



OMEGA™

4K / UHD

Three-Input Switcher

for HDMI and USB-C with HDBaseT™ and HDMI Outputs



AT-OME-ST31

Atlona Manuals
Switchers

Version Information

Version	Release Date	Notes
1	10/18	Initial release

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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



IMPORTANT: Visit <http://www.atlona.com/product/AT-OME-ST31> for the latest firmware updates and User Manual.

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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

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- NOTE: Data cable (USB-C) and Wifi antenna covered by 1 year warranty.

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

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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.

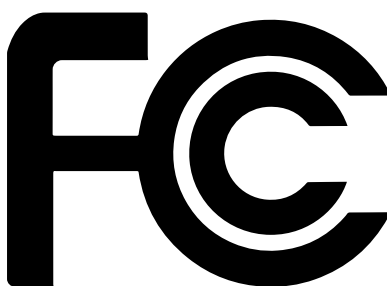


The information bubble is intended to alert the user to helpful or optional operational instructions in the literature accompanying the product.

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 **AT-OME-ST31** is a 3×1 switcher and HDBaseT transmitter with HDMI and USB-C inputs. It features mirrored HDMI and HDBaseT outputs and is HDCP 2.2 compliant. The USB-C input is ideal for AV interfacing for newer Mac®, Chromebook™, and Windows® PCs, as well as smartphones and tablets. Video signals up to 4K/60 4:2:0 can be transmitted over HDBaseT up to 330 feet (100 meters). All inputs and the local HDMI output support 4K HDR and 4K/60 4:4:4 at HDMI data rates up to 18 Gbps. Additionally, 4K downscaling to 1080p is available for the HDMI output when connected to an HD sink. The OME-ST31 is designed for use with Omega™ Series receivers and switchers, select HDVS Series receivers, the AT-UHD-EX-100CE-RX receiver, and other Atlona switchers with HDBaseT inputs.

This switching transmitter can serve as an integral component of a fully automated AV system, with the convenience of automatic input selection and display control. It can be remotely powered by Atlona HDBaseT-equipped devices through Power over Ethernet (PoE). With the optional power supply (Part no. AT-PS-245-D4), the OME-ST31 can provide PoE-powering to a compatible receiver, and also charge laptops and mobile devices through the USB-C port. For additional integration convenience, the OME-ST31 features analog audio embedding (to replace the HDMI or USB-C input audio), control via TCP/IP and RS-232, RS-232 insertion over HDBaseT and remote management with AMS (Atlona Management System).

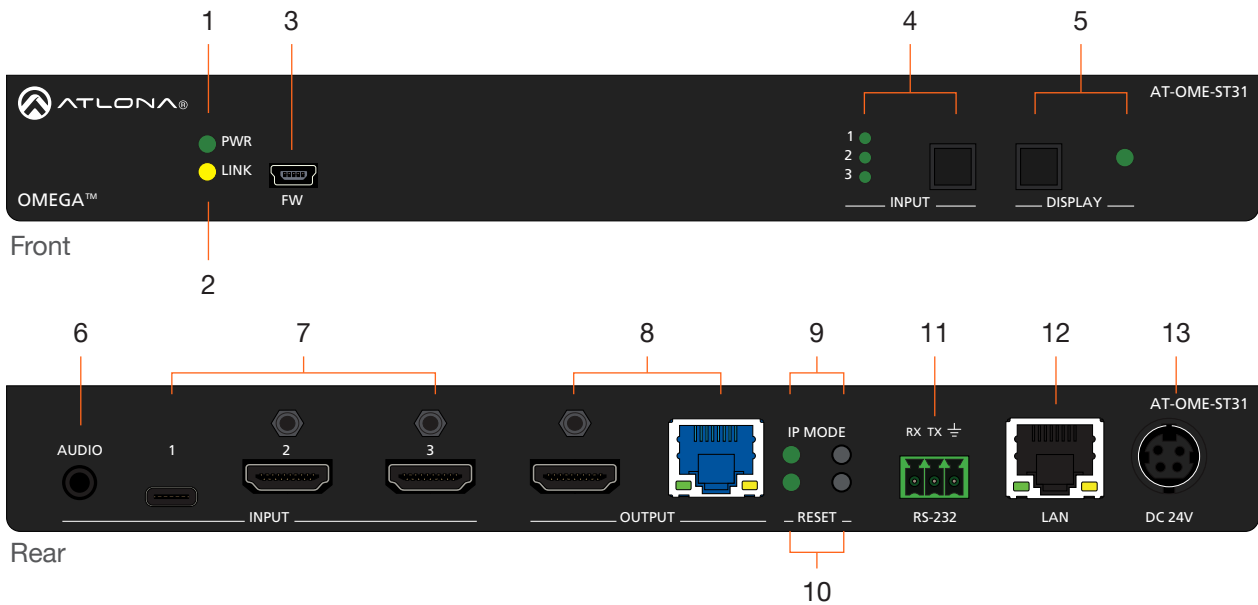
Features

- 3×1 HDBaseT switcher with HDMI and USB-C inputs
- Mirrored HDBaseT and HDMI outputs
- Selectable 4K to 1080p downscaling
- Remote PoE (Power over Ethernet) or local powering
- Automatic input selection and automatic display control
- Audio embedding

Package Contents

1 x AT-OME-ST31
1 x USB-C cable
2 x Mounting brackets
4 x Mounting screws
1 x Installation Guide

Panel Description



1 PWR Indicator

This LED indicator glows solid green when the unit is powered.

2 LINK Indicator

This LED indicator glows solid yellow when an HDBaseT link is established, between the AT-OME-ST31 and the receiver.

3 FW

Connect a mini-USB cable from this port to update the firmware. Refer to [Updating the Firmware \(page 41\)](#) for more information.

4 INPUT button

Press and release this button to cycle through each of the inputs. The LED indicators will display the currently active input, and correspond to each of the numbered inputs on the rear panel of the unit.

5 DISPLAY button

Press this button to power-on or power-off the connected display.

6 AUDIO

Connect a 3.5 mm mini-stereo jack from an analog audio source to this port. This port provides the option of replacing the HDMI source audio, and embedding analog audio on the outputs, using the web GUI.

7 INPUT ports

Connect a USB-C cable from a video source to **INPUT 1**. Connect HDMI cables to **INPUT 2** and **INPUT 3** from HD/UHD sources.

8 OUTPUT ports

Connect an HDMI from the HDMI port to a display or other sink device. Connect an Ethernet cable (CAT-5e or better), from the HDBaseT port to a compatible HDBaseT receiver. These ports are mirrored.

9 IP MODE

Press and release this button to set the IP mode or display the current IP address on the connected display. Refer to [IP Configuration \(page 13\)](#) for more information.

10 RESET

Press and release this button to reset the unit to factory-default settings. Refer to [Resetting to Factory Defaults \(page 22\)](#) for more information.

11 RS-232

Connect the included 3-pin captive screw block to this port. Refer to [RS-232 Control \(page 23\)](#) for more information.

12 LAN

Connect an Ethernet cable from this port to the network.

13 DC 24V

Connect the optional 24 V DC power supply to this power receptacle.

Installation

Connection Instructions

1. Connect HDMI cables from HD/UHD sources to **INPUT 2** and **INPUT 3**.
2. Connect a USB-C cable from a source to **INPUT 1** on the switcher.
3. Connect an Ethernet cable, from the **HDBaseT** port to a compatible HDBaseT receiver.



NOTE: The AT-OME-ST31 is powered over HDBaseT, by a PoE receiver unit. If a PoE HDBaseT receiver is not used, then the AT-OME-ST31 must be powered using the optional 24 V DC power supply* (not included). When used with the external power supply, the AT-OME-ST31 can provide power to the connected USB-C device as well as a PoE receiver. The power supply (part no. AT-PS-245-D4) can be purchased from Atlona.

Refer to the tables below for recommended cabling when using Atlona products with HDBaseT technology. The green bars indicate the signal quality when using each type of cable. Higher-quality signals are represented by more bars. *These tables are for guidance, only. Performance may vary, based on environmental factors.*

Core	Shielding	CAT5e	CAT6	CAT6a	CAT7
Solid	UTP (unshielded)	■	■■■	■■■■■	N/A
	STP (sheilded)	■■	■■■■■	■■■■■■■	■■■■■■■

Cable	Max. Distance @ 4K	Max. Distance @ 1080p
CAT5e	295 feet (90 meters)	330 feet (100 meters)
CAT6a / CAT6a / CAT7	330 feet (100 meters)	330 feet (100 meters)



IMPORTANT: Stranded or patch cable is not recommended due to performance issues. Shielded cables are strongly recommended to minimize signal noise and interference.

4. Connect an HDMI cable from the **HDMI** output port to a display or other sink device.



NOTE: The HDMI and HDBaseT **OUTPUT** ports are mirrored, meaning that the same A/V signal is transmitted over both ports.

5. Connect an Ethernet cable from the **LAN** port to the Local Area Network. This will allow access to the built-in web server, and provide remote control of the AT-OME-ST31.

OPTIONAL

6. Connect an RS-232 cable from the control device to the **RS-232** port on the AT-OME-ST31. Refer to [RS-232 Control \(page 23\)](#) for more information.

Notes on Scaling

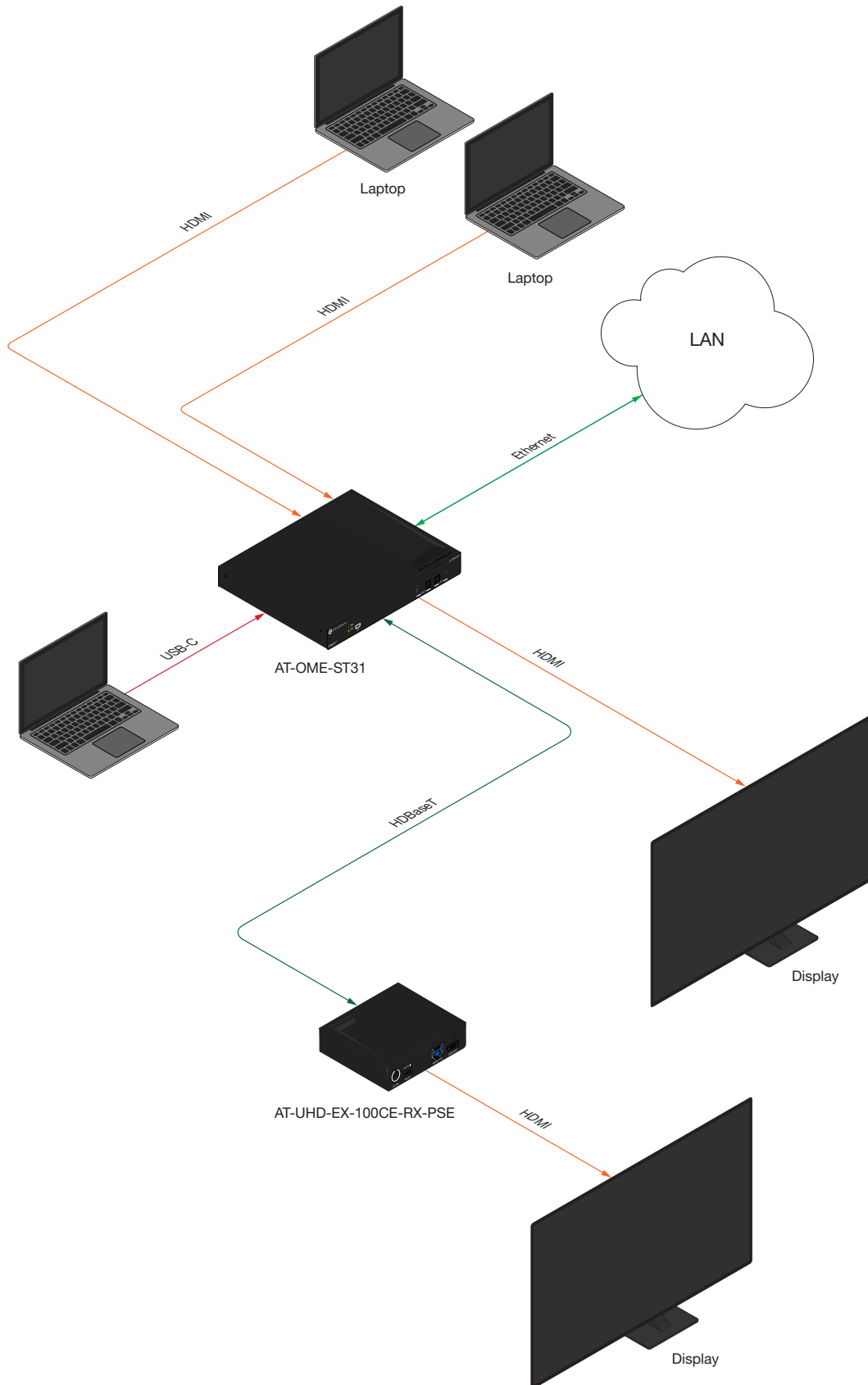
The following section provides important information about how the AT-OME-ST31 processes 4K (UHD) video signals.

1. The HDMI **OUTPUT** port supports up to 4K @ 60 Hz, 12-bit, with HDR.
2. If the source is 4K, and the HDMI **OUTPUT** port is connected to a 1080p (not 4K-capable) display, then the output will be down-scaled as follows:

Input	Output
4K @ 24 Hz	1080p @ 24 Hz
4K @ 30 Hz	1080p @ 30 Hz
4K @ 60 Hz, 4:2:0	1080p @ 60 Hz, YUV/RGB 4:4:4

3. HDR / Dolby Vision / HLG formats cannot be down-scaled to 1080p.
4. The internal scaler will be bypassed if the connected display supports the resolution and timing information from the source device.
5. The HDBaseT **OUTPUT** port supports up to 4K @ 60 Hz. However, HDR is only supported at lower resolutions.
6. The HDBaseT **OUTPUT** port will down-sample to 4:2:0, if the source is 4K @ 60 Hz, 4:4:4, 8-bit. However, the HDMI **OUTPUT** will remain at 4K @ 60 Hz, 4:4:4, 8-bit, if the output is connected to a 4K-capable display.

Connection Diagram



IP Configuration

The AT-OME-ST31 is shipped with DHCP enabled. Once connected to a network, the DHCP server (if available), will automatically assign an IP address to the unit. If the AT-OME-ST31 is unable to detect a DHCP server within 15 seconds, then the unit will use a self-assigned IP address within the range of 169.254.xxx.xxx.

Use an IP scanner, along with the MAC address on the bottom of the unit, to identify the unit on the network. If a static IP address is desired, the unit can be switched to static IP mode. The default static IP address is 192.168.1.254.

