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# 4K/UHD
# Five-Input Universal Matrix Switcher
## with Wireless Presentation Link




AT-UHD-SW-510W | Atlona Manuals **Switchers**

# Version Information

| Version | Release Date | Notes |
|---|---|---|
| 1 | Dec 2017 | Initial release |
| 2 | Feb 2018 | Updated to reflect firmware 1.0.1 |
| 3 | Apr 2018 | Updated to reflect firmware 1.0.3 |
| 4 | May 2018 | Updated to reflect firmware 1.1.0 |
| 5 | Jul 2018 | Updated to reflect firmware 1.1.1 |
| 6 | Aug 2018 | Updated to reflect firmware 1.2.0 |
| 7 | Sep 2018 | Updated to reflect firmware 1.2.1 |
| 8 | Oct 2018 | Updated to reflect firmware 2.0.0 |
| 9 | Jan 2019 | Updated to reflect firmware 2.2.0 |
| 10 | Mar 2019 | Updated to reflect firmware 2.3.0 |
| 11 | May 2019 | Updated to reflect hardware revision C |
| 12 | May 2019 | Updated to reflect firmware 2.4.0 |
| 13 | Aug 2019 | Updated to reflect firmware 2.5.0 |
| 14 | Nov 2019 | Updated to reflect firmware 2.7.0; URL casting has been removed from the Pre-Release page (page 102) page. Refer to the Release Notes for more information. |
| 15 | Dec 2019 | Added documentation on how to cast using Google Home from a mobile device. |
| 16 | Jan 2020 | Updated to reflect firmware 2.8.1 |

# 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

- Android devices require the Google™ Home app for casting.
- Miracast P2P reliability is dependent on the capabilities of laptop wireless cards.
- This product does not support URL casting (VP8 / VP9 decoding) from apps such as YouTube®, Netflix®, Hulu®, or Amazon Prime®. However, videos can be played directly from the web browser.
- This product does not support wireless casting of HDCP content.
- This product supports Bluetooth® discovery using an optional Bluetooth adapter (Bluetooth adapter not included). Atlona recommends the use of Plugable or Kinivo™ Bluetooth 4.0 adapters.

**IMPORTANT:** Visit http://www.atlona.com/product/AT-UHD-SW-510W for the latest firmware updates and User Manual.

# 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.

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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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- 3 years from proof of purchase date for hardware/electronics products purchased before June 1, 2013.
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- NOTE: Data cable (USB-C) and Wifi antenna coverd by 1 year warranty.

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

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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 www.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 www.atlona.com.

### Exclusions

This Limited Product Warranty excludes:

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

- Damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Atlona to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product.
- Equipment enclosures, cables, power supplies, batteries, LCD displays, and any accessories used in conjunction with the product(s).
- Products purchased from unauthorized distributors, dealers, resellers, auction websites and similar unauthorized channels of distribution.

**Disclaimers**

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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
RISK OF ELECTRIC SHOCK
DO NOT OPEN

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



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

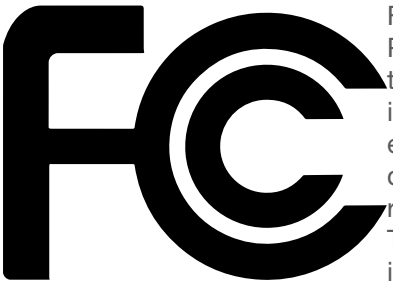


The information bubble is intended to alert the user to helpful or optional operational instructions in the literature accompanying the product.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this product near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of a polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the product.
11. Only use attachments/accessories specified by Atlona.
12. To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.
13. Unplug this product during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the product has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the product, the product has been exposed to rain or moisture, does not operate normally, or has been dropped.



# FCC Statement



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

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# Introduction

The Atlona **AT-UHD-SW-510W** is a 5×2, multi-format matrix switcher with wireless presentation capability. It provides universal BYOD (bring your own device) compatibility with HDMI, DisplayPort, and USB-C inputs, plus wireless connectivity for mobile devices. The SW-510W is HDCP 2.2 compliant, and features matrixed or mirrored HDMI and HDBaseT outputs. The HDBaseT output is ideal for use with the Atlona AT-UHD-EX-100CE-RX-PSE HDBaseT receiver, or the AT-HDVS-SC-RX scaling HDBaseT receiver. It also includes automatic input switching and automatic display control capability, both applicable to wired and wireless source connections. This unique multi-format matrix switcher and wireless gateway provides a universal connectivity solution for presentation devices in a wide range of professional AV applications.

The USB-C w/ charging port on the SW-510W is ideal for newer Mac, Chromebook, and Windows PCs. All inputs and the local HDMI output are compatible with video signals up to 4K/UHD @ 60 Hz with 4:4:4 chroma sampling, as well as data rates up to 18 Gbps. For integration convenience and flexibility, simultaneous 18 Gbps HDMI and 10 Gbps HDBaseT outputs make the SW-510W ideal for various presentation scenarios such as primary and confidence displays in a corporate auditorium or lecture hall. The HDBaseT output extends video, audio, control, and Ethernet up to 100 meters. (For AV signals exceeding 10 Gbps, 4K/UHD video will be subsampled to 4:2:0, or HDR metadata removed for HDBaseT transmission.)

# Features

- Two HDMI®, one DisplayPort, and one USB-C input, plus an input for wireless AV.
- Matrixed or mirrored HDBaseTTM and HDMI outputs.
- Wireless AV gateway for iOS®, AndroidTM, Mac®, ChromebookTM, and Windows® devices.
- 4K/UHD capability @ 60 Hz with 4:2:0 chroma subsampling, plus support for 4K/60 4:4:4 and HDR formats on local ports (HDMI, USB-C, and DisplayPort).
- HDCP 2.2 compliant.
- Automatic input selection and automatic display control.
- USB-C port supports device charging for laptops, tablets, and smartphones.

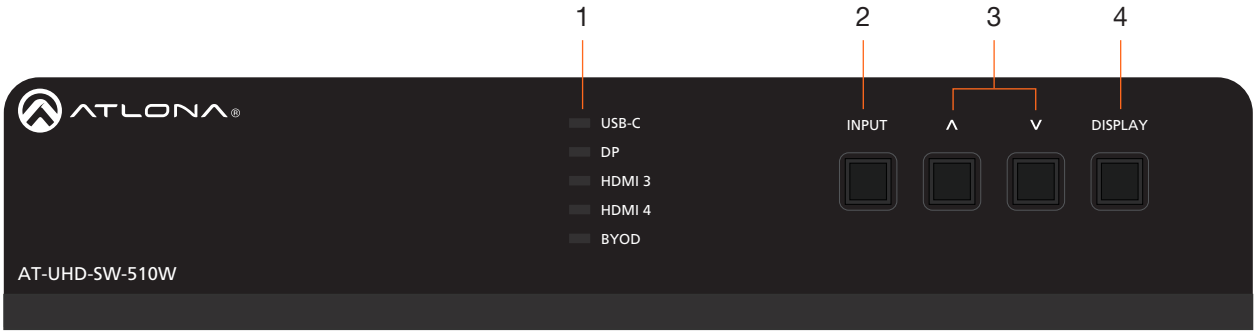
# Package Contents

1 x AT-UHD-SW-510W
1 x Captive screw connector, 5-pin
1 x Captive screw connector, 4-pin
2 x Captive screw connector, 3-pin
2 x Wi-Fi antenna modules
1 x USB-C cable, 2 meters
1 x 24V DC power supply
2 x Mounting plates
4 x Mounting screws
1 x Installation Guide

# Panel Description

**NOTE:** As of April 2019, Revision C is being shipped. Hardware revisions A and B were shipped prior to April of 2019. However, all hardware revisions support the latest version of firmware.

## Front Panel - Revision A and B




**1 Input Indicators**
Displays the currently selected input.

**2 INPUT**
Press this button to cycle through each input.

**3 Cursor Buttons**
Adjust the volume on the display.

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

## Front Panel - Revision C




**1 Input Indicators**
Displays the currently selected input.

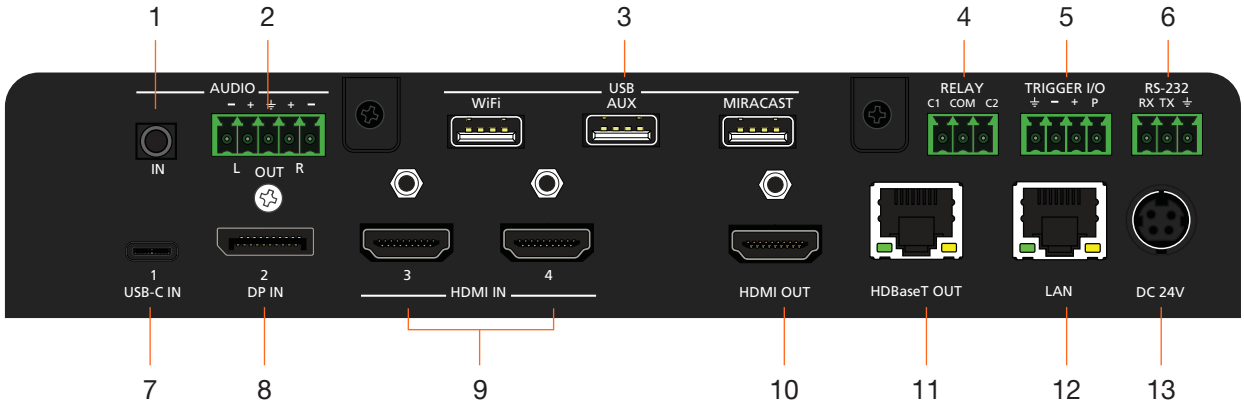
**2 INPUT**
Press this button to cycle through each input.

**3 IP**
Press this button to display the IP address of the AT-UHD-SW-510W on the connected display.

**4 POWER**
Press and hold this button for five seconds to power-off the AT-UHD-SW-510W. To power-on the unit, disconnect and reconnect the power cord on the rear panel.

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

## Rear Panel - All Revisions




1 **AUDIO IN**
Connect a 3.5 mm mini-stereo cable from an analog audio source to this connector.

2 **AUDIO OUT**
Use the included captive screw connector to connect a balanced audio device.

3 **USB**
Connect the included Wi-Fi modules to the **WIFI** and **MIRACAST** ports. Refer to Connection Instructions (page 14) for more information. Note that on Revision A hardware, the **MIRACAST** port is labeled **WIFI**.

4 **RELAY**
Connect one of the included 3-pin captive screw connectors to this port to control screens, drapes, lights, or other devices.

5 **TRIGGER I/O**
Connect voltage-controlled device to this port. A 4-pin captive screw connector is required.

6 **RS-232**
Use the included captive screw connector to connect the AT-UHD-SW-510W to a control system or computer running a terminal emulator. Refer to RS-232 Control (page 63) for more information.

7 **USB-C**
Connect a USB-C cable from this port to a USB-C source.

8 **DP IN**
Connect a DisplayPort device to this port.

9 **HDMI IN**
Connect an HDMI cable from each of these ports to a UHD/HD source.

10 **HDMI OUT**
Connect an HDMI cable from this port to an HD/UHD display.

11 **HDBaseT OUT**
Connect to a locally powered HDBaseT receiver such as the AT-UHD-EX-100CE-RX-PSE.

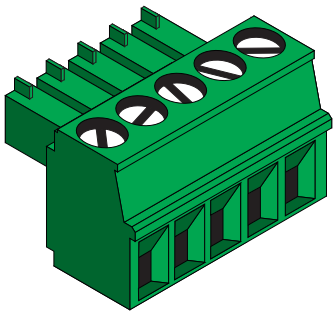
12 **LAN**
Connect an Ethernet cable from this port to the network.

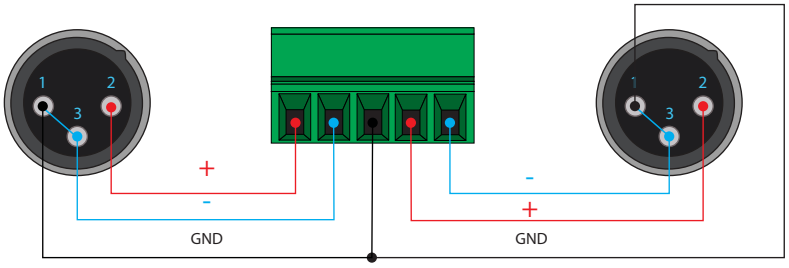
13 **DC 24V**
Connect the included 24 V DC power supply to this power receptacle.

# Installation

## Audio

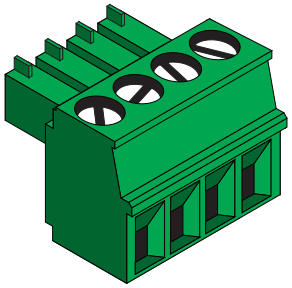
The **AUDIO OUT** connector on the AT-UHD-SW-510W provides a separate output for balanced audio using XLR connectors. Use the included 5-pin captive-screw terminal block. Balanced audio connections use two signal wires and a ground to minimize interference in audio signals. Unbalanced output audio is not supported.



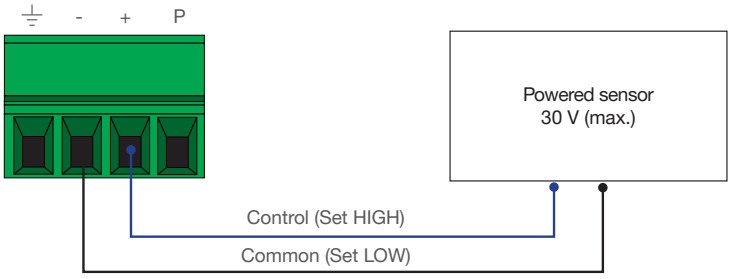



## Trigger

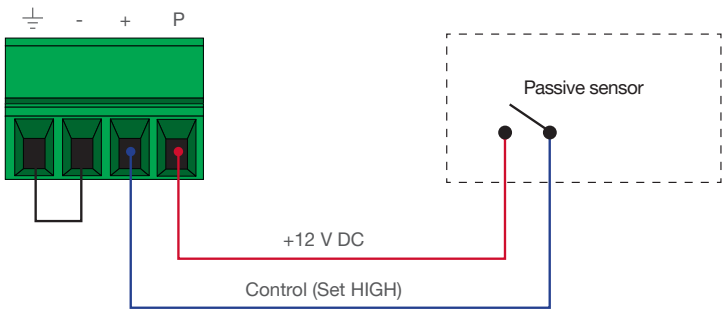
The **TRIGGER I/O** port allows voltage-controlled devices, such as an occupancy sensor, to be connected to the AT-UHD-SW-510W. Use the included 4-pin captive screw connector to connect the device. Voltage range is 3 to 30 V DC.



Passive sensor




Powered sensor

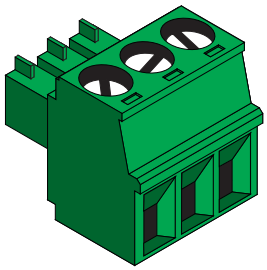


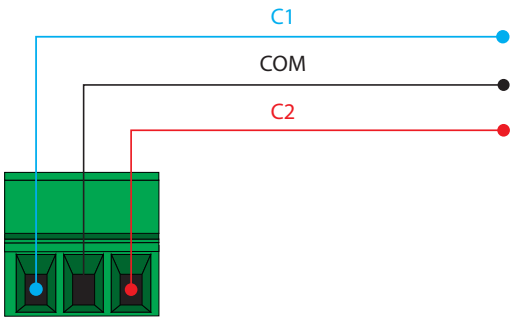

**IMPORTANT:** Some occupancy sensors require 24 V instead of 12 V. In order to power the sensor, an external power supply will be required.

## Relay

The AT-UHD-SW-510W provides a **RELAY** port, which allows the control of screens, curtains, and other devices. Use a 48 V DC relay with no more than 1 A current draw.

When the AT-UHD-SW-510W is powered-on or rebooted, **C1** and **C2** are set to the Normally Open (NO) state.

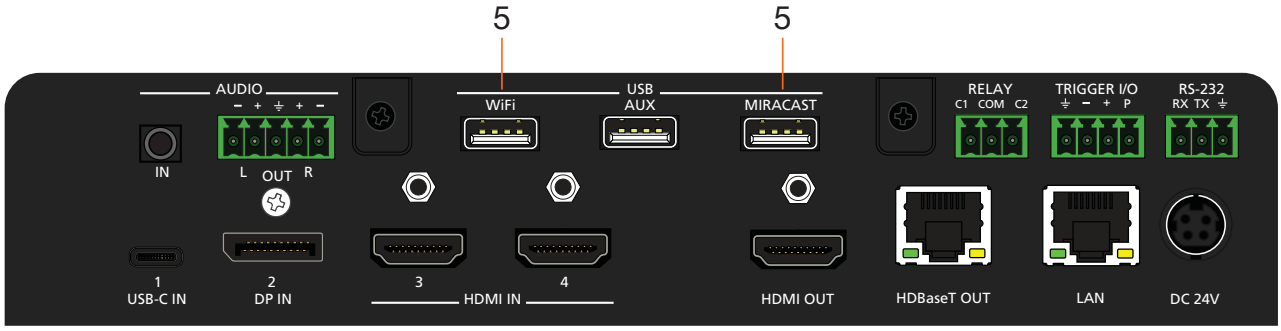




## Connection Instructions

1. Connect a USB-C cable from a source to the **USB-C (1)** port.
2. Connect a DisplayPort cable from a source to the **DP IN (2)** port.
3. Connect up to two UHD/HD sources, using HDMI cables, to the **HDMI IN (3)** and **HDMI IN (4)** ports.
4. Connect an HDMI cable from the **HDMI OUT** port to a UHD/HD display.
5. Connect up to two USB wireless antenna modules to the **USB** ports. Two USB wireless antennas are included. The **WiFi** port supports Google Cast™ and Apple AirPlay®. The **MIRACAST** port only supports Miracast™. The **AUX** port is reserved for obtaining the IP address of the unit and for unit recovery. Refer to Getting the IP Address (page 16) for more information. Note that on hardware revision A, the **MIRACAST** port is labeled as **WiFi**.

**IMPORTANT:** Only use Atlona Wi-Fi USB modules. Other Wi-Fi modules may not be supported by this product.

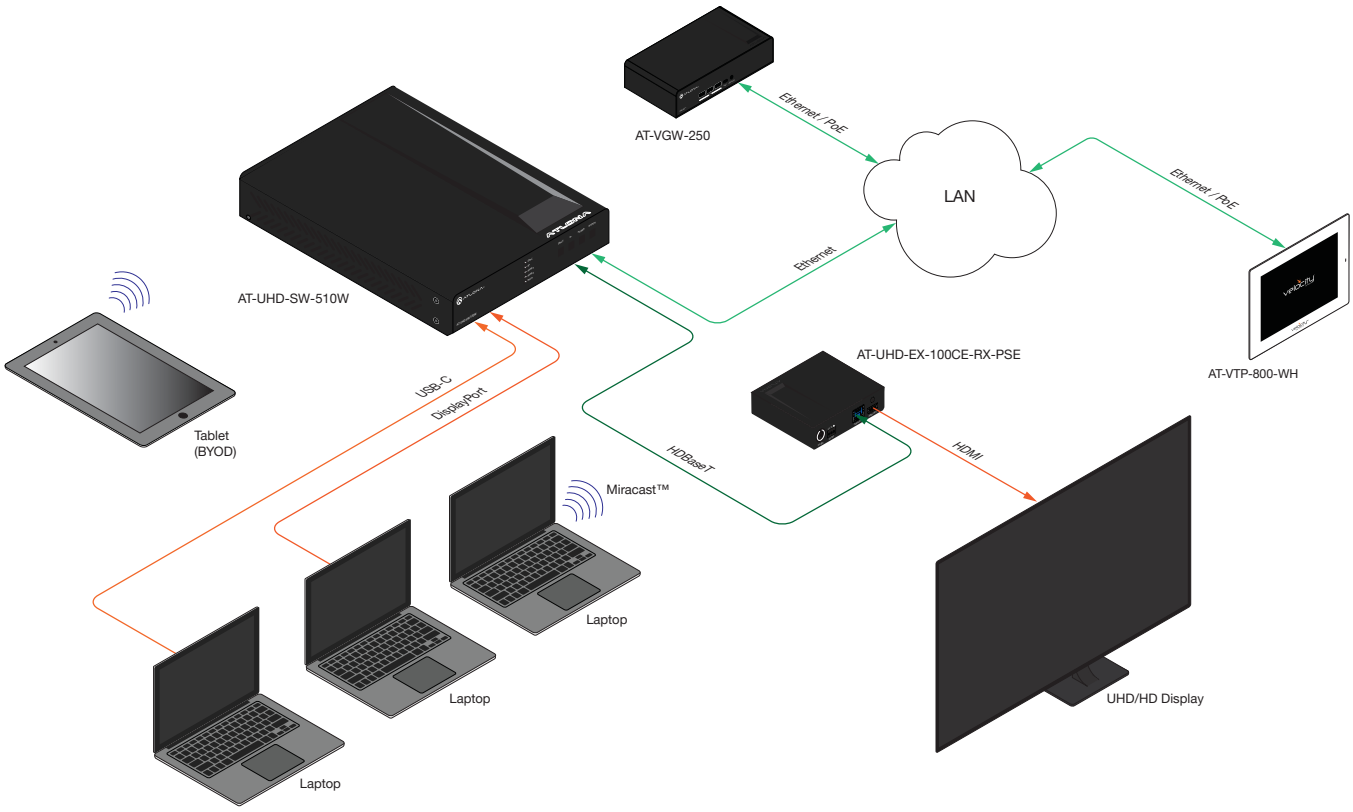



6. Connect the relay leads from the control motors of the projection screen, blinds, or curtains, to the relay outputs to the **RELAY** port, using the included 3-pin captive screw connector. Use a 48 V DC relay with no more than 1 A current draw.
7. Connect a trigger device, such as an occupancy sensor switch, to the **TRIGGER I/O** port. A 4-pin captive screw connector is required. Voltages from 3 to 30 V are supported.
8. Connect a 3.5 mm analog audio cable from an analog source to the **AUDIO IN** port. This audio source can be used to embed analog audio on any of the input sources.
9. Connect an Ethernet cable from the **LAN** port to the Local Area Network (LAN).
10. Connect an Ethernet cable from the **HDBaseT** port to an HDBaseT receiver unit, such as the AT-UHD-EX-100CE-RX-PSE.

**IMPORTANT:** If connecting the AT-UHD-SW-510W to the Local Area Network (LAN), make sure that the AT-UHD-EX-100CE-RX-PSE is *not* connected to the LAN, as this will create a network loop.

11. Connect the included green 5-pin captive screw connector to the **AUDIO OUT** connector.
12. Connect the included power supply to the **DC 24V** connector and connect the power cord to an available electrical outlet.
13. Follow the on-screen instructions to complete the set-up procedure.

## Connection Diagram



# IP Configuration

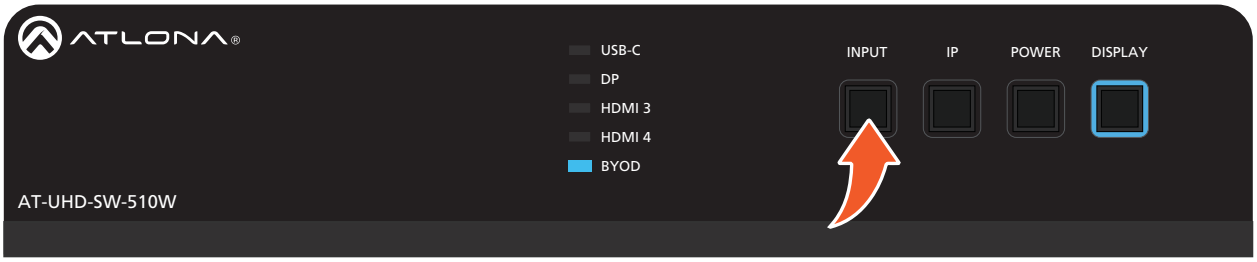
The AT-UHD-SW-510W is shipped with DHCP enabled. Once connected to a network, the DHCP server (if available), will automatically assign an IP address to the unit. Use an IP scanner, along with the MAC address on the bottom of the unit, to identify both the unit and its IP address on the network.

If the AT-UHD-SW-510W 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, refer to Auto IP Mode (page 18).

If a static IP address is desired, the unit can be switched to static IP mode. Use one of the following procedures to switch between DHCP and static IP mode. The default static IP address of the AT-UHD-SW-510W is 192.168.1.254.

## Switching the IP Mode Using the Front Panel

1. Make sure the AT-UHD-SW-510W is powered and ready for operation.
2. Press and hold the **INPUT** button for at least 15 seconds.




3. Release the **INPUT** button once all the front-panel LED indicators begin to flash. The unit will reboot. The number of flashes will indicate the currently selected IP mode:

| Input LED Indicators flash | Description |
|---|---|
| Two | DHCP mode |
| Four | Factory Static IP mode (IP address set to 192.168.1.254) |

## Getting the IP Address

1. Make sure the unit is powered.
2. Connect a display to one of the video outputs on the rear of the unit. Make sure the display is powered.
3. Press and release the **IP** button.

**NOTE:** To display the IP address on Revision A and B units, simultaneously press and hold the **INPUT** and **∧** buttons on the front panel, for five seconds, then release them.

4. The IP address of the unit will be displayed on the screen.

## Getting the IP Address without a Display

If a display device is unavailable, use the following procedure to obtain the IP address.

1. Make sure the unit is powered.
2. Insert a USB drive into the **AUX** port.
3. Wait approximately 10 seconds.

4. Remove the USB drive from the **AUX** port insert the drive into an available USB port on a computer.
5. Two files will be present on the USB drive. One file is formatted for Windows and the other is formatted for Linux.

   Windows: AtlonaReport-Win-GWB-20170821200241.txt
   Linux: AtlonaReport-Unix-GWB-20170821200241.txt

6. Double-click the desired file to open it. Information, similar to the following, will be displayed:

   Ethernet #1
   IP : 192.168.41.68
   MAC : B8:98:B0:05:7E:73

   Ethernet #2
   IP : 169.254.7.58
   MAC : B8:98:B0:05:7E:72

7. The IP address of the AT-UHD-SW-510W is listed under Ethernet #1.

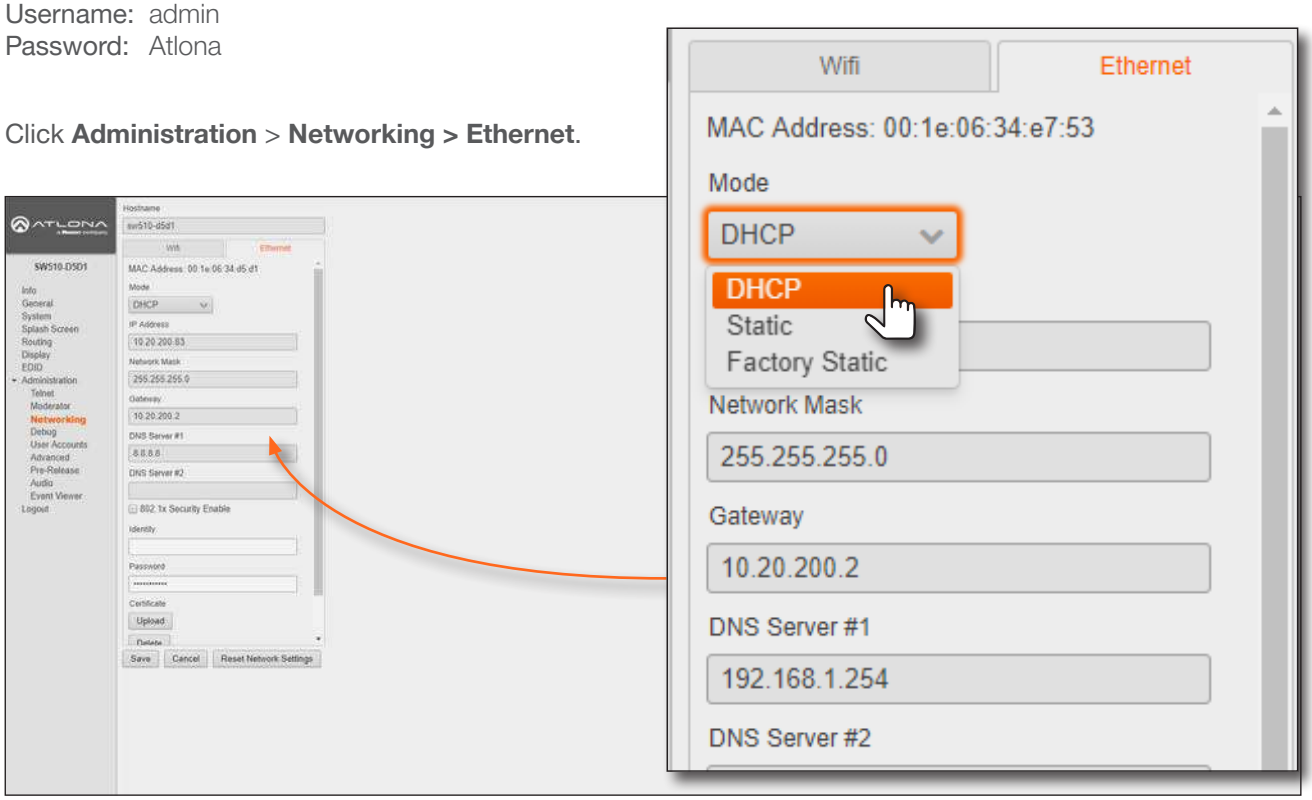
## Setting the IP Address using the Web GUI

Use the System page (page 75) in the web GUI, to set the AT-UHD-SW-510W to either DHCP or static IP mode. In order to access the web GUI, the IP address of the AT-UHD-SW-510W must be known.

1. Open the desired web browser and enter the IP address of the AT-UHD-SW-510W.
2. Log in, using the required credentials. The factory-default username and password are listed below:

   Username: admin
   Password: Atlona

3. Click **Administration** > **Networking** > **Ethernet**.



4. Click the **Mode** drop-down list and select **DHCP**, **Static**, or **Factory Static**. Refer to the Networking page (page 91) for more information. If set to Factory Static, then the IP settings will be set to: IP Address = 192.168.1.254, Network Mask = 255.255.0.0, Gateway = 192.168.1.1.

   When set to **Static**, the **IP**, **Network Mask**, **Gateway**, and **DNS Server** fields can be modified.

5. Click the **Save** button to save the changes.

## Auto IP Mode

If the AT-UHD-SW-510W 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-UHD-SW-510W to a computer and do the following:

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.

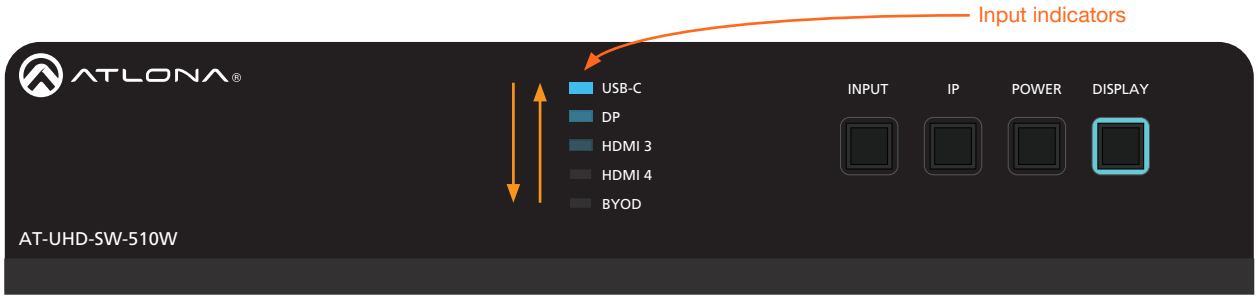
## Resetting to Factory-Default Settings

If necessary, the AT-UHD-SW-510W can be reset to factory-defaults from the front panel. Press and hold the **DISPLAY** button for 15 seconds to reset the AT-UHD-SW-510W to factory-default settings. Note that the AT-UHD-SW-510W will be placed in DHCP mode, as part of the reset procedure. The AT-UHD-SW-510W can also be reset through the web GUI. Refer to System page (page 75) for more information.

# Basic Operation

## Boot Sequence

1. After the power supply has been connected to the AT-UHD-SW-510W, the input indicators on the front panel will begin to flash, in an up-and-down pattern, as shown by the arrows.




2. After about 45 seconds, the standby screen will be displayed.
3. Once the boot sequence is complete, the splash screen will be displayed and the **BYOD** input indicator will be illuminated.



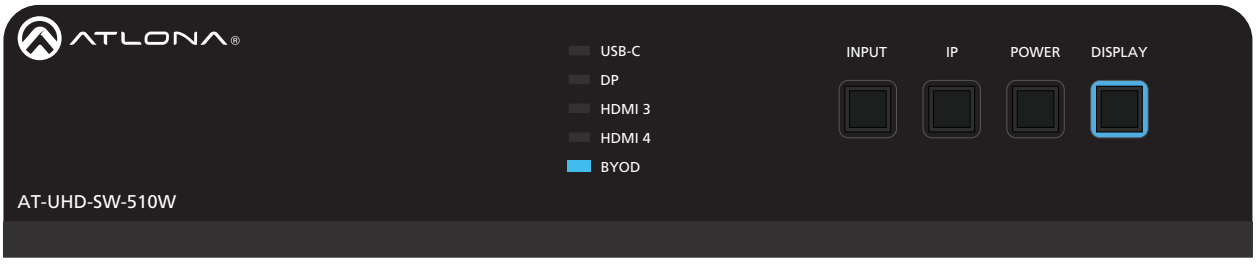

Standby Screen




Splash Screen

The splash screen will show the OSD (On-Screen Display). The splash screen will display instructions on connecting wireless devices and how to connect devices directly to the AT-UHD-SW-510W, using cables.

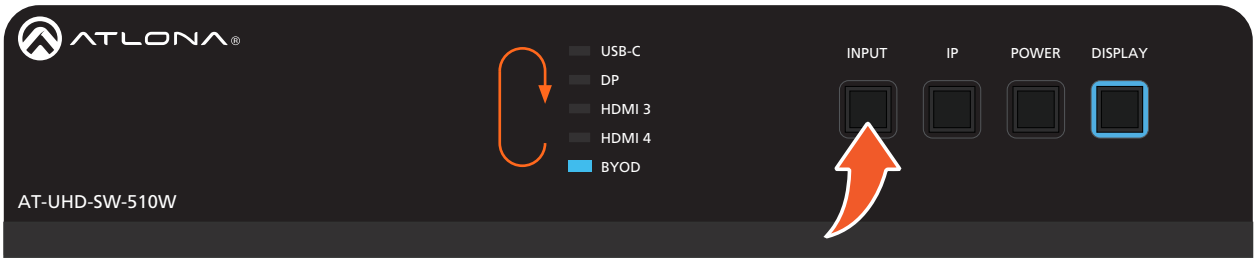
4. The unit is now ready for use. The entire boot process takes approximately two minutes to complete.




Ready state

## Selecting the Input

Press the **INPUT** button to cycle through each of the available inputs on the unit. If the unit is powered-off, then powered-on, the AT-UHD-SW-510W will set the default input to **BYOD**.



