

# OmniStream<sup>™</sup> R-Type Dual-Channel Networked AV Encoder





# Version Information

Version	Release Date	Notes
1	Mar 2017	Initial release
2	Jul 2018	Includes updates to 1.2.1 firmware
3	Aug 2019	Documentation updated to support AMS 2.4.0
4	Sep 2019	Documentation updated to support OmniStream 1.2.5; various bug fixes.
5	Feb 2020	<ul> <li>Added web server documentation reflecting changes to 1.2.6 firmware. Refer to the release notes for a complete listing features and bug fixes.</li> <li>- Audio tone generator option added under Session &gt; Audio &gt; Source. Refer to the Session page (page 73).</li> <li>- LLDP menu item added. Refer to the LLDP page (page 85).</li> </ul>



# 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 http://www.atlona.com/registration

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# **Operating Notes**

• The Atlona Management System (AMS) is a free downloadable application from Atlona that provides network configuration assistance for this product. This application is available only for the Windows® Operating System and can be downloaded from the Atlona web site.



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



NOTE: Scaling and deinterlacing is not supported at 1080i.



# 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.

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### **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 and Discontinued Products

• 3 years from proof of purchase date for all Refurbished (B-Stock) and Discontinued 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 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 atlona.com.

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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.



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

- 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.

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#### **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 www.atlona.com.



# Important Safety Information



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.



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# Introduction

The Atlona OmniStream<sup>™</sup> 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, subframe 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.

# Features

- AV encoder for HDMI up to 4K/UHD, plus embedded audio and RS-232 or IR control pass-through
- Dual-channel AV encoding
- Supports UHD @ 60 Hz plus HDR formats
- HDCP 2.2
- Simplify integration with plug-and-play network switch compatibility
- Local or PoE (Power over Ethernet) powering
- AES67-compatible audio over IP streaming

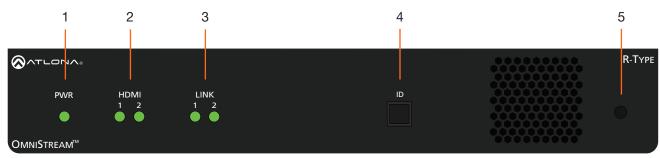
# Package Contents

1 x AT-OMNI-512

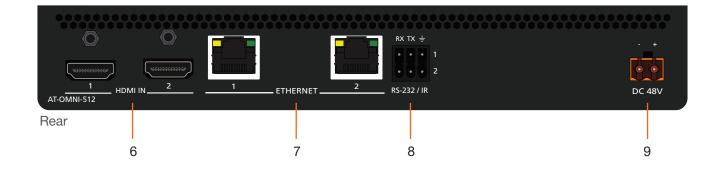
- 1 x 6-pin push spring connector
- 1 x Wall/table mounting brackets
- 4 x Rubber feet
- 1 x Installation Guide



# Panel Description



Front



### 1 PWR

This LED indicator glows bright 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 send a broadcast message to any network devices that are listening. This button is also used to set the encoder to factory-default settings. Refer to ID Button (page 24) for more information.

### 5 Reboot button

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

#### 6 HDMI IN 1 / HDMI IN 2

Connect HDMI cables from these ports to an HD source.

### 7 ETHERNET 1 / ETHERNET 2

Connect Ethernet cables from these ports to the Local Area Network (LAN).

#### 8 RS-232 / IR

Connect the included 6-pin push spring block to connect an automation system and an IR emitter or extender. RS-232 Connections (page 11) and IR Connections (page 12) for more information.

### 9 DC 48V

Connect the optional 48V DC power supply to this receptacle. This power supply is available, separately, and can be purchased through Atlona.

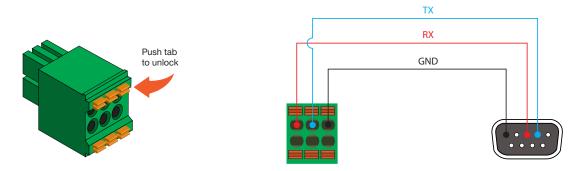


# Installation

## **RS-232** Connections

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.
- Insert the TX, RX, and GND wires into correct terminal on the included Phoenix block. If using non-tinned stranded wire, press the orange tab, above the terminal, while inserting the exposed wire. Repeat this step for the TX, RX, and GND connections.



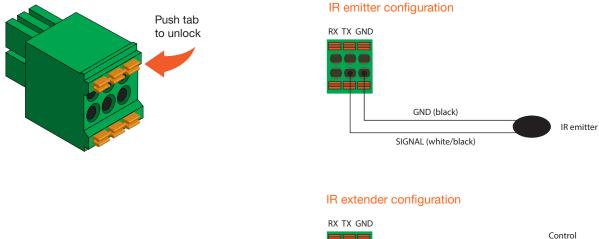


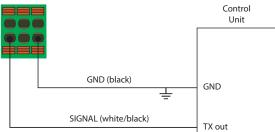
**NOTE:** Typical DB9 connectors use pin 2 for TX, pin 3 for RX, and pin 5 for ground. On some devices, pins 2 and 3 are reversed.



### **IR Connections**

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. Either the top three or bottom three set of terminals can be used for IR. Only the **RS-232 2** port (bottom set of connectors) supports both RS-232 and IR. Therefore, this port must be used for IR connections.





The following components are required. Note that other components may also be used. However, Atlona has tested and verified the following components for this application:

- Xantech CB12 1 Zone Connecting Block
- Xantech 12 V PSU
- Atlona AT-IR-CS-RX
- Atlona AT-OMNI-IR-TX

#### Decoder

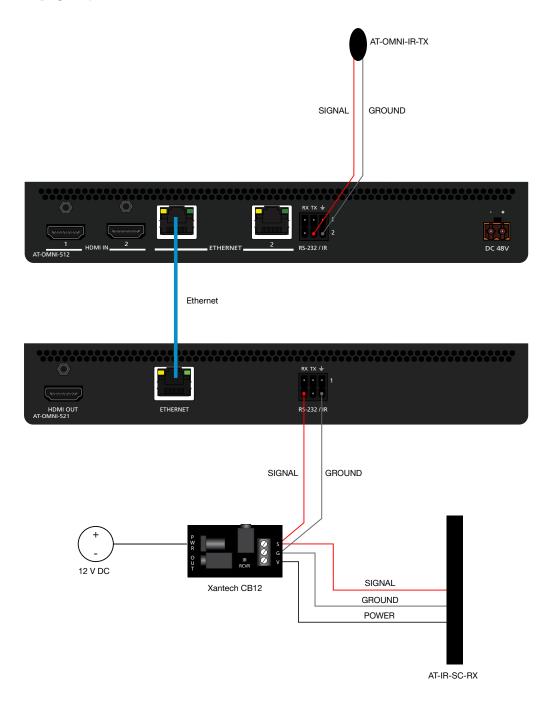
- 1. Connect the SIGNAL, GROUND, and POWER leads from the Xantech CB12 to the AT-IR-SC-RX.
- 2. On the Xantech CB12, connect the SIGNAL and GROUND leads to the **RX** and **⊥** pins, respectively, of the **RS**-**232 2** port.
- 3. Connect the Xantech 12 V power supply (or other compatible 12 V DC power supply) to the Xantech CB12.

#### Encoder

- 4. Connect the SIGNAL and GROUND pins, from the AT-OMNI-IR-TX, to the **TX** and  $\stackrel{-}{=}$  pins, respectively, of the RS-232 2 port.
- 5. Refer to the illustration on the next page to verify that the correct connections have been made.



For downstream IR control, either multicast or unicast mode can be used. However, when controlling a source from the decoder (viewing location), unicast mode should be used. Refer to Unicast Mode (page 25) and Multicast Mode (page 27) for more information.



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



Installation

### **Connection Instructions**

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.



**IMPORTANT:** If a PoE-capable switch is not available, then the 48V DC power supply (sold separately) must be connected to the encoder.

- 2. Connect an HDMI cable from each source to the **HDMI** ports on the encoder.
- RS-232 (optional) Refer to RS-232 Connections (page 11) for wiring information.
  - Connect the RS-232 controller/automation system to the RS-232 port on the encoder.
  - Connect the RS-232 device to the **RS-232** port on the decoder.

#### 4. IR (optional)

Refer to IR Connections (page 12) for wiring information.

#### • IR emitter

Connect the IR emitter to the **TX** and **GND** pins of the **RS-232 2** port. The IR emitter must be placed no more than 1" from the IR sensor on the device, in order to function properly.

IR extender

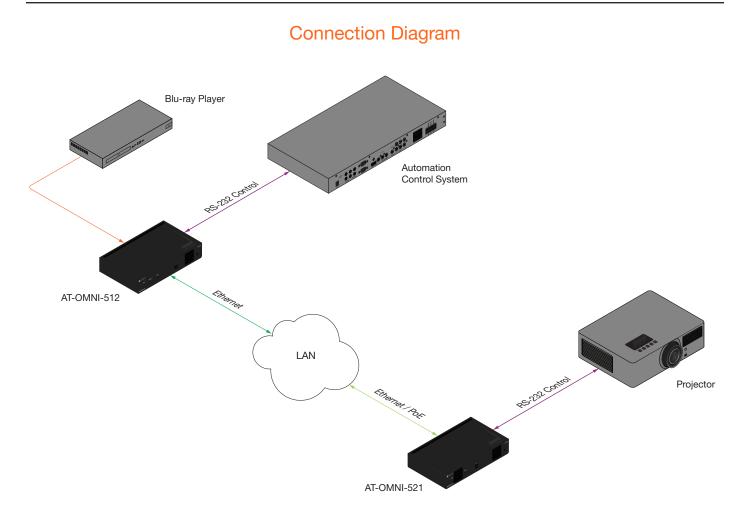
Connect the IR extender from the **RX** and **GND** pins of the **RS-232 2** port to the associated pins on the control system.

5. Once power is applied, the **PWR** indicator, on the front panel, will turn red, then amber, then green.





# Installation





## Accessing Encoders in AMS

It is recommended that the Atlona Management System (AMS) be used to configure and control OmniStream devices. AMS uses multicast Domain Name Server (mDNS) to automatically discover each encoder on the network. AMS is free and can be downloaded from https://www.atlona.com/ams.

By default, the AT-OMNI-512 is set to DHCP mode, allowing a DHCP server (if present) to assign the encoder an IP address. Once an IP address has been assigned, the Atlona Management System (AMS) can be used to manage the product on the network. Note that AMS will only be able to discover encoders if they are on the same VLAN.

In order for AMS to automatically assign multicast IP addresses to OmniStream encoders, the destination IP addresses for the session streams must be cleared.



**NOTE:** The following steps are required *only if a pre-existing multicast IP address* is assigned to each session and if automatic assignment of these multicast IP addresses, using AMS, is desired.

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

Username: admin Password: Atlona

	∧ms	
	AMS Login	-
	Biglia com Persona Forgot passenari? IP Address: 10.02:43:50:73:50 MAC Address: 10.02:43:50:73:50	
	AMS Login	
Email Address		
ap@a.com		
Password		
	Forgot password?	

- 3. Click the Login button.
- 4. The AMS Dashboard will be displayed.
- 5. Click the  $\equiv$  icon, in the upper-left corner of the AMS Dashboard.



6. Click **Devices** from the fly-out menu.

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51 Dashboard		2.0		
Ji Users			( 🖹 )	
© Sites >	Bar/Restaurant Edit	View AMS Documentation	AMS Version Notes	
♥ Devices → S <sup>*</sup> All	Building 1	(View AMS Documentation)	2.4.0.16 (View Full Notes)	
C QA	Building 2	AT-ANC-108D     Installation Guides	w Feature: Added Config for ANC-108 and HDVS  DU/210H	
↔ Unassigned →	Bar/Restaurant Edit	Manual     AT-GAIN-120	÷	
Virtual Matrix	Building 2	ATGAIN-60 ATH2H-44M		
	8	0 61 Devices Assigned Devices are Online	4 Devices are Offine	
	4 Rooms	3 Uders	+ Add Ubar	
	1 Sites Add Site	64 Devices Updated	1 Devices Ready To Update	
	Copyright	0019 Allow in <b>uston cont</b> AFRight Reserved, (* Adress 1019 407, Nation 7 201	336	

- 7. Click the **Unassigned** option.
- 8. Click the left and right arrows, at the bottom of the **Unassigned** list, to scroll through all available devices.

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a dome-121-0000 a dome-121-0009 a dome-121-0009 a dome-122-00046 a dome-122-00058	at-omni-112-00411	61 4 Devices are Drifter + ASI User	Tree
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	<ul> <li>at-omni-122-00508</li> <li>at/omni-122-00548</li> <li>Image: A straight of the straight o</li></ul>		



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 AMS 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 Configuring a Static IP Address (page 20) for more information on configuring the AT-OMNI-512 in Auto IP mode.

If no AT-OMNI-512 is 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.
- 9. Click the desired encoder within the Unassigned list.



10. Once the unit is selected, the control interface for the encoder will be displayed.

≡ 🕄 Help×				AMS.				₩ ē2
DEVICE LIST	:	DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER
€ QA	^	Device Info						
💮 Bulding 1	^	Alias:						
e turketsuurt		Model: IP Address	AT-DMNI-512 10.20.40.19					
		MAC Address Firmware Version:	B8:98:80:01:89:F4					
💮 Bulding 2	^	FIRMWARE UPDATE						
Bor/Restaurant		Description:						
MK office		Location: Uptime:	4 days, 0 hours, 28 minutes					
Unassigned	~	Hostname:	at-omni-512-00037					
		Reset users Reset network						
			DT DEVICE					
		SHOW ADVANCED 👻						
				Atlana Cus	tomer Support Live Chat (SAM PST - SPM P	st) 🗖		
								-



11. Click **SESSION** in the top menu bar.

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DEVICE LIST	÷	DEVICE INFO		INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
QA	^	Stream 1			Stream 2		Stream 3 (AES67)		Stream 4 (AES67)	
<b>3</b> 3	^	Interface:		-	Interface:	eth2 -	Interface:	eth1 •	Interface:	eth2 -
Conference 1	^	Scrambling			Scrambling:		SAP:	•	SAP:	
♥ ATHDVS-210U-TX/WP 1		Video			Video		Intervat	10	Interval	10
Conference 2	^	Encoder:	HDMI Input 1		Encoder:	HDMI Input 2	Name:	session3	Name:	session4
		Enable Video: Destination	225.0.0.76		Enable Video: Destination	225.0.0.78	Description:		Description:	
# ATHDVS-210U-TX/WP 1		Multicast/Unicast Address:	223.0.0.70		Multicast/Unicast Address:	223.0.0.70	Originator:		Originator:	
Entry Way		Destination UDP Port:	1000		Destination UDP Port:	1000	Audio		Audio	
Building 1	^	TTL	255		TTL:	255	Enable AES67:	HDMI Input 1	Source: Enable AES67:	HDMI Input 2
Bar/Restaurant							Downmixing:	None -	Downmixing:	None
MK office		Audio Source:	HDMI Input 1		Audio Source:	HDMI Input 2	Enable Audio:	•	Enable Audio:	
		Enable Audio:	•		Enable Audio:	•	Destination Multicast/Unicast	239.69.0.1	Destination Multicast/Unicast	239.69.0.2
Building 2	^	Destination Multicast/Unicast	225.0.0.77		Destination Multicast/Unicast	225.0.0.79	Address:		Address:	
Bar/Restaurant		Address:			Address:		Destination UDP Port:	1100	Destination UDP Port:	1100
K office		Destination UDP Port:			Destination UDP Port:		TTL	255	TTL	255
-		TTL	255		TTL:	255				
nassigned	*									
		Control/Serial: Source:	Serial Port 1		Control/Serial: Source:	Serial Port 2 -		SAVE		SAVE
		Enable Aux			Enable Aux	•				
		Destination	225.0.1.47		Destination	225.0.1.51				

- 12. Locate the Video section.
- 13. Delete the value in the Destination Multicast / Unicast Address field.

<b>6</b> 04	^	Stream 1		Stream 3 (AES67)	Stream 4 (AES67)
<b>°</b> 3	^	Interface: eth1	Destination Multicast/Unic		Interface: eth2 ~
Conference 1		Scrambling:	Scrambling:	SAP:	SAP:
Conference 2		Video	Video	Interval: 10	Interval: 10
Entry Way		Encoder: HDMI Input 1 Enable Video:	Encoder: LUPHT Input 2 Endole Video:	Name: session3	Name: session4
💮 Building 1	^	Destination 225.0.0.76 Multicast/Unicast Address:	Destination 225.0.0.78 Multicast/Unicast Address:	Originator: -	Originator: -
Bar/Restaurant		Destination UDP Port: 1000	Destination UDP Port: 1000	Audio Source: HDMI Input 1	Audio Source: HDMI input 2.
HK office		200	200	Enable AES67:	Enable AES67:

14. Locate the Audio section and delete the value in the Destination Multicast / Unicast Address field.

Conference 1		Address:		Address:		originator.		ongenator.	
Conference 2		Destination UDP Port:	1000	Destination UDP Port:				A. de	
Entry Way		TTL	255	Destinat	tion Multicast/Uni	cast Ad	dress field	Audio Source: Enable AES67:	HDMI Input 2
Building 1	^					Downmixing:	None	Downmixing:	None
🚳 Bar/Restaurant		Audio Source: Enable Audio:	HDMI Input 1	Audio Source: Enable Audio	HDMI Input 2	Enable Audio:	•	Enable Audio:	•
Alk office		Destination Multicast/Unicast		Destination Multicast/Unicast	225.0.0.79	Destination Multicast/Unicast Address:	239.69.0.1	Destination Multicast/Unicast Address:	239.69.0.2
Building 2	^	Address:		Address:		Destination UDP Port	1100	Destination UDP Port:	1100
Bar/Restaurant		Destination UDP Port:	255	Destination UDP Port:	255	TTL	255	TTL	255
MK office									
Unassigned	^	Control/Serial: Source:	Serial Port 1 -	Control/Serial: Source:	Serial Port 2	VE butt	ON		SAVE
₩ AT-GAIN-60-00286		Enable Aux		Enable Au	•				
# ATHD-SC-500		Destination Multicast/Unicast	225.0.1.47	Destination Multicast/Unicast	225.0.1.51				
ATHD-SC-500		Address:	/	Address:					
HDRH2H44-00EA09		Destination UDP Port:	1200	Destination UDP Port:	1200				
ATHOR-M2C 1		TTL	255	TTL:	255				
			· · · · · · · · · · · · · · · · · · ·						
HDR-M2C-006A9C					SAVE				

- 15. Scroll down to the bottom of the page and click the SAVE button at the bottom of the Stream 1 window group.
- 16. Repeat steps 12 through 15 under for **Stream 2**, if required. If there are multiple encoders on the system, then these steps will need to be completed for each encoder.