Switching the IP Mode Using the Front Panel

1. Make sure the AT-OME-ST31 is powered, by connecting an Ethernet cable between a compatible HDBaseT receiver, such as the AT-UHD-EX-RX-PSE or AT-HDVS-SC-RX, and the **HDBaseT** port on the back of the unit.
2. Press and hold the **IP MODE** button, on the rear of the unit.
3. Release the button once the LED indicator, next to the **IP MODE** button, begins to flash green. The number of flashes will indicate the currently selected IP mode.

PWR LED flashes	Description
Two	DHCP mode
Three	Factory Static IP mode (IP address set to 192.168.1.254)

Setting the IP Address using the Web GUI

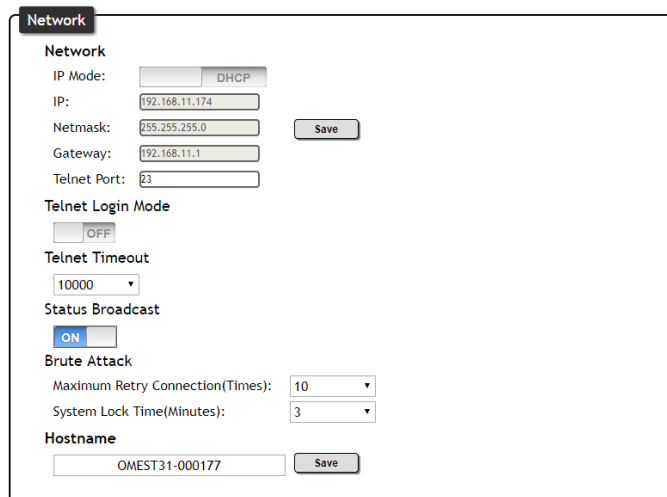
Refer to the [System page \(page 39\)](#) in the web GUI, to set the AT-OME-ST31 to either DHCP or static IP mode. In order to access the web GUI, the IP address of the AT-OME-ST31 must be known. By default, the AT-OME-ST31 is set to DHCP mode and will automatically be assigned an IP address by a DHCP server.

1. Open the desired web browser and enter the IP address of the AT-OME-ST31. Refer to [Introduction to the Web GUI \(page 28\)](#) for more information.
2. Log in, using the required credentials. The factory-default username and password are listed below.

Username: admin

Password: Atlona

3. Click **System** in the menu bar.
4. Click the **IP Mode** toggle and set it to the **STATIC IP** position.
5. Enter the IP address, subnet mask, and gateway in the **IP**, **Netmask**, and **Gateway** fields, respectively.
6. Click the **Save** button, next to the Netmask field, to commit all changes. To undo changes and revert to DHCP mode, click the **IP Mode** toggle.



Network

IP Mode: DHCP Static

IP:

Netmask:

Gateway:

Telnet Port:

Telnet Login Mode: OFF ON

Telnet Timeout:

Status Broadcast: ON OFF

Brute Attack

Maximum Retry Connection(Times):

System Lock Time(Minutes):

Hostname:

Auto IP Mode

If the AT-OME-ST31 is unable to detect a DHCP server within 15 seconds, then the unit will use a self-assigned IP address within the range of 169.254.xxx.xxx. If this occurs, connect the AT-OME-ST31 to a computer running Microsoft Windows® and follow the procedure below.

1. Click **Start > Settings > Control Panel > Network and Sharing Center**.
2. Click **Change adapter settings**.
3. Right-click on the adapter that is used to establish a wired connection to the network, and select **Properties** from the context menu.
4. Under the **Ethernet Properties** dialog box, select **Internet Protocol Version 4** and then click the **Properties** button.
5. Click the **Use the following IP address** radio button.



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.

6. Enter the desired static IP address or the IP address provided by the network administrator. If the PC does not require Internet access or if a statically-assigned IP address is being used, then an IP address of 169.254.xxx.xxx can be entered.
7. Set the subnet mask to 255.255.0.0.
8. Click the **OK** button then close all **Control Panel** windows.







Displaying the IP Address

To display the IP address of the AT-OME-ST31, on the connected display, press and release the **IP RESET** button.

Basic Operation

LED Indicators

The LED indicators on both the front and rear of the unit provide basic information on the current status of the AT-OME-ST31.

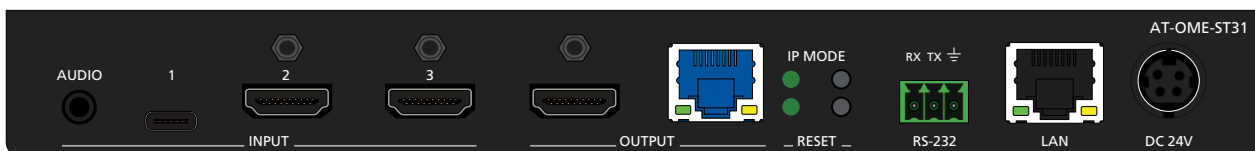
LED		Description
PWR	Solid green 	<ul style="list-style-type: none"> Unit is receiving power using the optional 24 V DC power supply (not included) or the Ethernet cable connected between the HDBaseT OUTPUT port and a PoE-compatible receiver.
	Off 	<ul style="list-style-type: none"> Unit is not powered.
LINK	Solid yellow 	<ul style="list-style-type: none"> An HDBaseT link is established between the transmitter and the receiver.
	Off 	<ul style="list-style-type: none"> The link integrity between the AT-OME-ST31 and the HDBaseT receiver is compromised. Check the HDBaseT connections and/or try a different cable.
1, 2, 3	Solid green 	<ul style="list-style-type: none"> The input is the currently selected (active) input.
	Off 	<ul style="list-style-type: none"> The input is not active.

Input Switching

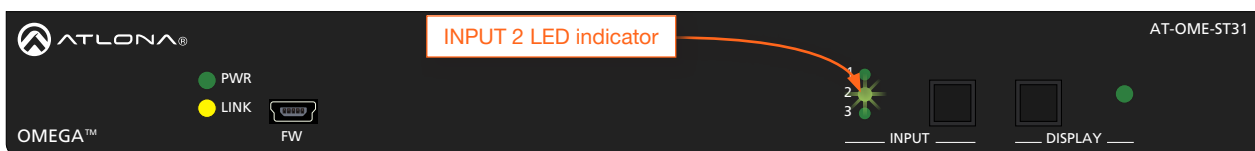
Switching between any of the three input ports can be performed either manually or automatically. The following section covers both methods.

Manual Switching

1. Press and release the **INPUT** button on the front panel to cycle between **INPUT 1** (USB-C), **INPUT 2** (HDMI), and **INPUT 3** (HDMI) inputs. The **USB-C** input (INPUT 1) is the factory-default setting.



After the **INPUT** button is pressed, the INPUT LED indicator will display the currently active input. In this example, **INPUT 2** (HDMI) is the active input and is indicated by LED indicator 2, on the front panel.



2. Press the **INPUT** button again to switch to **INPUT 3**.
3. Press the **INPUT** button once more to return to **INPUT 1**.

Manual input switching can also be performed under the [A/V Settings page \(page 31\)](#) of the web GUI, by clicking the **Input Selection** drop-down list and selecting the desired input. In addition, the x1AVx1 command can also be used. Refer to the *Application Programmer's Interface* for more information.



NOTE: The AT-OME-ST31 retains the currently selected input, even after the unit is powered-off then powered-on.

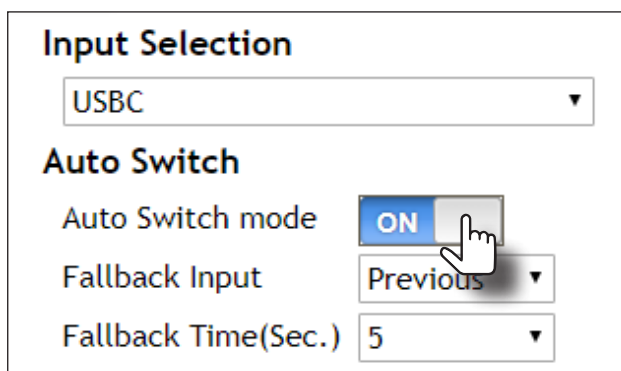
Auto Switching

Auto-switching can also be used to automatically select an input. Auto-switching must be enabled for this feature to work. When auto-switching is enabled, the AT-OME-ST31 will automatically switch inputs, based on the presence of an input signal.

1. Enable auto-switching by using one of the following methods.

Using the web GUI

- a. Login to the web GUI and access the [A/V Settings page \(page 31\)](#).
- b. Click the **Auto Switch mode** toggle switch to the **ON** position. This is the default setting.



2. Connect a source to any of the three input ports on the rear panel. The AT-OME-ST31 will automatically switch to the port with the connected source.

For example, if an HDMI source is connected to either of the **HDMI** ports, the AT-OME-ST31 will switch to the **HDMI** port. If a **USB-C** source is connected, then the AT-OME-ST31 will switch to the USB-C port.

- If a source is disconnected, then the AT-OME-ST31 will fallback to port with an active source.
- If all sources are disconnected, then the AT-OME-ST31 will retain the port of the the last-connected source.

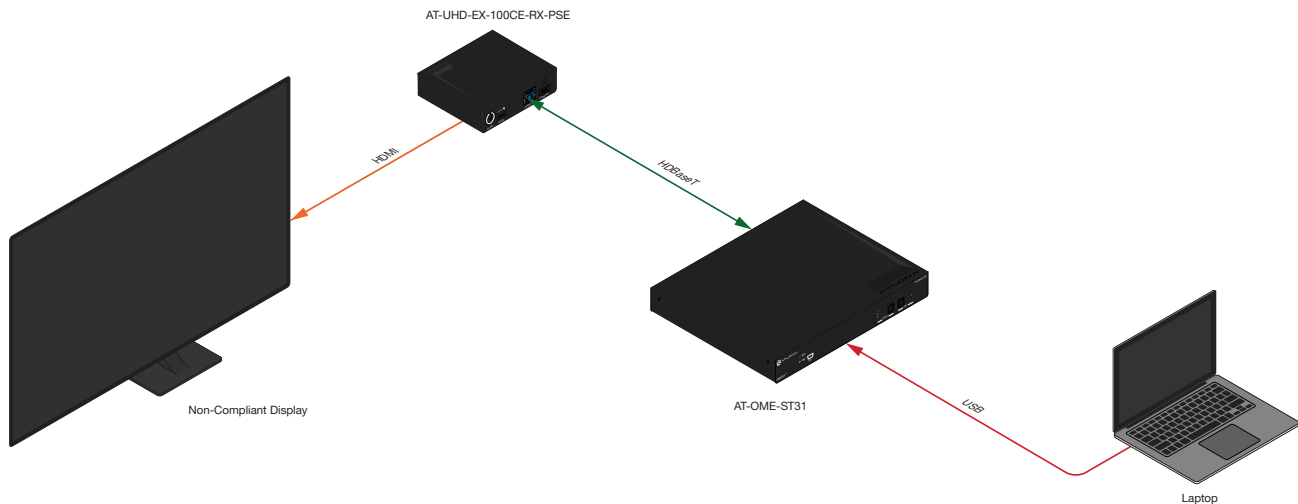


NOTE: The AT-OME-ST31 retains the currently selected input, even after the unit is powered-off then powered-on.

HDCP Information

Normally, if a source is transmitting HDCP content to a display that is not HDCP-compatible, then the resulting image on the display can be “snow”, image flickering, or no picture.

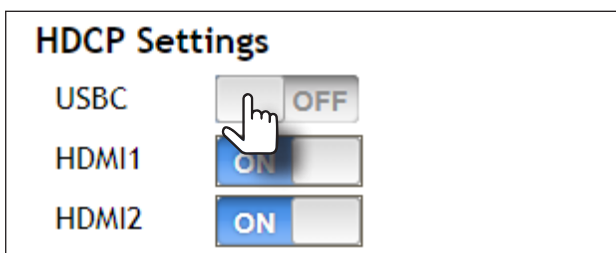
For example, in the illustration below, a laptop source is connected to the AT-OME-ST31. A non-compliant display is connected to a receiver, which is connected to the AT-OME-ST31 using HDBaseT.



By default, the laptop may transmit HDCP content. However, when connected to a display that does not support HDCP, the laptop must be instructed to send non-HDCP content, in order for the content to be displayed.

1. Open the desired web browser and enter the IP address of the AT-OME-ST31.
2. Log in as the **admin** user with the required credentials. The factory-default username and password for the admin user are listed below:

Username: admin
Password: Atlona
3. Click **A/V Settings** in the menu bar.
4. Click the **USBC** toggle switch and set it to the **OFF** position. This will instruct the source device to send non-HDCP content, if possible. If the display is unable to receive HDCP content, then a green splash screen will be displayed.



NOTE: Not all source devices are capable of transmitting non-HDCP content. For example, Sony PlayStation® gaming consoles and Mac® computers always transmit HDCP-encrypted content.

Controlling Audio

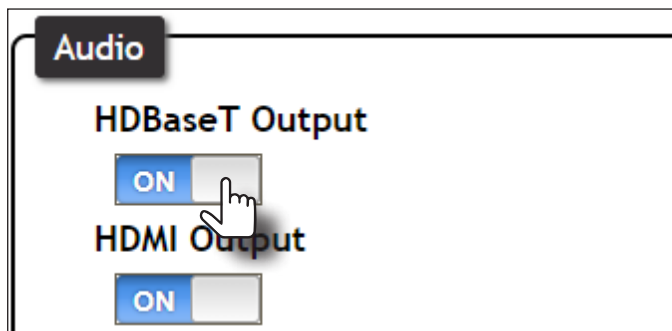
The AT-OME-ST31 provides complete control over both audio muting and audio input sources. Audio muting can be controlled on both HDMI and HDBaseT outputs. Analog audio can also be embedded on the HDBaseT or HDMI outputs using a 3.5 mm mini-stereo cable.

Audio Output Muting

1. Open the desired web browser and enter the IP address of the AT-OME-ST31.
2. Log in as the **admin** user with the required credentials. The factory-default username and password for the admin user are listed below:

Username: admin
Password: Atlona

3. Click **A/V Settings** in the menu bar.
4. Locate the **Audio** section.
5. Click the toggle switch for the desired output. To mute the audio output on the **HDBaseT Output**, click this toggle switch to the **OFF** position. To re-enable the audio for that output, set the toggle switch to the **ON** position.



