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Product Manual

SAROS DM-NAX-IC4A-W and SAROS IC4P-W

Saros® 3 in. Full-Range In-Ceiling Speaker, White, Textured

Crestron Electronics, Inc.

The original language version of this document is U.S. English.
All other languages are a translation of the original document.

Regulatory Model: M202010001

Contents

Overview

The SAROS DM-NAX-IC4A-W and SAROS IC4P-W are Saros® in-ceiling speakers with a Balanced Mode Radiator (BMR) transducer that offer broad coverage angles and simple installation. A single 2.83 in. (72 mm) BMR transducer drives the entire frequency range, with coverage angles exceeding the capabilities of a traditional conical, pistonic woofer and concentric tweeter. The SAROS DM-NAX-IC4A-W supports PoE+, DM NAX® Audio-over-IP, and AES67, and powers up to three SAROS IC4P-W passive speakers to act as the hub of a four-speaker system.

This section provides the following information:

SAROS DM-NAX-IC4A-W

- Audio-over-IP (AoIP) in-ceiling speaker
- Connects directly to a managed network to route to or from DM NAX® audio-over-IP, DM NVX® A/V-over-IP, or AES67 devices
- Interoperable with Dante® audio networking devices via AES67 compatibility
- Powers up to three satellite SAROS IC4P-W speakers (sold separately)
- Balanced Mode Radiator (BMR) transducer offers enhanced clarity and wider dispersion than a typical conical driver
- Clean, contemporary grille design
- Two-step toggle clamps for quick and easy installation

- Includes tile bridge for installation in a drop-tile ceiling
- 80 Hz to 24 kHz frequency response
- 170° coverage for speech content, 140° coverage for music

Audio-over-IP

The SAROS DM-NAX-IC4A-W receives up to four channels of DM NAX audio-over-IP or AES67 encoded audio over a standard IP network. DM NAX devices can also receive the audio stream from DM NVX A/V-over-IP devices, and are interoperable with Dante audio devices via the AES67 compatibility mode enabled through Dante Controller® software. The speaker features a built-in 25.5 W PoE+ audio amplifier that drives the built-in BMR transducer and provides power to three additional SAROS IC4P-W passive speakers.

Digital Signal Processing

Digital Signal Processing (DSP) capabilities such as bass and treble boost and cut, speaker protection and limiting, a full 10-band EQ per output, and output delay can be configured through the web configuration interface. In addition to the audio channel that feeds the built-in BMR transducer, each RJ-45 output has a discrete audio channel for a total of four channels of available audio processing.

Simple and Clean Installation

The speaker is designed for quick and easy installation and years of reliable performance. Its unobtrusive and contemporary grille achieves an appearance well-suited for use in restaurants, retail spaces, houses of worship, universities, and office buildings. Installing the grille requires no hardware or tools, utilizing powerful magnets to hold it in place.

Mounting the speaker is facilitated using swiveling mounting dogs integrated into the enclosure. The mounting dogs feature two positions to accommodate standard and extra thick surfaces up to 2.4 in. (61 mm). A tile bridge is included to provide proper support when installed in a typical drop-tile ceiling. The tile bridge is adjustable to enable off-center speaker positioning, and can be folded to fit through the speaker cutout. A rigging point is also provided on the speaker enclosure for securing to the building structure using an optional safety tether kit (SPKA-ST-15, sold separately).

Plenum Rated

The speaker is housed in an integral metal back can, which meets the requirements of UL® 2043 for installation in a plenum space. The wiring connections are accessible behind rear cover panels. Three connections for additional passive speakers are available to expand the total audio coverage area.

SAROS IC4P-W

- Balanced Mode Radiator (BMR) transducer offers enhanced clarity and wider dispersion than a typical conical driver
- Clean, contemporary grille design
- Two-step toggle clamps for quick and easy installation
- Includes tile bridge for installation in a drop-tile ceiling
- 90 Hz to 30 kHz frequency response
- 170° coverage for speech content, 140° coverage for music

Simple and Clean Installation

The SAROS IC4P-W is designed for quick and easy installation and years of reliable performance. Its unobtrustive and contemporary grille achieves an appearance well-suited for use in restaurants, retail spaces, houses of worship, universities, and office buildings. Installing the grille requires no hardware or tools, utilizing powerful magnets to hold it in place.

Mounting the speaker is facilitated using swiveling mounting dogs integrated into the enclosure. The mounting dogs feature two positions to accommodate standard and extra thick surfaces up to 2.4 in. (61 mm). A tile bridge is included to provide proper support when installed in a typical drop-tile ceiling. The tile bridge is adjustable to enable off-center speaker positioning, and can be folded to fit through the speaker cutout. A rigging point is also provided on the speaker enclosure for securing to the building structure using an optional safety tether kit (SPKA-ST-15, sold separately).

Plenum Rated

The speaker is housed in an integral metal back can, which meets the requirements of UL® 2043 for installation in a plenum space. The wiring connections are accessible behind a rear cover panel. Two mutually exclusive inputs are available, an RJ-45 connector to receive signal from the outputs of a SAROS DM-NAX-IC4A-W (sold separately) and a two pin terminal block connector to receive signal from an external audio amplifier. For a plenum rated patch cable, use CBL-ZUMLINK-P-25 (sold separately) or a third-party CAT5e cable 32 ft. (10 m) or shorter.

Specifications

Refer to the following sections for more information on the specifications of the individual Saros® 3 in. in-ceiling speaker models.

This section provides the following information:

- SAROS DM-NAX-IC4A-W Specifications
- SAROS IC4P-W Specifications

SAROS DM-NAX-IC4A-W Specifications

Product specifications for the SAROS DM-NAX-IC4A-W are provided below.

Product Specifications

Features & Performance

Transducer	2.83 in. (72 mm) Balanced Mode Radiator (BMR)
Frequency Response	80 Hz to 24 kHz (±3 dB)
Sensitivity	86 dB @ -18 dBFS/1 m
Maximum SPL	
Coverage	170° conical (speech, up to 4 kHz); 140° conical (music, up to 8 kHz)
BMR Power Handling	25 W
BMR Power Output	Up to 21 W
EQ Filter Types	EQ, High Pass, Low Pass, Treble Shelf, Bass Shelf, Notch
EQ Center Frequency	10 to 20,000 Hz per band
EQ Gain	+20/-40 dB per band
EQ Bandwidth	0.1 to 4.0 octaves per band

Connectors

SPEAKER-LEVEL OUTPUTS 2-4	(3) 8-pin RJ-45 connector, female; Speaker-level audio output; For use with SAROS IC4P-W only; For plenum rated patch cable, use CBL-ZUMLINK-P-25 (sold separately) or third-party CAT5 cable 32 ft. (10 m) or shorter
Network/PoE+	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port; PoE+ PD (powered device) port; IEEE 802.3at Type 2 PoE+ Class 4 (25.5 W) compliant; Receives up to two stereo DM NAX AoIP streams or two stereo AES67 streams

Controls and Indicators

Ethernet	(2) Bi-color green/amber LEDs; Left LED indicates Ethernet link status; RIght LED indicates Ethernet activity
Power	(1) Bi-color white/red LED behavior determined via web UI configuration; White indicates that the device is powered on with audio passing or that signal is present; Red indicates that the device is in standby mode, that a fault is present, or that SETUP is pressed; Off indicates no power from the power supply or that the LED has been disabled from the web UI
SETUP	(1) Recessed push button; Pressing and holding the **SETUP** button for 15 seconds with power supplied clears network settings and restores the default DHCP mode; Pressing and holding the **SETUP** button with power disconnected, then connecting the power supply and continuing to hold **SETUP** for 30 seconds will perform a factory restore

Power

PoE+	IEEE 802.3at Type 2 Class 4 (25.5 W) compliant

Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (noncondensing)

Construction

Enclosure	Painted steel, plenum-rated; 0.75 in. (19 mm) conduit knockout on top and sides; (1) cable clamp included
Baffle	ABS UL® 94V-0 plastic
Grille	Steel with white textured finish; Magnetically held; Safety tether included
Mounting	Flush ceiling mount using 4 integral 2-step toggle clamps; 2.36 in. (60 mm) maximum clamping thickness; Tile bridge included

Dimensions

Baffle Diameter	7.49 in. (191 mm) not including mounting clamps
Back Can Diameter	6.33 in. (161 mm) not including mounting clamps
Depth	4.28 in. (109 mm) mounting depth; 4.50 in. (115 mm) including grille

Weight

2.6 lb (1.2 kg)

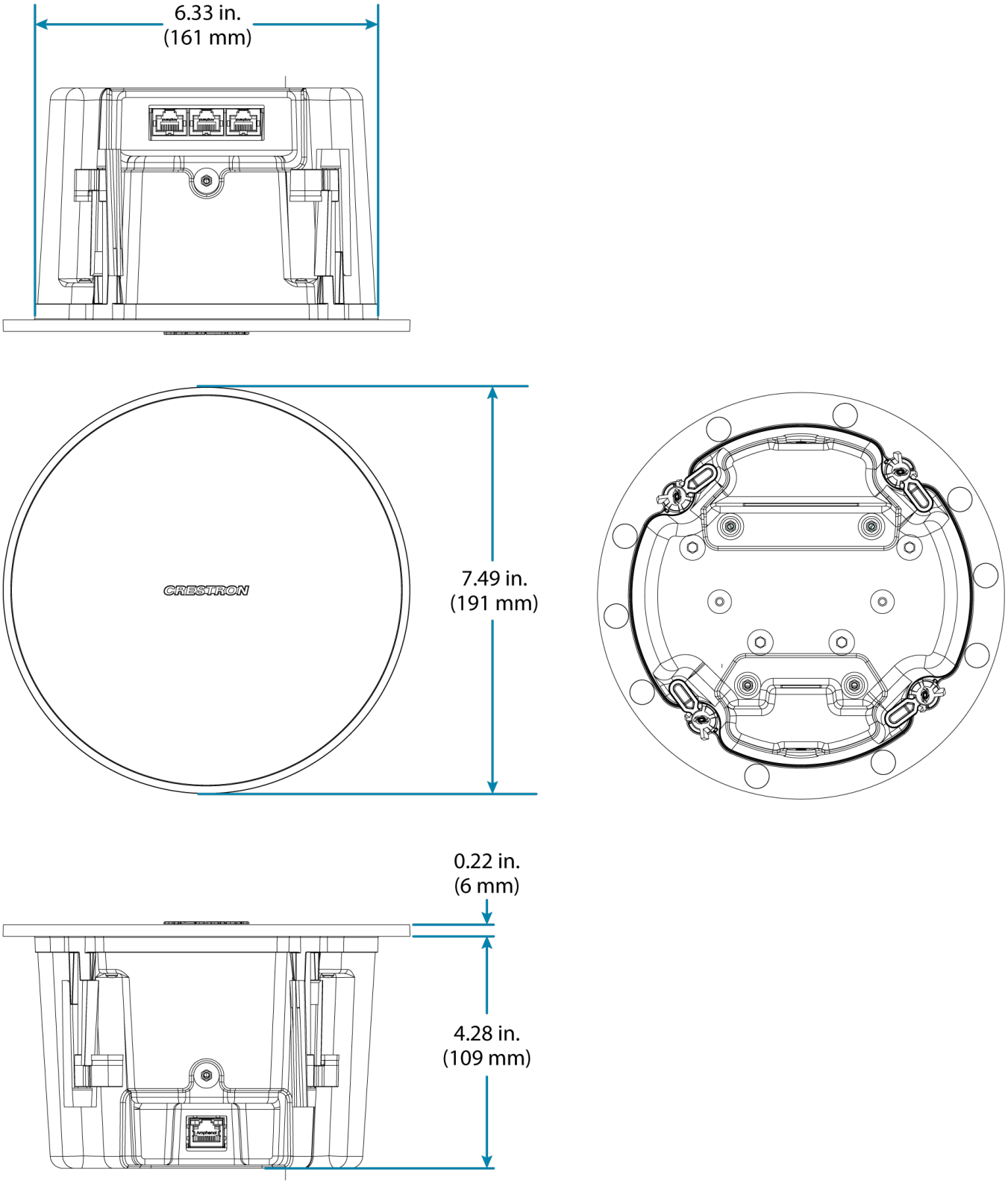
Compliance

Regulatory Model: M202010001

FCC Part 15 Class B, IC Class B, CE, UL® 2043

To search for product certificates, refer to support.crestron.com/app/certificates.

Dimension Drawings



SAROS IC4P-W Specifications

Product specifications for the SAROS IC4P-W are provided below.

