ATLONA
a PANDUIT company

4K HDR
HDMI Matrix Switcher
with SDVoE Extension Outputs

AT-PRO5-MX810 | Atlona Manuals **Switchers**

Version Information

Version	Release Date	Notes
1	Jan 2025	Initial release

Sales, Marketing, and Customer Support

Main Office

Atlona Incorporated
70 Daggett Drive
San Jose, CA 95134
United States

Office: +1.408.962.0515

Sales and Customer Service Hours
Monday - Friday: 6:00 a.m. - 4:30 p.m. (PST)

https://atlona.com/

International Headquarters

Atlona International AG
Tödistrasse 18
8002 Zürich
Switzerland

Office: +41.43.508.4321

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

Operating Notes

IMPORTANT: Visit https://www.atlona.com/product/AT-PRO5-MX810 for the latest firmware updates and User Manual.

Warranty

To view the product warranty, use the following link or QR code:

https://atlona.com/warranty/.

Safety and Certification

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 Compliance

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.

Copyright, Trademark, and Registration

Table of Contents

Table of Contents

Introduction

The Atlona **AT-PRO5-MX810** is an 8x10 matrix switcher with eight HDMI® inputs, two HDMI outputs, and eight AV extension outputs with SDVoE® 10GbE connectivity for ultra-high definition video and audio delivery to an Atlona AT-PRO5-101-SC-RX or AT-PRO5-101-RX receiver. Part of the PRO5 Series, this matrix switcher is HDCP 2.3 compliant, and supports 4K/60 4:4:4 and HDR at HDMI data rates up to 18 Gbps. Each SDVoE extension output includes an RJ45 port, and an SFP+ cage for copper or fiber optic connectivity to transmit video, embedded audio, Gigabit Ethernet, and RS-232 and IR control signals to the receiver. The RJ45 port allows extension up to 330 feet (100 meters) over CAT6a UTP cable, along with PoE for powering the receiver, while the SFP+ cage can be used with a compatible fiber optic module to extend from 38 meters up to 10 kilometers over fiber optic cable. Video processing is available in the PRO5-101-SC-RX scaling receivers, including 4K video upscaling and downscaling with frame rate conversion, and video wall processing. This HDMI to SDVoE matrix switcher is equipped with a comprehensive host of audio and control system integration features, making it ideal for a wide range of commercial applications requiring multi-zone AV distribution with long-distance signal extension.

Features

- 8x10 HDMI matrix switcher with HDMI and SDVoE® extension outputs
- High-performance, SDVoE-based, point-to-point AV transmission
- Eight SDVoE extension outputs, each with copper or fiber optic connectivity(1)
- 4K/UHD capability @ 60 Hz with 4:4:4 chroma sampling, plus support for HDR formats.
- HDCP 2.3 compliant
- Power over Ethernet (PoE) for remotely powering AT-PRO5-101-SC-RX and AT-PRO5-101-RX receivers
- High-performance video processing available with AT-PRO5-101-SC-RX scaling receivers(2)
- Video wall processing available with AT-PRO5-101-SC-RX scaling receivers
- Flexible, independent audio matrix switcher
- Multi-channel audio compliant
- EDID management
- HDCP 2.3 management
- Provides HDMI signal regeneration for source devices
- Intuitive GUI-based configuration using integrated web server
- TCP/IP and RS-232 control
- TCP proxy streamlines control system integration
- Independent CEC display control to each output
- Comprehensive IR control management for sources and displays
- Easy to configure and manage with Velocity Device Manager
- Rack mountable 2U, full-rack width enclosure

Package Contents

1 x AT-PRO5-MX810
1 x 3-pin captive screw connector
8 x 5-pin captive screw connectors
1 x AC power cord
1 x Insert w/ QR code

(1) Signals can be transported over copper or fiber, but not both simultaneously.

Panel Description

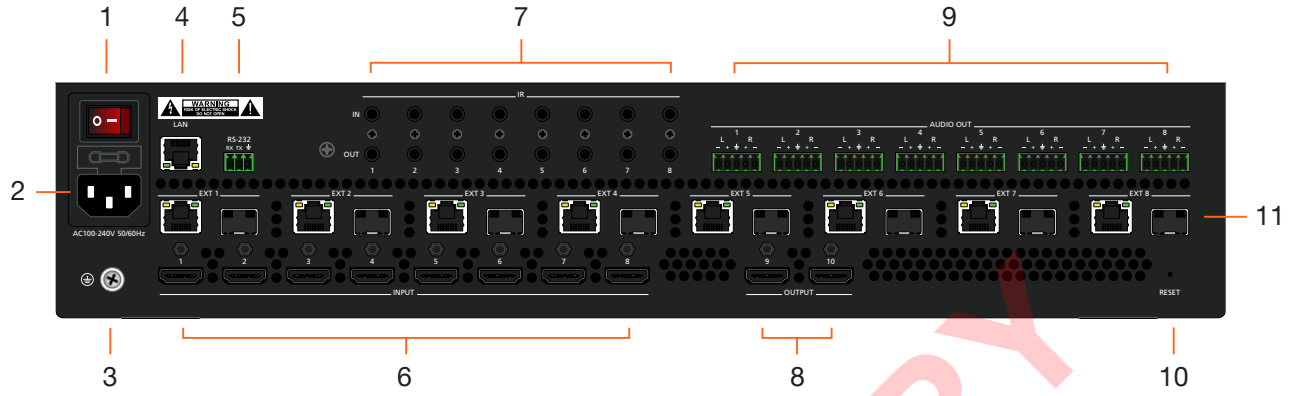
Front Panel

1 PWR
LED will be red while the unit is booting and blue when operating normally. Refer to LED Indicators (page 12) for more information.

2 STATUS
LED will be blue when the unit is operating normally. Refer to LED Indicators (page 12) for more information.

Panel Description

Rear Panel



1 Power Switch
Turns the AT-PRO5-MX810 on or off. Press the side of the switch labeled “I” to power-on the unit. Press the side of the switch labeled “O” to power-off the unit.

2 IEC Connector
Connect the included power cord from this power receptacle to an available grounded wall outlet.

3 Chassis Ground
Provides a common return path for electric current and a safety feature to prevent electric shock.

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

5 RS-232
Connect the included 3-pin captive screw connector to this port.

6 INPUT
Connect an HDMI cable from each of these ports to a HD/UHD source.

7 IR
This bank of ports provide both IR inputs and outputs. Connect 3.5 mm jacks to these ports.

8 OUTPUT
Connect an HDMI cable from each of these ports to a display, such as a confidence monitor.

9 AUDIO OUT
Connect the included 5-pin captive screw connectors from these port to an amplifier.

10 RESET
Press this button to perform a factory-reset of the AT-PRO5-MX810.

11 EXT 1 - EXT 8
Connect these outputs to the AT-PRO5-101-SC-RX scaling receiver or AT-PRO5-101-RX receiver. RJ45 ports provide extension up to 330 feet (100 meters) over CAT6A/7 cable along with Power over Ethernet (PoE). SFP+ cage can be used with compatible fiber optic transceiver modules to extend from 38 meters up to 10 kilometers over fiber optic cable.

Installation

Connection Instructions

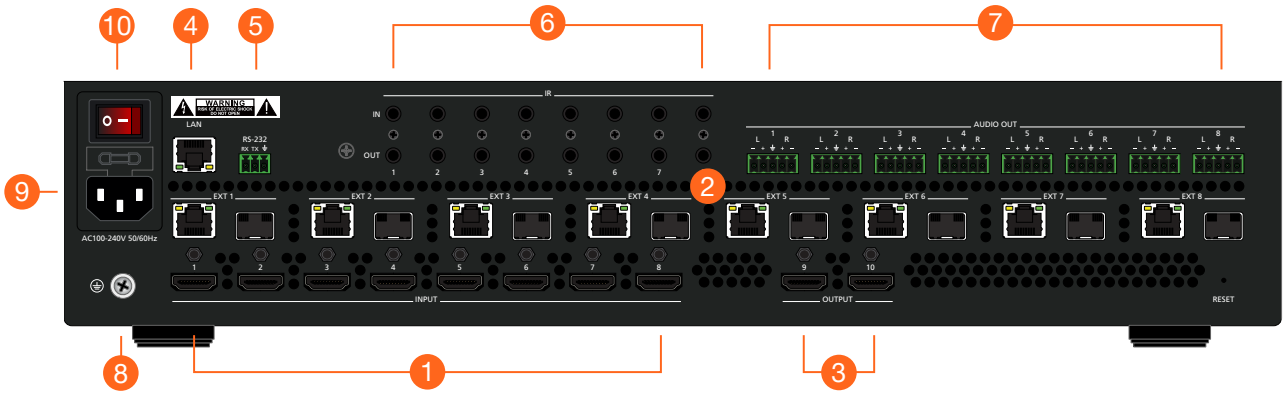
1. Connect an HDMI cable from each source to these **INPUT** ports.
2. Connect an **AT-PRO5-101-RX** or **AT-PRO5-101-SC-RX** receiver to the **EXT 1** - **EXT 8** ports. Note that the **RJ45** and **SFP+** ports cannot be used at the same time to extend AV sources.

   - RJ45 ports: connect CAT6a/7 cabling up to 330 feet (100 meters) to AT-PRO5-101-SC-RX scaling receivers or AT-PRO5-101-RX receivers.
   - SFP+ cage: connect compatible fiber optic transceiver modules to extend from 38 meters (125 feet) up to 10 kilometers (6.2 miles) over fiber optic cable. Refer to Table 1.1 for a listing of compatible transceivers.

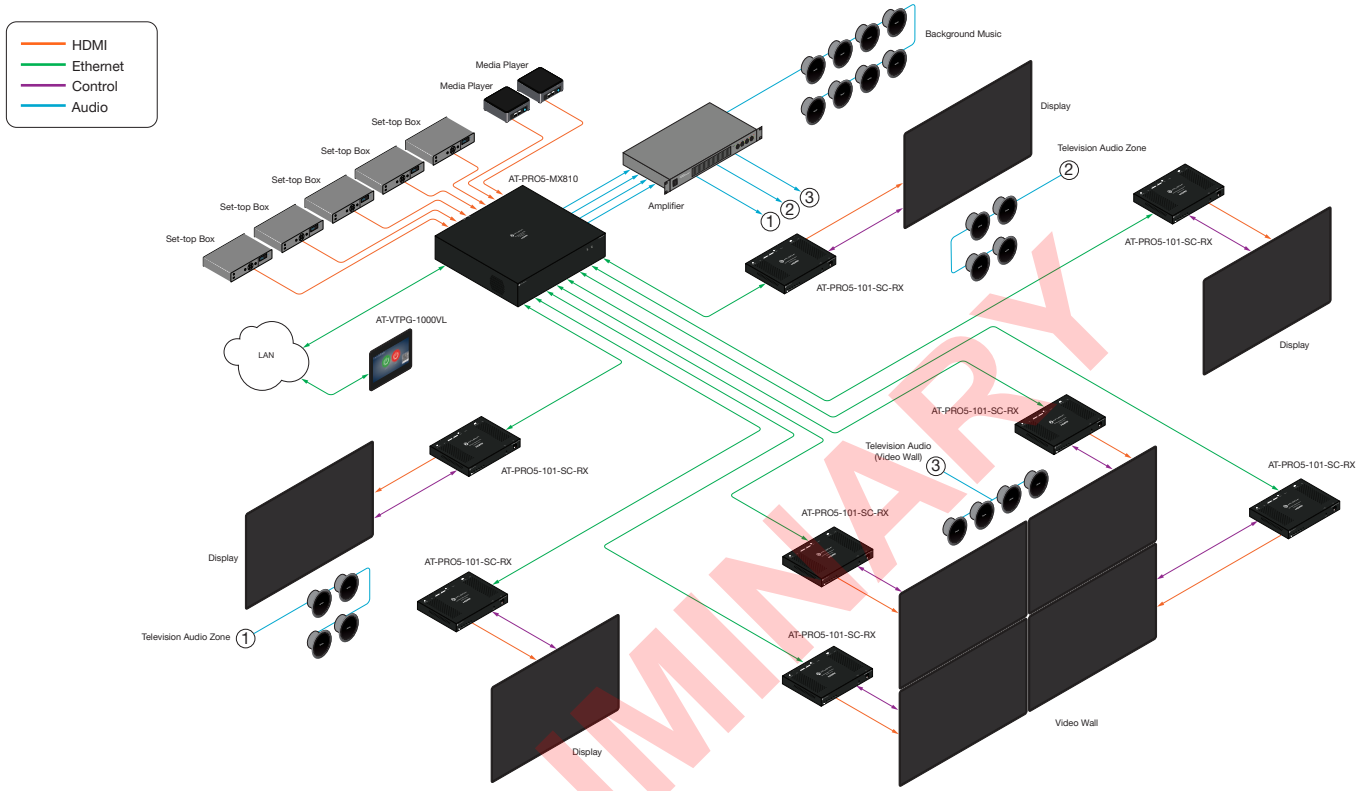
3. Connect an HDMI cable from the **OUTPUT** ports to displays, such as a confidence monitors.
4. Connect an Ethernet cable from the **LAN** port to the Local Area Network (LAN). This step will be required in order to access the built-in web server.
5. Connect the included 3-pin captive screw connector from the **RS-232** port to a control system.
6. Connect a 3.5 mm jack from the control system to the **IR IN** ports. Connect IR emitters, such as the AT-VCC-IR-EMT, from the **IR OUT** ports to controlled devices.
7. Connect the included 5-pin captive screw connectors from these **AUDIO OUT** ports to an amplifier.
8. Connect the chassis ground to a stable and reliable grounding point that safely conducts stray or fault currents away from the device.
9. Connect the included AC power cord from the **AC 100-240V 50/60 Hz** power receptacle to an available AC electrical outlet.
10. Press the side of the switch labeled “I” to power-on the AT-PRO5-MX810.

Table 1.1 - Compatible transceivers

Manufacturer	Product
Atlona	AT-SFP-PLUS-10GE-SR
FS	FS SFP+ 10GB 850nm LC
Ubiquiti	UACC-OM-MM-10G-D-2
Proline	EW3D0000710-PRO
StarTech	455883B21ST



Connection Diagram



Device Operation

LED Indicators

The LED indicators on both the front and rear of the unit provide basic information on the current status of the AT-PRO5-MX810.

LED	State	Description
PWR	Solid blue	Matrix is powered and in normal operating mode.
	Solid red	The matrix is in *standby mode*. Note that when the AT-PRO5-MX810 is placed in *standby mode*, the **PWR** LED indicator will be red.
	Off	Matrix is not powered. • Check the power supply and make sure it is securely fastened to the captive screw connector on the rear of the unit. • Make sure that the power supply is connected to an available electrical outlet and that the outlet is “live” (some outlets are controlled by a wall switch).
STATUS	Solid red	The matrix is booting or is in the process of rebooting.
	Blinking blue	The matrix is in the process of resetting to factory defaults.
	Blinking red	The matrix is updating the firmware.

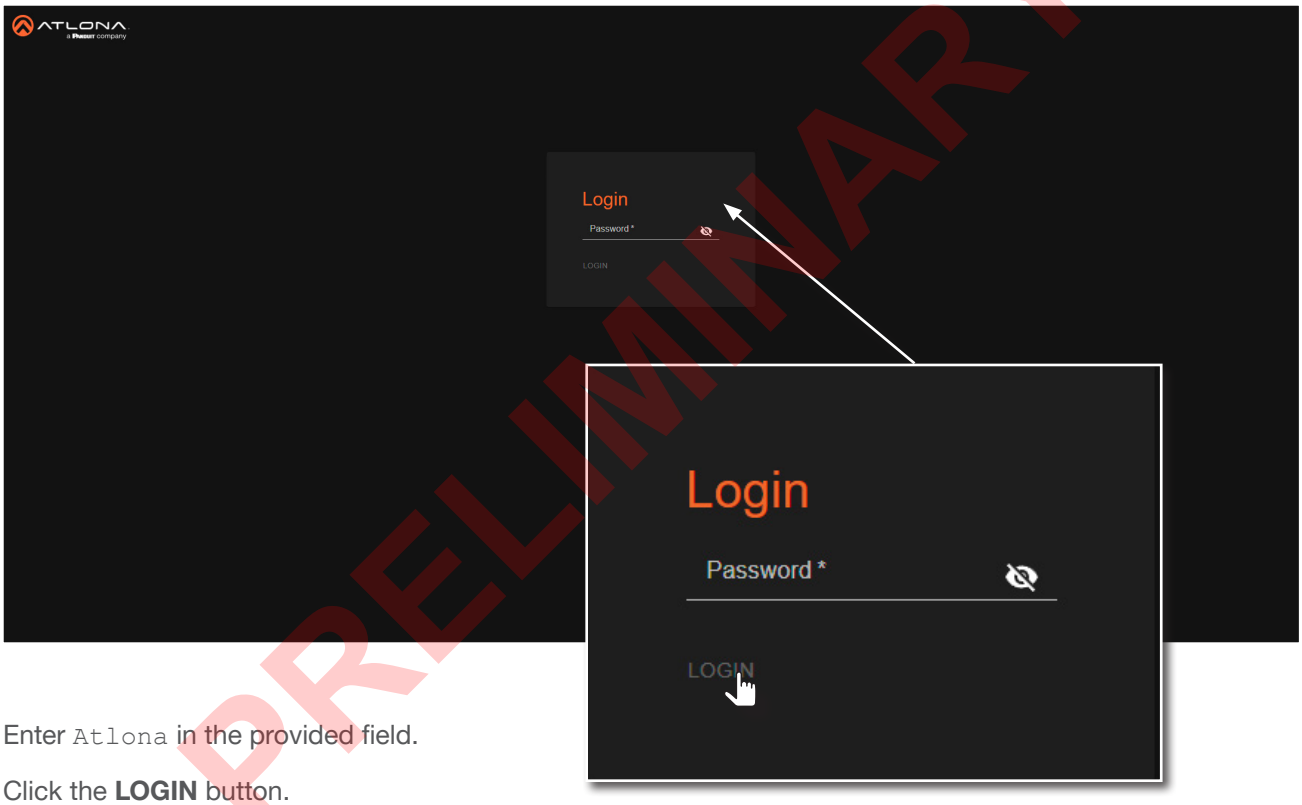
Logging in to the Web Server

Most of the AT-PRO5-MX810 operation is handled through the built-in web server. In order to access the web server, the IP address of the unit must be known.

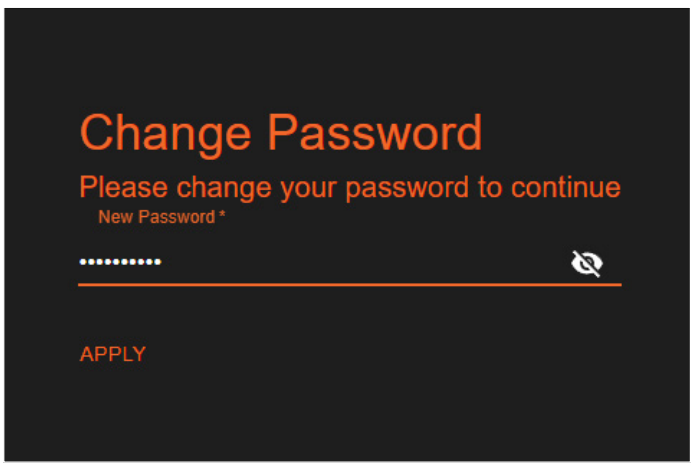
Login Registration

Before the built-in web server can be accessed, a password must be created.