### Configuring a Static IP Address

The following section is only required to set the AT-OMNI-512 encoder, currently in Auto IP mode, to a static IP address. If a DHCP server is not found within 60 seconds, encoders are automatically 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 in order for AMS to locate it on the network.

- Make sure that the AT-OMNI-512 is powered. Power will need to be supplied either by the included external 48
  V DC power supply or by connecting an Ethernet cable from the encoder to a PoE-capable switch. The Ethernet
  cable can be connected to either ETHERNET 1 or ETHERNET 2.
- 2. Connect an Ethernet cable from the PC, directly to one of the Ethernet ports on the encoder. Make sure that the computer being used has AMS installed.
- 3. Configure the PC to a static IP address that is on the same subnet as the encoder.



**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.

- 4. Login to AMS. Refer to Accessing Encoders in AMS (page 16) for information on the login process.
- 5. Locate the AT-OMNI-512 encoder under the Unassigned section within AMS.
- 6. Click on the device.
- 7. Under AMS, click the **NETWORK** tab.

DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
Network 1 (eth1)				Network 2 (eth2)			
Enabled:	•			Enabled:	•		
Carrier:	•			Carrier:	•		
DHCP Mode:	DHCP			DHCP Mode:	DHCP		
Changing IP Mode from Static to DHC	P requires running a scan to find the n	w IP address of the device.		Changing IP Mode from Static to DH	ICP requires running a scan to find the new I	P address of the device.	
IP Address:	10.20.40.17			IP Address:			
Subnet:	255.255.255.0			Subnet:			

8. Click the **DHCP Mode** drop-down list and select **Static**.

DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
Network 1 (eth1)				Network 2 (eth2)			
Enabled:	•			Enabled:	•		
Carrier:	•			Carrier:	•		
DHCP Mode:	DHCP			DHCP Mode:	DHCP		
Changing IP Mode from Static to DHCP		ſ		Changing IP Mode from Static to DH	ICP requires running a scan to find the new	IP address of the device.	
IP Address:	10.20.40.19	-		IP Address:			
Subnet:	255.255.255.0			Subnet:			

- 9. Enter the required network information for the encoder in the IP Address, Subnet, and Gateway fields.
- 10. Click the **Save** button in the bottom-right corner, to apply the changes.
- 11. Disconnect the encoder from the PC and connect it to the network.
- 12. The encoder is now ready for use.



## **Input Selection**

Once the OmniStream encoder is configured, and can be located on the network, the encoder will need to be instructed on how to handle source devices and to which stream each source is assigned.

### **Input Selection**

- 1. Under AMS, click INPUT in the menu bar.
- 2. Click the Input drop-down list for HDMI Input 1 and select the input.

DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS
HDMI Input 1				HDMI Input 2
Input:	Not Used			Input:
Bit Rate:	HDMI Input 1 Video Generator 1	ſ		Bit Rate:
Subsampling:	4:2:0	<b>.</b>		Subsampling:
Force YUV:				Force YUV:
			SAVE	
SHOW ADVANCED 👻				

- 3. Repeat the above steps for the HDMI Input 2 section. If a secondary HDMI source is not connected to the encoder, then these fields may be left at their current settings.
- 4. Click the **SAVE** button in to commit changes.

### Verifying the Input

1. Click **INPUT** in the menu bar.

HDMI Input 1		HDMI Input 2
Cable Present: EDID:	Default	Cable Present: 
HDCP Encrypted: Supported Version:	Cable Present indicator	+DCP Encrypted:
Video: Audio:	N/A N/A	Video: Audio:
		SAVE

2. Check the **Cable Present** indicator. If a cable is connected from a source to an input on the encoder, then the indicator will be green. If no cable is connected, then the indicator will be red.

Note that this indicator may also reflect the integrity of the cable: if the cable is bad or does not maintain a secure connection, then the **Cable Present** indicator may also be displayed as red. If this is the case, try a different HDMI cable.



### **Session Configuration**

Once the inputs have been assigned to the desired source, the next step is to configure each *session*. A *session* is a class-D multicast IP address that is assigned to an AV stream. If each stream is configured for bit rates less than 450 Mbps (only recommended for 1080p and lower resolutions), a single Ethernet cable can transport two sessions. The AT-OMNI-512 supports up to four sessions, which allows for redundancy in dual 1080p-use cases.

#### Video

- 1. Under AMS, click Session in the menu bar.
- 2. Click the desired physical interface from the Interface drop-down list: eth1 or eth2.
- 3. Select the desired encoder session from the Encoder drop-down list: HDMI Input 1 or HDMI Input 2.
- 4. Under the **Video** section, make sure that the **Enable Video** toggle switch is enabled (green). To disable video at any time, click the toggle switch so that it appears gray.
- 5. Enter the destination multicast IP address in the **Destination Multicast/Unicast IP Address** field, within the range 224.0.0.0 through 239.255.255.255.
- 6. Enter the port number in the **Destination UDP Port** field.

#### **Audio**

- 1. Locate the Audio section.
- 2. Click the Source drop-down list and select the HDMI source.
- 3. Click the **Enable Audio** toggle switch and make sure it is enabled (green). To disable audio at any time, click the toggle switch so that it appears gray.
- 4. Enter the specific destination IP address, if desired, in the **Destination Multicast/Unicast IP Address** field. By default, AMS will automatically populate this field.
- 5. Enter the port number in the **Destination UDP Port** field.



**IMPORTANT:** AMS does not allow the same port numbers to be used on both video and audio. Always specify unique ports for both video and audio.



# **Basic Operation**

## **LED** Indicators

The following table provides a listing of front-panel LED indicators and their status:

LED			Description
PWR	Off	0	<ul> <li>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 <b>PWR</b> indicator will be green.</li> </ul>
			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 <b>PWR</b> indicator will be red.
	Red		The encoder is booting.
	Green	•	The encoder is ready.
HDMI 1 / 2	Red		No source is connected to the input.
			Check the HDMI cable for possible damage or loose connections.
	Green	•	• The link integrity between the source and the encoder is good.
LINK 1 / 2	Red	•	• The optional 48V DC power supply is connected, but no Ethernet cables are connected between the switch and the <b>ETHERNET</b> port(s).
			Check the Ethernet cable for possible damage or loose connections.
	Green	•	Link integrity is good between the encoder and the network.



### **Basic Operation**

## **ID Button**

The ID button serves two functions:

- 1. Sends a broadcast message, over the network, to any devices that may be listening.
- 2. Resets the encoder to factory-default settings.



### **Broadcast Messaging**

Press and release the **ID** button to send a broadcast notification over the network to any devices that may be listening.

#### Reset to Factory-Default Settings.

- 1. Press and hold the ID button for approximately 30 seconds.
- 2. The LED indicators on the front panel will flash, then turn "off."
- 3. The encoder is now reset and will need to be reconfigured.



**WARNING**: Performing a factory-default reset will erase all user-programmed settings from the encoder. IP settings are not preserved.

### **Rebooting OmniStream**

To reboot the OmniStream encoder, press and release the recessed button, on the far-right side of the unit, using a small, pointed object. Rebooting the encoder does not reset the encoder to factory-default settings.

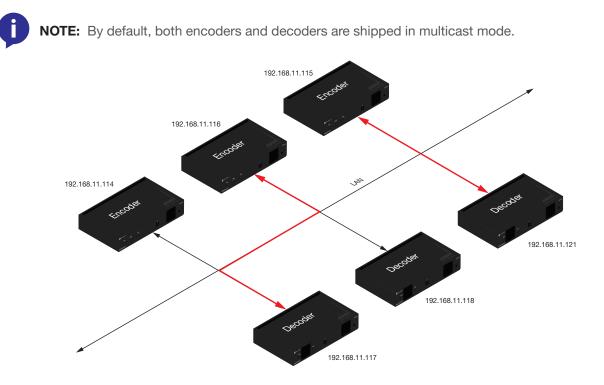




## Unicast Mode

The term *unicast* is used to describe a configuration where information is sent from an encoder to a single decoder. Although it is common to have multiple encoder and decoder units within a system, it may also be desirable to restrict a single encoder to communicate with one decoder. In *unicast* mode, OmniStream encoders and decoders function similar to an n x 1 switcher. Changing the destination IP address at the encoder, will direct the stream to be received by a different decoder.

The illustration below shows three encoders and three decoders on a network, operating in *unicast* mode. The red lines indicate the data paths from each encoder to a separate (single) decoder.



- 1. Login to AMS. Refer to Accessing Encoders in AMS (page 16), if necessary.
- 2. Click **SESSION** in the menu bar and scroll down to the **Video** section.
- 3. Enter the IP address of the decoder in the Destination IP Address field. Repeat this process for each session.

Video		Video	
Encoder:	HDMI Input 1	Encoder:	HDMI Input 2
Enable Video:		Enable Video:	
Destination	225.0.0.76	Destination	225.0.0.78
Multicast/Unicast		Multicast/Unicast	
Address:		Address:	
Destination UDP Port:	1000	IP address of decoder	1000
TTL:	255	TTL:	255

4. Scroll down to the bottom of the page and click the SAVE button to commit all changes.



- 5. Go to the decoder AMS interface. Refer to the *OmniStream R-Type Dual-Channel A/V Decoder User Manual*, if necessary.
- 6. Click **IP INPUT** from the menu.
- 7. Remove the IP address from the Multicast Address field.
- 8. Click the **SAVE** button to commit changes.

IP Input 1 (Video)	
Enabled:	Field should be blank
Interface:	eth1
Multicast Address:	
Port:	1000
	SAVE

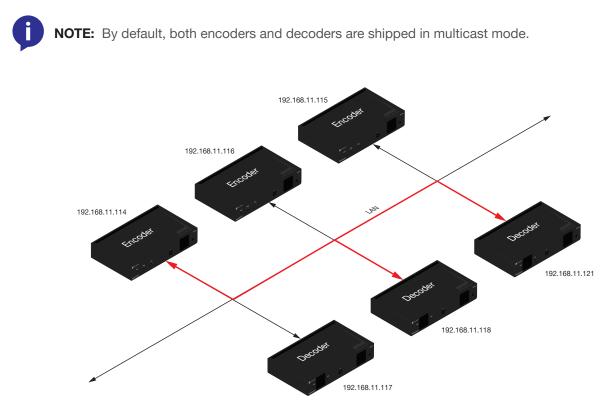
9. Unicast setup is complete. The decoder unit will now receive streams exclusively from the encoder containing the IP address of this decoder.



### **Multicast Mode**

The term *multicast* is used to describe a configuration where information is sent from one or more points to a set of other points. For example, a single encoder can transmit data to multiple decoders. In addition, if multiple encoders are used, each encoder can stream data to any decoder that is not already receiving data from an encoder. In *multicast* mode, the OmniStream encoders and decoders function similar to a matrix switcher.

The illustration below shows three encoders and three decoders on a network, operating in *multicast* mode, where multiple decoders are subscribed to a single encoder. The red lines indicate the data paths from an encoder (192.168.11.117) to multiple decoders.



- 1. Login to AMS. Refer to Accessing Encoders in AMS (page 16), if necessary.
- 2. The AMS Dashboard will be displayed.
- 3. Click the  $\equiv$  icon, in the upper-left corner of the AMS Dashboard.
- 4. Click Virtual Matrix from the fly-out menu. Refer to The Virtual Matrix (page 57), if necessary.
- 5. Locate the desired encoder in the Virtual Matrix, as shown on the next page.
- Create a cross-connection to the desired decoder. When a cross-connection is created, AMS will automatically assign a multicast IP address to both the encoder and decoder. By default, AMS automatically assigns a multicast IP address to each OmniStream encoder and decoder.

Refer to the illustration on the following page, if necessary.



# Basic Operation

Encoders / Decoders	GEND	Andrew's AT-OMNI-122 192.168.11.181	Connected	AT-OMNI-121 192.168.11.34	Connected	AT-OMNI-122 192.168.11.86 192.168.11.87	Connected	AT-OMNI-521 192.168.11.39	Connected	AT-OMNI-122 192.168.11.160 192.168.11.161	Connected	Andrev 192.16
Audio     All     All     Data     Data     Data		at-omni-122-00548	Options	at-omni-121-00461	Options	at-omni-122-00242	Options	at-omni-521-00064		at-omni-122-00381	Options	at-omr
AT-OMNI-112		HDMI 1	HDMI 2	HDMI 1		HDMI 1	HDMI 2	HDMI 1		HDMI 1	HDMI 2	
192.168.11.89 192.168.11.88	HDMI 1										$\checkmark$	
at-omni-112-00349 Connected ••	HDMI 2							$\bigcirc$				
AT-OMNI-111 192.168.11.50 at-omni-111-00200 Connected	HDMI 1											
AT-OMNI-512 192.168.11.51	HDMI 1							<b></b>				
at-omni-512-00003 Connected Or	HDMI 2											
Andrew's AT-OMNI-112 192.168.11.116	HDMI 1	<b>S</b>		<b>S</b>								
at-omni-112-00722 Disconnected	HDMI 2		<b>S</b>									
AT-OMNI-112 192.168.11.183	HDMI 1											
192.168.11.148 at-omni-112-00335 Disconnected •	HDMI 2											
Andrew's AT-OMNI-111 192.168.11.167 at-omni-111-00355 Connected OT	HDMI 1	•		<b>&gt;</b>								
AT-OMNI-512 192.168.11.31	HDMI 1	Ø	:0	0								
at-omni-512-00037 Connected Or	HDMI 2											






### AES67 Audio

AES67 audio is a standard for high-performance audio streaming over IP, providing several features such as synchronization, media clock identification, and connection management. AES67 does not support bitstream/ compressed audio formats, such as Dolby® Digital, and others. Source audio must be transmitted as LPCM up to eight channels at 192 kHz / 24-bit.

- 1. Login to AMS. Refer to Accessing Encoders in AMS (page 16), if necessary.
- 2. Click **Devices** > **All** and select the desired encoder from the **Device List**.
- 3. Click **SESSION** in the menu bar.
- 4. Locate the **Audio** section, under **Stream 3**, and click the **Enable Audio** toggle switch to enable this feature. When enabled, the toggle switch will be green. Note that **Stream 3** and **Stream 4** must be used for AES67 audio.

DEVICE INFO		INPUT	SERIAL	SESSION	ALARMS		NETWORK	OTHER	CONFI	GURATION
Stream 1			Stream 2		Stream 3 (AES67)			Stream 4 (AES67)		
Interface:	eth1	÷	Interface:	eth2	Interface:	eth1	•	Interface:	eth2	-
Scrambling:	•		Scrambling:	•	SAP:			SAP:	•	
Video Encoder: Enable Video: Destination Multicast/Unicast Address: Destination UDP Port:			Video Encoder: Enable Video: Destination Multicast/Unicast Address: Destination UDP Port:		Audio Source: Enable AES67: Downmixing: Enable Audio Destination Multicast/Unicast	HDMI Input 1		Audio Source: Enable AES67: Downmixing: Enable Audio: Destination Multicast/Unicast	HDMI Input 2 None 239.69.0.16	•
Downmix	255 ina:	None	TTL:	255	Address:		None	Address:		n I
Enable Au Destinatio Multicast, Address:	on	239.69.0.1	ō		Enable Audio: Destination Multicast/Unic Address:	ast	239.69.0.16			SAVE
Destinatio	on UDP Port:	1100			Destination UD	P Port:	1100			
TTL:		255			TTL:		255			
_				SAVE				I	SAVE	

- 5. Select the type of downmixing from the **Downmixing** drop-down list, if desired. Available options are: **None**, **Mono**, or **Stereo**.
- 6. Click the **SAVE** button within the **Stream** window group.
- 7. Go to the decoder interface and click **OTHER** in the menu bar and click **SAP** in near the upper-left corner of the AMS screen.
- 8. Click the **Enable** toggle switch to enable SAP. When enabled, the toggle switch will be green. Refer to the *OmniStream Single-Channel / Dual Channel A/V Decoder User Manual*, if necessary. If the decoder, Dante controller, or DSP is to receive AES67 audio, this step is *required*.
- 9. Click the SAVE button on the SAP page.



### **EDID Management**

OmniStream encoders provide EDID management for each input. The encoder can be assigned one of several included EDID presets or can be assigned a custom EDID. Raw EDID data can be copied from displays or other sink devices, that are connected to OmniStream decoders.

### Selecting an EDID Preset

- 1. Login to AMS. Refer to Accessing Encoders in AMS (page 16), if necessary.
- 2. Click INPUT in the menu bar.
- 3. Click the EDID drop-down list, within the desired HDMI Input window group, and select the EDID.

			SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
HDMI Input 1				HDMI Input 2			
Input:	HDMI Input 1	Ŧ		Input:	HDMI Input 2	~	
mpar	Hominputi			mput.	HDMI Input 2		
Bit Rate:	900			Bit Rate:	900		
Subsampling:		-		Subsampling:		-	
Force YUV:	•			Force YUV:	•		
			SAVE				SAVE
			SAVE				SAVE
SHOW ADVANCED -							
SHOW ADVANCED +							
HDMI Input 1				HDMI Input 2			
HDMI Input 1				HDMI Input 2			
	•			HDMI Input 2 Cable Present:	•		
Cable Present:	Default - Video Mode				• Default - Video Mode		-
Cable Present: EDID:		HDR)		Cable Present:	-		Ÿ
Cable Present: EDID:	Default - Video Mode	HDR)		Cable Present:	-		÷
Cable Present: EDID: HDCP Encrypted:	Default - Video Mode Default - Video Mode (No	HDR)		Cable Present: EDID:	Default - Video Mode		-
Cable Present: EDID: HDCP Encrypted:	Default - Video Mode Default - Video Mode (No I ATL 1080P 2CH ATL 1080P DD			Cable Present: EDID: HDCP Encrypted:	Default - Video Mode		
Cable Present: EDID: HDCP Encrypted: Supported Version:	Default - Video Mode Default - Video Mode (No I ATL 1080P 2CH ATL 1080P DD	HDR)		Cable Present: EDID: HDCP Encrypted:	Default - Video Mode 9 2.2		
Cable Present: EDID: HDCP Encrypted: Supported Version:	Default - Video Mode Default - Video Mode (No I ATL 1080P 2CH ATL 1080P DD			Cable Present: EDID: HDCP Encrypted: Supported Version:	Default - Video Mode		
Cable Present: EDID: HDCP Encrypted: Supported Version: Negotiated Version:	Default - Video Mode Default - Video Mode (No ATL 1080P 2CH ATL 1080P DD ATL 1080P MCH ATL 4K60 MCH			Cable Present: EDID: HDCP Encrypted: Supported Version:	Default - Video Mode 9 2.2		
HDMI Input 1 Cable Present: EDID: HDCP Encrypted: Supported Version: Negotiated Version: Video: Audio:	Default - Video Mode Default - Video Mode (Noi ATL 1080P 2CH ATL 1080P DD ATL 1080P MCH ATL 4K60 MCH ATL 4K60 PCM_MCH			Cable Present: EDID: HDCP Encrypted. Supported Version: Negotiated Version:	Default - Video Mode 2.2 2.2		
Cable Present: EDID: HDCP Encrypted: Supported Version: Negotiated Version: Video:	Default - Video Mode Default - Video Mode (Noi ATL 1080P 2CH ATL 1080P DD ATL 1080P MCH ATL 4K60 MCH ATL 4K60 PCM_MCH ATL 4K60 PCM_ACH			Cable Present: EDID: HDCP Encrypted: Supported Version: Negotiated Version: Video:	Default - Video Mode 2.2 2.2 N/A		

4. Click the **SAVE** button to commit changes.

### Using a Custom EDID

Encoders can be assigned a custom EDID. The raw EDID data must be in hexadecimal format. Commas or spaces can be included as delimiters to separate each hexadecimal value.

- 1. Login to AMS. Refer to Accessing Encoders in AMS (page 16), if necessary.
- 2. Click **INPUT** in the menu bar.
- 3. Click the EDID drop-down list.
- 4. Scroll down to the bottom of the list and select + Add Custom EDID.
- 5. Enter the name of the EDID in the **EDID Name field**. Spaces and special character are valid entries. Use a descriptive name for this field.



### **Basic Operation**

Add Custom EDID			
EDID Name			
3840 x 2160 YUV 60 Hz			
Raw EDID			
Raw EDID			
		CANCEL	SUBMIT

- 6. Enter the EDID data in the **Raw EDID** field. EDID data can be copy and pasted from an EDID editor and must be in hexadecimal format. Commas or spaces can be included as delimiters to separate each hexadecimal value.
- Click the SUBMIT button to commit changes or click CANCEL to abort the addition of a custom EDID. Once a custom EDID is created, it will be added to the drop-down list and can be selected without re-entering the information.

The following tables provide a list of available EDID selections.

EDID	2CH LPCM	MCH LPCM	DTS	Dolby	Dolby Digital*	DTS-HD MA †	Dolby True HD*
Default -Video Mode	No	Yes	Yes	Yes	Yes	Yes	Yes
Default - Video Mode (No HDR)	No	Yes	Yes	Yes	Yes	Yes	Yes
1080P 2CH	Yes	No	No	No	No	No	No
1080P DD	No	No	Yes	Yes	No	No	No
1080P MCH	No	Yes	Yes	Yes	Yes	Yes	Yes
4K60 MCH	No	Yes	Yes	Yes	Yes	Yes	Yes
4K60 PCM MCH	No	Yes	No	No	No	No	No
460 LPCM 2CH	Yes	No	Yes	Yes	Yes	Yes	Yes
720P DD	No	No	Yes	Yes	No	No	No
720P 2CH	Yes	No	No	No	No	No	No

\* Dolby Atmos® is carried with either Dolby Digital Plus or Dolby True HD audio streams.

*†* DTS:X is carried with DTS-HD MA audio streams.



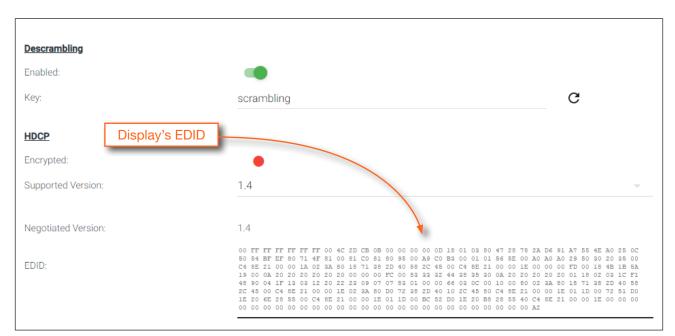
### Copying an EDID from the Display

In order to allow the source device to send all AV formats that are supported by the display device, the EDID from the decoder must be copied to the encoder. Access to a decoder will be required.

- 1. Login to AMS and access the desired decoder. Refer to Accessing Encoders in AMS (page 16) except instead of clicking on an encoder, click on a decoder (AT-OMNI-521).
- 2. Make sure the display, where the EDID will be fetched, is connected to the decoder. Select the desired decoder from within AMS.
- 3. Click HDMI OUTPUT in the menu bar.

DEVICE INFO	IP INPUT	SERIAL	ALARMS	NETWORK	OTHER	CONFIGURATION
HDMI Output 1						
Descrambling						
Enabled:	•••					
Key:	scrambling	G				
HDCP						
Encrypted:	•					
Supported Version:	2.2					
Negotiated Version:	2.2					
Negonated version.	2.2					
EDID:						
Video						
Video:	IP Input 1 (Video)					
Status:	No active video					
Stretch/Crop Mode:	Keep Aspect Ratio					
Resolution:	Auto					
Europhilis Europ						
Fast Switching Enable:						
Audio						
Input:	IP Input 3 (Audio)					
Downmixing	None					

4. Locate the **EDID** section. This is the EDID of the display which is connected to the decoder. Click and select the data in this field, then press [CTRL]+[C] to copy the data.





- 5. Select the desired encoder, within AMS.
- 6. Click **INPUT** in the menu bar.
- 7. Click the **EDID** drop-down list, in the desired **HDMI Input** window group.
- 8. Scroll down to the bottom of the list and select + Add Custom EDID.

Input:	HDMI Input 1	Input:	HDMI Input 2
Bit Rate:	900	Bit Rate:	900
Subsampling:	4:2:0 -	Subsampling:	42.0 -
Force YUV:	•	Force YUV:	•
	SAVE		SAVE
SHOW ADVANCED 👻			
HDMI Input 1		HDMI Input 2	
Cable Present:	•	Cable Present:	•
EDID:	Default - Video Mode	EDID:	Default - Video Mode 🗸 🗸 🗸
HDCP Encrypted:	Default - Video Mode (No HDR) ATL 1080P 2CH	HDCP Encrypted: Add C	ustom EDID
Supported Version:	ATL 1080P 2CH	Supported Version:	2.2
Negotiated Version:	ATL 1080P DD ATL 1080P MCH	Negotiated Version:	
	ATL 4K60 MCH		22
Video:	ATL 4K60 PCM_MCH	Video:	N/A
Audio:	ATL 4K60 PCM_2CH	Audio:	N/A
	ATL 720P DD ATL 720P 2CH		SAVE
	+ Add Custom EDID		

- 9. Enter the name of the EDID in the **EDID Name field**. Spaces and special character are valid entries. Use a descriptive name for this field.
- 10. Paste the EDID data into the Raw EDID field by pressing [CTRL]+[P].
- Click the SUBMIT button to commit changes or click CANCEL to abort the addition of the custom EDID. Once a custom EDID is created, it will be added to the drop-down list and can be selected without re-entering the information.

DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION	
HDMI Input 1				HDMI Input 2				
					HDMI Input 2			
	900				900			
		-						
					•			
	Add Custom EDI	)					SAVE	
SHOW ADVANCED 👻	EDID Name Samsung EDID							
HDMI Input 1	25 OC 50 54 BF EF 80	71 <u>4E</u> 81 00 81 <u>C0</u> 81 80 95 00	18 01 03 80 47 28 78 <u>2A D6</u> 91 <u>A9 C0 B3</u> 00 01 01 56 <u>5E</u> 00 <u>A0</u> 58 2C 45 00 <u>C4 8E</u> 21 00 00 <u>1</u> E		_			
Cable Present:	18 <u>48 18 5A</u> 19 00 <u>0A</u>	20 20 20 20 20 20 20 00 00 00 FC	00 53 33 32 44 38 35 30 0A 20 07 83 01 00 00 66 03 0C 00 10	•				
	18 71 38 2D 40 58 2C	45 00 <u>C4 8E</u> 21 00 00 <u>1E</u> 02 <u>3A</u>	80 <u>D0</u> 72 38 <u>2D</u> 40 10 <u>2C</u> 45 80 00 00 <u>1E</u> 01 <u>1D</u> 00 BC 52 <u>D0</u> <u>1E</u>	Default - Video Mode	Default - Video Mode ~			
			00 00 00 00 00 00 00 00 00 00 00 00	•				
					2.2			
Negotiated Version:			CANCE					
	N/A		_	Video:	2.2 N/A			
			ONTE				SAVE	



# Advanced Operation

## Scrambling

OmniStream supports 128-bit Advanced Encryption Standard (AES) scrambling and is required for HDCP-encrypted streams. Scrambling can be enabled or disabled through AMS, and can be applied to individual sessions. In order for scrambling to function properly, it must be enabled on both the encoder session and all decoders subscribed to a stream that is a part of a scrambled session. The scrambling key on both encoder and subscribed decoder(s) must be identical. When enabled, the default scrambling key is "scrambling".

### Standard Method

- 1. Login to AMS. Refer to Accessing Encoders in AMS (page 16), if necessary.
- 2. Click **SESSION** in the menu bar.
- 3. Under the desired **Stream**, click the **Scrambling** toggle switch to enable it. Once enabled, the toggle switch will be green and the **Key** field will be displayed.

DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
Stream 1		Stream 2		Stream 3 (AES67)		Stream 4 (AES67)	
Interface:	eth1	Interface: eth2	-	Interface:	eth1	Interface:	eth2
Scrambling: Key:	C C	Scrambling:		SAP: Interval:	10	SAP: Interval:	10
<b>Video</b> Encoder: Enable Video: Destination Multicast/Unicast	HDMI Input 1	Video Decoder: HDMI Input 2 Enable Arec: Destination Multicast/Unica t Address:		Name: Description: Originator:	session3	Name: Description:	session4
Address: Destination UDP Port: TTL:	255 Scrambling:	Destination UDP Pirt: 1000			u1	Audio Source: Enable AES67: Downmixing:	HDMI Input 2
Audio Source: Enable Audio:	Key:			G	015	Enable Audio: Destination Multicast/Unicast Address:	239.69.0.16
Destination Multicast/Unicast Address:	225.0.0.105	Address: Destination UDP Port: 1100		Destination UDP Port:	1100	Destination UDP Port	1100

4. Enter the desired scrambling key in the **Key** field. If a random key is desired, click the **C** icon to generate a key. Each time this icon is clicked, a new scrambling key will be generated.



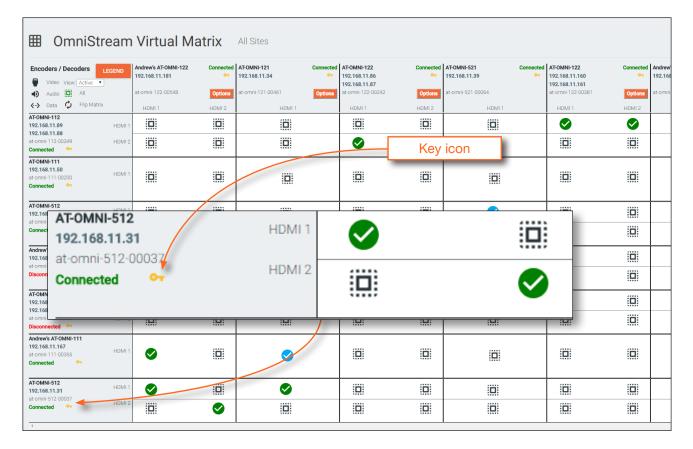
**IMPORTANT:** If a user-defined key is specified, then it must be a minimum of eight alphanumeric characters. Special characters and spaces are not permitted. Also note that if a key is generated, the same generated key (on the encoder) must also be used on the decoder, in order to de-scramble the signal.

5. Click the **Save** button at the bottom of the page to commit the changes.

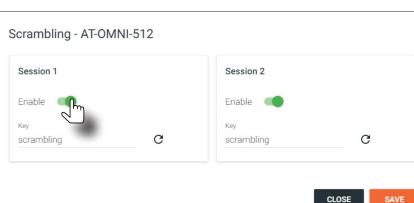


### Using the Virtual Matrix

- 1. Access the Virtual Matrix. Refer to The Virtual Matrix (page 57) for more information.
- 2. Locate the desired encoder or decoder. Scrambling is handled on the encoder; descrambling is handled on the decoder.
- 3. Click the yellow key icon. The Scrambling dialog box will be displayed. If the key icon for a decoder is clicked, then the Descrambling dialog box will be displayed.



- 4. Click the **Enable** toggle switch to enable scrambling for the desired session.
- 5. Enter the desired scrambling key using one of the following methods:
  - Manual enter a user-defined key in the **Key** field.
  - Click the C icon to generate a random key using AMS. Each time this icon is clicked, a new scrambling key will be generated.



- 6. Repeat the above process for each session.
- 7. Click the **Save** button to commit the changes.



### **Advanced Operation**

### Slate / Logo Insertion

Slate / logo insertion is managed from within AMS. The difference between a "slate" and "logo" is in the size of the image and how it is used: Logos are classified as smaller, low-resolution images that can be positioned at specified locations on the screen. Slates occupy the entire screen. Note that while logos may be used as slates, the image quality will be degraded, as the image will be scaled to fill the screen.

Slate / logo insertion can be performed on both the encoder and decoder. When configured on the encoder, the image that is displayed on the output (decoder) will be from the encoder IP address(es) to which each decoder is subscribed. When configured on the decoder, the image is unique to the specified HDMI output. Refer to the *OmniStream R-Type Single Channel A/V Decoder User Manual* for information on managing slate / logo insertion on decoder units.

### Adding Slates / Logos

- 1. Login to AMS. Refer to Accessing Encoders in AMS (page 16), if necessary.
- 2. Click **OTHER** in the menu bar.
- 3. Verify that **Logo** is selected, near the upper-left corner of the screen. **Logo** is the default selection and applies to both logo and slate images.
- 4. Enter the name of the image in the **Name** field. If a name is not specified, then the **UPLOAD** button will be disabled.
- 5. Under the **New logo** window group, click the **Choose File** button and select the image to be used. Only .png files are valid selections.
- 6. Click the **UPLOAD** button to upload the file.

			Logo s	selected				
DEVICE	INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
Logo Text	New Logo							
PTP	Name My_image							
	Choose File imag	je.png			UPLOAD			
	HDMI Input 1 Logo	,			HDMI Input 2 Logo			
	Enabled:	•			Enabled:	•		
	Select Logo:	Not Used			- Select Logo:	Not Used		
	Aspect Ratio:	Stretch			- Aspect Ratio:	Stretch		
	Location Horizontal: Vertical:	<sub>Name</sub> My_image						
	<u>Size:</u> Height: Width:	Choose File	mage.png					

7. A new window group will be created with the name of the logo that was provided in Step 4.



## Advanced Operation

DEVICE	INFO INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
Logo	New Logo						
Text							_
PTP	Name My_image						
	Choose File image.png		Ir	mage window g	group		
				JPLOAD			
				-			
	My_image						
	Usage Count						
	0						
		DELETE					
	HDMI Input 1 Logo			HDMI Input 2 Logo			
	Enabled:			Enabled:			
	Select Logo:	Not Used		Select Logo:	Not Used		
	Aspect Ratio:	Stretch		Aspect Ratio:	Stretch		

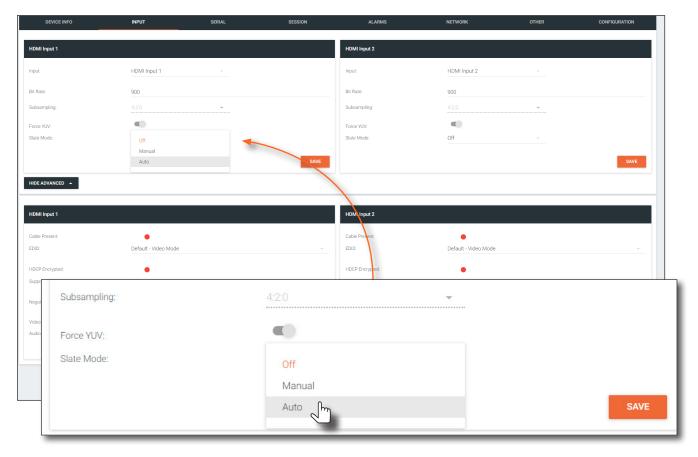
- 8. Perform one of the following:
  - If the selected image will be used as a *logo*, then proceed with Steps 9 through 13.
  - If the image will be used as a *slate*, skip to Step 14.
- 9. Under the **HDMI Input Logo** window group, click the **Select Logo** drop-down list and select the desired logo. To prevent the image from being displayed, select the **Not used** option.