Embedding External Analog Audio

1. Open the desired web browser and enter the IP address of the AT-OME-ST31.
2. Log in as the **admin** user with the required credentials. The factory-default username and password for the admin user are listed below:

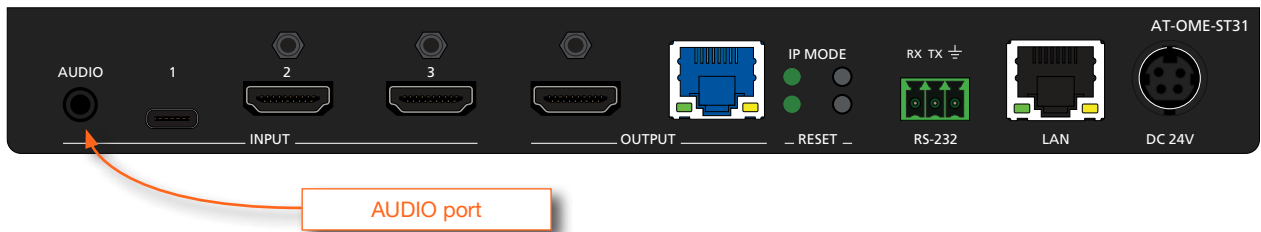
Username: admin
Password: Atlona

3. Click **A/V Settings** in the menu bar.
4. Locate the **Audio** section. Any of the three inputs can be set to receive either the existing digital audio from the source, or an external analog source.

5. Click the toggle switch under the desired input. By default, each input is set to **DIGITAL**. When set to **DIGITAL**, the audio that is heard on the HDBaseT and/or HDMI outputs will be supplied by the source. When set to **ANALOG**, the audio on the output will be replaced with an external analog audio source.

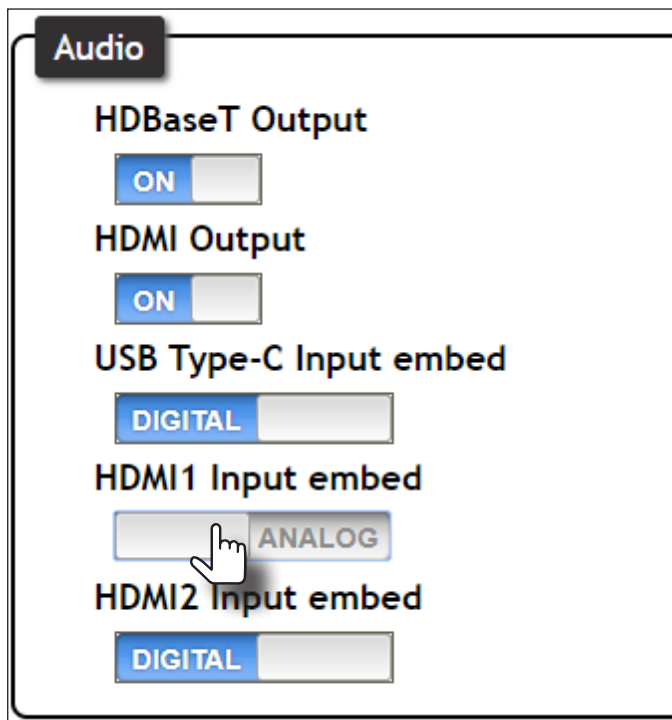
To use the audio from an external analog source, do the following:

- a. Connect a 3.5 mm mini-stereo cable between the analog audio source (such as a smartphone) and the **AUDIO** port on the AT-OME-ST31.



NOTE: Video must accompany the audio at all times. This product does not support audio-only ("free-run" mode) output.

- b. Click the toggle switch of the desired input, which will receive the analog audio. In this example, HDMI1 (**INPUT2**) will replace the existing digital source audio with the external analog audio.



To return to the HDMI source audio, click the toggle switch and set it to the **DIGITAL** position.

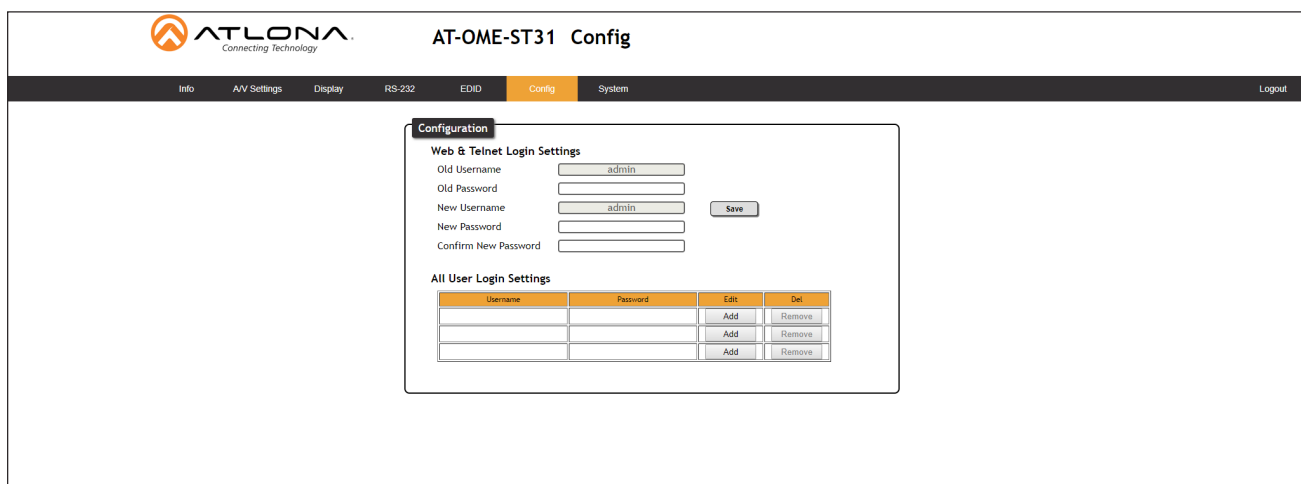
Managing Users

The AT-OME-ST31 allows the admin user to create, edit, and remove additional TCP/IP users. All users have the same level of access to control the AT-OME-ST31. However, only the admin user is allowed to manage other users. Up to three additional users can be created.

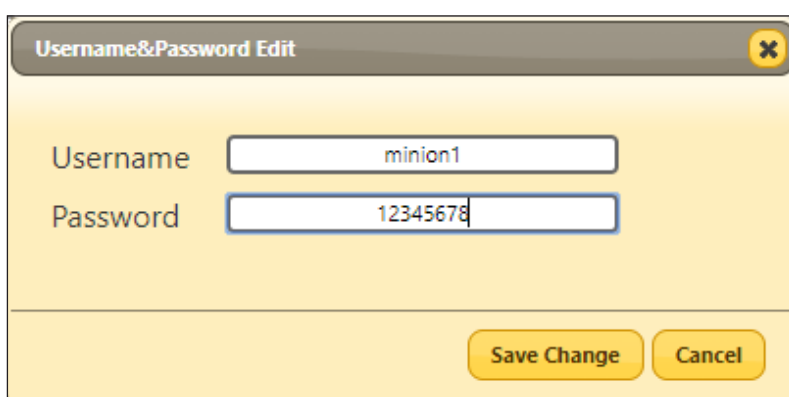
Adding Users

1. Open the desired web browser and enter the IP address of the AT-OME-ST31.
2. Log in as the **admin** user with the required credentials. The factory-default username and password for the admin user are listed below:

Username: admin
 Password: Atlona



3. Click the **Config** tab.
4. Click the **Add** button, under the **Edit** column.



5. Enter the desired username and password in the **Username&Password Edit** dialog box.
6. Click the **Save Change** button to commit changes or click the **Cancel** button to return to the **Config** page without adding the user.

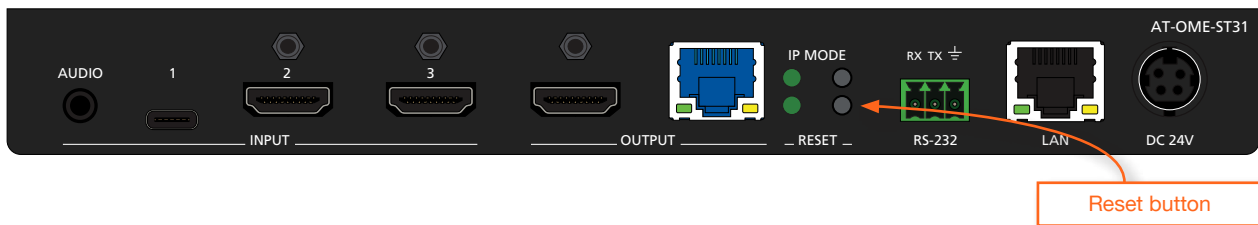
Once created, the new user and the associated password will appear under the **All User Login Settings** section. To login with the new username, click **Logout** in the upper-right corner of the screen, then enter the login credentials for the user on the **Login** page.

Resetting to Factory Defaults

If necessary, the AT-OME-ST31 can be reset to factory-default settings. Note that the AT-OME-ST31 will be placed in DHCP mode, as part of the reset procedure. The AT-OME-ST31 can also be reset through the web GUI. Both procedures will be covered in this section.

Using the Rear Panel

1. Press and hold the **RESET** button on the rear panel for approximately 10 seconds.
2. Release the **RESET** button once the LED indicator begins to flash. The LED indicator will flash three times to indicate that the reset procedure has completed.



Using the web GUI

1. Launch a web browser and login to the web GUI. Refer to [Introduction to the Web GUI \(page 28\)](#) for more information. The default username and password are listed below:

Username: **admin**
 Password: **Atlona**

2. Click **System** in the menu bar.
3. Click the **Factory Default** button.



4. Once the **Login** screen appears, the reset procedure will be complete.

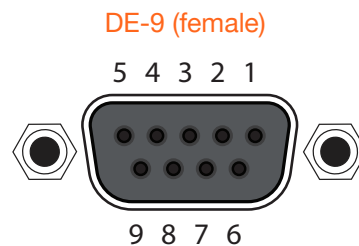
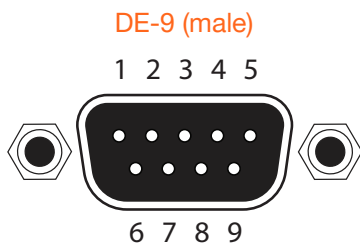
Advanced Operation

RS-232 Control

The AT-OME-ST31 provides RS-232 control between a control system and an RS-232 device using a captive screw connector block. The AT-OME-ST31 provides two modes of RS-232 control: Pass-through mode and control mode.

RS-232 is serial data protocol that allows Data Terminal Equipment (DTE) devices, such as a computer or control system, to communicate with Data Communication Equipment (DCE) devices, such as the AT-OME-ST31 or a display. Although IP control is available, RS-232 still plays an integral part of many control systems.

Although the 25-pin D-type connector (DB-25) was defined as the RS-232 standard, it is now commonly implemented in a nine-pin (DE-9) connector package. Each pin is numbered, as shown below.



DTE Pin Descriptions

Pin	Signal	Description
1	DCD	Data Carrier Detect
2	RxD	Receive Data
3	TxD	Transmit Data
4	DTR	Data Terminal Ready
5	GND	Ground (Signal)
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send
9	RI	Ring Indicator

DCE Pin Descriptions

Pin	Signal	Description
1	DCD	Data Carrier Detect
2	TxD	Transmit Data
3	RxD	Receive Data
4	DSR	Data Set Ready
5	GND	Ground (Signal)
6	DTR	Data Terminal Ready
7	CTS	Clear to Send
8	RTS	Ready to Send
9	RI	Ring Indicator

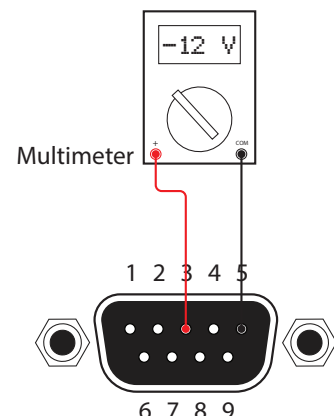
Determining the Port Type

Most DTE devices provide a male connector, while DCE devices have a female connector. However, this is not always the case. If the port type is unknown, then a multimeter can be used to determine whether the port is DTE or DCE:

1. Turn on the multimeter and set it to measure DC voltage.
2. Connect the positive and negative leads to pins 3 and 5, respectively.
3. Check the voltage reading:

If the voltage is between -3 V DC and -15 V DC, then the device is DTE. Otherwise, it is DCE.

Voltage levels between -3 V and -15 V DC represent a logic "1".
Voltage levels between +3 V and +15 V DC represent a logic "0".



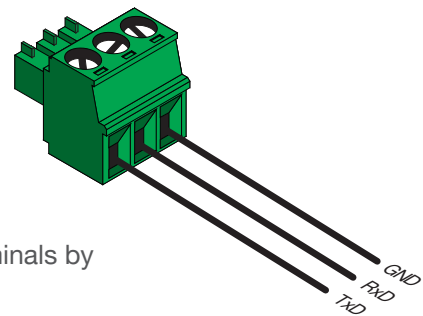
Cable Assembly

When connecting a DTE device to a DCE device, a *straight-through* cable should be used. A straight-through cable is wired in such a way that the pins on one side of the cable are connected to the corresponding pins on the opposite side of the cable, as shown in the table below. However, the AT-OME-ST31 will use only TxD, RxD, and GND signals when communicating with a control system or computer.

Straight-Through Cable

Pin	Signal		Signal	Pin
1	DCD	←→	DCD	1
2	RxD	←→	TxD	2
3	TxD	←→	RxD	3
4	DTR	←→	DSR	4
5	GND	←→	GND	5
6	DSR	←→	DTR	6
7	RTS	←→	CTS	7
8	CTS	←→	RTS	8
9	RI	←→	RI	9

1. Identify the DE-9 connector that will be attached to the control system or computer (DCE) equipment.
2. Remove the DE-9 connector at the opposite end of the cable with wire cutters.
3. Remove at least 1" of the cable insulation to expose each of the nine wires.
4. Locate a multimeter and set it to the "continuity" function.
5. Attach one of the leads from the multimeter to pin 2 on the DE-9 connector.
6. Take the other lead and probe each of the wires on the opposite end of the cable. When the wire connected to that pin is detected, the multimeter will emit an audible tone. Once this occurs, identify the current wire, and move it to the side.
7. Repeat step 6 for pin 3 and pin 5 on the DE-9 connector.
8. Group the remaining wires and pull them aside. Electrical tape can be use to secure the wires to the outside of the RS-232 cable.
9. Remove at least 3/16" (5 mm) of insulation from the TxD, RxD, and GND wires.