1. Launch the desired web browser and enter the IP address of the AT-PRO5-MX810 in the address bar.
2. The **Login** page will be displayed.



3. Enter `Atlona` in the provided field.
4. Click the **LOGIN** button.
5. The **Change Password** screen will be displayed.



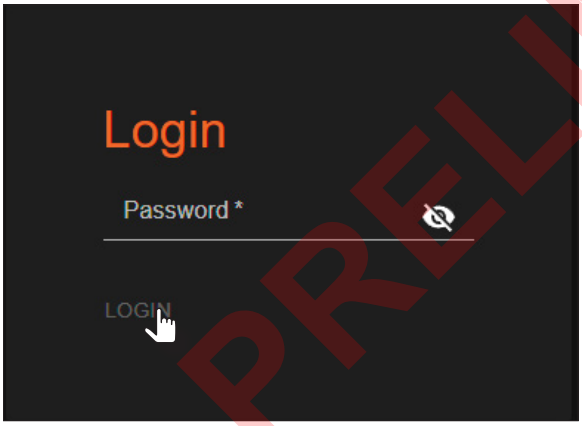
6. Enter the desired password in the **Password** field. By default, the password will be masked. To toggle between password masking and unmasking, click the icon.

> **NOTE:** Passwords can be 5 to 32 characters in length and can only contain letters, numbers, dashes, underscores, and periods. The password that is created is referred to as the *Admin* password. Additional users cannot be created or assigned. This password can be changed, if desired, from within the web server. Refer to Changing the Administrator Password (page 16) for more information.

7. Click the **Apply** button to commit changes.
8. The **System** > **System** page will be displayed.

Logging in after Registration

1. Launch the desired web browser and enter the IP address of the AT-PRO5-MX810 in the address bar.
2. Enter the correct password in the provided field.
3. Click the **LOGIN** button.



4. The **System** > **System** page will be displayed.

System Settings

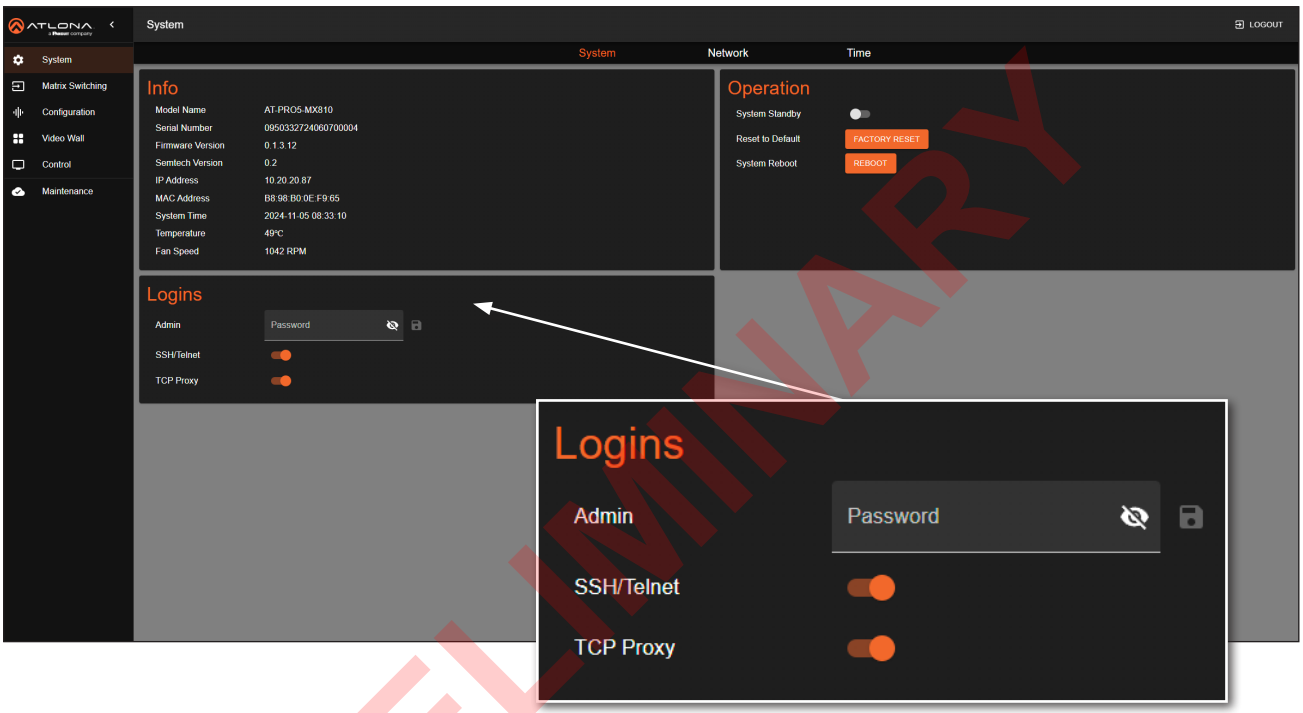
The AT-PRO5-MX810 provides easy access to system configuration through the built-in web server, and is the recommended method to adjust network settings.

Obtaining System Information

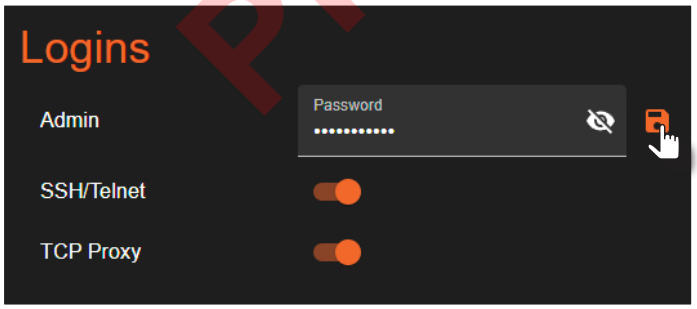
1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **System** in the top menu bar.
4. Locate the **Info** window group to obtain the IP address, MAC address, System Time, Temperature, and various other details about the AT-PRO5-MX810.

Changing the Administrator Password

1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **System** in the top menu bar.
4. Locate the **Logins** window group.



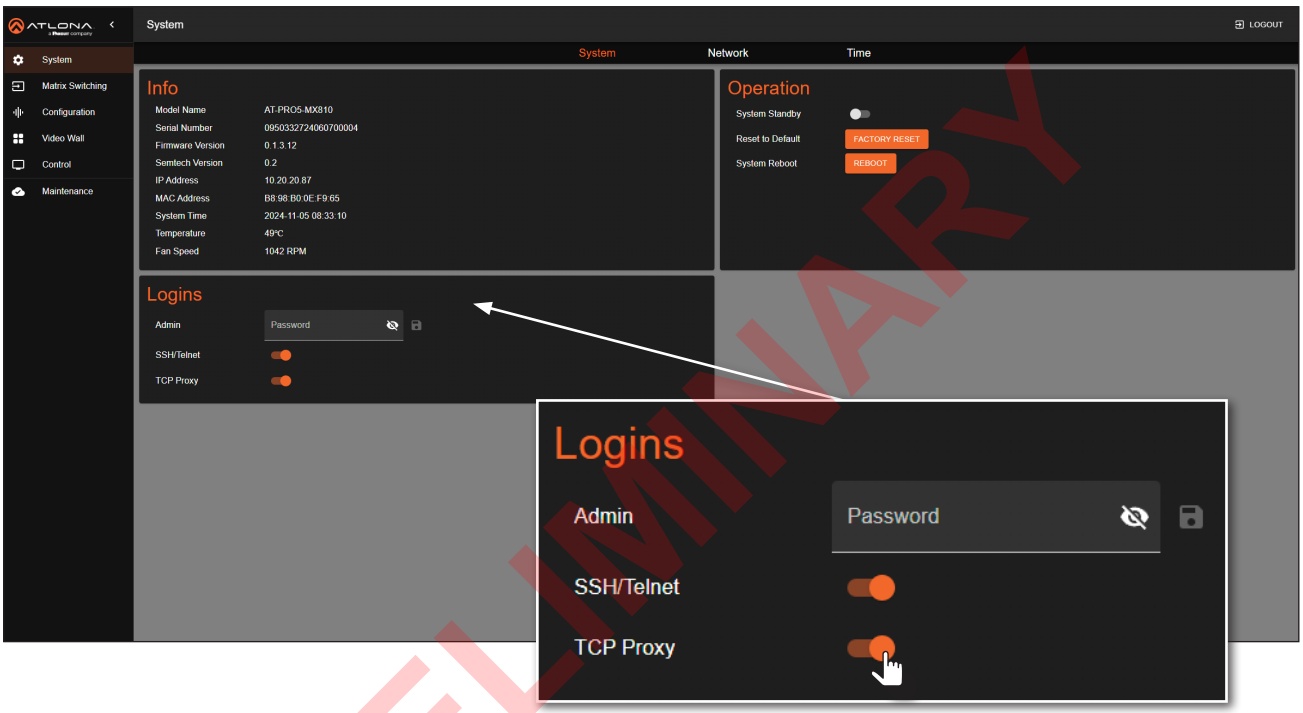
5. Enter the new password in the **Admin** field. By default, the password will be masked. To toggle between password masking and unmasking, click the icon.



6. Click the icon to commit changes.

Enabling / Disabling SSH and Telnet Proxy

1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **System** in the top menu bar.
4. Locate the **Logins** window group.

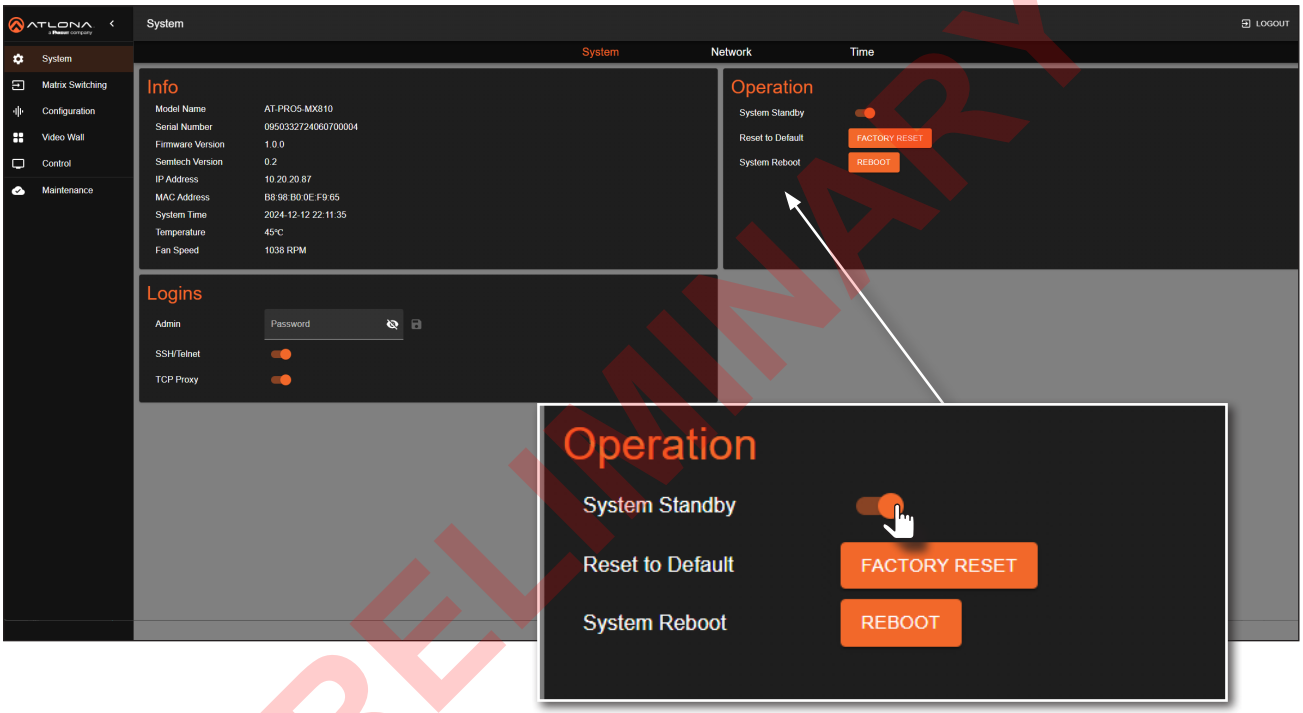


5. Click the **SSH/Telnet** and/or **TCP Proxy** toggle switches to enable or disable each feature. When enabled, the toggle switches will be orange.

Enabling / Disabling System Standby Mode

When System Standby is enabled, the AT-PRO5-MX810 will disable A/V extension and other components to reduce the power consumption of the device.

1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **System** in the top menu bar.
4. Locate the **Operation** window group.



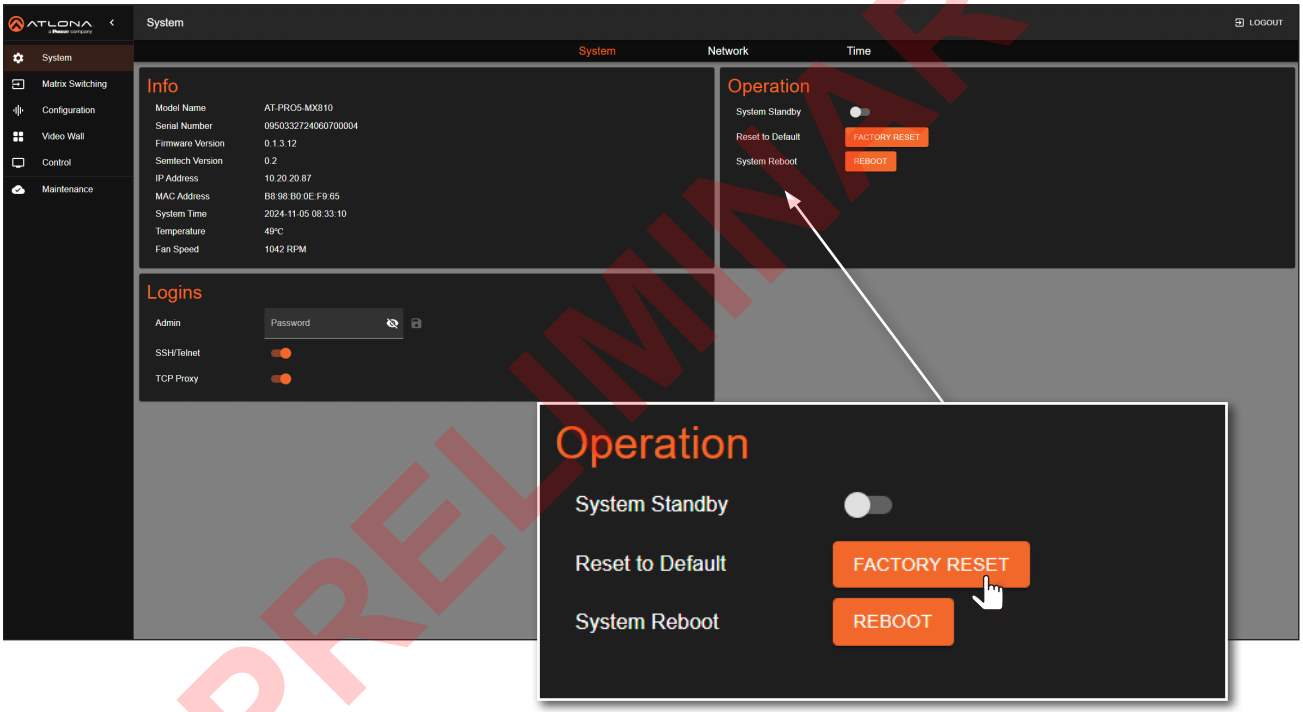
5. Click the **System Standby** toggle switch to enable or disable this feature. When enabled, the toggle switch will be orange and the **PWR** LED indicator, on the front panel, will be red.

Performing a Factory Reset

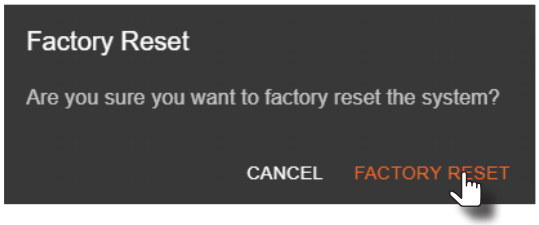
The AT-PRO5-MX810 can be restored to factory-default settings through the built-in web server or by pressing the **RESET** button on the rear panel. After performing a factory reset, the network IP mode will be set to DHCP mode and the login credentials will be reset. A new password will need to be created.

Using the Web Server

1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **System** in the top menu bar.
4. Locate the **Operation** window group.



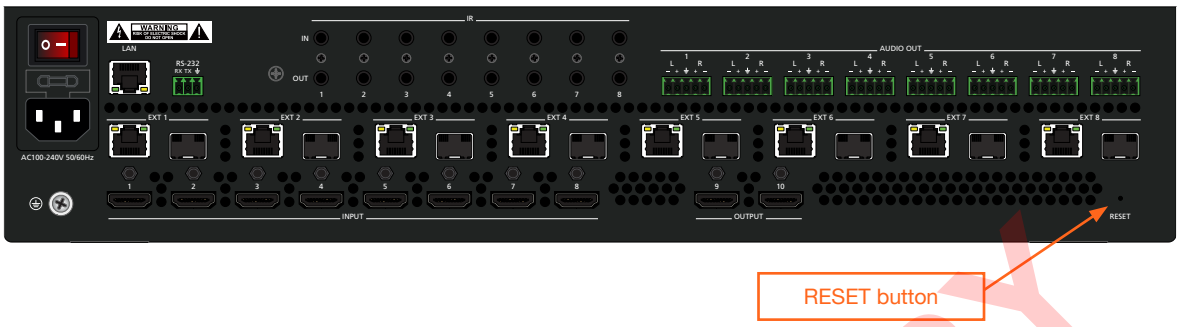
5. Click the **FACTORY RESET** button.
6. The following message will be displayed.



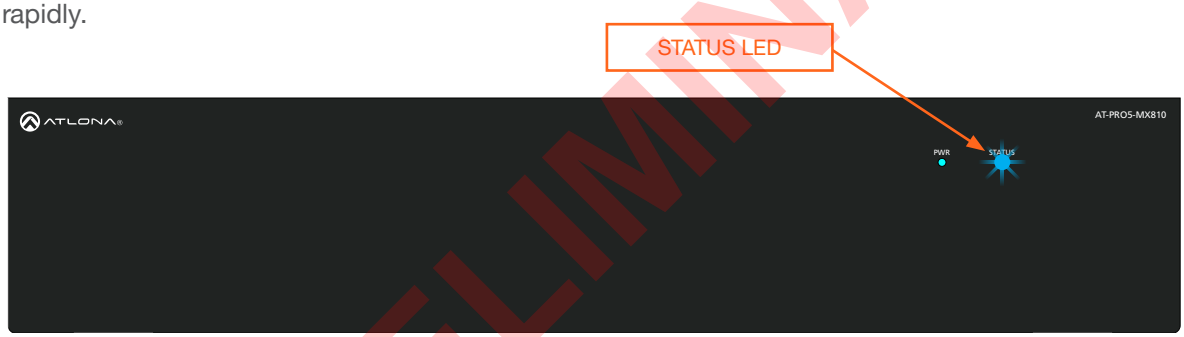
7. Click **FACTORY RESET** to continue with the process or click **CANCEL** to abort.
8. Once the unit has finished rebooting, repeat the procedure for creating a password. Refer to Login Registration (page 13) for more information.

