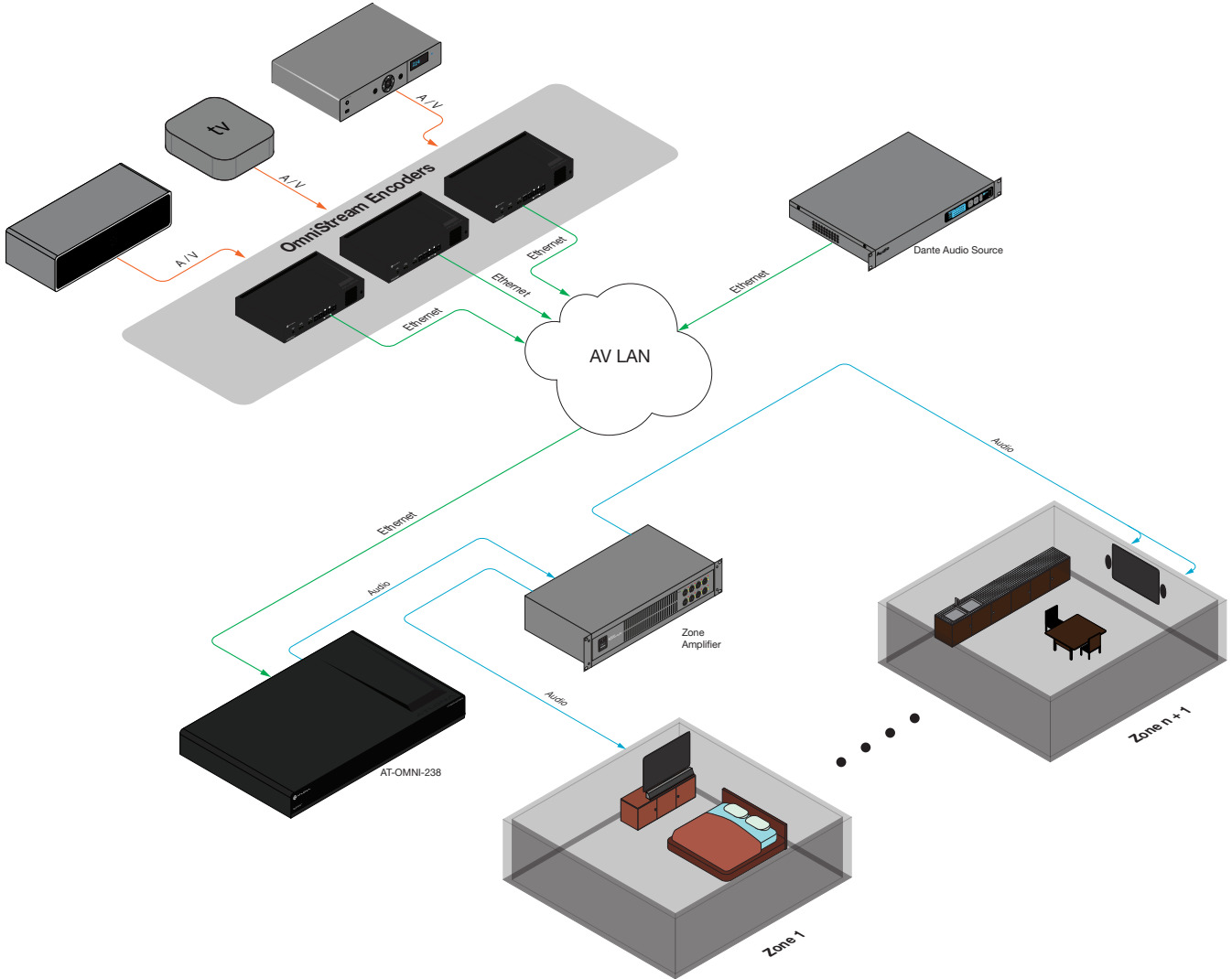
Cascading Instructions

1. Install the units into a rack, following the mounting instructions.

2. Run an Ethernet cable from the unit connected to the network switch into the next OMNI-238.

3. Repeat the process for up to 8 units.

   i **NOTE:** For signal stability, it is recommended not to exceed 8 units in a cascade chain.

Connection Diagram

tv

A / V

A / V

A / V

OmniStream Encoders

Ethernet

Ethernet

Ethernet

AV LAN

Dante Audio Source

Ethernet

Ethernet

Audio

Audio

Audio

Zone Amplifier

AT-OMNI-238

Zone n + 1

Zone 1

Configuration

IP

DHCP mode

By default, the OmniStream 238 is set to DHCP mode. In this mode, the unit is connected to the Local Area Network (LAN), and will automatically be assigned an IP address by the DHCP server.