# Setting the System Date and Time

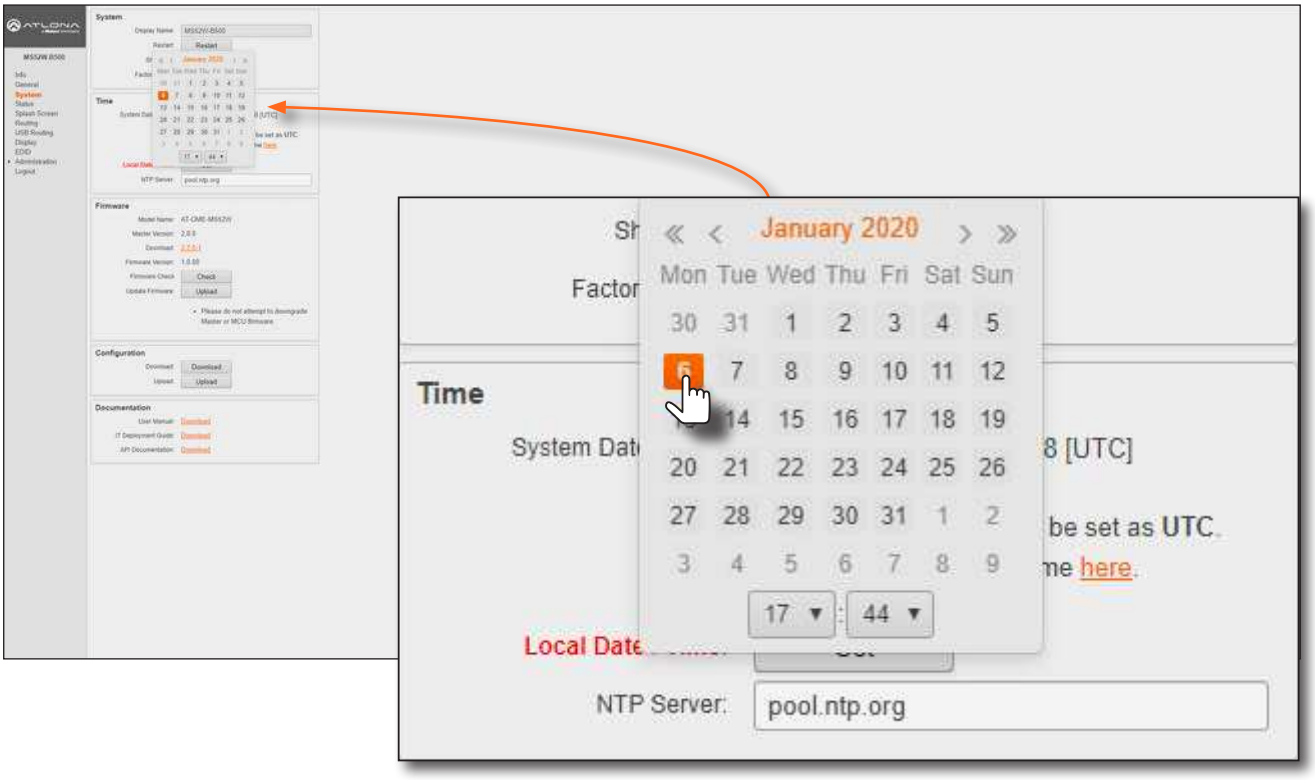
The AT-UHD-SW-510W uses the internal clock to store the current date and time. When setting the time and date, *Universal Coordinated Time (UTC) must be used*.

## Manual Adjustment

1. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
2. Convert the local time to 24-hour time.
3. Use the tables below, to convert 24-hour time to UTC. For US Daylight Savings Time, subtract one hour from each value, when converting to UTC. UTC for other specific regions can be obtained from https://time.is/UTC.

| Region | Eastern Time | Central Time | Mountain Time | Pacific Time |
|---|---|---|---|---|
| United States | + 5:00 | + 6:00 | + 7:00 | + 8:00 |

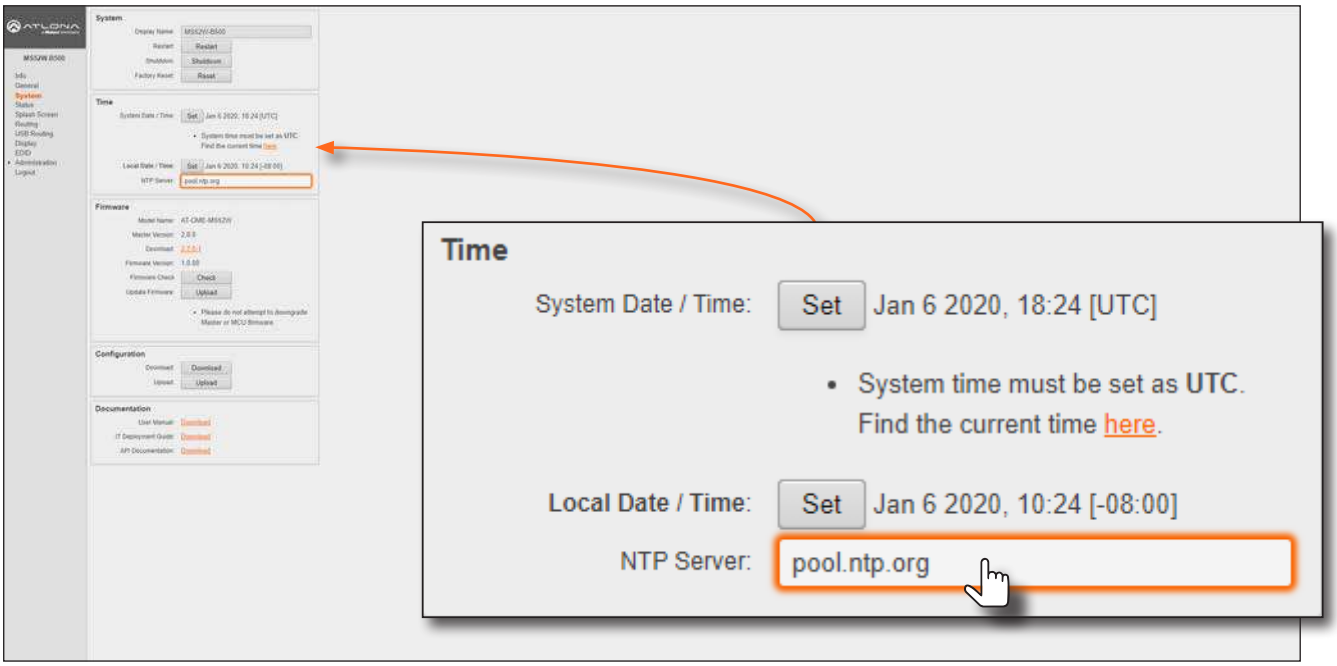
4. Click **System** in the side menu bar.
3. Under the **Time** window group, click the **Set** button.
4. Select the desired year by clicking on the **<<** or **>>** icons. To select the month, use the **<** or **>** icons.
5. Select the date by clicking on it.




6. Set the hour and minute by clicking on the drop-down lists and selecting the desired value. Always use Universal Coordinated Time (UTC).

## Using an NTP Server

1. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
2. Convert the local time to 24-hour time.
3. Click **System** in the side menu bar.
3. Under the **Time** window group, enter the desired server in the NTP Server field. The default NTP server is `pool.ntp.org`.
4. Click the **Set** button, next to **Local Date / Time**.



## The Splash Screen

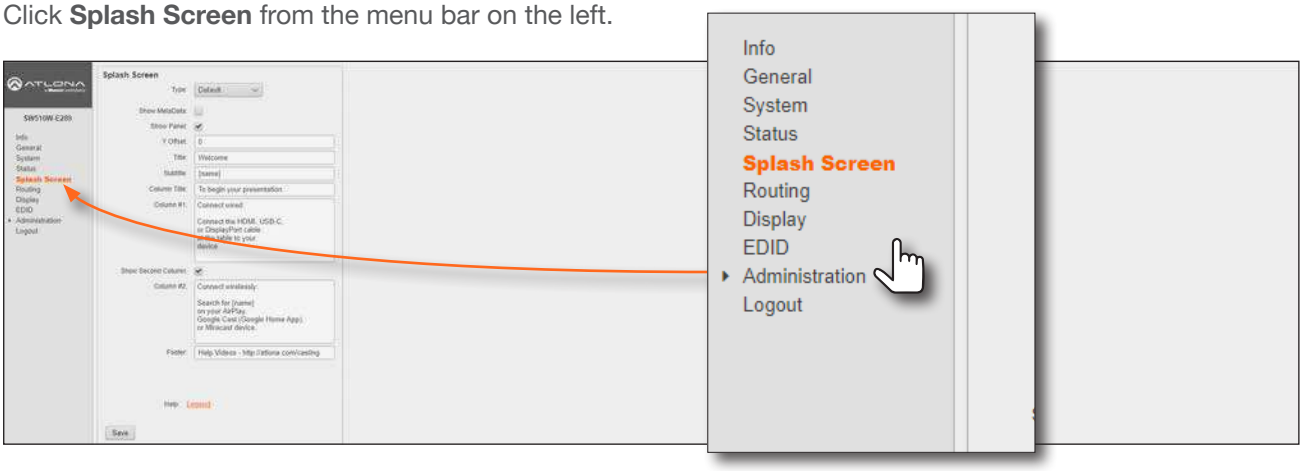
The illustration below, identifies each portion of the Splash Screen. The vertical position of the Panel can be adjusted using the **Y Offset** feature. Displaying Metadata (page 25) can be enabled or disabled. The background image can also be changed.



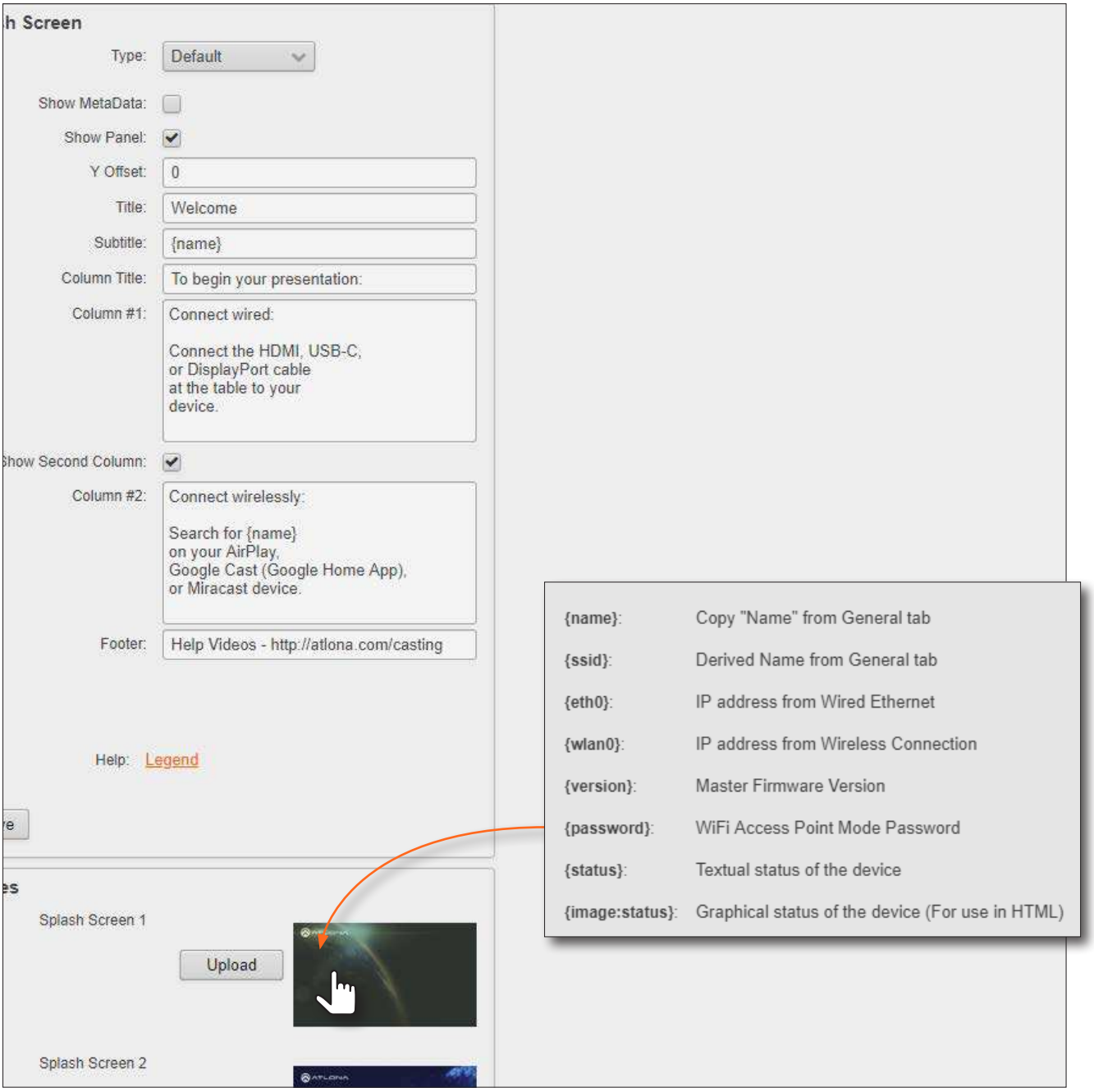

### Customizing the Splash Screen

This area displays information on how to connect to the AT-UHD-SW-510W and the name of the unit (subtitle). Each of the above text fields can be modified within the web GUI.

1. Launch a web browser and enter the IP address of the AT-UHD-SW-510W in the address bar.
2. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
3. Click **Splash Screen** from the menu bar on the left.



4. Make the desired changes to each field, as shown below. Note that the **Subtitle** field is assigned the value **{name}**. This value is a system value, which represents the name of this specific device.




Other system values are available and can be placed in any of these fields. To display a list of available system values, click **Legend**. Each tag in the legend is defined as follows:

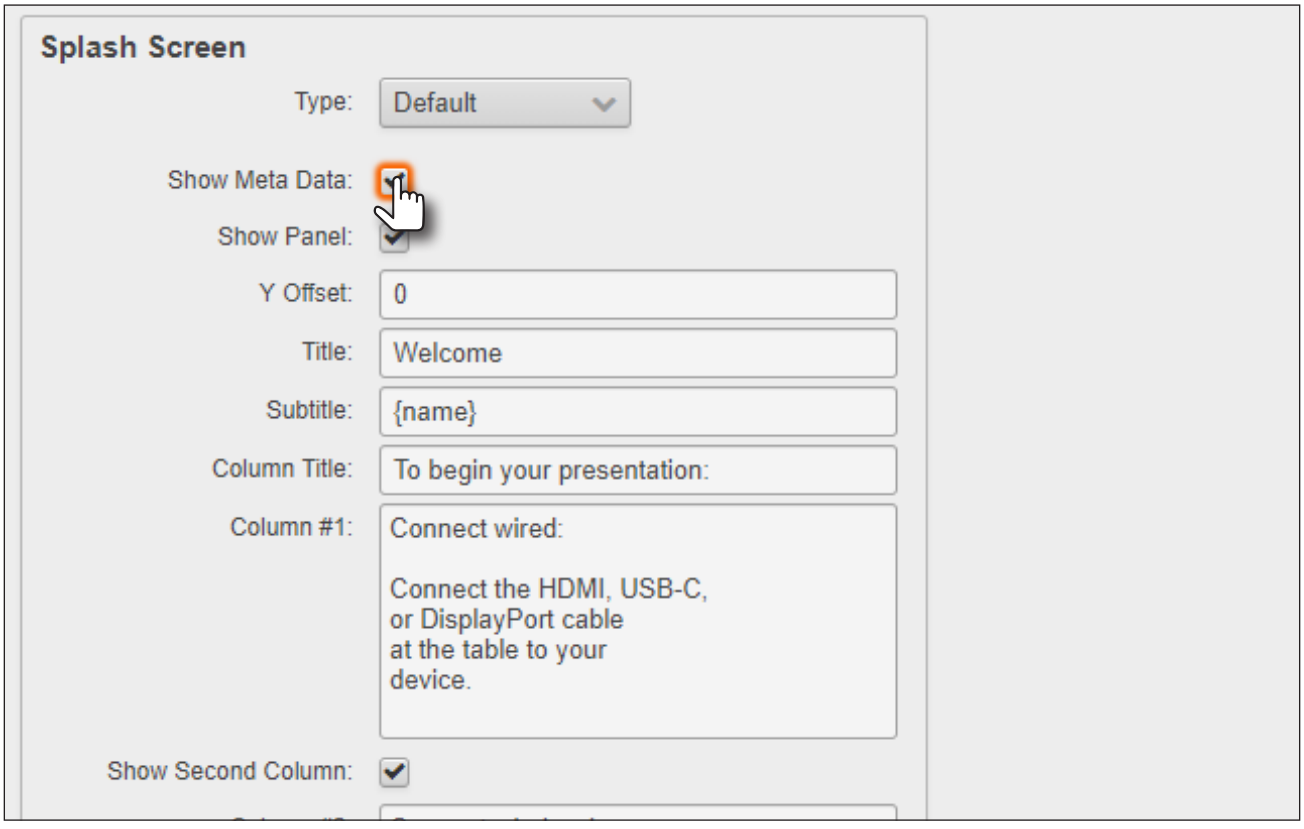
| Tag | Description |
|---|---|
| {name} | This is the system name, and is usually the conference room/classroom name. |
| {ssid} | The name of the device when the AT-UHD-SW-510W is configured as an Access Point. Refer to Access Point Mode (page 33) for more information. |
| {eth0} | The IP address of the AT-UHD-SW-510W when connected to a network using an Ethernet cable. |

| Tag | Description |
|---|---|
| {wlan0} | The IP address of the AT-UHD-SW-510W when using a wireless connection. |
| {version} | Displays the Master Firmware version. |
| {password} | Displays the Access Point password, when the AT-UHD-SW-510W is configured as an Access Point. If configured as an Access Point, this tag will be populated with the selected password. The password can be either static or dynamic. When set to dynamic, this field will be constantly updated. Refer to Access Point Mode (page 33) for more information. |

## Displaying Metadata

Click the **Meta Data** check box to display this information. Metadata includes the name, model, current date, wired IP address, current firmware version, and some image references used by the AT-UHD-SW-510W. The name can be changed under the General page (page 74) of the Web GUI. The date (and time) can be set under the System page (page 75) of the Web GUI. Refer to Networking page (page 91) for information on changing the wired IP address of the AT-UHD-SW-510W.

1. Launch a web browser and enter the IP address of the AT-UHD-SW-510W in the address bar.
2. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
3. Click **Splash Screen** from the menu bar on the left, then click the **Show Meta Data** check box.




4. Click **Save** to commit changes. To hide the metadata, uncheck the **Show Meta Data** check box and click **Save**.
5. Refer to the next page for an example of displayed metadata.


Metadata
Welcome
Name: SW510-E573
Model: SW510-E753
Date: 08/29/2018
Wired IP: 10.0.1.83
Version: 2.3.3
LED - Grey: /opt/tomcat/webapps/ROOT/static/images/icons/led_grey_small.png
LED - Grey: <image src="{url:led_grey}">
LED - Green: /opt/tomcat/webapps/ROOT/static/images/icons/led_green_small.png
LED - Green: <image src="{url:led_green}">
LED - Red: /opt/tomcat/webapps/ROOT/static/images/icons/led_red_small.png
LED - Red: <image src="{url:led_red}">
LED - Status: {image:led_green}
LED - Status: {url:led_green}
Status: Ready
Help Videos - http://atlona.com/casting
Connect wired:
Connect the HDMI, USB-C, or DisplayPort cable at the table to your device.
To being your presentation:
Connect wirelessly:
Search for SW510-E753 on your AirPlay, GoogleCast (Google Home App), or Miracast device.
or

## Displaying the Wireless Password

This feature is applicable only when the AT-UHD-SW-510W is configured as an **Access Point**. The wireless password can be displayed as part of any text field on the splash screen. To do this, insert the **{password}** tag as part of a text string. For example:

"To begin your presentation, connect using the SSID and enter the following password: {password}."

Refer to The Splash Screen (page 23) for more information on the various text fields which can be displayed.

When configured as a Access Point, the wireless password will automatically be displayed by default, at the bottom of the screen, as shown below. In addition to the password, the Name field represents the SSID of the AT-UHD-SW-510W and is used to identify the unit as an available Access Point. Refer to Wireless Configuration (page 33) for information on setting up a Wifi connection.



## Changing the Splash Screen Image

The background image can be changed to any of the three included splash screens, shown below. In addition, custom images may be uploaded and used instead of the factory splash screens. Splash screen cycling, which is outlined below, can prevent image persistence which is the equivalent of image burn-in on CRT and plasma computer monitors.

Splash screen #1 (default)



Splash screen #2



Splash screen #3

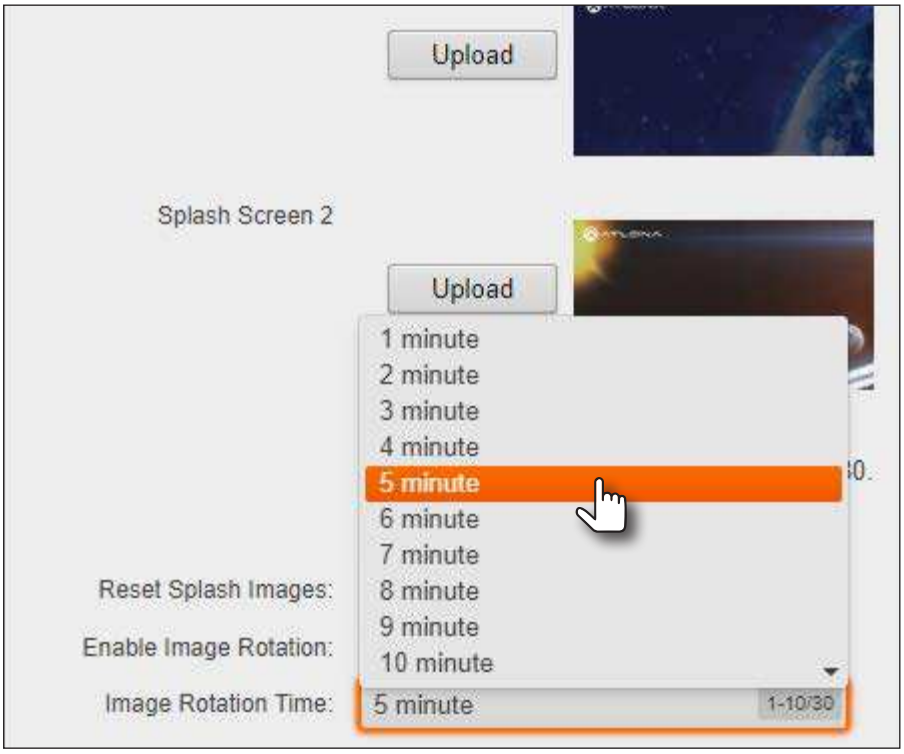


### Automatically cycling through factory splash screen

1. Launch a web browser and enter the IP address of the AT-UHD-SW-510W in the address bar.
2. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
3. Click **Splash Screen** from the menu bar on the left.
4. Click the **Enable Image Rotation** check box.

   By default, when **Image Rotation** is enabled, each background will be displayed for five minutes before switching to the next image.

5. Click the **Image Rotation Time** drop-down list to select the desired time interval. Range: 1 - 10 minutes. To disable image cycling, uncheck the **Enable Image Rotation** check box.



### Uploading a custom image

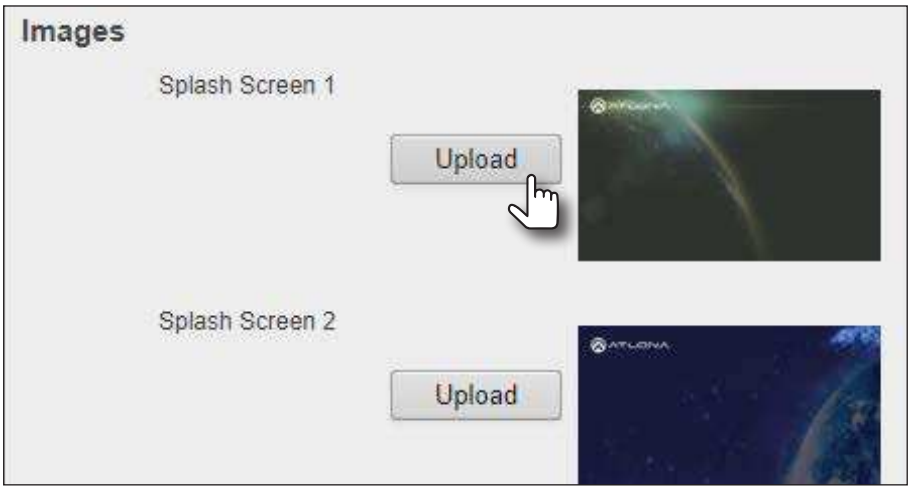
Any one of the splash screens or the loading screen can be replaced with a custom image.

1. Launch a web browser and enter the IP address of the AT-UHD-SW-510W in the address bar.
2. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
3. Click **Splash Screen** from the menu bar on the left.

**IMPORTANT:** Custom images should not exceed 1920 x 1080. All common image types, such as JPG, BMP, PNG, TIF, GIF, are supported.

4. Click the **Upload** button next to the image to be changed.
5. Select the desired file and click the **Open** button on the dialog box.

   If viewing the currently active splash screen, the splash screen will be replaced with the uploaded image.




## Resetting Splash Screen Images

**IMPORTANT:** This will restore the splash screen images to the factory-default settings. All custom images that were uploaded to the AT-UHD-SW-510W will be deleted.

1. Launch a web browser and enter the IP address of the AT-UHD-SW-510W in the address bar.
2. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
3. Click **Splash Screen** from the menu bar on the left.
4. Click the **Reset to default** button. The AT-UHD-SW-510W will display a message box to confirm the operation. Click **OK** to proceed or click **Cancel** to abort.



## HTML Splash Screens

HTML-based splash screens can be used to create content-rich splash screens. This section provides details on creating and uploading an HTML splash screen. Familiarity with HTML is assumed. The AT-UHD-SW-510W comes a default HTML splash screen, which can be downloaded from the **Resources** tab of the product page on the web.

The following table provides a list of supported / unsupported features:

| Feature | Supported | Not Supported |
|---|---|---|
| HTML5 | ● | --- |
| Relative / absolute references | ● | --- |
| Dynamic images (e.g. animated GIF files)* | --- | ● |
| CSS | ● | --- |
| PHP, JavaScript, ASP (client/server-side processing) | --- | ● |

* If a dynamic image is used, only the first frame of the image will be displayed on the splash screen.

1. Create the HTML file, along with any links to the desired images. The AT-UHD-SW-510W comes with a default HTML file (contained within a .zip file), and can be used as a starting point when creating a custom HTML splash screen. The example below, is a partial listing of the HTML code within the file.

**NOTE:** When creating an HTML splash screen, it must be designed to fit a 1920 x 1080p display.

```
<HTML>
        <head>
                <style>
                        .container {
                            position: relative;
                        }

                        .bottomleft {
                            position: absolute;
                            bottom: 64px;
                            left: 64px;
                            font-size: 25px;
                        }

                        .bottomright {
                            position: absolute;
                            bottom: 64px;
                            right: 64px;
                            font-size: 25px;
                        }

                        .icon {
                                width: auto;
                                height: 35px;
                            vertical-align:middle;
                }

                .OutlineText {
                                font: Tahoma, Geneva, sans-serif;
                                font-size: 64px;
                            color: white;
                            text-shadow:
                                    ...
                                    ...
                    }
                ...
        ...
</HTML>
```

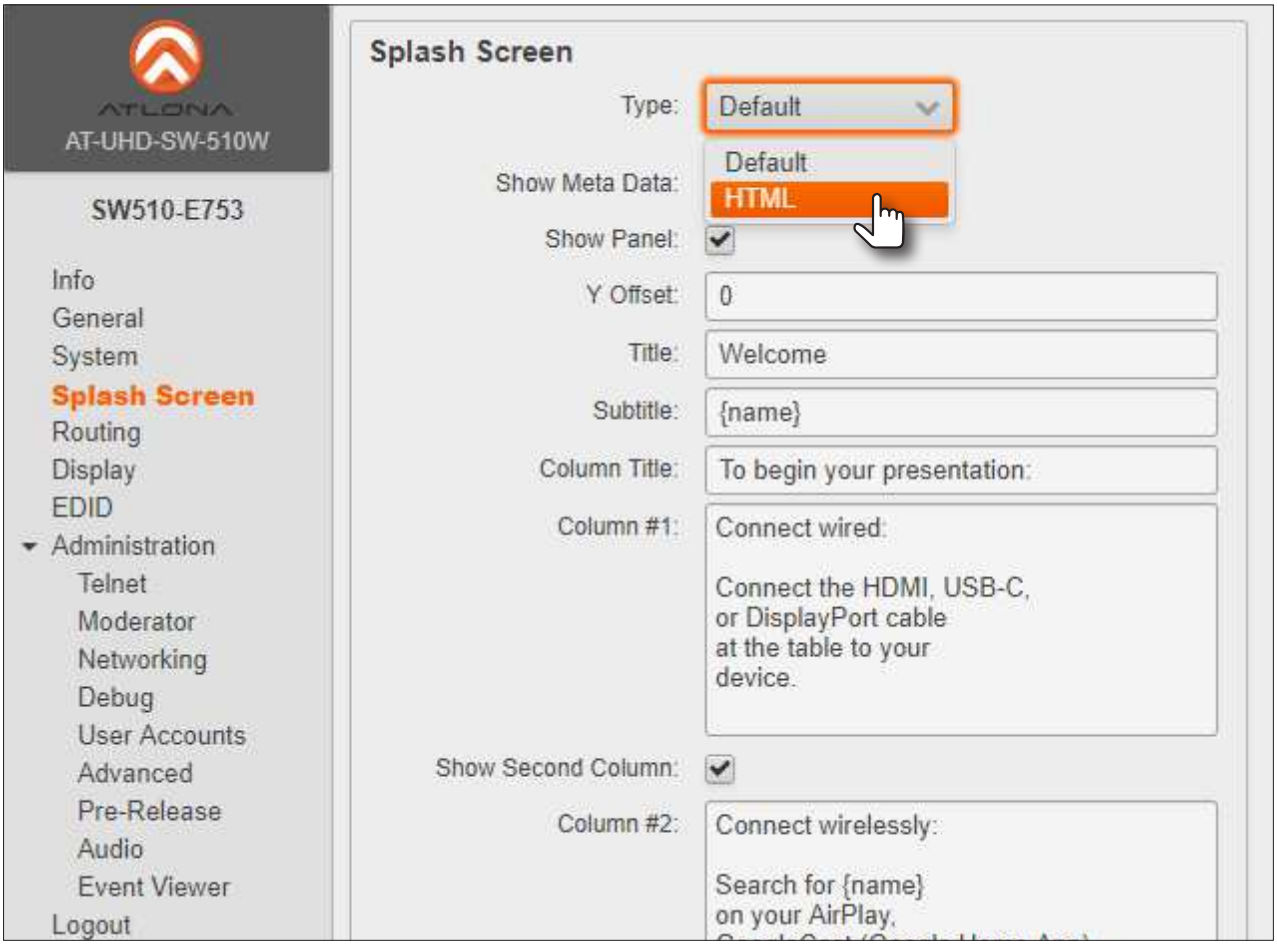
2. Save the file as `index.html_template`. This file name must be used.
3. Combine the `index.html_template` file along with all required external images/files into a .zip file called `html.zip`.

**IMPORTANT:** The `index.html_template` file ***must*** reside in the root directory, within the `html.zip` file. Other files (.css, images, etc.) can be placed in folders, if desired, or can also be left in the root directory.

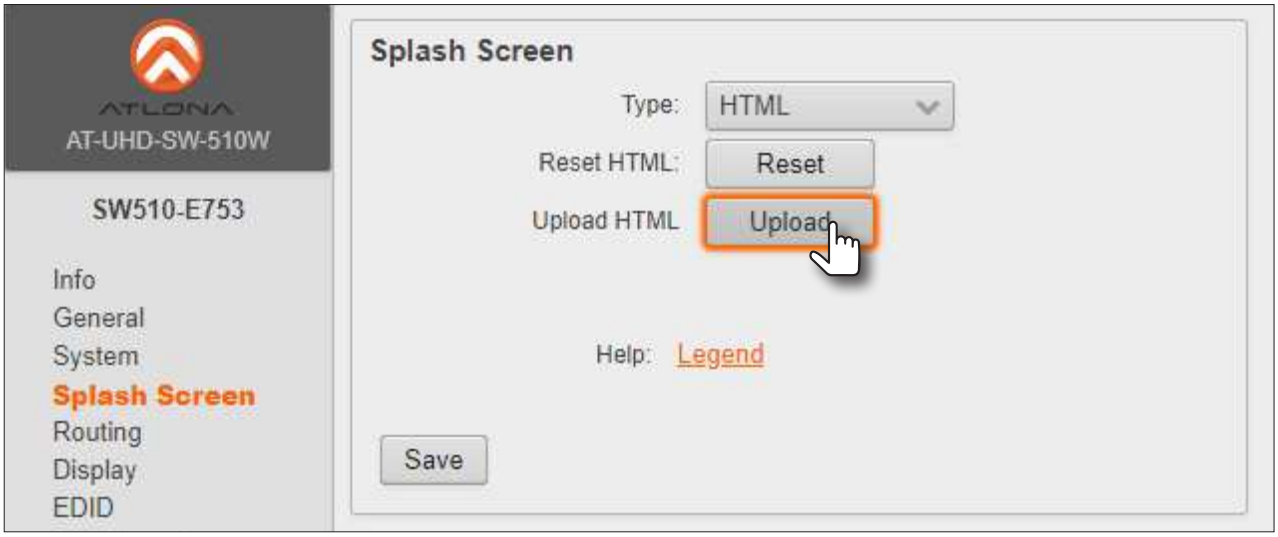
The file structure for the default `html.zip` file, located on the AT-UHD-SW-510W, is as follows:

```
airplay.png
cast.png
chrome.png
devices.png
index.html_template
wifi.png
windows.png
```

4. Launch a web browser and enter the IP address of the AT-UHD-SW-510W in the address bar.
5. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
6. Click **Splash Screen** from the menu bar on the left.
7. Click the **Type** drop-down list and select **HTML**.



8. Click the **Upload** button.

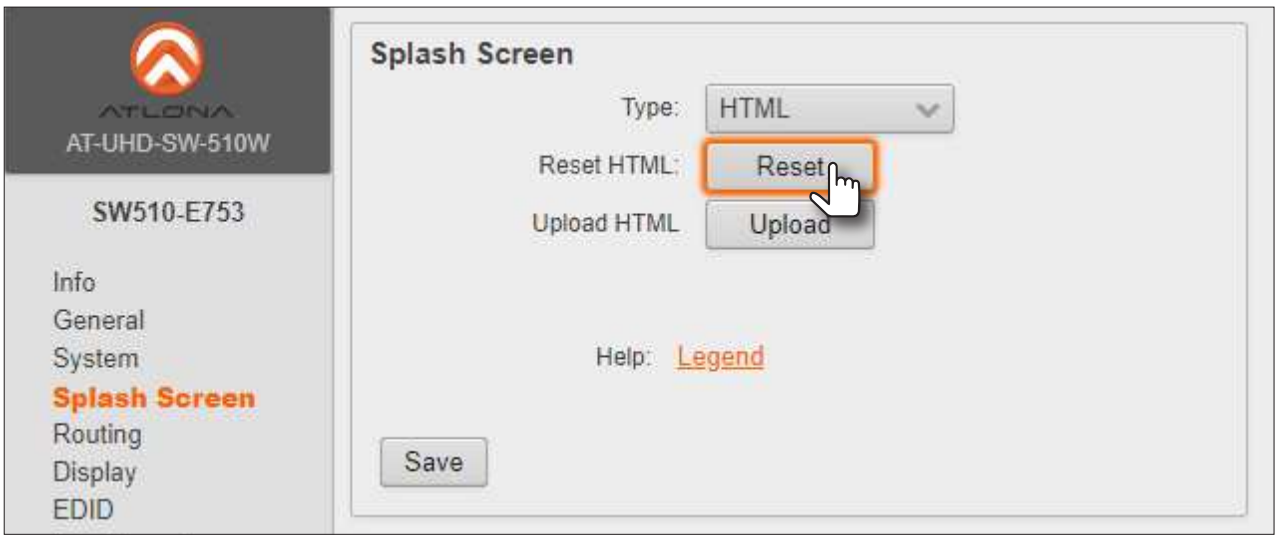



9. Select the `html.zip` file, then click **Open**, to upload the file to the AT-UHD-SW-510W.
10. Click the **Save** button to commit changes.

## Resetting the HTML Splash Screen

**IMPORTANT:** The Reset (Reset HTML) button will delete any loaded HTML data and replace it with the default HTML page that comes with the AT-UHD-SW-510W.