Using the Rear Panel

1. Locate the recessed **RESET** button on the rear panel.



2. Press and hold the **RESET** button for approximately 10 seconds, using the end of a paper clip or other small object.
3. Release the **RESET** button.
4. While the AT-PRO5-MX810 is rebooting, the **STATUS** LED indicator, on the front panel, will be blue and blink rapidly.

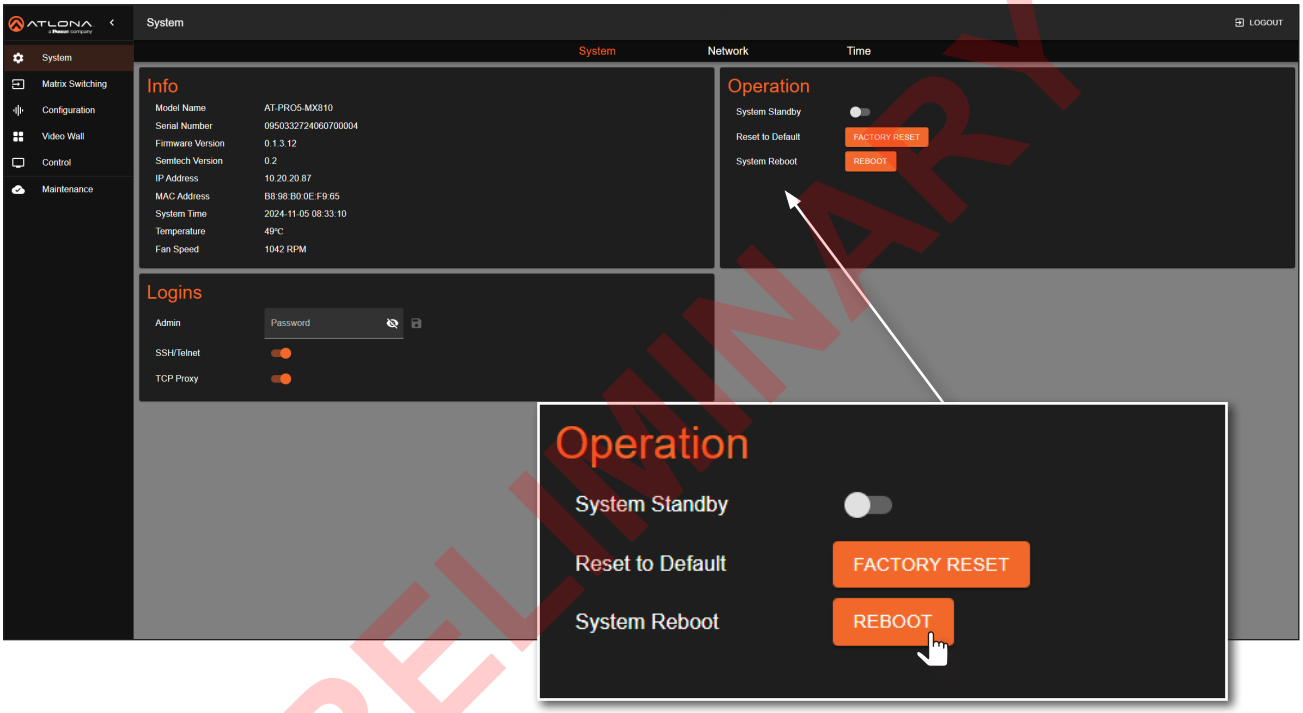


5. Once the unit has finished rebooting, repeat the procedure for creating a password. Refer to Login Registration (page 13) for more information.

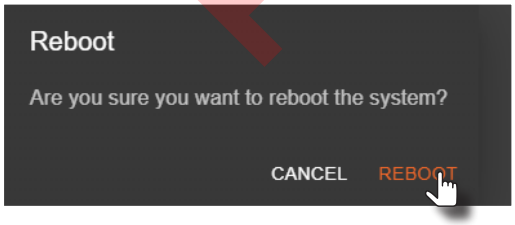
Rebooting the System

The following procedure will reboot the AT-PRO5-MX810. All network and routing settings are preserved.

1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **System** in the top menu bar.
4. Locate the **Operation** window group.



5. Click the **REBOOT** button.
6. The following message will be displayed.



7. Click **REBOOT** to continue with the process or click **CANCEL** to abort.
8. Once the unit has finished rebooting, the **Login** screen will be displayed.

Network Configuration

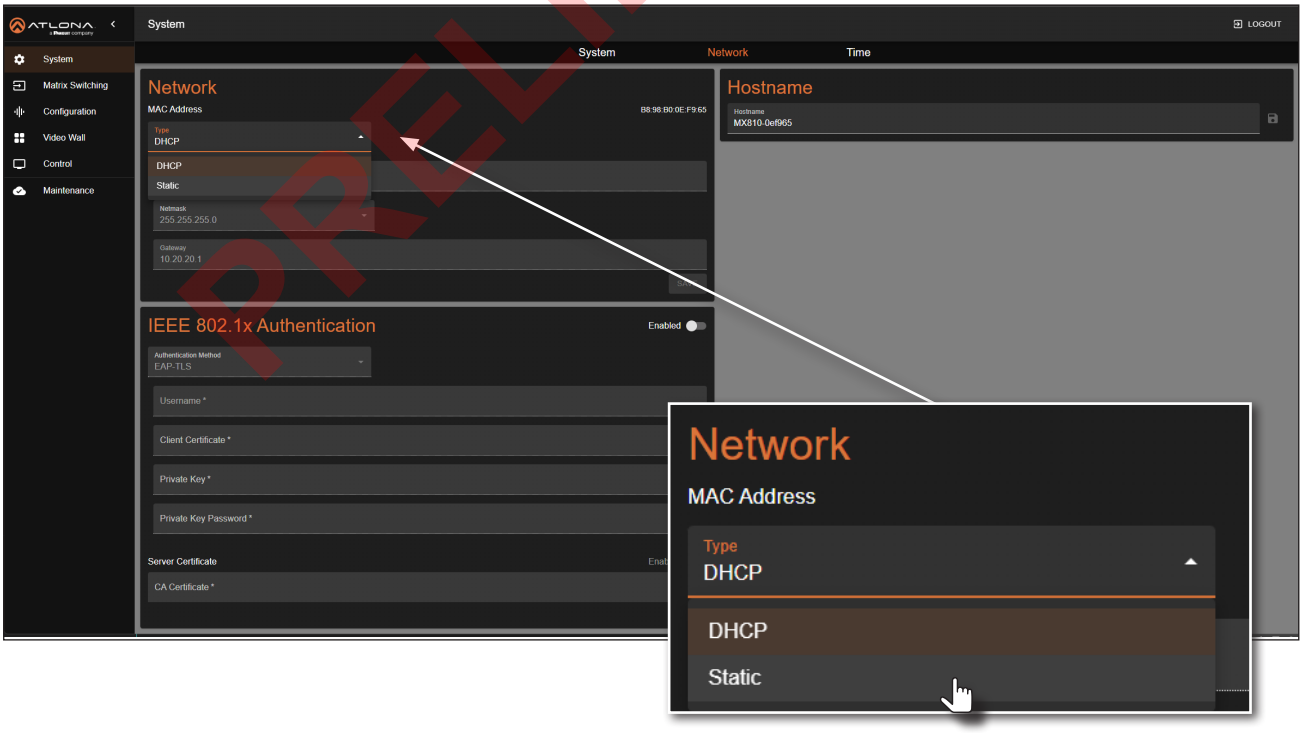
Setting the IP Mode

The AT-PRO5-MX810 is set to DHCP by default and will receive an IP address from the network's DHCP pool if a DHCP server is available. If no DHCP server is detected, the AT-PRO5-MX810 will automatically assign itself an APIPA address in the range `169.254.0.1` to `169.254.255.254`, with a subnet mask of `255.255.0.0`. A static IP address can also be specified.

IMPORTANT: Before assigning a static IP address to the AT-PRO5-MX810, it is recommended to consult with the network or system administrator and obtain a available IP address. Assigning the AT-PRO5-MX810 to an IP address that is already in use can result in network issues or difficulty in accessing the AT-PRO5-MX810.

Static IP Mode

1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **Network** in the top menu bar.
4. Locate the **Network** window group.
5. Click the **Type** drop-down list and select `Static`.

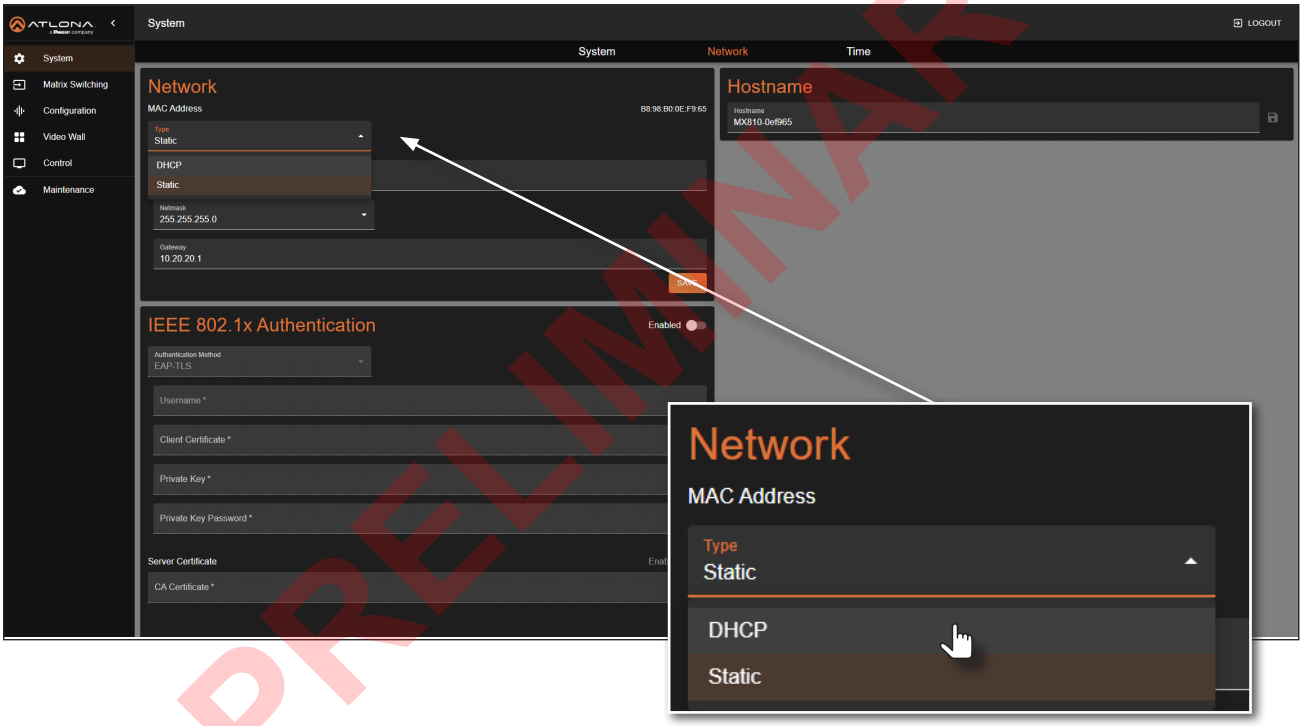


6. Enter IP address, network mask, and gateway (router) address in the **Address**, **Netmask**, and **Gateway** fields, respectively.
7. Click the **SAVE** button to commit changes.

DHCP Mode

The AT-PRO5-MX810 is set to DHCP by default and will receive an IP address from the network's DHCP pool if a DHCP server is available. If no DHCP server is detected, the AT-PRO5-MX810 will automatically assign itself an APIPA address in the range `169.254.0.1` to `169.254.255.254`, with a subnet mask of `255.255.0.0`.

1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **Network** in the top menu bar.
4. Locate the **Network** window group.
5. Click the **Type** drop-down list and select `DHCP`.

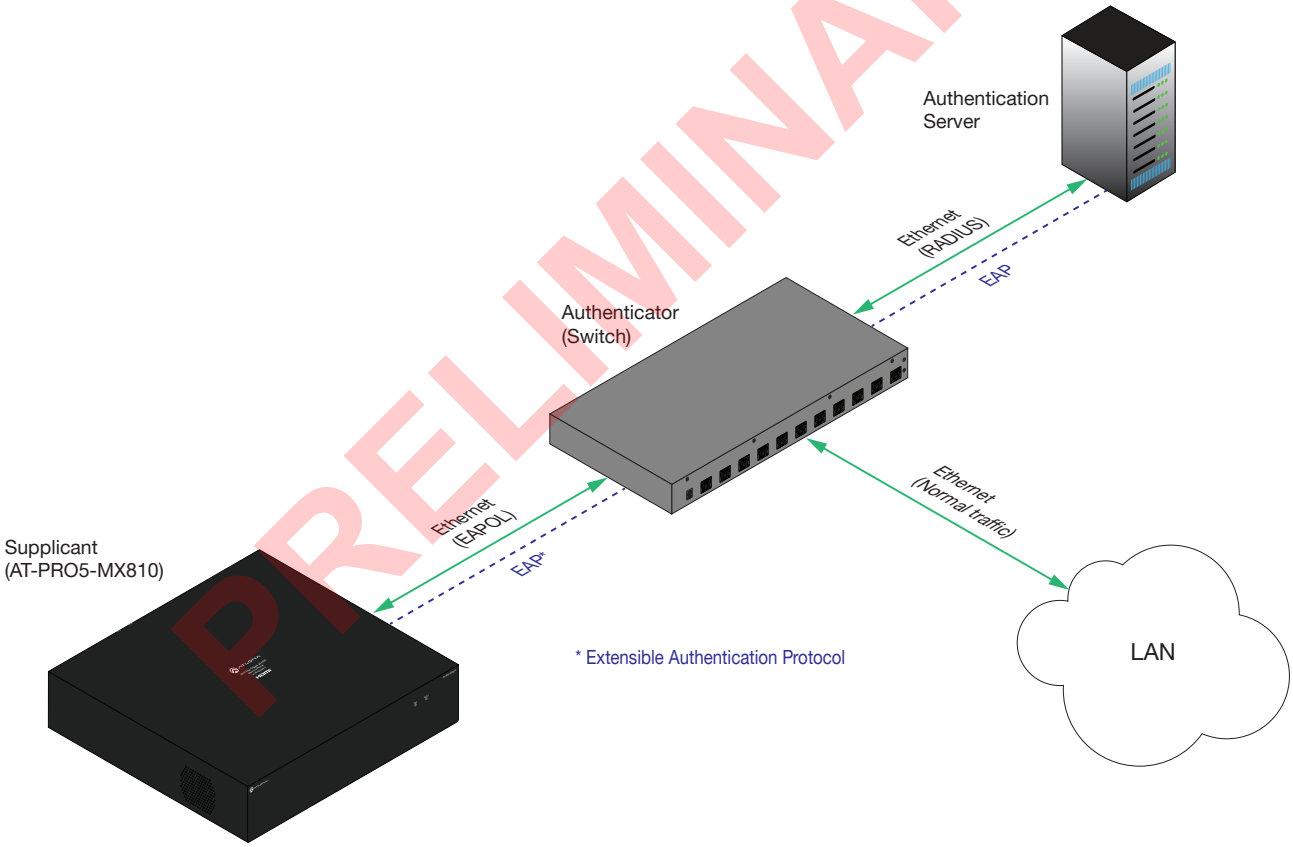


6. Click the **SAVE** button to commit changes.

IEEE 802.1x Authentication

802.1x is a server-based port authentication which restricts unauthorized (rogue) clients from connecting to a Local Area Network. 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.

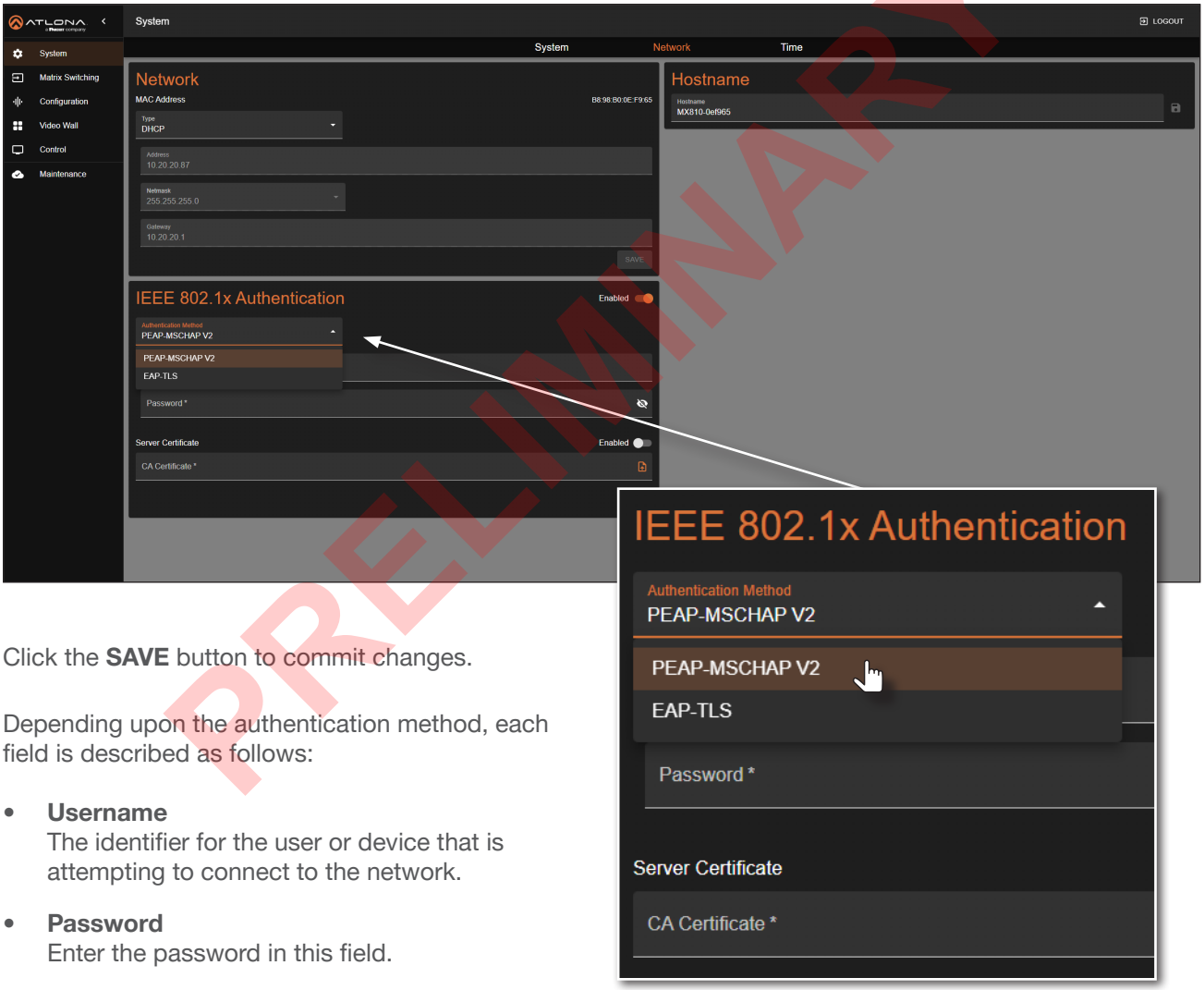
IMPORTANT: If an 802.1x-enabled AT-PRO5-MX810 is connected to a network without an active or operational authentication server, then the matrix will not function correctly until the expected message is returned from a RADIUS server. If it is unclear as to whether the network uses 802.1x authentication, consult the IT administrator for assistance.