Product Specifications

Features & Performance

Transducer	2.83 in. (72 mm) Balanced Mode Radiator (BMR)
Frequency Response	90 Hz to 30 kHz (±3 dB)
Sensitivity	86 dB @ 1 W/1 m
Maximum SPL	
Coverage	170° conical (speech, up to 4 kHz); 140° conical (music, up to 8 kHz)
BMR Power Handling	25 W
BMR Max Power Output	25 W, connected to an external amplifier via 2-pin audio input; 10 W, connected to the **SPEAKER-LEVEL OUTPUT** of a SAROS DM-NAX-IC4-A; 6.5 W, connected to the **SPEAKER-LEVEL OUTPUT** of a SAROS DM-NAX-IC4-A with one other SAROS IC4-P connected; 4.5 W, connected to the **SPEAKER-LEVEL OUTPUT** of a SAROS DM-NAX-IC4-A with two other SAROS IC4-P connected

Connectors

2-Pin Audio Input	(1) 2-pin 5 mm detachable terminal block; Speaker input (alternate); For use with an external amplifier; **Impedance:** 8 Ω (7.4 Ω nominal); **Maximum Wire Size:** 12 AWG; Do not connect both inputs simultaneously
RJ-45 Audio Input	(1) 8-pin RJ-45 connector, female; For use with SAROS DM-NAX-IC4A-W only

Controls and Indicators

Power	(1) White LED, behavior determined via SAROS DM-NAX-IC4A-W web UI configuration; Solid indicates that the device is paired with a SAROS DM-NAX-IC4A-W; Blinking indicates that the device is in identify mode; Off indicates the device is not paired with a SAROS DM-NAX-IC4A-W or that the LED has been disabled from the SAROS DM-NAX-IC4A-W

Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (noncondensing)

Construction

Enclosure	Painted steel, plenum-rated; 0.75 in. (19 mm) conduit knockout on top and sides; (1) cable clamp included
Baffle	ABS UL® 94V-0 plastic
Grille	Steel with white textured finish; Magnetically held; Safety tether included
Mounting	Flush ceiling mount using 4 integral 2-step toggle clamps; 2.36 in. (60 mm) maximum clamping thickness; Tile bridge included

Dimensions

Baffle Diameter	7.49 in. (191 mm) not including mounting clamps
Back Can Diameter	6.33 in. (161 mm) not including mounting clamps
Depth	4.28 in. (109 mm) mounting depth; 4.50 in. (115 mm) including grille

Weight

2.35 lb (1.06 kg)

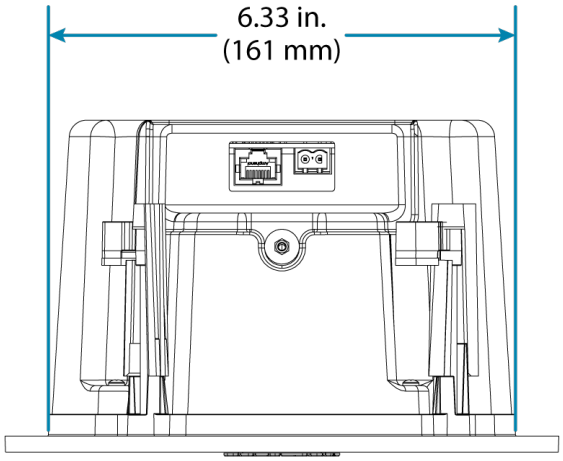
Compliance

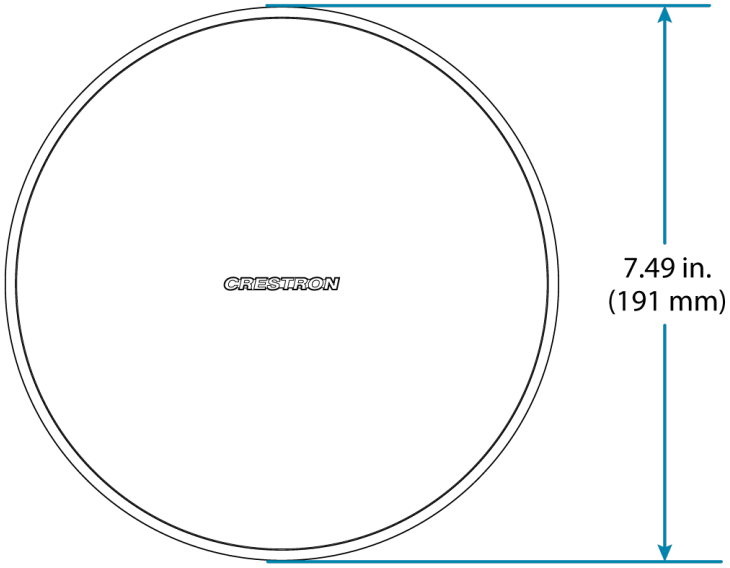
Regulatory Model: M202010001

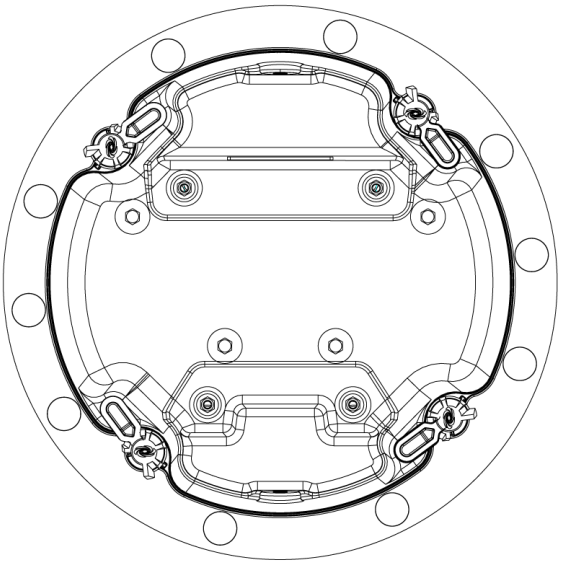
FCC Part 15 Class B, IC Class B, CE, UL® 2043

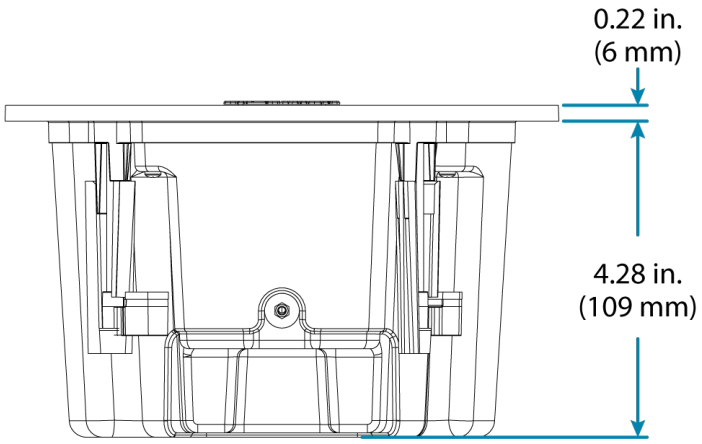
To search for product certificates, refer to support.crestron.com/app/certificates.

Dimension Drawings









Installation

Refer to the following sections for instructions on how to install Saros® 3 in. in-ceiling speakers.

This section provides the following information:

- SAROS DM-NAX-IC4A-W Installation
- SAROS IC4P-W Installation

SAROS DM-NAX-IC4A-W Installation

Refer to the following sections to install the SAROS DM-NAX-IC4A-W.

In the Box

Qty.	Description
1	SAROS DM-NAX-IC4A-W

	Additional Items
1	Speaker grille (4532326)
1	Rear metal input cap (4535516)
1	Front metal input cap (4535515)
1	Tile bridge ring (4532948)
2	Tile bridge frame, outer (2057231)
2	Tile bridge frame, inner (2057230)
1	Screw, 04-20, 5/16 in., Philips (2007135)
6	Screw, 3 x 6 mm, steel, Philips (2013272)

Prepare the Mounting Hole

Before finalizing the speaker location, check to make sure there are no fixtures, pipes, air ducts, joists, or other possible obstructions. If applicable, use a good quality stud finder to locate joists.

To identify obstructions:

1. Use a drywall saw to cut a small hole at a 45° angle. An angle cut simplifies repair since the removed piece can be reinserted to help plug the hole.
2. Use a piece of stiff wire, bent into an L shape, with one end long enough to explore an area equal to the size of the speaker. Insert the wire into the hole. Make sure it rotates freely in a complete circle and that there is sufficient depth.

If there are no obstructions, use the supplied template to trace an outline of the mounting hole on the ceiling. Cut the final mounting hole at a 90° angle to the ceiling.

For drop tile ceilings, remove the ceiling tile and place on a flat surface to trace the mounting hole. For drywall or standard construction ceilings, use the template to trace the mounting hole directly on the ceiling.

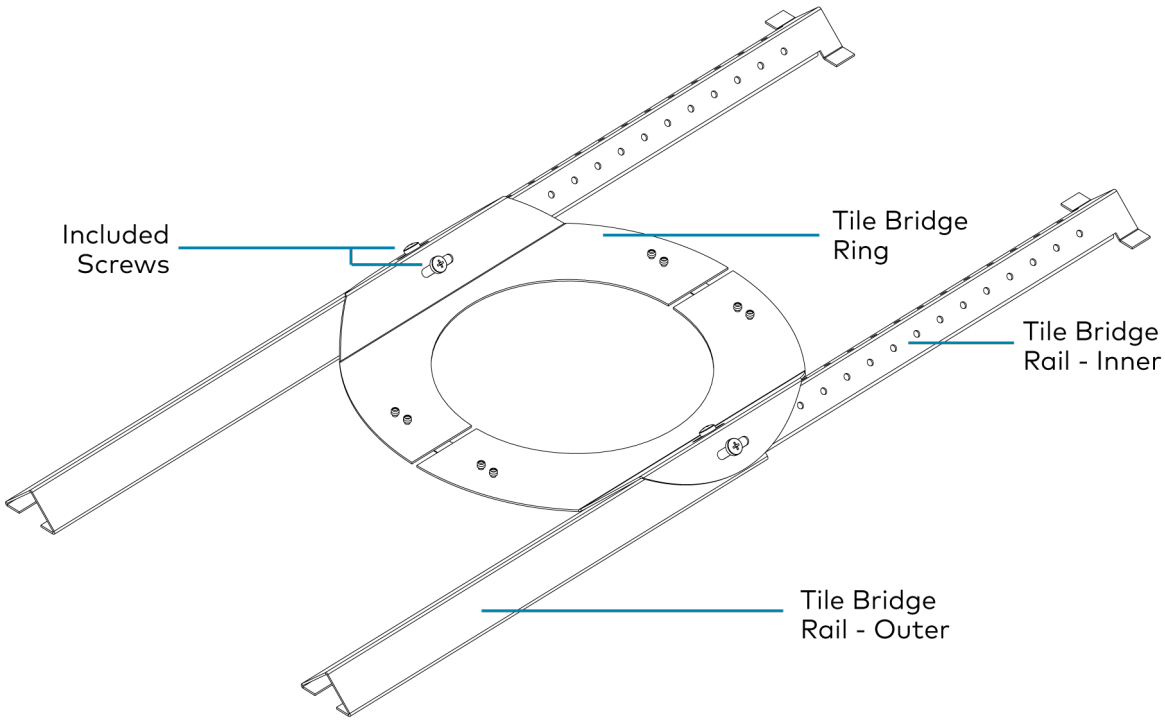
Install the Tile Bridge

The included tile bridge components provide proper support when the speaker is installed in a typical drop tile ceiling. Refer to the illustration below.

1. Insert the inner tile bridge rails (with adjustment holes) into their respective outer tile bridge rails.
2. Based on the location of the mounting hole determined in the "Prepare the Mounting Hole" steps, use the four supplied screws to attach the tile bridge ring to the tile bridge rails so that when installed, the ring is aligned with the mounting hole and the rails rest on the ceiling grid frame.

   > **NOTE:** These are thread-cutting screws that require significant force to be applied for the threads to catch and cut into the bridge rails.

3. Adjust the support ring position on the rails to enable off-center speaker positioning if necessary. The tile bridge assembly can be folded to fit through the speaker cutout in blind-mount situations.



Install the Ethernet Cable

Run an Ethernet cable (not included) from a managed POE+ compliant network switch to the speaker location, observing all appropriate local codes.