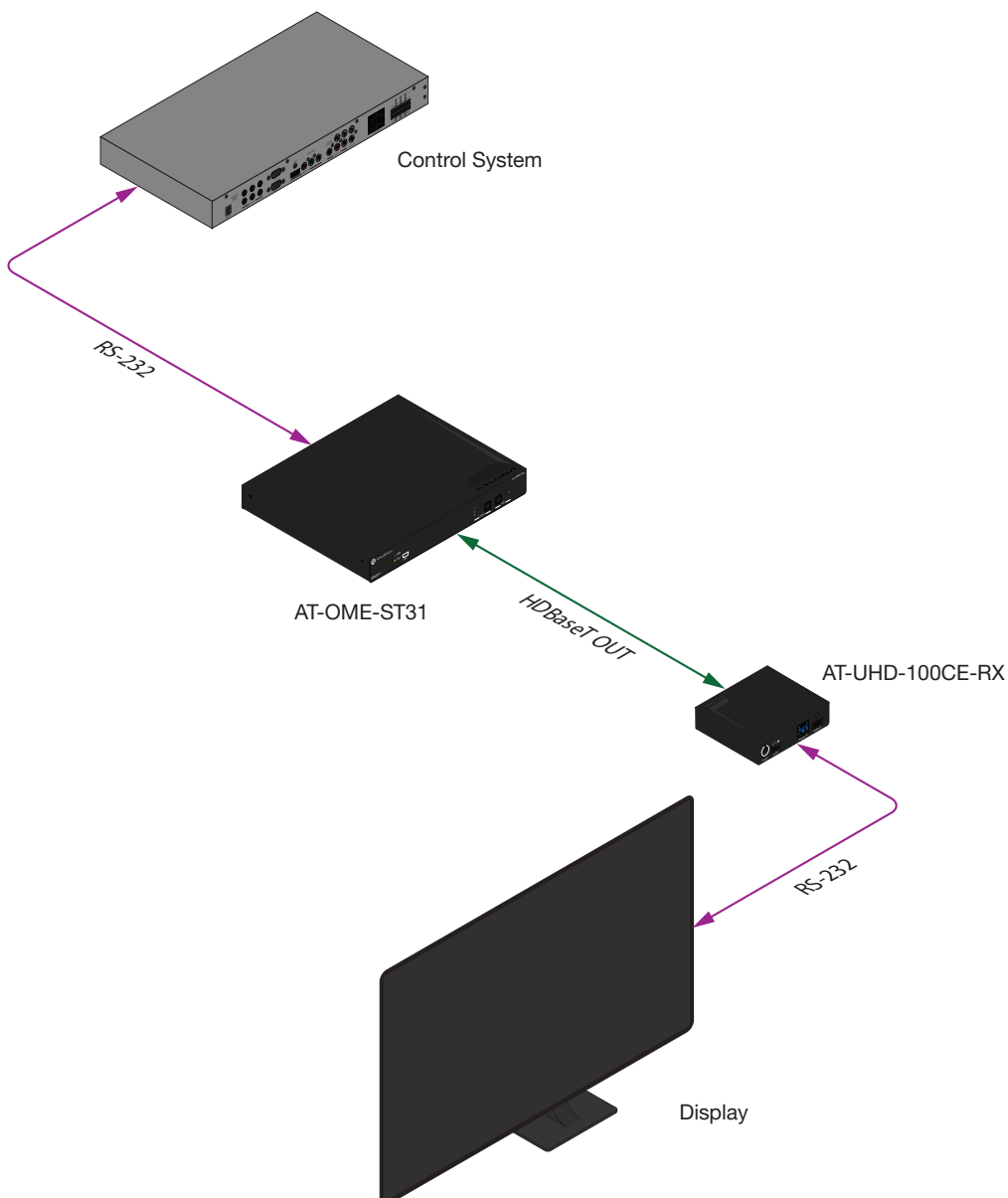


10. Locate the included 3-pin captive screw block and open each of the terminals by turning the screws counter-clockwise, using a small regular screwdriver.
11. Insert the TxD, RxD, and GND wires into correct terminal, as shown, and tighten the screws to secure each wire. Do not over-tighten.
12. Connect the captive screw connector to the **RS-232** port on the AT-OME-ST31.

Pass-through mode

In pass-through mode, RS-232 commands are sent to the AT-OME-ST31 and then transmitted over HDBaseT to the receiver unit, and then to the display (sink) device.

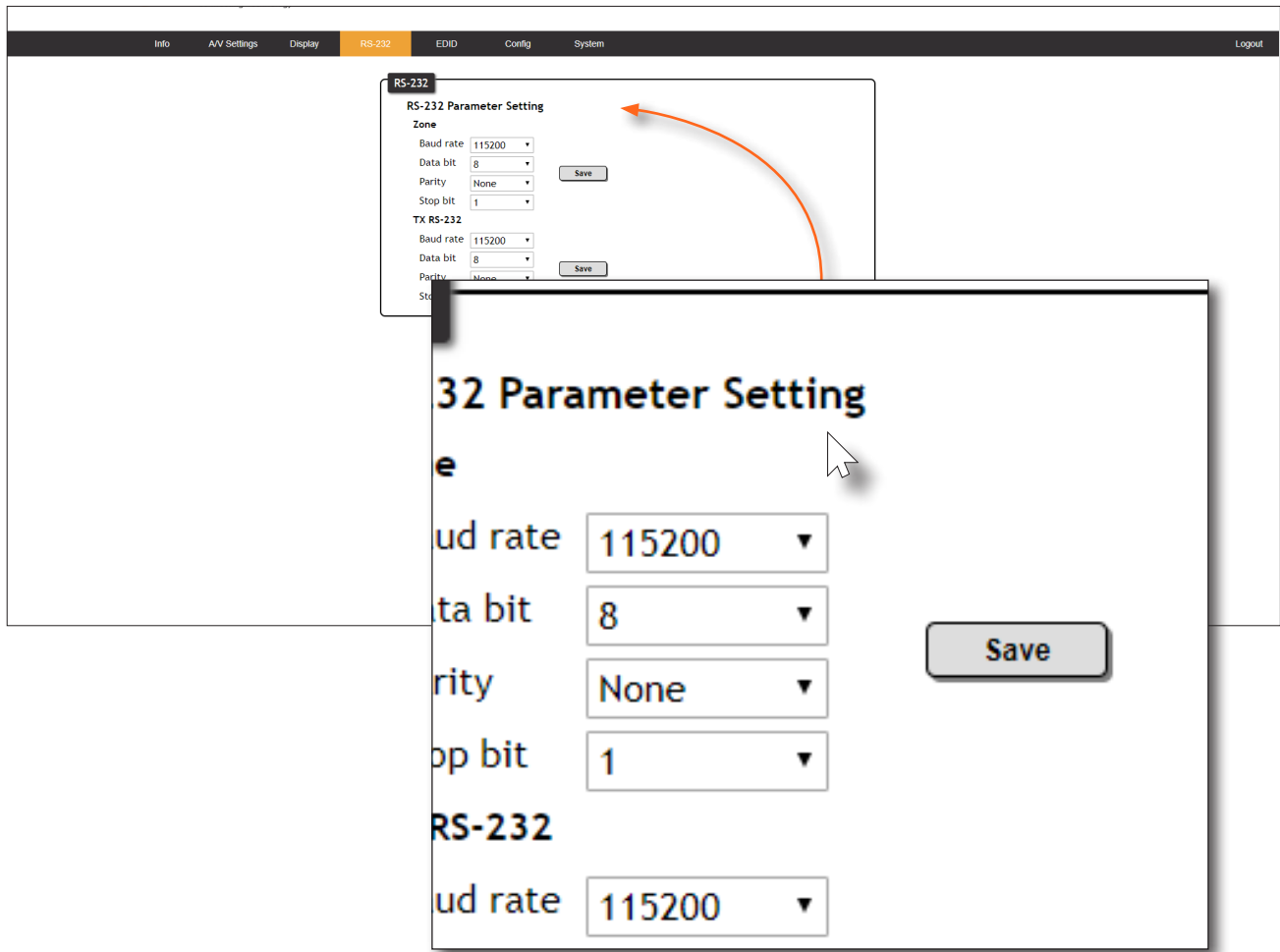
1. Connect the RS-232 cable between the control system and the AT-OME-ST31. Refer to [Cable Assembly \(page 51\)](#) for instructions on preparing the cable.
2. Connect an Ethernet cable from the desired **HDBaseT OUT** port to a receiver.
3. Connect an RS-232 cable between the display (sink) and the receiver.



1. Launch a web browser and login to the web GUI. Refer to [Introduction to the Web GUI \(page 28\)](#) for more information. The factory-default username and password are listed below:

Username: **admin**
 Password: **Atlona**

2. Click **RS-232** in the menu bar.
3. Select the proper baud rate, data bit, parity, and stop bit settings for the **HDBaseT OUTPUT** port. These settings must correspond with the RS-232 settings of the display (sink) device.



4. Click the **Save** button to commit changes.
5. Use the following command to send a command to the display (sink) device, where `display_command` is the command data to send:

```
RS232Zone4[display_command$0d]
```

\$0d (carriage return) should only be added to end of the string if the sink device is expecting this character.

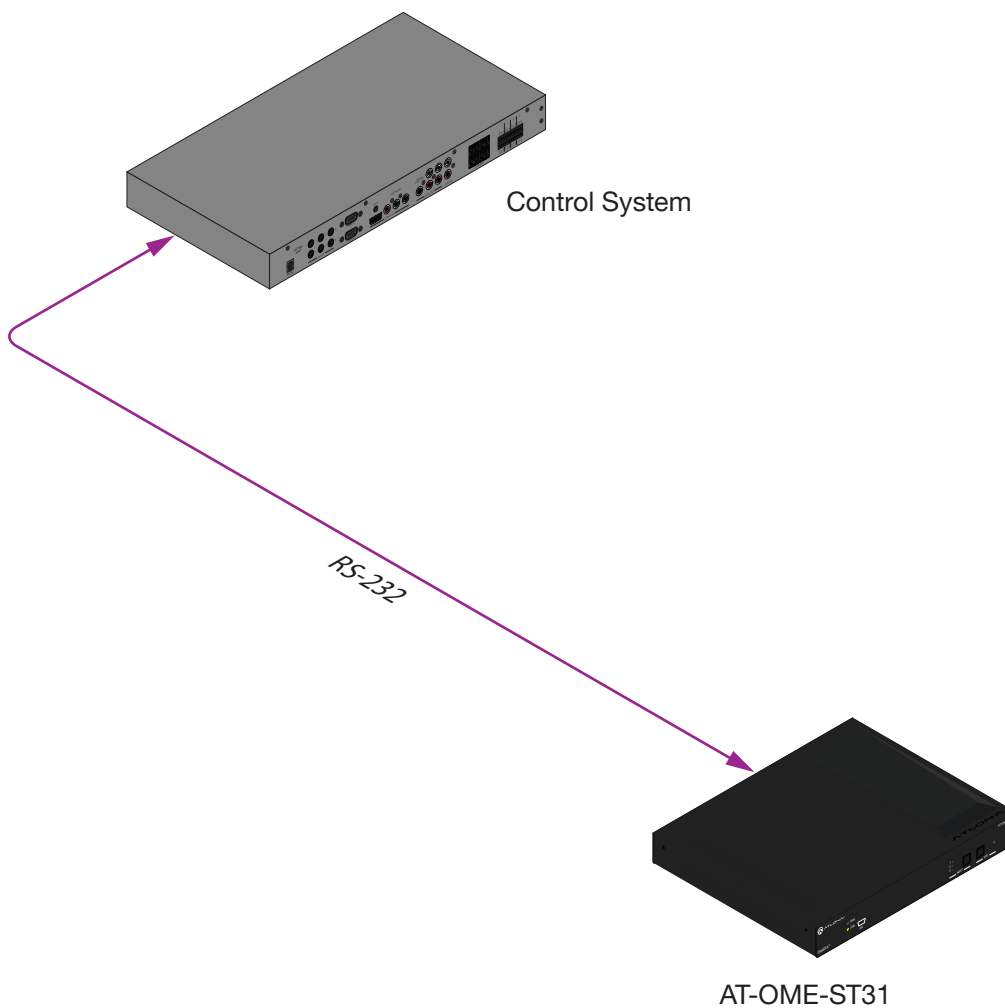
Control mode

In control mode, RS-232 commands are sent from a computer or control system (DTE) to the AT-OME-ST31 (DCE). This method allows direct control of the matrix for routing, IP configuration, powering-on / powering-off and other functions.



NOTE: The **RS-232** port on the AT-OME-ST31 runs at a baud rate of 115200. The control unit must be set to the same baud rate, in order to communicate with the AT-OME-ST31.

1. Connect the RS-232 cable between the control system and the AT-OME-ST31. Refer to [Cable Assembly \(page 51\)](#) for instructions on preparing the cable.
2. Set the baud rate of the computer/control system to 115200. If the control system is not set to this baud rate, then the AT-OME-ST31 will not respond to RS-232 commands.
3. Refer to the *Applications Programming Interface* for a listing of available commands.

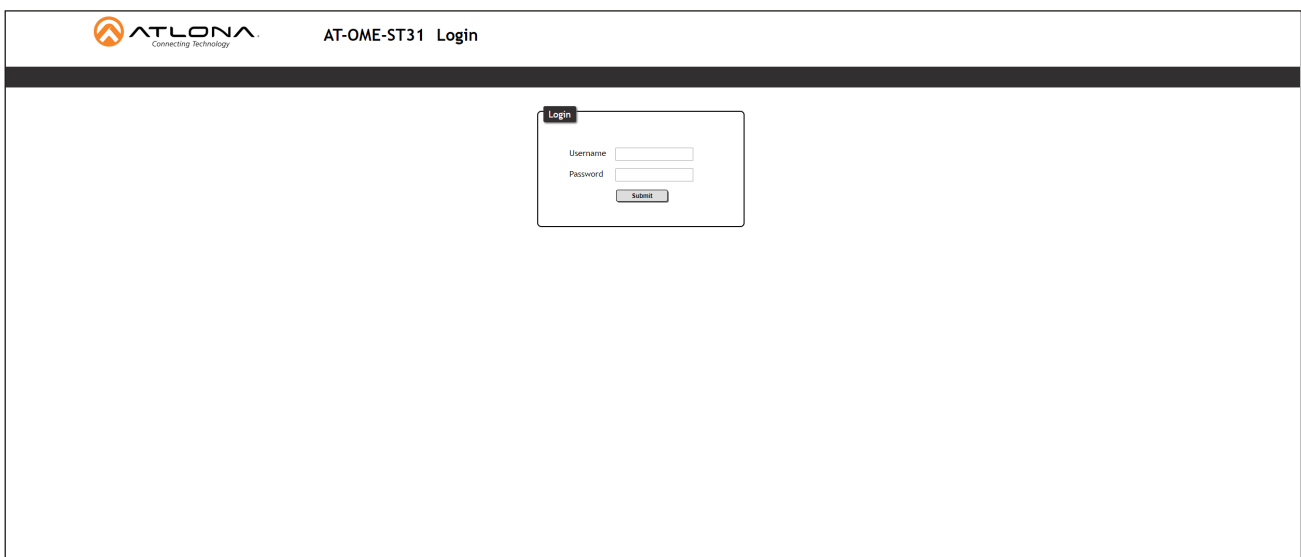


The Web GUI

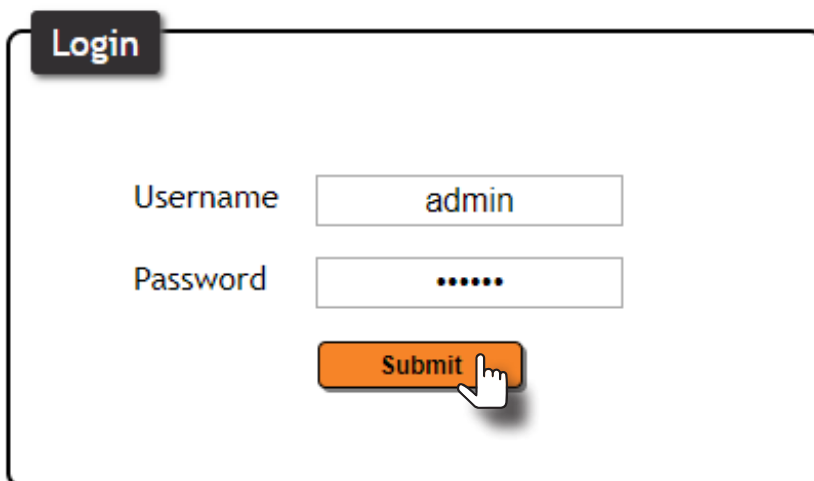
Introduction to the Web GUI

The AT-OME-ST31 includes a built-in web GUI. Atlona recommends that the web GUI be used to set up the AT-OME-ST31, as it provides intuitive management of all features. Follow the instructions below to access the webGUI.