The following options are available:

Protocol	Description
PEAP/MSCHAPv2	Protected EAP; uses basic credentials in addition to a CA (certificate authority) certificate.
EAP-TLS	EAP Transport Layer Security; uses a client certificate, private key, private key password, and CA (certificate authority) certificate.

1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **Network** in the top menu bar.
4. Locate the **IEEE 802.1x Authentication** window group.
5. Click the **Enabled** toggle button.
6. Click the **Authentication Method** drop-down list and select the desired authentication method. In the example below, `PEAP/MSCHAPv2` is selected. Once a method is selected, the required fields for that method will be displayed. Enter the required information in each field.



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

Depending upon the authentication method, each field is described as follows:

- **Username**
  The identifier for the user or device that is attempting to connect to the network.
- **Password**
  Enter the password in this field.
- **CA certificate**
  A digital certificate issued by a Certificate Authority (CA) that serves as the foundation of trust for verifying other certificates, such as client certificates and server certificates. To upload the certificate, click the **Enabled** button, above the **Server Certificate** field, then click the icon to select the certificate.
- **Client Certificate**
  A digital certificate used to authenticate a device or user attempting to connect to the network. This is typically used in enterprise environments or when added security is desired. To upload the certificate, click the **Enabled** button, above the **Server Certificate** field, then click the icon to select the certificate.

- **Private Key**
  A component of the public key infrastructure (PKI) and associated with the digital certificate. This key is securely stored and used to prove identity and enable secure communication. Click the icon to select the private key.

- **Private Key Password**
  This password is designed as a level of security used to protect the private key, associated with a digital certificate. The password is masked by default. Click the icon to toggle masking.

The table below provides a field summary. An orange dot indicates that this field will be displayed as part of the authentication method.

Authentication Method	Username	Password	CA Certificate	Client Certificate	Private Key	Private Key Password
PEAP/MSCHAPv2	●	●	●			
EAP-TLS	●		●	●	●	●

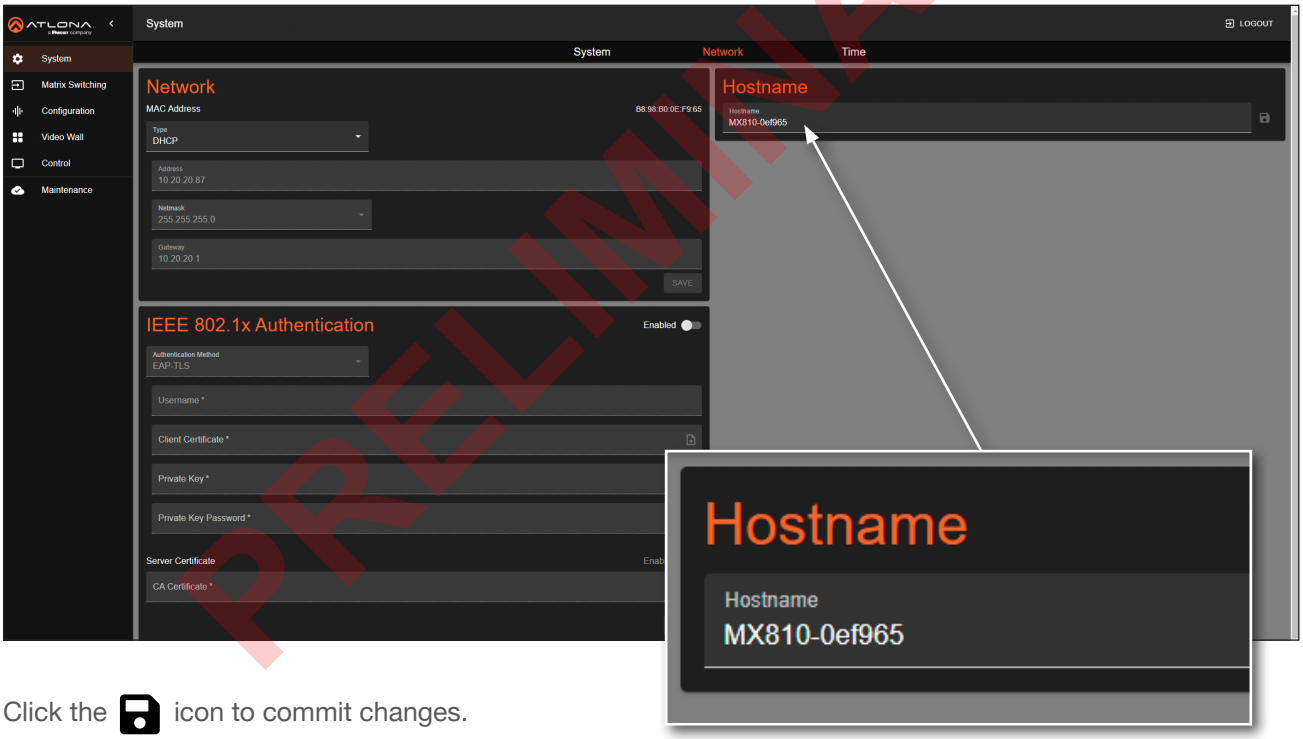
Setting the Host Name

By default, the AT-PRO5-MX810 is assgned a hostname, which is constructed as follows:

`MX810-[last six digits of MAC address]`

For example, a default hostname might look like this: `MX810-0ef965`. This value can be changed to easily identify the AT-PRO5-MX810 within Velocity Device Manager or on a network. The hostname cannot exceed 15 characters in length.

1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **Network** in the top menu bar.
4. Locate the **Hostname** window group.
5. Click the **Hostname** field and enter the desired name.



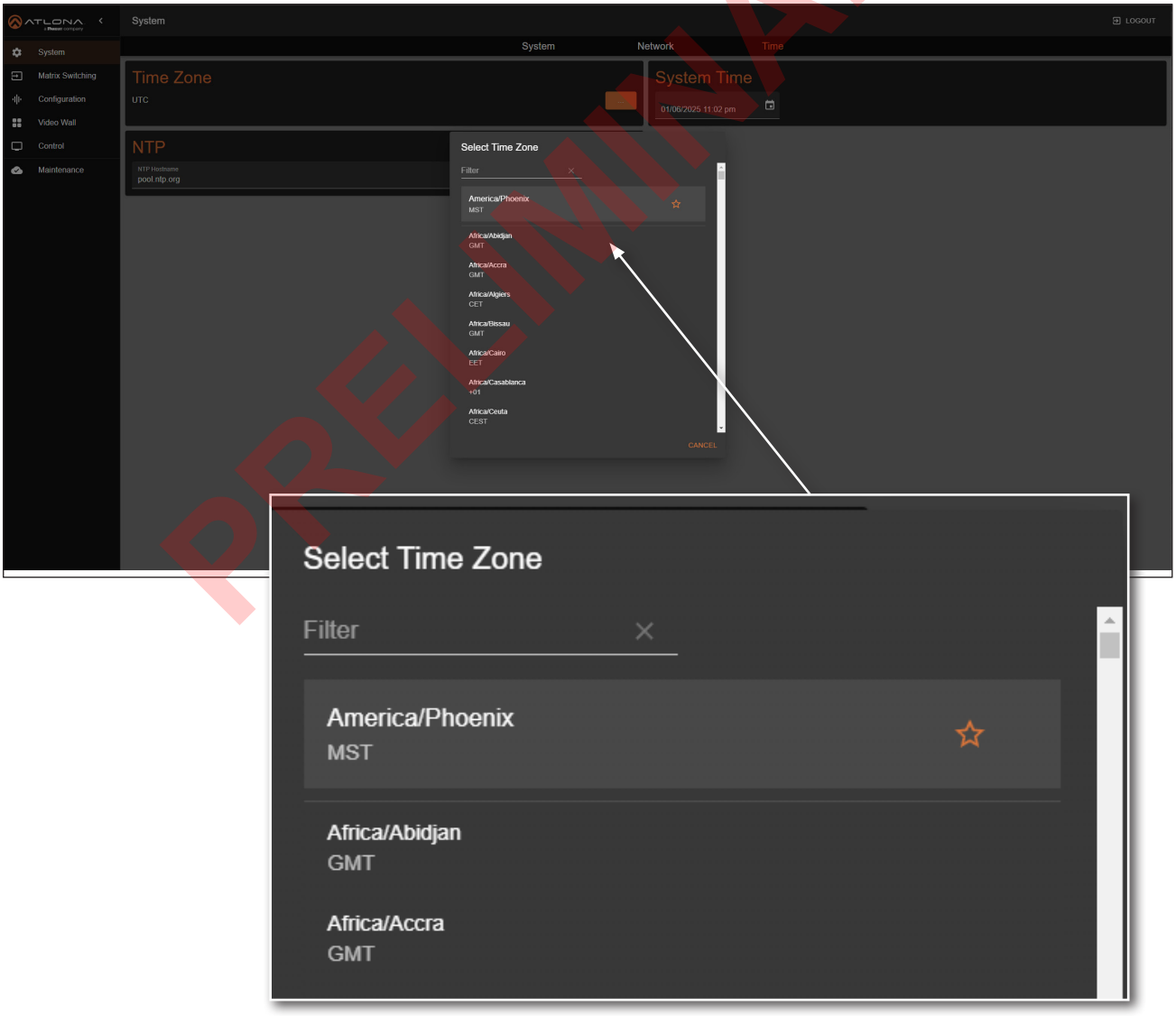
6. Click the icon to commit changes.

System Time

The AT-PRO5-MX810 uses an internal clock to store the current date and time. When setting the time and date, Universal Coordinated Time (UTC) must be used.

Setting the Time Zone

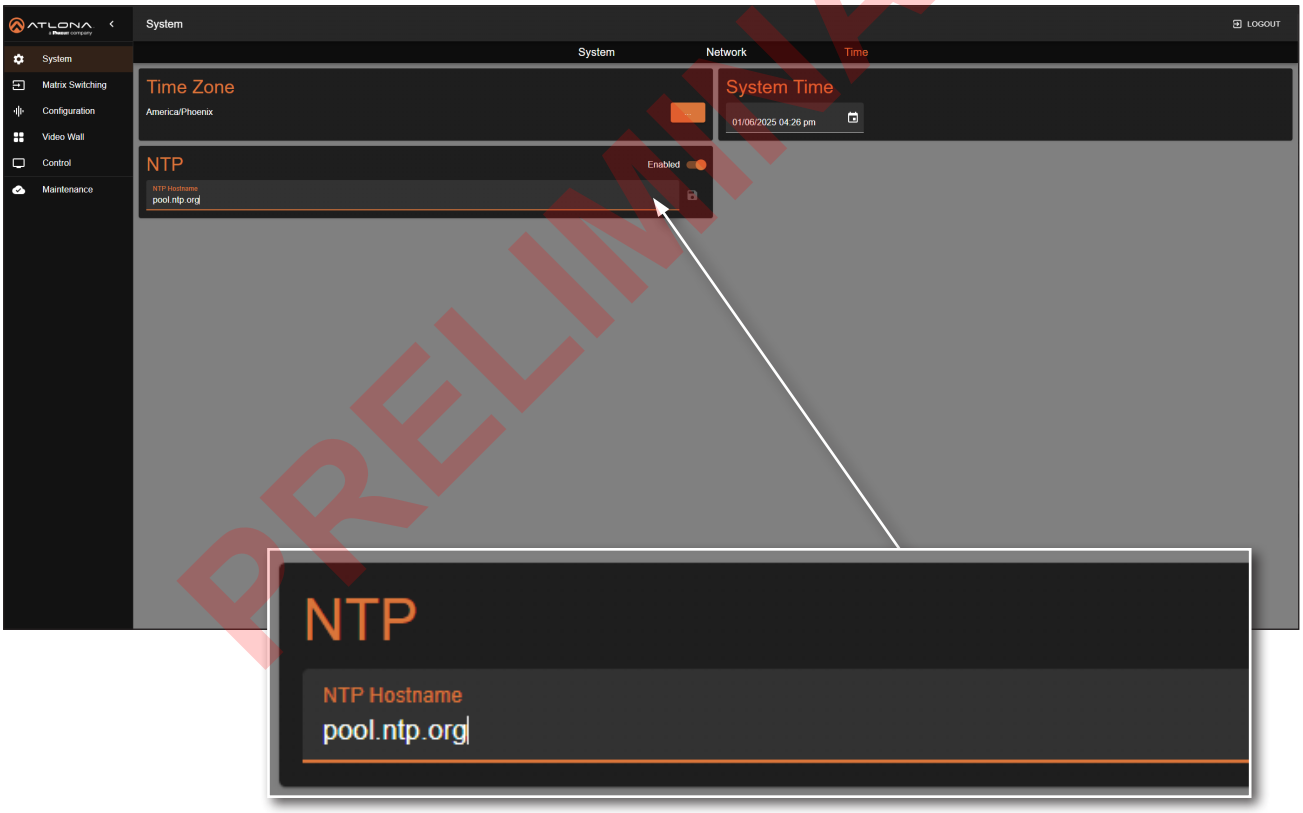
1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **Time** in the top menu bar.
4. Locate the **Time Zone** window group.
5. Click the ... icon to display the list of time zones. Set the desired time zone by clicking it. Alternatively, the **Filter** field, within the drop-down list, can be used to filter various time zones from the list.



Assigning an NTP Server

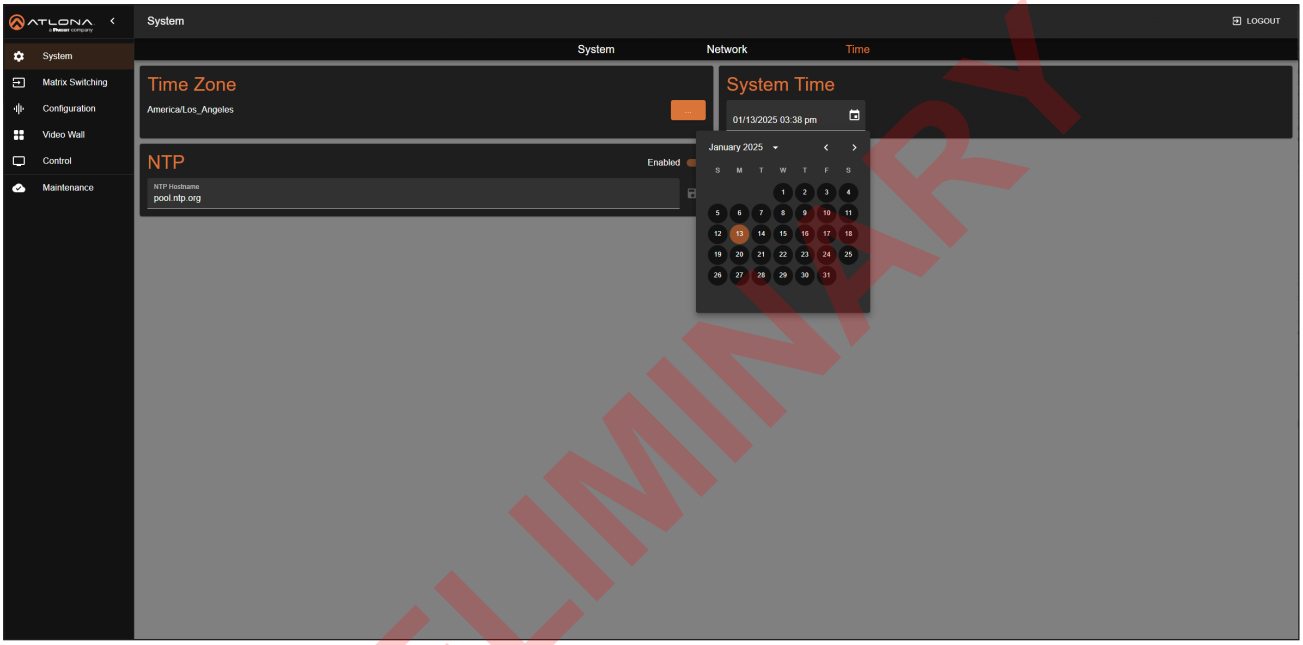
If NTP is functioning correctly, then the date and time will be set automatically. However, the local time will need to be set.

1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **Time** in the top menu bar.
4. Locate the **NTP** window group.
5. Click the **Enabled** toggle switch to enable NTP. When enabled, the toggle switch will be orange.
6. Enter the NTP server name.
7. Click the icon to commit changes.

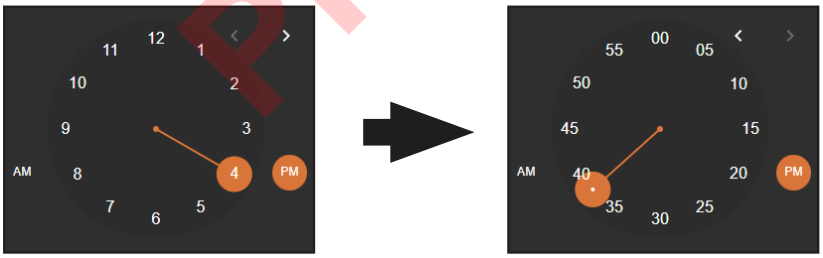


Setting the System Time

1. Log in to the web server.
2. Click **System** in the side menu bar.
3. Click **Time** in the top menu bar.
4. Locate the **System Time** window group.
5. Click the icon open up the time settings.



6. Click the correct date from the calendar widget. The currently set date will be highlighted in orange.
7. Click on **AM** or **PM** and then select the correct hour from the clock widget, then click the correct minute from the next widget that is displayed.



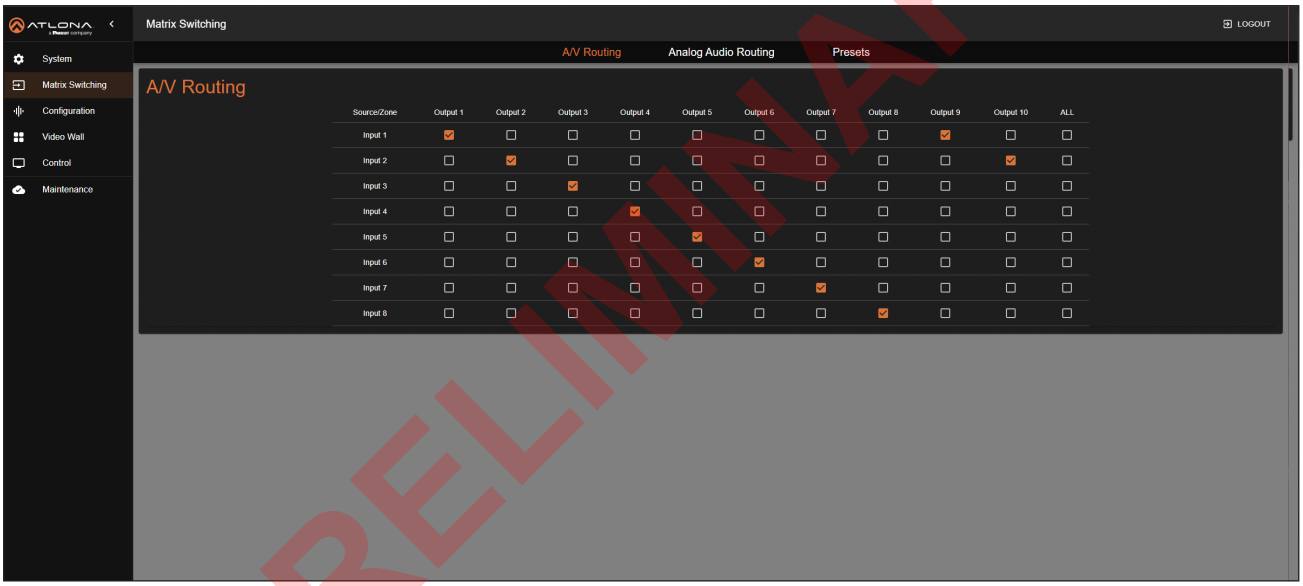
Alternatively, the time and date can also be entered using the keyboard, within the **System Time** field.