1. Launch a web browser and enter the IP address of the AT-UHD-SW-510W in the address bar.
2. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
3. Click **Splash Screen** from the menu bar on the left.
4. Click the **Type** drop-down list and select **HTML**.
5. Click the **Reset** button.



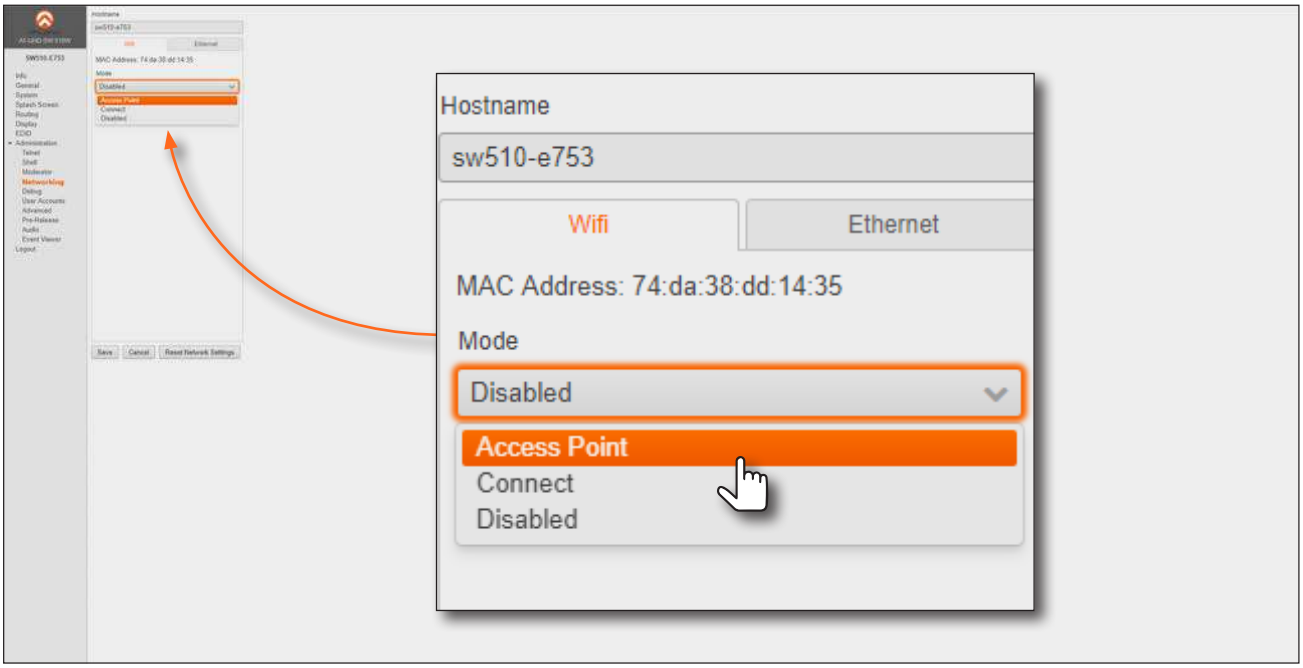
# Wireless Configuration

The AT-UHD-SW-510W features a wireless gateway, providing convenient Wi-Fi® connectivity for iOS, Android, Mac, Chromebook, or Windows-based devices, and a built-in web GUI. In addition, the AT-UHD-SW-510W can be configured as a wireless access point (AP). The addition of a built-in firewall provides control of incoming and outgoing network traffic.

## Access Point Mode

When configured as an Access Point (AP), users will be able to connect wireless devices to the AT-UHD-SW-510W.

1. Make sure the AT-UHD-SW-510W is configured properly for use on a wired network. Refer to IP Configuration (page 16) for more information.
2. Launch a web browser and enter the IP address of the AT-UHD-SW-510W in the address bar.
3. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
4. Click **Administration** > **Networking** from the menu bar on the left.
5. Under the **Wifi** tab, select Access Point from the **Mode** drop-down list.




6. The name of the wireless network will appear in the **SSID** field. This name is identical to the text in the **Derived** field, under the General page (page 74). To change the SSID, go to the **General** page and modify the **Name** field.
7. Enter the password in the **Password** field. The password will be required by clients connecting to the AT-UHD-SW-510W. By default, this field is populated by a 256-character hash value. Make sure to clear this value and provide a secure password.
8. Check the **No Password in AP Mode** check box if no password is desired.

**IMPORTANT:** If no password is supplied in Access Point mode, any client will be able to connect to the AT-UHD-SW-510W without credentials. Make sure this is the desired operation before continuing.

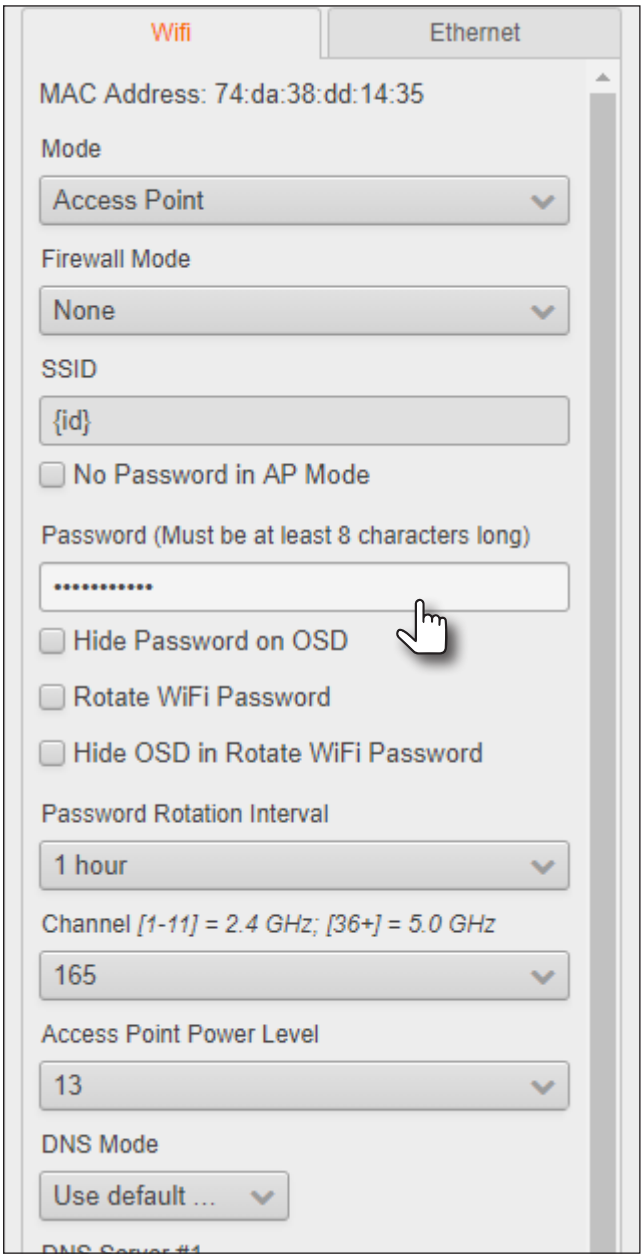
9. Click the **Hide Password on OSD** check box to prevent the password from being displayed.
10. Click the **Rotate WiFi Password** check box to allow the AT-UHD-SW-510W to generate a new random password.

    This feature can be used to provide an extra level of security. Dynamically rotating the password decreases the risk that unauthorized clients will not have access to the AT-UHD-SW-510W if the current password is "leaked" or observed on the splash screen outside of a meeting space or other environment. It should be noted that the system will not change the password, once content is being presented, and will wait until the presentation is finished to begin rotating the password.

11. Click the **Password Rotation Interval** drop-down list to select the rotation time interval for new password generation. The default setting is 1 hour.
12. Enter the wireless channel number in the **Channel** field. Contact the network administrator if necessary.
13. Click the **Access Point Power Level** drop-down list to select the desired power level of the Wifi USB antenna. Available values are integers 0 through 13. Lower values will reduce transmission power of the USB WiFi antenna, thus limiting the range of the Access Point on the AT-UHD-SW-510W.
14. If a different set of DNS servers are desired, click the **DNS Mode** drop-down list and select the desired mode:

    - **Use default DNS servers**
      Uses the default DNS provided by the DHCP server. This is the default setting.
    - **Inherit from wired Network**
      Uses the same DNS provided by the wireless network.
    - **Static**
      Enter the primary and secondary DNS addresses in the **DNS Server #1** and **DNS Server #2** fields, respectively.

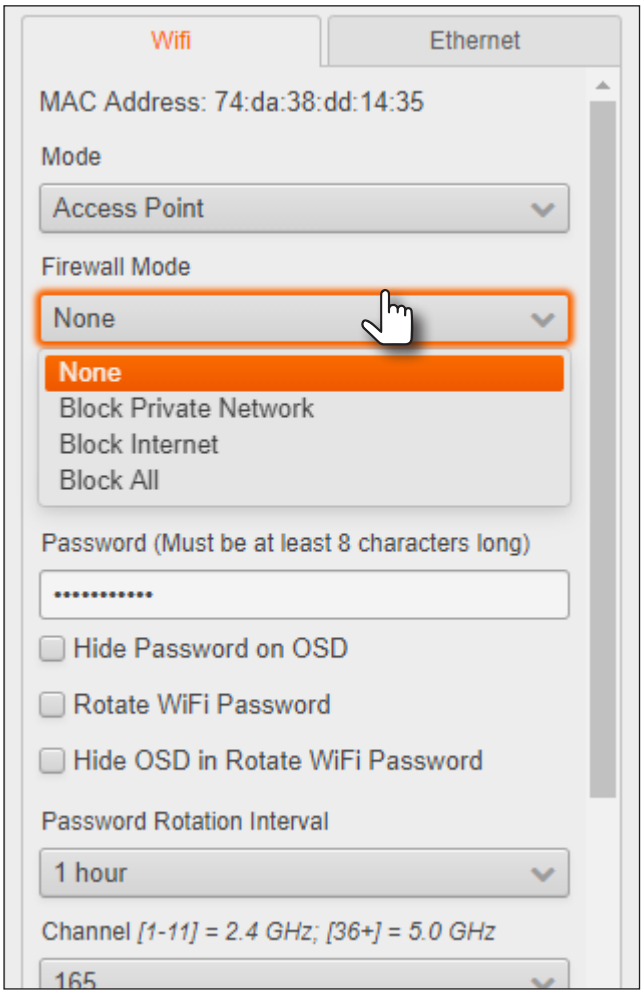
15. Click the **Save** button to commit changes.



### Firewall Mode (optional)

This feature allows control of incoming and outgoing network traffic, from/to a network that is connected to the RJ45 connector on the AT-UHD-SW-510W. The AT-UHD-SW-510W provides the following firewall modes: **Block Private Network**, **Block Internet**, **Block All**, and **None**. If this feature is not desired, then the following steps can be skipped. The firewall can be configured or disabled at any time. The default setting is **None**.

1. Click **Firewall Mode** drop-down list and select the desired option.



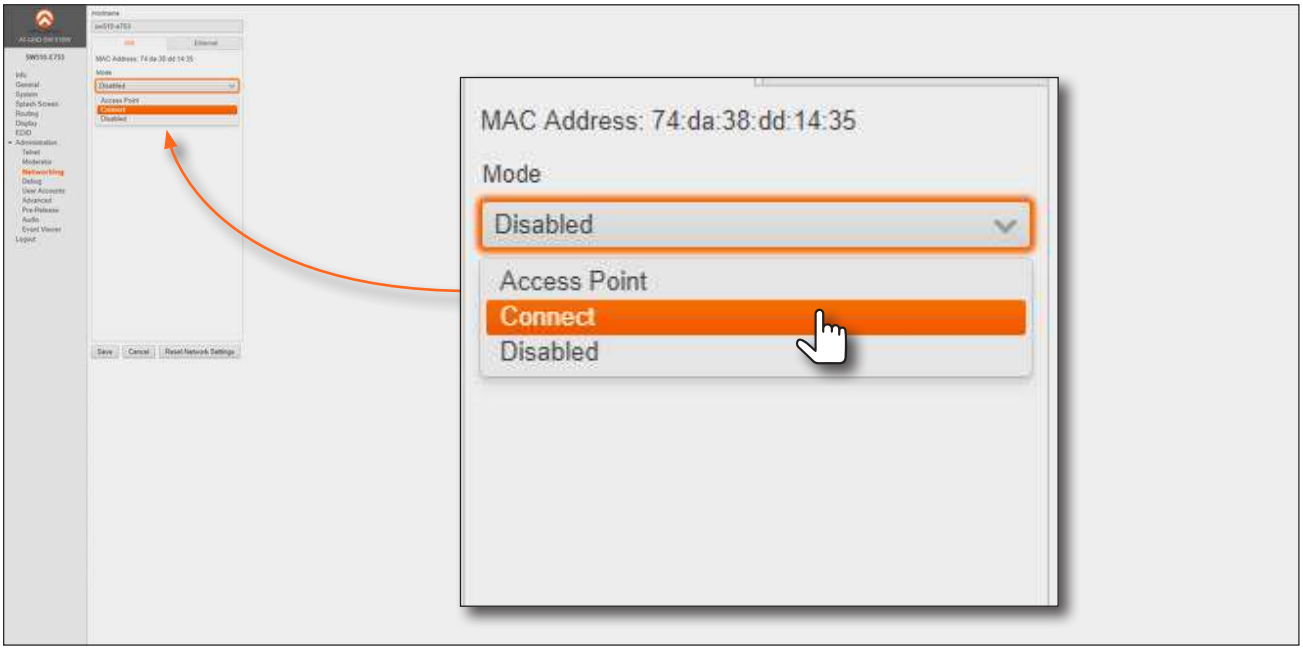

| Setting | Description |
|---|---|
| None (default) | Select this option to disable the firewall on the AT-UHD-SW-510W and allow all incoming and outgoing network traffic. |
| Block Private Network | This option prevents unauthorized clients from accessing the AT-UHD-SW-510W, by restricting the subnet of the LAN segment for which the unit is configured. |
| Block Internet | Allows wireless access to the AT-UHD-SW-510W and communication with the internal network, but prevents Internet access (Google, YouTube, etc). |
| Block All | All inbound network traffic is blocked. Wireless traffic to the AT-UHD-SW-510W is permitted, but will not pass the AT-UHD-SW-510W to the network. |

2. Click the **Save** button to accept and save all changes.

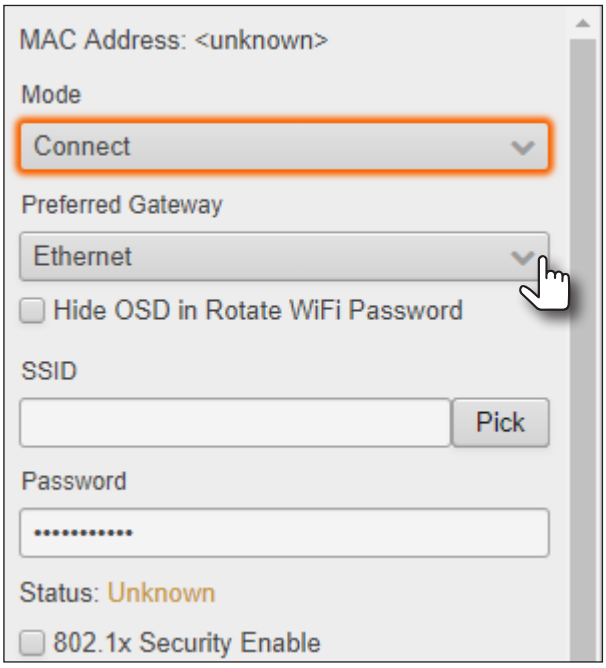
## Connect Mode

Use this mode to connect the AT-UHD-SW-510W to another wireless network.

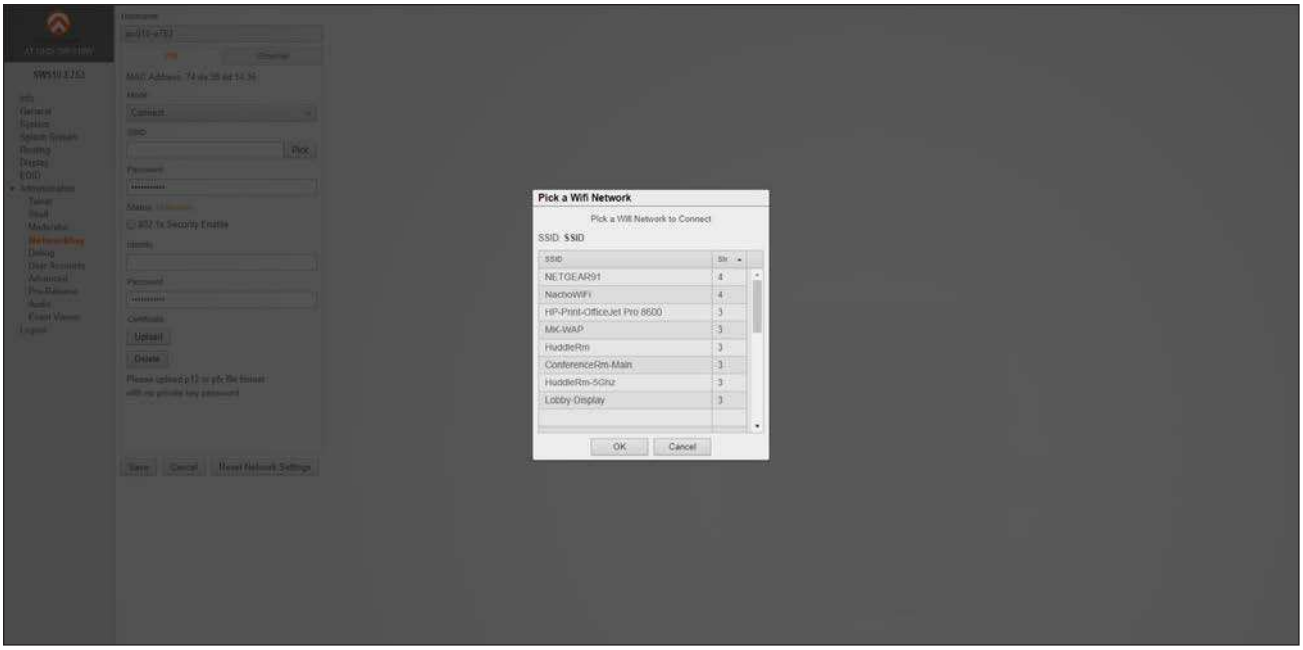
1. Launch a web browser and enter the IP address of the AT-UHD-SW-510W in the address bar.
2. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
3. Click **Administration** > **Networking** from the menu bar on the left.
4. Under the **Wifi** tab, select Connect from the **Mode** drop-down list.




5. Click the **Pick** button.

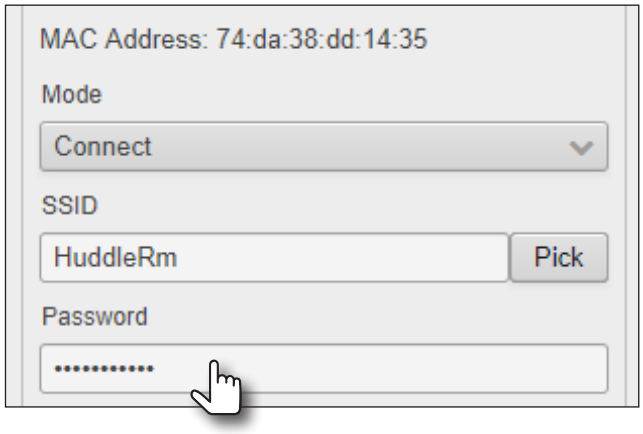


6. Select the desired wireless network from the pop-up dialog box.

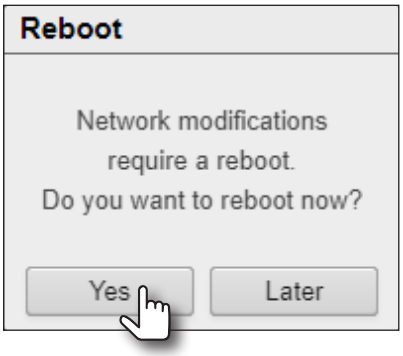



7. Click the **OK** button to accept the selection and dismiss the dialog box. Click the **Cancel** button to return to close the dialog and return the Wifi tab.

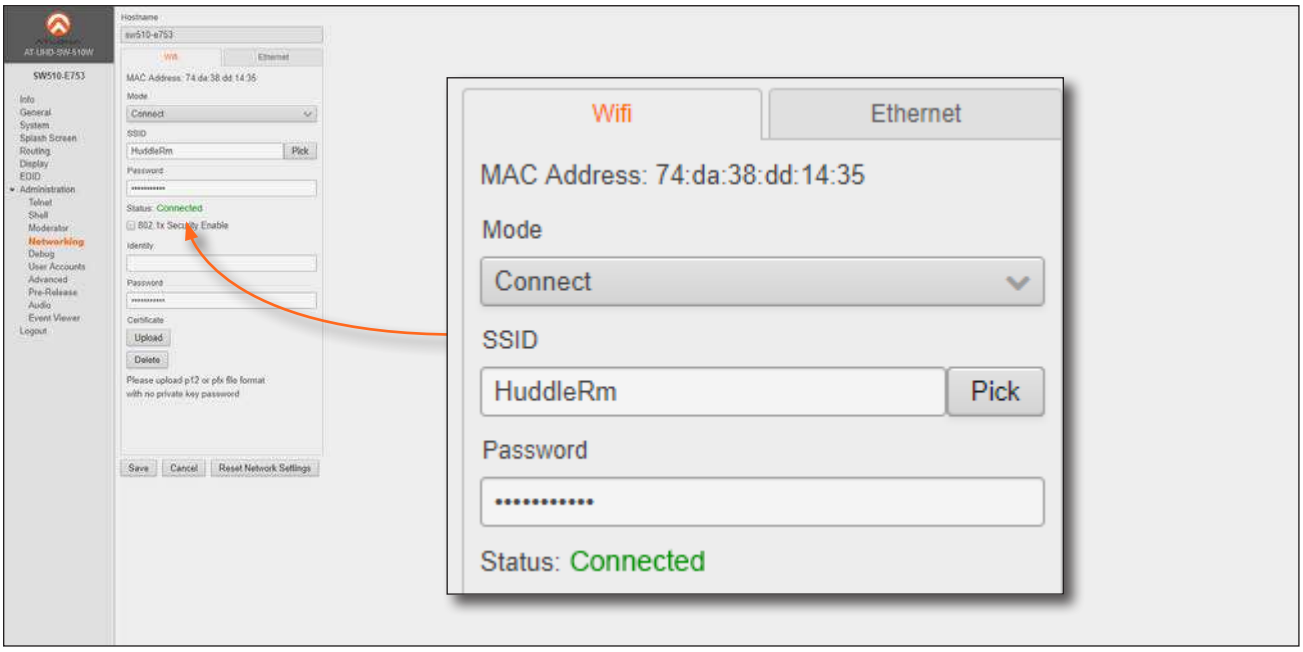
8. Enter the password for the wireless network in the **Password** field.




9. Click the **Save** button near the bottom of the screen to commit changes. The system will prompt to be rebooted, as shown below. Click **Yes** to perform a reboot. To reboot at a later time, click the **Later** button.



Once a successful connection has been established, the **Status** field will display Connected, as shown below.




The following table provides a list of possible status messages.

| State | Description |
|---|---|
| Connected | The AT-UHD-SW-510W is connected to the wireless network. |
| Not Connected | Unsuccessful connection. Check to make sure the password was entered correctly. This state will also occur if the wireless network, to which the AT-UHD-SW-510W is connected, is taken offline. |
| Unknown | The network state is unknown. This message is displayed if the AT-UHD-SW-510W has not been configured to connect with a wireless network. |

# Casting

The AT-UHD-SW-510W interface provides the ability to transmit (“cast”) the screen of any iOS®, Android™, macOS®, Chromebook, or Windows device over Wi-Fi, without having to install a separate application or driver. The AT-UHD-SW-510W can serve as an integrated, dual-band access point, or be networked into an existing Wi-Fi installation.

**IMPORTANT:** Several apps have been known to trigger HDCP, even if the content is unprotected. In these cases, the AT-UHD-SW-510W will be unable to decode and present the content.

## iOS Devices

AirPlay is only supported on iOS 5 or higher.

1. Select the **BYOD** input on the AT-UHD-SW-510W.
2. On the iOS device, go to **Settings** > **Wi-Fi**.
3. Select the network to which the AT-UHD-SW-510W is connected or join its access point. The example below shows the AT-UHD-SW-510W in **Connect Mode**. Refer to Connect Mode (page 36) for more information.









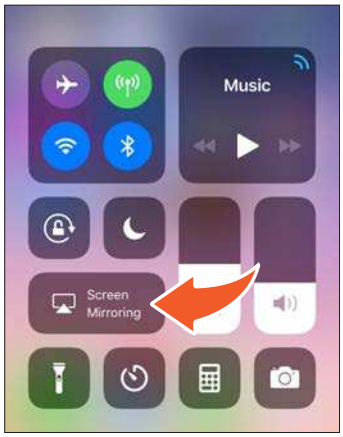

4. Once connected, swipe-up on the bottom of the iOS device to display the **Control Center**.
5. Tap the **AirPlay Mirroring** option to display a list of available AirPlay devices.

   Note that if the iOS device is running 11.0.3 or later, the **AirPlay** option has been changed to **Screen Mirroring**.

**iOS 10**

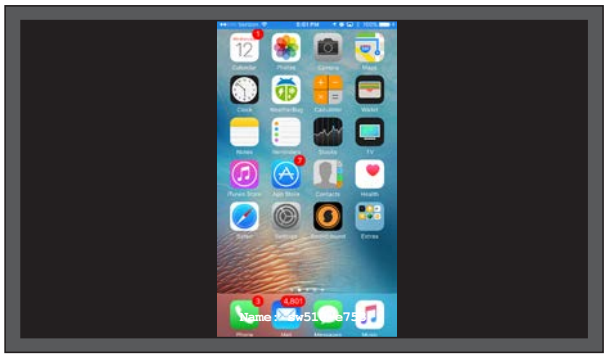



**iOS 11.0.3 or later**



7. Tap the SSID from the list of devices.
8. Close the **Control Center** by either swiping down or pressing the **Home** button.
9. The image of the iOS device will now appear on the connected display.

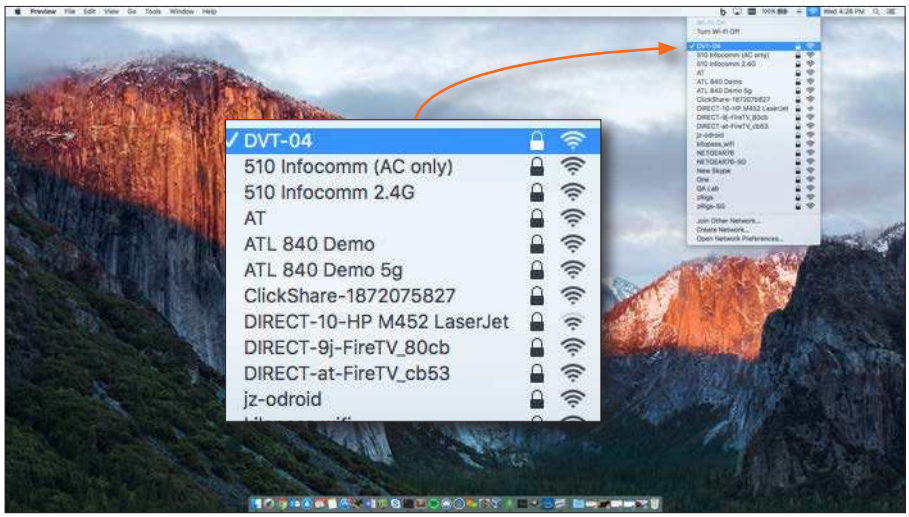
   Note that depending upon the application, the image on the screen can be rotated. For example, when using the camera app, if the iOS device is rotated 90 degrees, then the image on the screen will also be rotate 90 degrees.



## OS X

AirPlay is only supported on Mountain Lion 10.8 or later. To determine if AirPlay is supported on the system being used, click **System Preferences** > **Displays**. If the "Show mirroring options in the menu bar when available" check box is not displayed, then AirPlay is not supported.

1. Click the **Wi-Fi** icon in the menu bar and select the network to which the AT-UHD-SW-510W is connected.



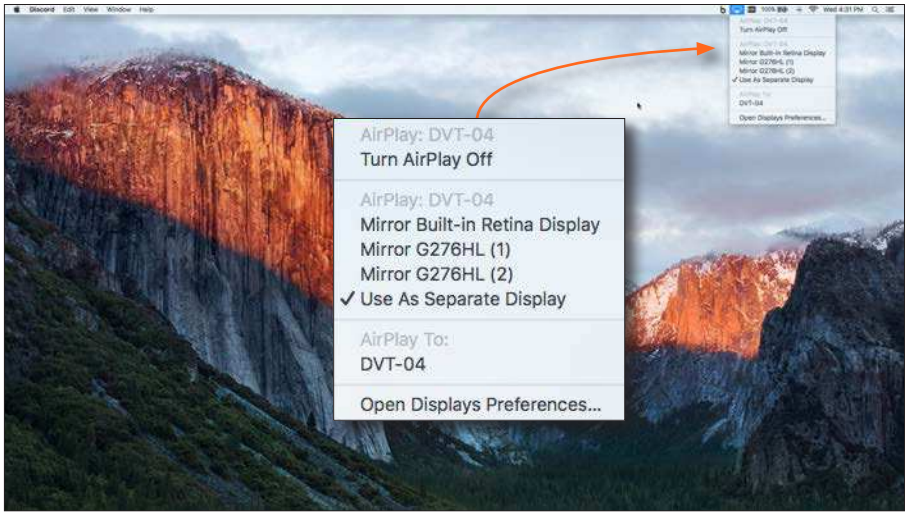

2. Enter the password for the Wi-Fi network, then click the **Join** button.



AirPlay can be used to either mirror or extend the Mac display.

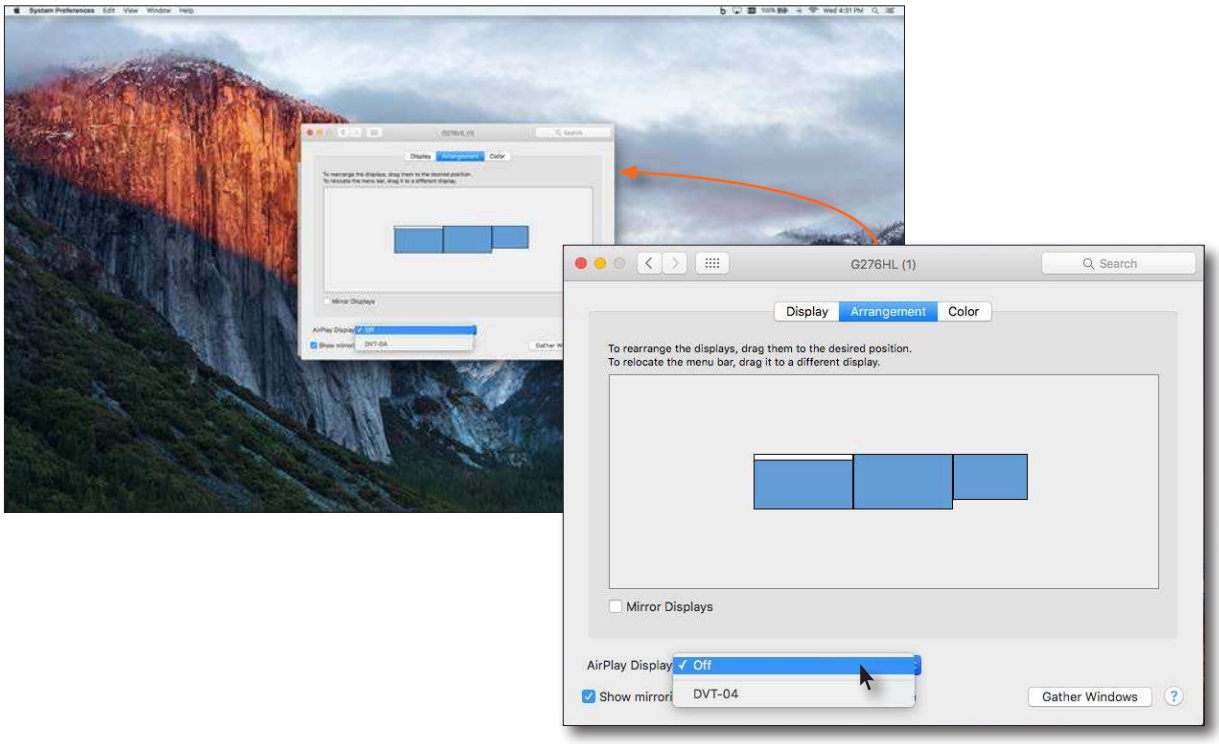
- **Mirroring**
  Click the AirPlay icon in the menu bar and select the desired display to be mirrored.

- **Extending**
  Click the AirPlay icon and select “Use As Separate Display” from the list of displays, to extend the Desktop to another display.




- **Turning Off AirPlay**
  Click the AirPlay icon and select “Turn AirPlay Off”.

  AirPlay can also be turned off by clicking **System Preferences** > **Displays**. Click the **AirPlay Display** drop-down list and select “Off”. To re-enable AirPlay, select the device from the drop-down list.



## Microsoft Miracast

Miracast is a wireless protocol that allows content to be transmitted from laptops and other mobile devices to displays. The latest release of Microsoft Windows® 10 supports Miracast.

Displaying Miracast devices can be done in more than one way. Three methods are discussed below. The first method is the most direct method.

### Method 1

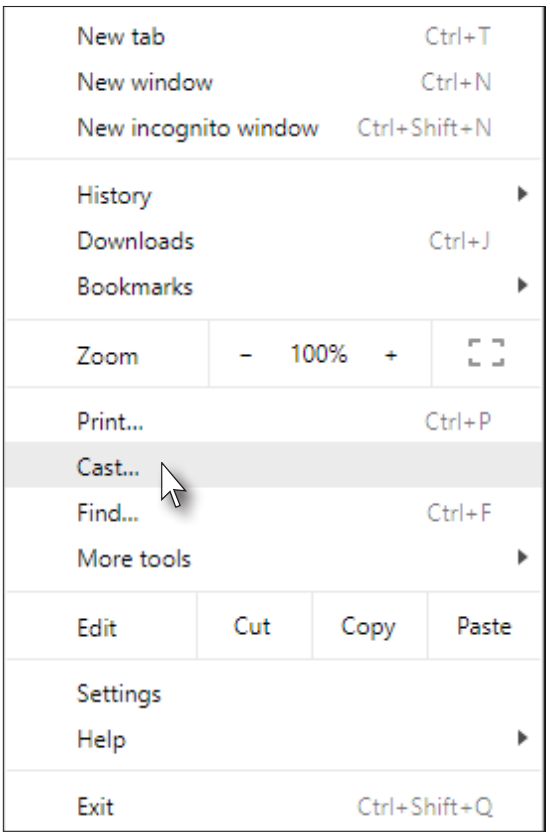
1. Press  +  keys, simultaneously.
2. The list of available devices will be displayed on the right-hand side of the screen. Select the AT-UHD-SW-510W hostname from the list.

### Method 2

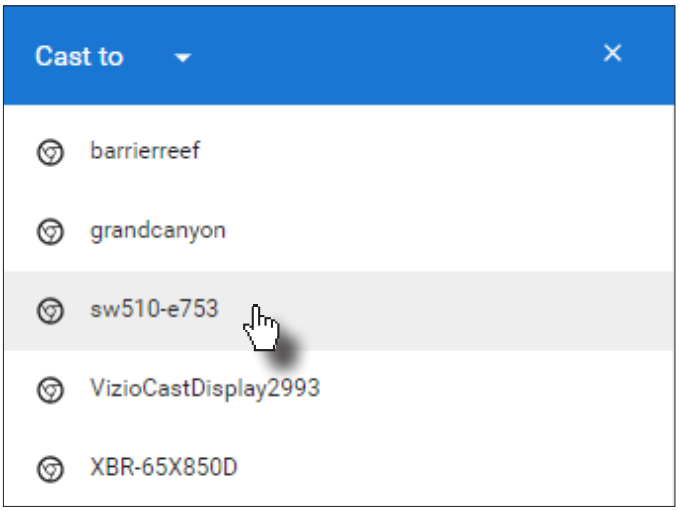
1. Right-click on the Windows Desktop and select **Display Settings** from the pop-up menu.
2. In the right-hand column, scroll down, then click **Connect to a wireless display**.