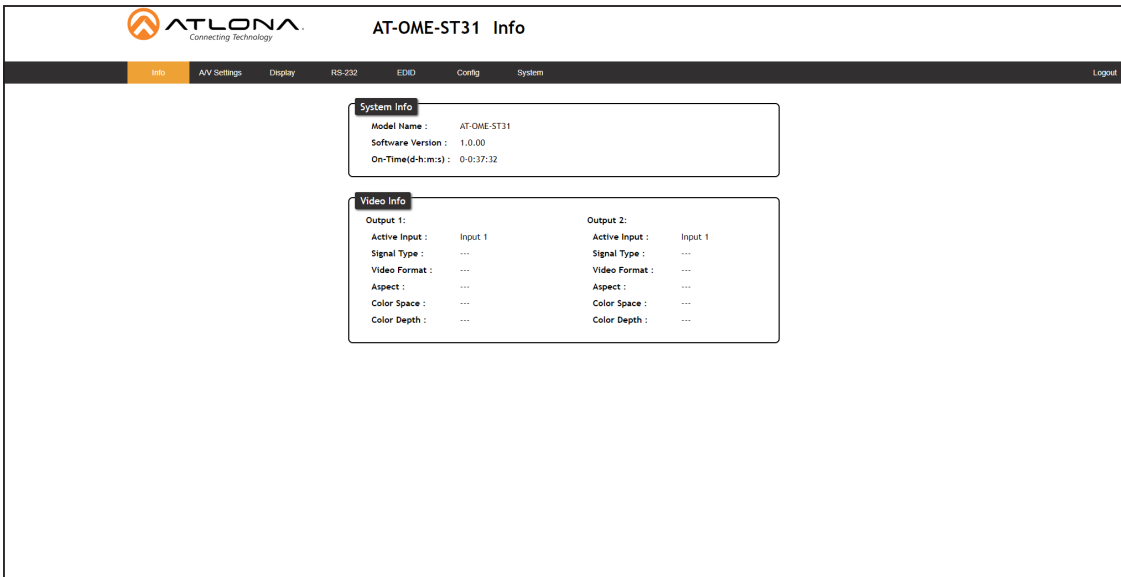
1. Make sure that an Ethernet cable is connected between the LAN port on the AT-OME-ST31 and the network.
2. Launch a web browser and enter the IP address of the unit. If the default static IP address is being used, enter 192.168.1.254.
3. The AT-OME-ST31 **Login** page will be displayed.



4. Type admin, using lower-case characters, in the **User** field.
5. Type Atlona in the **Password** field. This is the default password. The password field is case-sensitive. When the password is entered, it will be masked.
6. Click the **Login** button or press the ENTER key on the keyboard.

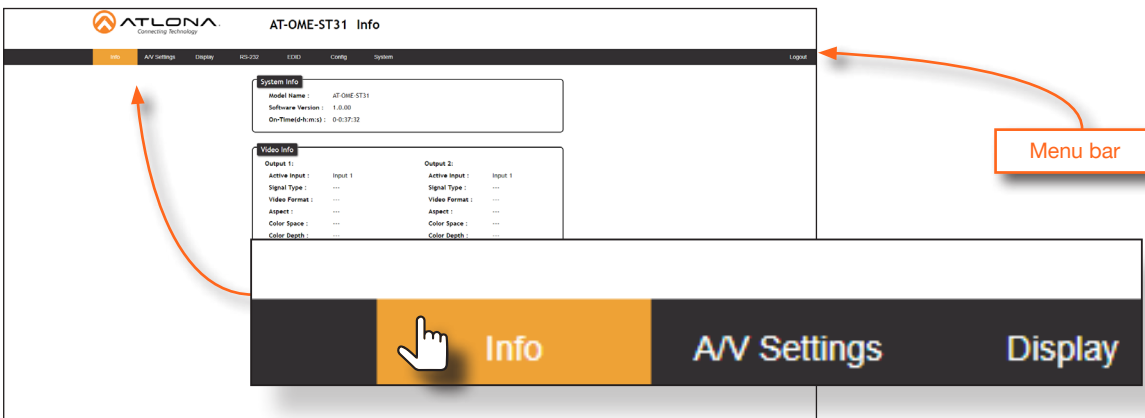


7. The **Info** page will be displayed.

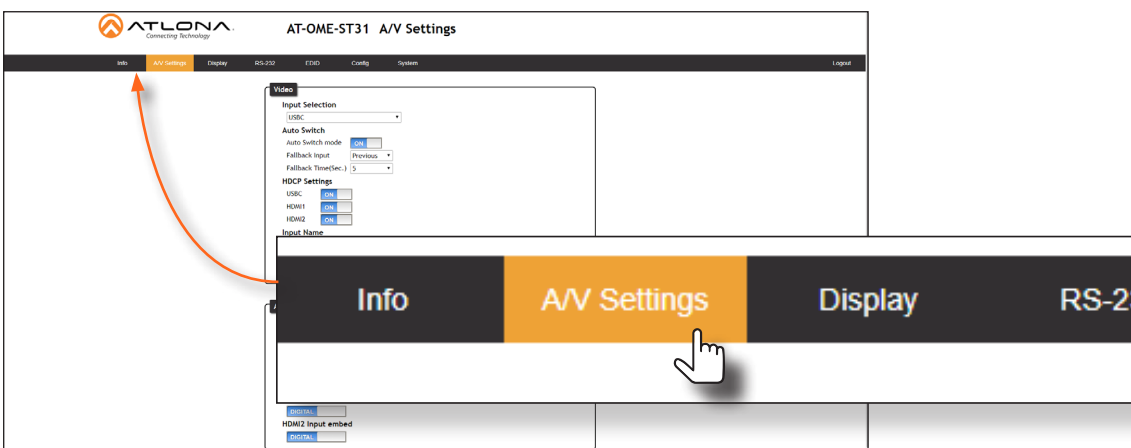


Menu Bar

The dark-colored bar, near the top of the screen, is the menu bar. When the mouse is moved over each menu element, it will be highlighted in light orange. Once the desired menu element is highlighted, click the left mouse button to access the settings within the menu.

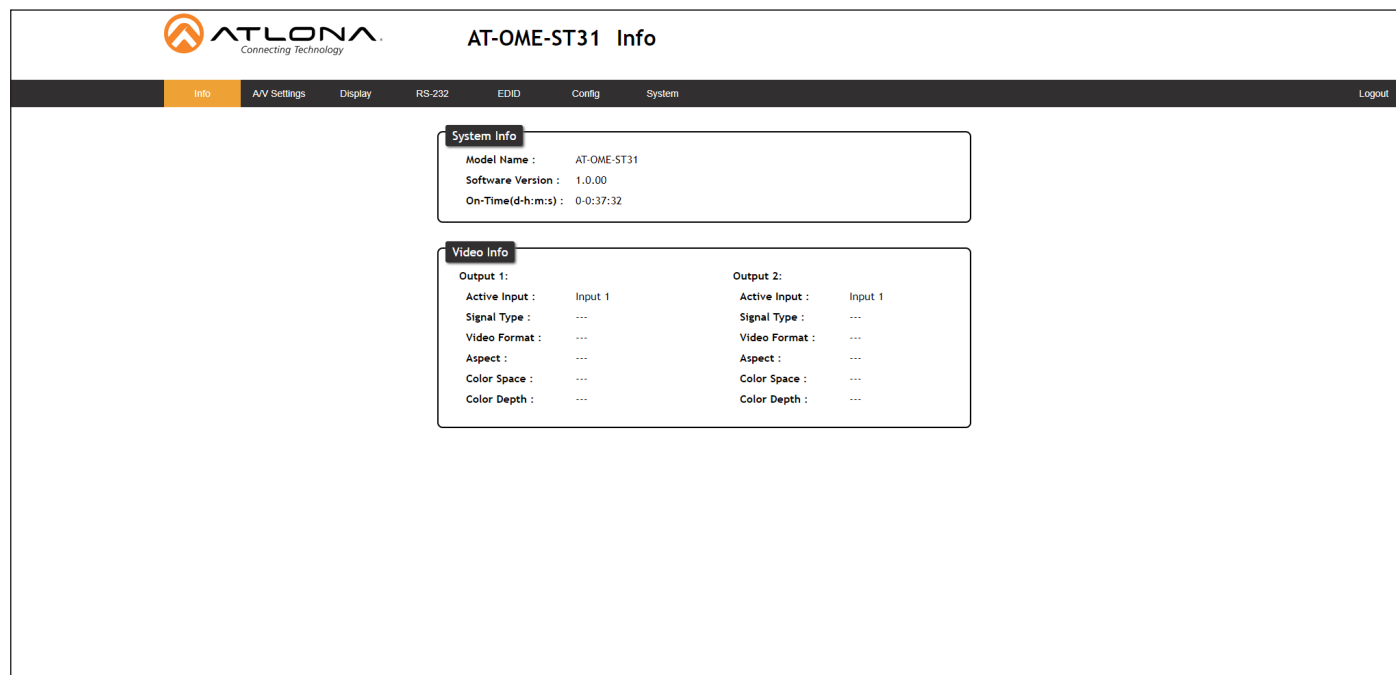


In this example, clicking **AV Settings**, in the menu bar, will display the **AV Settings** page.



Info

After logging in, the Info page will be displayed. The **Info** page provides various information about the receiver, including the model name, software version, and video information.



The screenshot shows the AT-OME-ST31 Info page. At the top, there is the ATLONA logo and the title 'AT-OME-ST31 Info'. Below the title is a navigation bar with tabs for 'Info', 'AV Settings', 'Display', 'RS-232', 'EDID', 'Config', 'System', and 'Logout'. The main content area is divided into two sections: 'System Info' and 'Video Info'.

System Info

Model Name :	AT-OME-ST31
Software Version :	1.0.00
On-Time(d-h:m:s) :	0-0:37:32

Video Info

Output 1:		Output 2:	
Active Input :	Input 1	Active Input :	Input 1
Signal Type :	---	Signal Type :	---
Video Format :	---	Video Format :	---
Aspect :	---	Aspect :	---
Color Space :	---	Color Space :	---
Color Depth :	---	Color Depth :	---

Model Name

The model SKU of this product.

Software Version

The version of firmware that the AT-OME-ST31 is running. Always make sure to check the AT-OME-ST31 product page, on the Atлона web site, for the latest version of firmware.

On-Time(d-h:m:s)

Displays how long the system has been powered since the last reboot/reset.

Active Input

The currently selected (active) input.

Signal Type

The type of input signal.

Video Format

The input resolution of the source device.

Aspect

Aspect ratio of the input signal.

Color Space

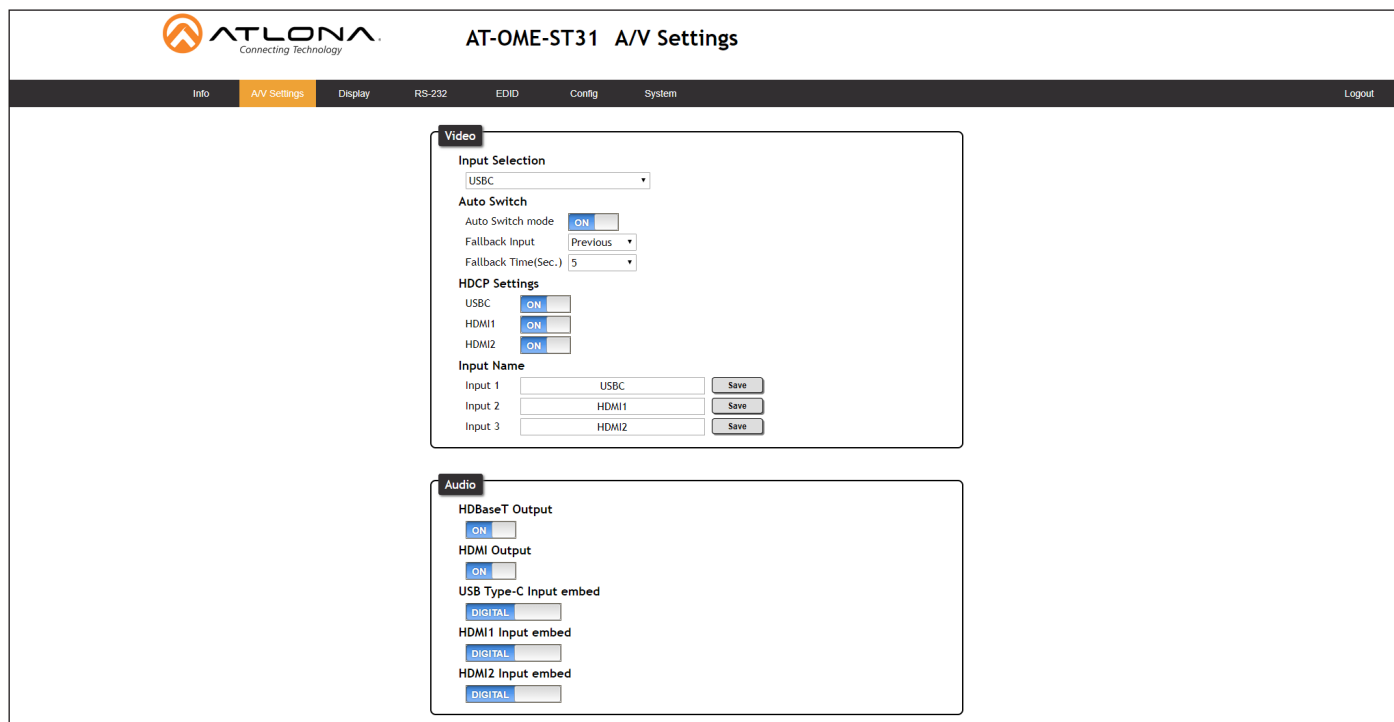
Displays the color space and chroma sub-sampling of the input signal.