Matrix Switching

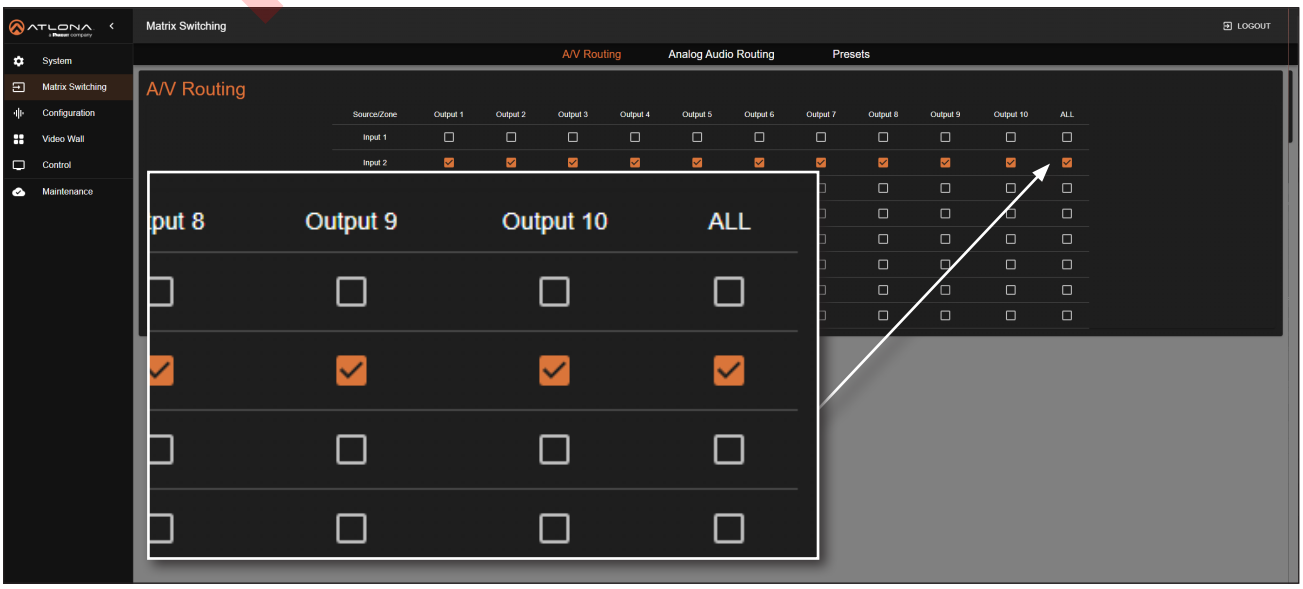
The **A/V Routing** page manages the assignment of input video sources to outputs. By default, the AT-PRO5-MX810 is configured for *1-to-1* routing, where **Input 1** is assigned to **Output 1**, **Input 2** to **Output 2**, and so forth. Additionally, **Input 1** is routed to **Output 9**, and **Input 2** is routed to **Output 10**.

Video Routing

1. Log in to the web server.
2. Click **Matrix Switching** in the side menu bar.
3. Click **A/V Routing** in the top menu bar.
4. Click the checkboxes in the table to assign an input to an output. The checkbox will be orange once the selection is complete.



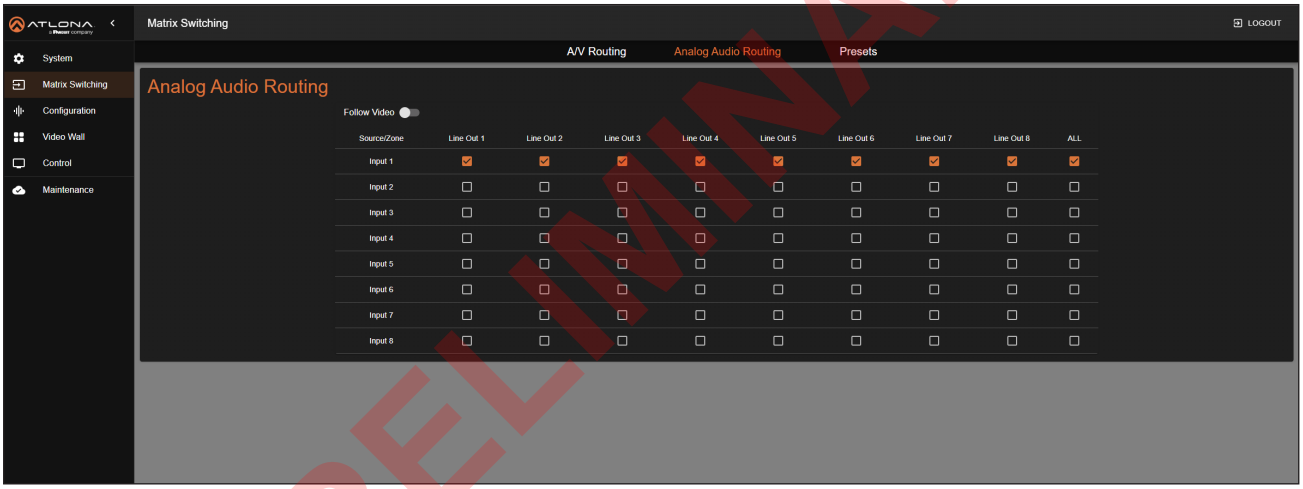
5. To route a single input to all outputs, click the **ALL** check box. In this example, **Input 2** is routed to all outputs (**Output 1** - **Output 10**).



Manual Audio Routing

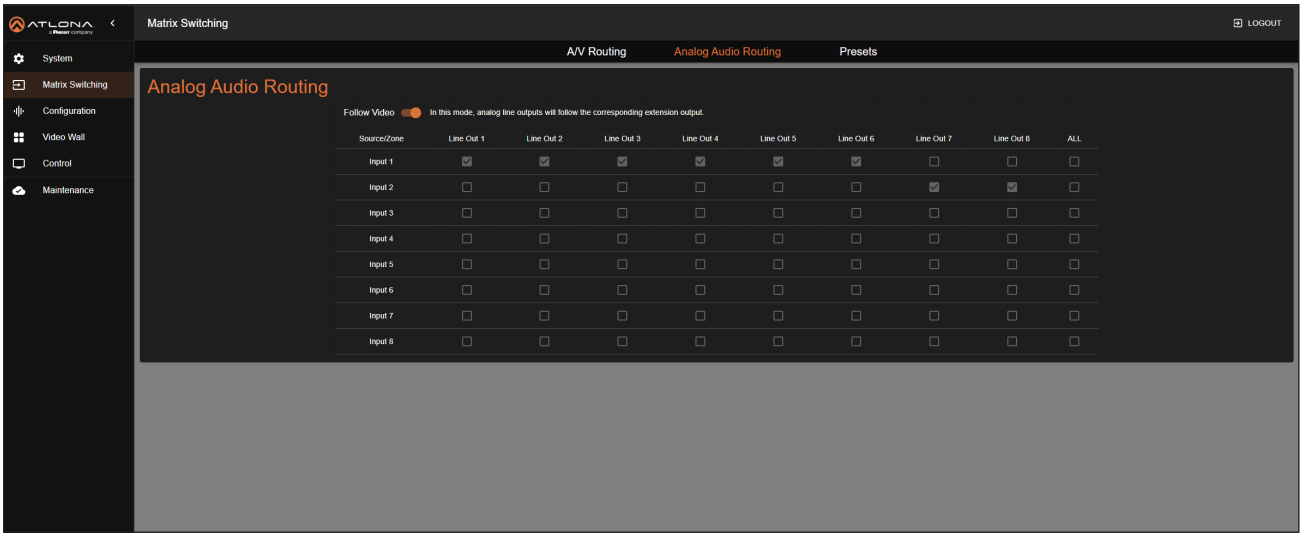
The **Analog Audio Routing** page controls the distribution of de-embedded input audio to analog audio outputs. By default, the AT-PRO5-MX810 routes the audio from **Input 1** to all audio outputs (**Output 1 - Output 10**) configured.

1. Log in to the web server.
2. Click **Matrix Switching** in the side menu bar.
3. Click **Analog Audio Routing** in the top menu bar.
4. Make sure that the **Follow Video** toggle switch is disabled. When disabled, the toggle switch will be gray.
5. Click the checkboxes in the table to assign an input to an output. The checkbox will be orange once the selection is complete.
6. To route a single input to all outputs, click the **ALL** check box.



Follow Video

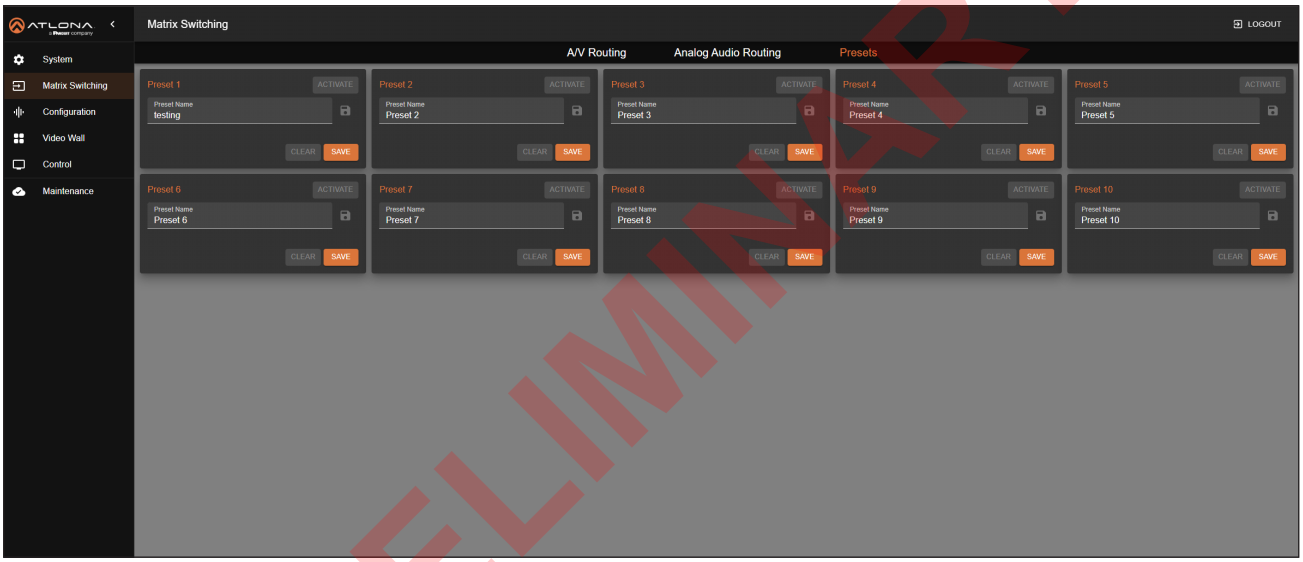
This feature is enabled by default. When **Follow Video** toggle switch is enabled, the toggle switch will be orange and manual audio routing is disabled. In this mode, each audio output automatically de-embeds audio from its corresponding video output. For instance, **Audio Output 1** will de-embed audio from **EXT1**.



Saving / Loading Switching Presets

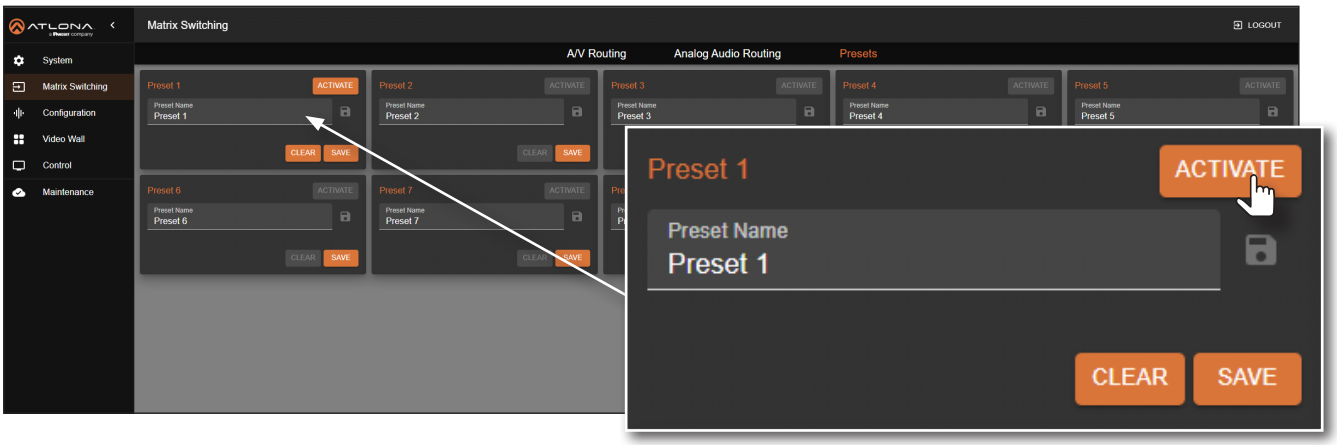
The **Presets** page allows saving and loading of input/output switch configurations to and from the matrix. Up to ten switching presets can be stored.

1. Log in to the web server.
2. Click **Matrix Switching** in the side menu bar.
3. Click **Presets** in the top menu bar.
4. Enter the name of the preset in the desired **Preset** field, then click the icon to save the name of the preset.
5. Click the **Save** button to assign the currently configured configuration to the preset. To remove the configuration from the preset, click the **Clear** button.



Activating a Preset

1. Log in to the web server.
2. Click **Matrix Switching** in the side menu bar.
3. Click **Presets** in the top menu bar.
4. Select the desired preset and click **ACTIVATE** to load the saved routing state.



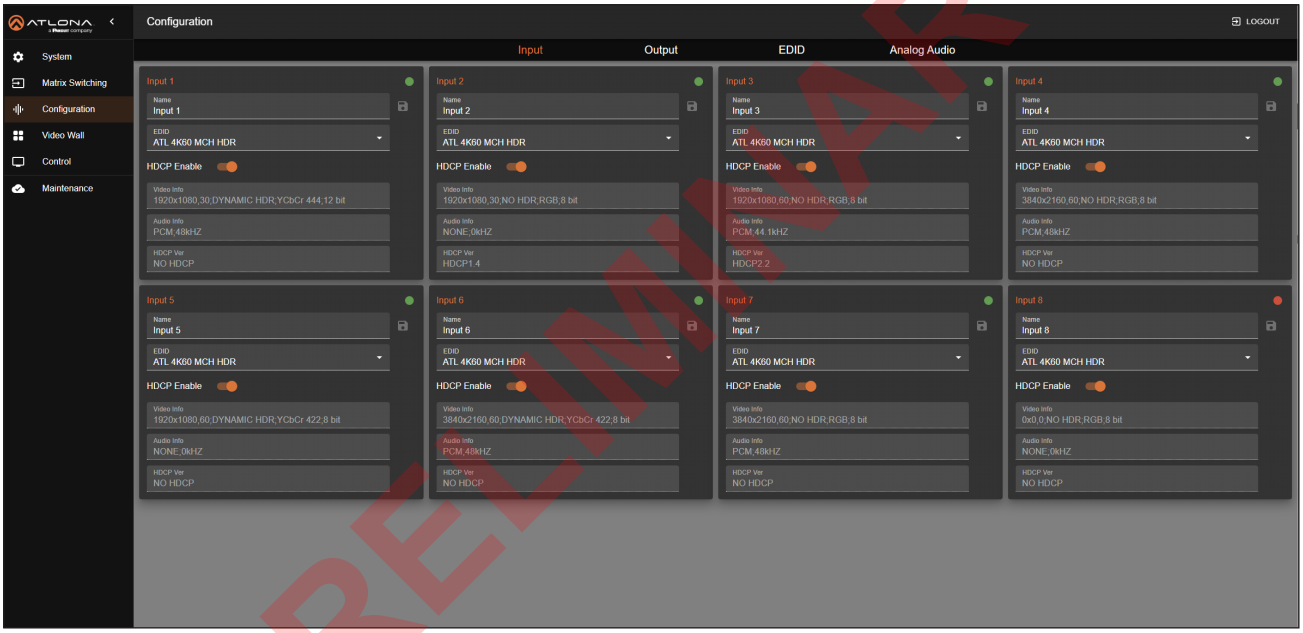
Matrix Configuration

This section covers modification of input/output names, EDID management, and HDCP capabilities for each input, while also displaying video and audio information for each input.

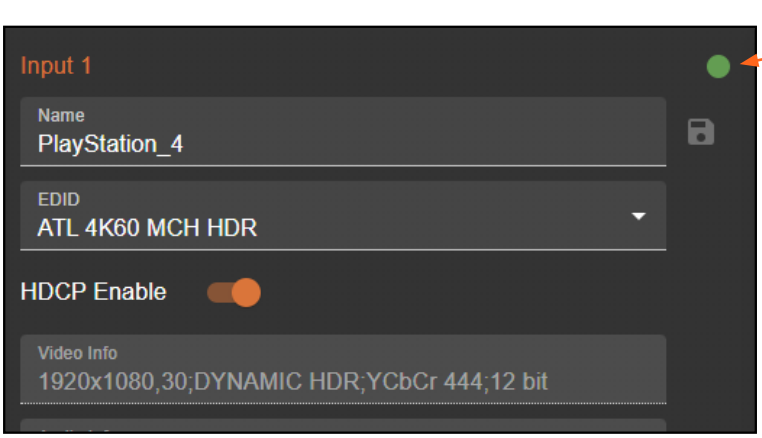
Changing the Input Name

By default, inputs are named **Input 1**, **Input 2**, **Input 3**, and so on. It is recommended to rename each input based on the connected source.

1. Log in to the web server.
2. Click **Configuration** in the side menu bar.
3. Click **Input** in the top menu bar.



4. Click the **Name** field of the desired input.
5. Enter the desired name for the input. In this example, `PlayStation_4` is used, identifying the source.
6. Click the icon to save the name of the input. Note that the name of the input, in orange, will not change. The new input name will appear under the **Matrix Switching** > **A/V Routing** and **Matrix Switching** > **Analog Audio Routing** pages.