PTP	Name				-
	Choose File No file ch	osen			
			UPLOAD		
	My_image				
	Usage Count				
	0				
		DELETE			
	HDMI Input 1 Logo		HDMI Input 2 Logo		
	Enabled:	<b>0</b> 1	Enabled:	•	
	Select Logo:	Not Used My_image	Select Logo:	Not Used	
	Aspect Ratio:	,	Aspect Ratio:	Stretch	
	Location		Location		
	Horizontal: Vertical:	0	Horizontal: Vertical:	0	
	Size:		Size:		
	Height:	10	Height:	10	
	Width:	HDMI Input 1 Logo			
		Enabled:			
		Select Logo:	Not Used		
		Aspect Ratio:	My_image		



- 7. Click the **Aspect Ratio** drop-down list to set the aspect ratio of the image. Selecting **Keep** will maintain the aspect ratio. Select **Stretch** to scale the image to fill the screen.
- 8. Enter the location of the on-screen image, in pixel values, by entering the desired values in the **Horizontal** and **Vertical** fields.
- 9. Click the **Enabled** toggle switch to activate the logo/slate feature. When enabled, this toggle switch will be green.
- 10. Click the SAVE button to commit changes.
- 11. Click **INPUT** in the menu bar, then click the **SHOW ADVANCED** button.
- 12. Click the Slate mode drop-down list, and select Off, Manual, or Auto.

Mode	Description
Off	Disables the image from being displayed.
Manual	The image will always be displayed, superimposed on the source signal, and will remain even if the source signal is lost.
Auto	The image will only be displayed when the source signal is lost. For example, this mode is useful in conference room applications for displaying system instructions when no sources are connected.



- 13. Click the **Slate Logo** drop-down list and select the desired image. Note that if **Slate Mode** is set to **Off**, then this field will not be visible.
- 14. Click the **SAVE** button to apply all changes.



## **Deleting Slates / Logos**

Follow the instructions below to remove a logo/slate image.

- 1. Click **OTHER** in the menu bar.
- Click the **DELETE** button in the desired image window group. When the **DELETE** button is clicked, the window
  group and the associated image will be deleted from the encoder. If the **DELETE** button is disabled, do the
  following:
  - a. Locate the HDMI Input Logo window groups.
  - b. Click the Select Logo drop-down list and select Not Used.
  - c. Click the SAVE button.
  - d. Refresh the page.
  - e. Click the **DELETE** button to remove the logo.



## Advanced Operation

## **Text Insertion**

- 1. Login to AMS. Refer to Accessing Encoders in AMS (page 16), if necessary.
- 2. Click **OTHER** in the menu bar.
- 3. Click **Text** in the side menu bar, in the upper-left corner of the AMS screen.
- 4. Click the **Enabled** toggle switch, to allow the text to be displayed. When enabled, this toggle switch will be green.

DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
Logo							
HDMI Input 1 Text				HDMI Input 2 Text			
PTP Enabled:				Enabled:			
Text:				Text:			
Scroll Speed:	0			Scroll Speed:	0		
Iterations:	ext selected			Iterations:	0		
Color Color:	ext selected	_		Color Color:	white		
color.	winte				writte		
Location				Location			
Horizontal (%):	0			Horizontal (%):	0		
Vertical (%):	0			Virtical (%):	0		
Size Width (%):							
Height (%):							
	HDMI Input	1 lext					
SHOW ADVANCED -							
	Enabled:						
	Text:			-			
	Scroll Speed:		C	)			
	Iterations:		C	)			

- 4. In the **Text** field, enter the desired text.
- 5. Specify the speed of the scrolling text in the **Scroll Speed** field. Values from -255 to 255 are valid. Negative numbers will scroll the text from left to right. Positive numbers will scroll text from right to left.
- 6. Enter the number of iterations in the **Iteration** field. Set this field to 0 (zero) to set the number of iterations to infinity.
- Click the Color drop-down list to select the color of the text. The Red, Green, and Blue fields can be changed to further modify the color of the text. Adjust the Alpha field to control the transparency of the text. A value of 255 is opaque and a value of 0 is transparent. Numbers from 0 to 255 are valid for each of these fields.
- 8. Specify the location of the text in the **Horizontal (%)** and **Vertical (%)** fields. Each of these values is based on the horizontal and vertical resolution of the screen.
- 9. Specify the size of the text in the **Width (%)** and **Height (%)** fields. Each of these values is based on the horizontal and vertical resolution of the screen.
- 10. Click the SAVE button to commit all changes.



# The AMS Interface

## Device Info page

The **Device Info** page provides general information about the encoder.

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DEVICE LIST	DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER
e 04	Device Info						
🐑 Kaling 1 🧄							
Bar/Restaurant	Model: IP Address	AT-DMNI-512 10.20.40.19					
	MAC Address Firmware Version:	B8.98.80:01:B9:F4 1.2.5					
💮 Building 2	FIRMWARE UPDATE						
Ear/Restaurant	Description:						
JK office	Location: Uptime:	4 days, 0 hours, 28 minutes					
Unassigned	Hostname:	at-omni-512-00037					
	Reset users Reset network						
	FACTORY RESET IDENTIFY RE	BOOT DEVICE					
	SHOW ADVANCED 👻						
			Atlona	Customer Support Live Chat (SAM PST - 5PM P	st) 🗖		

## Alias

Enter a name for the unit in this field. This is optional.

## Model

The model number of the unit.

Model	Description
AT-OMNI-512	Dual-channel encoder
AT-OMNI-521	Single-channel decoder

## **IP Address**

Displays the IP address of the encoder.

## MAC Address

Displays the MAC address of the encoder.

## **Firmware version**

The version of firmware that the encoder is running. Always make sure the latest version of firmware is installed.

## FIRMWARE UPDATE

Click this button to update the firmware.

## Description

Provides the option of assigning descriptive name to the unit.



## Location

Provides the option of assigning descriptor for the location of the unit.

## Uptime

Time elapsed since the last reboot operation.

## Hostname

The hostname of this unit. This can be changed if desired. By default, the host name is automatically created using the model of the unit and adding the last five digits of the unit serial number.

## FACTORY RESET

Click this button to reset the encoder to factory-default settings. When performing a factory reset, the following options can be selected, by clicking the check box. If no options are selected, then the encoder is reset with no factory-default settings.

Option	Description
None Checked	Resets the encoder with no factory-default settings.
Reset User	Resets the encoder to factory-default settings and resets custom user information.
Reset Network	Resets the encoder to factory-default settings and resets network information.
Reset Defaults	Resets the encoder to factory-default settings. In addition, static multicast addresses are configured. This option can be used to configure a single encoder to transmit to any number of decoders without using the Virtual Matrix within AMS.

## **IDENTIFY**

Click this button to physically identify a unit on the network. Clicking this button will cause all front-panel LED indicators to flash for 10 seconds.

## **REBOOT DEVICE**

Click this button to perform a soft reboot of the encoder.

## **Advanced Settings**

Click the **SHOW ADVANCED** button to view the following options.

## Timezone

Click this drop-down list to select the time zone, expressed in Universal Coordinated Time (UTC).

## System Temperature

The current internal temperature of the unit listed in both degrees Fahrenheit and Celsius.

#### **Die Temperature**

The component chip temperature listed in both degrees Fahrenheit and Celsius.

#### **Power Consumption**

The current power consumption value.



## **NTP Server**

Specify the desired NTP server in this field. This provides timestamps for any logs and alarms.

## **Buttons**

Disabling this feature will lock the ID button on the front panel. This feature is enabled by default.

## LEDs

Disabling this feature will turn off all LED indicators on the front panel. This is enabled by default.



## Input page

The Input page provides signal information for each channel (input).

≡ Ω нер×				IS:				🍩 🗹
DEVICE LIST	DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
en 🕺 🗸	HDMI Input 1				HDMI Input 2			
Building 1	Input:	HDMI Input 1			Input:	HDMI Input 2		
Bar/Restaurant	Bit Rate:	900			Bit Rate:	900		
MK office	Subsampling:	4:2:2			Subsampling:	4:2:2		
💮 Building 2	Force YUV:			_	Force YUV:	-		
Bas/Restaurant				SAVE				SAVE
Le MK office	SHOW ADVANCED -							
Unassigned V	HDMI Input 1				HDMI Input 2			
	Cable Present:	•			Cable Present:	•		
	EDID:	Default			EDID:	Default		
	HDCP Encrypted:	•			HDCP Encrypted:	•		
	Supported Version:	2.2			Supported Version:	2.2		
	Video:	N/A			Video:	N/A		
	Audio:	N/A		SAVE	Audio:	N/A		_
				SAVE				SAVE
				Atlona Customer Support Live	: Chat (SAM PST - SPM PST) 🏴			
			2010 Atlana Ion (atlana ana) All Dishto D					

## Input

The selected input. This value can be HDMI Input 1, Video Generator 1, or None.

## **Bit Rate**

The video bit rate. This value is set to 900 Mbps and cannot be changed.

## Subsampling

The chroma subsampling value. This value is set to 4:2:0 and cannot be changed.

## Force YUV

When this toggle switch is enabled (green), the encoder will stream YUV content over the network, regardless of which color space is used by the HDMI source. When the decoder receives the YUV stream, it will output YUV on the HDMI output. However, if the decoder is connected to a display that requires RGB, as determined by the EDID of the display, then the decoder will convert the video signal to RGB on the HDMI output. In order for the chroma scaling to work on RGB inputs, this option must be enabled.

## **Cable Present**

Indicates whether or not a connection is detected. The indicator, to the left, indicates the current state. If the indicator is green, then a source signal is detected. If the indicator is red, then check the cable connection and make sure that the source is powered. Damaged cables may also display a red indicator.



## EDID

Click the drop-down list to select the desired EDID. Refer to the table on the next page for a list of available EDID selections. Refer to EDID Management (page 30) for more information.

EDID	Description
Default - Video Mode	Default OmniStream EDID
Default - Video Mode (no HDR)	Default without HDR support
ATL 1080P 2CH	1920x1080p60 with two-channel PCM audio
ATL 1080P DD	1920x1080p60 with Dolby Digital audio
ATL 1080P MCH	1920x1080p60 with multichannel PCM audio
ATL 4K60 MCH	4096x2160p60 with multichannel audio
ATL 4K60 PCM_MCH	4096x2160p60 with multichannel audio (PCM only)
ATL 4K60 PCM_2CH	4096x2160p60 with two-channel audio (PCM only)
ATL 720P DD	1280x720p60 with Dolby Digital audio
ATL 720P 2CH	1280x720p60 with two-channel audio
+ Add Custom EDID	Adds a custom EDID

## **HDCP Encrypted**

Indicates if the content being transmitted from the source is HDCP-encrypted. If using HDCP-encrypted content is being used, then this indicator will be green.

## **Supported Version**

Click this drop-down list to select the version of HDCP to be supported: **2.2**, **1.4**, or **None**. If **None** is selected, then HDCP-enctrypted content cannot be passed-through.

## **Negotiated Version**

The version of HDCP that the encoder is passing.

## Video

The current sampling rate for the input video signal.

## Audio

The sampling frequency for the input audio signal.

## **Advanced Settings**

Click the **SHOW ADVANCED** button to view the following options.

## Slate Mode

Click this drop-down list to enable slate mode or select the desired slate to be used. Refer to Slate / Logo Insertion (page 36) for more information.



## Serial page

The Serial page provides serial port configuration when using control signals.

≡ C Help×				<u>∧</u> ⊳	15:				1 🔤 🚳
♥ AT-OME-SW32	. *	DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
# ATOME-SW32									
♥ at-omni-111-00355		Serial Port 1				Serial Port 2			
€ at-omni-112-00221		Supported Modes:	infrared, serial			Supported Modes:	infrared, serial		
♥ at-omni-112-00411		Mode:	serial			Mode:	infrared		
🗑 at-omni-112-00437									
🛡 at-omni-112-00502		Baud Rate:	9600				SAVE		
🛡 at-omni-121-00500		Data Bit:	8						
🛡 at-omni-121-00872									
♥ at-omni-121-00789		Parity:	None						
🗑 at omni-122-00508		Stop:	1						
♥ at-omni-122-00446									
🗑 at-omni-122-00548	1	Flow Control:	None						
OMNI238-11ff30	1		SAVE						
♥ at-omni-512-00271	1								
♥ at-omni-512-00037	1.1	Serial Configuration 1				Serial Configuration 2			
🗑 at omni-521-00124	1								
♥ at-omni-521-00020	1	Port:	Not Used			Port:	Not Used		
🗑 at-omni-521-00074	1.1	Mode:	cli			Mode:	cli		
# ATOPUS-810M	1								
# ATUHD-CLS0-601			SAVE				SAVE		
		SHOW ADVANCED -							
# AT-UHD-CLS0-612ED-000097									
AT-UHD-CLSD-612ED-00500B									
♥ CLS0824-013684									
AT-UHD-PR03-44M	÷ •								
					Atlona Customer Support Live	Chat (SAM PST - 5PM PST) 🏴			

## **Supported Modes**

Lists the supported protocols for the serial port.

## Mode

Click this drop-down list to select the desired serial mode.

## **Baud Rate**

Click this drop-down list to select the desired baud rate: 9600, 19200, 38400, 57600, or 115200.

## Data Bit

Click this drop-down list to select the number of data bits: 6, 7, or 8.

## Parity

Click this drop-down list to select the parity bit: None, Odd, Even, Mark, or Space.

## Stop

Click this drop-down list to select the stop bit: 1, 1.5, or 2.

## **Flow Control**

Click this drop-down list to select the type of flow control: **None**, **xonxoff**, or **hw**.

## Port

Click this drop-down list to select the desired serial port: Serial Port 1 or Serial Port 2.

## Mode

Click this drop-down list to select the desired control mode: cli or tcpproxy.



## **Advanced Settings**

Click the **SHOW ADVANCED** button to view the following options.

## Command

Each of these **Command** window groups are used to enter the command string for the desired operation: **Display Off**, **Display On**, **Volume Down**, and **Volume Up**.

#### Interpret on

Click this drop-down list to select where the command will be interpreted.

Interpret on	Description
decoder	Commands are interpreted at the decoder.
encoder	Commands are interpreted at the encoder.

## ASCII

Enter the ASCII representation of the command string in this field.

## HEX

Enter the hexadecimal representation of the command in this field.



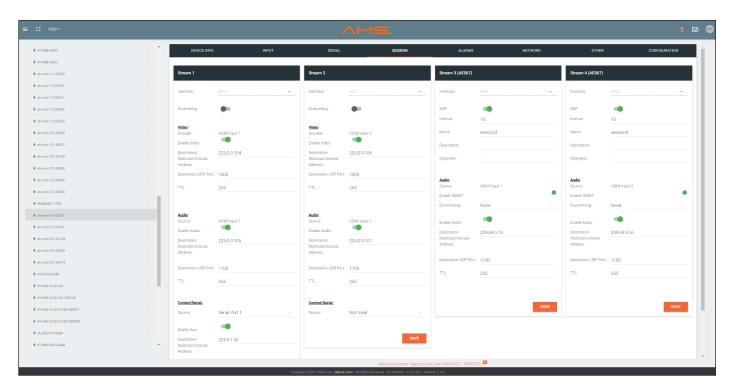
**NOTE:** When entering the command string, it is not required to enter the string under both the ASCII and HEX fields. The encoder requires that one field be completed.



## The AMS Interface

## Session page

The **Session** page provides the ability to configure all session parameters. The AT-OMNI-512 supports up to two video sessions and two audio sessions.



## Interface

This option is locked and cannot be changed.

Interface	Description
eth1	ETHERNET 1 port
eth2	ETHERNET 2 port

## SAP (Stream 3 / Stream 4 only)

Click this switch to enable to disable the Session Announcement Protocol. When enabled, the toggle switch will be green.

#### Scrambling

Click this toggle switch to enable (green) or disable scrambling.

#### Key

This field is only displayed if the **Scrambling** toggle switch is enabled (green). Enter the scrambling key in this field. The scrambling key must be ASCII and must contain a minimum of eight characters. Special characters and spaces are not permitted.



## Encoder

Click this drop-down list to select the desired HDMI input.

## **Enable Video**

Click the toggle switch to enable or disable the video stream. When enabled, the toggle switch will be green. By default, video streaming is *enabled*. Disabling the video stream can be used to "mask" the video on the decoder endpoints.

## **Destination Multicast/Unicast Address**

Enter the IP address of the decoder that will be receiving the video stream. By default, AMS will automatically populate multicast IP addresses for the encoder.

## **Destination UDP Port**

Enter the destination UDP port in this field.

## TTL

Set the TTL (Time-To-Live) duration, from 1 to 255 seconds, in this field. The default value is 255 seconds.

## Source

Select the desired HDMI input from the Source drop-down list.

## Enable AES67

Click this toggle switch to enable AES67. When this feature is enabled, the toggle switch will be green.

## Downmixing

This field will only be available when AES67 is enabled.

## **Enable Audio**

Click the toggle switch to enable the audio stream. By default, audio streaming is disabled.

## **Destination Multicast/Unicast Address**

Enter the IP address of the decoder that will be receiving the audio stream.