## Google Chrome

1. Make sure both the AT-UHD-SW-510W and the “casting” computer are on the same network.
2. Launch Google Chrome.
3. Click the ⋮ icon, in the upper right corner of the Chrome browser.
4. Click the **Cast...** option from the drop-down menu.

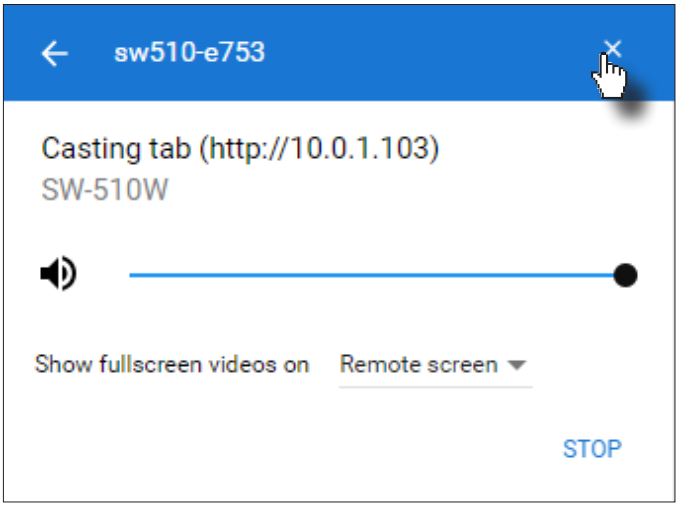



5. Select the hostname of the AT-UHD-SW-510W from the **Cast to** menu.



Chrome will immediately begin casting to the AT-UHD-SW-510W. Note that if Moderator mode is enabled, this cast will be placed in the **Users** table queue. Refer to Using Moderator Mode (page 55) for more information.

6. Adjust the volume (if audio is present), by clicking and dragging the slider control. In addition, either **Remote screen** or **Both screens** can be selected from the **Show fullscreen videos on** drop-down list.
7. Click the **x** in the upper-right corner of the Casting tab to dismiss this dialog.




When Chrome is casting, the icon will appear in the upper-right portion of the menu bar. Clicking this icon will display the Casting tab dialog.

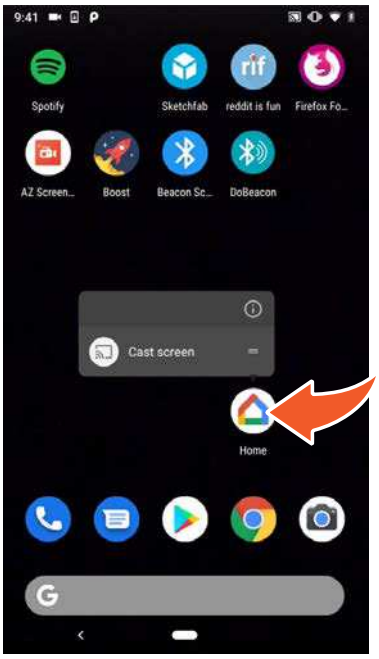
In addition, a blue rectangle will be displayed in the browser tab, which is sharing ("casting") the content to the AT-UHD-SW-510W. If the browser tab is closed, then the casting process will be terminated.

8. Click **STOP** to discontinue casting to the AT-UHD-SW-510W.

## Google Home

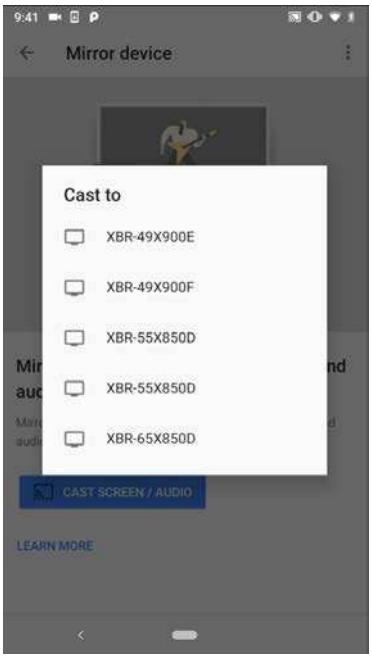
1. Make sure both the AT-UHD-SW-510W and the mobile device are on the same network.
2. On your mobile device, press and hold the 

icon. The **Cast screen** context menu will be displayed.




3. From the **Mirror device** screen, tap the 

button.
4. In the **Cast to** menu, tap the device that will receive the cast.



# Advanced Operation

## Matrix Modes

The AT-UHD-SW-510W features two matrix modes: Matrix Mode and Matrix Mode with static route. Enabling matrix mode provides the ability to use AT-UHD-SW-510W in video codec / conference applications, using a dual-presentation mode.

### Matrix Mode

This mode allows the AT-UHD-SW-510W to independently switch between any input or both outputs. Following the instructions below to configure Matrix Mode.

1. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
2. Click **Routing** from the menu bar on the left.
3. Click the **Matrix Switch** drop-down list and select **Matrix Mode**.

**NOTE:** When matrix mode is enabled, both auto-switching and display power control will be disabled.

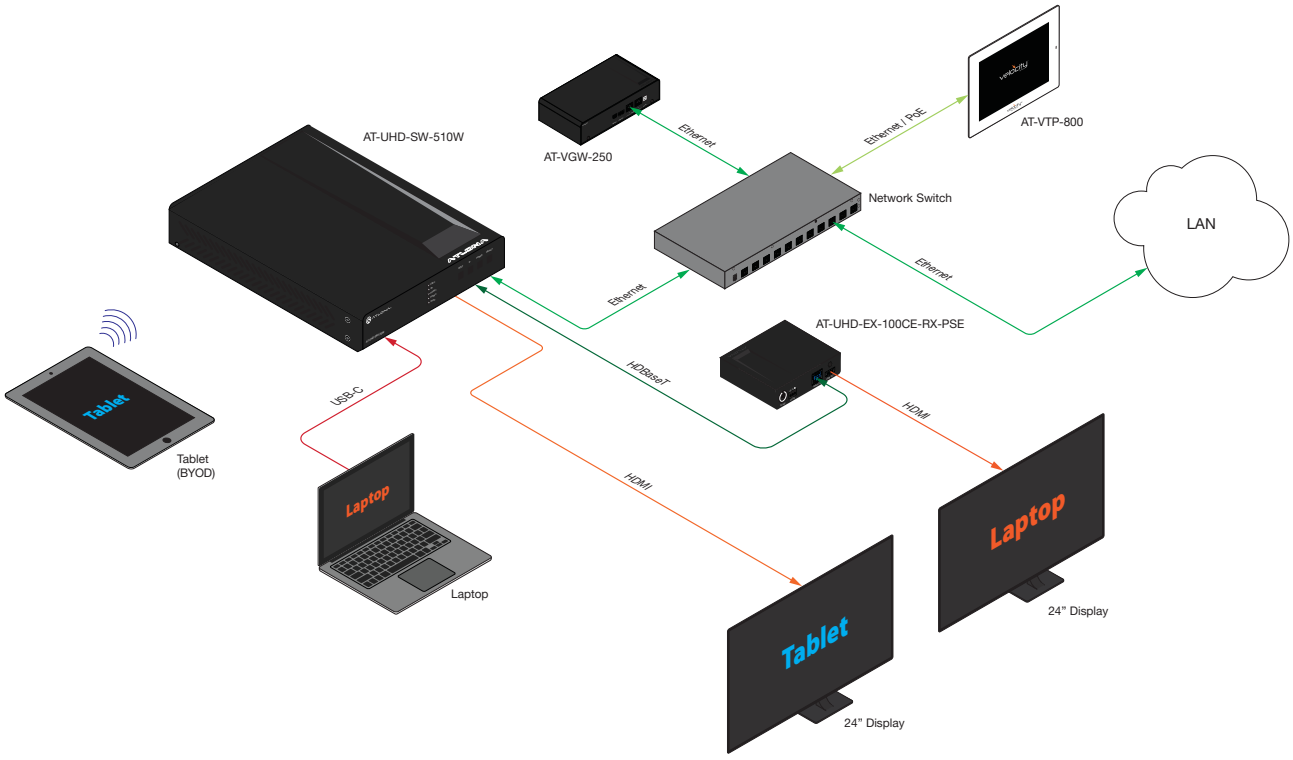



4. Click the **Matrix Mode HDMI Source** and **Matrix Mode HDBaseT Source** drop-down lists to select the source devices. Note that the values shown in the illustration below, are arbitrary. Routing is be managed using API commands and a control system.




Refer to the illustration on the next page for an example diagram.

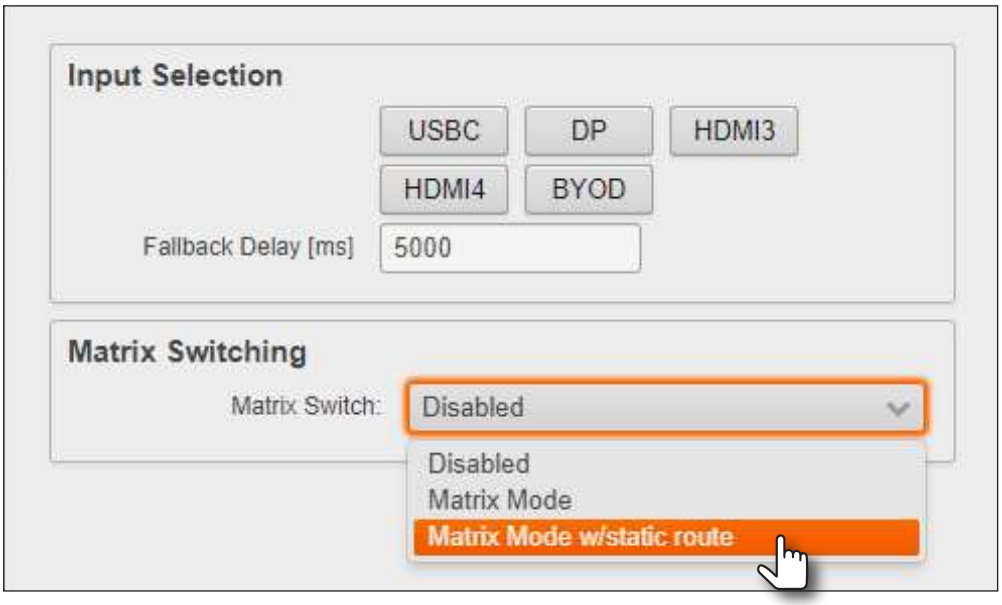
Example diagram illustrating a Matrix Mode application.



## Matrix Mode w/ Static Route

This mode allows the AT-UHD-SW-510W to be integrated with a video conference system. In this mode, both static input and output routing are specified. Auto switching will be enabled. However, the specified static input will be removed from the auto-switching pool. For example, if the **HDMI IN 3** port is specified as a static input, then auto-switching will "skip" this port when auto-switching. The instructions below, provide an example setup.

1. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
2. Click **Routing** from the menu bar on the left.
3. Click the **Matrix Switch** drop-down list and select **Matrix Mode w/static route**.

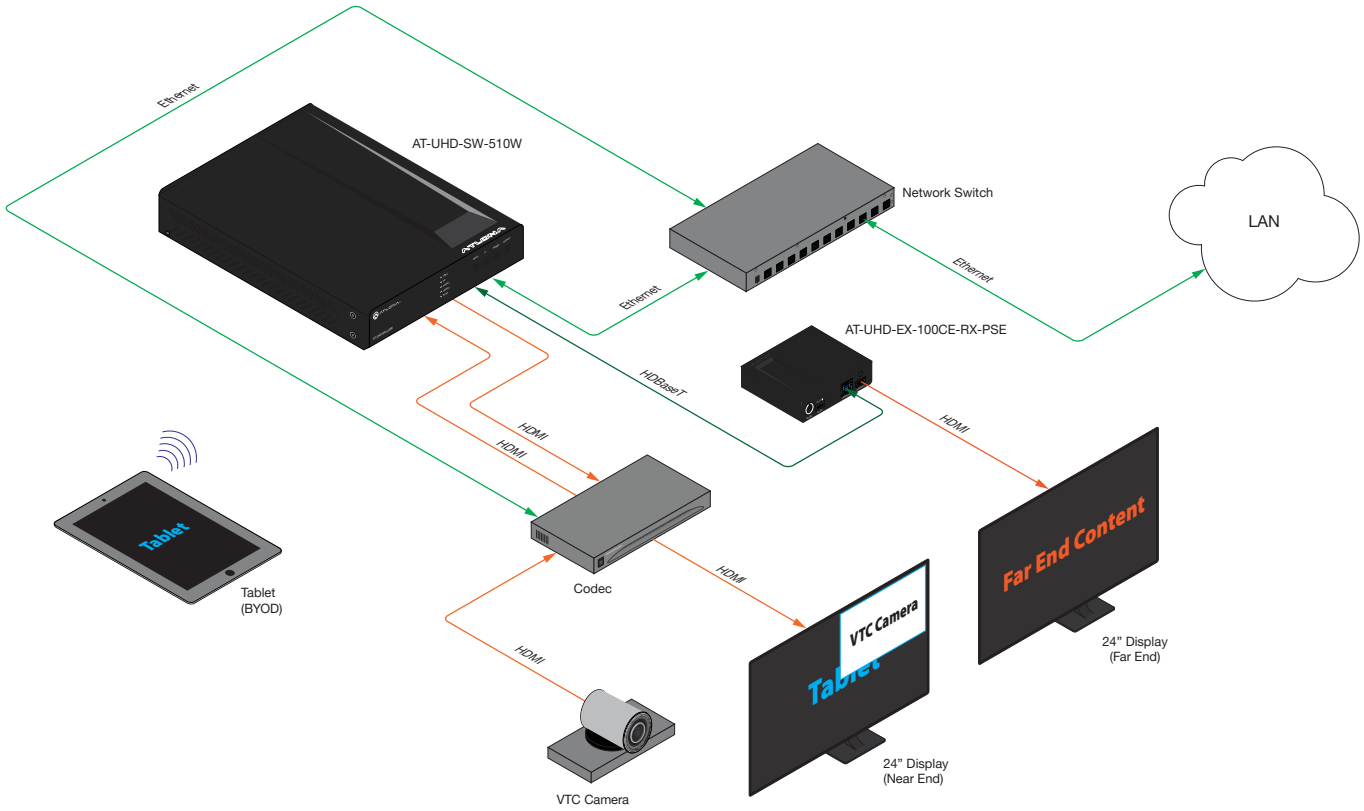



4. Click the **Matrix Mode Static Output** and **Matrix Mode Static Source** drop-down lists to select the output and source devices. Note that the values shown in the illustration below, are arbitrary. Routing is managed using API commands and a control system.




Refer to the illustration on the next page for an example diagram.

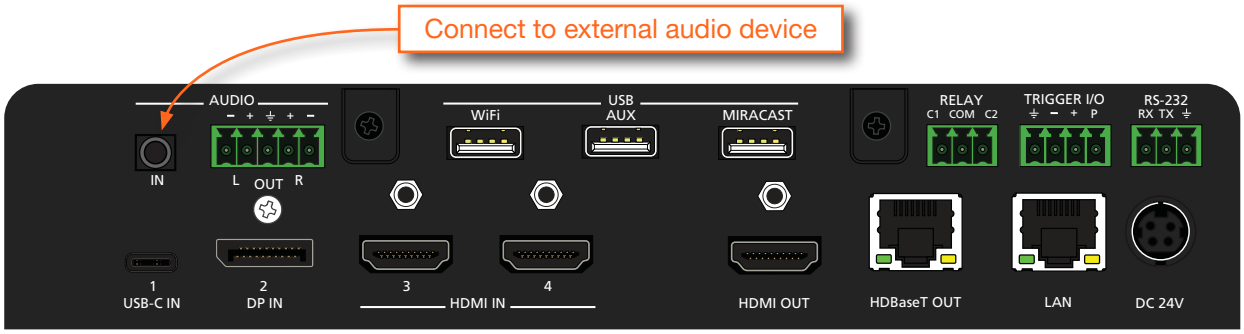
Example diagram illustrating a Matrix Mode application.



## Selecting the Audio Input

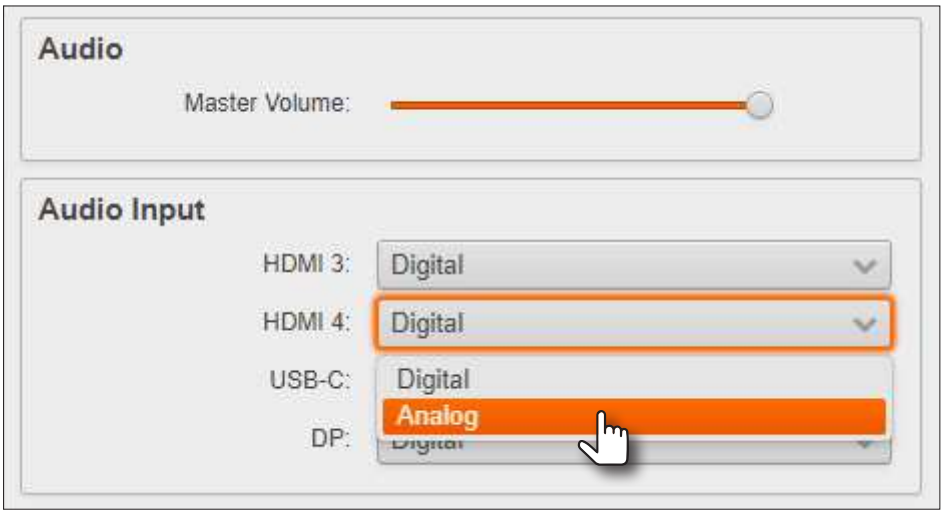
By default, the AT-UHD-SW-510W will use the digital audio (if present) from the **USB-C IN**, **DP IN**, or **HDMI IN** ports and output the audio over the **HDMI OUT** and/or **HDBaseT OUT** ports. However, an external analog source can also be used. When configured, the analog audio source will replace the digital audio on the selected input, and will be heard on the **HDMI OUT** and/or **HDBaseT OUT** ports.

1. Connect an unbalanced audio source to the **AUDIO IN** port on the rear panel. This port accepts a 3.5 mm mini-stereo cable.




2. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
3. Click **Administration** > **Audio** from the menu bar on the left.
4. Click the drop-down list of the desired input and select the audio input. In the example below, **Analog** is being selected from the **HDMI 4** drop-down list.

   To use the digital audio from the HDMI source, select **Digital** from the **HDMI 4** drop-down list.

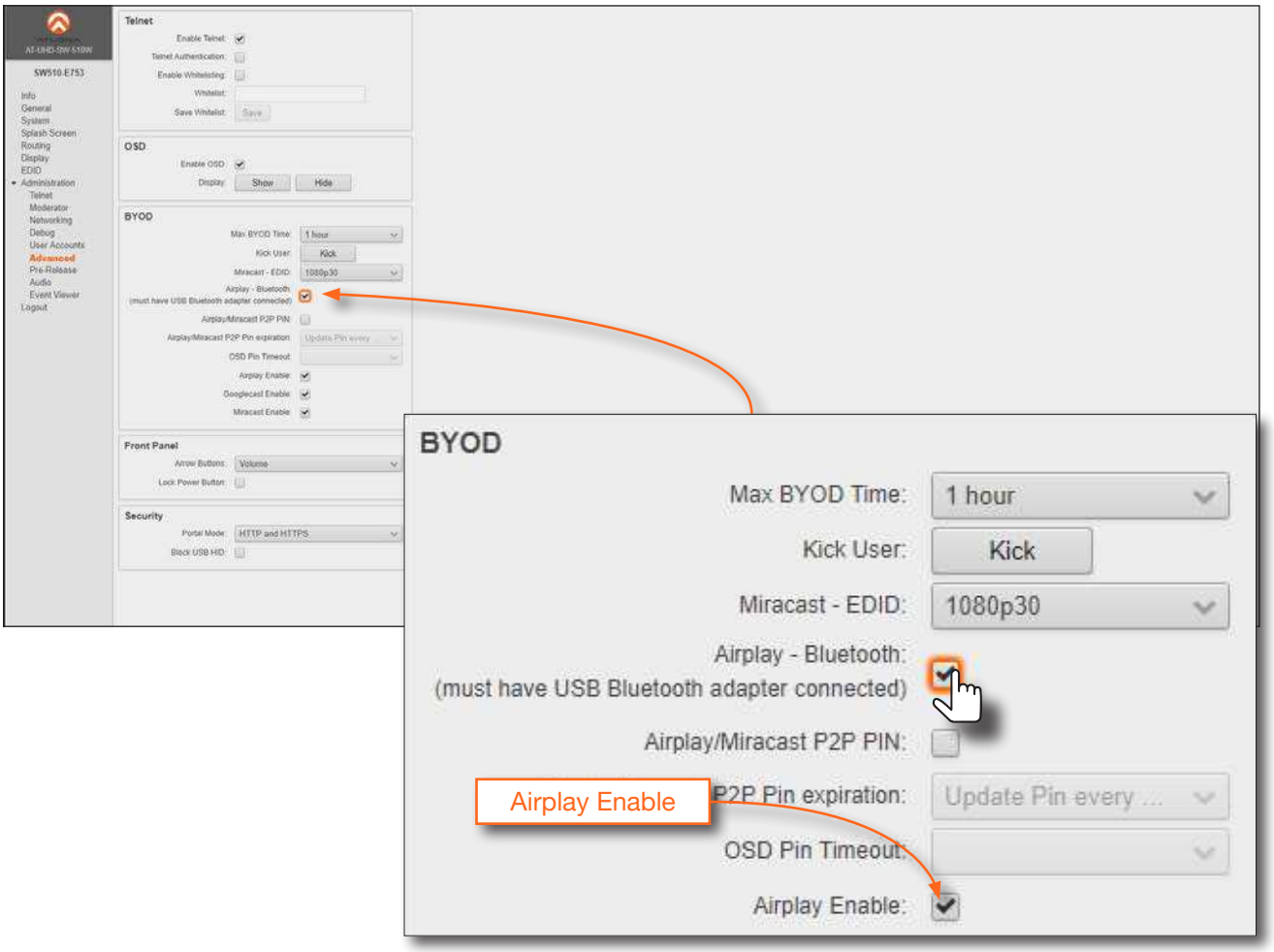


## AirPlay Bluetooth Discovery

The AT-UHD-SW-510W supports Bluetooth®-assisted device discovery. A Bluetooth adapter is required, but not included. Atlona recommends Plugable and Kinivo Bluetooth 4.0 adapters.

**IMPORTANT:** Bluetooth discovery is applicable only to Apple devices and is used for device discovery on networks, such as corporate networks, where mDNS is not permitted. Bluetooth discovery behaves as a type of "beacon", indicating the available AT-UHD-SW-510W units within the local vicinity of an AirPlay device.

1. Connect the Bluetooth adapter to the **AUX** port on the AT-UHD-SW-510W.
2. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
3. Click **Administration > Advanced** from the menu bar on the left.




5. Click the **Airplay - Bluetooth** check box under the **BYOD** section. If this check box has a check mark in it, then the feature is enabled. Also, make sure that **Airplay Enable** is checked.
6. Go to the AirPlay device and activate Screen Mirroring. The AT-UHD-SW-510W will now be displayed in the device list.

   Note that if the AT-UHD-SW-510W, which is configured for Bluetooth discovery, is beyond the range defined by the Bluetooth specification, then the 510W will not be displayed in the Screen Mirroring list on the device.

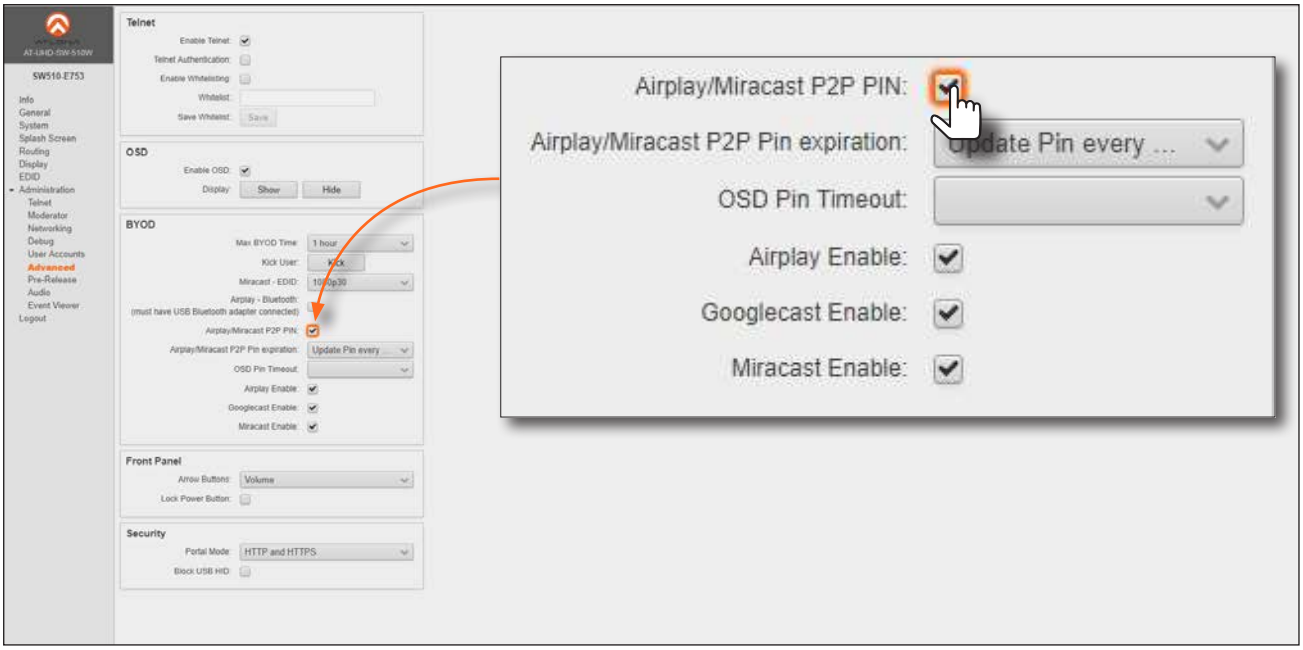
## AirPlay / Miracast P2P PIN Codes

The AT-UHD-SW-510W can be configured to prompt for a PIN code, before a BYOD device connects with either AirPlay or Miracast P2P. When the this option is enabled, a PIN code will be displayed on the screen when an AirPlay or Miracast device attempts to connect to the AT-UHD-SW-510W.

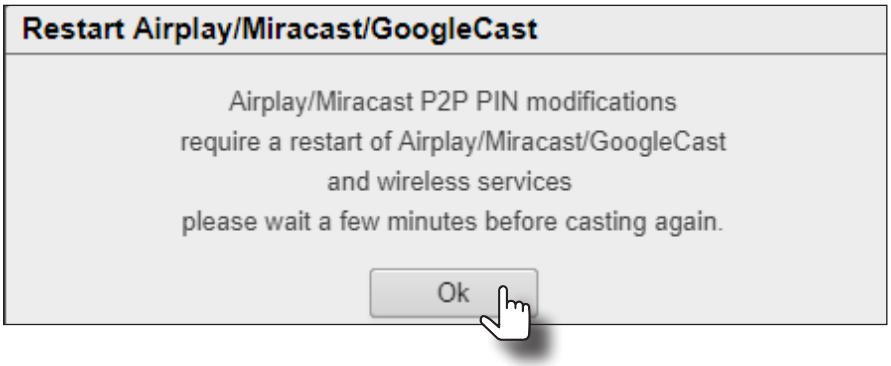
**NOTE:** The PIN code will randomly change every five minutes, by default. This value can be set from 10 seconds to five hours. This provides a level of security, preventing unauthorized users from accessing the AT-UHD-SW-510W.

1. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
2. Click **Administration** > **Advanced** from the menu bar on the left.
3. Click the **AirPlay/Miracast P2P PIN** checkbox to enable or disable this option. If a check mark appears in this box, then the feature is enabled.
4. Click the **Airplay Enable** and **Miracast Enable** checkboxes, as required by the casting device.

**NOTE:** Android™ devices do not support PIN code security.




When this checkbox is clicked, the following message box will be displayed. Restart the services, as directed, then click **OK** to dismiss the message box.

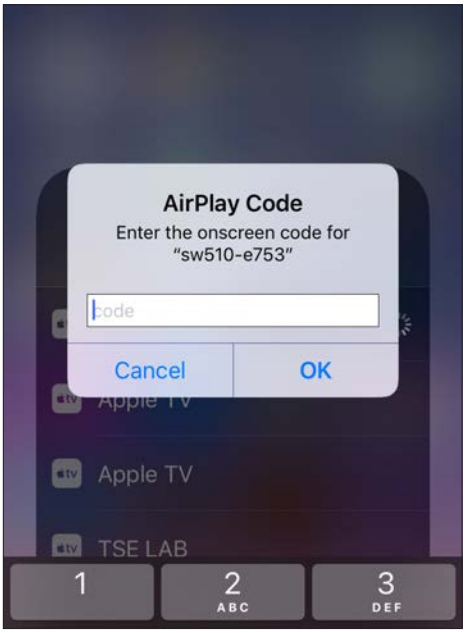


5. Connect the AirPlay/Miracast P2P device to the AT-UHD-SW-510W. Refer to Wireless Configuration (page 33) for more information.

6. Begin casting to the AT-UHD-SW-510W. When the device attempts to connect to the AT-UHD-SW-510W, a PIN code will be displayed on the screen that is connected to the device. Refer to the illustration on the next page, if necessary.




6. Enter the four-digit PIN code in the dialog box on the device and press **OK**. The PIN code will be displayed only for about 10 seconds. If the PIN code is not entered within the time interval, then the PIN code will be removed from the screen. The example below, shows an AirPlay device prompting for the PIN code. Clicking **Cancel** in the AirPlay Code dialog box will reconnect the AirPlay device to the AT-UHD-SW-510W and generate a new PIN code.

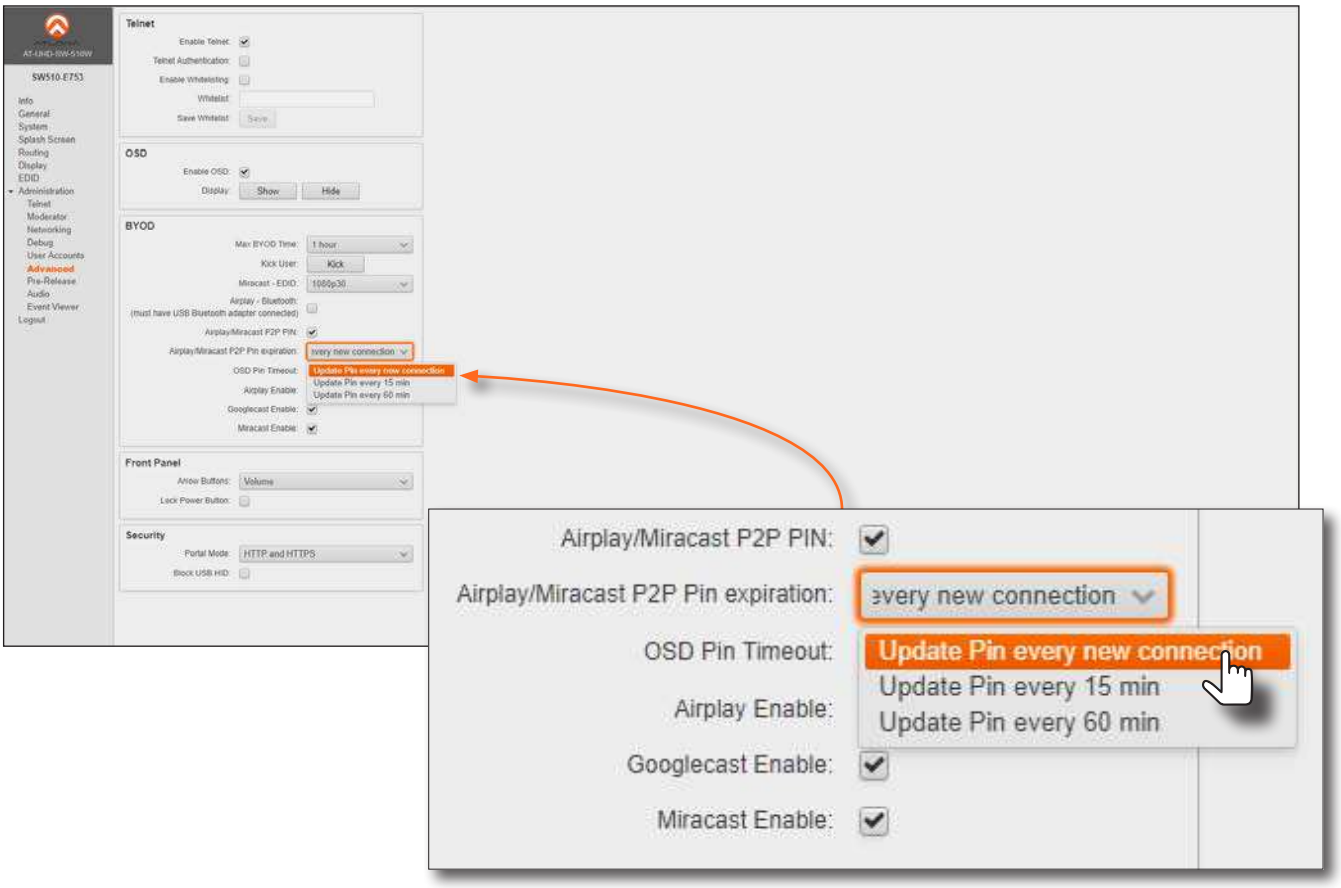


## Changing the PIN Timeout

By default, the AT-UHD-SW-510W will automatically generate a new PIN code for each new Wifi connection that is attempted. However, this value can also be set to regenerate every 15 minutes or 60 minutes.

**NOTE:** The AT-UHD-SW-510W requires a minimum of 20 seconds to elapse before another PIN code is generated. For example, if another connection is made, within 20 seconds after the nth connection, then the same PIN code will be used to connect to the system.

1. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
2. Click **Administration** > **Advanced** from the menu bar on the left.
3. Click the **AirPlay/Miracast P2P PIN** checkbox to enable this option.
4. Click the **AirPlay/Miracast P2P Pin expiration** drop-down list and select the desired time interval.



## Using Moderator Mode

Moderator mode provides a layer of control when multiple clients are casting through the AT-UHD-SW-510W. The “moderator” can either *allow* or *kick* (remove) a client from casting content. Up to four users can be hosted in the **Users** table. However, only one device may cast at a time.

**NOTE:** In order to monitor which devices are allowed to display content, Moderator mode must be enabled before a device begins casting. If a device is already casting, without Moderator mode enabled, then enabling this feature will have no effect.



1. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
2. Set the WiFi mode to either **Access Point** or **Connect**. Refer to Networking page (page 91) for more information.
3. Click the **Enable** check box on the Moderator page.

   In order to monitor which devices are allowed to display content, this box must be checked before a device begins casting. If a device is already casting, then enabling this feature will have no effect.