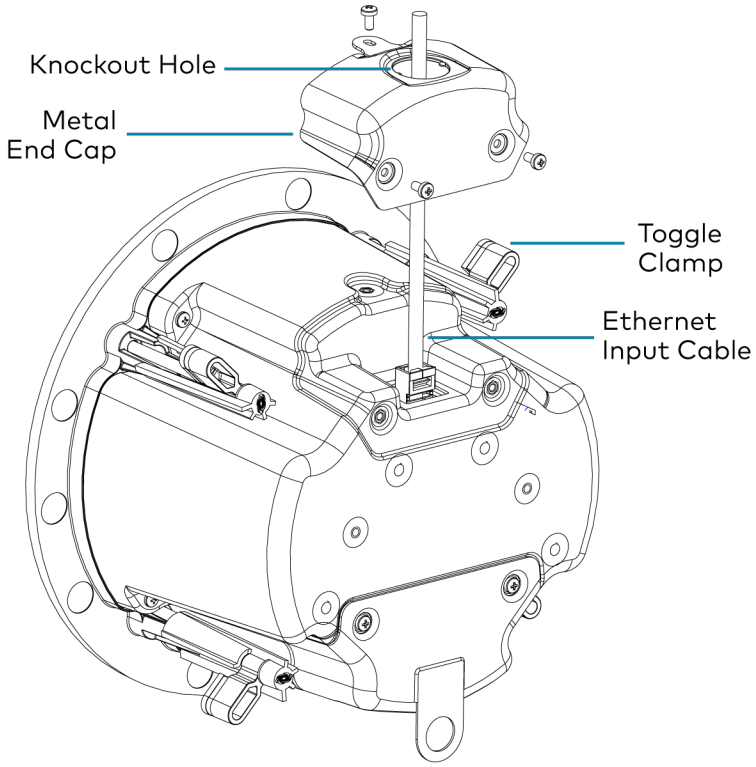
Connect the Ethernet Cable

Connect the **Network/POE+** port to a managed network switch to apply power and configure the device.

> **NOTE: Network/POE+** is a POE+ powered device (PD) port. In order for the port to receive POE+, it must be connected to a POE+ compliant Ethernet switch.

1. Remove the three screws from the back can and set them aside.
2. Remove the knockout from the included end cap and route the cable through the knockout hole.
3. Connect the cable.
4. Attach the metal end cap using the screws removed in step 1.

> **NOTE:** If installing the speaker without the metal end caps, the screws removed in step 1 should still be screwed back into the speaker back can for the best acoustic performance.



Connect the Output Category Cables (Optional)

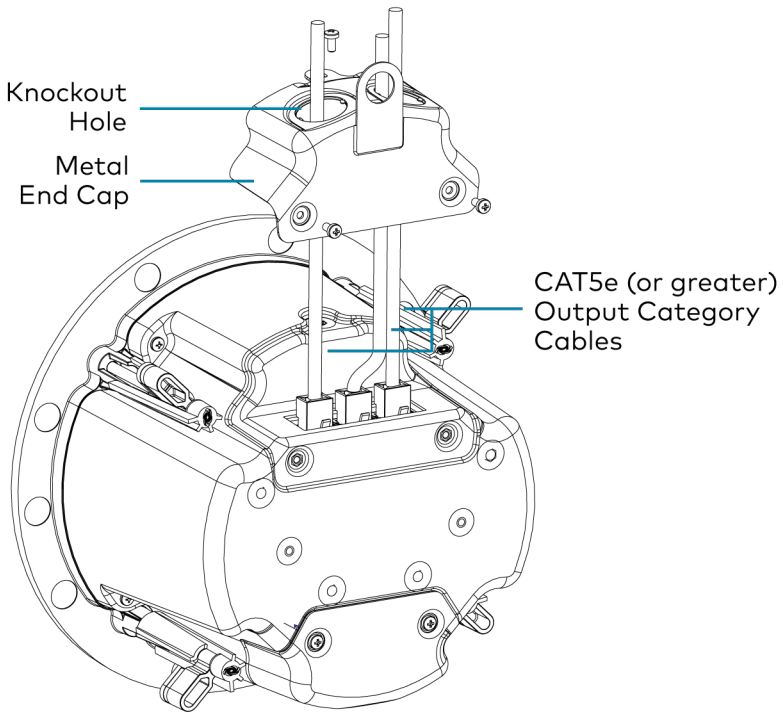
CAUTION: The RJ-45 **OUTPUT** ports of the SAROS DM-NAX-IC4A-W should only be connected to the RJ-45 **INPUT** ports of SAROS IC4P-W speakers. These connectors carry up to approximately 10 W speaker-level analog audio signals and can cause equipment damage if connected to other devices.

Connect the RJ-45 **OUTPUT** ports if the SAROS DM-NAX-IC4A-W will be used to power one or more SAROS ICPOE4-PAS-W-T passive speakers.

NOTES:

- Standard CAT5e or greater Category cable must be used to connect SAROS DM-NAX-IC4A-W RJ-45 **OUTPUT** ports to SAROS IC4P-W RJ-45 **INPUT** ports.
- Each RJ-45 **OUTPUT** receives the same audio signal, so output cables can be connected in any order.

1. Remove the three end cap screws from the back can and set them aside.
2. Remove one or both knockouts from the included end cap and route each cable through a knockout hole.
3. Connect the output cables and attach the end cap using the screws.



Mount the Speaker

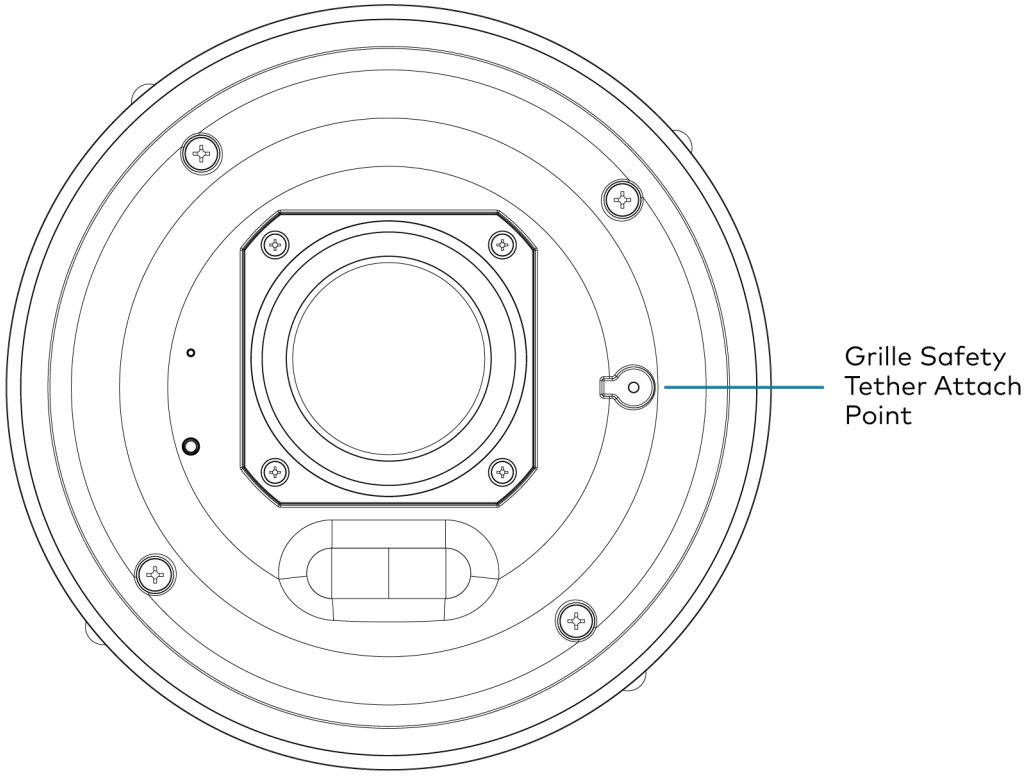
The speaker includes four toggle clamps to secure the speaker in place in the mounting hole. If the grille is mounted on the speaker, remove it before proceeding.

1. With the toggle clamps turned inward, insert the speaker into the mounting hole.
2. Hold the speaker against the ceiling and begin tightening each of the four screws on the front of the speaker. The toggle clamps will rotate out into clamping position and then tighten to hold the speaker to the ceiling.
3. Tighten the screws until the speaker is secure. Do not overtighten the screws.

Install the Grille

The speaker grille is held in place by powerful magnets. A safety tether is included as an additional precaution in the unlikely event that the grille should become unattached from the speaker. To install the grille:

1. Attach the loop of the safety tether to the grille.
2. Use the included 5/16 in. Philips head screw to attach the other end of the tether to the anchor point on the baffle of the speaker.



3. With the tether attached, place the grille in position on the speaker.

SAROS IC4P-W Installation

Refer to the following sections to install the SAROS IC4P-W.

In the Box

Qty.	Description
1	SAROS IC4P-W
	Additional Items
1	Speaker grille (4532326)
1	Rear metal input cap (4535516)
1	Front metal input cap (4535515)
1	Tile bridge ring (4532948)
2	Tile bridge frame, outer (2057231)
2	Tile bridge frame, inner (2057230)
1	Screw, 04-20, 5/16 in., Philips (2007135)
6	Screw, 3 x 6 mm, steel, Philips (2013272)

Prepare the Mounting Hole

Before finalizing the speaker location, check to make sure there are no fixtures, pipes, air ducts, joists, or other possible obstructions. If applicable, use a good quality stud finder to locate joists.

To identify obstructions:

1. Use a drywall saw to cut a small hole at a 45° angle. An angle cut simplifies repair since the removed piece can be reinserted to help plug the hole.
2. Use a piece of stiff wire, bent into an L shape, with one end long enough to explore an area equal to the size of the speaker. Insert the wire into the hole. Make sure it rotates freely in a complete circle and that there is sufficient depth.

If there are no obstructions, use the supplied template to trace an outline of the mounting hole on the ceiling. Cut the final mounting hole at a 90° angle to the ceiling.

For drop tile ceilings, remove the ceiling tile and place on a flat surface to trace the mounting hole. For drywall or standard construction ceilings, use the template to trace the mounting hole directly on the ceiling.

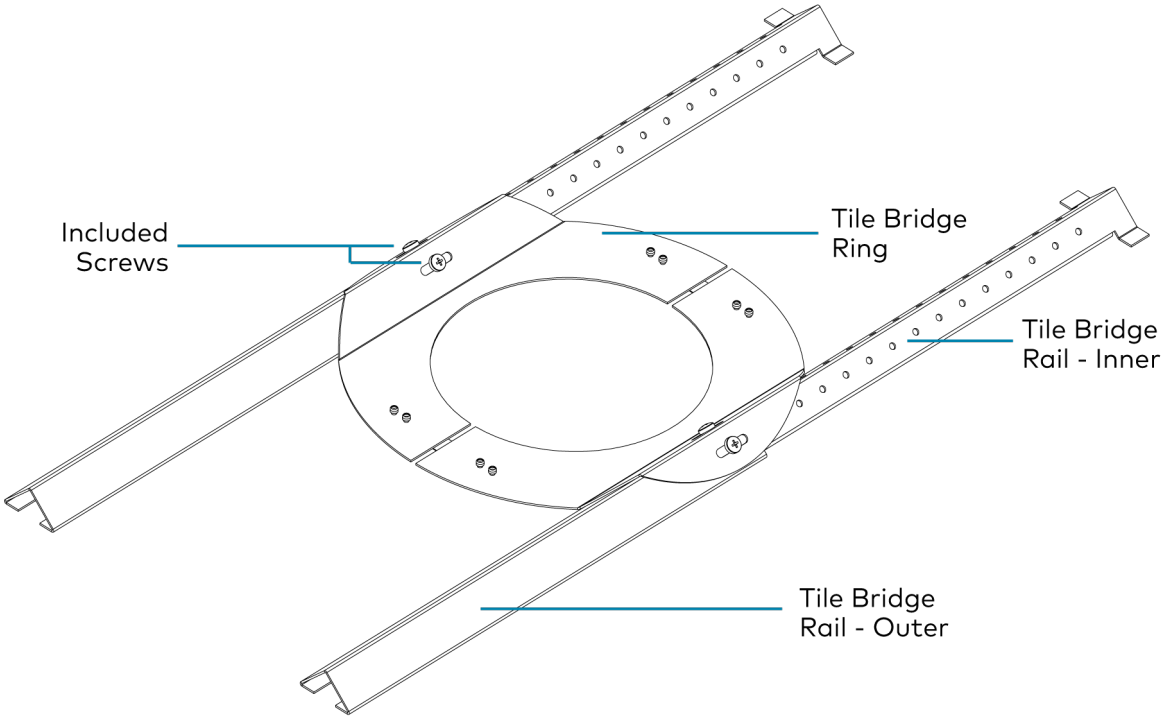
Install the Tile Bridge

The included tile bridge components provide proper support when the speaker is installed in a typical drop tile ceiling. Refer to the illustration below.

1. Insert the inner tile bridge rails (with adjustment holes) into their respective outer tile bridge rails.
2. Based on the location of the mounting hole determined in the "Prepare the Mounting Hole" steps, use the four supplied screws to attach the tile bridge ring to the tile bridge rails so that when installed, the ring is aligned with the mounting hole and the rails rest on the ceiling grid frame.

   > **NOTE:** These are thread-cutting screws that require significant force to be applied for the threads to catch and cut into the bridge rails.

3. Adjust the support ring position on the rails to enable off-center speaker positioning if necessary. The tile bridge assembly can be folded to fit through the speaker cutout in blind-mount situations.



Install the Category Cable

Run a Category cable (not included, an eight wire shielded twisted-pair cable is required, CAT5e or greater Category cable is recommended) from the SAROS DM-NAX-IC4A-W to the passive speaker location, observing all appropriate local codes.