Auto IP mode

If no DHCP server is detected after 30 seconds, then the unit will be placed in Auto IP mode and will be assigned a link-local IP address of 169.254.XXX.XXX.

Dante Controller

⚠️ **IMPORTANT:** When AES67 is enabled, the maximum audio sampling frequency is restricted to 48 kHz.

For use within a Dante system, Dante Controller is compatible with the AT-OMNI-238.

To download the software, go to http://www.audinate.com. The software will be found under products > software > Dante Controller. The download button is found on the right side of the page. Follow the instructions for downloading.

Once downloaded and installed, the AT-OMNI-238 will be automatically detected as long as the PC running Dante Controller and OmniStream 238 are on the same network.
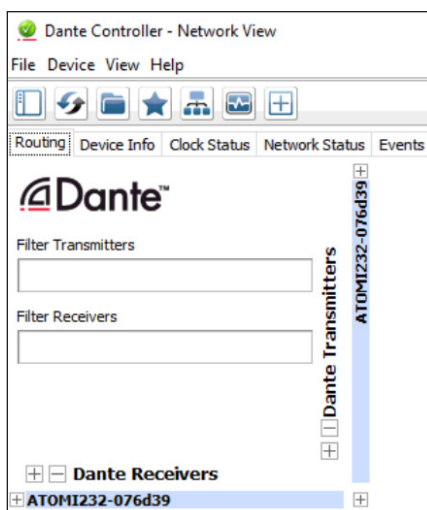
ℹ️ **NOTE:** Connection issues may occur if control software is used over VPN. Ensure the software and OMNI-238 are on the same network

AMS

For full configuration of the OMNI 238, AMS 2.0 is available from https://atlona.com/AMS for free. Two options can be used for installation: The free Linux based software download or the easy to install server hardware (AT-AMS-HW).

Once AMS has been set up:

1. Open a browser on the same network as AMS 2.0 and go to the IP of AMS 2.0.
   a. View the AMS 2.0 installation instructions on how to find the IP of the software.
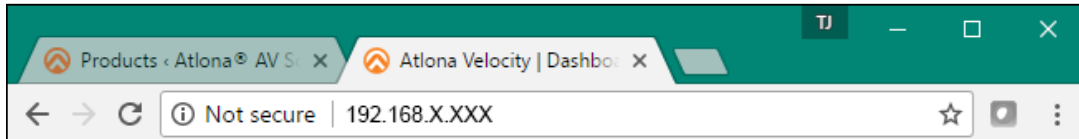
2. Enter the login information on the AMS 2.0 web page, then click the **Login** button.
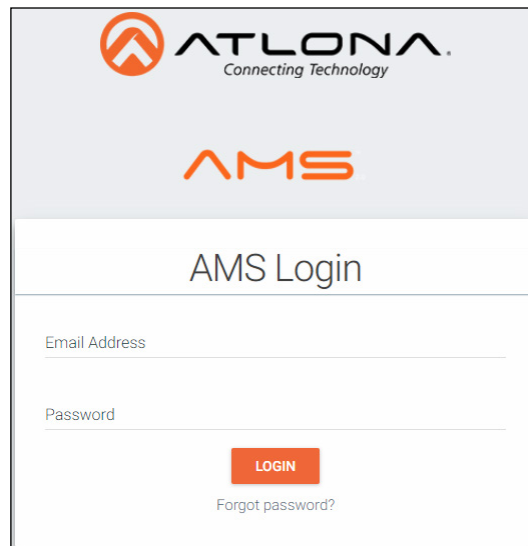
3. Select the ≡ button from the top left corner and select **Devices**.