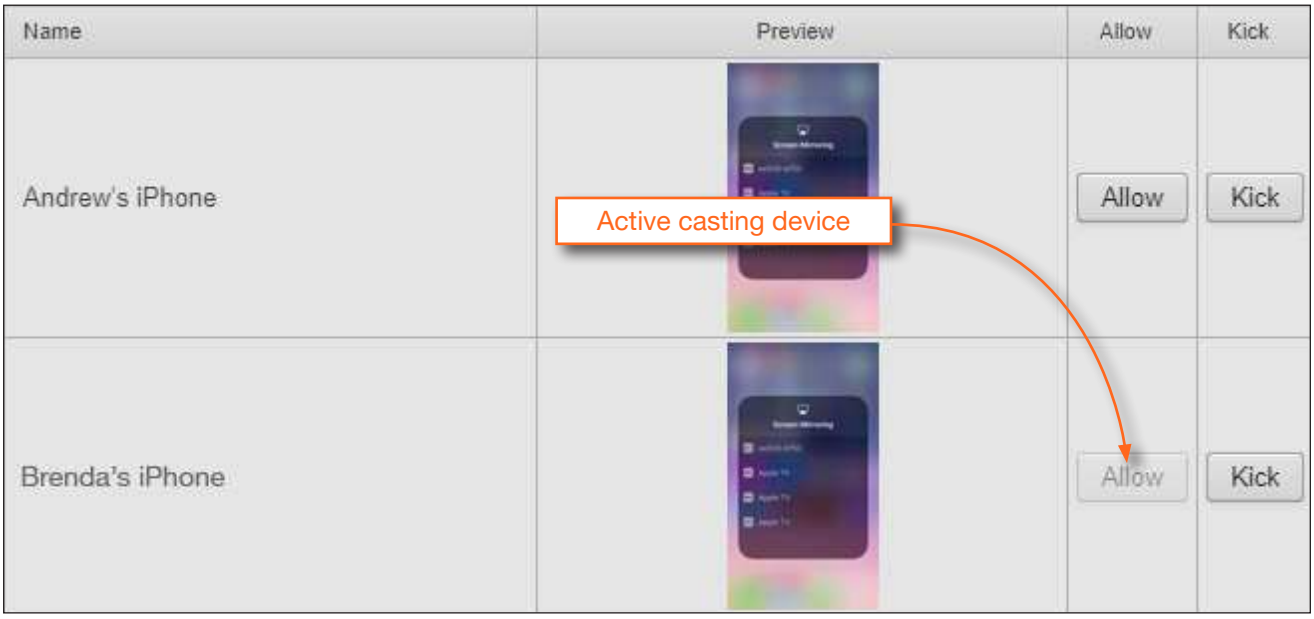

4. Connect the BYOD devices to the AT-UHD-SW-510W. Once connected, the device can begin casting. Refer to Casting (page 39) for more information on how to configure devices for casting.

Once the devices have started casting, they will be displayed in the **Users** table, as shown in the example below. Devices will only appear in this table when they are casting. When devices are displayed in this table, an **Allow** and **Kick** button will also be available for each device.

5. Click the **Allow** button to permit a device to begin casting to the display device.




Once the selected device is allowed to cast to the connected display device, the **Allow** button will be disabled. In the example below, *Brenda's iPhone* is now the active casting device and shown on the display device.



6. Click the **Allow** button, on another connected device, to make that device the active casting device. It may take a few moments before the new casting device appears on the screen.

**NOTE:** When an alternate device is selected to cast, by clicking the **Allow** button, the currently active casting device will be removed ("kicked") from the **Users** table.

7. Click the **Kick** button to explicitly disconnect a casting device from the AT-UHD-SW-510W.




Once a device has been "kicked", it will no longer appear in the **Users** table. In the example below, *Brenda's iPhone* has been removed.

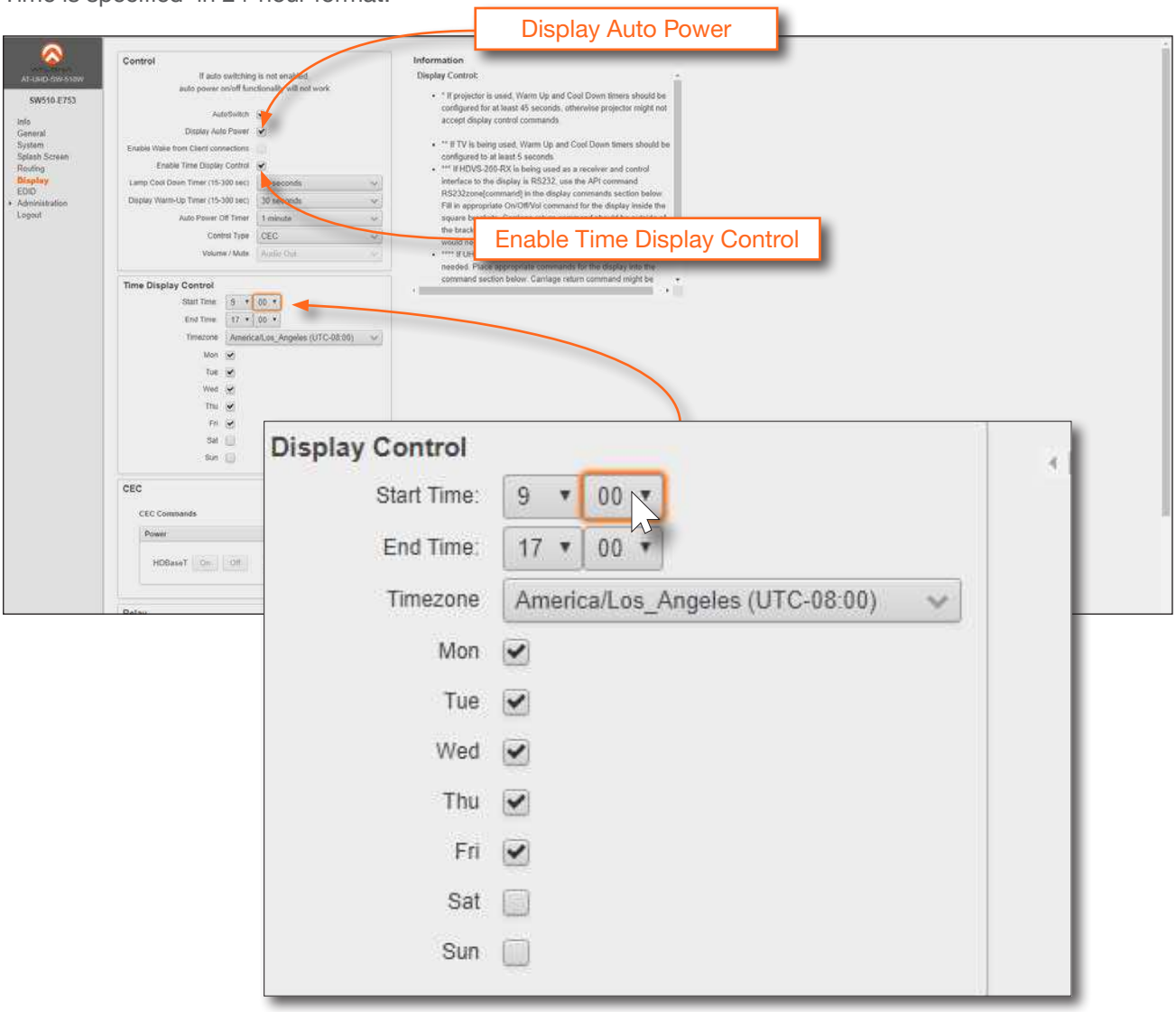



To reconnect a device that has been "kicked", select the hostname of the AT-UHD-SW-510W from the cast menu of the BYOD device.

## Scheduling Display Operation Times

The AT-UHD-SW-510W can be configured to automatically power-on or power-off a display during specified times and days of the week. Note that discrete calendar dates cannot be specified.

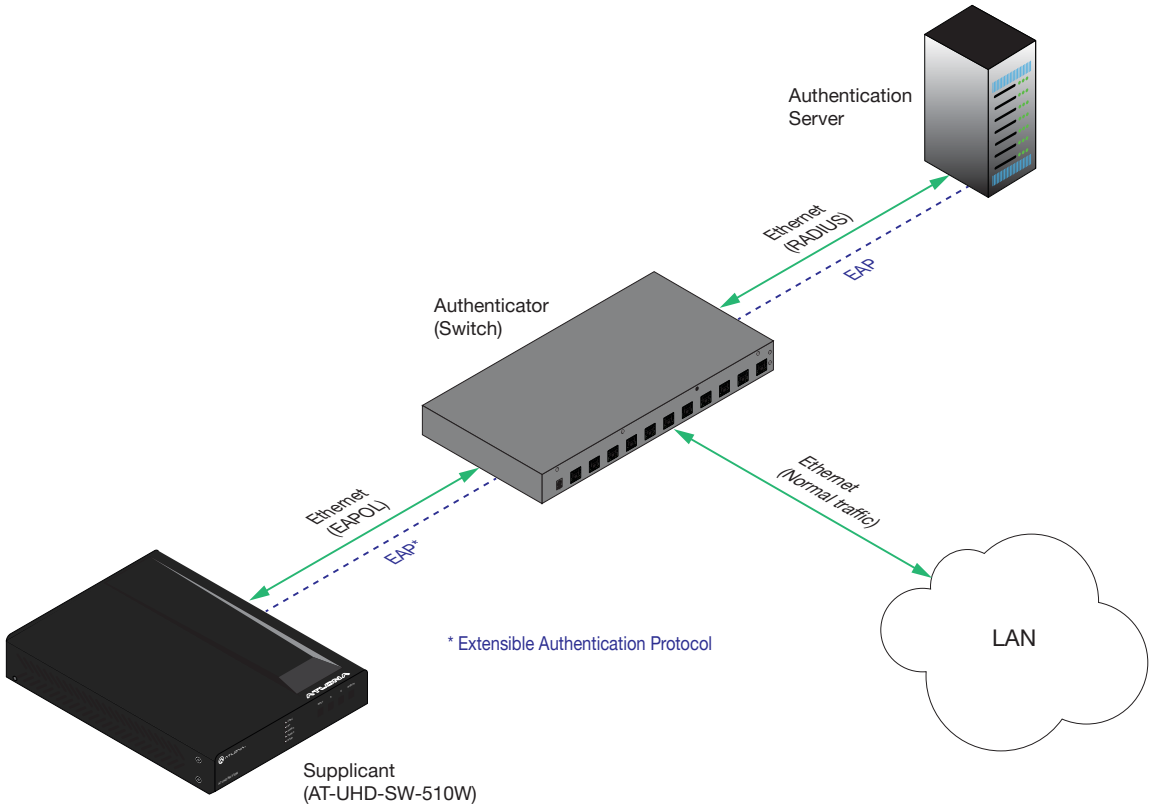
1. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
2. Click **Display** from the menu bar on the left.
3. Click the **Display Auto Power** check box.
4. Click the **Enable Time Display Control** check box.
5. Click drop-down lists, next to **Start Time**, to set the hour and minute when the display will be powered-on. Time is specified in 24-hour format.




6. Click the **End Time** drop-down lists, for both hour and minute, to specify the display power-off time. Time is specified in 24-hour format.
7. Click the **Timezone** drop-down list to set the proper time zone.
8. Click the desired checkbox(s) to specify which day(s) that the unit will power-on and power-off the connected display.

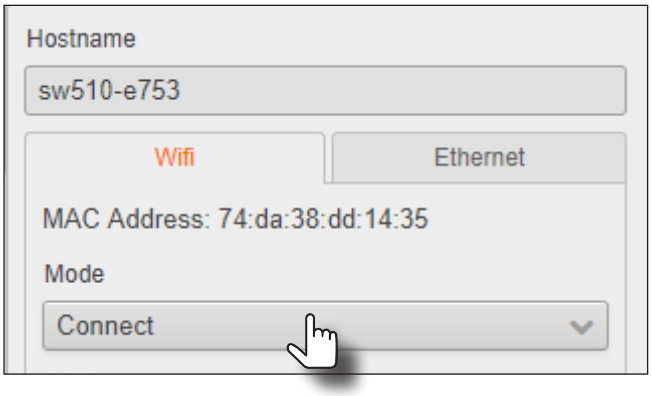
# 802.1X Authentication

802.1X is a server-based port authentication which restricts unauthorized (rogue) clients from connecting to a Local Area Network through a public port. In its simplest form, 802.1X usually involves three parties: supplicant (client device), authenticator (Ethernet switch or WAP), and an authentication server. Before the device is permitted on the network, port communication is restricted to Extensible Authentication Protocol over LAN (EAPOL) traffic. If the device passes the authentication process, the authentication server notifies the switch, allowing the client to access the LAN. The illustration below shows the basic architecture.



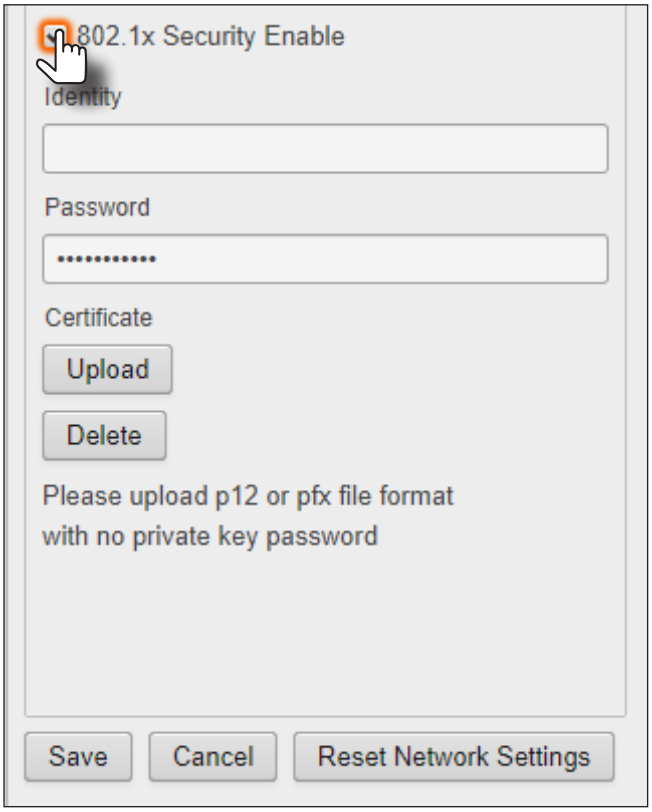

## Using Wifi

1. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
2. Click **Administration** > **Networking** from the menu bar on the left.
3. Under the **Wifi** tab, click the **Mode** drop-down list and select either **Connect** or **Access Point**.



4. Click the **802.1x Enable** checkbox.

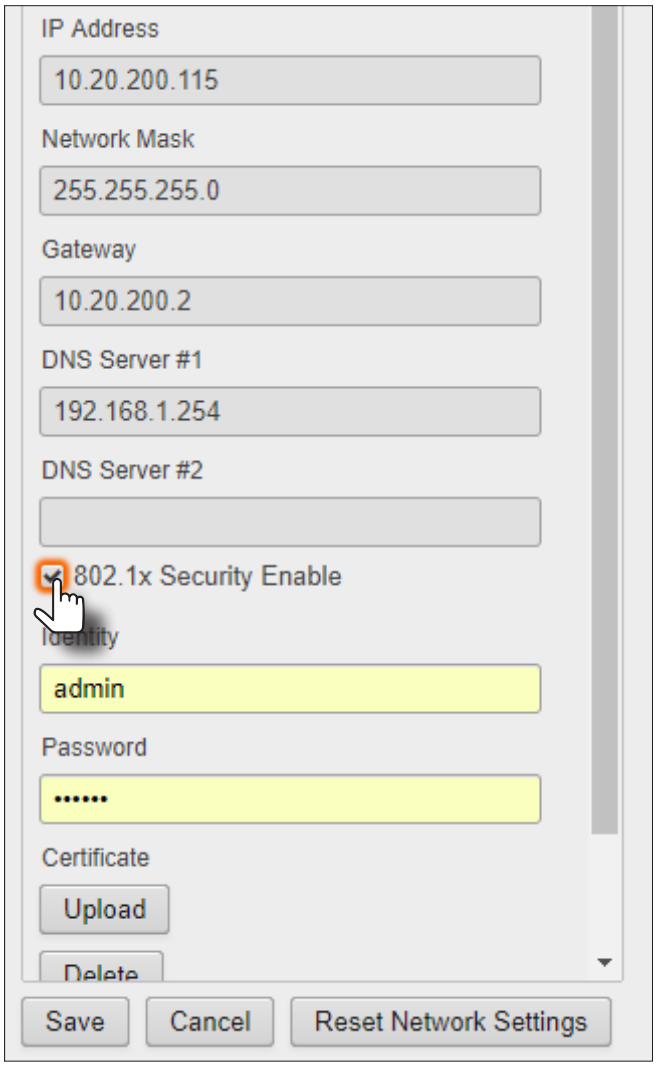
**NOTE:** If selecting **Access Point** mode, scroll down within in the **Wifi** tab, and click the **Enable 802.1x AP Mode** checkbox.




5. Enter the required credentials in the **Identity** and **Password** fields.
6. Click the **Upload** button to upload the required certificate to the AT-UHD-SW-510W. Note that the PKCS#12 file (.pfx file) should not include a private key. To delete an existing certificate, click the **Delete** button.
7. Click the **Pick** button and select the desired wireless network to which the AT-UHD-SW-510W will be connected.
8. Click **Save** to commit all changes or click **Cancel** to abort changes.

## Using Ethernet

1. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
2. Click **Administration** > **Networking** from the menu bar on the left.
3. Under the **Ethernet** tab. Make sure the proper network mode is set: **DHCP**, **Static IP**, or **Factory Static**. Refer to IP Configuration (page 16) for more information.
4. Click the **802.1x Enable** checkbox.



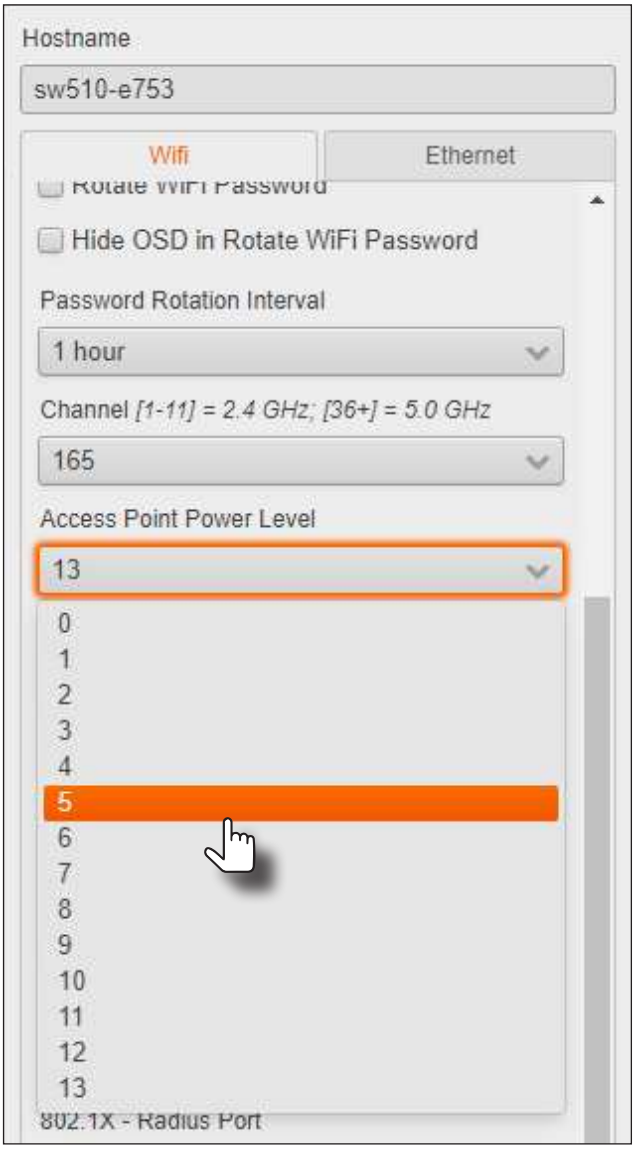

5. Enter the required credentials in the **Identity** and **Password** fields.
6. Click the **Upload** button to upload the required certificate to the AT-UHD-SW-510W. Note that the PKCS#12 file (.pfx file) should not include a private key. To delete an existing certificate, click the **Delete** button.
7. Click **Save** to commit all changes or click **Cancel** to abort changes.

## Setting Access Point Range

The USB Wifi antanna power can be adjusted to control the Access Point signal strength. This is particularly useful in a multi-conference room environment to prevent the Access Point signal from “bleeding” into other rooms.

1. Login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information.
2. Click **Administration** > **Networking** from the menu bar on the left.
3. Under the **Wifi** tab, click the **Mode** drop-down list and select **Access Point**.
4. Scroll down within the Wifi tab, and click **Access Point Power Level** drop-down list and select the desired power level. The default setting is 13.

**NOTE:** It may be necessary to experiment with the **Access Point Power Level** settings until the desired power level is attained.




5. Click the Save button to commit changes.

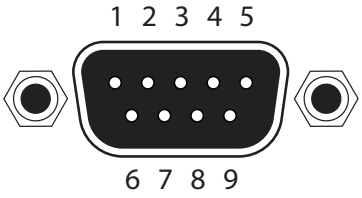
# RS-232 Control

**NOTE:** If the AT-UHD-SW-510W will be controlled from a computer running a terminal program, a DB-9-to-USB cable should be purchased/obtained.

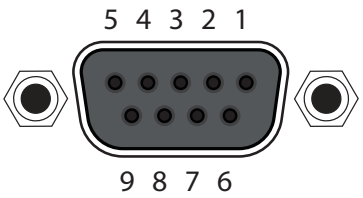
The AT-UHD-SW-510W provides an RS-232, allowing the unit to be managed using a control system.

RS-232 is serial data protocol that allows Data Terminal Equipment (DTE) devices, such a computer or control system, to communicate with Data Communication Equipment (DCE) devices, such as the AT-UHD-SW-510W 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.

DE-9 (male)




DE-9 (female)




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 |

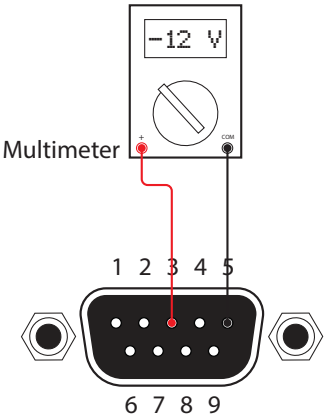
## Determining the Port Type

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”.



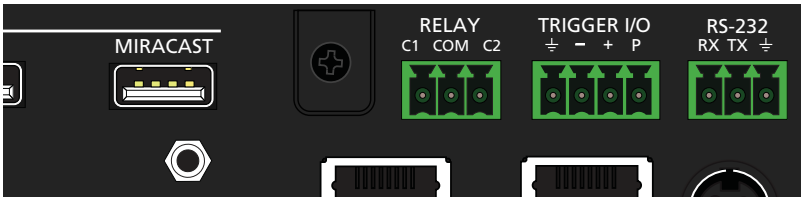
## Cable Assembly

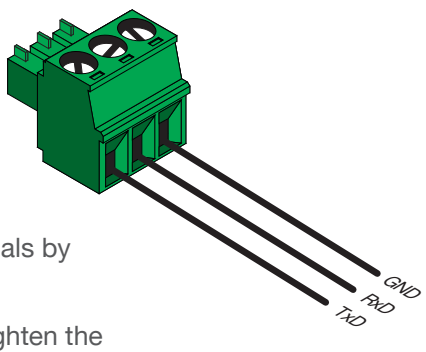
When connecting a DTE device to a DCE device, a *straight-through* cable should be used. A straight-through cable is wired in such a way that the pins on one side of the cable are connected to the corresponding pins on the opposite side of the cable, as shown in the table below. However, the AT-UHD-SW-510W 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.



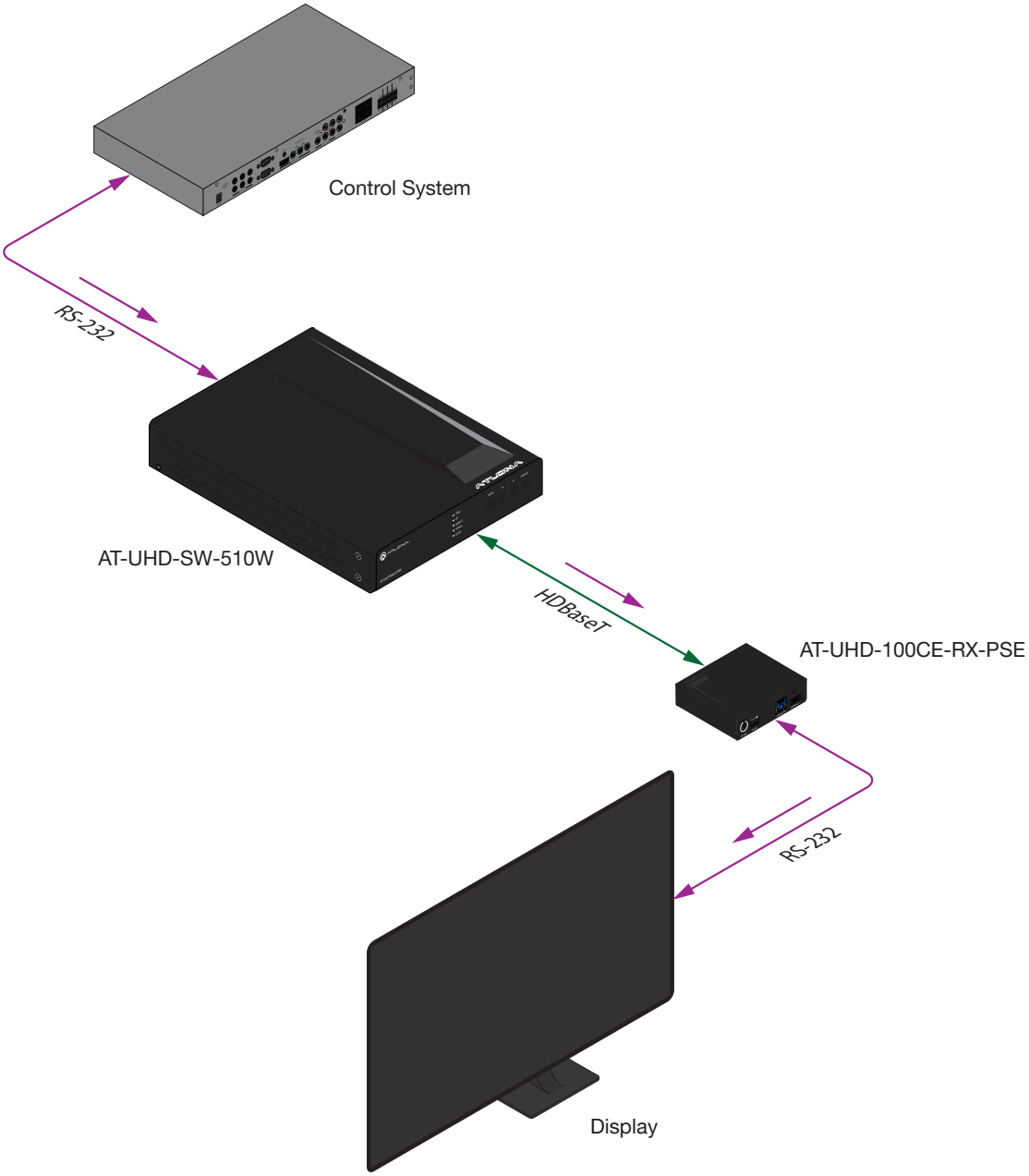

10. Locate the included 4-pin captive screw block and open each of the terminals by turning the screws counter-clockwise, using a small regular screwdriver.
11. Insert the TxD, RxD, and GND wires into correct terminal, as shown, and tighten the screws to secure each wire. Do not overtighten.
12. Connect the captive screw connector to the **RS-232** port on the AT-UHD-SW-510W.

## Pass-through mode

In pass-through mode, RS-232 commands are sent to the AT-UHD-SW-510W and then transmitted over HDBaseT to a receiver unit, and then to the display (sink) device.

1. Connect the RS-232 cable between the control system and the RS-232 port on the AT-UHD-SW-510W. Refer to Cable Assembly (page 64) for instructions on preparing the cable.
2. Connect an Ethernet cable from the **HDBaseT OUT** port to a receiver. In this example, the Ethernet cable is connected to an AT-UHD-100CE-RX-PSE receiver.

**IMPORTANT:** The AT-UHD-SW-510W does not supply PoE over HDBaseT. The receiver *must* be powered using a local power supply.



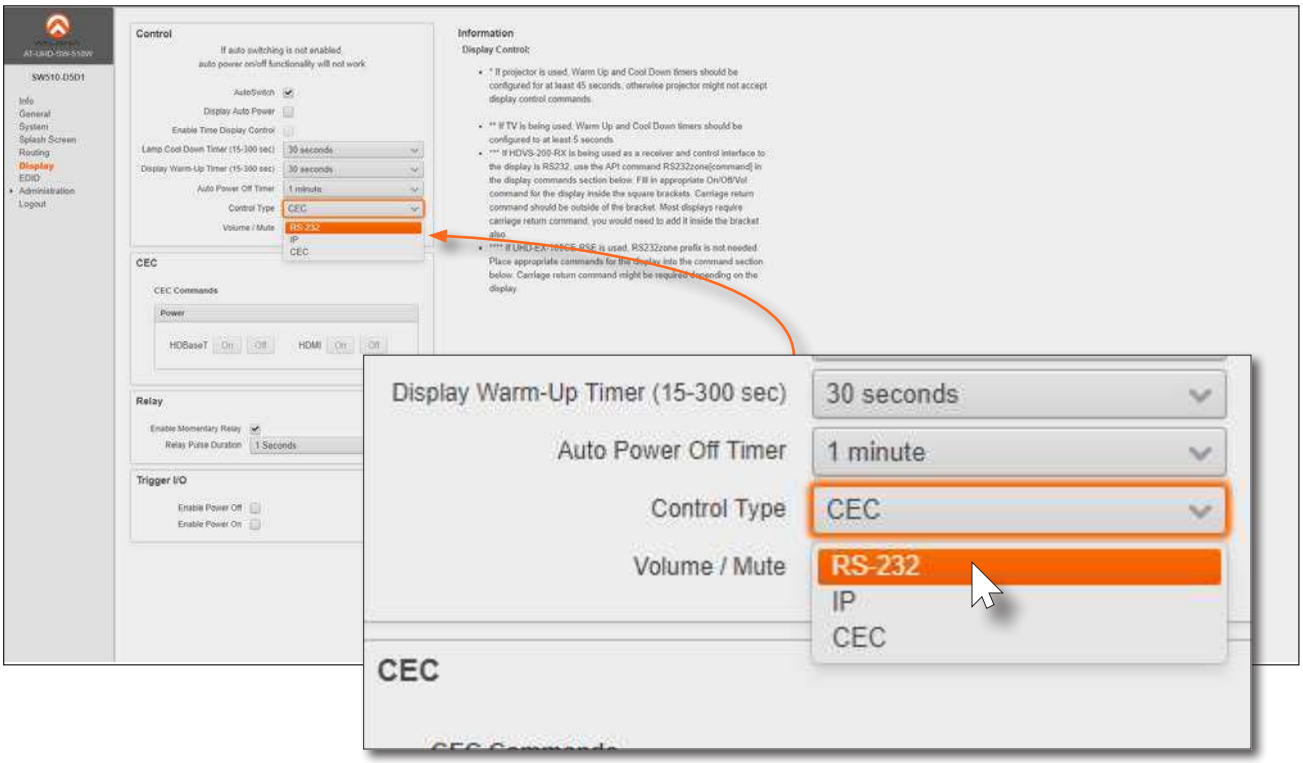
3. Connect an RS-232 cable between the display (sink) and the receiver.

4. Launch a web browser and login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information. The factory-default username and password are listed below:

   Username: admin
   Password: Atlona

5. Click **Display** in the menu on the left side of the window.

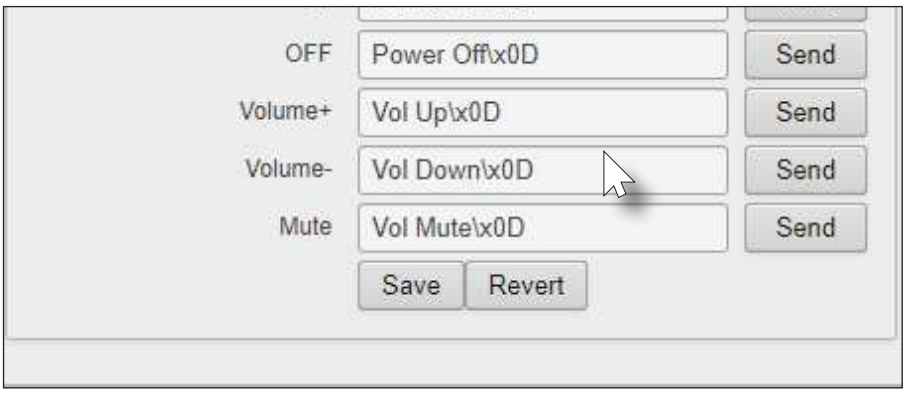
6. Click the **Control Type** drop-down list and select **RS-232**.



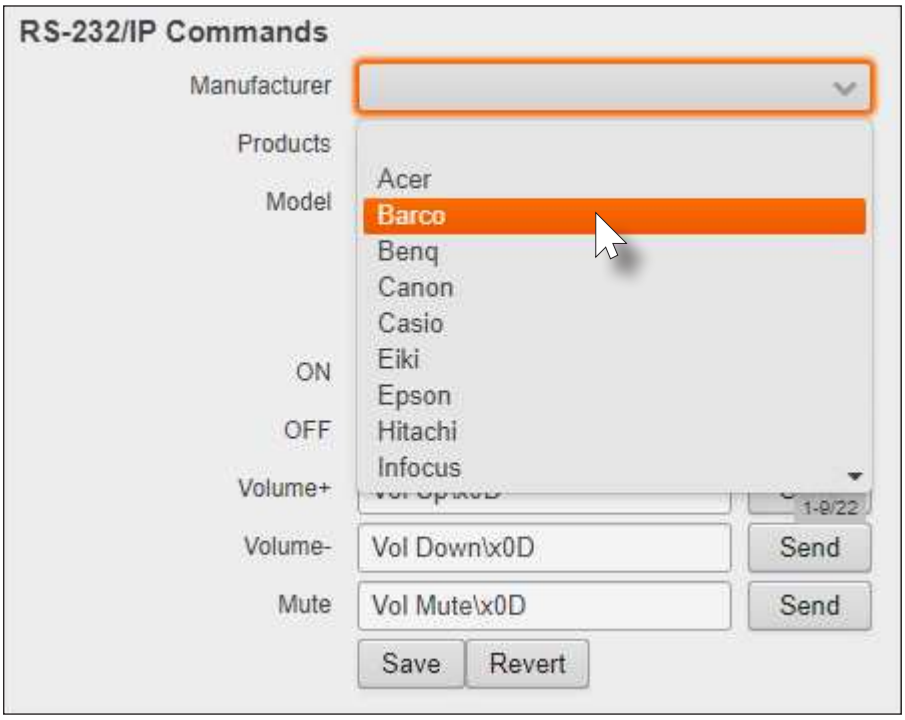

7. Scroll down and locate the **RS-232** section. Click the **RS232 Mode** drop-down list and select **HDBaseT RS232 Only**. The **RS-232** section is available only if the **Control Type** is set to **RS-232**.



8. Click the **Baud Rate**, **Data Bits**, **Parity**, and **Stop Bits** drop-down list to set the values required by the control system. If these values do not match the RS-232 settings of the control system, then RS-232 control will not function properly.




9. Click the **Manufacturer** drop-down list to select the manufacturer of the device that is being controlled.




10. Continue fine-tuning the device selection by clicking the **Products** and **Model** drop-down lists. Once all fields have been set to the proper values, the AT-UHD-SW-510W will populate the **ON**, **OFF**, **Volume+**, **Volume-**, and **Mute** fields with the commands used by that device.

**NOTE:** If the manufacturer/model is not listed in the drop-down lists, then commands for the **ON**, **OFF**, **Volume+**, **Volume-**, and **Mute** fields can be entered manually. Consult the User Manual for the sink device to obtain the correct command format.