> **CAUTION:** Do not use a crossover cable to connect the SAROS DM-NAX-IC4A-W to the satellite SAROS IC4P-W. A crossover cable will cause damage to the LED of the passive speaker. To ensure

that the connecting cable uses straight-through wiring, perform a pin-out continuity test before connecting the speakers and connect PoE last.

Some signal level loss should be expected depending on the length of the cable run and the wire gauge of the cable. The following chart provides measured signal losses for different wire gauges at different lengths:

Expected Signal Loss at Different Cable Lengths

Wire Gauge	30 ft (9 m)	100 ft (30 m)	330 ft (100 m)
22	-0.51 dB	-1.60 dB	-4.40 dB
24	-0.80 dB	-2.42 dB	-6.25 dB
26	-1.24 dB	-3.58 dB	-8.54 dB
28	-1.93 dB	-5.24 dB	-11.40 dB

NOTE: LED dimming is also expected as cable length increases.

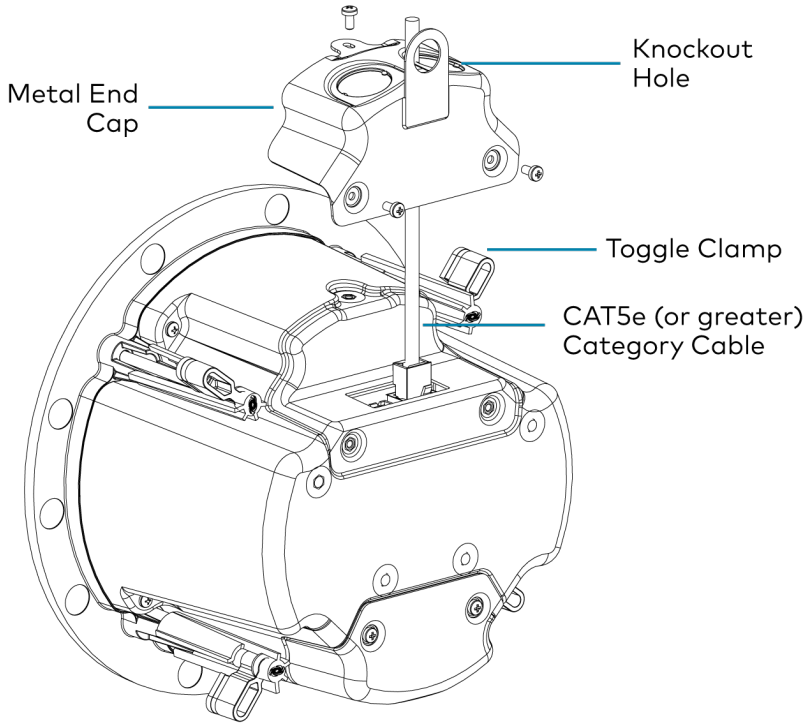
Connect the Category Cable

CAUTION: Do not connect both the 2-pin terminal block input and RJ-45 input simultaneously. Only one input should be used at a time. Connecting both inputs may cause damage to the speaker driver.

Connect the RJ-45 input port of the SAROS IC4P-W only to the RJ-45 output of a SAROS DM-NAX-IC4A-W. The connector is designed to receive speaker-level analog audio over CAT5e or greater Category cable and is not designed to be connected to an Ethernet network.

1. Remove the three screws from the back can and set them aside.
2. Remove the knockout from the included end cap and route the cable through the knockout hole.
3. Connect the cable.
4. Attach the metal end cap using the screws removed in step 1.

NOTE: If installing the speaker without the metal end caps, the screws removed in step 1 should still be screwed back into the speaker back can for the best acoustic performance.



Install the Speaker Cable

If the audio source for the SAROS IC4P-W is an external amplifier, run the speaker cable (not included) from the audio source to the speaker location, observing all appropriate local codes. Strip the ends of the speaker cable approximately 0.25 in. to 0.50 in. (~6 mm to ~12 mm) and twist the strands.

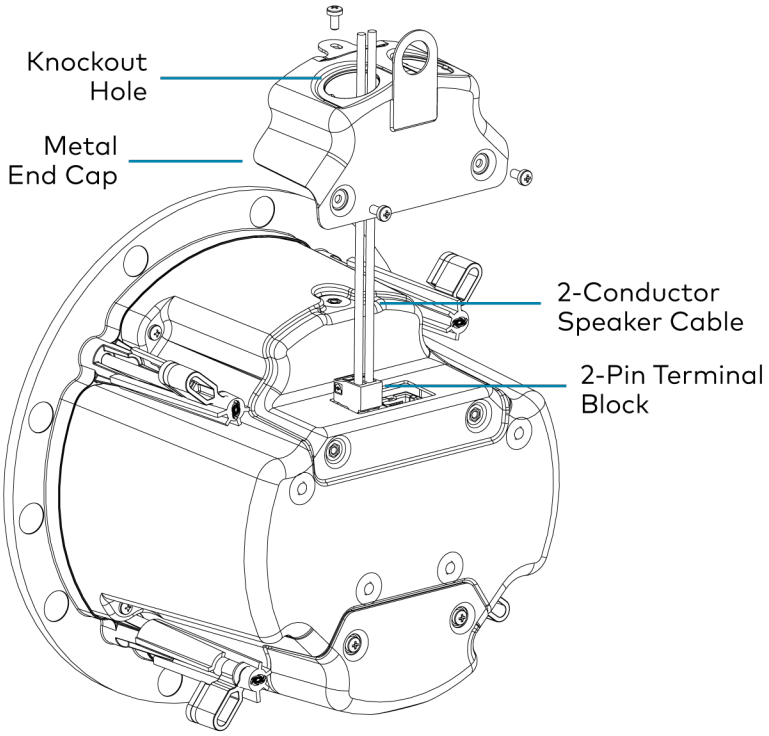
Connect the Speaker Cable

CAUTION: Do not connect both the 2-pin terminal block input and RJ-45 input simultaneously. Only one input should be used at a time. Connecting both inputs may cause damage to the speaker driver.

1. Unscrew the screws on the metal end cap covering the input connectors, then remove the end cap.
2. Remove the knockout on the metal end cap corresponding to the 2-pin terminal block connector, then route the speaker cable through the knockout hole.
3. Connect the speaker cable to the input terminal block by inserting the exposed strands into the respective holes and tightening the screws. Make sure that the positive wire is attached to the "+" connection, and the negative wire is attached to the "-" connection.

4. Replace the metal end cap and the screws removed in step 1.

> **NOTE:** If installing the speaker without the metal end caps, the screws removed in step 1 should still be screwed back into the speaker back can for the best acoustic performance.



Mount the Speaker

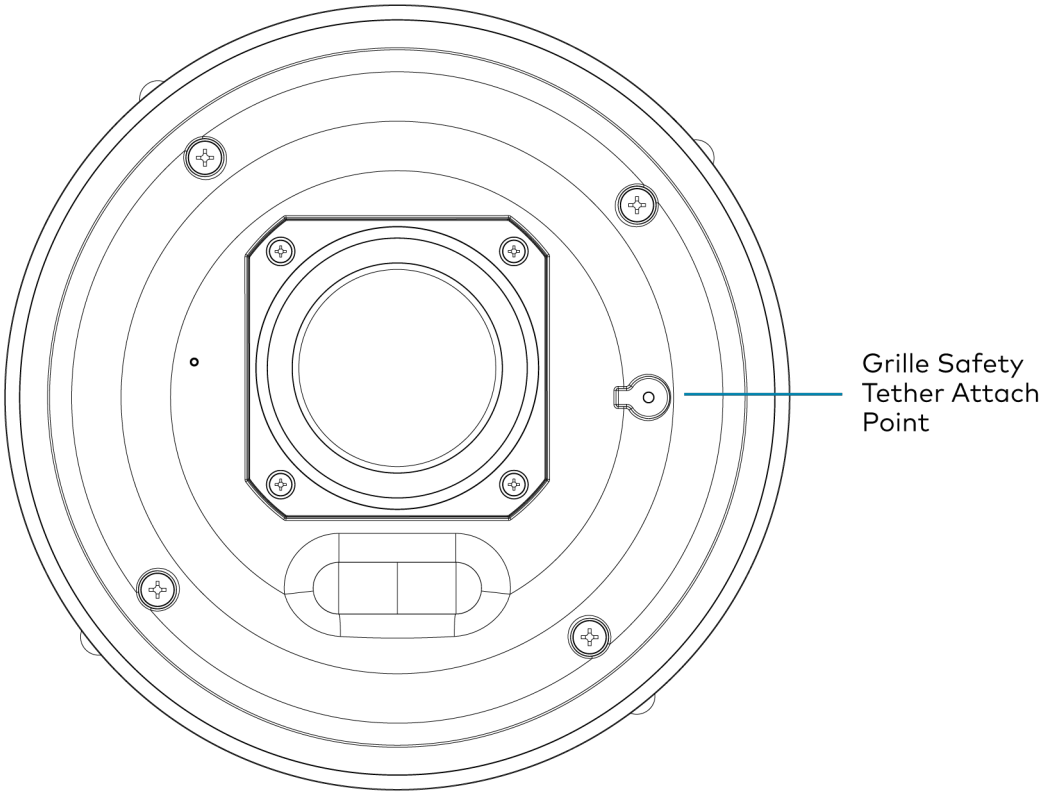
The speaker includes four toggle clamps to secure the speaker in place in the mounting hole. If the grille is mounted on the speaker, remove it before proceeding.

1. With the toggle clamps turned inward, insert the speaker into the mounting hole.
2. Hold the speaker against the ceiling and begin tightening each of the four screws on the front of the speaker. The toggle clamps will rotate out into clamping position and then tighten to hold the speaker to the ceiling.
3. Tighten the screws until the speaker is secure. Do not overtighten the screws.

Install the Grille

The speaker grille is held in place by powerful magnets. A safety tether is included as an additional precaution in the unlikely event that the grille should become unattached from the speaker. To install the grille:

1. Attach the loop of the safety tether to the grille.
2. Use the included 5/16 in. Philips head screw to attach the other end of the tether to the anchor point on the baffle of the speaker.



3. With the tether attached, place the grille in position on the speaker.

Configuration

This section describes how to configure the SAROS DM-NAX-IC4A-W.

> **NOTE:** These configuration steps are available only for the IC4A model (SAROS DM-NAX-IC4A-W). The IC4P model (SAROS IC4P-W) is a passive unit that does not have a web-based configuration. In an installation where one IC4A is connected to one or more IC4P units, all configuration for the audio output paths to the IC4P units is handled from the interface of the IC4A.

Web Interface Configuration

The SAROS DM-NAX-IC4A-W web interface allows you to view status information and configure network and device settings.

> **NOTE:** Throughout the web interface, values can be entered manually. When values entered manually fall out of the range, the value will be maximized, minimized, or have no effect.

Prior to configuration, ensure the device is running the latest firmware. To update the firmware, refer to Action on page 28.

Access the Web Interface

To access the web interface, do either of the following:

- Access the Web Interface with a Web Browser on page 28
- Access the Web Interface with the Crestron Toolbox Application on page 83

The web interface is accessed from a web browser. The following table lists operating systems and their corresponding supported web browsers.

Operating System and Supported Web Browsers

OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating System	Chrome™ web browser, version 31 and later
	Firefox® web browser, version 31 and later
	Internet Explorer web browser, version 11 and later
	Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and late
	Chrome web browser, version 31 and later
	Firefox web browser, version 31 and later

Access the Web Interface with a Web Browser

1. Enter the IP address of the SAROS DM-NAX-IC4A-W into a web browser.

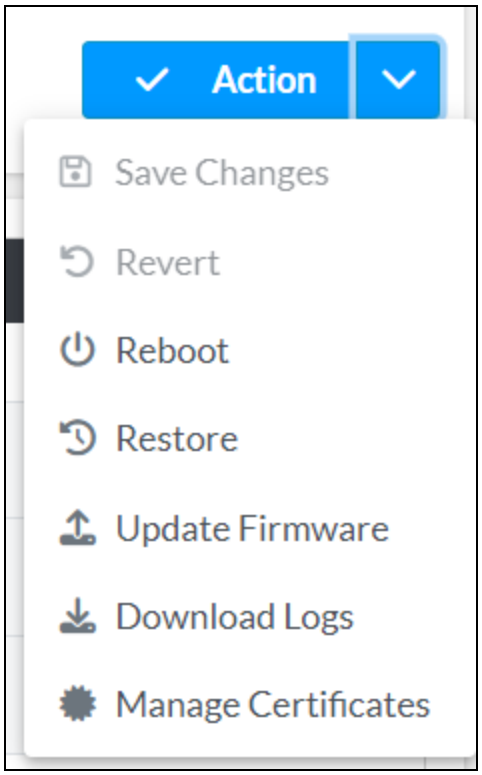
   > **NOTE:** To obtain the IP address, use the **Device Discovery Tool** option in Crestron Toolbox™ application or an IP scanner application.