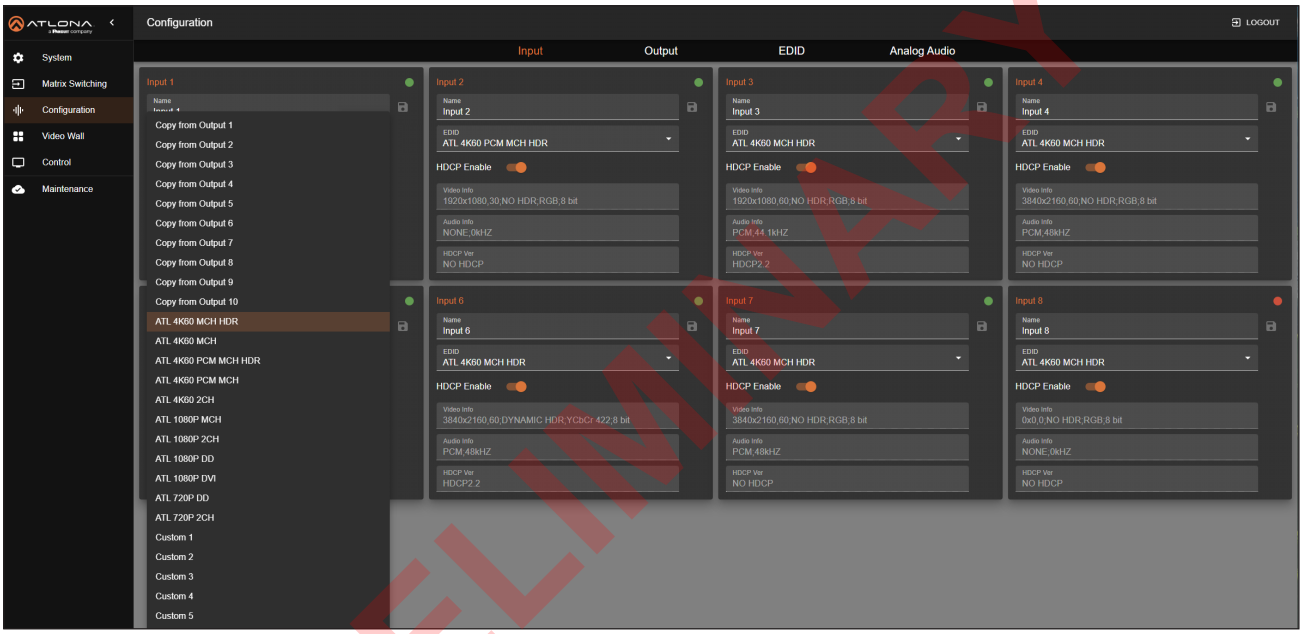
The dot in the top-right corner of each input box shows the connection status:

- **Green**: The input source is connected to the corresponding port and has an active signal.
- **Orange**: The input source is not connected to the corresponding port.

Selecting an EDID

Before sending picture and sound to a display, a source device reads the EDID (Extended Display Identification Data) from the display. This data specifies the video and audio formats the display supports. The AT-PRO5-MX810 includes several pre-programmed EDID options and also allows the storage of custom EDID data.. Refer to EDID Management (page 40) for more information.

1. Log in to the web server.
2. Click **Configuration** in the side menu bar.
3. Click **Input** in the top menu bar.

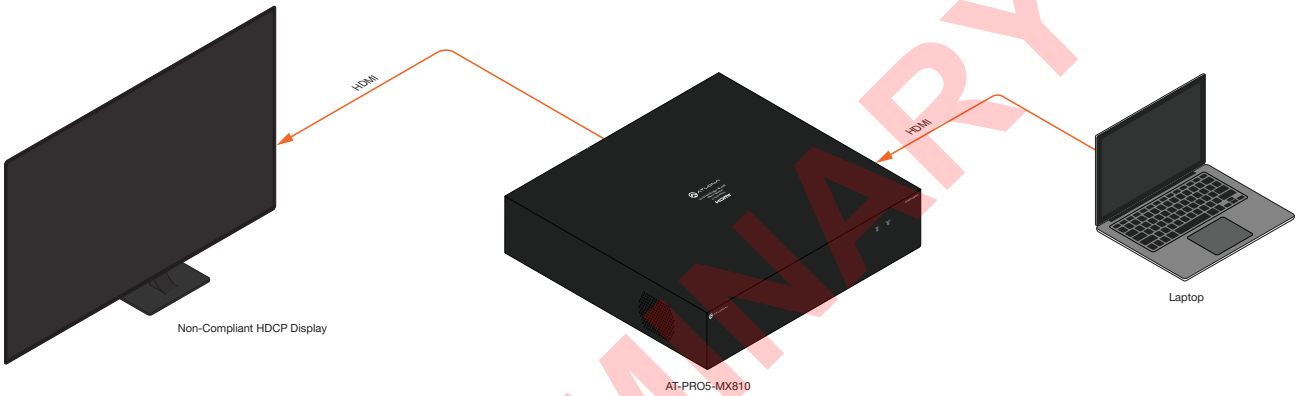


4. Click the **EDID** drop-down list and select the desired EDID. In this example, the `ATL 4K60 MCH HDR` EDID is being selected.
5. Click on the highlighted EDID to commit changes.

HDCP Content

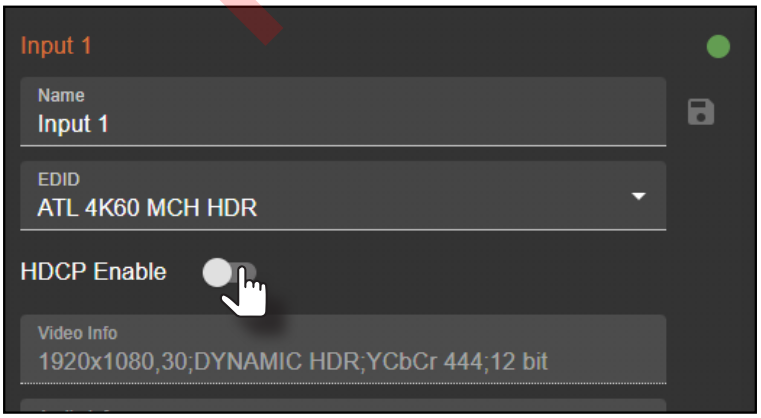
Transmitting HDCP content to a display that is not HDCP compliant can result in “snow”, image flickering, or no picture. In the illustration below, a laptop source is connected to the AT-PRO5-MX810, which is connected to a display that is not HDCP compliant.

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



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

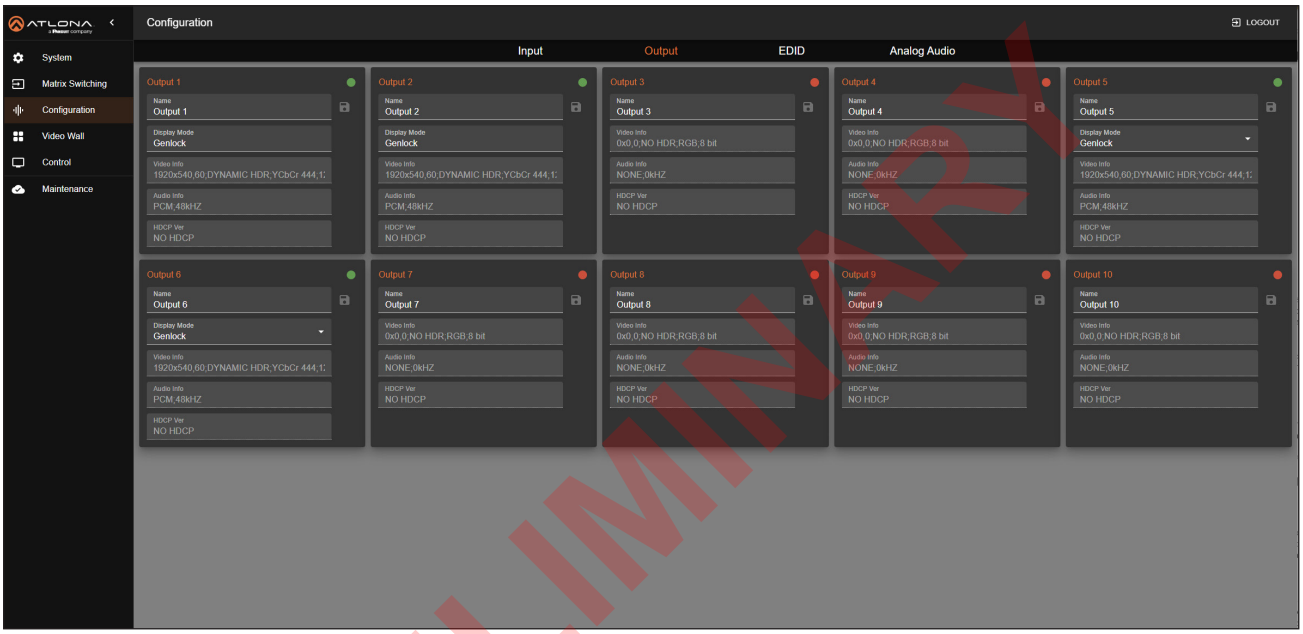
1. Log in to the web server.
2. Click **Configuration** in the side menu bar.
3. Click **Input** in the top menu bar.
4. Click the toggle switch for the desired input. For example, toggling **HDCP Enable** under Input 1 to the Off position will prompt the source device to send non-HDCP content, if it is supported.



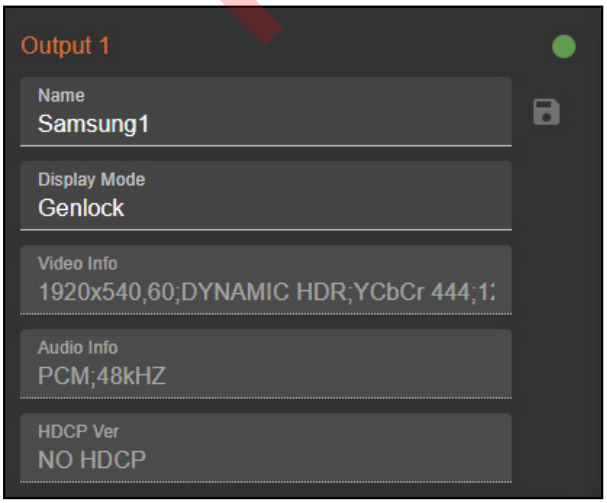
Changing the Output Name

By default, inputs are named **Output 1**, **Output 2**, **Output 3**, and so on. It is recommended to rename each output based on the connected output device.

1. Log in to the web server.
2. Click **Configuration** in the side menu bar.
3. Click **Output** in the top menu bar.



4. Click the **Name** field of the desired output.
5. Enter the desired name for the output. In this example, `Samsung1` is used, identifying the sink device.
6. Click the icon to save the name of the output. Note that the name of the output, in orange, will not change. The new output name will appear under the **Matrix Switching** > **A/V Routing** and **Matrix Switching** > **Analog Audio Routing** pages.

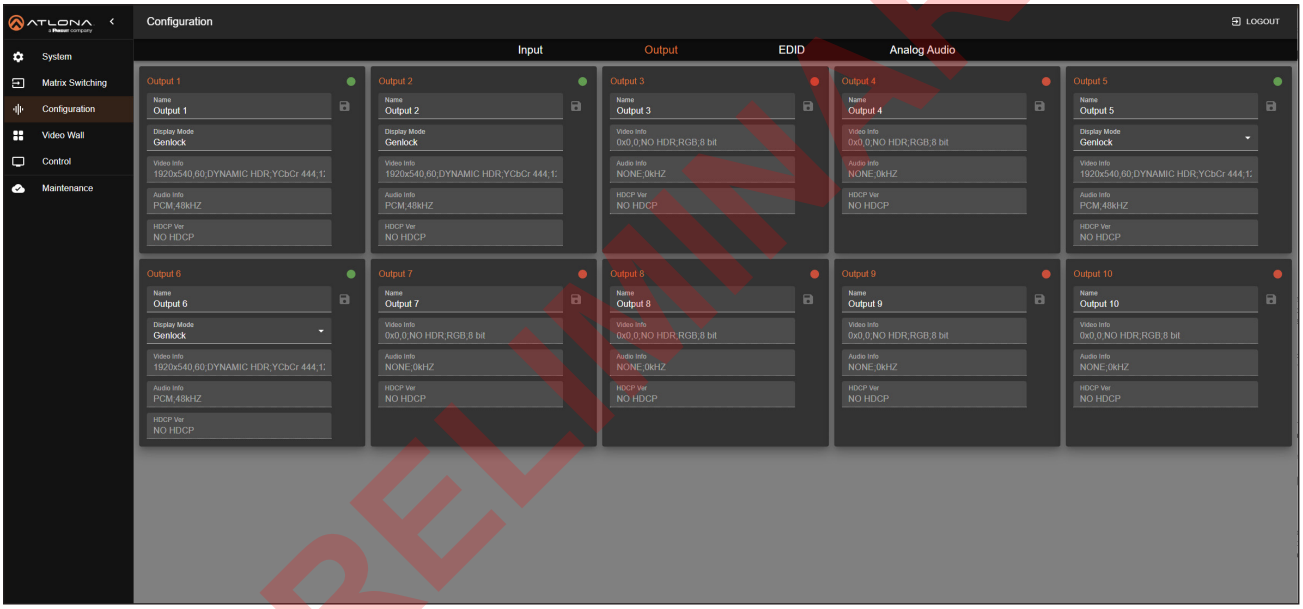


Changing the Display Mode

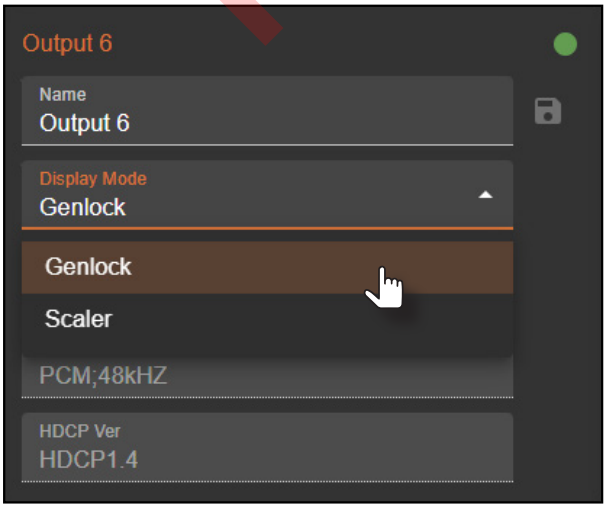
When the corresponding SDVoE output is connected with an AT-PRO5-101-SC-RX receiver, the display mode can be switched between `Genlock` or `Scaler`.

> **IMPORTANT:** Display modes can only be selected when an AT-PRO5-101-SC-TX receiver is connected to an SDVoE output. If an AT-PRO5-101-RX receiver is used, the drop-down list will not appear.

1. Log in to the web server.
2. Click **Configuration** in the side menu bar.
3. Click **Output** in the top menu bar.



4. Click the **Display Mode** drop-down list and select the desired display mode.



Refer to *Table 1.1* on the next page for a description of display modes.

Table 1.1 - Display Modes

<table>
<tr><th>Mode</th><th colspan="2">Description</th></tr>
<tr><td>Genlock</td><td colspan="2">This mode mimics the behavior of a direct wired connection. The HDMI signal is mostly unchanged, with only light video compression applied to fit within the cable's 10Gbps network bandwidth. The display connected to the receiver is synchronized (genlocked) to the source connected to the matrix. When multiple receivers use the same input, all connected displays sync to that source, ensuring complete synchronization across all displays. Genlock mode provides the lowest possible latency.

NOTE: Genlock is required to pass HDR signals.</td></tr>
<tr><td>Scaler</td><td colspan="2">This mode allows selection between Fast scaler and Genlock scaler modes.</td></tr>
<tr><td></td><td>Mode</td><td>Description</td></tr>
<tr><td></td><td>Fast scaler</td><td>This mode allows for quick source switching with resolution scaling or frame rate conversion, as needed. It keeps the output timing and format constant, so the display doesn't need to re-synchronize, resulting in smooth transitions. However, a frame buffer adds a latency of 1 to 2 frames.</td></tr>
<tr><td></td><td>Genlock scaler</td><td>This mode combines the low latency and source synchronization of Genlock mode with the scaling features of Fast Switch mode. When enabled, the output port can handle format conversions, like 1080p to 720p, but does not perform frame rate conversion, avoiding any frame buffer latency. By keeping the output synchronized (genlocked) to the source, this mode ensures the lowest possible latency for displays with resolutions different from the source.</td></tr>
</table>

When set to Scaler mode, two additional drop-down lists will be available: **Scaler Mode** and **Output Resolution**. Refer to the table above for information on the Fast scaler and Genlock scaler modes.

The **Output Resolution** drop-down list provides the following resolutions, listed in *Table 1.2*.

Table 1.2 - Available Output Resolutions in Scaler Mode.

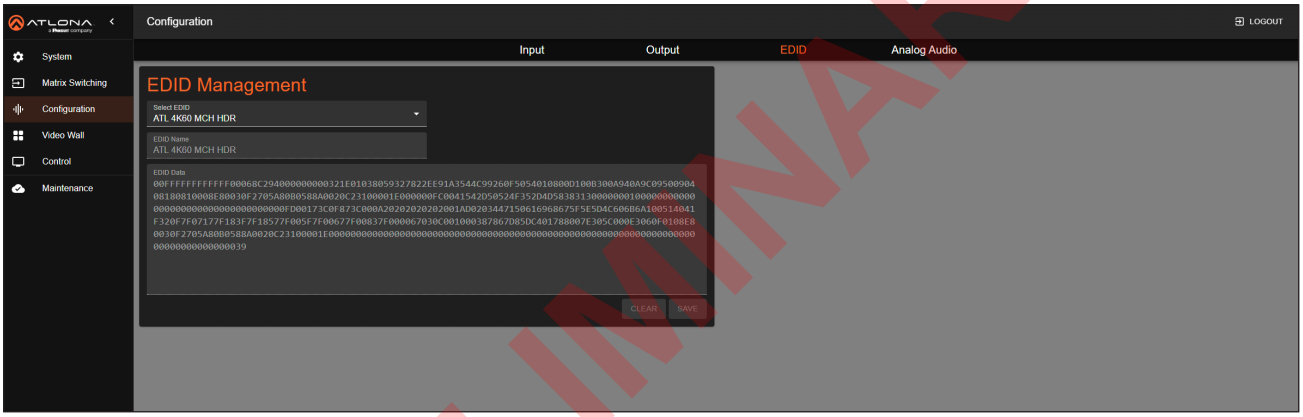
Resolutions			
720P	1080P	2160P	4096x2160
1024x768	1280x768	1280x960	1280x1024
1360x768	1400x1050	1600x1200	1680x1050
1920x1200			

EDID Management

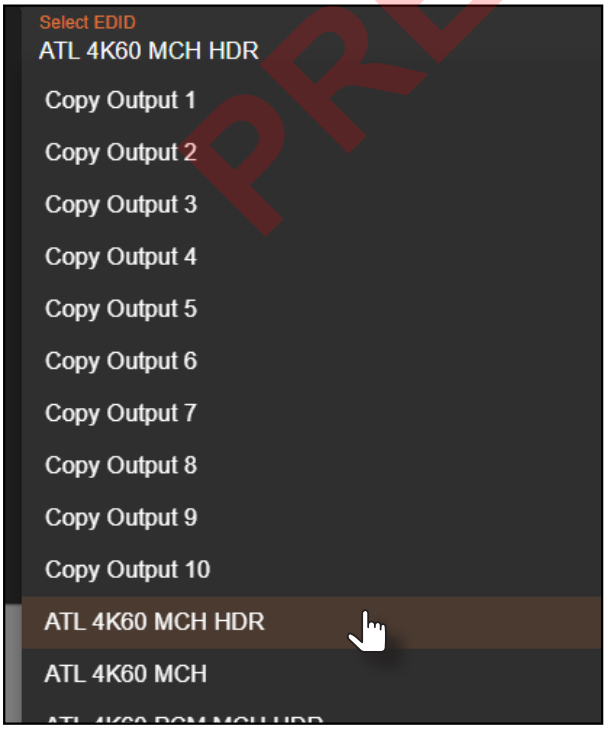
Before a source can send picture and sound to a display device, the source reads the EDID (Extended Display Identification Data) stored in the display. The EDID contains information about what type of video and audio formats are supported by the display. The AT-PRO5-MX810 can use a factory-programmed EDID, the downstream EDID (from the display/sink) or a custom EDID. The AT-PRO5-MX810 provides a five blank memory locations that can be used to store EDID data.