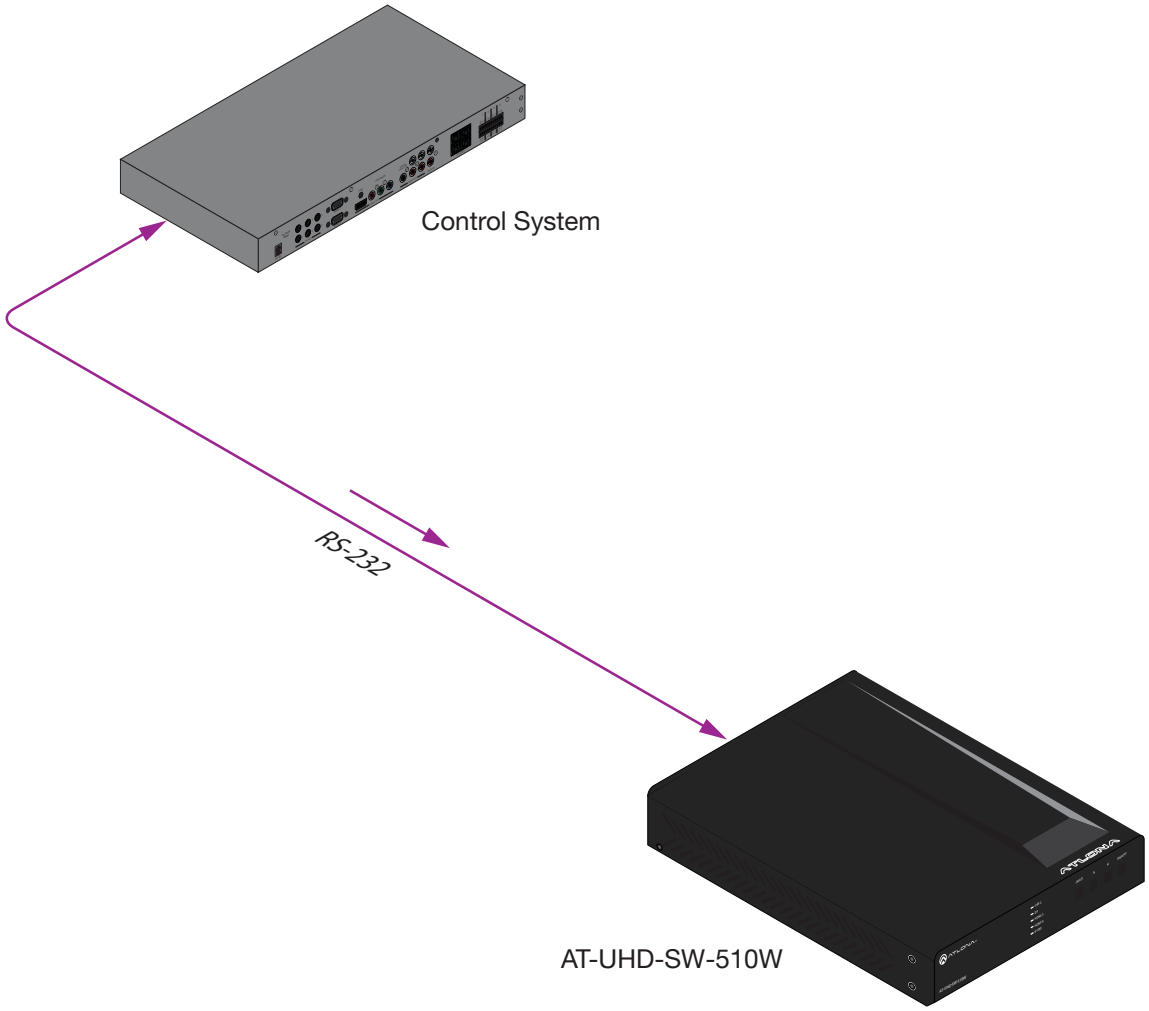
11. Click the **Send** button to test each command.

## Control mode

In control mode, RS-232 commands are sent from a computer or control system (DTE) to the AT-UHD-SW-510W (DCE). This method allows direct control of the switcher for routing, IP configuration, powering-on / powering-off and other functions.

**NOTE:** The **RS-232** port on the AT-UHD-SW-510W 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-UHD-SW-510W.

1. Connect the RS-232 cable between the control system and the AT-UHD-SW-510W. Refer to Cable Assembly (page 64) for instructions on preparing the cable.

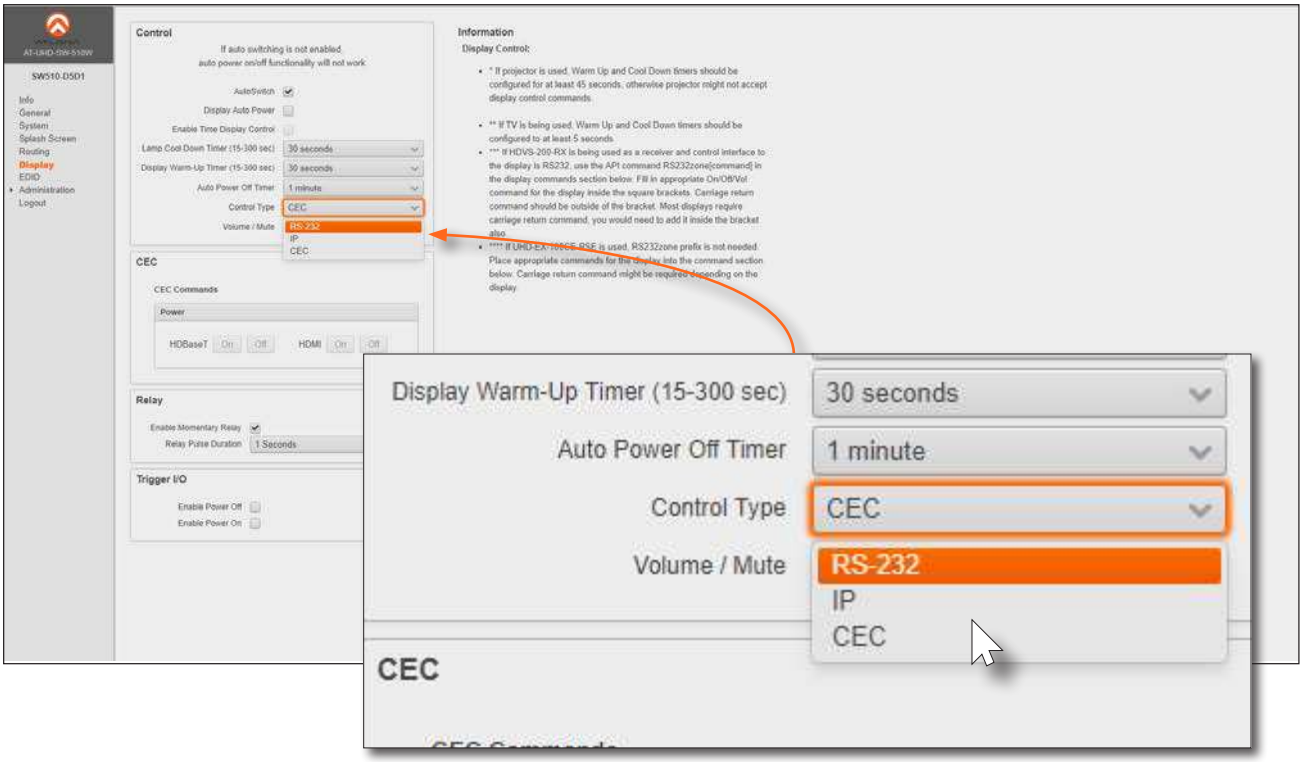



2. Launch a web browser and login to the web GUI. Refer to Introduction to the Web GUI (page 71) for more information. The factory-default username and password are listed below:

   Username: admin
   Password: Atlona

3. Click **Display** in the menu on the left side of the window.

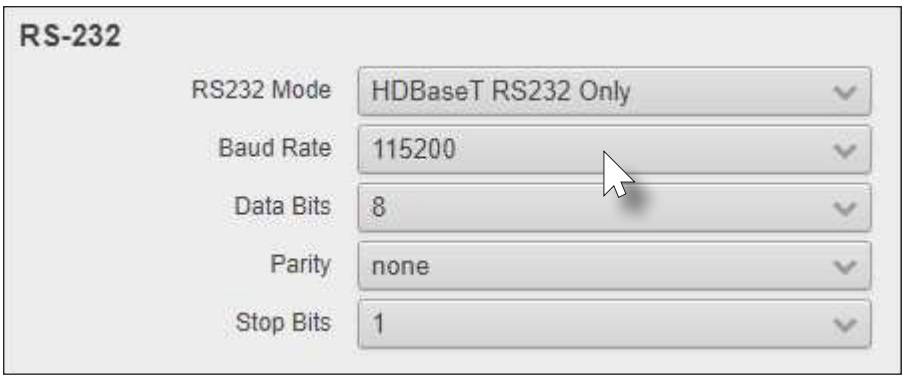
4. Click the **Control Type** drop-down list and select **RS-232**.



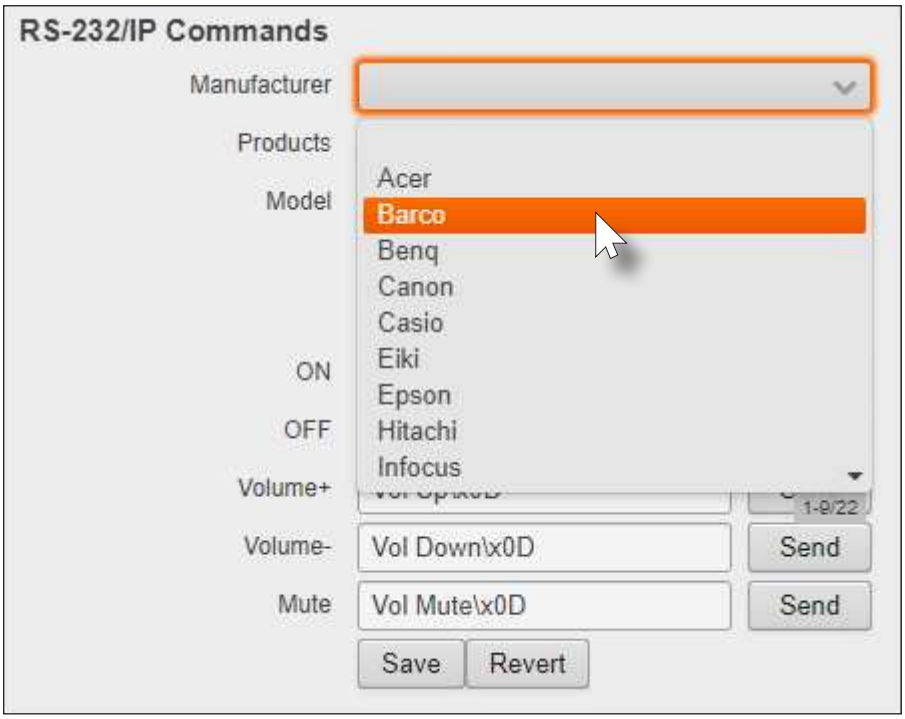

5. Scroll down and locate the **RS-232** section. Click the **RS232 Mode** drop-down list and select **Local RS232 Only**. The **RS-232** section is available only if the **Control Type** is set to **RS-232**.




6. Click the **Baud Rate**, **Data Bits**, **Parity**, and **Stop Bits** drop-down lists and set each field to the following values: Baud Rate: 115200, Data Bits: 8, Parity: none, Stop Bits: 1.



7. Click the **Manufacturer** drop-down list to select the manufacturer of the device that is being controlled.




8. Continue fine-tuning the device selection by clicking the **Products** and **Model** drop-down lists. Once all fields have been set to the proper values, the AT-UHD-SW-510W will populate the **ON**, **OFF**, **Volume+**, **Volume-**, and **Mute** fields with the commands used by that device.

**NOTE:** If the manufacturer/model is not listed in the drop-down lists, then commands for the **ON**, **OFF**, **Volume+**, **Volume-**, and **Mute** fields can be entered manually. Consult the User Manual for the sink device to obtain the correct command format.

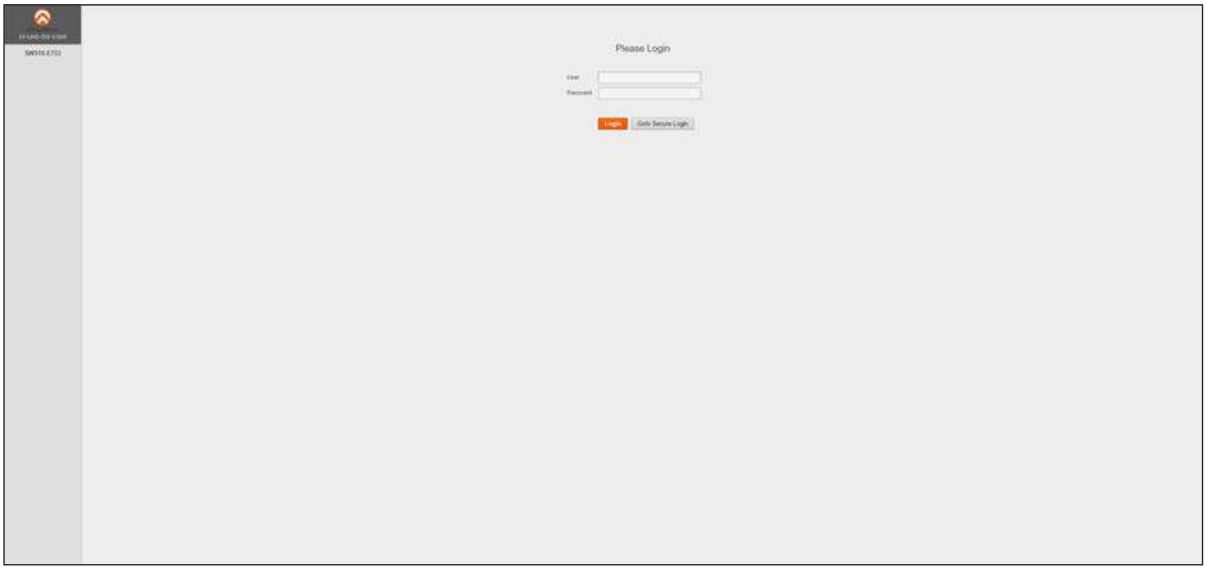
9. Click the **Send** button to test each command.

# The Web GUI

## Introduction to the Web GUI

The AT-UHD-SW-510W includes a built-in web GUI. Atlona recommends that the web GUI be used to set up the AT-UHD-SW-510W, 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-UHD-SW-510W 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-UHD-SW-510W **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.

**NOTE:** If using a secure connection, click the **Goto Secure Login** button.

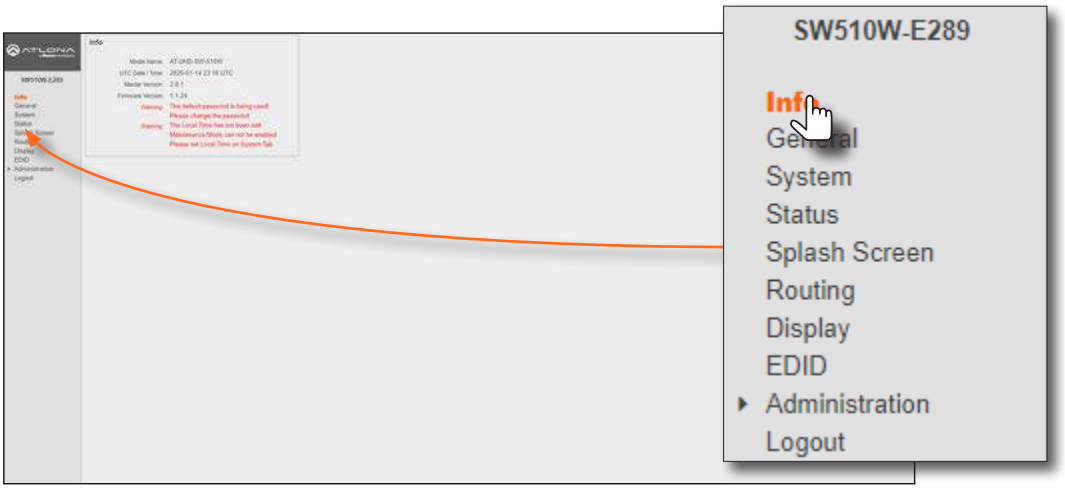


7. The **Info** page will be displayed.

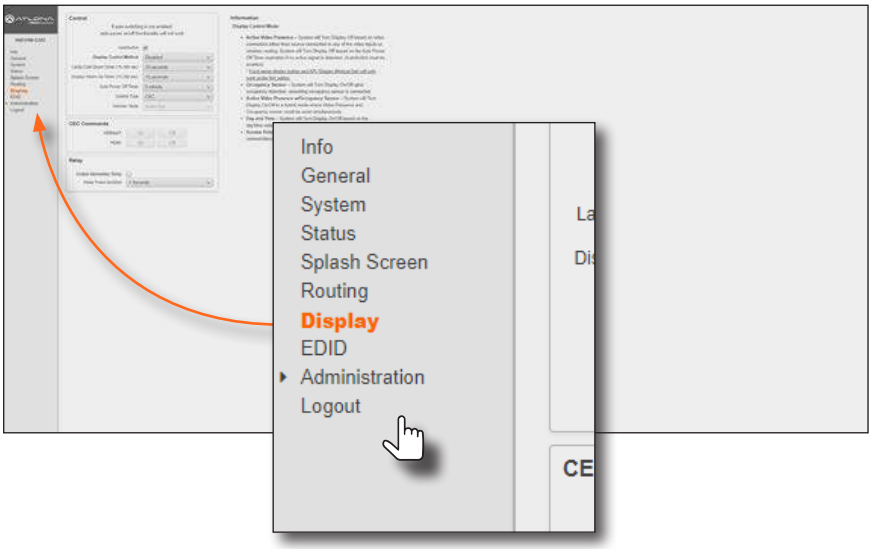


## Menu Bar

The window on the left side of the screen is the is the menu bar and lists all available menus. Click on the desired menu item to open that page.




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



## Info

After logging in, the Info page will be displayed. The **Info** page provides basic information about the receiver, including the model name, software version, input video timing, and the device being using as the transmitter.




**Model Name**
The model SKU of this product.

**UTC Date / Time**
The current time and date, in Universal Coordinated Time (UTC).

**Master Version**
The version of firmware.

**Firmware Version**
The version of firmware that the AT-UHD-SW-510W is running. Always make sure to check the AT-UHD-SW-510W product page, on the Atlona web site, for the latest version of firmware.

**NOTE:** When the default password is used as part of the login credentials, the following message will be displayed in the Info box:

The default password is being used!
Please change the password.

To change the password, refer to the User Accounts page (page 97).

## General page



**Name**
This is the hostname of the unit. Enter the desired name of the AT-UHD-SW-510W in this text field. Include the {id} tag to use the last four digits of the hardware MAC address. Hostnames can contain alphabetic and numeric characters.

**NOTE:** The hardware MAC address differs from the MAC address of the unit, which is found on an adhesive label applied to the the bottom of the unit.

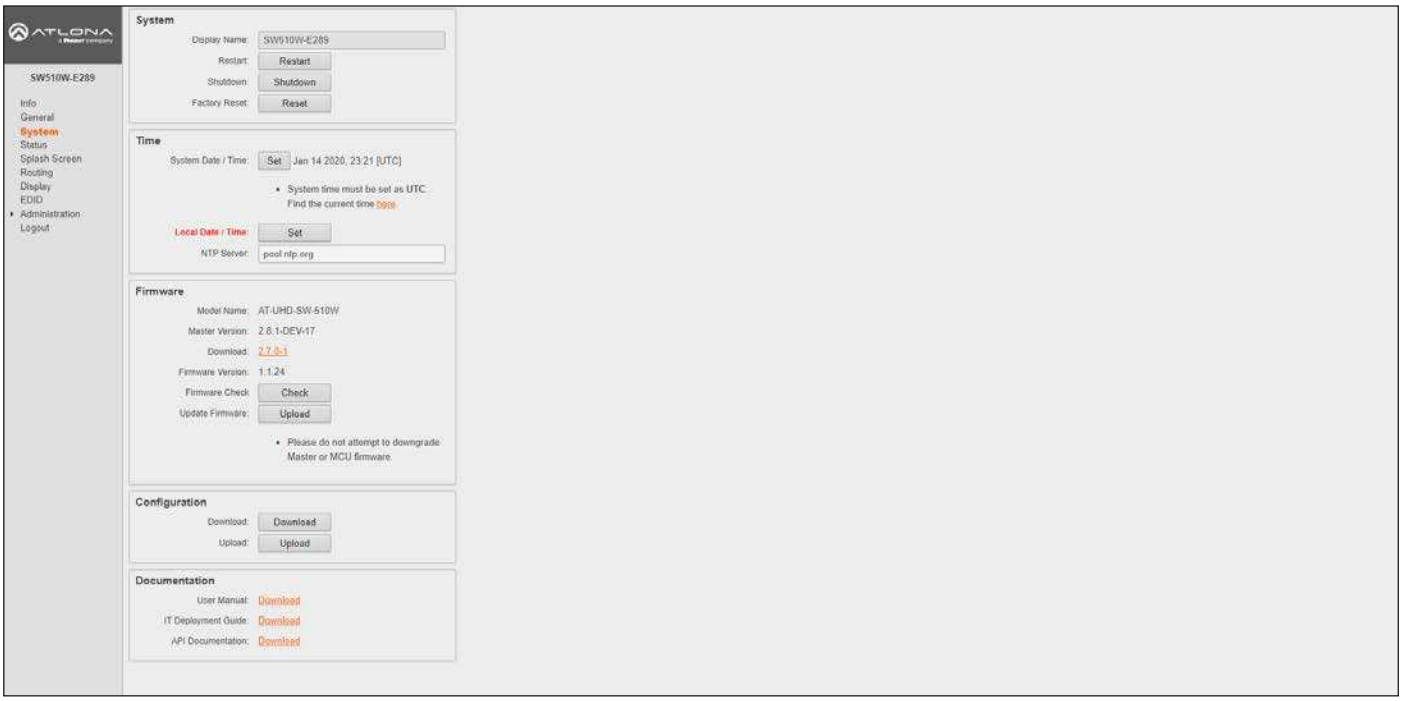
**Display Name**
The name based on the information provided in the **Name** field. This name is used by the AT-UHD-SW-510W to identify it within the OSD.

**Derived**
This field will automatically be populated by the AT-UHD-SW-510W, based on the information provided in the **Name** field. This field provides a “computer-friendly” name used by the SSID. If special characters and/or spaces are included in the **Name** field, then these are removed when populating this field.

**Save**
Click this button to accept all changes.

**Revert**
Click this button to abort changes and reset the previous text in the **Name** field.

## System page




**Display name**
The name of the display, provided in the **Name** field of the **General** tab. Refer to General page (page 74) for more information.

**Restart**
Click this button to reboot the AT-UHD-SW-510W.

**Shutdown**
Click this button to shut down the AT-UHD-SW-510W. This should always be performed before disconnecting power from the unit.

**Factory Reset**
Click the **Reset** button to reset the AT-UHD-SW-510W to factory-default settings. Resetting to factory-default setting may take up to five minutes to complete.

**Set** (System Date / Time)
Click this button to set the month, day, and time (in UTC).

**Set** (Local Date / Time)
Click this button to set the local date and time using the NTP server specified in the **NTP Server** field.

**NTP Server**
Enter the desired NTP server in this field.

**Model Name**
The SKU of the product: AT-UHD-SW-510W.

**Master Version**
The master version of firmware. Always make sure to check the AT-UHD-SW-510W product page, on the Atlona web site, for the latest version of firmware.

**Download**
Click this link to download the latest firmware. The most recent firmware version is listed.

**Firmware Version**
The version of (MCU) firmware that the AT-UHD-SW-510W is running. Always make sure to check the AT-UHD-SW-510W product page, on the Atlona web site, for the latest version of firmware.

**Firmware Check**
Click the **Check** button to check for the latest version of firmware. Each time the unit is rebooted, this feature is performed, automatically. The AT-UHD-SW-510W must be connected to the Internet to use this feature.

**Update Firmware**
Click the **Upload** button to upload the firmware file to the AT-UHD-SW-510W. Refer to ##updatingfirmware for more information.

**Download**
Click this button to download the current AT-UHD-SW-510W configuration to a .zip file. The default filename is `config.zip`. Within the `config.zip` is the `configuration.zip` file. Note that the information within the `configuration.zip` file cannot be extracted as it is only readable by the AT-UHD-SW-510W.

**Upload**
Click this button to upload the configuration file to the AT-UHD-SW-510W. Both the **Download** and **Upload** button are useful to save and load different configurations and/or to provide a backup. This feature is also useful for backing up system settings, in the unlikely event of a system failure.

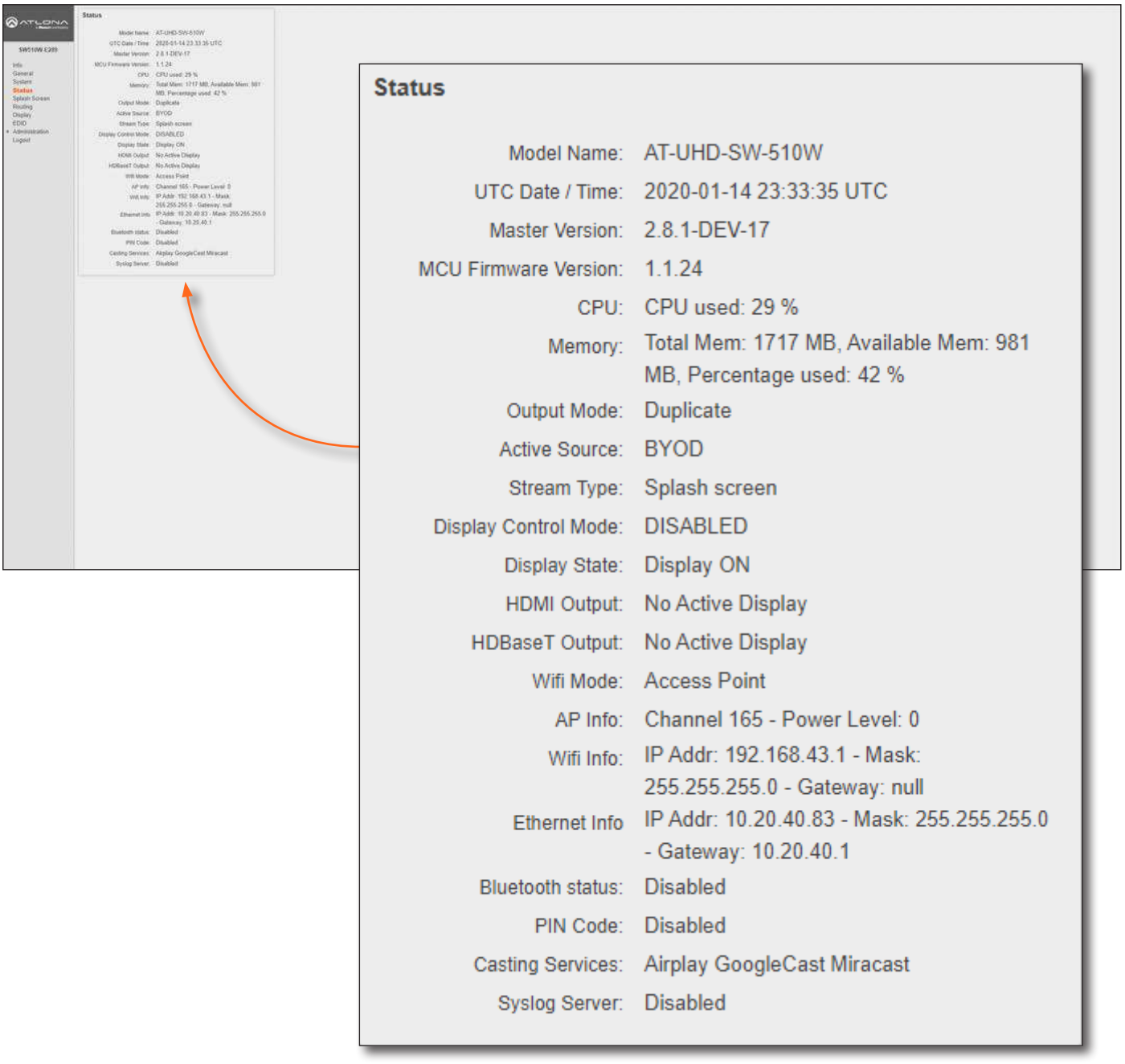
**User Manual**
Click the **Download** link to view the latest version of the User Manual.

**IT Deployment Guide**
Click the **Download** link to view the IT Deployment Guide.

**API Documentation**
Click the **Download** link to view the lastest API documentation.

## Status page

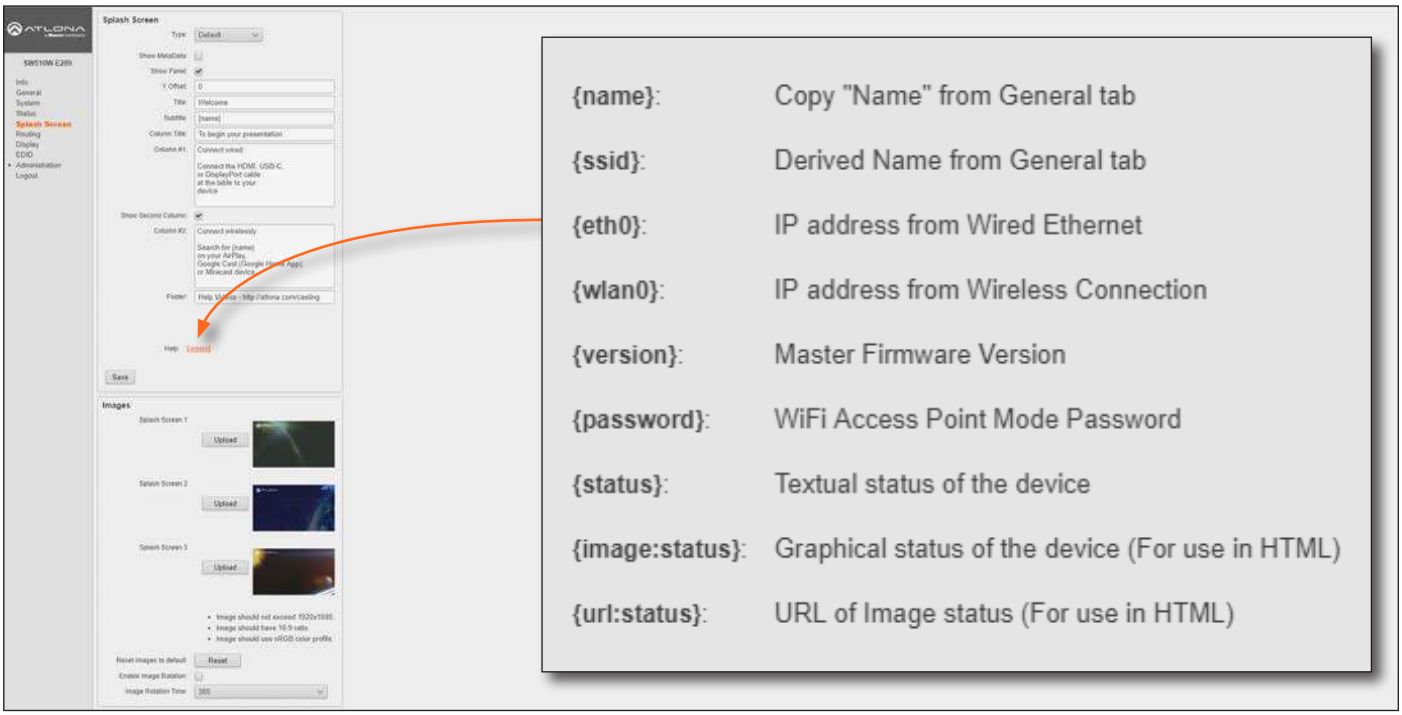
This page provides a information about the current state of the AT-UHD-SW-510W, such as IP information, memory usage, casting devices, active sources, date/time, and various other settings.



**Status**

| | |
|---|---|
| Model Name: | AT-UHD-SW-510W |
| UTC Date / Time: | 2020-01-14 23:33:35 UTC |
| Master Version: | 2.8.1-DEV-17 |
| MCU Firmware Version: | 1.1.24 |
| CPU: | CPU used: 29 % |
| Memory: | Total Mem: 1717 MB, Available Mem: 981 MB, Percentage used: 42 % |
| Output Mode: | Duplicate |
| Active Source: | BYOD |
| Stream Type: | Splash screen |
| Display Control Mode: | DISABLED |
| Display State: | Display ON |
| HDMI Output: | No Active Display |
| HDBaseT Output: | No Active Display |
| Wifi Mode: | Access Point |
| AP Info: | Channel 165 - Power Level: 0 |
| Wifi Info: | IP Addr: 192.168.43.1 - Mask: 255.255.255.0 - Gateway: null |
| Ethernet Info | IP Addr: 10.20.40.83 - Mask: 255.255.255.0 - Gateway: 10.20.40.1 |
| Bluetooth status: | Disabled |
| PIN Code: | Disabled |
| Casting Services: | Airplay GoogleCast Miracast |
| Syslog Server: | Disabled |

## Splash Screen page




### Splash Screen

**Type**
Click this drop-down list to select the type of splash screen.

**Show Meta Data**
Click this check box to display metadata on the splash screen.

**Show Panel**
Check (enable) this box to display the panel, containing connection instructions and other information.

**Y Offset**
Sets the up-and-down position of the overlay panel, on the screen. A value of 0 vertically positions the panel in the center of the screen. Positive values move the panel down. Negative values move the panel up.

**Title**
The title of the overlay panel. The default value is “Welcome”.

**Subtitle**
The text directly under the text in the **Title** field.
The default text contains the name of the unit.

**Column Title**
The title text for the centered text, above both instruction columns. The default text is “To begin your presentation”.

**Column #1**
The text positioned in the left column. The default text is “Connect wired: Connect the HDMI, USB-C, or DisplayPort cable at the table to your device”.

**Show Second Column**
Check this box to display the second (right-hand) column. Uncheck this box to hide the text in this column.

**Column #2**
The text positioned in the right-hand column. The default text is “Connect wirelessly: Connect the Wi-Fi network”, entercode, and enable AirPlay, Google Cast™, or Miracast”.

**Footer**
By default, this field provides a link to how casting works on different operating systems (www.atlona.com/casting). This field can be modified to contain a different URL, if desired. This link will be displayed on the default splash screen.

**Legend**
Click this link to display a list of available tags that can be used in any of the text fields. Refer to the illustration above.

**Save**
Click this button to commit all changes on this page.

## Images

Refer to The Splash Screen (page 23) for more information on using the following features.

**Upload**
Click this button to upload overwrite the currently selected image with custom image.

**Reset Splash Images**
Click the **Reset** button to set the splash screen images to the default images.

**Enable Image Rotation**
Click this check box to instruct the AT-UHD-SW-510W to cycle through the splash screen images.

**Image Rotation Time**
Click this drop-down list to select the image rotation interval.

## Routing page




### Input Selection

**USBC, DP, HDMI3, HDMI1, BYOD**
Click the desired button to set the auto-switch input.

### Matrix Switching

**Matrix Switch**
Click this drop-down list to select the desired matrix mode. Refer to Matrix Modes (page 46) for more information.

| Modes | Description |
|---|---|
| Disabled | Matrix mode is disabled (default setting). |
| Matrix Mode | Allows the AT-UHD-SW-510W to independently switch between any input or both outputs. |
| Matrix Mode w/ Static Route | Use this mode when integrating the AT-UHD-SW-510W with a video conference system. |

## Display page



### Control

**AutoSwitch**
Click this box to enable or disable auto-switching. When this box is checked, the AT-UHD-SW-510W will automatically switch inputs when the new device is connected. To disable auto-switching, uncheck this box.