2. If you are creating a user account for the first time, do the following; otherwise, skip to step 3.
   a. Enter a username in the **Username** field.
   b. Enter a password in the **Password** field.
   c. Re-enter the same password in the **Confirm Password** field.
   d. Select **Create User**. The **Device Administration** page appears.
3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Select **Sign In**.

Action

The **Action** drop-down menu is displayed at the top right side of the interface and provides quick access to common device functions:

- Save Changes on page 29
- Revert on page 29
- Reboot on page 29
- Restore on page 30
- Update Firmware on page 30
- Download Logs on page 31
- Manage Certificates on page 31



Save Changes

Select **Save Changes** to save any changes made to the configuration settings.

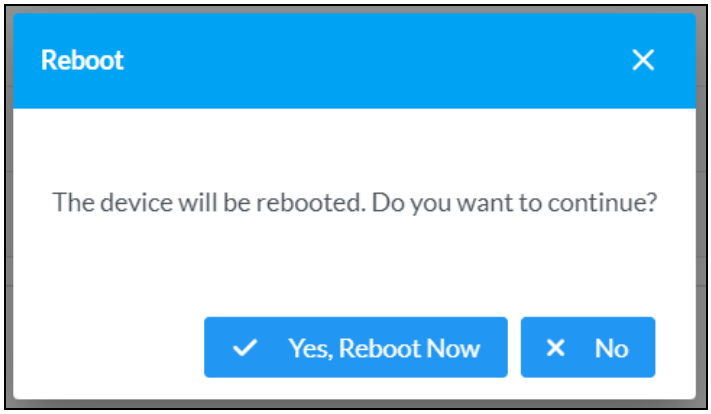
Revert

Select **Revert** to revert the device back to the last saved configuration settings.

Reboot

Certain changes to the settings may require the SAROS DM-NAX-IC4A-W to be rebooted to take effect. To reboot the device:

1. Select **Reboot** in the **Action** drop-down menu. The **Reboot** confirmation message box appears.



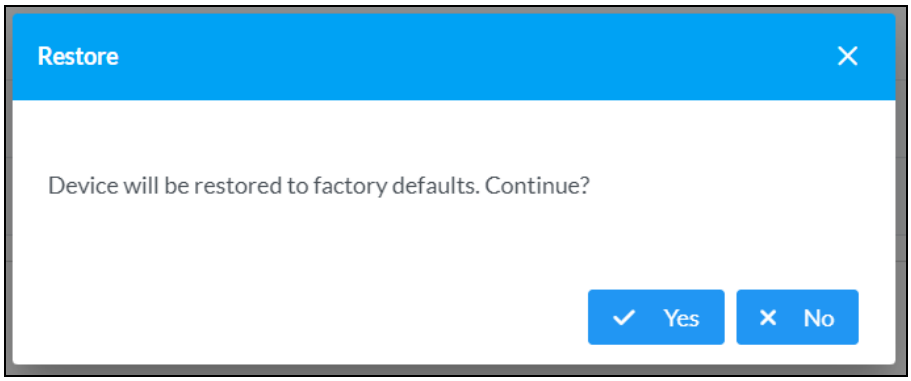
2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** status box appears. Wait for the device reboot to complete before attempting to reconnect to the device.

Restore

To restore the SAROS DM-NAX-IC4A-W to factory default settings:

1. Select **Restore** in the **Action** drop-down menu. The **Restore** confirmation message box appears.

   > **NOTE:** When settings are restored, all settings, including the network settings, will revert to the factory default. If a static IP address is set, restoring the device to factory default settings will revert the IP address to the default DHCP mode.



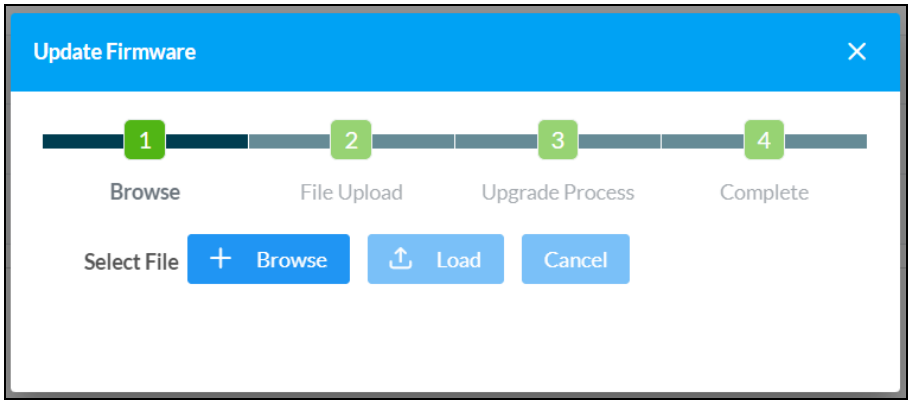
2. Select **Yes** to restore the device to factory settings. A **Restore** status box appears, and the device reboots once the restore is complete.

   Alternatively, select **No** to cancel the restore operation.

In the event that the web interface is not accessible, a manual factory restore procedure may be performed by pressing and holding the black **SETUP** button on the baffle of the speaker for at least 15 seconds. Continue holding the **SETUP** button until the red LED adjacent to the button begins flashing.

Update Firmware

1. Select **Update Firmware** in the **Action** drop-down menu.
2. In the **Firmware Upgrade** window, select **+Browse**.



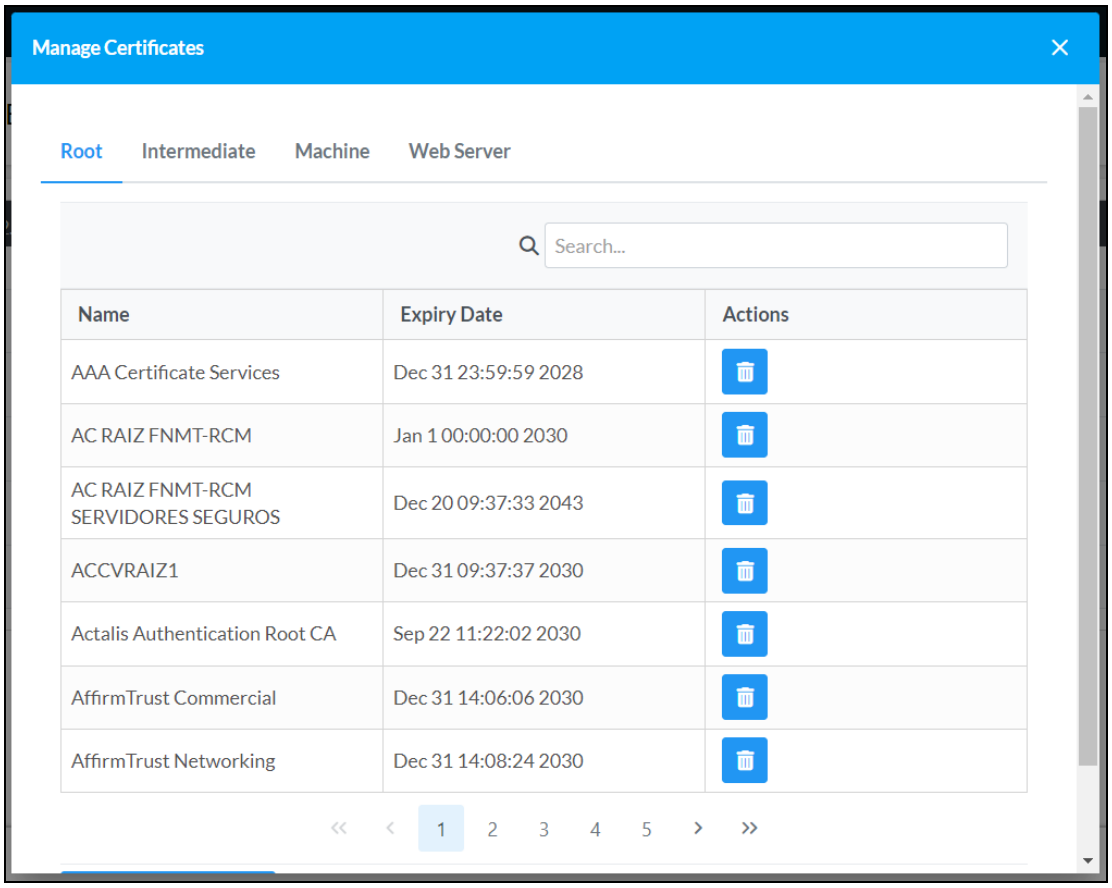
3. Locate and select the desired firmware file, and then select **Open**. The selected firmware file name is displayed in the **Firmware Upgrade** window.
4. Select **Load** and wait for the progress bar to complete and for **OK** to become selectable.
5. Select **OK** to access the upgraded device.

Download Logs

Select **Download Logs** in the **Action** drop-down menu to download the device message logs for diagnostic purposes. The log file is downloaded to accessing computer's **Downloads** folder.

Manage Certificates

Use the **Manage Certificates** dialog to add, remove, and manage certificates used in 802.1x and other protected networks.



Select **Manage Certificates** in the **Actions** drop-down menu. The following certificate tabs are displayed:

- **Root:** The Root certificate is used by the SAROS DM-NAX-IC4A-W to validate the network's authentication server. The SAROS DM-NAX-IC4A-W has a variety of Root certificates, self-signed by trusted CAs (Certificate Authorities) preloaded into the device. Root certificates must be self-signed.

- **Intermediate:** The Intermediate store holds non self-signed certificates that are used to validate the authentication server. These certificates will be provided by the network administrator if the network does not use self-signed Root certificates.
- **Machine:** The machine certificate is an encrypted PFX file that is used by the authentication server to validate the identity of the SAROS DM-NAX-IC4A-W. The machine certificate will be provided by the network administrator, along with the certificate password. For 802.1x, only one machine certificate can reside on the device.
- **Web Server:** The Web Server certificate is a digital file that contains information about the identity of the web server.

To Add Certificates

1. Select the corresponding certificate tab.
2. Select **Add Root Certificate**.
3. Select **+Browse**.
4. Locate and select the file, and then select **Open**.

   > **NOTE:** If the certificate is a Machine Certificate, enter the password provided by the network administrator.

5. Select **OK**. This will add the certificate to the list box, displaying the file name and expiration date.

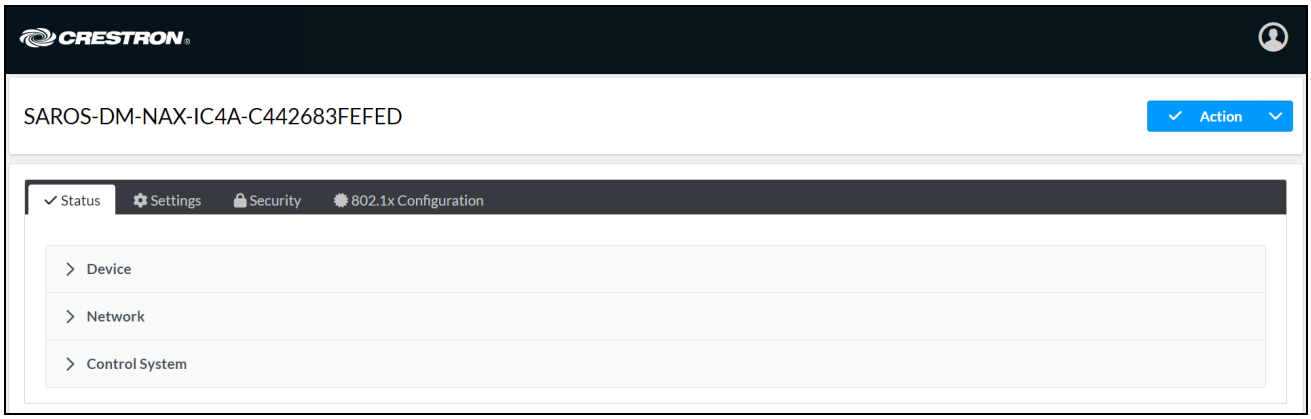
   The certificate is now available for selection and can be loaded to the device.

To Delete Certificates

1. Select the corresponding certificate tab.
2. Select the trashcan icon in the **Actions** column to delete the certificate.
3. Select **Yes** when prompted to delete the certificate or **No** to cancel the deletion.

Status

The **Status** page is the first page displayed when opening the interface of the SAROS DM-NAX-IC4A-W. It can also be accessed by selecting the **Status** tab at the top of the interface. The **Status** page displays general information about the SAROS DM-NAX-IC4A-W (such as **Model Name**, **Firmware Version**, and **Serial Number**), current network settings (such as Host Name and IP Address, and so forth), and input and output ports' current status.