## **Destination UDP Port**

Enter the destination UDP port in this field.

## TTL

Set the TTL (Time-To-Live) duration, from 1 to 255 seconds, in this field. The default value is 255 seconds.

## Source

Click this drop-down list to select the method of how commands are transmitted.

Source	Description
Not Used	Serial control is disabled
Commands	Commands are sent using CEC (over HDMI)
Serial Port 1	Commands are transmitted using Serial Port 1
Serial Port 2	Commands are transmitted using Serial Port 2



## **Enable Aux**

Click the toggle switch to enable (green) or disable enable the auxiliary stream. By default, this feature is disabled.

## **Destination Multicast/Unicast Address**

Enter the decoder IP address in the this field.

## **Destination UDP Port**

Enter the UDP port in this field.

## TTL

Set the TTL (Time-To-Live) duration, from 1 to 255 seconds, in this field. The default value is 255 seconds.



## The AMS Interface

## Network page

The **Network** page provides the ability to enable or disable DHCP mode for each video channel. When DHCP mode is disabled, the IP address, subnet mask, and gateway must be provided. This screen is identical to the **Network** page for the decoder.

≡ 🖸 Help~				<u>∧</u> ⊳	15:				± 🖂 🐠
¥ ATOME-SW32	. *	DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
AT-OME-SW32									
€ at-omni-111-00355		Network 1 (eth1)				Network 2 (eth2)			
at-omni-112-00221		Enabled:	•			Enabled:	•		
€ at-omni-112-00411		Carrier:				Carrier:			
• at-omni-112-00437		DHCP Mode:	DHCP			DHCP Mode:	DHCP		
🗑 at-omni-112-00502		Changing IP Mode from Static to DH	Prequires running a scan to find the	new IP address of the device		Channing IP Mode from Static to DHI	P requires running a scan to find the ne	w IP address of the device	
at-omni-121-00500									
♥ at-omni-121-00872		IP Address:	10.20.40.17			IP Address:			
at-omni-121-00789		Subnet:	255.255.255.0			Subnet:			
♥ at-omni-122-00508		Gateway:	10.20.40.1			Gateway:			
₽ at-omni-122-00446		SHOW ADVANCED -				SHOW ADVANCED -			
♥ at-omni-122-00548	1				SAVE				SAVE
♥ OMNI238-11//30	÷				0410				
♥ at-omni-512-00271	E.								
♥ al-omni-512-00037	- E -								
🗣 at-omni-521-00124	8								
♥ at-omni-521-00020	- E -								
🗑 at-omni-521-00074	÷								
AT-OPUS-810M	- E -								
€ ATUHD-CLS0.601									
AT-UHD-CLS0-601-0052A8									
AT-UHD-CLSD-612ED-000007									
AT-UHD-CLSO-612ED-005008									

## Enabled

This indicator displays whether or not the video stream for this channel is active. If the indicator is green, then the video stream is active.

## Carrier

If this indicator is green, then an active link exists. Otherwise, if no link exists, this indicator will be red.

## **DHCP Mode**

Click this drop-down list to select the desired network mode. Select DHCP to let the DHCP server (if present) assign the encoder the IP settings; **Subnet** and **Gateway** fields will automatically be populated. When **Static** mode is selected, the information for the **IP Address**, **Subnet**, and **Gateway** fields must be entered.

## **IP Address**

Displays the IP address used by the channel. This field can only be changed if **Static** mode is selected.

## Subnet

Displays the subnet mask for the channel. This field can only be changed if **Static** mode is selected.

## Gateway

Displays the gateway (router) address for the channel. This field can only be changed if **Static** mode is selected.



## **Advanced Settings**

Click the SHOW ADVANCED button to view the following options.

## Link Speed

Displays the port speed in Mbps.

## **MAC Address**

The MAC address of the Ethernet channel.

#### **Telnet Authentication**

Click this toggle switch to enable or disable Telnet authentication. If enabled, then the toggle switch will be green. Once enbled, connecting to the encoder using Telnet will require login credentials. The default credentials are:

Username: admin Password: Atlona



## The AMS Interface

## Other page

The **Other** page provides logo/slate, text, and PTP management. Click the menu in the upper-left corner of the AMS screen to switch between **Logo**, **Text**, and **PTP** screens.

## Logo

The **Logo** page provides the ability to upload a custom logo. This logo will be displayed when no video signal is detected. Separate logos can be uploaded: one for each channel. Refer to Slate / Logo Insertion (page 36) for more information on these settings.

# ATOME-SW32	÷ *	DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
VAT-OME-SW32		Logo					_		_
♥ at-omni-111-00355		Text							
♥ at-omni-112-00221									
♥ at-omni-112-00411		PTP Name							
🗣 at-omni-112-00437		Choose File N	a file charges						
♥ at-omni-112-00502		Choose File I I				UPLOAD			
🖶 at-omni-121-00500									
♥ at-omni-121-00872									
🛡 at-omni-121-00789		HDMI Input 1 Lo	go			HDMI Input 2 Logo			
♥ at-omni-122-00508		Enabled:				Enabled:			
♥ at-omni-122-00446		Select Logo:	Not Use	J		- Select Logo:	Not Used		
♥ at-omni-122-00548	i.	Aspect Ratio:	Stretch			- Aspect Ratio:	Stretch		
♥ OMNI238-11ff30	1 - E								
€ at-omni-512-00271	1	Location				Location			
🗣 at-omni-512-00037	i.	Horizontat	0			Horizontal:	0		
at-omni-521-00124	1	Vertical:	0			Vertical	0		
♥ at-omni-521-00020	1	Size:				Size:			
🗑 at-omni-521-00074	1	Height:	10			Height:	10		
# AT-OPUS-810M	1	Width:	10			Width:	10		
RATUHD-CLSD-601									
# AT-UHD-CLSO-601-0052A8					SAV	VE			SAVE
₽ ATUHD-CLSD-612ED-000097									
# AT-UHD-CLSO-612ED-005008									

## Name

Enter a name for the logo in this field.

## **Choose File**

Click this button to select the logo file to be uploaded. Files must be in .png format and must not exceed 5 MB (5120000 bytes) in size. When an image file is uploaded, it will appear in the **Logo** drop-down list.

## UPLOAD

Click this button to upload the logo file to the encoder.

## Enabled

Click the toggle switch to enable or disable the logo. If the toggle switch is green, then the logo will be enabled.

#### Select Logo

Click this drop-down list to select the desired logo. To disable the use of a logo, set to Not Used.

#### **Aspect Ratio**

Click this drop-down list to select the type of aspect ratio to be applied to the logo.

## Horizontal

Enter the horizontal position of the logo on the screen.



## The AMS Interface

## Vertical

Enter the vertical position of the logo on the screen.

## Height

Enter the horizontal resolution of the logo, in pixels.

## Width

Enter the vertical resolution of the logo, in pixels.



**IMPORTANT:** Maximum logo resolution (both height and width) is 1/4 of the video resolution.

## Text

The **Text** page provides the ability to display scrolling or stationary text superimposed on the source image. Refer to **Text Insertion (page 40)** for more information.

≡ 🕄 Нерх			$\wedge$	MS				<u>t</u> bj	•
	DEVIC	CE INFO INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION	
AT-OME-SW32	Logo								
🛡 at-omni-111-00355	Text	HDMI Input 1 Text			HDMI Input 2 Text				
€ at-omni-112-00221	PTP	Enabled:			Enabled:				
♥ at-omni-112-00411	1 PIP	Text:			Text:				
🗑 at-omni-112-00437		Scroll Speed:	0		Scroll Speed:	0			
♥ at-omni-112-00502									
🗑 at-omni-121-00500		Iterations:	0		Iterations:	0			
at-omni-121-00872		Color			Color				
🗑 at-omni-121-00789		Color:	white		Color:	white			
♥ at-omni-122-00508									
♥ at-omni-122-00446		Location			Location				
♥ at-omni-122-00548		Horizontal (%):	0		Horizontal (%):	0			
♥ OMN#238-11ff30	- E -	Vertical (%):	0		Vertical (%):	0			
♥ at-omni-512-00271	1								
🗑 at-omni-512-00037	1	Size			Size				
♥ at-omni-521-00124	- E -	Width (%):	10		Width (%):	10			
🗑 at-omni-521-00020	- E -	Height (%):	10		Height (%):	10			
♥ at-omni-521-00074	- E -	SHOW ADVANCED -			SHOW ADVANCED -				
ATOPUS-810M	- E -	SHOW ADVANCED V			SHOW ADVANCED				
RATURD-CLSO-601				SAVE				SAVE	
AT-UHD-CLS0-601-0052A8									
AT-UHD-CLSD-612ED-000097									
# ATUHD-CLS0-612ED-005008									

## Enabled

Click this toggle switch to enable or disable the text. When the toggle switch is green, the text will be enabled.

## Text

Enter the desired text in this field.

## **Scroll Speed**

Enter the scrolling speed in this field. Values from -255 to 255 are valid. Negative numbers will scroll the text from left to right. Positive numbers will scroll text from right to left.

## Iterations

Enter the number of iterations in the Iteration field. Set this field to 0 (zero) to set the number of iterations to infinity.

## Color

Click this drop-down list to select a solid color preset: red, green, black, white, yellow, or blue.



## Horizontal (%), Vertical (%)

Specify the location of the text in the Horizontal (%) and Vertical (%) fields. Each of these values is based on the horizontal and vertical resolution of the screen.

## Width (%), Height (%)

Specify the size of the text in the Width (%) and Height (%) fields. Each of these values is based on the horizontal and vertical resolution of the screen.

#### **Advanced Settings**

Click the SHOW ADVANCED button to view the following options.

#### Red, Green, Blue, Alpha

Enter the RGBA values for each of the respective fields, to specify a custom color and transparency of the text. Enter the desired value in the Alpha field to control the transparency of the text. A value of 255 is opaque and a value of 0 is transparent. Numbers from 0 to 255 are valid for each of these fields.

## PTP

The **PTP** page provides options for adjust Precision Time Protocol (PTP) for AES67 audio streams. PTP is used by AES67 to keep all audio streams synchronized.

For a system utilizing PTP, all devices undergo an automatic self-election process to choose the interface to be used as the PTP grandmaster (GM) clock, based on the accuracy of the device's clock and the device's configured priority. A lower priority number means the unit is more likely to get selected as GM.



**IMPORTANT:** If a new device is added to the network and the GM changes, a brief outage will be experienced while all connected devices synchronize with the new clock. Because of this, Atlona recommends that one unit gets manually defined as the GM and have both **Priority 1** and **Priority 2** fields be set to 1.

🕄 Help×				4	15.				<u>1</u> 🗹
₩ AT-OME-SW32	•	DEVICE INFO	INPUT	SERIAL	SESSION	ALARMS	NETWORK	OTHER	CONFIGURATION
♥ AT-OME-SW32		Logo							
♥ at-omni-111-00355		Network 1 (eth1)				Network 2 (eth2)			
♥ at-omni-112-00221		PTP Domain Number:	0			Domain Number:	0		
9 at-omni-112-00411									
♥ at-omni-112-00437		Priority 1:	128			Priority 1:	128		
♥ at-omni-112-00502		Priority 2:	128			Priority 2:	128		
9 at-omni-121-00500		Is GM Present:	•			Is GM Present:	•		
♥ at-omni-121-00872		GM Identity: Master Offset (ns):		B0:FF:FE:01:C4:33		GM Identity: Master Offset (ns):	B8:98:B0:FF:FE:01:C4:34		
♥ at-omni-121-00789		Master Unset (ns):	0		SA		U		
♥ at-omni-122-00508					54				SAVE
♥ at-omni-122-00446									
€ at-omni-122-00548	-								
♥ 0MNI238-11//30	1.1								
🗑 at-omni-512-00271	1								
🗑 at omni-512.00037	1								
♥ at-omni-521-00124	1								
♥ at-omni-521-00020	1.1								
♥ at-omni-521-00074	4								
V AT-OPUS-810M	1								
RATURD CLSD 601	4								
♥ AT-UHD-CLS0-601-0052A8									
AT-UHD-CLSD 612ED 000097									
AT-UHD-CLSO-612ED-005008									



## **Domain Number**

Enter the domain number in this field. Valid entries are 0 through 127.

## Priority 1

Enter the priority number in this field.

## **Priority 2**

Enter the priority number in this field.

## Is GM Present

This indicator displays the existence of a grandmaster clock for the specified PTP domain number. If the indicator is green, then the grandmaster clock exists on this interface.

## **GM Identity**

The grandmaster clock identity. If this field is blank, then it means that this interface is the grandmaster clock.

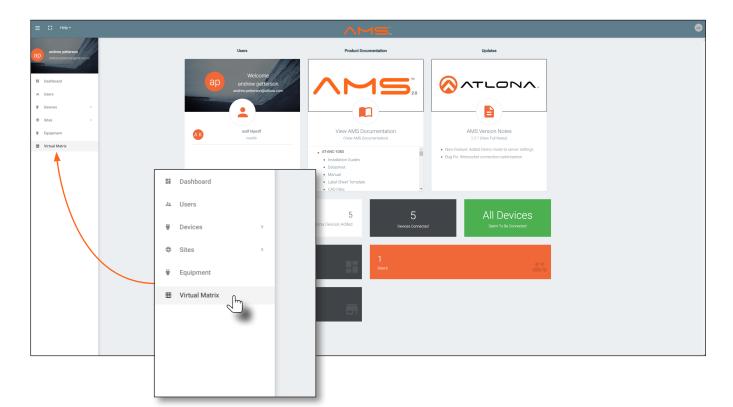
## Master Offset

Displays the grandmaster clock offset.



## The Virtual Matrix

- 1. Login to AMS. Refer to Accessing Encoders in AMS (page 16), if necessary.
- 2. Click the  $\equiv$  icon, in the upper-left corner of the AMS Dashboard.
- 3. Click Virtual Matrix.



4. The **OmniStream Virtual Matrix** page will be displayed.

⊞ OmniSt	ream	Virtual Ma	atrix	All Sites					
Video View Active     Audio All     All     Data D Flip Mat	LEGEND	Andrew's AT-OMNI-122 192.168.11.181 at omni-122.00548	Ov Options	192.168.11.34 option at omni-121-00461 option		Ov Options	192.168.11.39 at omni-521-00054	Connected AT-OMNI-122 97 192.168.11.160 192.168.11.161 at omni-122.00381	Connected Ov Options
AT-OMNI-112 192.168.11.89	HDMI1	HOMI1	HDMI 2	HDMI 1	HDMI 1	HDMI 2	HDMI 1	HDMI 1	HDMI 2
192.168.11.88 at-omni-112-00349 Connected	HDMI 2		·····			·····			
AT-OMNI-111 192.168.11.50 at-omni-111-00200 Connected	HDMI 1								
AT-OMNI-512 192.168.11.51	HDMI 1			0	<b>Ø</b>	0			
at-omni-512-00003 Connected	HDMI 2								
Andrew's AT-OMNI-112 192.168.11.116	HDMI 1	<b>Ø</b>			<ul> <li>Image: A start of the start of</li></ul>		<b>S</b>	<ul> <li>Image: Contract of the second s</li></ul>	
at-omni-112-00722 Connected	HDMI 2		0			0			9
AT-OMNI-112 192.168.11.183	HDMI 1	<b>Ø</b>			<b></b>		<b>S</b>	<b>S</b>	
192.168.11.148 at omni-112-00335 Connected	HDMI 2	i0)	0			0			9



## Layout and Operation

The illustration below, shows a multiple OmniStream units (encoders and decoders). The Virtual Matrix is organized into rows and columns.

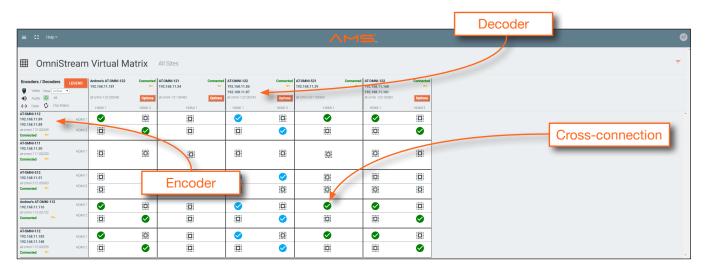
The blue circle with the checkmark indicates that these two OmniStream units are connected to one another. The second column identifies a dual-channel decoder (AT-OMNI-122). The third row shows a dual-channel encoder (AT-OMNI-112). In this example, the source signal on **HDMI 1 IN** (encoder) is being sent out, over the network, and will be displayed on **HDMI 1** on the decoder. This will create a *cross-connection*, which connects both the encoder and decoder together.

## • Creating a cross-connection

To route an input on an encoder to an output, locate the row and column where an input and output intersect, then click the square with the dots around it.

## • Removing a cross-connection

To remove a *cross-connection*, click on the desired circle icon with the check mark symbol. The square with the dots around it will be displayed indicating that the *cross-connection* has been removed.



• To view the individual streams for video, audio, and data, click the icons on the upper-left corner of the screen.