By default, the AT-PRO5-MX810 will use the `ATL 4K60 MCH HDR` EDID for each input. However, this can be modified.

1. Log in to the web server.
2. Click **Configuration** in the side menu bar.
3. Click **EDID** in the top menu bar.



4. Click the **Select EDID** drop-down list to select the desired EDID.



5. The **EDID Name** field displays the EDID name and the raw EDID data will be displayed in the **EDID Data** window.

EDID Presets

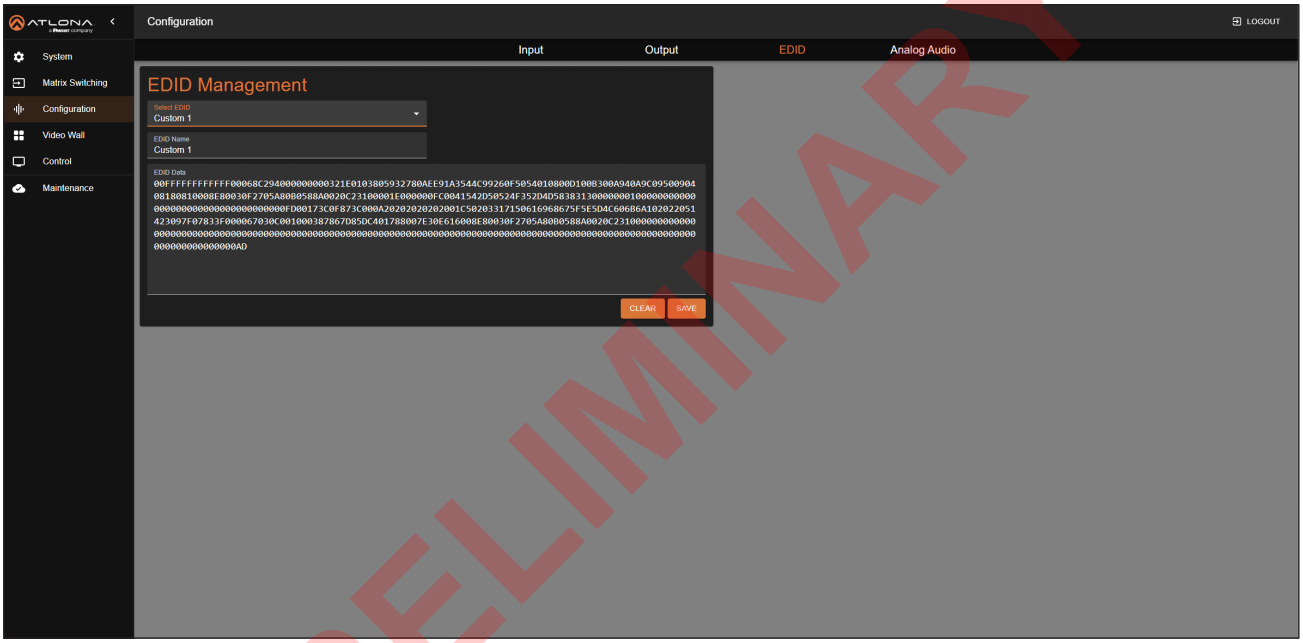
The AT-PRO5-MX810 provides the option of selecting an EDID. The following options are available from the **EDID** drop-down list, for each input.

EDID	Description
Copy from Output 1... Copy from Output 10	Uses the EDID that is connected to the selected output.
ATL 4K60 MCH HDR	3840 x 2160 @ 60 Hz / multichannel audio / HDR
ATL 4K60 MCH	3840 x 2160 @ 60 Hz / multichannel audio
ATL 4K60 PCM MCH HDR	3840 x 2160 @ 60 Hz / multichannel LPCM audio / HDR
ATL 4K60 PCM MCH	3840 x 2160 @ 60 Hz / multichannel LPCM audio
ATL 4K60 2CH	3840 x 2160 @ 60 Hz / 2-channel audio
ATL 1080P MCH	1920 x 1080 / multichannel audio
ATL 1080P 2CH	1920 x 1080 / 2-channel audio
ATL 1080P DD	1920 x 1080 / Dolby® Digital
ATL 1080P DVI	1920 x 1080 / DVI
ATL 720P DD	1280 x 720 / Dolby® Digital
ATL 720P 2CH	1280 x 720 / 2-channel audio
Custom 1...Custom 5	Selects a custom EDID preset

Creating a Custom EDID

The AT-PRO5-MX810 provides a five blank memory locations that can be used to store EDID data. These memory locations are non-volatile and the EDID data is retained after power is disconnected from the unit.

1. Log in to the web server.
2. Click **Configuration** in the side menu bar.
3. Click **EDID** in the top menu bar.
4. Click the **Select EDID** drop-down list to select one of the custom EDID memory locations. In this example, `Custom 1` is selected.

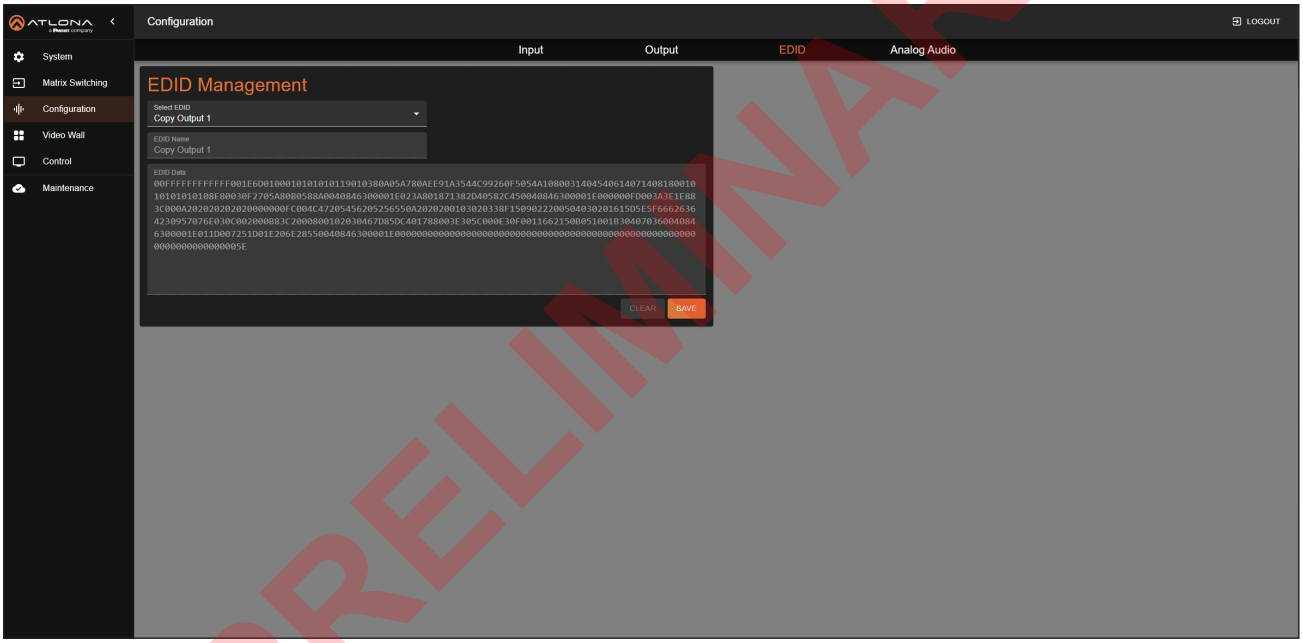


5. Type the name of the EDID in the **EDID Name** field.
6. Copy and paste the raw EDID data in the **EDID Data** field. Raw EDID data should not contain any spaces or delimiters.
7. Click the **SAVE** button.

Copying a Downstream EDID

The AT-PRO5-MX810 provides a five blank memory locations that can be used to store EDID data. These memory locations are non-volatile and the EDID data is retained after power is disconnected from the unit.

1. Connect an HDMI cable from the HDMI output port (or HDMI output on the receiver) to the HDMI input on the display, containing the EDID to be stored.
2. Log in to the web server.
3. Click **Configuration** in the side menu bar.
4. Click **EDID** in the top menu bar.
5. Click the **Select EDID** drop-down list to select one of the `Copy Output` selections. In this example, `Copy Output 1` is selected.



If the EDID cannot be retrieved, then `ERROR, UNCONNECT` will be displayed in the **EDID Data** field. Check the cable connections or try another cable.

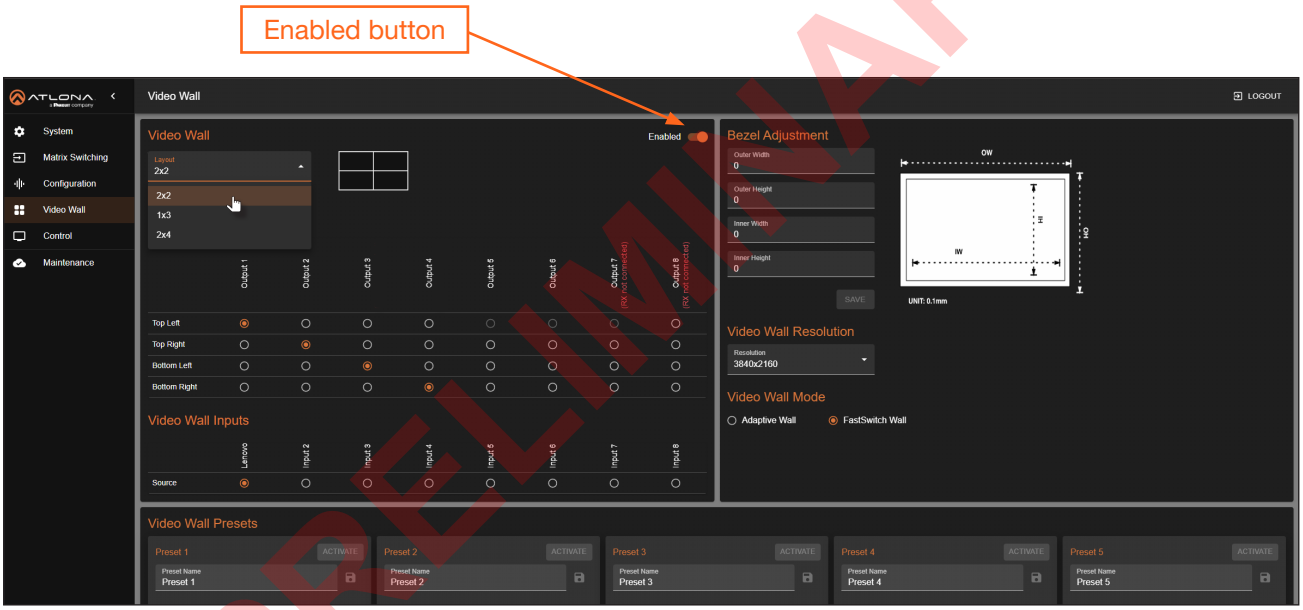
6. Click the **SAVE** button.

Video Walls

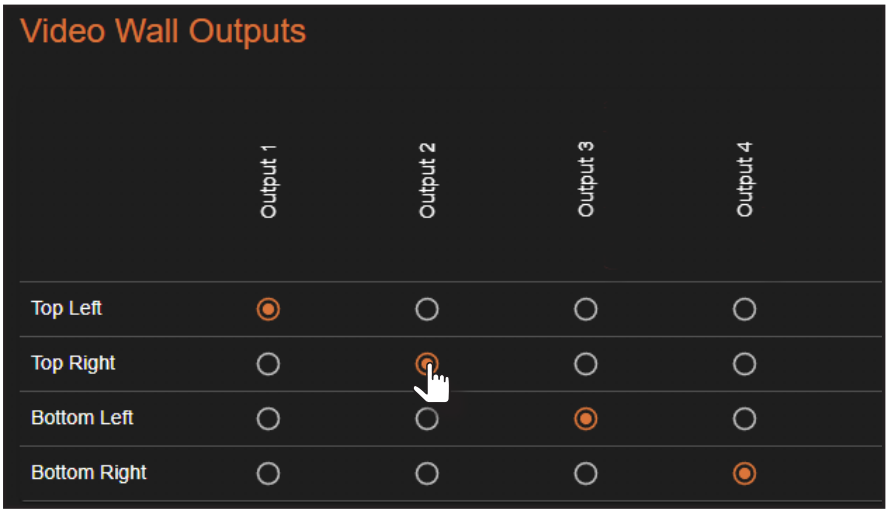
IMPORTANT: In order to use the video wall feature, AT-PRO5-101-SC-RX scaling receivers must be used.

Creating a Video Wall

1. Log in to the web server.
2. Click **Video Wall** in the side menu bar.
3. Click the **Enabled** toggle switch to enable the video wall feature. When enabled, the toggle switch will be orange.
4. Click the **Layout** drop-down list to select the desired video wall configuration. In this example, `2x2` has been selected.



5. Under the **Video Wall Outputs** section, click the radio button that corresponds with the desired output. In this example, **Output 1** has been assigned to the **Top Left** window, **Output 2** to the **Top Right** window, and so on. Refer to the illustration below.



6. Under the **Video Wall Inputs** section, click the radio button for the desired input video source. In this example, **Input 1** (“Lenovo”) is selected.

7. Click the **Resolution** drop-down list, located under the **Video Wall Resolution** section, and select the desired resolution. In this example, `3840x2160` is selected.

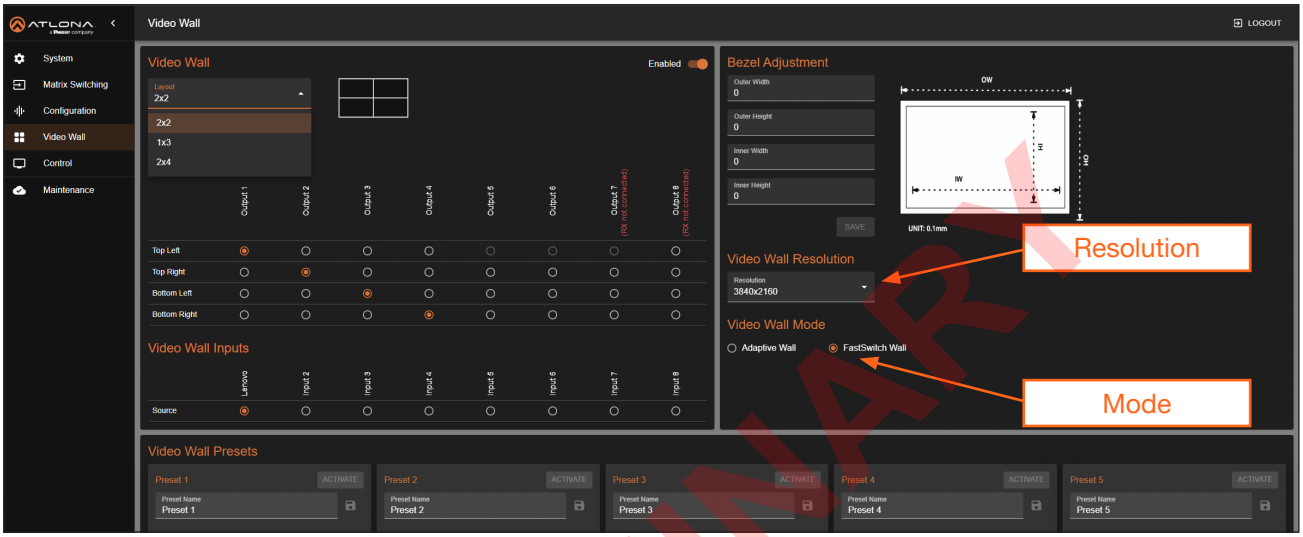
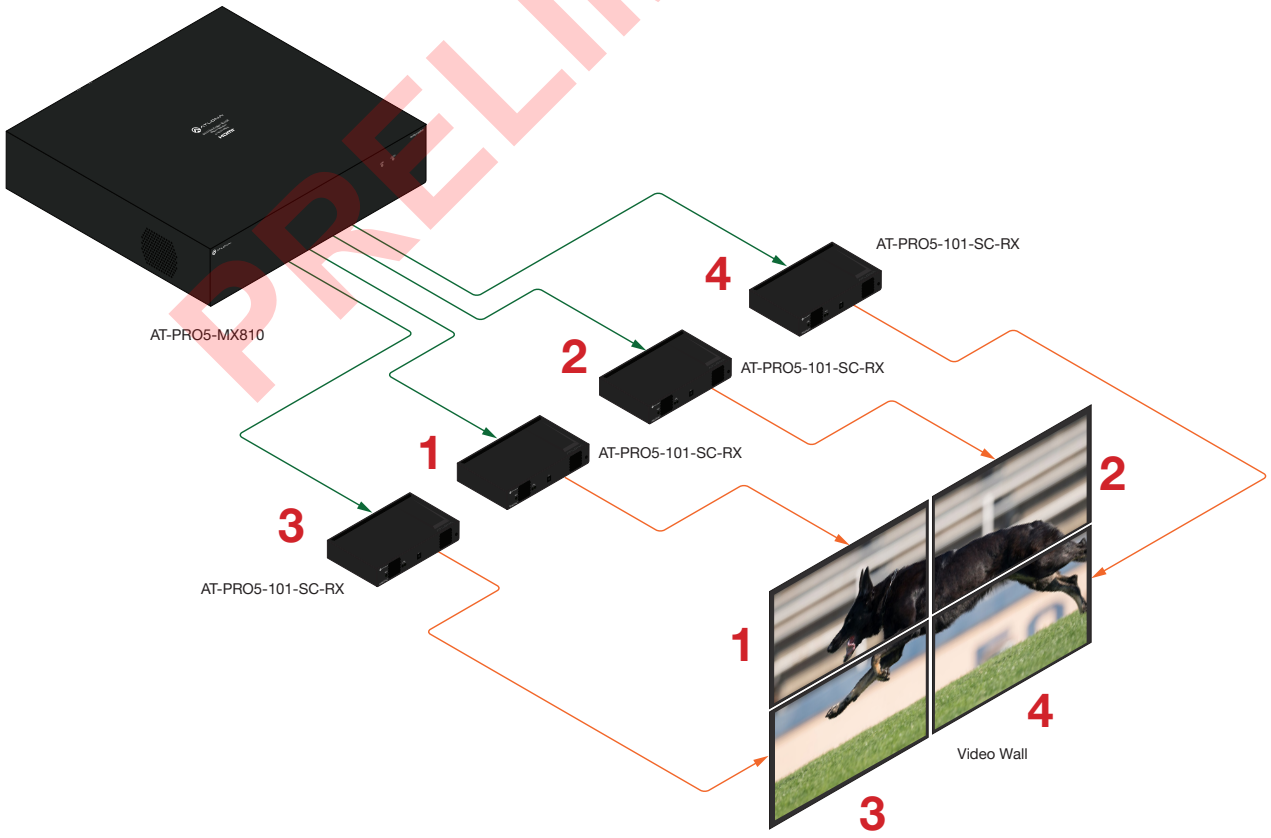


Figure 1.1 - Illustration of the AT-PRO5-MX810 and four AT-PRO5-SC-RX receivers.