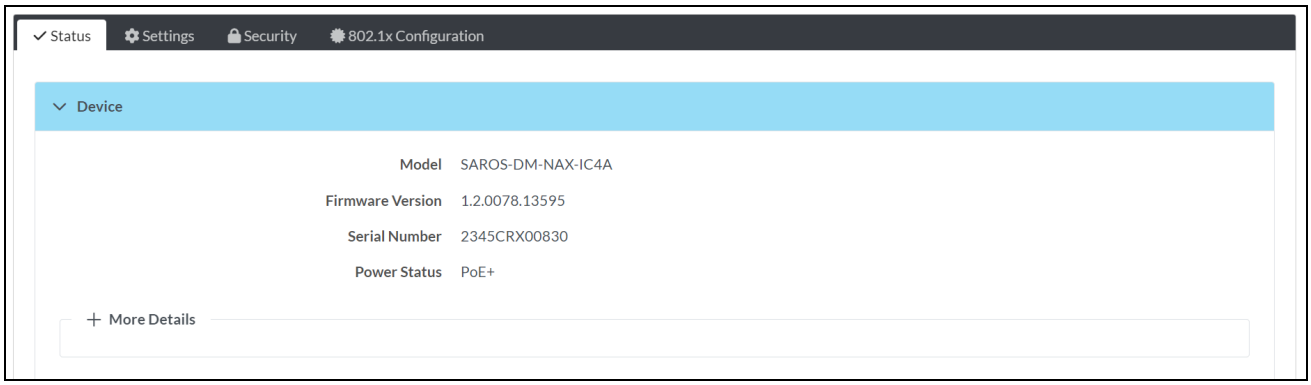


Information displayed on the **Status** page is organized into different sections:

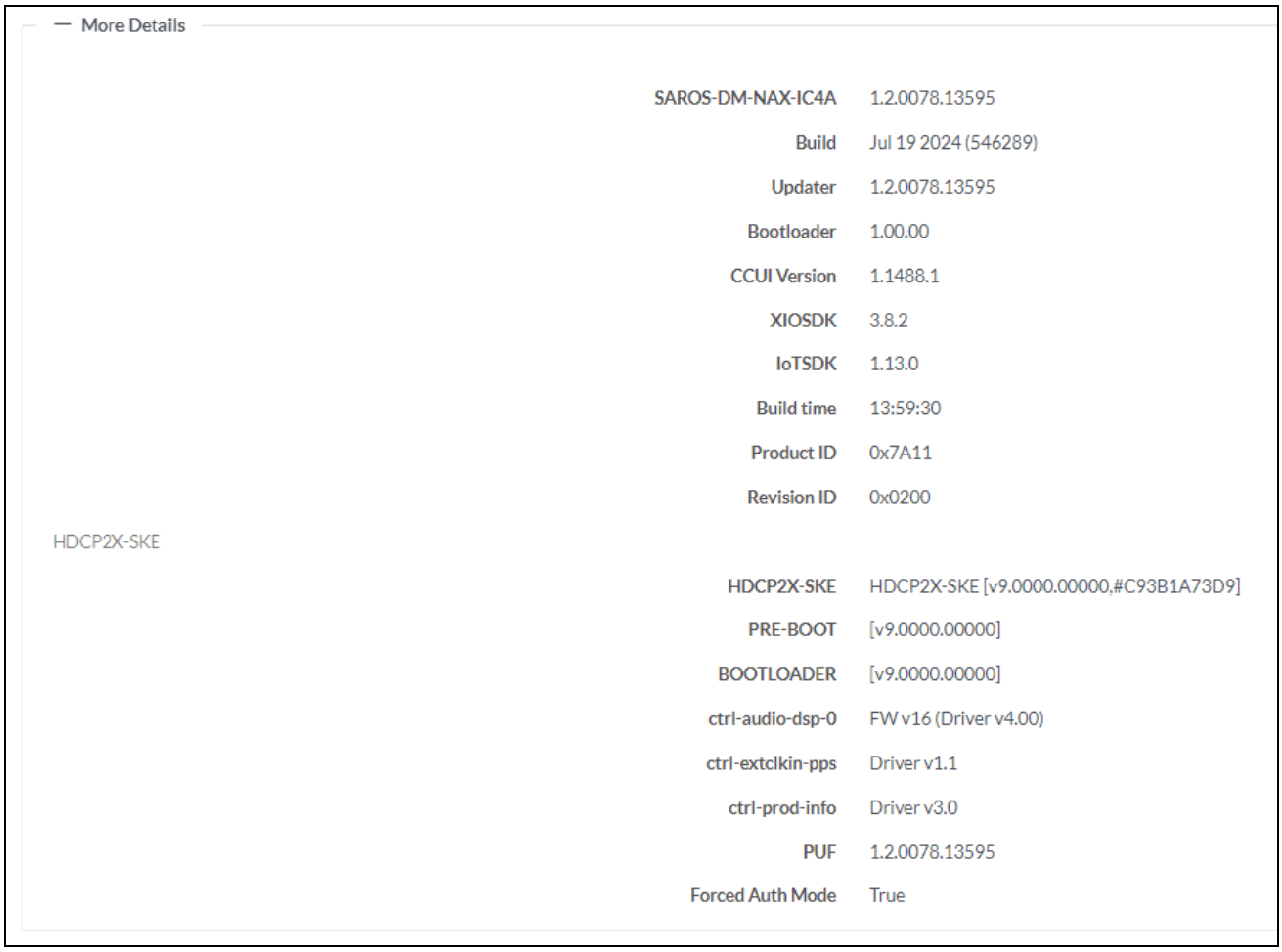
- Device on page 33
- Network on page 34
- Control System on page 35

Device

The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the SAROS DM-NAX-IC4A-W.

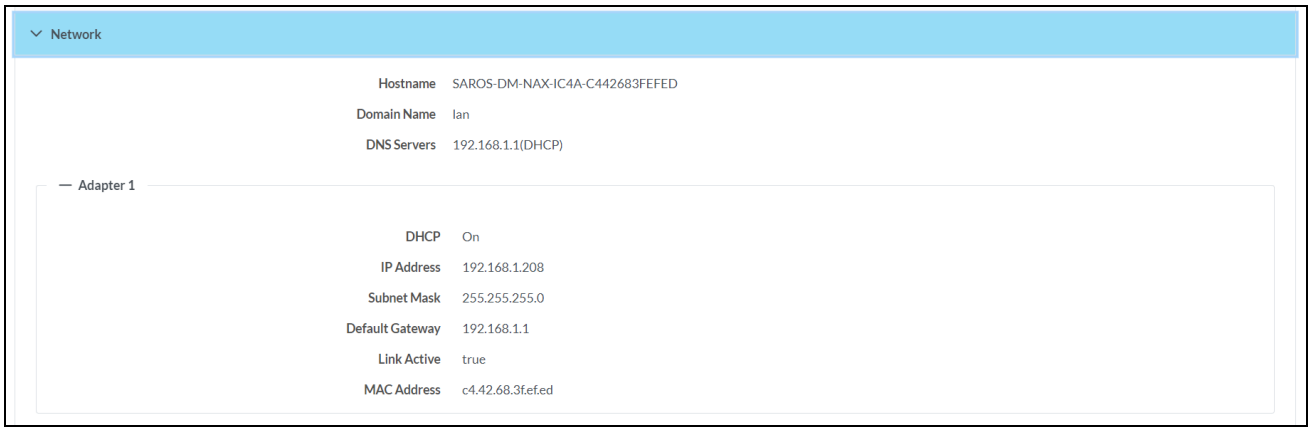


Select **+ More Details** to review additional information about the SAROS DM-NAX-IC4A-W.



Network

The **Network** section displays network-related information about the SAROS DM-NAX-IC4A-W, including the **Hostname**, **Domain Name**, and **DNS Servers**.

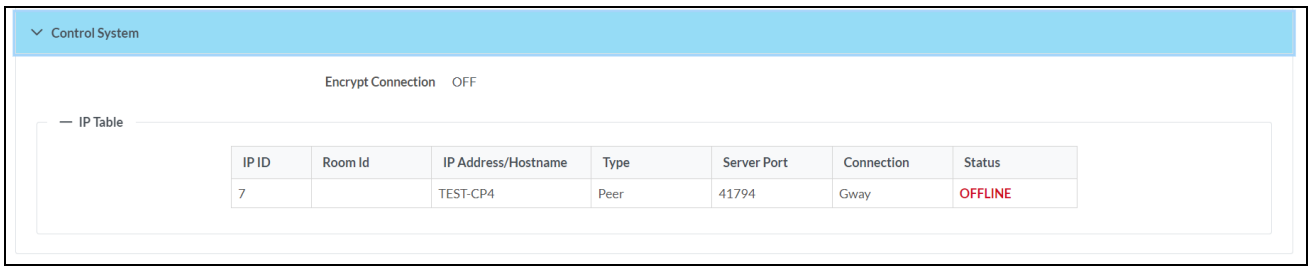


NOTE: By default, the host name of the SAROS DM-NAX-IC4A-W consists of a truncated model name followed by the MAC address of the device. For example, SAROS-DM-NAX-IC4A-C442683FEFED.

Select **+ Adapter 1** to display an expanded section that shows additional information. If **+ Adapter 1** is selected, select **- Less** details to collapse the section.

Control System

The **Control System** section displays control system connection information, consisting of the following:



- **Encrypt Connection:** ON or OFF
- **IP ID:** Reports the currently used IP ID of the SAROS DM-NAX-IC4A-W
- **IP Address/Hostname:** The IP address of the control system
- **Room ID:** Displays the room ID
- **Status:** OFFLINE or ONLINE

Settings

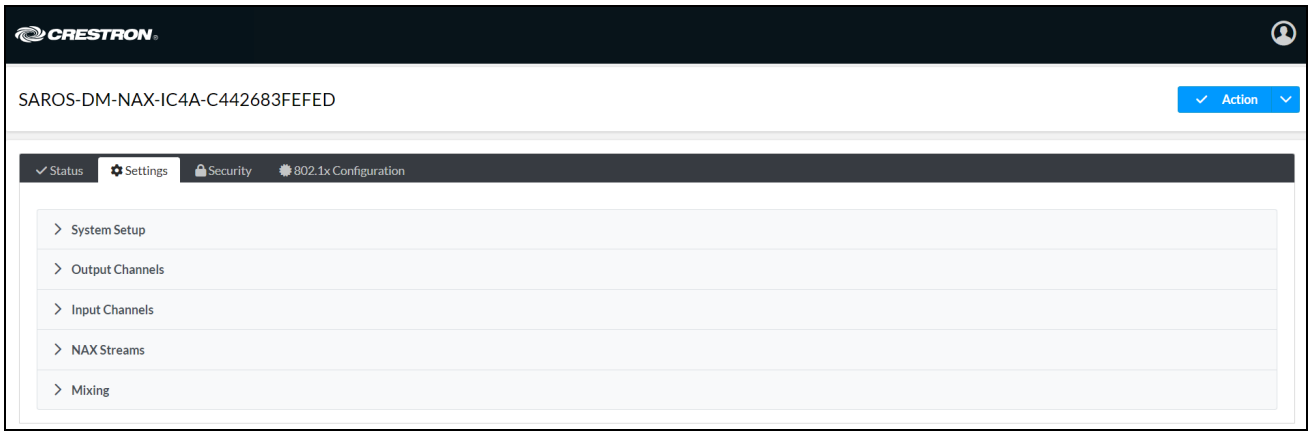
The **Settings** page enables configuration of the SAROS DM-NAX-IC4A-W settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the SAROS DM-NAX-IC4A-W interface.

Many options in the **Settings** page are exclusive to a specific device mode: **Residential** or **Commercial**. The SAROS DM-NAX-IC4A-W is in Commercial mode by default.

This section provides the following information:

Commercial Mode

The Commercial Mode **Settings** tab is used for configuration of the SAROS DM-NAX-IC4A-W settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the SAROS DM-NAX-IC4A-W interface.



Settings available on the Commercial Mode **Settings** tab are organized into different sections:

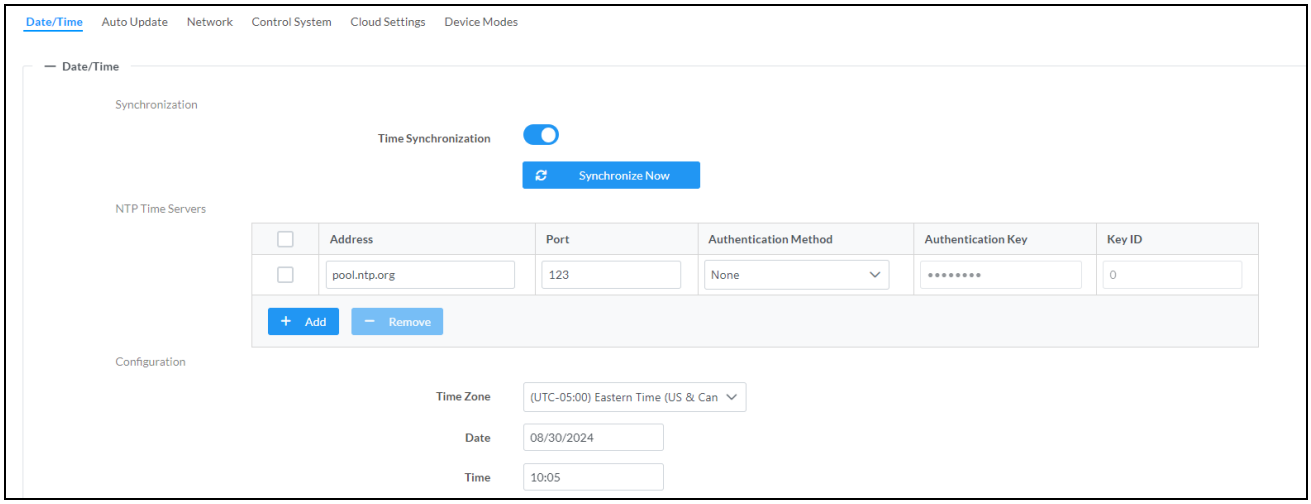
- System Setup on page 36
- Output Channels on page 41
- Input Channels on page 49
- DM NAX Streams on page 50
- Mixing on page 52

System Setup

The **System Setup** section contains settings for **Date/Time**, **Auto Update**, **Network**, and **Control System**.