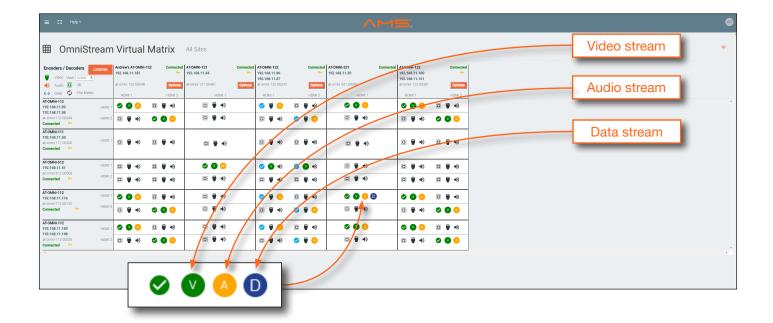
≡ C Hep×	AMS.	G
OmniStream Virtual Matrix All Sites		Ŧ
Encoders         Location         Andrew's AT-OMIN-122         Connected         AT-OMIN-122         TSZ-168,11.34           Video         Video	Connected         AFX0Mi0*122         Connected         AFX0Mi0*122         Connected           **         192.168.11.36         **         192.168.11.56         **           *21.68.11.87         **         192.168.11.61         **           *0fmin         190.168.11.61         **         192.168.11.61           *0fmin         100.11.01         **         **           *0fmin         100.11.01         **         **	
NTOMNH112 HDM11 🖉 🥸 📀 🔟 🖗 🐠		
192.168.11.88 at cmni-112.00349 Connected ↔ HDM12	Encoders / Decoders LEGEND	
ATOMAN-111 1922.168.11.50 Commetted •••	• ELSEND	
ATOMNI-512 HDMI 1	Video View: Active	
HOMETIZ 1922.168.11.116 HOME2 Connected ↔ HOME2 Connected ↔ HOME2		
17-0MN-112 92.168.11.183 HDM11 ♥ ♥ ◊ 2 🗊 🖶 🐠 🕅 🗮	🖁 ሩ Data 🧭 Flip Matrix	
192.165.11.48 storm: 112.00335 Connected Or O O O O O O O O O O O O O O O O O O	◈	
·		•



## The AMS Interface

When these icons are clicked, the associated icons will be displayed in the rows and columns of the Virtual Matrix.

Symbol	Description
V	Video only
A	Audio only
D	Data only
<b>V</b>	Connected; not all signals are active
	Connected; all streams are being used





**IMPORTANT:** R-Type and Pro compatibility: R-Type encoders (AT-OMNI-512) and decoders (AT-OMNI-521) operate in Video Mode, only. Pro encoders can be set to either Video Mode or PC Mode. Video Mode is incompatible with PC Mode. Therefore, in order for both R-Type and Pro encoders/decoders to work within a system, Pro encoders/decoders must be set to Video Mode.

- Click the Video, Audio, and Data icons to return to the normal view.
- Since only HDMI (both audio and video) is being used, the V (video) and A (audio) icons are displayed. The blue circle with the checkmark indicates that the cross-section has been created. However, not all streams are being used. Refer to the chart below.
- This illustration also shows that the data stream (the icon with two arrows and three dots), which is used for control, is also being used and is displayed as a dark-blue circle with the letter "D".
- The icons in the upper-left corner can also act as a filter. This allows for a clear breakdown of where signals are being routed and is useful when several encoders and decoders are used on a network.



## Accessing the Web Server

In order to access the web server of the desired encoder/decoder, the IP address of the encoder must be known. This can be accomplished by more than one method. Running IP scanner software or using the Address Resolution Protocol (ARP) are two possibilities. When running an IP scanner or using ARP, both the computer and the OmniStream encoders/decoders must be connected to the same network.



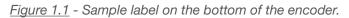
**TIP:** Atlona recommends downloading and using the Network Assignment Planner, when setting up OmniStream products on the network. Recording this information in this document will provide a "snapshot" of the current OmniStream network configuration. The Network Assignment Planner is available for download on the OmniStream product pages, under the Resources tab.

## Getting the IP Address

The following method uses the arp command, which is available from the command line in Windows. The arp command will display the IP-to-physical address translation tables used by the Address Resolution Protocol (ARP). The following procedure can be used for both encoders and decoders.

1. Identify the desired encoder/decoder by locating the MAC address on the bottom of the unit. *Figure 1.1* shows a sample label from an AT-OMNI-112 dual-channel encoder.

The MAC address for the Ethernet 1 physical interface is B8:98:B0:01:F7:EB.





NOTE: R-Type encoders have two Ethernet interfaces and two MAC addresses:

Ethernet 1 =	MAC	address	1
Ethernet 2 =	MAC	address	2

Therefore, if *both* physical interfaces are connected to the network, the encoder will have two IP addresses. However, the same encoder can be accessed through either IP address.

- 2. Connect a PC to the same network where the OmniStream encoders/decoders are connected.
- 3. Type cmd in the search bar, then press [ENTER] to launch the command line interface.



- 4. At the command prompt, type arp -a. Make sure to include a space between arp and the -a argument, then press [ENTER].
- 5. Press [ENTER]. Several lines of information will be displayed. Locate the MAC address of the encoder/decoder, under the **Physical Address** column. Directly across from the MAC address, the IP address of the encoder/ decoder will be listed under the **Internet Address** column.

	Encoder	IP address	MAC address
<pre>Interface: 10.1.0.4 Internet Address 10.1.0.3 10.1.0.8 10.1.0.11 10.1.0.12 10.1.1.255 224.0.0.2 224.0.0.22 224.0.0.230 224.0.0.252 239.255.255.250 255.255.255</pre>	0.16 Physical Address 30-cd-a7-37-26-bb b8-98-b0-01-fa-58 b8-98-b0-01-f2-56 b8-98-b0-01-f7-eb 00-38-df-d1-35-8a ff-ff-ff-ff-ff-ff 01-00-5e-00-00-02 01-00-5e-00-00-16 01-00-5e-00-00-66 01-00-5e-7f-ff-fa ff-ff-ff-ff-ff-ff	Type dynamic dynamic dynamic dynamic static static static static static static static static static static static	

## Logging In

- 1. Launch the desired web browser and enter the IP address of the encoder in the address bar.
- 2. Enter the username and password. Note that the password field will always be masked. The default credentials are:

Username:	admin		Username	I
Password:	Atlona		admin	I
			Password	I
				I
				ł
		Sign in to OmniStream		
		Usename admin Passuord		
		Continue		



3. The **System Information** page will be displayed.

Temperature De Temperature	Lone Ugat	- Lover -
	System information	1.2.6
	Model	at-omni-512
The login process is complete.	Description	N/A
	Location	
	Timezone	UTC
	Date/Time	01-01-1970 00:52:29
	Uptime	0 days 0 hours 26 minutes
	System	•C 46.00 °C
	Temperature	°F 114.80 °F
	Die	°C 67.55 °C
	Temperature	•F 153.59 °F
	Power Consumption	8.22 W
	Hostname	at-omni-512-00826
	NTP server	N/A
	Buttons	•
	Leds	•
	SET DATE/TIME FACTORY RESET	SET TIMEZONE
	IDENTIFY	DEBUG REBOOT SAVE

4.



## System information page

System iterationalities input EDID Encoding Betal Session Logo Text Alarms Network PTP LLDP Configuration Users Up System iteration (Model Description Logical)	126 126 126 126 126 126 126 126	
Temperature "F Power Consumption Hostname	Firmware version	1.2.6
Hostmanne NTP Server Buttons	Model	at-omni-112
Lods set inversione set inversione	Description	N/A
FACTORY RELET         CRMM 1949         C           REATIVY         CEMIC         F	Location	N/A
	Timezone	UTC
	Date/Time	01-01-1970 04:19:54
	Uptime	0 days 3 hours 53 minutes
irmware version	System Temperature	°C 47.50 °C
he version of firmware that the encoder is running.		°F 117.50 °F
Iways make sure the latest version of firmware is nstalled.	Die Temperature	°C 65.95 °C
lodel		°F 150.71 °F
he model number of the unit.	Power Consumptio	n 8.72 W
Description	Hostname	at-omni-112-01548
Provides the option of assigning descriptive name to the nit.	NTP server	N/A
ocation	Buttons	
rovides the option of assigning a description of where ne unit is located.	Leds	●
<b>Timezone</b> Displays the time zone format. Click the <b>SET TIMEZONE</b> outton, to assign the time zone.	SET DATE/TIME FACTORY RESET	SET TIMEZONE

## Date/Time

Displays the current date and time. Click the **SET DATE/TIME** button to set these values.

## Uptime

Displays the elapsed time since the unit was powered-on or rebooted.

## System Temperature

Displays the ambient enlosure temperature.

## **Die Temperature**

Displays the value returned from the die temperature sensor (DTS) on the chip of the PCB.



## **Power Consumption**

Displays the precise power consumption of the encoder.

## Hostname

Displays the hostname of the encoder. By default, OmniStream encoders are assigned a default hostname, which is constructed as follows: at-omni-[SKU]-[last five digits of MAC address]. If using a custom hostname, it must meet the hostname standards, defined here: <u>https://tools.ietf.org/html/rfc1123</u>.

## **NTP Server**

Displays the NTP server (if used). Click this field to enter the desired NTP server address.

## **Buttons**

Click this toggle switch to enable or disable the button backlight indicators on the front-panel.

#### Leds

Click this toggle switch to enable or disable <u>all</u> front-panel LED indicators and button backlight indicators.

## SET DATE/TIME

Click this button to set the current date and time.

## SET TIMEZONE

Click this button to set the desired time zone.

## **FACTORY RESET**

Click this button to reset the encoder to factory-default settings. When performing a factory reset, the following options can be selected, by clicking the check box. If no options are selected, then the encoder is reset with no factory-default settings.

Option	Description
None Checked	Resets the encoder with no factory-default settings.
Reset User	Resets the encoder to factory-default settings and resets custom user information.
Reset Network	Resets the encoder to factory-default settings and resets network information.
Reset Defaults	Resets the encoder to factory-default settings. In addition, static multicast addresses are configured. This option can be used to configure a single encoder to transmit to any number of decoders without using the Virtual Matrix within AMS.  IMPORTANT: This option will not work for multiple encoders on the same network.

## **IDENTIFY**

Click this button to physically identify a unit on the network. Clicking this button will cause all front-panel LED indicators to flash for 10 seconds.

## DEBUG

Click this button to instruct the unit to create a debug file. This file is used by Atlona Technical Support Engineers to diagnose internal issues with the unit.

## REBOOT

Click this button to perform a soft reboot of the encoder.

## SAVE

Click this button to commit changes to the settings on this page.



LPCM

48kHz

## Input page

						Logout
< System information Input EDID Encoding Serial Session Logo Text Alarms	Network P1	TP LLDP Configuration Users License	Upgrade	Demo		>
	Input 1		Input 2	Input 1		
	Name	hdmi_input1	Name			
	Cable present	Default 🗸	Cable p	Name		hdmi_input1
	HDCP	Encrypted	HDCP			
		Version 2.2 - Negotiated 1.4		Cable present		•
	Video	Color depth 8	Video	EDID		Default 🗸
		Subsampling 444	Audio			
		Colorspace RGB Resolution 190 x 1080p		HDCP	Encrypted	•
		Framerate 60.00			Version	2.2 👻
	Audio	Bit depth				
		Channel 2 count 2 Format LPCM			Negotiated	1.4
		Frequency 48kHz	$\backslash$		version	
		SAVE		Video	Color depth	8
	Video generator	1	Video g		Subsampling	444
	Name Color depth	video_generator1	Name Color d			
	Colorspace	YUV	Colorsp		Colorspace	RGB
	Framerate	60	Framer		Resolution	1920 x 1080p
	Subsampling Resolution width	444	Subsan			1920 X 1000p
	Resolution heigh	1080	Resolut		Framerate	60.00
		SAVE				
					HDR	•
Input window groups				Audio	Bit depth	16
The following fields apply to both th	e <b>Inp</b> i	ut 1 and Input			Channel	2

count

Format

Frequency

SAVE

The following fields apply to both the **Input 1** and **Input 2** window groups. Single-channel encoders only have a single **Input** window group.

## Name

The name of the input. This field cannot be changed.

## **Cable present**

This indicator will be red if the encoder is unable to detect the source signal. This may indicate a damaged HDMI cable. If this indicator is green (shown), then the cable

integrity is good, and additional fields for both the Video and Audio sections will be displayed.

## EDID

Click this drop-down list to select the desired EDID. The default EDID is selected as a default setting.

EDID	Description
Default	Default EDID (3840x2160p30)
Default (DV)	Default EDID with Dolby Vision (3840x2160p30)
ATL 1080P 2CH	1920x1080p60 with two-channel PCM audio
ATL 1080P DD	1920x1080p60 with Dolby Digital
ATL 1080P DVI	1920x1080p60 formatted as DVI
ATL 1080P MCH	1920x1080p60 with multchannel audio
ATL 1280x800 RGB DVI PCWXGADVI	1280x800 formatted as DVI
ATL 1280x800 RGB PCWXGA2CH	1280x800p60 PC format with two-channel PCM audio
ATL 1280x800 RGB TVWXGA2CH	1280x800p60 TV format with two-channel PCM audio



EDID	Description
ATL 2160P 2CH	3840x2160p30 with two-channel PCM audio
ATL 2160P MCH	3840x2160p30 with multichannel PCM audio
ATL 2560x1600 2CH	2560x1600p60 with two-channel PCM audio
ATL 2560x1600 MCH	2560x1600p60 with multichannel PCM audio
ATL 720P DD	1280x720p60 with Dolby Digital audio
ATL 720P 2CH	1280x720p60 with Dolby Digital two-channel audio
ATL VR (2160x1200)	2160x1200p90 (Compatible with HTC VIVE® VR system)

## **HDCP**

#### Encrypted

Indicates if the content being transmitted from the source is HDCP-encrypted. If using HDCP-encrypted content is being used, then this indicator will be green.

#### Version

Click this drop-down list to select the version of HDCP to be supported: **2.2**, **1.4**, or **None**. If **None** is selected, then HDCP-enctrypted content cannot be passed-through.

## Video

The following fields will only be displayed if the Cable present indicator is green.

**Color Depth** Displays the color depth of the source content.

**Subsampling** Displays the chroma subampling value of the source content.

**Colorspace** Displays the color space of the source content.

## Resolution

Displays the resolution of the source content.

## **Audio**

The following fields will only be displayed if the Cable present indicator is green.

**Bit Depth** Displays the bit depth of the source audio.

**Channel count** Displays the number of audio present that are present in the source audio. **Framerate** Displays the frame rate of the source content.

#### HDR

This indicator displays the presence of HDR source content. If the indicator is green, then the source is outputting HDR content. If the indicator is red, then no HDR content is detected.

**Format** Displays the audio format of the source content.

**Frequency** Displays the audio frequency of the source content.



## Video generator window groups

The following fields apply to both the **Video generator 1** and **Video generator 2** window groups. This signal can be used to test the video capability of the network. Single-channel encoders will have one **Video generator** window group.

#### Name

The name of the input. This field cannot be changed.

#### **Color Depth**

Click this drop-down list to select the color depth. Available values are 8, 10, and 12.

#### Colorspace

This field is locked to YUV and cannot be changed.

## Framerate

Click in this field to change the frame rate of the video generator signal. The default value is 60 Hz.

## Subsampling

This field is locked to 444 and cannot be changed.

#### **Resolution width**

Click in this field to change the horizontal resolution of the signal.

#### Vertical width

Click in this field to change the vertical resolution of the signal.

Video generator 1	
Name	video_generator1
Color depth	8 🗸
Colorspace	YUV
Framerate	60
Subsampling	444
Resolution width	1920
Resolution height	1080
	SAVE



## EDID page

	Users License Up	rade		Logovi	
	Default: Voteo Mode Product AT-OMNE-512/				
Vendor Preteres no Supported motions	Mode 3	ATL 840x2160p60Hz (1) (14kz) 800x600p60Hz (40 MHz) 1024x768p60Hz (65 MHz)			
	Mode 1 Mode 1	2004/100p00142 (101 MHz) 2004/200p60Hz (193 MHz) 500x1200p60Hz (147 MHz) 500x1200p60Hz (162 MHz)			
		1600x900p60Hz (116 MHz) 1440x900p60Hz (106 MHz) 10 10 10 10 10			
	Mode 3	Product		AT-OMNI-112	
	Mode 3 Mode 3 Mode 3	Vendor		ATL	
	Mode 1 Mode 3	Preferred mode		3840x2160p30Hz (297 MHz)	
	Mode Mode Mode	Supported modes	Mode	800x600p60Hz (40 MHz)	
Orban Vite	Mode 1	modes	Mode	1024x768p60Hz (65 MHz)	
Product Vendor		-	Mode	1920x1200p60Hz (193 MHz)	
			Mode	1680x1050p60Hz (147 MHz)	
<b>Product</b> Displays the SKU of the OmniStream encoder. This	field		Mode	1600x1200p60Hz (162 MHz)	
cannot be changed.	noid		Mode	1600x900p60Hz (118 MHz)	
Vendor			Mode	1440x900p60Hz (106 MHz)	
Displays the vendor name (ATL). This field cannot b changed.	e		Mode	1400x1050p60Hz (122 MHz)	
Preferred mode			Mode	1280x1024p60Hz (108 MHz)	
Displays the preferred timing and resolution of the E	DID.		Mode	1280x800p60Hz (83 MHz)	
This field cannot be changed.			Mode	3840x2160p30Hz (297 MHz)	
Supported modes			Mode	1920x1080p60Hz (148 MHz)	
Mode			Mode	3840x2160p25Hz (297 MHz)	
In addition to the preferred timing and resolution, ea EDID structure contains a listing of supported timing	gs/		Mode	3840x2160p24Hz (297 MHz)	
resolutions. The number of available supported time resolutions depends on the EDID.	ings/		Mode	4096x2160p30Hz (297 MHz)	
			Mode	4096x2160p25Hz (297 MHz)	
+			Mode	4096x2160p24Hz (297 MHz)	
			Mode	1920x1080p50Hz (148 MHz)	
Add EDID Click this button to create a new EDID.			Mode	1920x1080p30Hz (74 MHz)	
			Mode	1920x1080p25Hz (74 MHz)	
			Mode	1920x1080p24Hz (74 MHz)	



## Encoding page

ତିନ୍ମୁ ଅନ୍ୟାର୍କ Management < System information Input EDIO Encoding Serial Session Logo Test Alarms Network PTP	LLDP Configuration Users License Upg	rrade	Logout >
<ul> <li>System monitation inport EUU monitory sectal sectador Euge real valints vertinol PPP</li> <li>Encoder 1</li> <li>Name linput</li> <li>Must de rate</li> <li>Bit degth</li> <li>Force YUV</li> <li>State mode</li> <li>State spo</li> </ul>	vc2,encoder1 Nu Nami, input 1 900 - 4 1004 - 8 6 of - 55	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	
	SWE	SAVE Encoder 1	
		Name	vc2_encoder1
		Max bit rate	hdmi_input1 👻
		Bit depth	8-bit 👻
		Subsampling	4:2:2 👻
Encoder window groups		Force YUV	
The following fields apply to both the Encoder 1 and		Slate mode	off 👻
Encoder 2 window groups. Single-channel	el encoders will	Slate logo	

## Name

The name of the encoder. This field cannot be changed.

have one Encoder window group.