Color Depth

The color depth of the input signal.

A/V Settings page

The **A/V Settings** page is divided into two sections: **Video** and **Audio**. The **Video** section allows the preferred input timing to be selected as well as whether or not HDCP content is allowed to pass. The **Audio** section provides options to control the output audio volume, muting, treble, and bass.



Input Selection

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

Input	Description
A/V Mute	Blocks all inputs from receiving an input signal.
USBC	Sets INPUT 1 as the active input.
HDMI1	Sets INPUT 2 as the active input.
HDMI2	Sets INPUT 3 as the active input.

Auto Switch

Three controls are available under the Auto Switch feature.

- Auto Switch mode**
 Click this toggle to enable or disable auto-switching. When enabled, the AT-OME-ST31 will automatically switch to the another port, if the signal is disrupted on the currently active input. The port to be switched to, is defined in the **Fallback Input** drop-down list.
- Fallback Input**
 Click this drop-down list to select the fallback port. If the source is disconnected from the active port, then the switcher can be configured to automatically switch to the desired port. Click the **Auto Switch mode** toggle to enable or disable auto-switching.
- Fallback Time (Sec)**
 Click this drop-down list to select the time interval before the switcher attempts to search for the next port. Range: 3 to 600.

HDCP Settings

Each input provides control of how HDCP content is handled. Some source devices will send HDCP content if an HDCP-compliant display (sink) is detected. However, there may be applications where sending HDCP content is not desired. Setting the port to the **OFF** position, will instruct the source to send non-HDCP content to the display. Note that not all sources have this capability. Sources such as Mac® computers and the Sony PlayStation® will always transmit HDCP content. This feature does **not** provide decryption of HDCP content to non-HDCP sink devices.

- **ON**
When set to **ON**, the source will transmit HDCP content to the AT-OME-ST31.
- **OFF**
When set to **OFF**, non-HDCP content will be transmitted (if possible) to the AT-OME-ST31.

Input Name


Each input can be renamed with a description of the source or location of the device. Type the name of the input in each field and click save to commit changes.

Audio

Manages audio settings for inputs and outputs.

- **HDBaseT Output**
Set this toggle to the **OFF** position to mute the audio on the **HDBaseT OUTPUT** port. The default setting is **ON**.
- **HDMI Output**
Set this toggle to the **OFF** position to mute the audio on the **HDMI OUTPUT** port. The default setting is **ON**.
- **USB Type-C Input embed**
Set this toggle to **DIGITAL** to use the embedded audio on the USB-C input. Set to **ANALOG** to use the analog audio from a source connected to the 3.5 mm mini-stereo port. The default setting is **DIGITAL**.
- **HDMI1 Input embed**
Set this toggle to **DIGITAL** to use the embedded audio on the HDMI 1 input. Set to **ANALOG** to use the analog audio from a source connected to the 3.5 mm mini-stereo port. The default setting is **DIGITAL**.
- **HDMI2 Input embed**
Set this toggle to **DIGITAL** to use the embedded audio on the HDMI 2 input. Set to **ANALOG** to use the analog audio from a source connected to the 3.5 mm mini-stereo port. The default setting is **DIGITAL**.

Display page



CEC Command

Click the ON button to send the power-on command to the display device. Click the **OFF** button to toggle the power state to off.

Consumer Electronics Control (CEC): Atlona has confirmed proper CEC functionality with several current models of Samsung, Panasonic, and Sony displays. However, it is not guaranteed that CEC will work with all displays. Many manufacturers do not support the CEC “off” command, and older displays use proprietary commands. Atlona only supports displays that use the CEC command structure defined in HDMI 1.2a. It is recommended that dealers request an evaluation product from Atlona, before designing a system using the CEC protocol. If this is not possible, then other control methods will need to be considered, in order to control displays using Atlona products.

Display Auto Power On

Set this toggle to ENABLED to allow the AT-OME-ST31 to send the power-on command to the display when an AV signal is detected. When the AV signal is no longer present, the AT-OME-ST31 will send the power-off command to the display. If this feature is not desired, then set to DISABLED. This feature is disabled by default.

Display Auto Power Off

Sends the command to power-off the display when an A/V signal is no longer present. Click the toggle to enable or disable this feature.

Lamp cool down timer

Sets the cool-down interval, in seconds, before the projector can be powered-off. During this time interval, the projector will not accept any “power on” or “power off” commands until the last “power off” command has been processed and the projector lamp has completed the cool-down cycle. Range: 0 to 300.

Auto Power Off Timer

Click this drop-down list to set the time interval, in seconds, between when the loss of A/V signal is detected and when the “Display Off” command is sent to the display. Range: 0 to 300. The default value is 15 seconds.

Power on delay timer

Sets the time interval, in seconds, between when the display is powered on and when the **DISPLAY** button, on the front panel, will be locked. Range: 0 to 300.

Control Type

Sets the control method for sending commands. The following options are available: RS-232, IP, CEC.

Feedback Verify

Sets the feedback verification state. Click the toggle to enable or disable this feature. The following options are available.

Setting	Description
RS-232	RS-232 is used to send commands.
IP	Commands are sent over IP.
CEC	Uses CEC to send commands.

IP Mode

Click this drop-down list to select the control method for volume and muting.

Setting	Description
Non-login	Does not require a username and password when using TCP/IP to control the display.
RS-232	Requires a username and password to control the display through TCP/IP.

IP Address

Enter the IP address of the display in this field.

Port

Enter the listening port of the device in this field.

Username

Enter the username for login.

Password

Enter the password for login.

Send Mode

Click this toggle to set how the commands will be sent to the display. Range: **ASCII** or **Hex**.

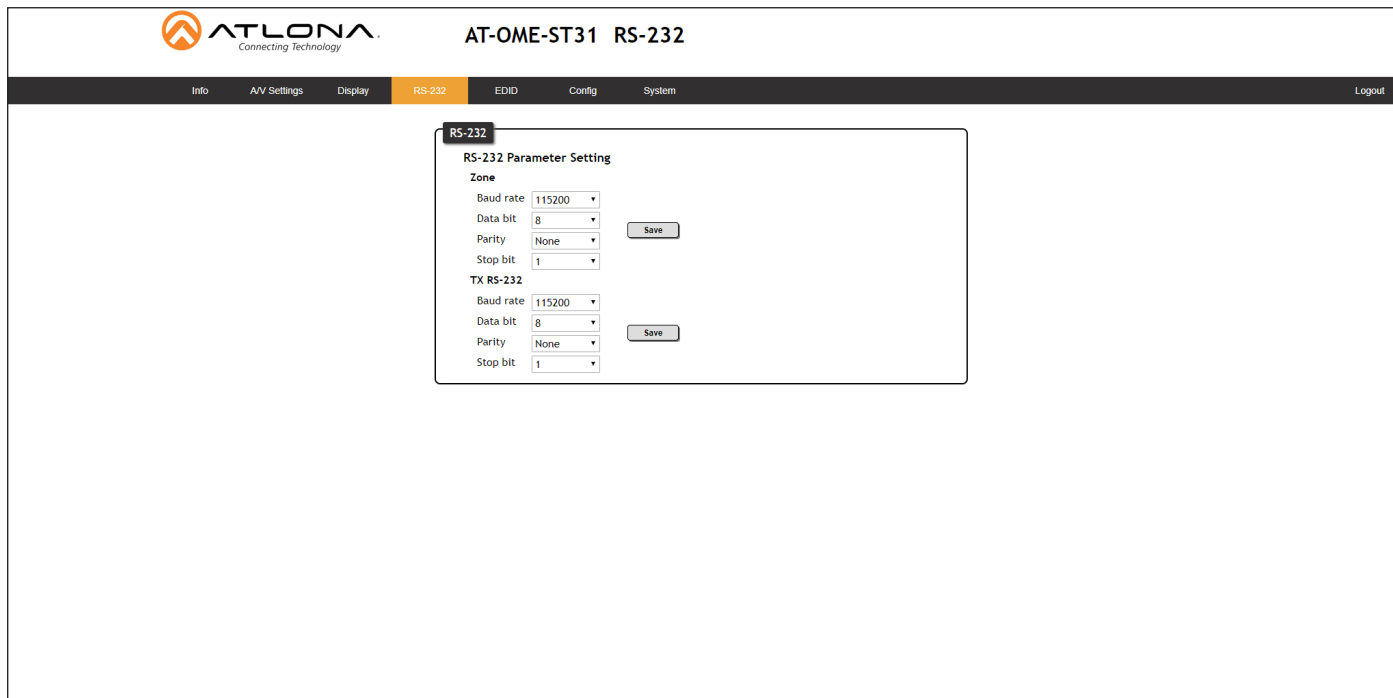
ON/OFF/Volume+/Volume-/Mute

These are the available operations that can be performed on the display. Refer to the User Manual for the device to be controlled for the required codes.

- **Set command**
Enter the command in this field.
- **Feedback**
Enter the feedback string in this field.
- **CR-LF**
Click this drop-down list to select the desired end-of-line characters to be sent.

Setting	Description
None	No end-of-line characters included
CR	Carriage return
LF	Line feed
CR-LF	Carriage return + Line feed
Space	Space character
STX	Start-of-text character
ETX	End-of-text character
Null	Null character (binary zero)

RS-232 page



Zone

If the AT-OME-ST31 is connected to a device such as the AT-UHD-EX-100CE-RX-PSE, the drop-down list boxes will be disabled and the HDBaseT baud rate will be locked at 115200.

If the AT-OME-ST31 is connected to another HDBaseT device, such as the AT-UHD-CLSO-824, each of these drop-down list boxes can be set to the baud rate of the HDBaseT RS-232 settings on the corresponding device. Click the **Save** button to accept the settings. Refer to [RS-232 Control \(page 23\)](#) for more information.

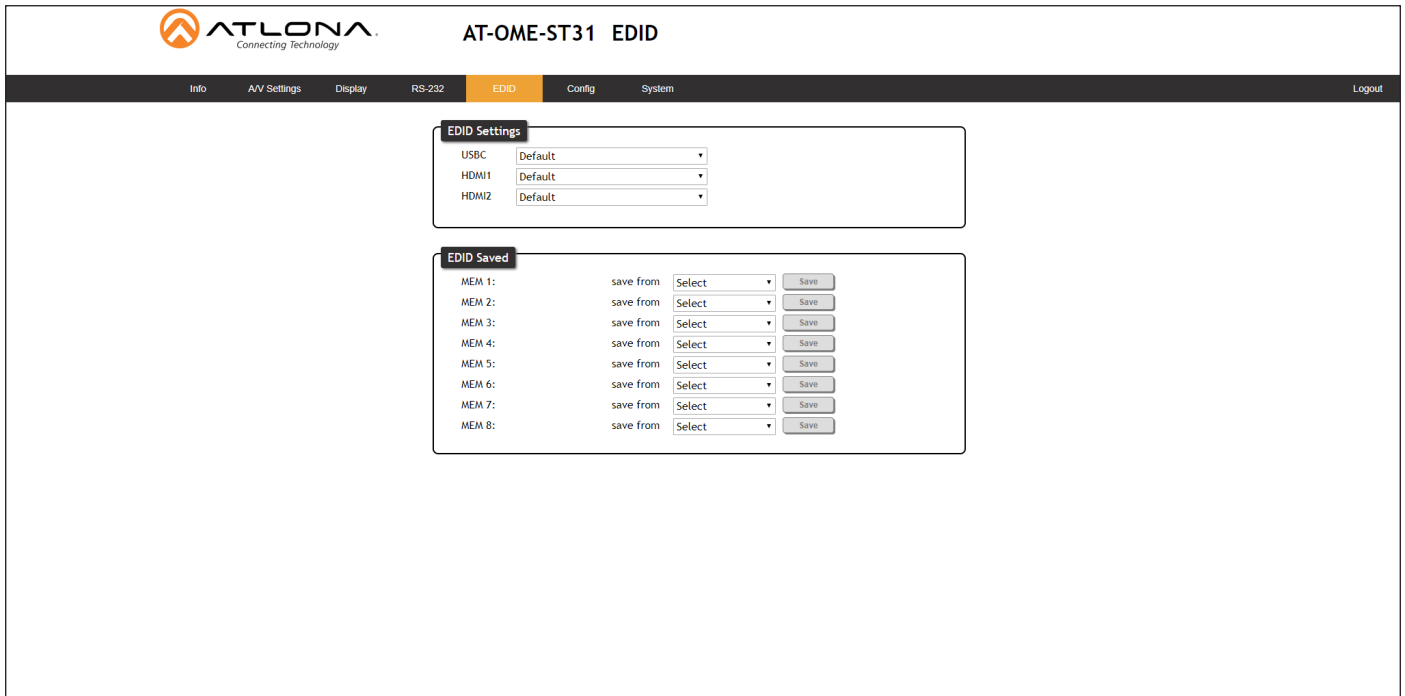
TX RS-232

When the AT-OME-ST31 is connected to a device, such as the AT-HDVS-200-RX, the drop-down list boxes will be disabled and the HDBaseT baud rate will be locked at 115200.

If the AT-OME-ST31 is connected to another HDBaseT device, such as the AT-UHD-EX-100CE-RX-PSE, each of these drop-down list boxes can be set to the baud rate of the HDBaseT RS-232 settings on the corresponding device. Click the **Save** button to accept the settings.

Setting	Description
Baud rate	Sets the baud rate. The following options are available: 2400, 9600, 19200, 38400, 56000, 57600, 115200.
Data bit	Sets the number of data bits used to represent each character of data. The following options are available: 7 or 8.
Parity	Sets the parity bit, which can be included with each character to detect errors during the transmission of data. The following options are available: None, Odd, or Even.
Stop bit	Sets the stop bit. Stop bits are sent at the end of each character, allowing the client to detect the end of a character stream. The following options are available: 1 or 2.