Date / Time

Use the **Date/Time** section to configure the date and time settings of the SAROS DM-NAX-IC4A-W.



Time Synchronization

1. Set the **Time Synchronization** toggle to the right position to enable or left position to disable time synchronization. By default, time synchronization is enabled.
2. In the **NTP Time Servers** table, enter the URL of a NTP (Network Time Protocol) or SNTP (Simple Network Time Protocol) server. Up to three time servers can be added on a device.

3. Select **Synchronize Now** to perform time synchronization between the device's internal clock and the time server.

Time Configuration

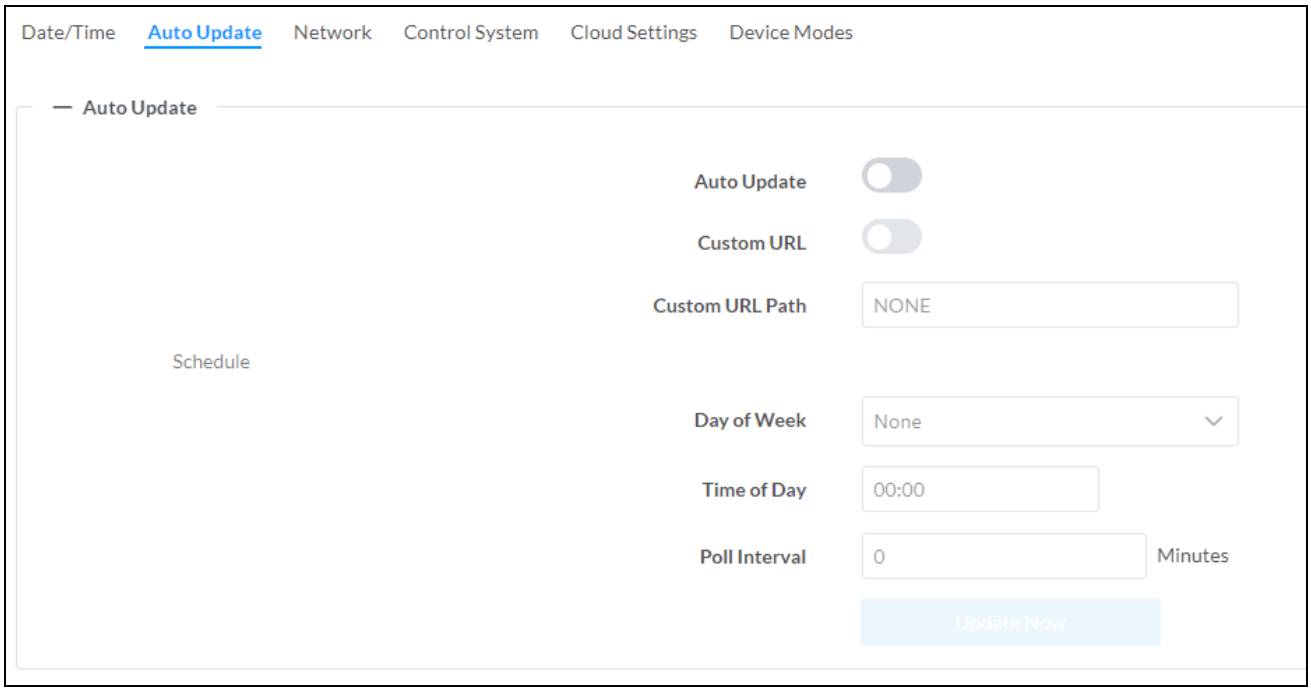
1. Select the **Time Zone** drop-down menu to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time** field, enter the current time in 24-hour format.

Select **Save Changes** at the top right of the interface to save the settings.

Select **Revert** from the **Action** drop-down menu to revert to the previous settings without saving.

Auto Update

The SAROS DM-NAX-IC4A-W can automatically check for and install firmware updates at scheduled intervals via the Auto Update feature.



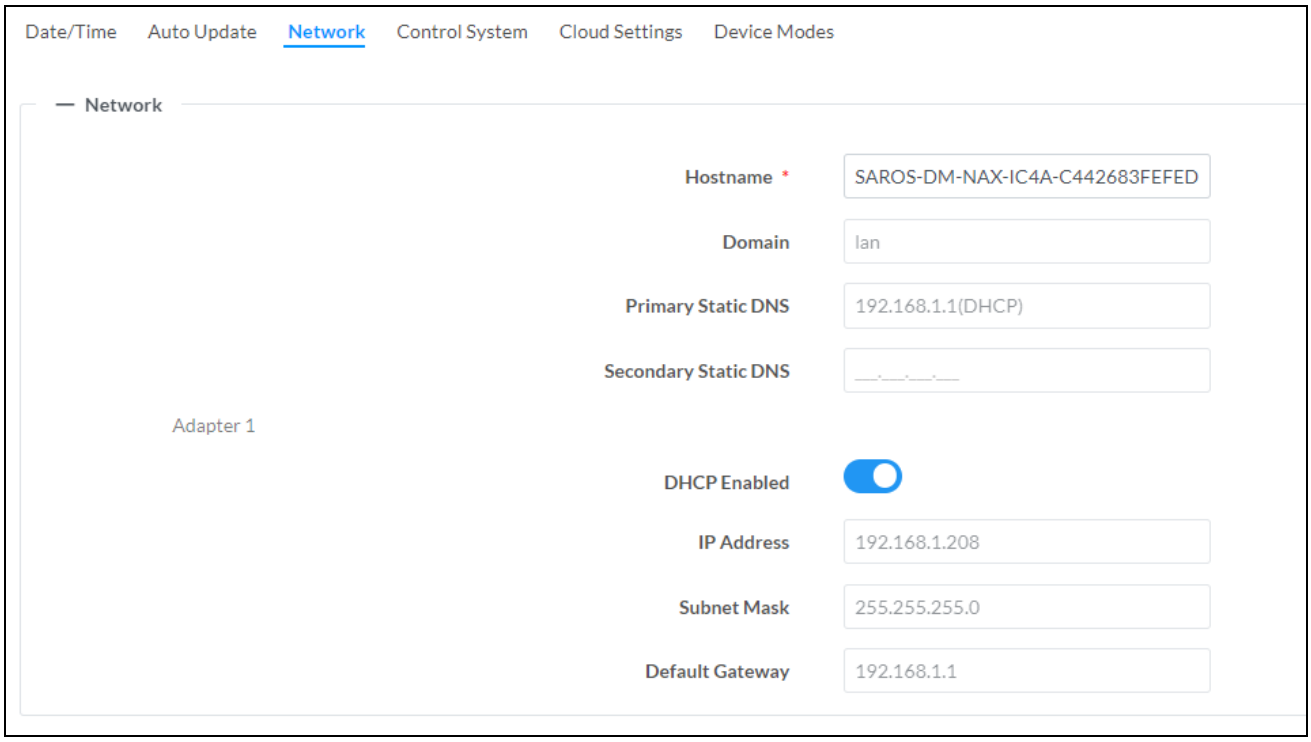
1. Set the **Auto Update** toggle to the right position to enable Auto Update.
2. Define the URL to download the updates by doing either of the following:
   - Use the default URL to download the updates from the Crestron server.
   - Use a custom URL. Set the **Custom URL** toggle to the right position to enable a custom URL. In the **Custom URL Path** text box, enter the path to a custom manifest file in the FTP or SFTP URL format. Use the Crestron Auto Update Tool to generate a custom manifest file, then store the file on an FTP (File Transfer Protocol) or SFTP (Secure File Transfer Protocol) server.

3. Set a schedule for the automatic firmware update by doing either of the following:
    - Select the desired **Day of Week** and **Time of Day** values.
    - Set the **Poll Interval** by entering a value from 60 to 65535 minutes. A value of 0 disables the **Poll Interval**.
4. Select **Save Changes**.

Selecting **Update Now** causes the device to check for a firmware update immediately. If a schedule was set in step 4 above, that schedule still remains in effect.

Network

The **Network** section contains network-related settings for the SAROS DM-NAX-IC4A-W, including the **Hostname**, **Domain**, **Primary Static DNS**, and **Secondary Static DNS**.



NOTE: By default, the host name of the SAROS DM-NAX-IC4A-W consists of a truncated model name followed by the MAC address of the device. For example, SAROS-DM-NAX-IC4A-C442683FEFED.

Adapter 1

The Adapter 1 subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of the Network/PoE+ port of the speaker.

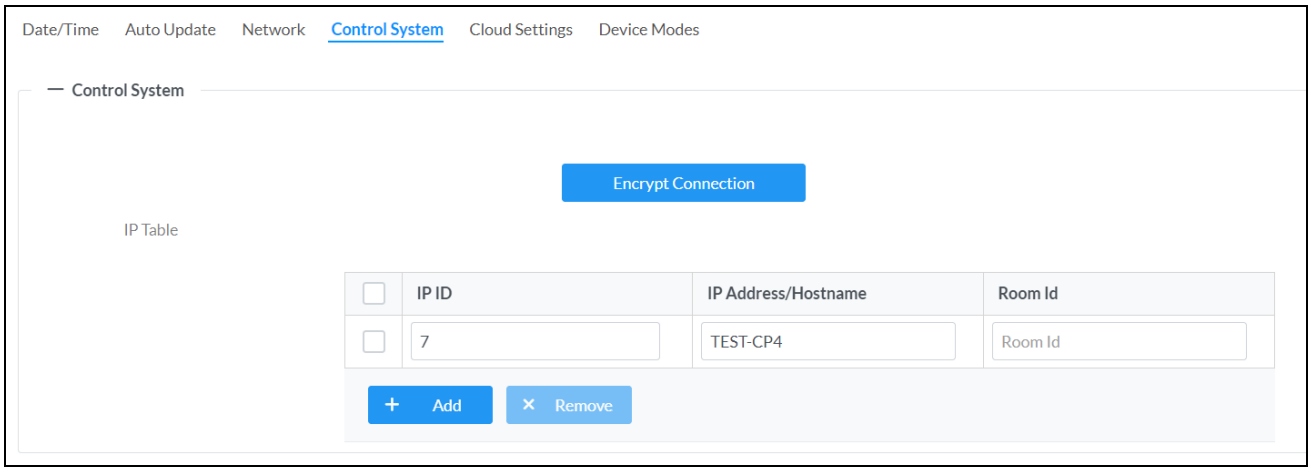
Set the **DHCP** toggle to enabled (right) or disabled (left) to specify whether the IP address of the SAROS DM-NAX-IC4A-W is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the SAROS DM-NAX-IC4A-W is automatically assigned by a DHCP server on the local area network (LAN).

- **Disabled:** When DHCP is disabled, manually enter information in the following fields:
  - **Primary Static DNS:** Enter a primary DNS IP address.
  - **Secondary Static DNS:** Enter a secondary DNS IP address.
  - **IP Address:** Enter a unique IP address for the SAROS DM-NAX-IC4A-W.
  - **Subnet Mask:** Enter the subnet mask that is set on the network.
  - **Default Gateway:** Enter the IP address that is to be used as the network's gateway.

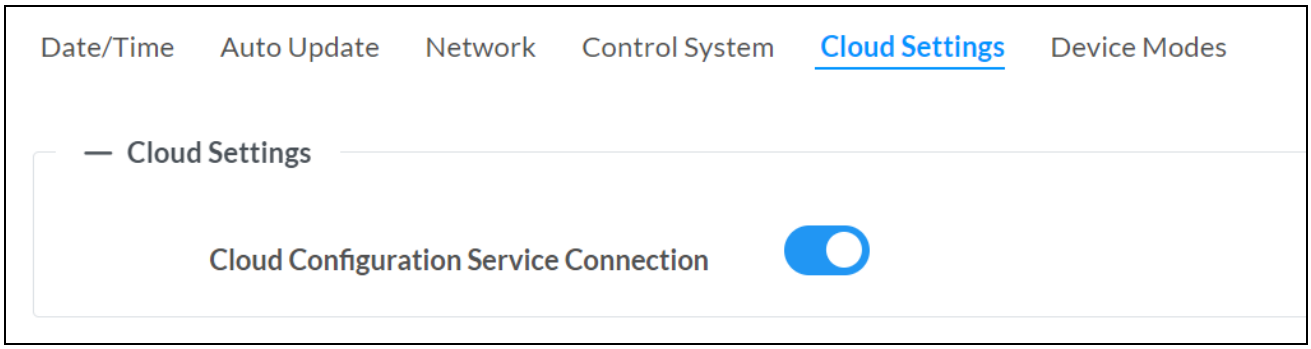
To save any new network entries, select **Save Changes**.