#### Input

Click this drop-down list to select the input. Available options are: **not used**, **hdmi\_input1**, **hdmi\_input2**, **video\_generator1**, and **video\_generator2**. Single-channel encoders will only have the following options: **not used**, **hdmi\_input1**, and **video\_generator1**.

SAVE

## Max bit rate

This field is set to 900 Mbps and cannot be changed.

#### Bit depth

Click in this drop-down list to select the desired bit depth. Available values are: 8-bit, 10-bit, and 12-bit.

## Force YUV

When this toggle switch is enabled (green), the encoder will stream YUV content over the network, regardless of which color space is used by the HDMI source. When the decoder receives the YUV stream, it will output YUV on the HDMI output. However, if the decoder is connected to a display that requires RGB, as determined by the EDID of the display, then the decoder will convert the video signal to RGB on the HDMI output. In order for the chroma scaling to work on RGB inputs, this option must be enabled.



## Slate mode

Click this drop-down list to enable or disable slate mode. Available values are: off, manual, and auto.

Mode	Description
Off	Disables the image from being displayed.
Manual	The image will always be displayed, superimposed on the source signal, and will remain even if the source signal is lost.
Auto	The image will only be displayed when the source signal is lost. For example, this mode is useful in conference room applications for displaying system instructions when no sources are connected.

## Slate logo

Click this drop-down list to select the desired slate logo.



## Serial page

				Logout
< System information Input EDID Encoding Serial Session Logo Text Alarm	is Network PTP LLDP Configu	ration Users License	Upgrade	*
	Serial port configuration		Serial port configuration	serial port2
	Supported modes			rared, serial
	Mode	serial 👻	Mode	senal 👻
	Baudrate	9600 -	Baudrate	9600 🗸
	Data		Data	8 🕶
	Parity		Parity	none 🗸
	Flowcontrol	1 -	Foundard	1
		none 🗸		
	SAVE		SAVE	
	Serial configuration		Serial configuration	
	Name	serial_use1	Name	serial_use2
	Port		Port	pt port2 -
	Mode	cli 🛩	Mode	X
	SAVE		SAVE	
	Command: Display Off		Comma	
	Interpret on		Serial port configura	ation
	ASCII		ASCII	
	HEX	N/A	HEX Name	serial_port1
	SAVE DE	LETE	Supported modes	infrared, serial
	Command: Volume Down		Mode	serial 👻
	ASCII		ASCII	
	HEX			
			Baudrate	9600 👻
	SAVE DE	LETE		
			Data	8 🕶
			Parity	none 👻
Serial port configuration window	aroups			
Senal port configuration window groups			Stop	1 👻 📗
The following fields apply to both Serial port				
			Flowcontrol	none 👻
configuration window groups.				
Name				SAVE
The name of the serial port. This field	eld cannot be	changed.		

## **Supported Modes**

Displays the supported protocols for the serial port. This field cannot be changed.

#### Mode

Click this drop-down list to select the desired serial mode. Available values will be reflected in the **Supported Modes** field.

#### Baudrate

Click this drop-down list to select the desired baud rate: 115200, 57600, 38400, 19200, or 9600.

#### Data

Click this drop-down list to select the number of data bits: 6, 7, or 8.

## Parity

Click this drop-down list to select the parity bit: None, Odd, Even, Mark, or Space.

## Stop

Click this drop-down list to select the stop bit: 1, 1.5, or 2.



## **Flow Control**

Click this drop-down list to select the type of flow control: none, xonxoff, or hw.

## SAVE

Click this button to commit all changes within the Serial port configuration window group.

## Serial configuration window groups

The following fields apply to both **Serial configuration** window groups. The single-channel encoder will only have one **Serial configuration** window group.

#### Name

The name of the port. This field cannot be changed.

#### Port

Click this drop-down list to select the desired serial port.

#### Mode

Click this drop-down list to select the desired control mode. Available values are: **cli** and **tcpproxy**. Select **tcpproxy** to send IP commands directly to the decoder, which are then output over RS-232 to the display (sink) device. Selecting the **cli** option will pass through RS-232 data, directly from a control system, to the sink device that is connected to the decoder.

## SAVE

Click this button to commit all changes within the Serial configuration window group.

## **Command window groups**

By default, window groups for the following commands are created: **Display Off**, **Display On**, **Volume Down**, and **Volume Up**.

#### Interpret on

Click this drop-down list to select the endpoint where the command will be processed: **encoder** or **decoder**.

## ASCII

Enter the ASCII representation of the command string in this field.

## HEX

Enter the hexadecimal representation of the command in this field.

## SAVE

Click this button to commit all changes within the **Command** window group.



**NOTE:** When entering the command string, it is not required to enter the string under both the ASCII and HEX fields. The encoder requires that one field be completed.



#### New Command

Click this button to create a new command window group. Provide a name for the command in the displayed dialog box, then click the **Create** button. Complete each of the fields, as described above.



Command: Dis	olay Off		
Interpret on			decoder 👻
ASCII			N/A
HEX			N/A
	SAVE	DELETE	



# Session page

Serial Session Logo Text Alarms Network	PTP LLDP Configuration Users License	Upgrade			Log
Session 1		Session 2			
Name	session1	Name		session2	
Interface	eth1	Interface		eth2	
SAP	Enable	SAP	Enable	0-	
	Name 10	Video	g Enable	VC2_encoder2	
	Name session1 Description N/A	Video	Enable	vcz_encoderz	
	Originator -		Destination IP address	225.0.5	
	Categorisation Ationa		Destination UDP port	1000	
Scrambling	Enable —		TTL	255	
	Key N/A	Audio	Source	hdmi_input2 👻	
Video	Encoder vc2_encoder1		Enable AES67	•	
	Enable		Enable	-	
	Destination IP address 225.0.0.3		Session 1		
	Destination UDP port 1000				
	TTL 255		Name		session1
Audio	Source hdmi_input1 - Enable AES67	AUX	Nume		56551011
	Enable		Interfece		ath d
	Destination IP address 225.0.0.4		Interface		eth1
	Destination UDP port 1100				
	TTL 255	Session 3	SAP	Enable	
AUX	Source Commands -	Name		-	
	Enable —	Interface		Interval	10
	Destination IP address N/A	SAP			
	Destination UDP port 1200			Name	session1
	TTL 255			Name	363310111
	Bidirectional O-			Description	
	Listen port 1204			Description	N/A
	SAVE	Audio			
				Originator	-
				Categorisation	Atlona
			Scrambling	Enable	
			y		
				Key	N/A
Session 4 Name	session4		Video	Encoder	vc2_encoder1
Interface	eth2			Enable	
SAP	Enable				
	Name session4			Destination IP address	225.0.0.3
	Description N/A			Destination IF address	223.0.0.3
	Originator -			Destination UDP port	1000
				TTL	255
ps					
v to all Session	window aroups.		Audio	Source	hdmi_input1 👻
following fields apply to all <b>Session</b> window groups.					

#### Name

The name of the session. This field cannot be changed.

# Interface

Click this drop-down list to select the desired interface.

Interface	Description
eth1	ETHERNET 1 port
eth2	ETHERNET 2 port

Enable AES67

Destination IP address

Enable

225.0.0.4



# SAP

### SAP

Click this switch to enable or disable the Session Announcement Protocol. When enabled, the toggle switch will be orange.

# Scrambling

#### Enable

Click this toggle switch to enable or disable scrambling on the encoder. Atlona recommends enabling scrambling for security purposes. Session Announcement Protocol. When enabled, the toggle switch will be orange.

#### Key

This field is only displayed if the **Scrambling** toggle switch is enabled (green). Enter the scrambling key in this field. The scrambling key must be ASCII and must contain a minimum of eight characters. Special characters and spaces are not permitted.

#### Video

#### Encoder

Click this drop-down list to select the encoder input.

#### Enable

Click this toggle switch to enable or disable the video signal. When enabled (orange), video will pass from the encoder to the decoder.

#### **Destination IP address**

Enter the IP address of the decoder that will be receiving the video stream.

#### **Destination UDP port**

Enter the destination UDP port in this field.

#### TTL

Set the TTL (Time-To-Live) duration, from 1 to 255 seconds, in this field. The default value is 255 seconds.

Session 1		
Name		session1
Interface		eth1
SAP	Enable	
	Interval	10
	Name	session1
	Description	N/A
	Originator	
	Categorisation	Atlona
Scrambling	Enable	•
	Key	N/A
Video	Encoder	vc2_encoder1
	Enable	
	Destination IP address	225.0.0.3
	Destination UDP port	1000
	TTL	255



# Audio

# Source

Click this drop-down list to select the desired input. Available values are: **Not used**, **audio\_generator1**, **hdmi\_input1**, and **hdmi\_input2**.

#### Enable AES67

Click this toggle switch to enable AES67. When this feature is enabled, the toggle switch will be green.

#### Downmixing

This field will only be available when AES67 is enabled. Available values are: **none**, **mono**, and **stereo**.

#### Enable

Click this toggle switch to enable or disable the audio signal. When enabled (orange), audio will pass from the encoder to the decoder.

#### **Destination IP address**

Enter the IP address of the decoder that will be receiving the audio stream.

#### **Destination UDP port**

Enter the destination UDP port in this field.

#### TTL

Set the TTL (Time-To-Live) duration, from 1 to 255 seconds, in this field. The default value is 255 seconds.

#### AUX

#### Source

Click this drop-down list to select the method of how commands are transmitted.

Source	Description
Not Used	Serial control is disabled
Commands	Commands are sent using CEC (over HDMI)
Serial Port 1	Commands are transmitted using Serial Port 1
Serial Port 2	Commands are transmitted using Serial Port 2

#### Enable

Click this toggle switch to enable or disable the AUX signals. When enabled (orange), control signals will pass from the encoder to the decoder.

#### **Destination IP address**

Enter the IP address of the decoder that will be receiving the control signals.

#### **Destination UDP port**

Enter the destination UDP port in this field.

#### TTL

Set the TTL (Time-To-Live) duration, from 1 to 255 seconds, in this field. The default value is 255 seconds.

Audio	Source	hdmi_input1 -
	Enable AES67	•
	Enable	
	Destination IP address	225.0.0.4
	Destination UDP port	110
	TTL	25
AUX	Source	Commands •
	Enable	
	Destination IP address	N//
	Destination UDP port	120
	TTL	25
	Bidirectional	0-
	Listen port	1204



### **Bidirectional**

Click this toggle switch to enable or disable bidirectional control. When enabled (orange), control signals will be able to pass from encoder to decoder, or from decoder to encoder.

### Listen port

Enter the listening port in this field.

#### SAVE

Click this button to commit all changes within the Session window group.



# Logo page

	Logout
< System information Input EDID Encoding Serial Session Logo Text Alarms Network PTP LLDP Config	Configuration Users License Upgrade >
Ne	New logo
Na	Name NXA
٥	Choose File No file chosen
	UPLOAD
Log	Logo Insertion 1
	Target vc2_encoder1
En	Enable
Log	New logo
	Aspect ratio
Lo	Location Horizontal (%) Name N/A
Size Size Size Size Size Size Size Size	Versal (%)
	Choose File No file chosen
	SAVE
Lo	Logo Insertion 2 UPLOAD
	Target
	Enable
	Logo Refused + Aspectratio stretch +
	Aspect ratio stretch + Location Histochaid (%) 0
	Vertical (%) 0
Siz	Size Width (%) 10
	Height (%) 10
	SAVE
	Silve

#### New logo window group

### Name

Enter a name for the logo in this field.

#### **Choose File**

Click this button to select the logo file to be uploaded. Files must be in .png format and must not exceed 5 MB (5120000 bytes) in size. When an image file is uploaded, it will appear in the **Logo** drop-down list.

#### UPLOAD

Click this button to upload the logo file to the encoder.

#### Logo Insertion window groups

The following fields apply to both **Logo Insertion** window groups.

Logo Insertion 1	
Target	vc2_encoder1
Enable	0—
Logo	Not used 👻

### Target

Displays the name of the encoder. This field cannot be changed.

### Enabled

Click the toggle switch to enable or disable the logo. If the toggle switch is orange, then the logo will be enabled.

# Logo

Click this drop-down list to select the desired logo. To disable the use of a logo, set to Not Used.



### Aspect Ratio

Click this drop-down list to select the type of aspect ratio to be applied to the logo.

# Horizontal (%)

Enter the horizontal position of the logo on the screen. This value is based on the total horizontal resolution of the screen.

### Vertical (%)

Enter the vertical position of the logo on the screen. This value is based on the total vertical resolution of the screen.

Aspect ratio		stretch 👻
Location	Horizontal (%)	0
	Vertical (%)	0
Size	Width (%)	10
	Height (%)	10
	SAVE	

### Width (%)

Enter the width of the logo. This value is based on the total horizontal resolution of the screen.

#### Height (%)

Enter the height of the logo. This value is based on the total vertical resolution of the screen.

#### SAVE

Click this button to commit all changes within the Logo Insertion window group.



### Text page

NTLONA Teaconomi ystem information imput EDIO Encoding Sorial Session Logo Text Alarms Network PTP L	LLDP Configuration	Users License Up	grade		
	Text insertion 1				
	Target		vc2_encoder1		
	Enable		0-		
	Text				
	Scroll speed		X		
	Iterations		0		
	Color		while 🗸		
		Red	255		
		Green	255		
		Blue	255		
		Alpha			
	Location	Horizontal	Text insertion 1		
		Vertical			
	Size	Width	Target		vc2_encoder1
		Height			
		SAVE	Enable		$\bigcirc$
			Ellable		0—
	Text insertion 2		Text		N/A
	Target				
	Enable		Scroll speed		(
	Text		Coronopeed		
	Scroll speed				
	Iterations		Iterations		C
	Color	Red			
		Green	Color		white 🗨
		Blue			
		Alpha		Red	255
	Location	Horizontal		Reu	200
		Vertical			
	Size	Width		Green	255
		Height			
		-		Blue	255
		SAVE		Dide	200
				Alpha	255

#### Text insertion window groups

The following fields apply to both Text insertion window groups.

#### Enabled

Click this toggle switch to enable or disable the text. When the toggle switch is orange, the text will be enabled.

#### Text

Enter the desired text in this field.

#### Scroll Speed

Enter the scrolling speed in this field. Values from -255 to 255 are valid. Negative numbers will scroll the text from left to right. Positive numbers will scroll text from right to left.

#### Iterations

Enter the number of iterations in the Iteration field. Set this field to 0 (zero) to set the number of iterations to infinity.

#### Color

Click this drop-down list to select a solid color preset: red, green, black, white, yellow, or blue.

#### Red, Green, Blue, Alpha

Click these fields to fine tune the color of the text. Adjust the **Alpha** field to control the transparency of the text. An alpha value of 255 is opaque and a value of 0 is transparent. Numbers from 0 to 255 are valid for all fields.



#### Horizontal

Enter the horizontal position of the text in this field.

### Vertical

Enter the vertical position of the text in this field.

# Width

Enter the width of the text in this field. This value is based on the horizontal resolution of the screen.

#### Height

Enter the height of the text in this field. This value is based on the vertical resolution of the screen.

#### SAVE

Click this button to commit all changes within the **Text insertion** window group.

Location	Horizontal	0
	Vertical	0
Size	Width	10
	Height	10
	SAVE	



# Network page

				Logout
< System information Input EDID Encoding Serial Session Logo Text Alarms	Network PTP LLDP Configuration Users Lice	nse Upgrade		
	Network 1	Network 2		
	Network 1 eth		eth2	
	Enabled	Enabled		
	Carrier	Carrier	•	
	Mode static	Titme	dhcp 🛩	
	IP address 10.1.0.5	IP address		
	Subnetmask 255.255.254	Subnetmask		
	Gateway 10.1.1.25	Gateway		
	Link speed 100	Link speed		
	MAC address B8:98:B0:01:F7:4	MAC address B8:98:B	0.01:F7:44	
	Teinet	Teinet authen	-	
		Network 1		
	SAVE			ч.
		Name	eth1	
		Enabled		
		Enabled	•	
		Carrier	•	
		Mode	static 👻	
		ID address	10.1.0.51	
		IP address	10.1.0.51	
		Subnetmask	255.255.254.0	
		Gateway	10.1.1.254	
		· · · · · · · · · · · · · · · · · · ·		

#### **Network window groups**

The following fields apply to both **Network** window groups.

#### Name

Displays the name of the Ethernet interface. This field cannot be changed.

#### Enabled

This indicator displays whether or not the video stream for this channel is active. If the indicator is green, then the video stream is active.

#### Carrier

If this indicator is green, then an active link exists. Otherwise, if no link exists, this indicator will be red.

#### Mode

Click this drop-down list to select the desired IP mode. Select DHCP to let the DHCP server (if present) assign the encoder the IP settings; **Subnet** and **Gateway** fields will automatically be populated. When **Static** mode is selected, the information for the **IP Address**, **Subnet**, and **Gateway** fields must be entered.