**Display Control Method**
Click this drop-down list to select the desired method of display control. By default, the AT-UHD-SW-510W uses CEC commands to control the display.

| Modes | Description |
|---|---|
| Active Video Presence* | The AT-UHD-SW-510W will power-off the display if no active source is detected on the input. This applies to either physical source connections or casting. The Auto Power Off Timer must expire before the power-off command is sent. |
| Active Video Presence w/Occupancy Sensor* | Similar to the Active Video Presence mode, except that an occupancy sensor can also be used with Active Video Presence mode to determine when a power-off command is sent. |
| Occupancy Sensor | The AT-UHD-SW-510W will power-on/power-off the display based on the state of the occupancy sensor. The occupancy sensor must be wired to the AT-UHD-SW-510W. |
| Day and Time | The AT-UHD-SW-510W will power-on/power-off the display based on the assigned schedule. |
| Access Point | Display will power-on/power-off based on the presence of a connection/ disconnection from the AT-UHD-SW-510W Access Point. |
| Disabled | No display control |

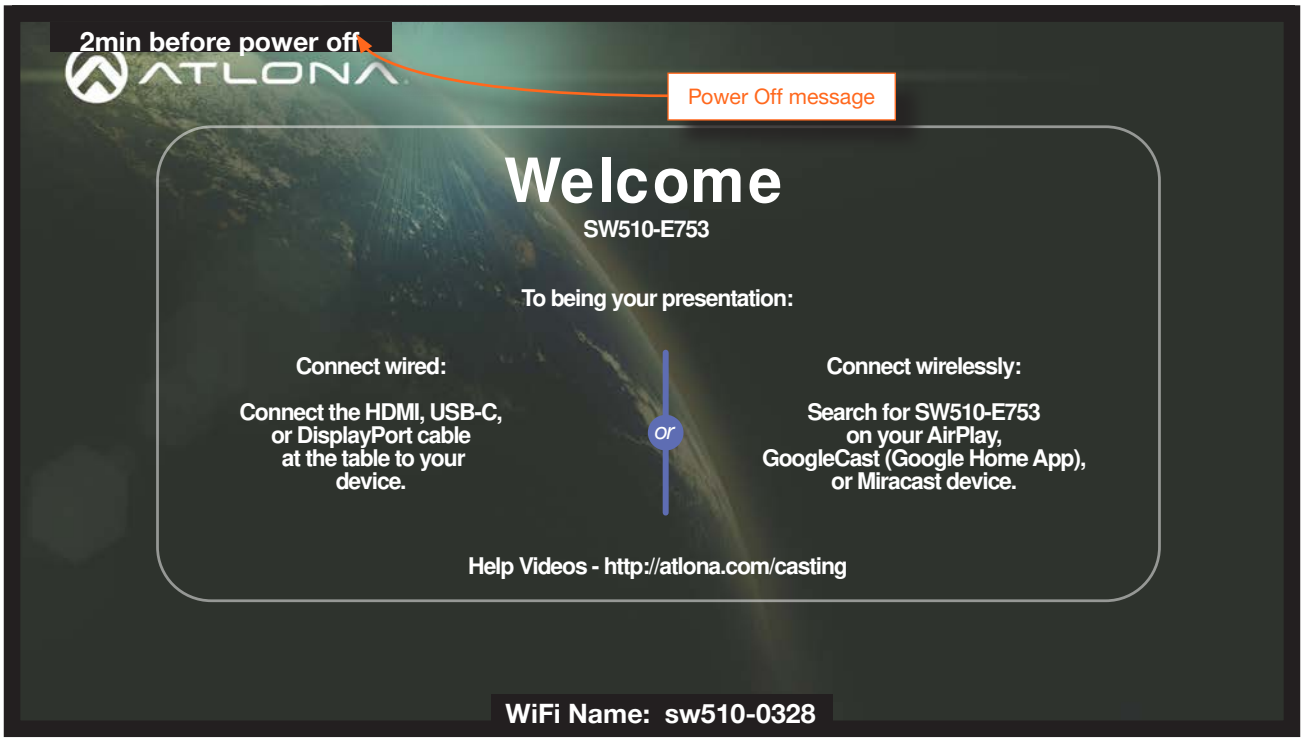
*AutoSwitch must be enabled to use these control methods.

**Lamp Cool Down Timer (15 - 300 sec)**
Sets the projector lamp cool-down timer, in seconds. This value specifies the time interval that must elapse, after the display control "off" command is sent, before the display "power on" command can be sent. This feature is used to prevent the projector from missing a "power on" command while the lamps are cooling. A minimum of 45 seconds is recommended for projectors. Available values are from 15 to 300 seconds (5 minutes). The default setting is 15 seconds.

**Display Warm-Up Timer (15 - 300 sec)**
Sets the projector lamp warm-up timer, in seconds. During the warm-up interval, the AT-UHD-SW-510W will not start the auto power-off timer. This value specifies the time interval that must elapse, after the display control "on" command is sent, before the display "power off" command can be sent. This feature is used to prevent a "power off" command from being sent while the lamps are warming up. A minimum of 45 seconds is recommended for projectors. Available values are 15 to 300 seconds (5 minutes). The default value is 15 seconds.

**Auto power off timer**
Sets the time interval before the command to power-off the display is sent, when an A/V signal is no longer present. The default value is 5 minutes. Available values are 15 seconds to 8 hours.

If the AT-UHD-SW-510W doesn't see any active source within the specified time, the AT-UHD-SW-510W will start a countdown timer before the display is turned off. Once this countdown reaches the 5 minute mark, a message will be displayed, stating "5min before power off." At 2 minutes, another message will be display (shown below).



Once the countdown timer expires, the display will power off. Refer to the illustration below.

**Control Type**
Sets the control protocol for the connected display. Click this drop-down to select the control type. Available settings are **CEC**, **IP**, and **RS-232**. By default, CEC is selected for control of the display. IP and RS-232 can also be selected. When IP or RS-232 are selected, more fields 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. |

**NOTE:** If **Control Type** is set to **CEC**, then the **Volume / Mute** drop-down list will be disabled. Refer to the CEC (page 46) section for more information.

**Volume / Mute**
This option is only available when **Control Type** is set to **RS-232** or **IP**.

| Setting | Description |
|---|---|
| RS-232 | Audio is controlled using RS-232 |
| IP* | Audio volume/muting is controlled using IP |
| Audio Out | Audio is controlled using the web GUI or front panel buttons |

* Only available when **Control Type** is set to **IP**.

## CEC Commands

Click these button to test CEC functionality over HDMI and HDBaseT. Click the **On** button to send the power-on command to the display device. Click the **Off** button to send the power-off command to the display device. These buttons will only be enabled if a device is connected to the AT-UHD-SW-510W, using the correct cable. For example, the HDMI ON / OFF buttons will only be enabled when an HDMI cable is connected from the AT-UHD-SW-510W to a display.

*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.*

## Relay

**Enable Momentary Relay**
When enabled, the **RELAY** port can be used to control screens, curtains, and other devices. Use a 48 V DC relay with no more than 1 A current draw. This feature is enabled, by default. Refer to Relay (page 13) for wiring information.

**Relay Pulse Duration**
Click this drop-down list to select the desired pulse duration for the relay. Some devices may require different time intervals, to recognize a state change. Range: 1 to 10 seconds.

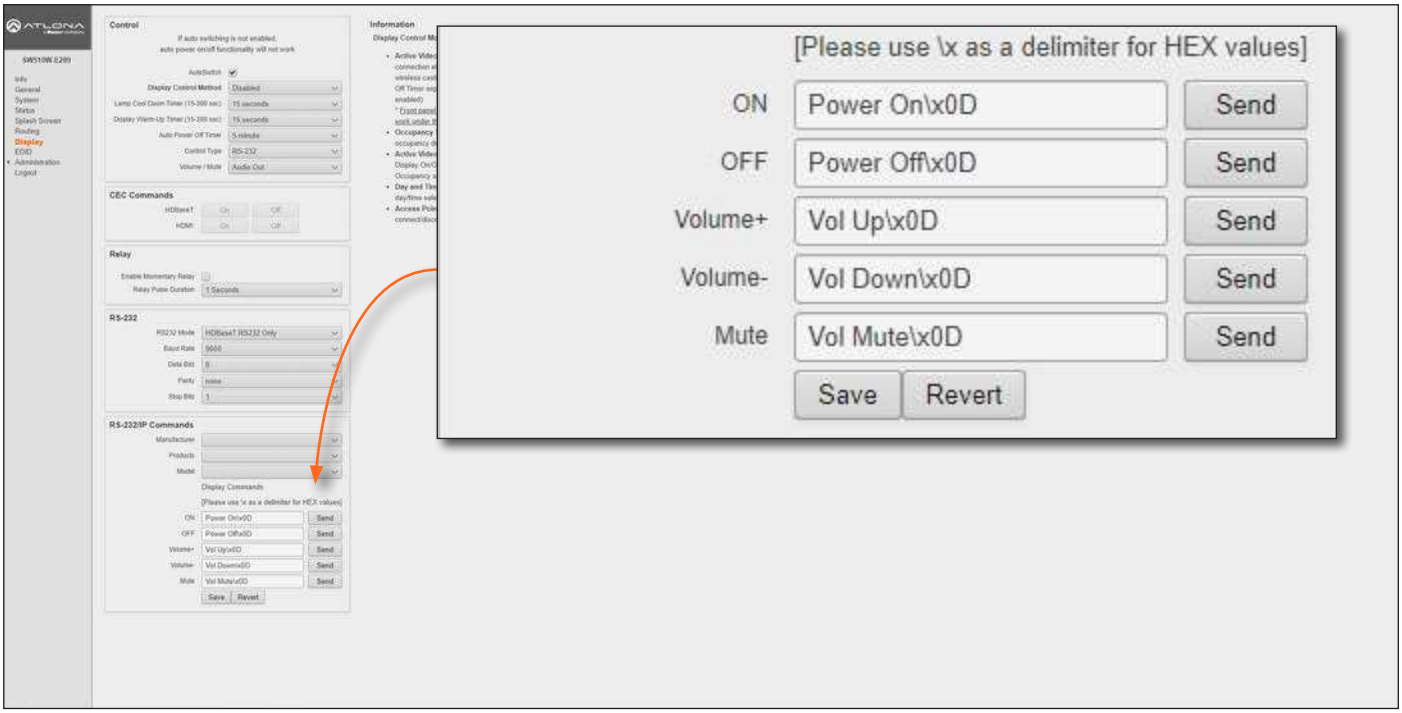
## Trigger I/O

This section defines how the TRIGGER port will respond to varying voltage levels. Either or both of the following conditions can be enabled or disabled.

**Enable Trigger On** / **Enable Trigger Off**
Uncheck the box to enable a *power-off* state when the trigger voltage is pulled from low to high. Check this box to enable a *power-on* state when the trigger voltage is pulled from low to high.

## Control Type : RS-232

When **RS-232** is selected from the **Control Type** drop-down, both the **HDBaseT RS-232** and **RS-232/IP Commands** section is displayed.



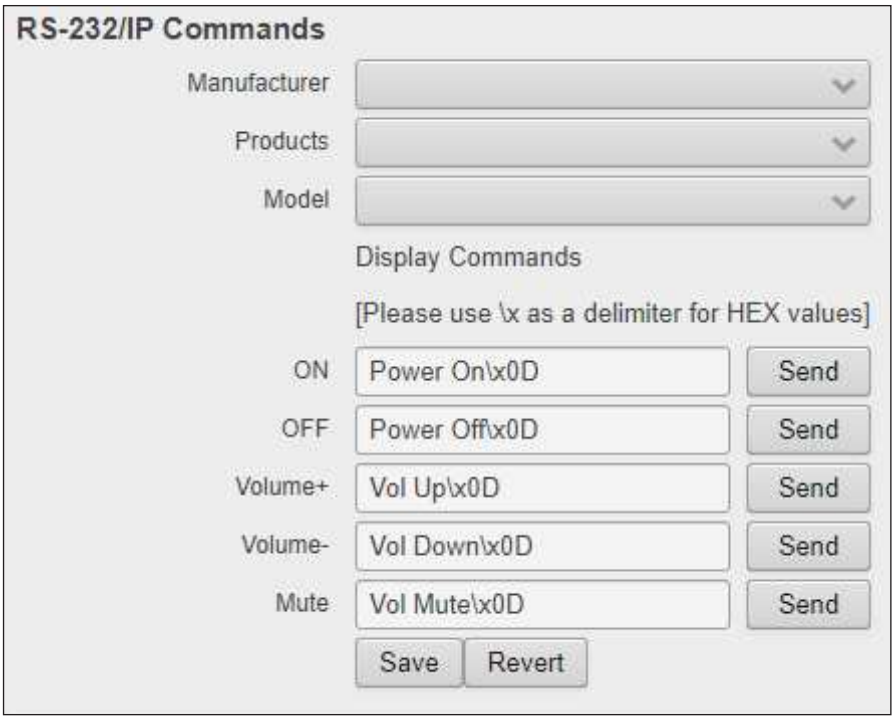

**RS232 Mode**
Click this drop-down list to select the RS-232 mode that will be affected by the **Baud Rate**, **Data Bits**, **Parity**, and **Stop Bits** settings.

| Setting | Description |
|---|---|
| HDBaseT RS232 Only | Assigns settings for RS-232 settings over **HDBaseT OUT**. RS-232 commands will only be transmitted over the **HDBaseT OUT** port. |
| Local RS232 Only | Affects the settings for the **RS-232** port. RS-232 commands will be transmitted to/from the RS-232 port to the control system. |
| Both | Both **HDBaseT OUT** and the **RS-232** port are used. Note that when using both ports, the RS-232 settings must be identical. |

**Baud Rate**, **Data Bits**, **Parity**, and **Stop Bits**
The RS-232 settings for the selected RS-232 mode.

| Setting | Description |
|---|---|
| Baud rate | Sets the baud rate. The following options are available: 9600, 14400, 19200, 38400, 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. |

**RS-232/IP Commands**
Click the **Manufacturer**, **Products**, and **Model** drop-down lists to select the desired product. Note that only a minimal set of devices have been included. Once a device is selected, the **ON**, **OFF**, **Volume+**, **Volume-**, and **Mute** fields will be populated with the correct information for that device. If a device is not listed, enter the appropriate commands the device in each field. Commands can be either ASCII or hexadecimal. If hexadecimal values are used, then use the /x delimiter at the end of the string.




**Save**
Click this button to commit all changes.

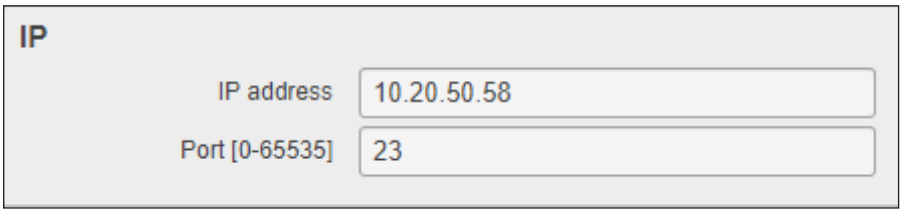
**Revert**
Click this button to undo all changes.

### Control Type : IP

When **IP** is selected from the **Control Type** drop-down, both the **IP** and **RS-232/IP Commands** section is displayed.

**IP Address**
Enter the IP address of the remote device.

**Port [0 - 65535]**
Enter the listening port for the remote device. Values from 0 through 65535 are valid.




**RS-232/IP Commands**
Click the **Manufacturer**, **Products**, and **Model** drop-down lists to select the desired product. Note that only a minimal set of devices have been included. Once a device is selected, the **ON**, **OFF**, **Volume+**, **Volume-**, and **Mute** fields will be populated with the correct information for that device. If a device is not listed, enter the appropriate commands the device in each field. Commands can be either ASCII or hexadecimal. If hexadecimal values are used, then use the /x delimiter at the end of the string.




**Save**
Click this button to commit all changes.

**Revert**
Click this button to undo all changes.

## EDID page



**EDID (Extended Display Identification Data)**
Displays the EDID assigned that is being used by each output. Press the **Save** button to save the EDID to a file.

**Inputs**
The **Input** column displays each of the inputs on the AT-UHD-SW-510W. Click the drop-down list, under the **Selection** column, to select the desired EDID to be used. Click the **Save** button to accept the changes. The table below lists the available EDID presets.

The table below provides a listing of available EDID presets.

| EDID listing | |
|---|---|
| 4K60 2CH | 1366x768@60 2CH |
| 4K30 2CH | 1280x800p60 2CH |
| 4K30 4:4:4 2CH | 1280x720p60 2CH |
| 1920x1200p60 2CH | 1024x768p60 2CH |
| 1920x1080P 2CH (factory-default) | 800x600p60 2CH |
| 1600x900p@60 2CH | |

**Save**
Click this button to commit changes.

# Administration page

## Telnet page

The **Telnet** page provides an emulated terminal for entering commands.



## Moderator page

The **Moderator** page provides control of which device, that are casting, are permitted to display content. Refer to Using Moderator Mode (page 55) for more information.

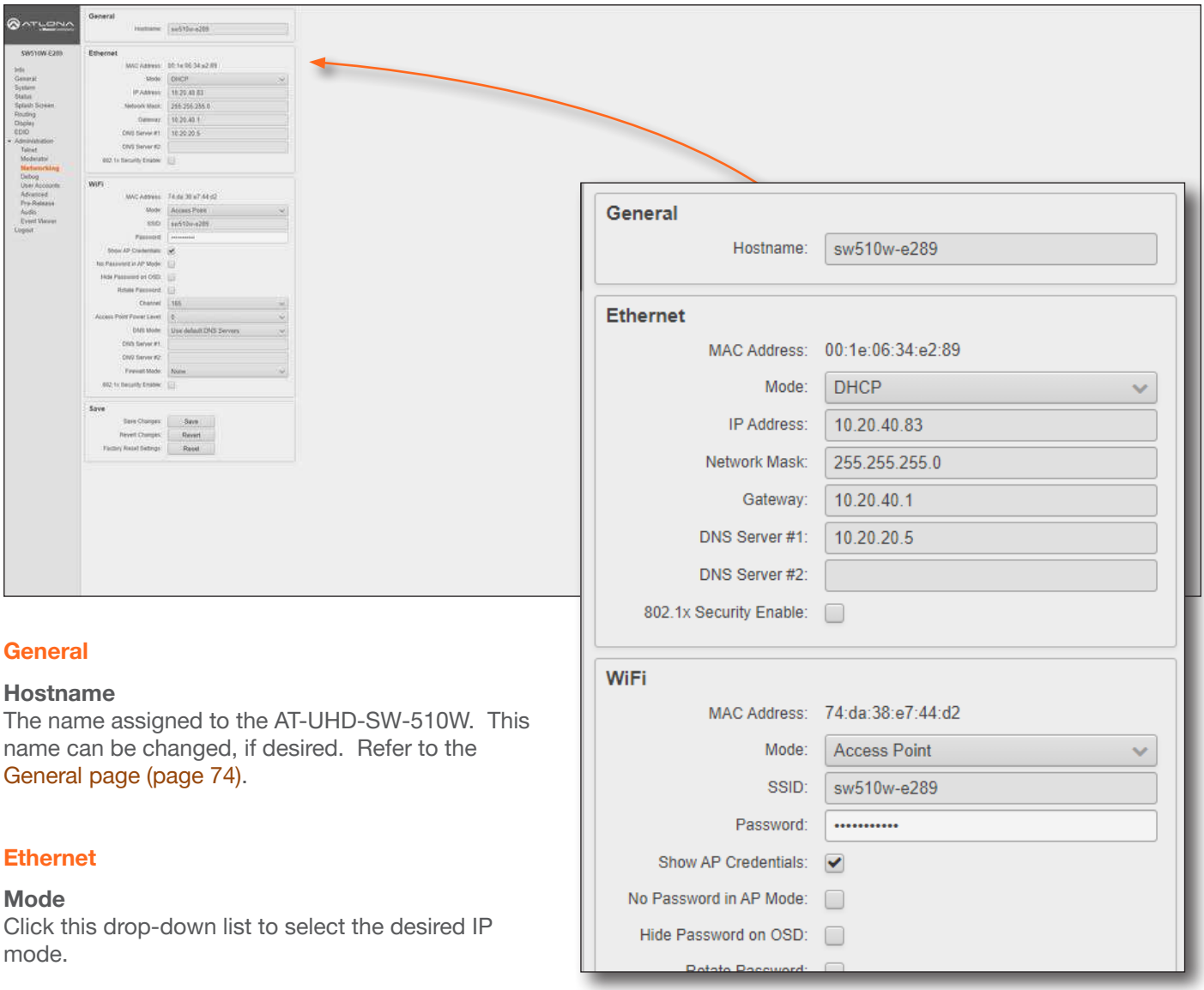



**Enable**
Click this check box to enable or disable Moderator mode. If this box is checked, then Moderator mode is enabled. In order to monitor which devices are allowed to display content, this box must be checked before a device begins casting. If a device is already casting, then enabling this feature will have no effect.

**Users**
This table lists all users which are casting using the AT-UHD-SW-510W. Up to four users can be hosted at one time, but only one can be displayed at a time. Devices will only appear in this table when they are casting. Moderator mode must be enabled for devices to be displayed in this table. When casting devices are displays an **Allow** and **Kick** button will also be displayed.

## Networking page

Use this page to configure network settings for the AT-UHD-SW-510W. This page is also used to configure Access Point and Connect to WiFi modes. Refer to the IT Network Deployment Guide for detailed information on configuring the AT-UHD-SW-510W in various network environments.




### General

**Hostname**
The name assigned to the AT-UHD-SW-510W. This name can be changed, if desired. Refer to the General page (page 74).

### Ethernet

**Mode**
Click this drop-down list to select the desired IP mode.

| Setting | Description |
|---|---|
| DHCP | Select this option to have a DHCP server (if available) assign an IP address to the AT-UHD-SW-510W. |
| Static | Select this option to enter a specific IP address. When set to Static mode, the subnet mask, gateway, and DNS servers can be specified. |
| Factory Static | Select this option to use the factory-default wired network settings. In this mode, only the DNS Server fields can be modified. The **IP Address**, **Network Mask**, and **Gateway** fields will be set to the following values:<br>• IP Address = 192.168.1.254<br>• Network Mask = 255.255.0.0<br>• Gateway = 192.168.1.1 |

**IP Address**
Enter the desired IP address for the AT-UHD-SW-510W in this field. This field can only be changed when **Mode** is set to **Static**.

**Network Mask**
Enter the subnet mask in this field. This field can only be changed when **Mode** is set to **Static**.

**Gateway**
Enter the gateway (router) address in this field. This field can only be changed when **Mode** is set to **Static**.

**DNS Server #1 / DNS Server #2**
Enter the DNS server addresses in the DNS Server #1 and DNS Server #2 fields. If the AT-UHD-SW-510W will be used within an internal LAN, this information is not required. This field can only be changed when **Mode** is set to **Static**.

**802.1x Security Enable**
Click this checkbox to enable 802.1x authentication mode. When enabled, the RADIUS server, port, and secret fields will be available. Refer to 802.1X Authentication (page 59) for more information.

## WiFi - Access Point Mode

**Mode**
Click this drop-down list to select the desired Wifi mode.

| Setting | Description |
|---|---|
| Access Point | Select this option to configure the AT-UHD-SW-510W as a Wireless Access Point, allowing other wireless devices to connect to the same wired network as the AT-UHD-SW-510W. |
| Connect to Wif | Select this mode to connect the AT-UHD-SW-510W to the specified SSID of a wireless host. |
| Disabled | Select this mode to disable Wi-Fi on the AT-UHD-SW-510W. |

**SSID**
The SSID assigned to the AT-UHD-SW-510W. The SSID name can be changed under the General page (page 74).

**Firewall Mode**
This option is unique to Access Point Mode. Refer to the Firewall Mode option, on the next page, for more information.

**Password**
Enter the password required to connect to the AT-UHD-SW-510W.

**Hide Password on OSD**
By default, the password will be displayed on the OSD. Check this box to hide the password on the OSD.

**Rotate WiFi Password**
Click this check box to randomly generate a new password after the specified time interval has expired.

**Hide OSD in Rotate WiFi Password**
Click this check box to prevent the rotated password from being displayed on the OSD.

**Password Rotation Interval**
Click this drop-down list to select the desired time interval before the password is randomly changed.

**Channel**
Click this drop-down list to select the desired wireless channel. Channels 1 through 11 are 2.5 GHz channels. Channels 36 and above are 5 GHz channels. Contact the network administrator if necessary.

**Access Point Power Level**
Sets the transmission power of the USB WiFi antennas. Click the drop-down list to select the power level. Available values are integers 0 through 13. Lower values will reduce transmission power of the USB WiFi antenna, thus limiting the range of the Access Point on the AT-UHD-SW-510W.

**DNS Mode**
Click this drop-down list to select the desired DNS mode.

**DNS Server #1 / DNS Server #2**
Enter the DNS server addresses in the **DNS Server #1** and **DNS Server #2** fields. If the AT-UHD-SW-510W will be used within an internal LAN, this information is not required.

**Firewall Mode**
This feature is only available when the Wifi mode is set to Access Point. Click the **Firewall Mode** drop-down list to select the desired mode. This feature allows control of incoming and outgoing network traffic. The AT-UHD-SW-510W provides the following firewall modes: **Block Private Network**, **Block Internet**, **Block All**, and **None**.

| Setting | Description |
|---|---|
| None | Select this option to disable the firewall on the AT-UHD-SW-510W and allow all incoming and outgoing network traffic. |
| Block Private Network | Select this option to prevent unauthorized clients from accessing the AT-UHD-SW-510W. |
| Block Internet | Allows wireless access to the AT-UHD-SW-510W but prevent Internet access (Google, YouTube, etc). |
| Block All | All outbound network traffic is blocked. |

**802.1x Security Enable**
Click this checkbox to enable 802.1x authentication mode. When enabled, the Radius Server, Radius Port, and Radius Secret fields will be available. Refer to 802.1X Authentication (page 59) for more information.

## Save

**Save**
Click this button to commit changes within the **Network** menu.

**Revert**
Click to abort changes.

**Reset**
Click this button to reset the network settings to factory-default settings.

### WiFi - Connect to WiFi Mode

**Mode**
Click this drop-down list to select the desired Wifi mode.

| Setting | Description |
|---|---|
| Access Point | Select this option to configure the AT-UHD-SW-510W as a Wireless Access Point, allowing other wireless devices to connect to the same wired network as the AT-UHD-SW-510W. |
| Connect to Wif | Select this mode to connect the AT-UHD-SW-510W to the specified SSID of a wireless host. |
| Disabled | Select this mode to disable Wi-Fi on the AT-UHD-SW-510W. |

**Preferred Gateway**
When set to **Connect to WiFi** mode, the AT-UHD-SW-510W can only be accessed though the same network, over Ethernet or WiFi, not both. For example, if **Ethernet** is selected, then the AT-UHD-SW-510W can only be accessed from the same network over Ethernet. However, it should be noted that casting is supported on *both* interfaces, simultaneously.

**SSID**
Click the **Pick** button to display a pop-up dialog displaying all available WiFi networks. Click the desired WiFi network from the list and click the **OK** button to accept the selection or click **Cancel** to return without making a WiFi network selection. When a wireless network is selected, its name will appear in the **SSID** field.

**Password**
Enter the password required to connect to the wireless network, in this field.

**IP Address**
The IP address of the wireless network which the AT-UHD-SW-510W is connected.

**Network Mask**
The network mask of the wireless network which the AT-UHD-SW-510W is connected.

**Gateway**
This field cannot be changed.

**DNS Server #1 / DNS Server #2**
These fields cannot be changed.

**802.1x Security Enable**
Click this checkbox to enable 802.1x authentication mode. When enabled, the Radius Server, Radius Port, and Radius Secret fields will be available. Refer to 802.1X Authentication (page 59) for more information.

### Save

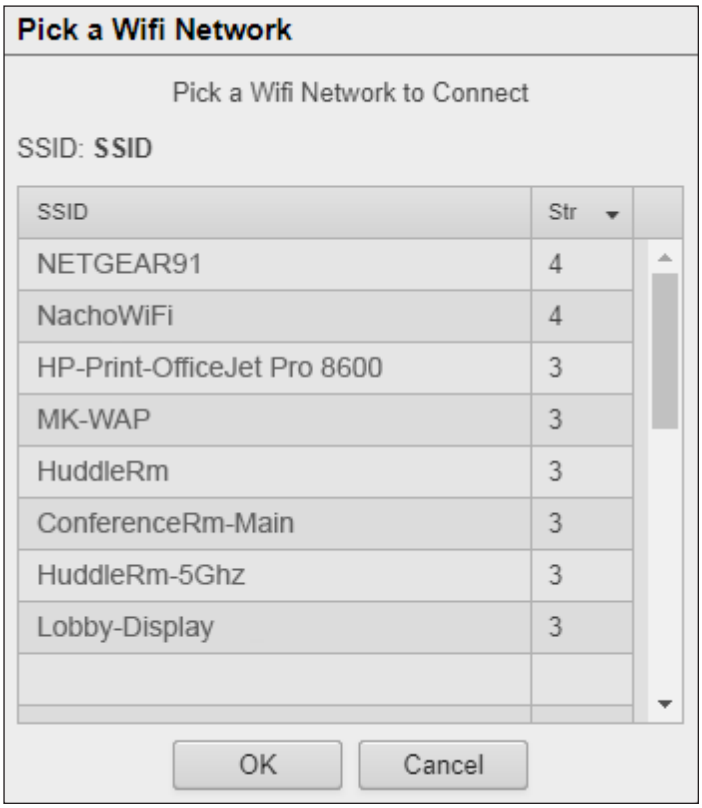
**Save**
Click this button to commit changes within the **Network** menu.

**Revert**
Click to abort changes.

**Reset**
Click this button to reset the network settings to factory-default settings.

## Connecting to a Wifi Network

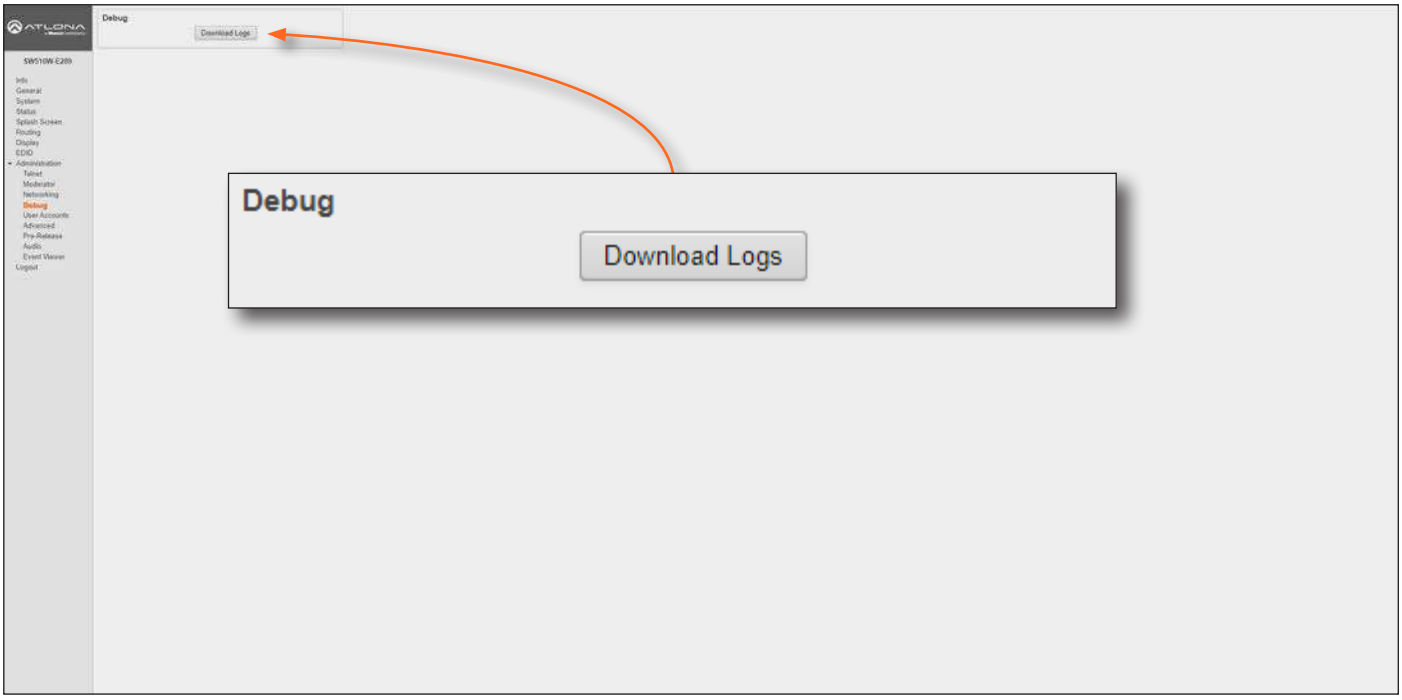
1. Select **Connect to WiFi** from the **Mode** drop-down list.
2. Click the **Pick** button to open the **Pick a Wifi Network** dialog box.




3. Click on the desired wireless network from the list.
4. Click the **OK** button.
5. The wireless network name will appear in the **SSID** field.

## Debug page

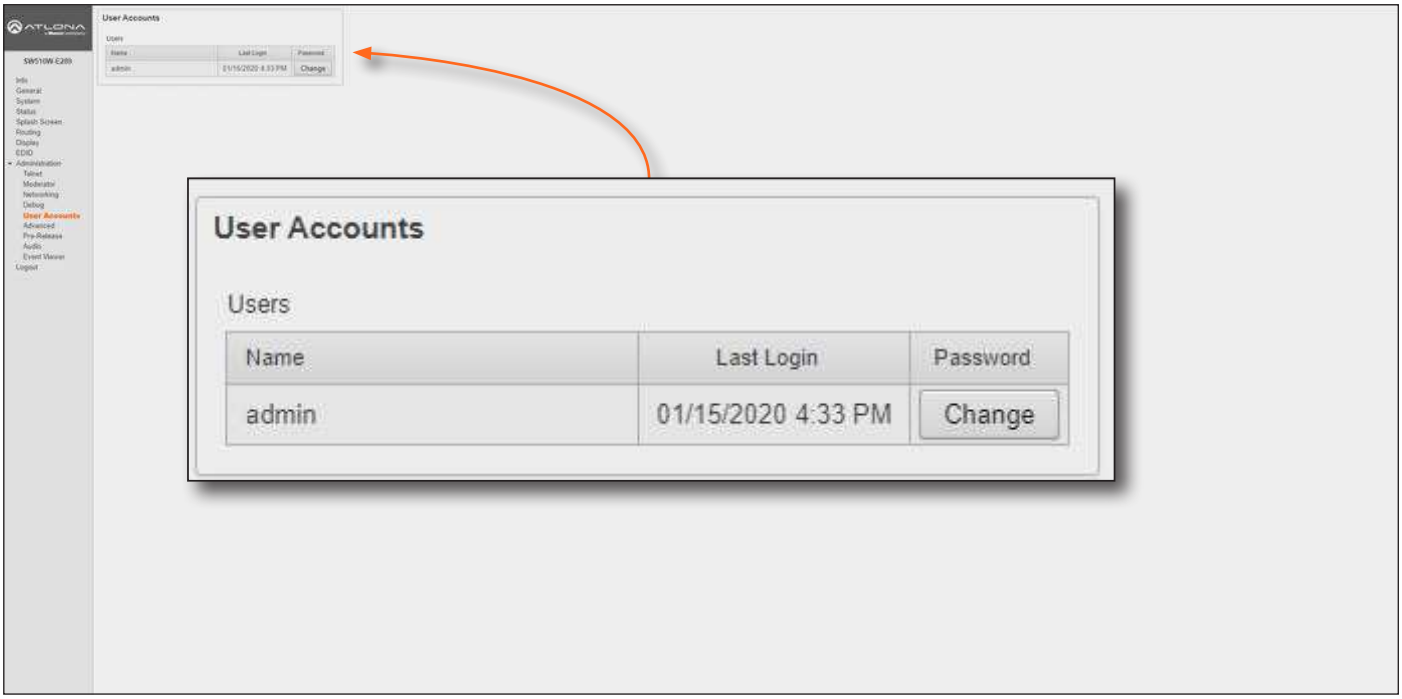
Click the **Download Logs** button to download the debug logs. Debug logs are downloaded in a .zip file. Debug logs are used by Atlona Technical Support Engineers to identify functionality issues.