8. Locate the **Video Wall Mode** section and click the radio button for the desired mode. In this example, `FastSwitch Wall` is selected. Refer to Table 1.1 for a description of modes.

Table 1.1 - Video Wall Modes

Mode	Description
`Adaptive Wall`	This is the default setting. In this mode, all screens stay synchronized with the source, ensuring high-quality output. However, switching to a new source takes some time to complete.
`FastSwitch Wall`	This mode offers faster source switching than `Adaptive Wall` mode, making it ideal for setups with more than three switch hops. However, latency may vary, and up to one frame of screen tearing can occur.

9. Check the image, on each display, and make sure they are aligned correctly with the other images on the video wall. Adjust the fields under the **Bezel Adjustment** section to adjust bevel compensation, if necessary.

Saving a Video Wall Preset

A video wall can be saved as a preset after creation, allowing up to ten video wall presets to be stored.

1. Create the desired video wall configuration.
2. Locate the **Video Wall Presets** section.
3. Enter the name of the preset in the desired **Preset** field, then click the icon to save the name of the preset.
4. Click the **Save** button to assign the currently configured video wall to the preset. To remove the video wall configuration from the preset, click the **Clear** button.

Device Control

The **Control** menu contains two pages: RS-232 and CEC.

RS-232 Control Settings

This section provides options to configure RS-232 parameters for each output gateway, enabling control of remote third-party devices through the SDVoE receiver's **RS-232** port.

1. Make sure that the third-party device is connected to the **RS-232** port on the AT-PRO5-101-RX or AT-PRO5-101-SC-RX receiver.
2. Log in to the web server.
3. Click **Control** in the side menu bar.
4. Click **RS-232** in the top menu bar.
5. Click the **Destination** drop-down list to select the output port. Available options are `Output 1...Output 8`.
6. Click the **Baud Rate** drop down list to select the required baud rate. Available options are `9600`, `19200`, `38400`, `57600`, and `115200`.

7. Click the **Parity**, **Data Bits**, and **Stop Bit** drop-down lists to set the required value. In most cases, these values will be `NONE`, `8`, and `1`, respectively.
8. Enter the command in the **Command** field. The command can be in either ASCII or hexadecimal format. If the command is entered in hexadecimal format, click the **HEX** checkbox.

   An example of an ASCII string might be: `PWON`.

   A command in hexadecimal format might be:
   `\xBE\xEF\x03\x06\x00\xBA\xD2\x01\x00\x00\x60\x01\x00\x0D`
9. Click the **SEND** button to verify that the command works properly.

CEC Display Control

Consumer Electronics Control* (CEC) is the simplest method of control when working with a display. Note that the display must have CEC enabled to receive CEC messages. The **HDMI OUT** port is used for CEC control.

1. Enable CEC on the display device. Refer to the documentation for the display device. It should be noted that different manufacturers will identify CEC with their own brand name. Refer to the table below.

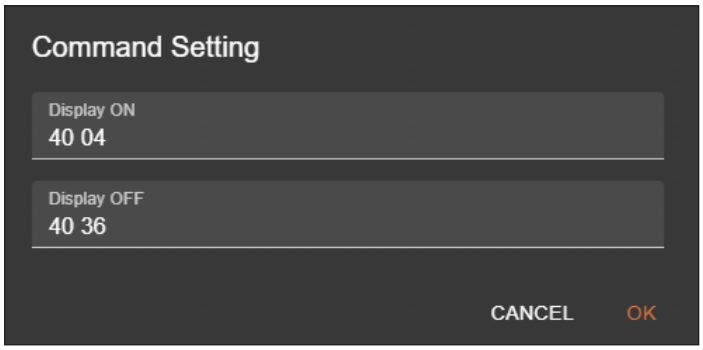
Manufacturer	CEC Designation
Hitachi	HDMI-CEC
LG	SIMPLINK
Philips	EasyLink
Samsung	AnyNet+
Sony	BRAVIA Sync
Toshiba	CE Link / REGZA Link
Visio	HDMI-CEC

2. Log in to the web server.
3. Click **Control** in the side menu bar.
4. Click **CEC** in the top menu bar.
5. Click the **Auto** toggle switch to enable or disable CEC auto control. When enabled, the toggle switch will be orange.

**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.*

6. Click the **Delay** drop-down list to select the delay interval. Values are from `1...30` minutes. This setting controls the display's power, toggling it on or off based on the presence of a video signal. For instance, if **Auto** control is enabled and the **Delay** is set to 2 minutes, the display will automatically power off if no signal is detected for 2 minutes

7. Click the icon to display the **Command Setting** fields.



8. Enter the power-on and power-off commands in the **Display ON** and **Display OFF** fields, respectively. Consult the documentation for the display for the correct command strings.

> **NOTE:** The CEC commands currently set in the **Command Setting** fields should work with most display manufacturers.

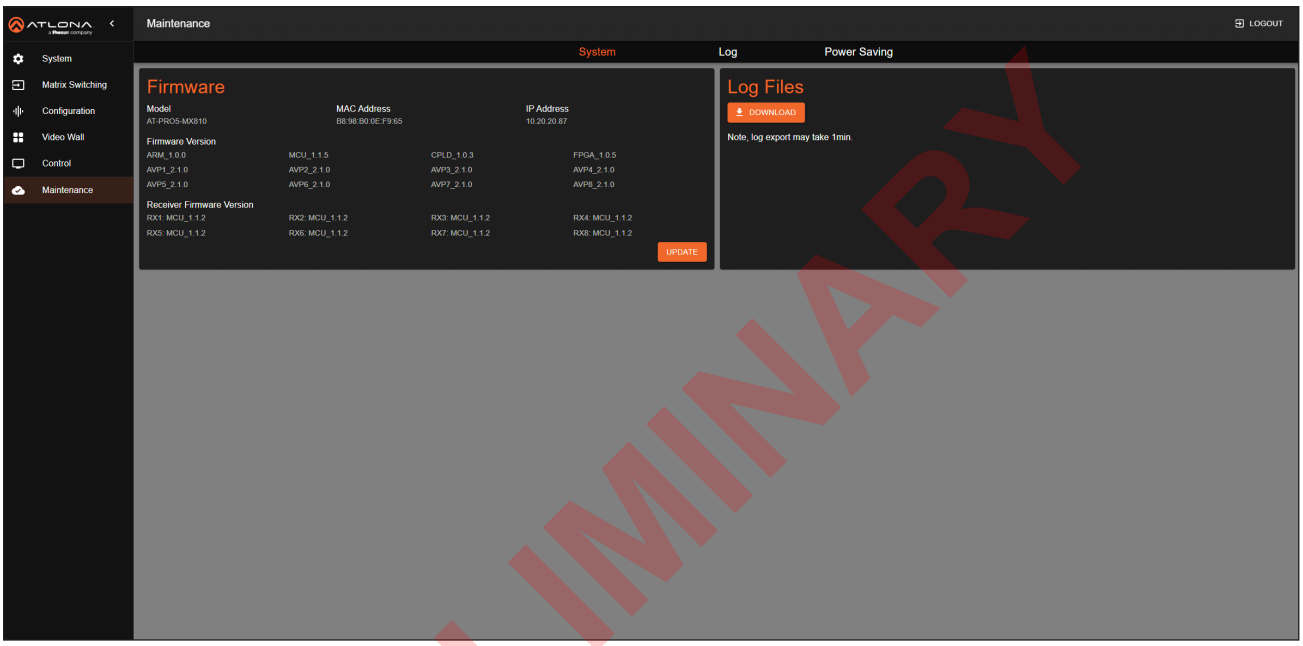
9. Click the **OK** button to save changes.

10. Click the **DISPLAY ON** and **DISPLAY OFF** buttons to verify that each command works properly. If not, check the values entered for each command.

System Maintenance

Updating the Firmware

1. Log in to the web server.
2. Click **Maintenance** in the side menu bar.
3. Click **System** in the top menu bar.



4. Under the **Firmware** window group, all firmware versions will be listed. If there are AT-PRO5-101-RX and/or AT-PRO5-101-SC-RX receivers connected to the AT-PRO5-MX810, then the receiver firmware version will also be listed.
5. Click the **UPDATE** button.
6. The Open dialog will be displayed. Locate the firmware file and click the Open button.

Downloading Log Files

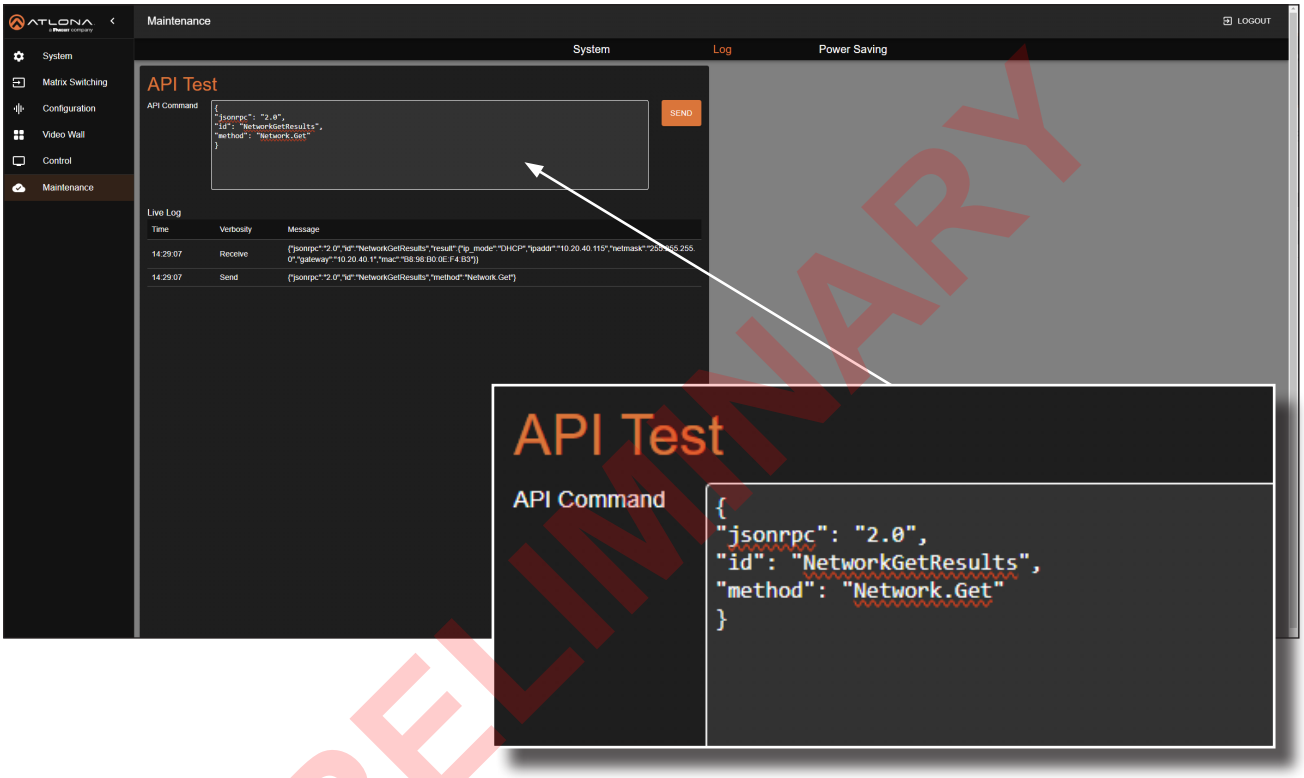
This feature allows log files to be downloaded to the local PC. Log files are used for troubleshooting purposes and may be requested by Atlona Technical Support Engineers.

1. Log in to the web server.
2. Click **Maintenance** in the side menu bar.
3. Click **System** in the top menu bar.
4. Under the Log Files window group, click the **DOWNLOAD** button. Log files are automatically downloaded to the `C:\Users\[Username]\Downloads` folder on the PC.

API Testing

This page provides testing of JSON-RPC 2.0 commands.

1. Log in to the web server.
2. Click **Maintenance** in the side menu bar.
3. Click **Log** in the top menu bar.

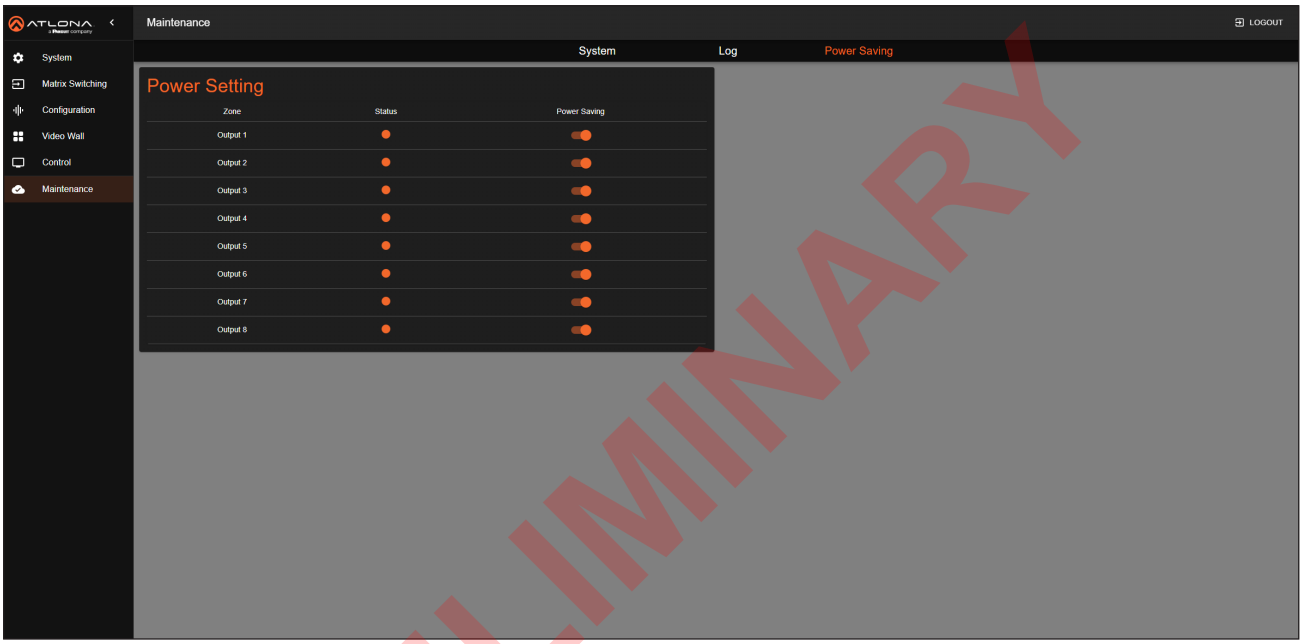


4. Enter the JSON string in the **API Command** field.
5. Click the **SEND** button. If the JSON-RPC 2.0 command is valid, feedback will be displayed under the **Live Log** section.

Power Saving

To conserve power, the AT-PRO5-MX810 provides the ability to disable the PoE function for ports **EXT 1** - **EXT 8** (RJ45) when they are not in use. Additionally, it supports monitoring the operating status of remote SDVoE receivers.

1. Log in to the web server.
2. Click **Maintenance** in the side menu bar.
3. Click **Power Saving** in the top menu bar.



4. Click the **Power Saving** toggle switch for each output to enable or disable power saving. When enabled, the **Power Saving** toggle switch will be orange.

Appendix

Specifications

Video		
Signal	Input – HDMI Output – SDVoE (RJ45, SFP+)	
Copy Protection	HDCP 1.4 / 2.2 / 2.3	
Pixel Clock	600 MHz	
UHD/HD/SD	4096x2160 @ 60/50/30/25/24 Hz 3840×2160 @ 60/50/30/25/24 Hz 1920x1080p @ 60/59.9/50/30/29.97/25/24/23.98 Hz 1920x1080i @ 30/29.97/25 Hz 1280x720p @ 60/59.94/50 Hz	720x576p @ 50 Hz 720x576i @ 25 Hz 640x480p @ 60/59.96 Hz 640x480i @ 30 Hz
VESA	2560×1600 2048×1536 1920×1200 1680×1050 1600×1200 1440×900 1400×1050 1366×768	1360×768 1280×1024 1280×800 1152×864 1024×768 800×600 640×480
Color Space	YUV, RGB	
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0	
Color Depth	8-bit, 10-bit, 12-bit	
HDR	HDR10, Hybrid-Log Gamma (HLG), and Dolby® Vision™ @ up to 60 Hz	

Audio			
HDMI Pass-Through Formats	LPCM 2.0 LPCM 5.1 LPCM 7.1	Dolby® Digital Dolby Digital Plus™ Dolby TrueHD Dolby Atmos®	DTS® Digital Surround™ DTS-HD Master Audio™ DTS:X®
Bit Depth	Up to 24 bits		
Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz		
Analog Audio			
Format	Stereo 2-Channel		
Type	Balanced Audio		

Ethernet	
Port	1 x RJ45
Standards and Protocols	HTTP, HTTPS, Telnet, SSH, mDNS
Speeds	10/100/1000 Mbps
Addressing	DHCP, Static, APIPA

RS-232	
Port	1 x 3-pin captive screw, TX, RX, GND
Use	Device control and configuration
Baud Rates	2400, 4800, 9600, 19200, 38400, 57600, 115200
Data Flow	Bidirectional

Appendix

CEC	
Ports	2 x HDMI OUT, Type A, 19-pin female
Triggering	IP, RS-232, and built-in web server

Resolution / Distance	4K/UHD - Feet / Meters		1080p - Feet / Meters	
HDMI IN/OUT	15	5	30	10
CAT6a	330	100	330	100

Buttons and Indicators	
Buttons: RESET	 1 x momentary, recessed
Indicators: PWR STATUS	 1 x LED, blue 1 x LED, blue/red/off

Connectors	
INPUT	8 x Type A, 19-pin female
OUTPUT	2 x Type A, 19-pin female
EXT 1 - 8 (SDVoE)	8 x RJ45, female 8 x SFP+ cage, female
RS-232	1 x 3-pin captive screw
LAN	1 x RJ45, 1000Base-T
IR IN	8 x 3.5 mm jack, female
IR OUT	8 x 3.5 mm jack, female
AUDIO OUT	8 x 5-pin captive screw, balanced / unbalanced, 2-channel
AC100-240V 50/60 Hz	IEC

Environmental	Fahrenheit	Celsius
Operating Temperature	+32 to +122	0 to +50
Storage Temperature	-4 to +140	-20 to +60
Operating Humidity (RH)	20% to 90%, non-condensing	
Maximum Operating Altitude	2000 meters	

Power	
Consumption (maximum)	156.5 W
Consumption (idle)	43.8 W
Consumption (operating)	59 W
BTU/h (maximum)	533.67
BTU/h (idle)	149.36
BTU/h (operating)	201.19

Dimensions (H x W x D)	Inches	Millimeters
Unit (2U)	3.46 x 17.32 x 14.18	88.00 x 440.00 x 360.20

Weight	Pounds	Kilograms
Device	16.09	7.3

Appendix

Certification		
Device	CE, FCC, RoHS	
Power Supply	CE, FCC, RoHS, CCC, CB	

Compliance		
NDAA-889	Yes	
TAA	No	

Warranty		
3 years	View the full warranty information here: https://atlona.com/warranty	