#### **IP Address**

Displays the IP address used by the channel. This field can only be changed if **Static** mode is selected.

#### Subnetmask

Displays the subnet mask for the channel. This field can only be changed if **Static** mode is selected.

#### Gateway

Displays the gateway (router) address for the channel. This field can only be changed if **Static** mode is selected.



### Link speed

Displays the Ethernet interface link speed in Mbps. This field cannot be modified.

### MAC address

Displays the MAC address of the Ethernet interface.

#### **Telnet authentication**

Click this toggle switch to enable or disable Telnet authentication. If enabled, then the toggle switch will be orange. Once enabled, connecting to the encoder using Telnet will require login credentials. The default credentials are:

Username:	admin
Password:	Atlona

### SAVE

Click this button to commit all changes within the **Network** window group.

Link speed	1000
MAC address	B8:98:B0:01:F7:43
Telnet authentication	-•
	SAVE



# PTP page

The **PTP** page provides options for adjust Precision Time Protocol (PTP) for AES67 audio streams. PTP is used by AES67 to keep all audio streams synchronized.

For a system utilizing PTP, all devices undergo an automatic self-election process to choose the interface to be used as the PTP grandmaster (GM) clock, based on the accuracy of the device's clock and the device's configured priority. A lower priority number means the unit is more likely to get selected as GM.



**IMPORTANT:** If a new device is added to the network and the GM changes, a brief outage will be experienced while all connected devices synchronize with the new clock. Because of this, Atlona recommends that one unit gets manually defined as the GM and have both **Priority 1** and **Priority 2** fields be set to 1.

### eth window groups

The following fields apply to both **eth** window groups.

#### Interface

Displays the Ethernet interface associated with the PTP settings.

#### **Domain Number**

Enter the domain number in this field. Valid entries are 0 through 127.

#### Priority 1

Enter the priority number in this field.

#### **Priority 2**

Enter the priority number in this field.



# TTL

Displays the TTL value. PTP uses a default IPv4 TTL value of 1 for multicast. This value may be changed, if necessary, in order for the replies to reach the PTP monitor.

# Is GM Present

This indicator displays the existence of a grandmaster clock for the specified PTP domain number. If the indicator is green, then the grandmaster clock exists on this interface.

# **GM Identity**

The grandmaster clock identity. If this field is blank, then it means that this interface is the grandmaster clock.

### **Master Offset**

Displays the grandmaster clock offset.



# LLDP page

The Link Layer Discovery Protocol (LLDP) page returns information about the switch that the encoder is connected to. If both interfaces from a dual-channel encoder are connected to the switch, then two **eth** window groups will be displayed.

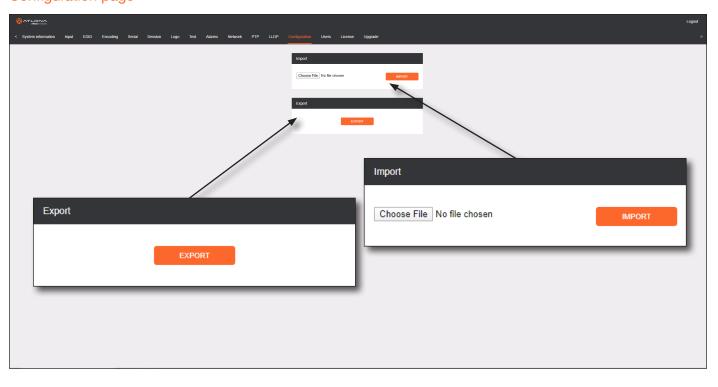


**NOTE:** LLDP must be enabled on the switch that the encoders are connected to, in order for the switch information to be displayed.

	Logod
ettr Via RD Age Chasse ID	
Capability Port ID Description	Age 0 day, 00:21:44
TTL Robush	
	Description Cisco SG300-28MP (PID:SG300-2
	Manag. IP 10.1.1.254
	Capability Bridge (on)
	Capability Router (on)
	Port ID ifname gi1
	Description gi1
	TTL 180



# Configuration page



# **Choose File**

Click this button to select the desired configuration file to be uploaded.

# IMPORT

Click this button to upload the selected configuration file to the encoder.

### **EXPORT**

Click this button to export the current encoder system configuration to a .json file.



# Users page

			υ	ogout
<ul> <li>System information Input EDID Encoding Serial Session Logo Text Atarms</li> </ul>	Network PTP LLDP Configuration Users License	Upgrade		>
	Ver I     administrative       Reid     administrative       New passeord     160       Rejeat passeord     160	Userane     operative       New password     New       User 1     Swe       Username     Role       New password     Repeat password	admin administrator • N/A N/A	+

### User window groups

The following fields apply to all **User** window groups. Encoders have two usernames, by default: **admin** and **operator**.

#### Username

Enter the desired username in this field.

#### Role

Click this drop-down list to select the desired role of the user.

#### New password

Enter the desired password for the username in this field.

#### Repeat password

Confirm the new password by entering it in this field.

#### DELETE

Click this button to delete the user in the current window group. Note that the at least one admin role must exist at all times. Therefore, if one **admin** role and one **operator** role exist, then the **admin** user cannot be deleted.

#### SAVE

Click this button to commit all changes within the current user window group.



#### New user

Click this button to create a new user. Provide the role and password, as described in the fields above.



# License page

This page displays all installed licenses and allows additional licenses to be installed.

			Logov
System information Input EDID Encoding Serial Session Logo Text Alarms Network PTP LLDP Configuration Users	License Upgrade		
License info			
	stalled true		
Ki	y 4K:5b6fad2d822604b9e11805f32e squest 4K:b898b001f743		
	stalled N/A		
к			
	equest PRO:b898b00113 stalled true		
K			
R	equest SCRAMBLING:b898b001f743		
Keys can be obtain	d through Atlona by using one of the		
requests			
License Key	License info		
		In shell a d	
	4k	Installed	true
		Key	4K:5b6fad2d822604b9e11805f32e
		Rey	410.0001020022004030110001020
		Request	4K:b898b001f743
	Pro	Installed	N/A
		Key	N/A
		Request	PRO:b898b001f743
	Scrambling	Installed	true
icense Key	Scrambling	Installeu	true
nter the license key in this field.		Key	SCRAMBLING:9796c22595027ef
NSTALL LICENSE		Request	SCRAMBLING:b898b001f743
lick this button to validate and install the license.		-	I
			I
	Keys can be	obtained throug	h Atlona by using one of the
	requests.		
			I
	License Key		N/A

INSTALL LICENSE



# Upgrade page

This page is used to update the firmware on the encoder.

	.ogout
< System information Input EDID Encoding Serial Session Logo Text Alarms Network PTP LLDP Configuration Users License Upgrave	
Upgrade Choose File No file chosen UPLOAD	J

# Choose File

Click this button to select the firmware file to be uploaded.

# UPLOAD

Click this button to upload the selected firmware file.



# Updating the Firmware

Firmware updates are managed through the Atlona Management System (AMS) software.

- 1. Click **DEVICE INFO** in the menu bar.
- 2. Click the UPDATE FIRMWARE button to display the Firmware Update dialog.

Device Info							
AT-OMNI-112							
AT-OMNI-112	-						
		Firmware Update					
		T-OMNI-112 - 192.168.11.116:80					
B8:98:B0:01:A5:7F		Drop or Browse file	e here to upload new	Firmware			
Firmware Version							
		Select Firmware					
UPGRADE FIRMWARE							
OPORADE PIRMWARE							
Description						Duce finners file	la e ve
						Drag firmware file	nere
Uptime 3 minutes							
49.5			CLOSE	ATE FIRMWARE UPDATE ONLINE			
Hostname							
at-omni-112-00722							

- 3. Click and drag the firmware file to yellow box, to upload the firmware to the device. OmniStream firmware files use the .v2pup file extension. Once the firmware file has been uploaded, it will appear under the **Select Firmware** section of the dialog box.
- 4. Click the **UPDATE FIRMWARE** button to begin the update process.
- Click and drag the firmware file to yellow box, to upload the firmware to the device. OmniStream firmware files use the .v2pup file extension. Once the firmware file has been uploaded, it will appear under the Select Firmware section of the dialog box.
- 6. Click on the firmware file name to highlight it.
- 7. Click the **UPDATE FIRMWARE** button, at the bottom of the dialog box, to begin the update process.

Firmware Update	Uploaded firmware file
Andrew's AT-OMNI-112 - 192 1 <del>68</del> .11.116:80	
Drop or Browse file here to up	pload new Firmware
Select Firmware	
at-omni-dual-upgrd-os-1.2.1_RC02.vpup2 05 Jun 2018 17:44:16 +0000	×
CLOSE	UPDATE FIRMWARE UPDATE ONLINE



After the **UPDATE FIRMWARE** button is clicked, the Upgrade Firmware Started message box will be displayed.

121.1	
Hostname	
at-omni-112-00722	
NTP Server	
	Atlona Customer Support Live Chat (5AM PST - 5PM PST) 🏴
	Upgrade Firmware Started

8. Click the orange up-arrow icon, in the upper-right corner of the screen, as shown below. If this icon is orange, it indicates that a firmware update is in progress.

			<b>1</b>
LOGO	РТР	NETWORK	-

The progress bar for the update process will be displayed. Once the file is uploaded to the encoder, the update procedure is a rapid process.

Device Info	
Alias	
AT-OMNI-112	
Model	
AT-OMNI-112	
IP Address 1	
192.168.11.116	IP Address 2
MAC Address 1	MAC Address 2
B8:98:B0:01:A5:7F	B8:98:B0:01:A5:80
Firmware Version	Firmware Update
1.2.1_RC02	
UPGRADE FIRMWARE	Firmware Name: "at-omni-dual-upgrd-os-1.2.1_RC02.vpup2"
	AT-OMNI-112 - 192.168.11.116:80
Description	
	CLOSE
Location	

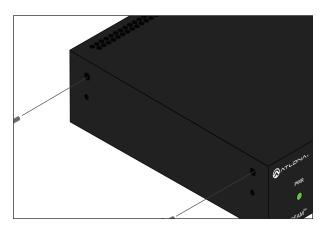
- 9. Click the "X" to close out the progress bar window, then click the **CLOSE** button to dismiss the **Firmware Update** message box.
- 10. The firmware update process is complete.
- 11. Clear the web browser cache and refresh the web page. The new firmware version will appear in the **Firmware Version** field, in the **DEVICE INFO** page.



# **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 rack ears, as shown below, aligning the holes on the side of the enclosure with one set of holes on the rack ear.
- 3. Use the enclosure screws to secure the rack ear to the enclosure.

Included screws

- 4. To provide added stability to the rack ear, 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 rack ear to the opposite side of the unit.

6. Mount the unit using the oval-shaped holes, on each rack ear. If using a drywall surface, a #6 drywall screw is recommended.





**NOTE:** Rack ears can also be inverted to mount the unit under a table or other flat surface.



# Rack Tray for OmniStream

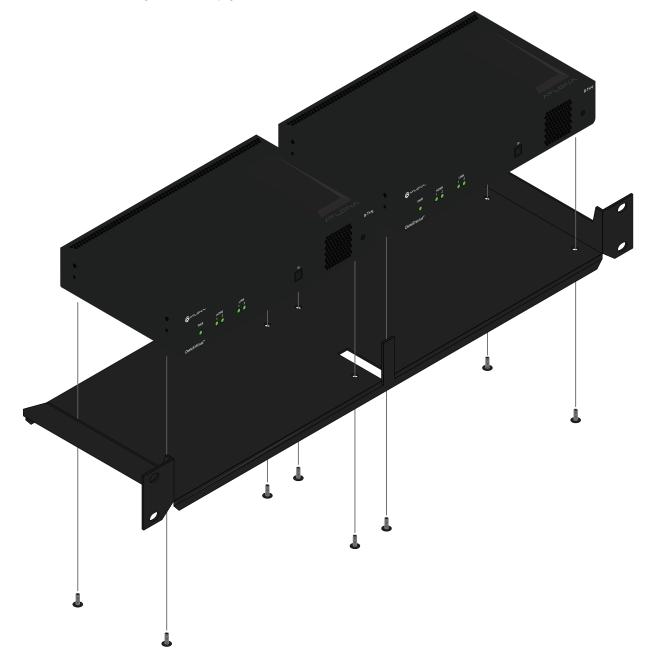
OmniStream encoders can also be mounted in the OmniStream rack tray (AT-OMNI-1XX-RACK-1RU). The rack tray is sold separately and provides easy mounting and organization of up to two OmniStream encoders/decoders in a convenient 1U rack tray. The OmniStream rack tray can be purchased directly from Atlona.

- 1. Position the OmniStream products, as shown in the illustration below.
- 2. Using the included screws, secure each unit to the rack with a Philips screwdriver.



**NOTE:** OmniStream units can be mounted forward-facing or back-facing, depending upon your requirements.

3. Install the entire assembly into an empty 1U slot in the rack.





# Specifications

Video					
HDMI Specification	HDMI 2.0, HDCP 2.2				
UHD/HD	4096×2160 (DCI) @ 60/30/24 Hz 3840×2160 (UHD) @ 60/50/24/25/30 1080p @ 23.98/24/25/29.97/30/50/59	Hz 720p@3	25/29.97/30 Hz 0/50/59.94/60 Hz		
VESA <sup>(2)</sup>	2560×1600 1920×1200 1680×1050 1600×1200 1600×900 1440×900 1400×1050	1366x768 1360x768 1280x102 1280x800 1280x768 1152x768 1024x768	3 24 3 3		
Color Space	YUV, RGB				
Encoding					
Density	Dual encoding engines	Dual encoding engines			
Compression Format	VC-2 (SMPTE-2042)	VC-2 (SMPTE-2042)			
Chroma Subsampling	4:2:0	4:2:0			
Video Quality Optimization	Video mode				
Color Depth	8-bit, 10-bit, 12-bit	8-bit, 10-bit, 12-bit			
HDR	HDR10, HLG, Dolby <sup>®</sup> Vision <sup>™</sup>				
Bit Rate	900 Mbps	900 Mbps			
Latency	0.5 frame (e.g. 1080p @ 60 Hz latency is < 8 ms between encoder and decoder) 1.5 frames in Fast Switching mode (e.g. 1080p @ 60 Hz latency is < 24 ms between encoder and decoder) Note: Unusual network configurations may increase overall latency				
Audio					
Pass-through	LPCM 2.0 LPCM 5.1 LPCM 7.1	Dolby <sup>®</sup> Digital Dolby Digital Plus Dolby TrueHD	DTS <sup>®</sup> DTS-HD Master Audio™		

	LPCM 7.1	Dolby TrueHD Dolby Atmos®	
Down-mixing	Multichannel LPCM to two-channel I	LPCM	
Sample Rate	32 kHz, 44.1k Hz, 48 kHz, 88.2 kHz,	96 kHz, 176.4 kHz, 192 kHz	
Bit Depth	Up to 24-bit		

Protocols	
Video Streaming	RTP
Audio Streaming	RTP, up to 7.1 channels AES67, up to LPCM 7.1 channels
Addressing	DHCP, static
Encryption	AES-128
QoS Tagging	RFC 2475
Management	HTTPS, SSH, Telnet, and WebSockets with TLS
IP Multicast	IGMPv2 and IGMPv3 support



Graphics Features	
Text Insertion	Adjustable height/width, scrolling (speed, direction, or static), iterations (up to infinite), positioning, and adjustable color and alpha (transparency) channels.
Slate / Logo Insertion	PNG file format, adjustable aspect ratio (keep or stretch), horizontal/vertical size, screen position; slate mode can be set to off, manual (image always displayed, superimposed on the source signal, and will remain if source signal is lost), auto (image will only be displayed when source signal is lost).
Control	
RS-232	Device control and configuration; supports baud rates from 2400 to 115200 Bidirectional pass-through from control system to network
IR	Pass-through from control system to network Pass-through from network to control system
Connectors	
HDMI	2 - Type A, 19-pin, female, locking
ETHERNET <sup>(3)</sup>	2 - RJ45, 10/100/1000 Mbps
RS-232 / IR	1 - Euroblock, 6-pin (2 ports); RS-232 or IR on ports 1 and 2
Power	1 - Euroblock, 2-pin
1 Gwei	
Indicators and controls	
PWR	1 - LED, tricolor (red, amber, green)
HDMI	2 - LED, bicolor (red, green)
LINK	2 - LED, bicolor (red, green)
ID	1 - momentary, tact-type, backlit (blue); sends an identification broadcast message over the network t any listening devices.
Reboot	1 - Momentary, tact-type
Power	
PoE	IEEE 802.3af
Consumption	Up to 12 W
External Power Supply (optional)	Input: 110 - 220 V AC, 50/60 Hz Output: 48 V DC, 0.83 A
Safety	CE, FCC, cULus, RoHS, RCM
Environmental	
Operating Temperature	+14 to +122 °F -10 to +50 °C
Storage Temperature	-14 to +140 °F -10 to +60 °C
Operating Humidity (RH)	20% to 95%, non-condensing
Chassis	
Dimensions (H x W x D)	1.34 in x 8.19 in x 4.41 in 34 mm x 208 mm x 112 mm
Weight	1.5 lbs / 0.7 kg
Safety	CE, RoHS, FCC



# **Accessories**

Description	SKU
48 Volt 0.83 Amp Power Supply	AT-PS-48083-C
Rack Mount Shelf for OmniStream	AT-OMNI-1XX-RACK-1RU
IR Emitter Cable for OmniStream Systems	AT-OMNI-IR-TX
IR Receiver Cable for PoE Extenders	AT-IR-SC-RX
LinkConnect <sup>™</sup> HDMI to HDMI Cable	AT-LC-H2H

(1) Scaling and deinterlacing is not supported at 1080i.

(2) All VESA resolutions are 60 Hz.

(3) Maximum distance per hop is 330 ft (100 m), depending upon network configuration.





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