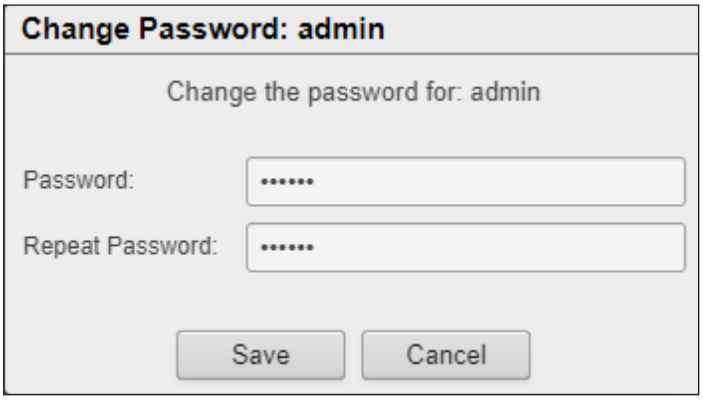

1. Click **Debug** on the side menu bar.
2. Click the **Downloads Logs** button to display the **Save As** dialog box.
3. Browse to the desired folder where the .zip file will be downloaded.
4. Click the **Save** button on the **Save As** dialog to save the debug log file.

## User Accounts page

This page allows the default password to be changed.




1. Click the **Change** button to display the **Change Password** dialog box.




2. Enter the new password in the **Password** field.
3. Re-enter the same password in the **Repeat Password** field.
4. Click the **Save** button to commit changes or click **Cancel** to abort the process.

## Advanced page

Provides options for advanced functionality.




### Telnet

**Enable Telnet**
Click this check box to enable or disable the Telnet protocol for the AT-UHD-SW-510W. When checked, Telnet is enabled.

**Telnet Authentication**
Click this check box to enable or disable the Telnet authentication. When checked, Telnet is enabled. When this feature is enabled, username and password credentials will be required at the beginning of the Telnet session. The default login credentials are the same default credentials used by the web GUI.

**Enable Whitelisting**
Click this check box to enable whitelisting. Whitelisting only allows Telnet access to those users within the specified network. Users outside the network will not be granted access.

**Whitelist**
Enter the network IP address using CDIR notation (e.g. 192.168.11.1/24), in this field. Multiple network IP addresses can be specified with a comma and space: 192.168.11.1/24, 10.0.1.1/24.

**Save Whitelist**
Click the **Save** button to save the whitelist field.

## BYOD

**Max BYOD Time**
Click this drop-down list to select the desired time interval before the connected BYOD is automatically disconnected from the AT-UHD-SW-510W. Available options are 35 minutes to 5 hours.

**Kick User**
Click this button to disconnect the current BYOD.

**Airplay Bluetooth - Discovery**
Click this check box to enable Bluetooth discovery when using an Ethernet connection. Refer to AirPlay Bluetooth Discovery (page 51) for more information.

**Airplay/Miracast P2P PIN**
Click this check box to allow the ability to add randomized PIN codes when connecting using AirPlay.

**Airplay/Miracast P2P PIN expiration**
Click this drop-down list to select the time interval before a new PIN code is requested by the system. This drop-down list is only available if the **Airplay/Miracast P2P PIN** check box is checked.

| Setting | Description |
|---|---|
| Update Pin every new connection | A new PIN code is generated each time a device attempts to connect to the AT-UHD-SW-510W. |
| Update Pin every 15 minutes | A new PIN is generated every 15 minutes, whether or not a connection request is made. |
| Update Pin every 60 seconds | A new PIN is generated every 60 minutes, whether or not a connection request is made. |

**Airplay Enable**
Click this check box to enable AirPlay. This option is enabled by default.

**Google Cast Enable**
Click this check box to enable Google Cast™. This option is enabled by default.

**Miracast Enable**
Click this check box to enable Miracast. This option is enabled by default.

**Casting Device Name display**
Check this box to show the hostname of the casting device on the splash screen.

## Front Panel (Revision C only)

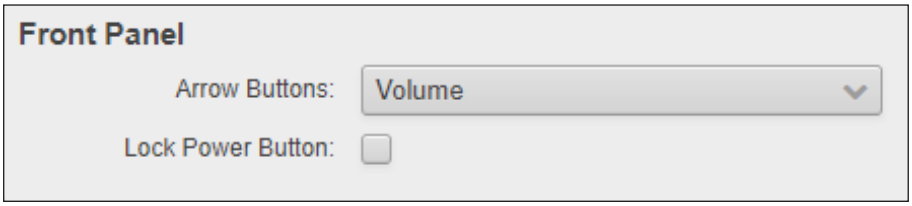
**Lock Power Button**
Click check box to enable or disable the locking of the **DISPLAY** button on the front panel. Locking this button will prevent accidental pressing of the **DISPLAY** button and powering-off the unit.

## Front Panel (Revision A and B only)

**Arrow Buttons**
Click this drop-down list to define the functionality of the front-panel arrow buttons. By default this option is set to Volume.

| Setting | Description |
|---|---|
| Volume | Press the up and down arrow buttons to increase or decrease the output volume, respectively. |
| OSD | The up-arrow button displays the OSD.<br>The down-arrow button hides the OSD. |

**Lock Power Button**
Click check box to enable or disable the locking of the **DISPLAY** button on the front panel. Locking this button will prevent accidental pressing of the **DISPLAY** button and powering-off the unit.




## Security

**Portal Mode**
Click this drop-down list to select the desired HTTP protocol.

| Setting | Description |
|---|---|
| HTTP and HTTPS | Provides either HTTP or HTTPS connections at the login screen. |
| HTTPS | Used for secure connections only. |

**Block USB HID**
Deactivates / disables the USB ports on the rear panel of the AT-UHD-SW-510W.

**Enable REST API Authentication**
Enables or disables REST authentication when using the AT-UHD-SW-510W API. Click this check box to enable the feature.

**Enable CORS**
Check this box to enable Cross-Origin Resource Sharing (CORS). This allows the AT-UHD-SW-510W to connect with certain servers. CORS is a method which allows restricted resources on a web page to be requested from another domain. Resources can include stylesheets (CSS), scripts, and other embedded elements.

## Firmware

**MCU Firmware**
Check the **Upload** button to upload the MCU firmware.

## Maintenance

**Allow Maintenance Window**
Check this box to enable maintenance mode. This feature can only be enabled if the local time has been set. Refer to Setting the System Date and Time (page 21) for more information. When enabled, the system will automatically restart all of its processes at 3:30 PM, every day.

## Pre-Release page

This page lists beta features, which are currently in the pre-release / testing stage.  It should be noted that these features may not function reliably.



## Audio page

Adjusts the output volume.

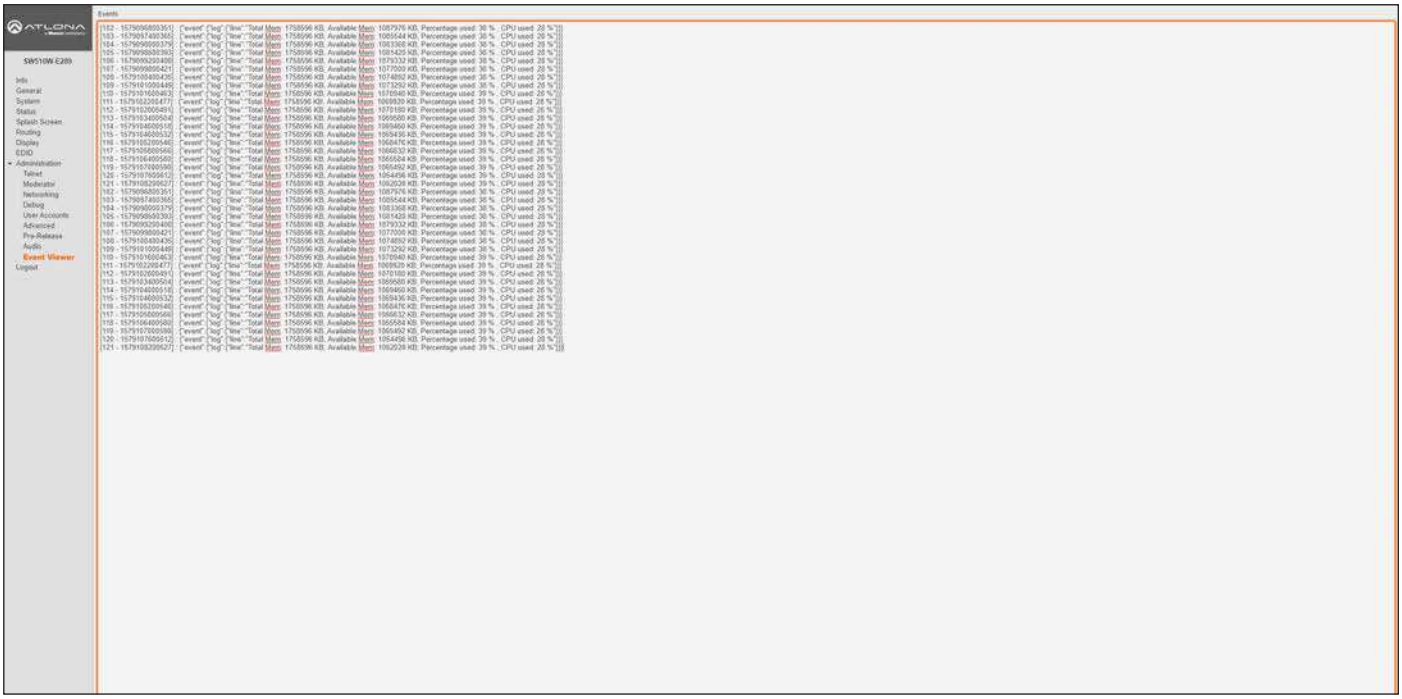



**Audio**
Click and drag this slider to adjust the output volume. Output is adjustable from -80 to 0 dB.

**Audio Input**
Click these drop-down lists to select the desired audio input source. If **Analog** is selected, then the analog audio source connected to the 3.5 mm **AUDIO IN** port will be heard on that output. Refer to Selecting the Audio Input (page 50) for more information.

## Event Viewer page

Displays a dynamic list of events, returned in JSON format.  The image below, shows a list of sample events.



# Appendix

## Updating the Firmware

The following procedure outlines the firmware update procedure for the AT-UHD-SW-510W. This product can only be updated through the web GUI.

**WARNING**: Do not physically reboot the system during the update process. Doing so may cause firmware file corruption and/or system instability.

**Requirements:**

- AT-UHD-SW-510W
- MCU and Master firmware files

### Updating from Version 2.0.0 or later

**IMPORTANT**: This section applies *ONLY* to upgrading from version 2.0.0 or later. The AT-UHD-SW-510W ***must*** be running version 2.0.0 in order to upgrade to the latest version.

If the AT-UHD-SW-510W is running an earlier version of firmware refer to **Updating from 1.2.1-5 or earlier**, on page 3, and complete that procedure before continuing.

**IMPORTANT**: Note that the firmware update cycle could take up to 10 minutes and the AT-UHD-SW-510W may reboot twice during update process.

1. Download the latest firmware files from https://atlona.com/product/at-uhd-sw-510w/.
2. Connect the computer, containing the firmware files, to the same network as the AT-UHD-SW-510W.
3. Press and release the **IP** button on the front panel. The IP address of the AT-UHD-SW-510W will appear on the connected display.

   **NOTE:** If using hardware revision A or B, simultaneously press and hold the **INPUT** and **Λ** buttons on the front panel for five seconds, then release. The IP address will appear on the connected display. The hardware revision can be found on the label, on the bottom of the unit.

4. Launch a web browser and enter the IP address of the AT-UHD-SW-510W in the address bar.
5. The **Login** screen will be displayed. Enter the login credentials. The default username and password are listed below:

   **User** admin
   **Password** Atlona

6. Click **System** on the side menu bar.
7. Click the **Upload** button and select the SW510-[version].bin file. Refer to the illustration on the next page.




8. During the update process, the following message will appear in the upper-right corner of the screen. Note that the update process may take **up to five minutes to complete**. The unit will automatically reboot as part of the update process.




9. After the firmware process has completed, the AT-UHD-SW-510W will automatically reboot and the following message will appear at the top of the screen:




10. Click the message or press the ESC key to return to the **Login** screen. Enter the login credentials.
11. The firmware update is complete.

## Updating from Version 1.2.1-5 (or ealier)

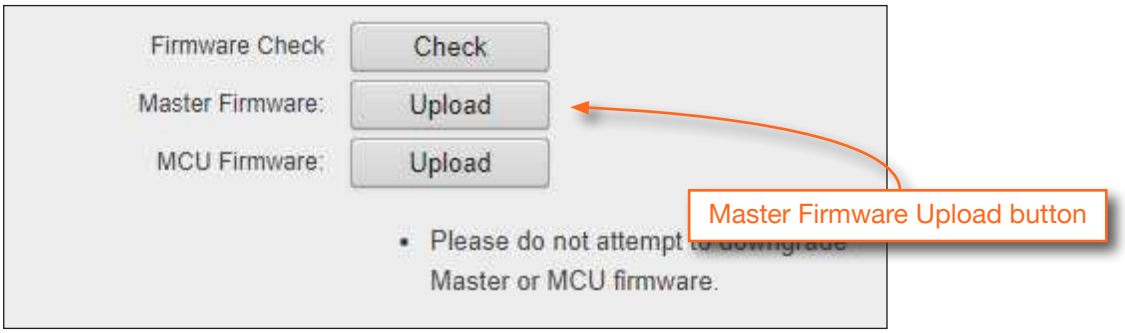
1. Download the firmware file from https://atlona.com/product/at-uhd-sw-510w/.
2. Connect the computer, containing the firmware files, to the same network as the AT-UHD-SW-510W.
3. Press and release the IP button on the front panel. The IP address will appear on the connected display.

**NOTE:** If using hardware revision A or B, simultaneously press and hold the **INPUT** and ∧ buttons on the front panel for five seconds, then release. The IP address will appear on the connected display.

4. Launch a web browser and enter the IP address of the AT-UHD-SW-510W in the address bar.
5. The **Login** screen will be displayed. Enter the login credentials. The default username and password are listed below:

| | |
|---|---|
| **User** | admin |
| **Password** | Atlona |

6. Click **System** on the side menu bar.
7. Click the **Upload** button next to **Master Firmware** and select the SW-510W_MASTER_2.0.0-A.war file.




**WARNING**: Do not physically reboot the system during the update process. Doing so may cause firmware file corruption and/or system instability.

8. During the update process, the following message will appear in the upper-right corner of the screen. Note that the update process may take **up to five minutes to complete**. The unit automatically reboots.

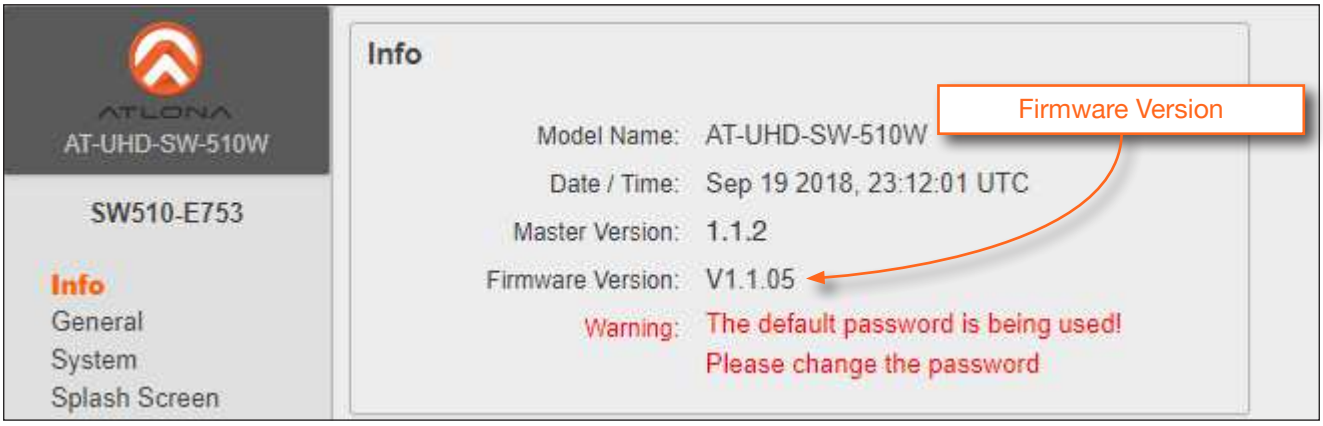



**NOTE:** Depending upon the currently-loaded firmware, a “hard reboot” may be required in order to reestablish communication with the webGUI. To perform a hard reboot, disconnect the power cord, wait 10 seconds, then reconnect the power.

9. The following message will appear at the top of the screen. Click the message or press the ESC key to return to the **Login** screen. Enter the login credentials.




10. Click **Info** on the side menu bar and check the **Firmware Version**.




- If the Firmware Version reads **1.1.05**, then the firmware update process is complete. No additional steps are required.
- If the Firmware Version is an *earlier* firmware, then continue with Step 11.

11. Click **System** on the side menu bar.

12. Click the **Upload** button, next to **Update Firmware** and select the SW510-[version].bin file.

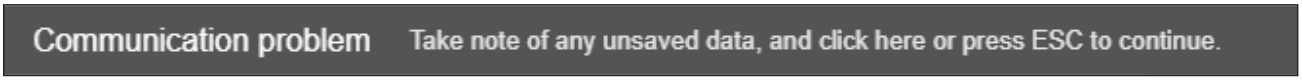



**WARNING**: Do not physically reboot the system during the update process. Doing so may cause firmware file corruption and/or system instability.

13. During the update process, the following message will appear in the upper-right corner of the screen. Note that the update process may take **up to five minutes to complete**. The unit automatically reboots.

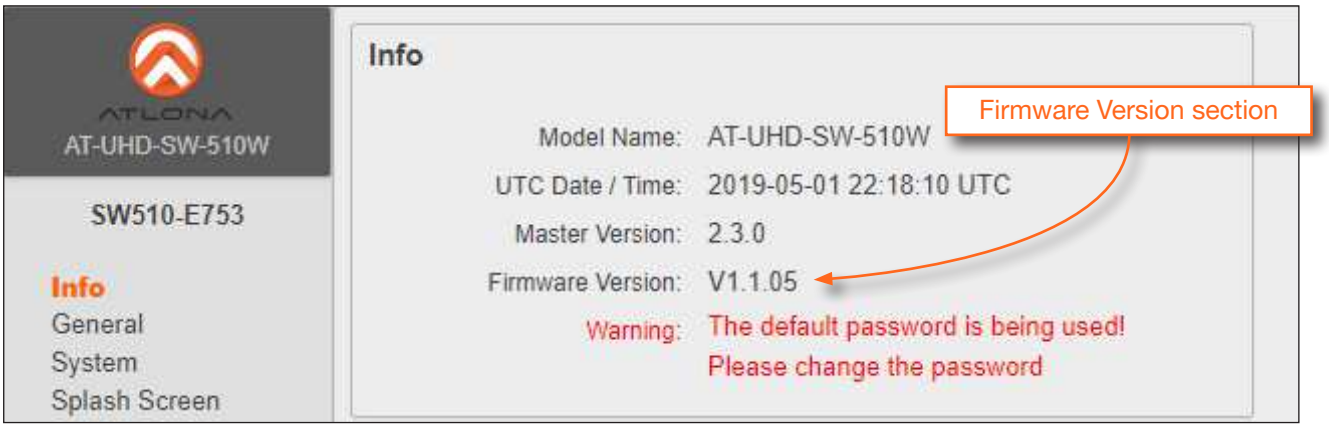



14. After the firmware process has completed, the AT-UHD-SW-510W will automatically reboot and the following message will appear at the top of the screen:




15. Click the message or press the ESC key to return to the **Login** screen. Enter the login credentials.

16. Click **Info** on the side menu bar and check the presence of the **Firmware Version** section. It should read V1.1.05.




17. If there is no **Firmware Version** section, then do the following:

    a. Click **System** on the side menu bar.

    b. Click the **Shutdown** button.

    c. Wait one minute, then power-on the unit.

18. The firmware update process is complete.

# Mounting Instructions

The AT-UHD-SW-510W can be mounted in different ways, based on the number of units that are being installed. The AT-UHD-SW-510W can be mounted in a rack or on/under any flat surface.

**NOTE:** AT-UHD-510W-RM rack ears are sold separately. Contact Atlona for more information.

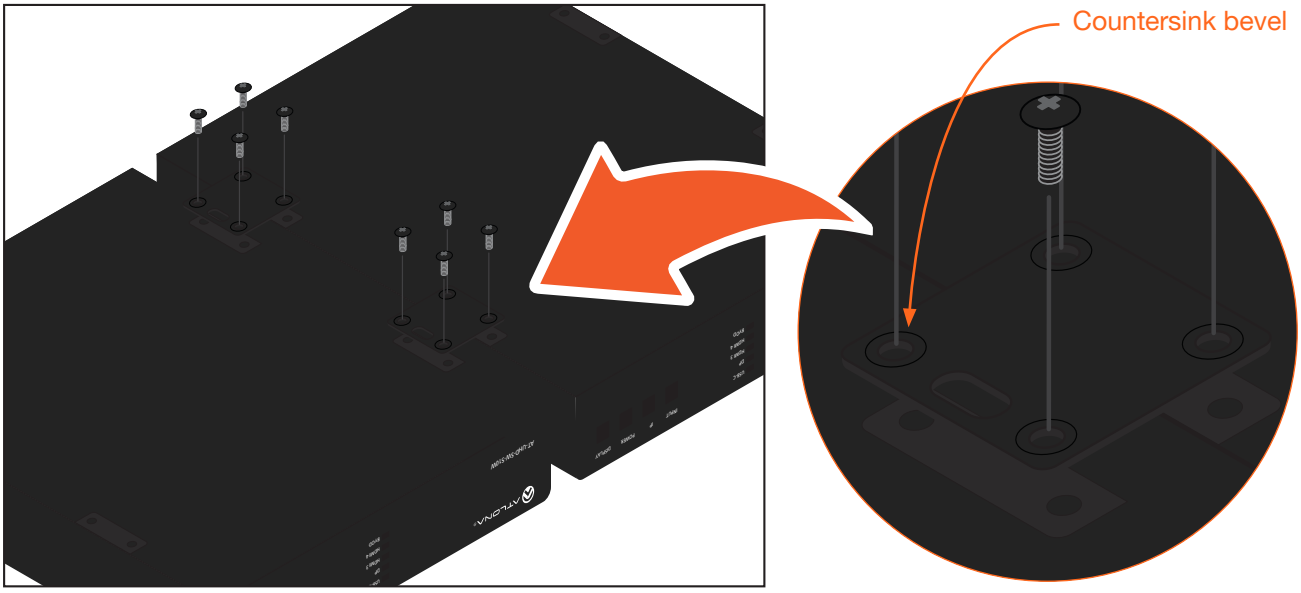
## Single-unit Rack Installation

1. Attach the included small rack ear (sold separately) to one side of the AT-UHD-SW-510W, using the included screws.
2. Attach the included longer rack ear (sold separately) to the opposite side of the AT-UHD-SW-510W using the included screws.

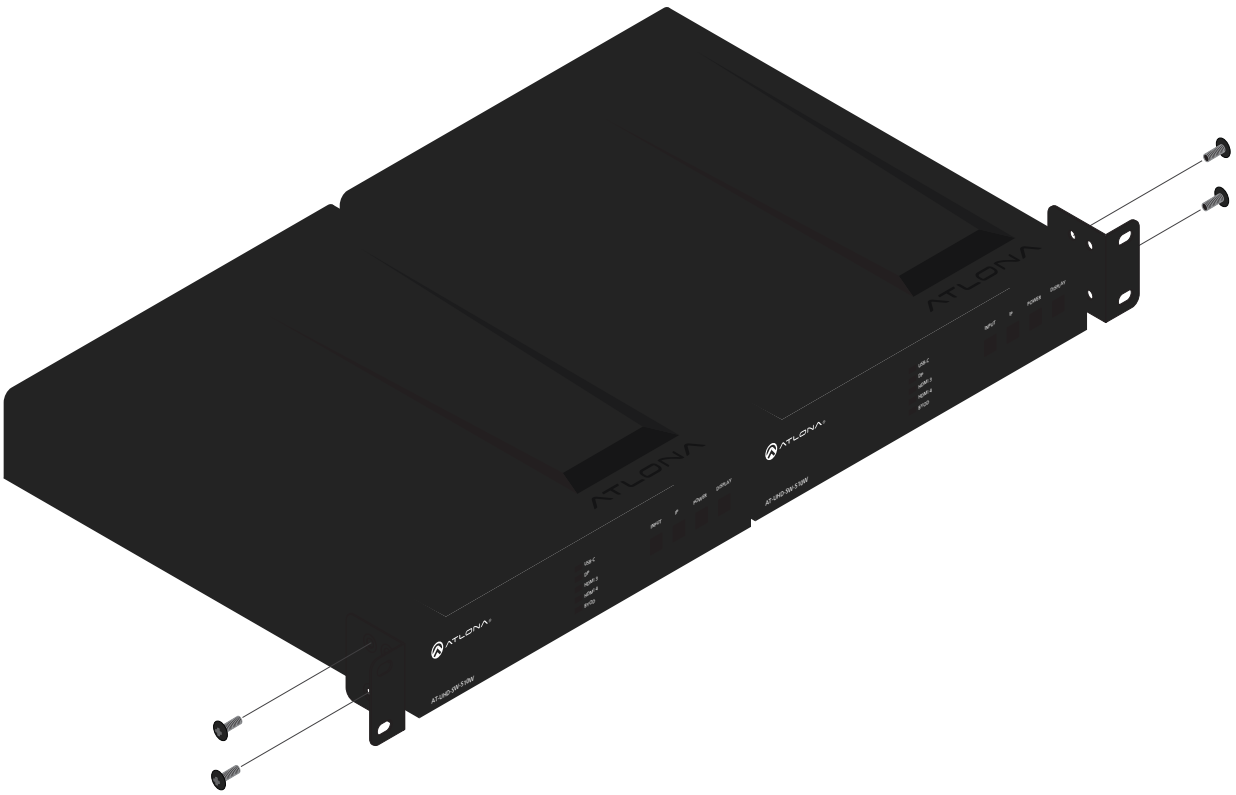


## Dual-unit Rack Installation

1. Turn both units upside-down on a flat surface, next to each other, as shown.
2. Position the included mounting plates over the holes on the bottom of the enclosure.
   When attaching mounting plates, the countersink bevels on the mounting plate should face upward.

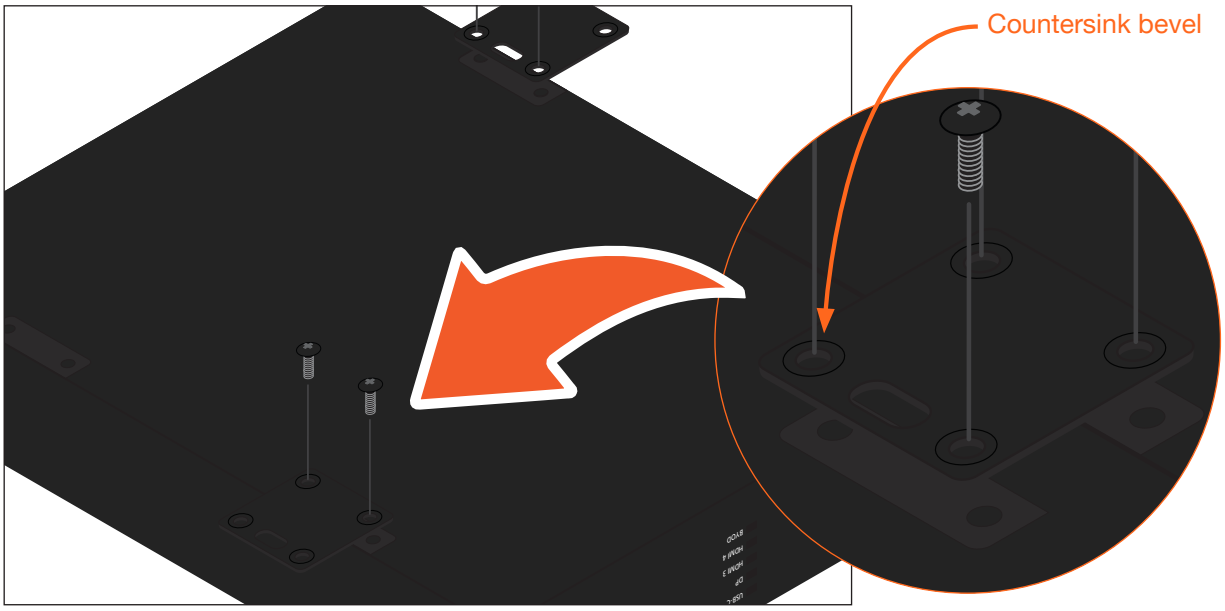



3. Turn the attached units over and install the rack ears (sold separately) to one side of each enclosure using the included screws.

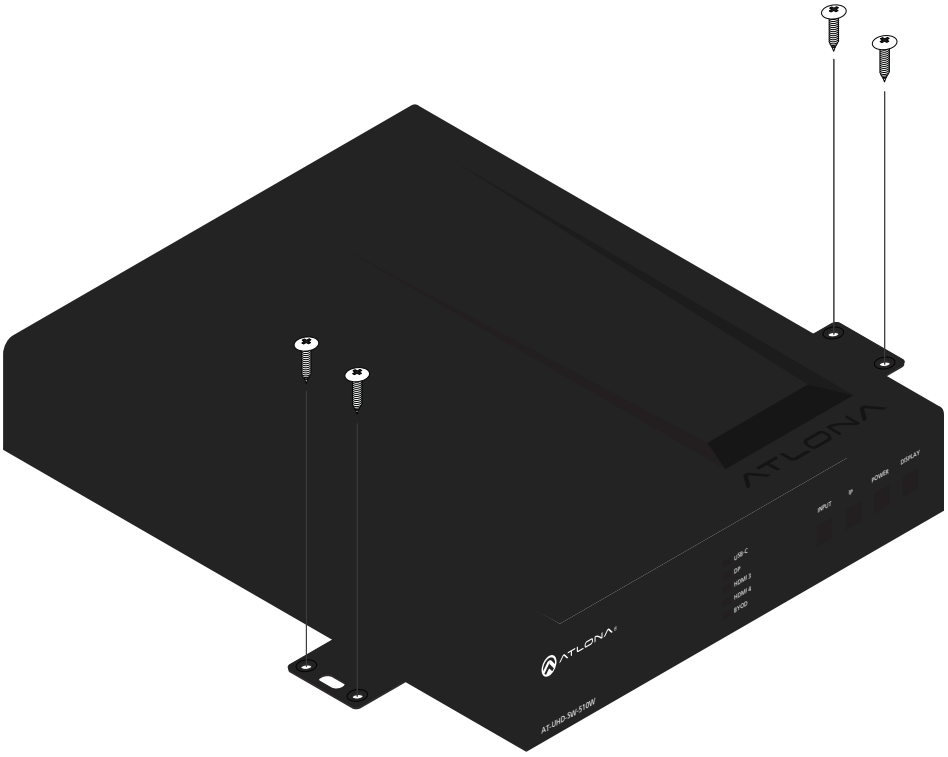


## Flat Surface

1. Turn the unit upside down, on a flat surface.
2. Position the included mounting plates over the pre-drilled holes on the bottom of the enclosure. When attaching mounting plates, the countersink bevels on the mounting plates should face upward.




3. Mount the unit using the circular holes, on each mounting plate. If using a drywall surface, a #6 drywall screw is recommended. Mounting screws are not included.



**NOTE:** The unit can also be mounted under a flat surface, such as a table, by turning the unit upside down.

# Specifications

| Connectors, Controls, and Indicators | |
|---|---|
| HDMI IN | 2 - Type A, 19-pin female |
| HDMI OUT | 1 - Type A, 19-pin female |
| DP IN | 1 - 20-pin female |
| USB-C IN | 1 - USB Type-C v3.1, 24-pin female, AV input (Alternate Mode) |
| USB | 3 - USB 2.0 Type A for Wi-Fi® antenna modules |
| RS-232 | 1 - 3-pin captive screw (bidirectional) |
| RELAY | 1 - 3-pin captive screw, normally open (NO), with adjustable Toggle and Pulse modes<br>Electrical rating: 48 V @ 1 A |
| TRIGGER | 1 - 4-pin captive screw<br>Electrical rating: 30 V @ 1 A (max.) |
| AUDIO IN | 1 - 3.5 mm, unbalanced 2-channel |
| AUDIO OUT | 1 - 5-pin captive screw, balanced / unbalanced 2-channel |
| HDBaseT OUT | 1 - RJ45 |
| LAN | 1 - RJ45 |
| DC 24V | 1 - 4-pin, locking |
| **Control Buttons:**<br>INPUT, IP, POWER, DISPLAY | 4 - momentary, tact-type |
| **Input Indicators:**<br>USB-C, DP, HDMI 3, HDMI 4, BYOD | 5 - LED, blue |

| Video | |
|---|---|
| UHD/HD/SD | 4096x2160@60/30/25/24Hz*, 3840×2160@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 | 2560×1600, 2048×1536, 1920×1200, 1680×1050, 1600×1200, 1440×900, 1400×1050, 1280×1024, 1280×800, 1366×768, 1360×768, 1152×864, 1024×768, 800×600, 640×480 |
| USB-C | Up to 4K/UHD @ 60Hz for devices supporting USB-C Alternate Mode video output |
| Wireless | Up to 1080p @ 30Hz 4:2:0 (up to 1080p @ 60Hz with Miracast™); dependent on wireless signal quality |
| Color Space | YUV, RGB |
| Chroma Subsampling | 4:4:4, 4:2:2, 4:2:0 |
| Wireless Chroma Subsampling | 4:2:0 |
| Color Depth | 8-bit, 10-bit, 12-bit |
| HDR † | HDR10 and Dolby® Vision™ @ 60Hz; HDMI or DisplayPort inputs only |

* HDMI output supports 4K/UHD @ 50 or 60Hz with 4:4:4 chroma sampling. HDBaseT output supports 4K/UHD @ 50 or 60Hz with 4:2:0 chroma subsampling. † HDR not supported for HDBaseT output.

| 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/6 | 230 | 70 | 330 | 100 |
| CAT6a/7 | 330 | 100 | 330 | 100 |

# Appendix

| Signal | |
|---|---|
| Maximum TMDS Clock | 600 MHz (300 MHz over HDBaseT) |
| HDMI | HDMI 2.0* |
| HDBaseT | 10 Gbps † |
| CEC Support | Yes |
| HDCP | 2.2 (wired device connections, only) |

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

| USB | |
|---|---|
| USB-C Power | Up to 60 W / 3 A at 20 V |
| USB-C Device Charging Capability | Up to 20 V, 3 A<br>Output: 60 W @ 20 V, 36 W @ 12 V, 15 W @ 5 V |

| IP | |
|---|---|
| Protocols | DHCP, HTTP, Telnet, SSH, TCP/IP, UDP |
| Security | HTTPS, SSL,TLS |
| Authentication | IEEE 802.1x |
| Ethernet Speed | 10/100/1000 Mbps |
| Addressing | DHCP, static |
| Wi-Fi | IEEE 802.11n/ac 2.5 GHz / 5 GHz |
| Wi-Fi Protocols | WPA, WPA2, PSK |
| Antenna | 2 included |

| Temperature | Fahrenheit | Celsius |
|---|---|---|
| Operating | 32 to 122 | 0 to 50 |
| Storage | -4 to 140 | -20 to 60 |
| Humidity (RH) | 20% to 90%, non-condensing | |

| Power | |
|---|---|
| Consumption (full load) | 121 W |
| Idle Consumption | 35 - 40 W |
| Supply | Input: 100 - 240 V AC, 50/60 Hz<br>Output: 24 V / 5 A DC |

| Dimensions | Inches | Millimeters |
|---|---|---|
| H x W x D (w/ feet) | 1.77 x 8.46 x 10.19 | 48 x 215 x 259 |
| H x W x D (w/o feet) | 1.73 x 8.46 x 10.00 | 44 x 215 x 254 |

| Weight | Pounds | Kilograms |
|---|---|---|
| Device | 3.70 | 1.68 |

| Certification | |
|---|---|
| Device | CE, FCC, UL |

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