4. Select All from the available options. A new window will appear.

5. Select the AT-OMNI-238 from the list. If it has not been added to a room, it will be found in the unallocated list. The OMNI 238 interface will appear in the frame on the left.
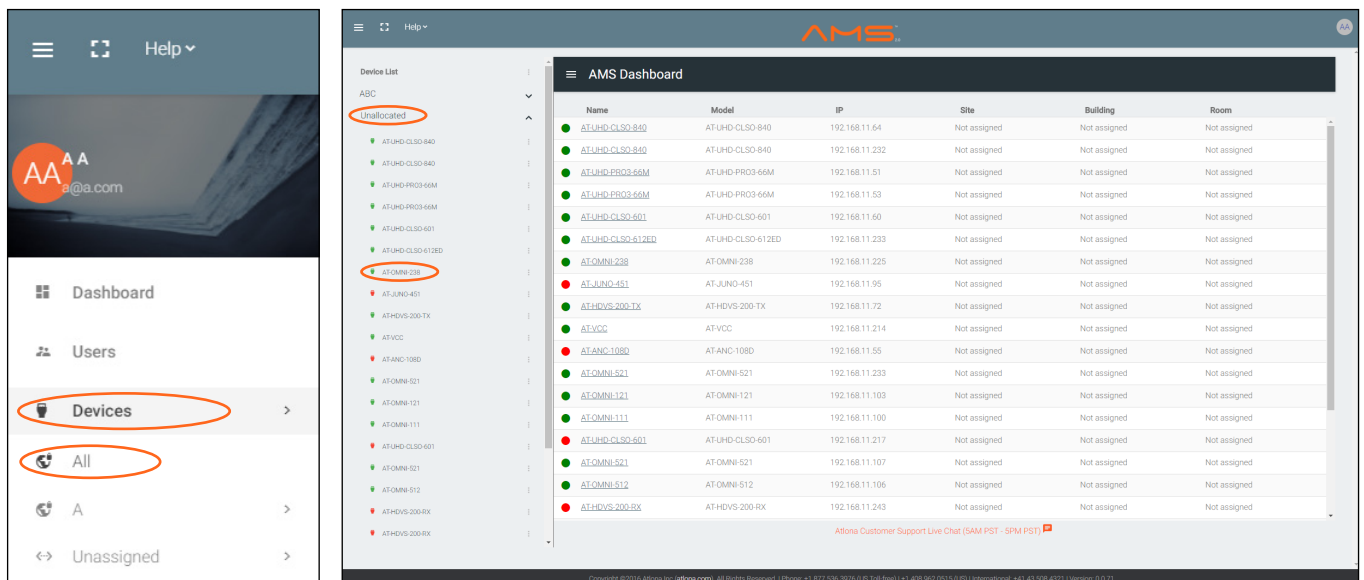
6. Provide an Alias for the AT-OMNI-238. This will make the device easier to find among other devices.

7. Press SAVE to make the changes live.
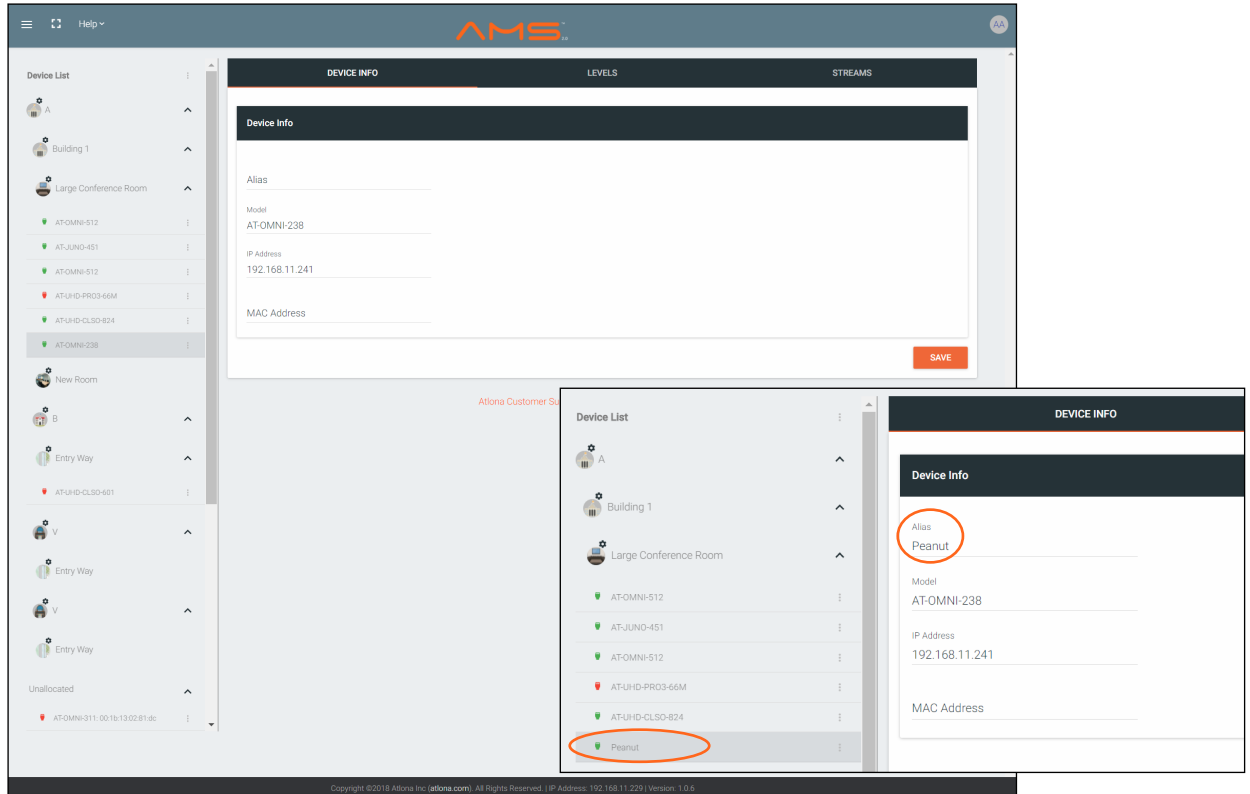
8. Select LEVELS from the top menu to adjust output volume, mute and unmute channels, and link audio channels for stereo audio pairing.
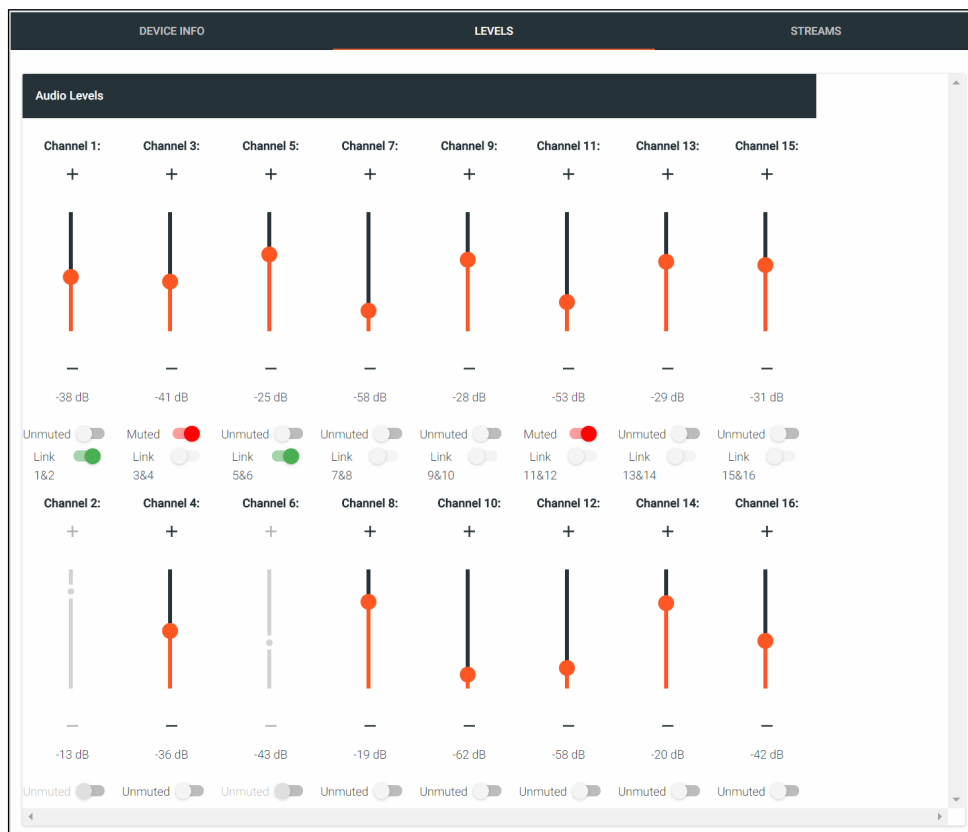
9. Select STREAMS from the top navigation.