EDID page



EDID Settings

Click these drop-down lists to select the desired EDID to be used for each input. The following EDID presets are available. When selecting an EDID, make sure that the display/sink device is capable of supporting the resolution/timing. If the sink device is not able to support a feature, then the source will not be displayed. Selecting the **Default** EDID will provide the most compatible settings for most displays. In addition, 8 memory locations are available for storing captured EDID data.

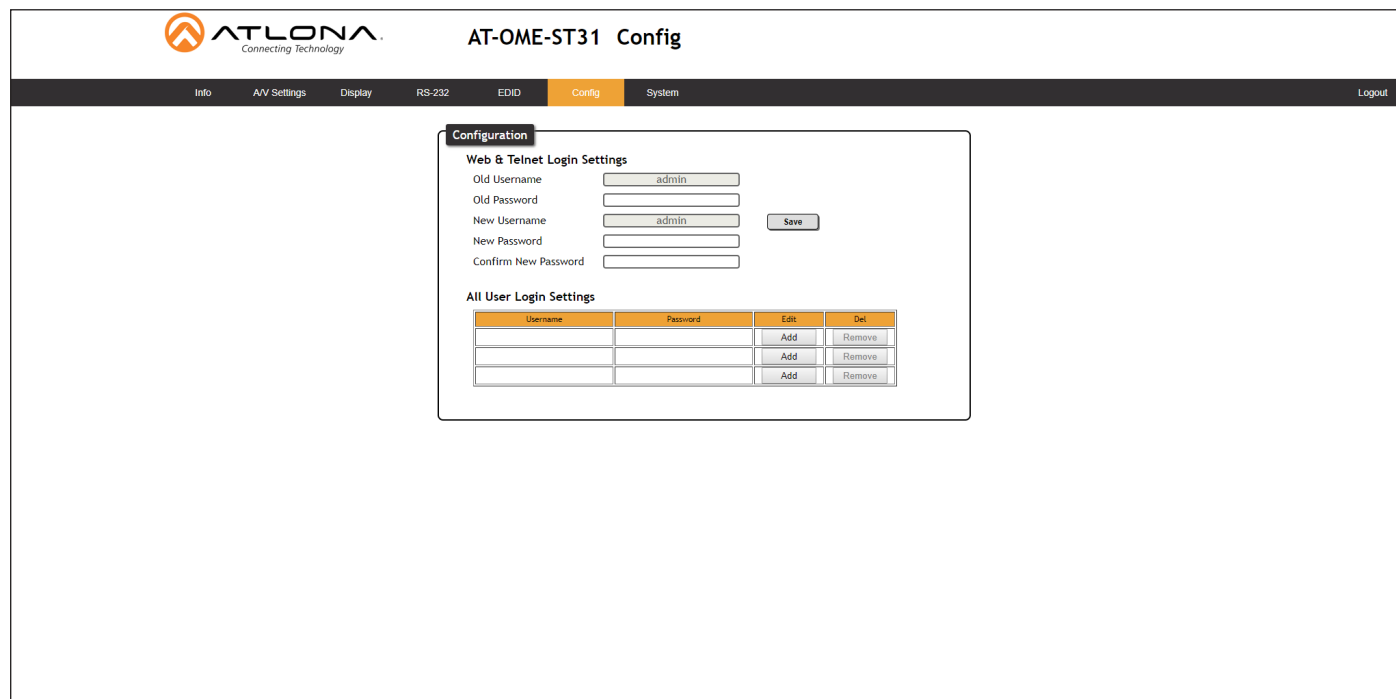
EDID listing	
3840x2160 2CH - NO HDR Support	1440x900 2CH
3840x2160 MCH - NO HDR Support	1366x768 2CH
1920x1200 2CH	1280x800 2CH
1920x1080 2CH	1280x720 2CH
1920x1080 MCH	1024x768 2CH
1600x900 2CH	

EDID Saved

The AT-OME-ST31 provides eight memory locations used for storing captured EDID data. Click these drop-down lists to select and store the external EDID.

Config page

The **Config** page provides management of usernames and passwords. The administrator username (“admin”) cannot be changed.



The screenshot shows the AT-OME-ST31 Config page. The top navigation bar includes: Info, AV Settings, Display, RS-232, EDID, **Config**, System, and Logout. The main content area is titled "Configuration" and contains two sections:

Web & Telnet Login Settings

- Old Username:
- Old Password:
- New Username:
- New Password:
- Confirm New Password:

All User Login Settings

Username	Password	Edit	Del
		<input type="button" value="Add"/>	<input type="button" value="Remove"/>
		<input type="button" value="Add"/>	<input type="button" value="Remove"/>
		<input type="button" value="Add"/>	<input type="button" value="Remove"/>

Old Username

This field cannot be changed. “admin” is the administrator user.

Old Password

Enter the current password for the “admin” username in this field. The default password is “Atlona”.

New Username

This field cannot be changed.

Save

Click this button to save all changes.

New Password

Enter the new password for the “admin” username in this field.

Confirm New Password

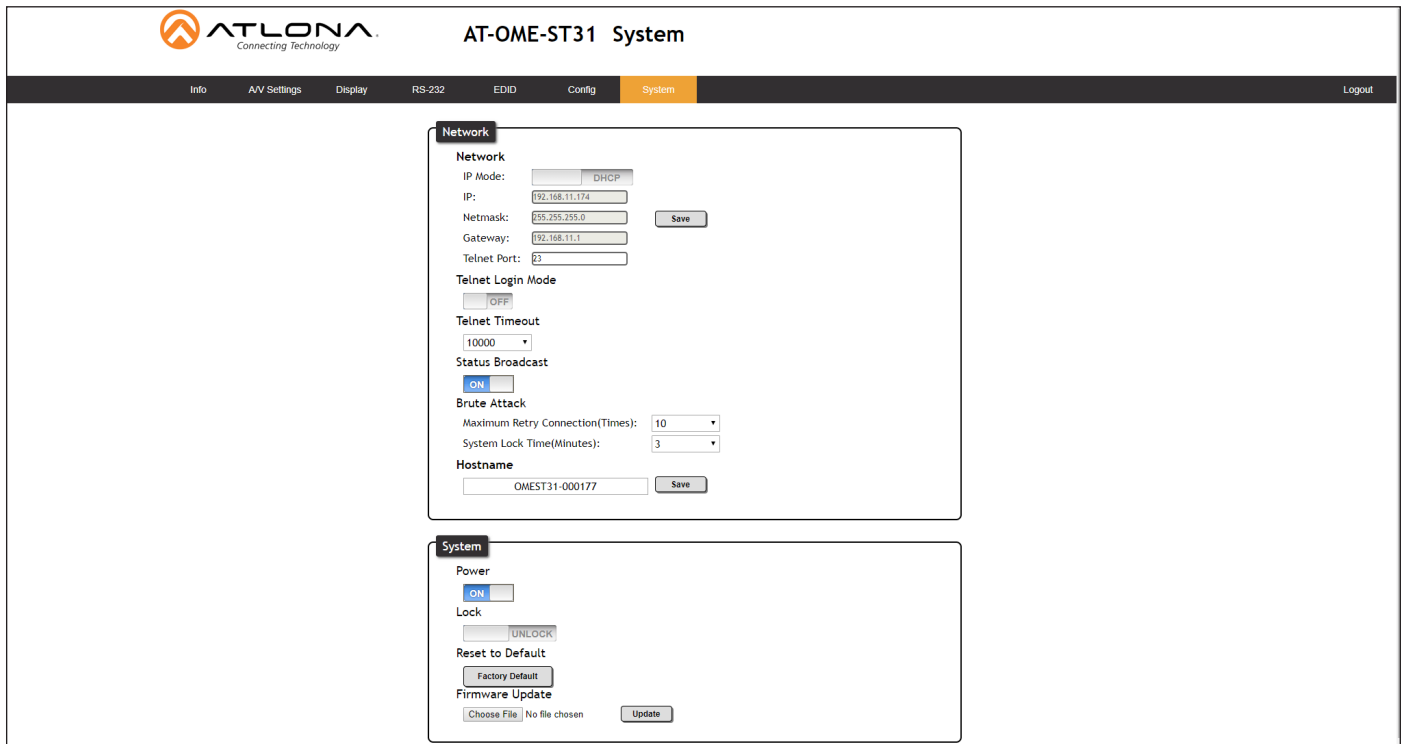
Verify the new password by retyping it in this field.

All User Login Settings

- **Username**
Displays the username.
- **Password**
Displays the password for the associated username.
- **Edit**
Click the **Add** button, in this column, to edit the username and password in the row.
- **Del**
Click the **Remove** button to delete the user in the row. This button will only be available if a username and password have been created.

System page

The **System** page is divided into two sections: **Network** and **System**. The **Network** section allows configuration of the IP settings of the AT-OME-ST31. The **System** section provides controls for resetting the AT-OME-ST31 to factory-default settings and updating the firmware.



IP Mode

Click this toggle to set the AT-OME-ST31 to DHCP or static mode. By default, the AT-OME-ST31 is in DHCP mode.

IP

Enter the IP address of the AT-OME-ST31 in this field. This field will only be available when the **IP Mode** is set to **Static**. The default static IP address is 192.168.1.254.

Netmask

Enter the subnet mask of the AT-OME-ST31 in this field. This field will only be available when the **IP Mode** is set to **Static**.

Save

Click this button to save all changes in the **Network** group.

Gateway

Enter the gateway (router) address in this field. This field will only be available when the **IP Mode** is set to **Static**.

Telnet Port

Enter the Telnet port in this field. Telnet uses a default port number of 23.

Telnet Login Mode

Click this toggle to set the Telnet Login Mode to **ON** or **OFF**.

Telnet Timeout

Click this drop-down list to select the timeout interval, in seconds.

Status Broadcast

Click this toggle to set the Broadcast mode **ON** or **OFF**.

Brute Attack

This section adds a layer of security to prevent users from attempting to login with incorrect credentials.

- **Maximum Retry Connections**

Click this drop-down list to select the number of login attempts that are allowed before the system locks out the username.

- **System Lock Time (Minutes)**

Click this drop-down list to select the lock-out time in minutes.

Hostname

Displays the hostname of the AT-OME-ST31, as it would appear on a network. To change the hostname, type the new hostname in this field and click the **Save** button.

Power

Click this toggle to power-on or power-off the AT-OME-ST31.

Lock

Click this toggle to lock or unlock the AT-OME-ST31.

Factory Default

Click this button to reset the AT-OME-ST31 to factory-default settings.

Choose File

Click this button to select the firmware file.

Update

Click this button to begin the firmware update procedure. Refer to [Updating the Firmware \(page 41\)](#) for more information.

Appendix

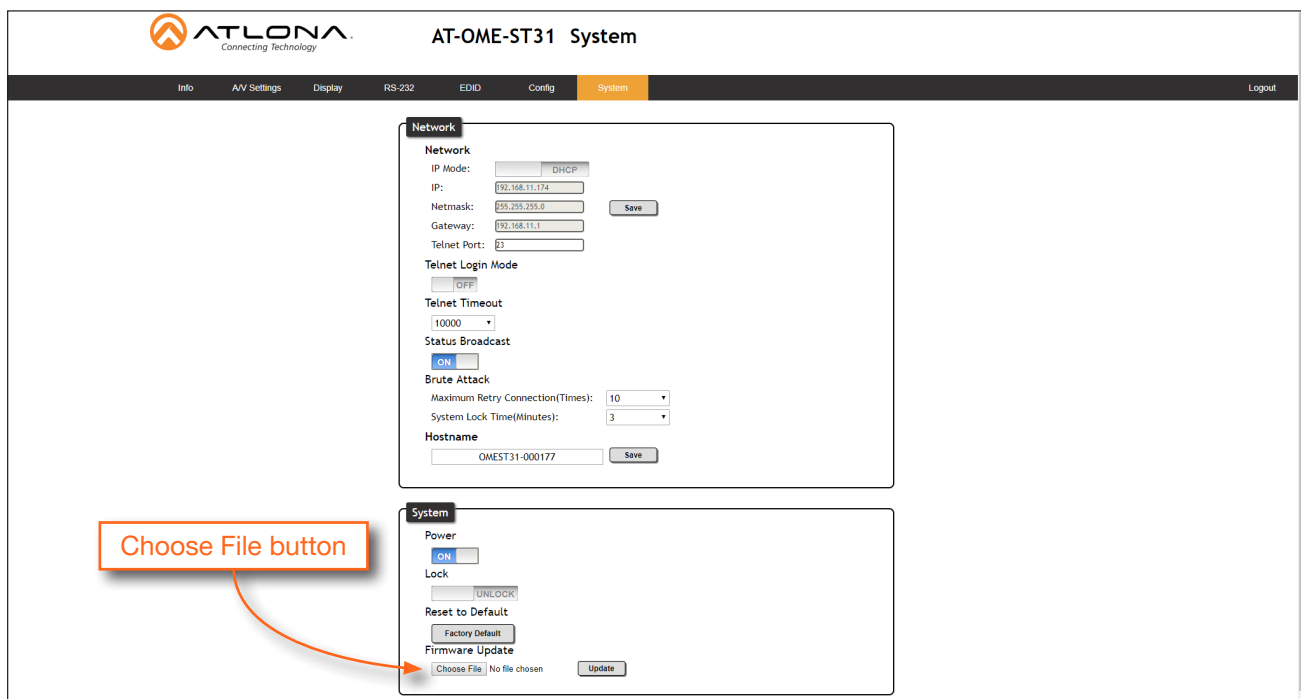
Updating the Firmware

Updating the firmware can be completed using either the USB interface or the web GUI. Atlona recommends using the web GUI for updating the firmware. However, if a network connection is not available, the AT-OME-ST31 firmware can be updated using a USB-A to USB mini-B cable.

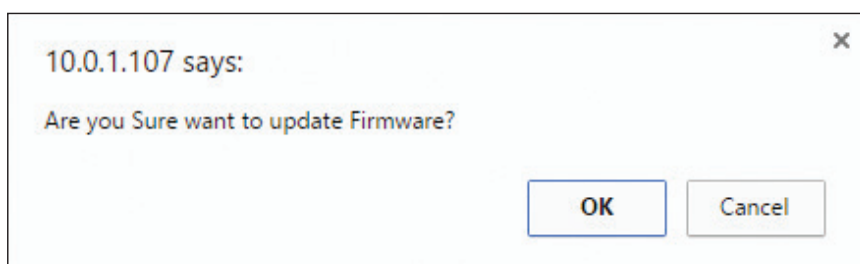
Using the Web GUI

Requirements:

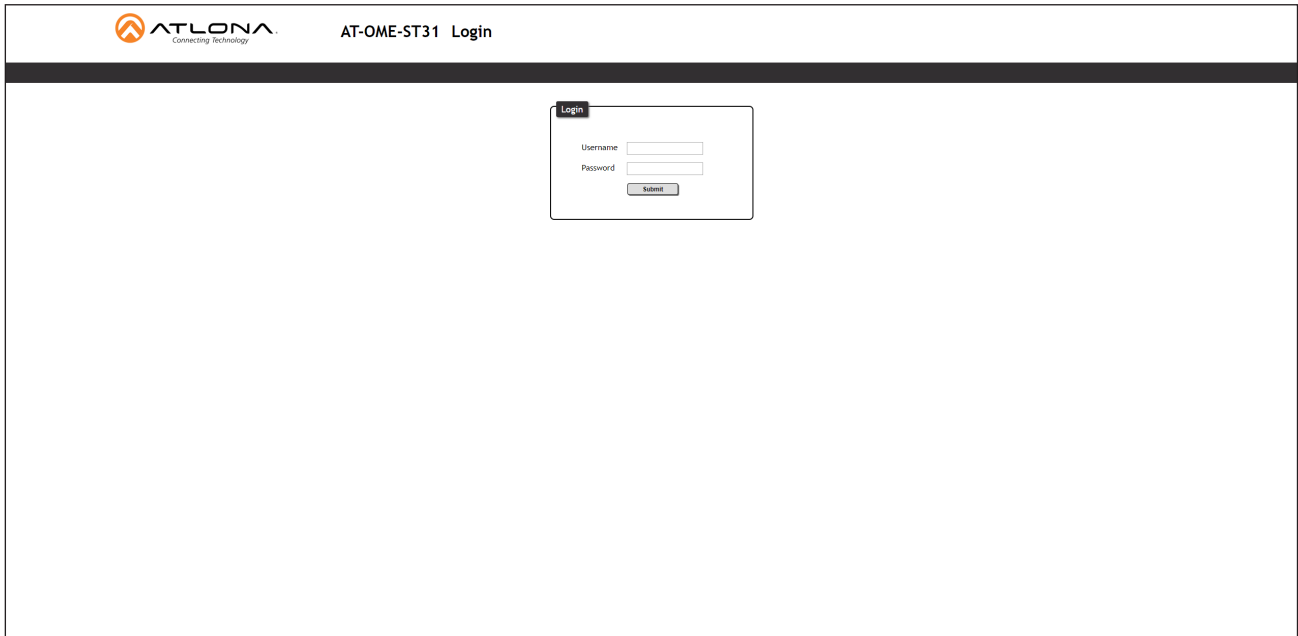
- AT-OME-ST31
 - Firmware file
 - Computer running Microsoft Windows
1. Connect an Ethernet cable from the computer, containing the firmware, to the same network where the AT-OME-ST31 is connected.
 2. Go to the [System page \(page 39\)](#) in the web GUI.



3. Click the **Choose File** button, under the **Firmware Update** section.
4. Browse to the location of the firmware file, select it, and click the **Open** button.
5. Click the **Update** button, under the **Firmware Update** section.
6. The following message box will be displayed.



7. Click the **OK** button to begin the firmware update process. Click the **Cancel** button to cancel the process.
8. After the firmware update process is complete, the **Login** screen will be displayed.



Using USB

Requirements:

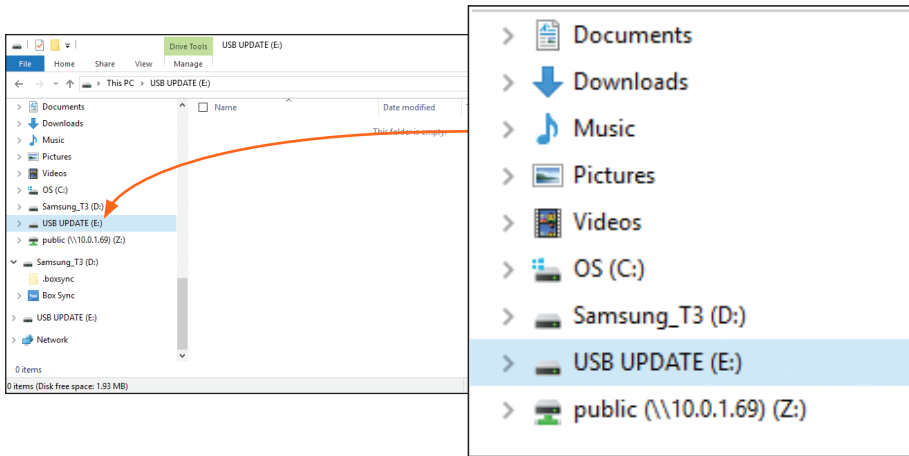
- AT-OME-ST31
- Firmware file
- Computer running Windows
- USB-A to USB mini-B cable

1. Disconnect power from the AT-OME-ST31.
2. Connect a USB-A to USB mini-B cable between the PC and the firmware port on the AT-OME-ST31. The unit will be powered by the USB cable.



3. The USB UPDATE folder will be displayed.

If this folder is not displayed, automatically, select the USB UPDATE drive from Windows Explorer.



4. Delete all files from the USB UPDATE drive, if any are present.
5. Drag-and-drop the firmware file to the drive.
6. After the file has been copied, disconnect the USB cable from both the computer and the AT-OME-ST31.
7. The firmware update process is complete.

Default Settings

The following tables list the factory-default settings, as defined in the web GUI, for the AT-OME-ST31.

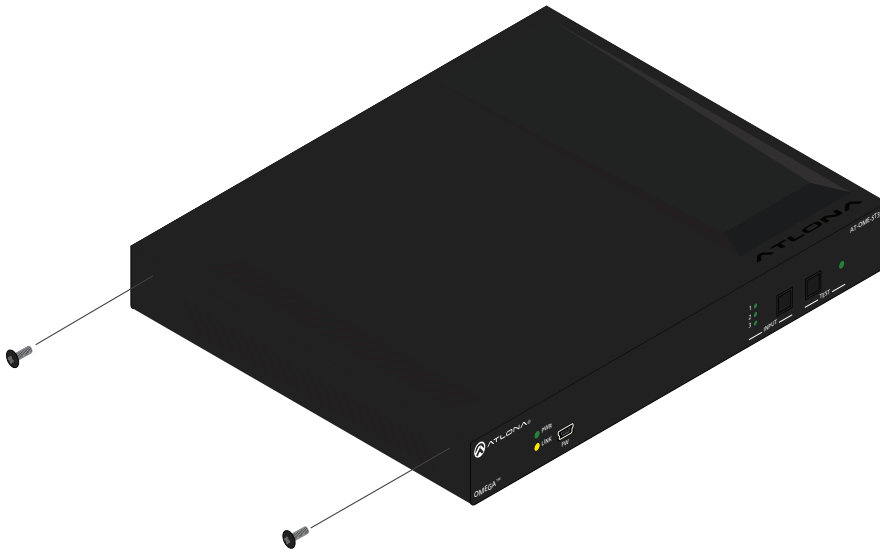
Web GUI Page	Setting	Default Value
Login	Username Password	admin Atlona
AV Settings	Input Selection Auto Switch mode Fallback Input Fallback Time (Sec.) HDCP Settings USBC HDMI1 HDMI2 Input Name Input 1 Input 2 Input 3 Audio HDBaseT Output HDMI Output USB Type-C Input embed HDMI1 Input embed HDMI2 Input embed	HDMI1 ON Previous 5 ON ON ON USBC HDMI1 HDMI2 ON ON DIGITAL DIGITAL DIGITAL
Display	Display Auto Power On Display Auto Power Off Lamp cool down timer Auto power off timer Power on delay timer Control Type Feedback Verify IP Mode IP Address Port Username Password Send Mode	Disabled Disabled 5 Seconds 15 Seconds 5 Seconds RS-232 ON Non-Login 192.168.1.1 23 admin Atlona ASCII
RS-232	Zone Baud rate Data bit Parity Stop bit TX RS-232 Baud rate Data bit Parity Stop bit	115200 8 None 1 115200 8 None 1
EDID	USBC HDMI1 HDMI2	Default Default Default

Web GUI Page	Setting	Default Value
System	IP Mode	DHCP
	IP	192.168.1.254
	Netmask	255.255.255.0
	Gateway	192.168.1.1
	Telnet Port	23
	Telnet Login Mode	OFF
	Telnet Timeout	10000
	Status Broadcast	ON
	Maximum Retry Connection	10 (tries)
	System Lock Time	3 (minutes)
	Hostname	OMEST31-xxxxxx
	Power	ON
	Lock	Unlock

Mounting Instructions

The AT-OME-ST31 includes two mounting brackets, which can be used to attach the unit to any flat surface. Use the two enclosure screws, on the sides of the unit to attach the mounting brackets.

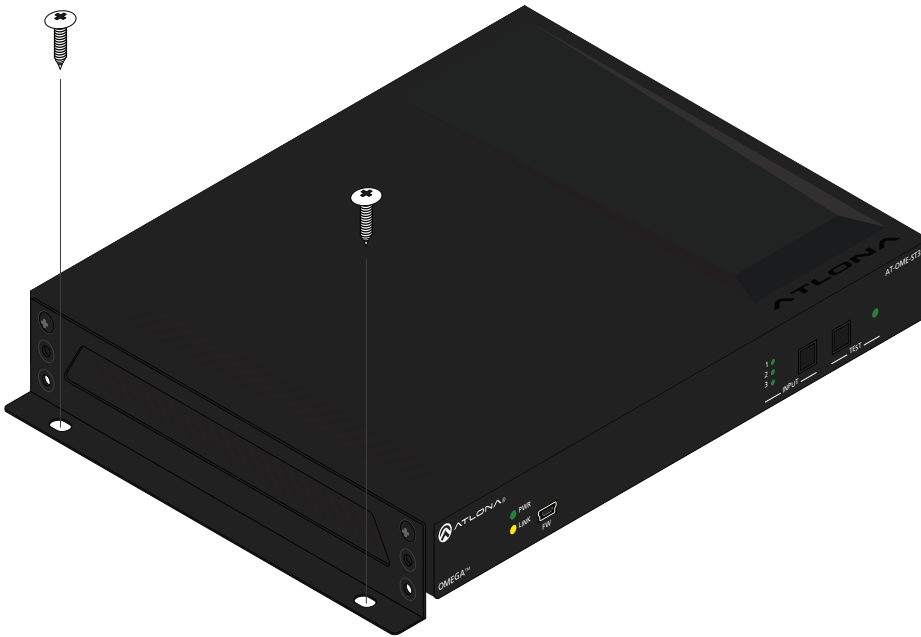
1. Using a small Phillips screwdriver, remove the two screws from the left side of the enclosure.



2. Position one of the mounting brackets, as shown below, aligning the holes on the side of the enclosure with one set of holes on the mounting bracket.
3. Use the screws from Step 1 to attach the mounting bracket.



4. Repeat steps 1 and 2 to attach the second mounting bracket to the opposite side of the unit.
5. Mount the unit to a flat surface using the oval-shaped holes, on each mounting bracket. If using a drywall surface, a #6 drywall screw is recommended.



Specifications

Connectors, Controls, and Indicators	
HDMI IN	2 - Type A, 19-pin female
HDMI OUT	1 - Type A, 19-pin female
USB-C*	1 - USB Type-C v3.1, 24-pin female
HDBaseT OUT	1 - RJ45
LAN	1 - RJ45
RS-232	1 - 3-pin captive screw (bidirectional)
AUDIO IN	1 - 3.5 mm, unbalanced 2-channel
IP MODE button	1 - momentary, tact-type
RESET button	1 - momentary, tact-type
DC 24V	1 - 4-pin, locking
PWR indicator	1 - LED, green
LINK indicator	1 - LED, yellow
Control Buttons: INPUT, DISPLAY, IP MODE, RESET	4 - momentary, tact-type
Input Indicators: USB-C, HDMI IN 1, HDMI IN 2	3 - LED, green

*USB-C port supports AV and device charging (with optional AT-PS-245-D4 power supply), but not USB data.

Video		
UHD/HD/SD	4096x2160@60/30/25/24Hz*, 3840x2160@60/30/25/24Hz*, 1080p@60/59.9/50/30/29.97/25/24/23.98Hz, 1080i@60/59.94/50Hz, 720p@60/59.94/50Hz, 576p@50Hz, 576i@50Hz, 480p@60/59.96Hz, 480i@60Hz	
VESA	2560x1600, 2048x1536, 1920x1200, 1680x1050, 1600x1200, 1440x900, 1400x1050, 1280x1024, 1280x800, 1366x768, 1360x768, 1152x864, 1024x768, 800x600, 640x480	
Scaler	IN	OUT
	4K @ 24 Hz 4K @ 30 Hz 4K @ 60 Hz, 4:2:0	1080p @ 24 Hz 1080p @ 30 Hz 1080p @ 60 Hz (YUV/RGB, 4:4:4)
USB-C	Up to 4K/UHD @ 60Hz	
Color Space	YUV, RGB	
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0	
Color Depth	8-bit, 10-bit, 12-bit	
HDR	HDR10, Hybrid-Log Gamma (HLG), and Dolby® Vision™ @ 60Hz; HDMI inputs only	

Audio	
Pass-Through Formats	PCM, Dolby® Digital, Dolby Digital Plus™, Dolby TrueHD, Dolby Atmos®, DTS® Digital Surround™, DTS-HD Master Audio™, and DTS:X®
Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
Bit Rate	24 Mbits/s max

Resolution / Distance	4K/UHD - Feet / Meters		1080p - Feet / Meters	
HDMI IN/OUT	15	5	30	10
CAT5e	295	90	330	100
CAT6/6a/7	330	100	330	100

Signal	
Maximum TMDS Clock	600 MHz (300 MHz over HDBaseT)
HDMI	HDMI 2.0*
HDBaseT	10 Gbps †
CEC Support	Yes
HDCP	2.2

* 18 Gbps supported for HDMI 2.0 output. † HDBaseT output limited to 10 Gbps.

USB	
USB-C Device Charging Capability	60 W @ 20 V / 3 A, 36 W @ 12 V / 3 A, and 15 W @ 5 V / 3 A

IP	
Protocols	DHCP, HTTP, Telnet
Ethernet Speed	10/100 Mbps
Addressing	DHCP, static

Temperature	Fahrenheit	Celsius
Operating	32 to 113	0 to 45
Storage	-4 to 140	-20 to 60
Humidity (RH)	20% to 60%, non-condensing	

Power	
Total power consumption	77.52 W
Type-C	60 W
System consumption	9.68 W
Idle	8.1 W
PSE	9.42 W
Supply	Input: 100 - 240 V AC, 50/60 Hz Output: 24 V / 6.25 A DC

Dimensions	Inches	Millimeters
H x W x D	1.02 x 8.62 x 5.98	26 x 219 x 152

Weight	Pounds	Kilograms
Device	1.95	0.88

Certification	
Device	CE, FCC, UL

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