10. Select the audio type for each stream routing. The slider will be blue for Dante and green for AES67 audio streams.

⚠️ **IMPORTANT:** When AES67 is enabled, the maximum audio sampling frequency is restricted to 48 kHz.

11. Enter the Stream Name and Channel Name to route the audio streams to the correct channels.

ℹ️ **NOTE:** Stream and Channel names are case sensitive and restricted to characters: A-Z, a-z, 0-9, and hyphen (-).

12. Press the SAVE button to push the route settings to the unit.

Appendix

Specifications

Audio	
Analog Output Channels	16, balanced or unbalanced with automatic muting on loss of input signal
Output Impedance	200 Ω balanced, 100 Ω unbalanced
SNR	< -90 dBu @ 0 dB gain
THD	< 0.05% at any gain, input signal 3 dB below maximum
Sampling Rate	AES67 - 48 kHz Dante - 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz
Dynamic Range	> 110 dB
Maximum Output Level	+20 dB

Connectors	
ETHERNET[1]	2 - RJ45, 10/100/1000 Mbps
AUDIO OUTPUT	8 - Euroblock, 6-pin (eight stereo or 16 mono)
DC 24V	1 - 4-pin, locking

Environmental	
Operating Temperature	+32 to +122 °F 0 to +50 °C
Storage Temperature	-4 to +158 °F -20 to +70 °C
Operating Humidity (RH)	20% to 95%, non-condensing
Storage Humidity (RH)	10% to 90%, non-condensing

Chassis		
Dimensions (H x W x D)	1.75 in x 17.24 in x 10.00 in 44 mm x 438 mm x 254 mm	
Weight	6.00 lbs 2.72 kg	
Safety	CE, FCC, RoHS	

Footnotes

(1) Maximum distance per hop 300 feet (100 meters), depending upon network configuration.

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