Control System



1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
2. Enter the username of the control system in the **Control System Username** field.
3. Enter the password associated with the previously entered username in the **Control System Password** field.
4. Enter the IP ID of the SAROS DM-NAX-IC4A-W in the **IP ID** field.
5. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
6. Enter a room ID in the **Room Id** field (optional).
7. Select **Save Changes** to save the new entries. The **Control System Save** message box appears, indicating that the control system settings were saved successfully. Select **Revert** to revert to the previous settings without saving.

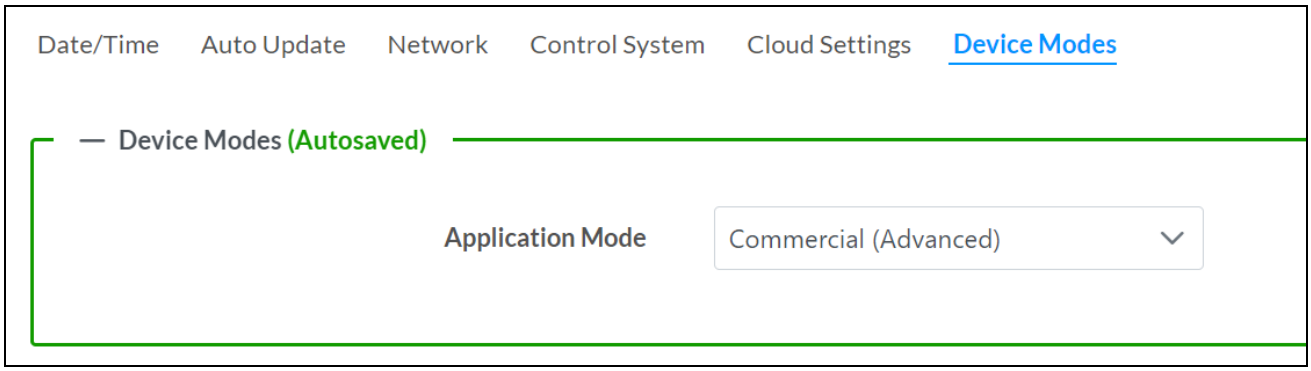
Cloud Settings



Set the Cloud Settings toggle to enabled (right) or disabled (left) to specify whether the SAROS DM-NAX-IC4A-W can communicate with the XiO Cloud® platform.

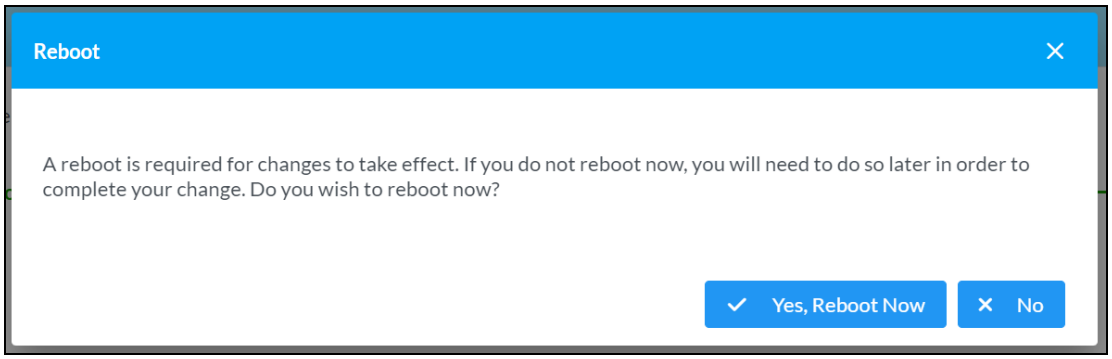
Device Modes

Use the **Device Modes** section to configure the **Application Mode** of the speaker.



The **Application Mode** setting determines which options and controls are available in the rest of the **Settings** tab of the interface. To change the **Application Mode**:

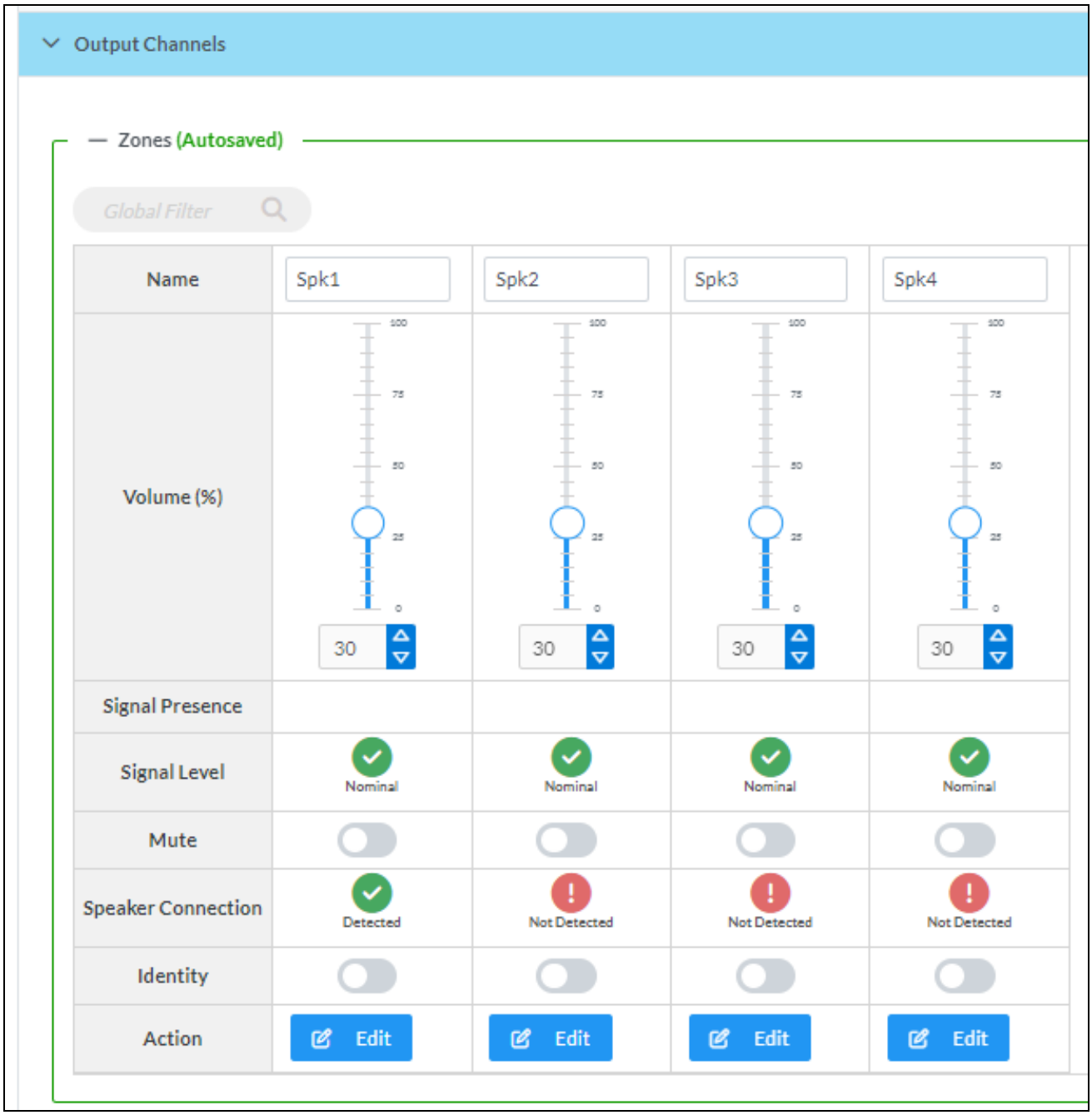
1. Select **Residential (Standard)** or **Commercial (Advanced)** from the **Application Mode** drop-down. A **Reboot** confirmation message box appears.



2. Select **Yes, Reboot Now** to reboot the device into the selected mode. The **Reboot** status message box appears.
3. Wait for the device reboot to complete before attempting to reconnect to the device.

Output Channels

The Output Channels section enables the viewing and configuration of individual speaker outputs.



Zones

Each speaker powered by the SAROS DM-NAX-IC4A-W, including its own built-in BMR transducer and up to three connected SAROS IC4P-W passive speakers, is represented by a discrete column in the **Zones** table. In that column, the properties of each speaker can be viewed and configured.

Give each zone a friendly name using the **Name** row of the **Zones** table. If the device is paired with a control system, these names may be overwritten by the control system's program.

Speaker volume values range from 0 to 100%, adjustable in increments of 1%. To configure the speaker volume, do one of the following:

- Move the **Volume (%)** slider up to increase or down to decrease the speaker volume.
- Use the **Volume (%)** arrows to increase or decrease the speaker volume.
- Manually enter a value in the **Volume** text entry field.

Signal Presence indicates whether or not an audio signal is detected at that speaker.

Signal Level indicates if the signal is **Clipping** or **Nominal** (non-clipping).

- **Nominal:** The signal level is within normal operating bounds and below the clipping threshold.
- **Clipping:** The signal level is clipping or above the -3 dB warning threshold and in danger of clipping.

To mute all audio output from a speaker, set its respective **Mute** toggle to the right. To unmute the speaker, set its **Mute** toggle to the left.

Speaker Connection indicates whether the speaker associated with that column is detected by the SAROS DM-NAX-IC4A-W. The first column should always indicate **Detected**, as it corresponds to the built-in BMR transducer. The other columns will only indicate **Detected** when a SAROS IC4P-W is connected to the associated output port of the SAROS DM-NAX-IC4A-W. If a given speaker is not detected, that column will read **Not Detected**.

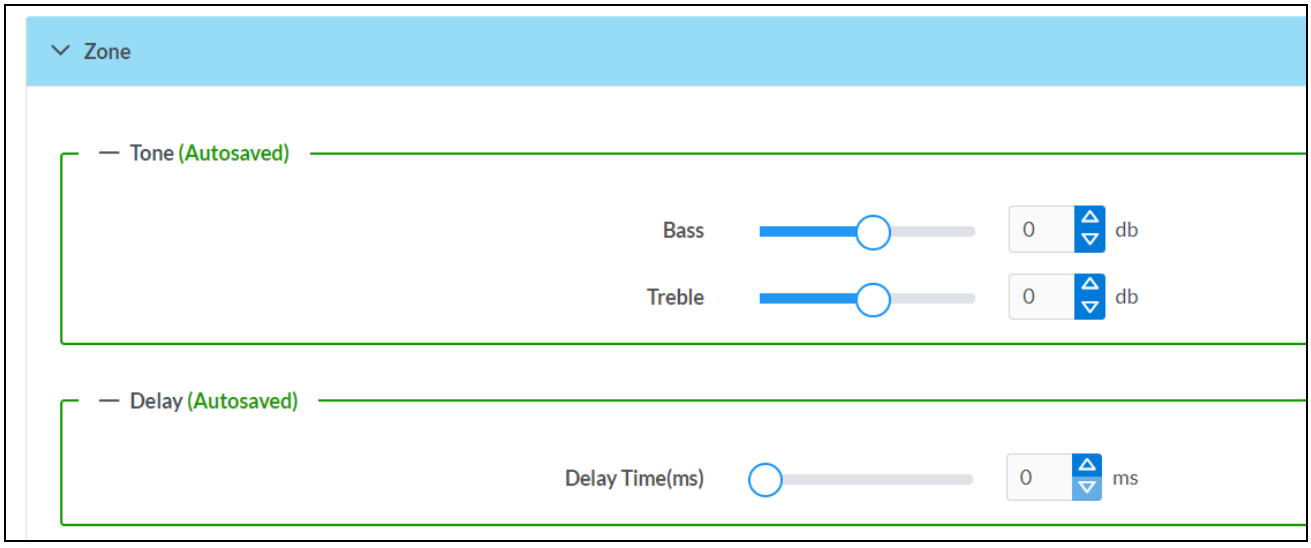
Use the **Identity** row to identify a speaker by its baffle LED. To identify a speaker, set its respective **Identity** toggle to the right, and its baffle LED will begin to blink. To stop identifying the speaker and turn off its baffle LED, set its **Identity** toggle to the left.

Select **Edit** to view and adjust a speaker's additional configuration options.

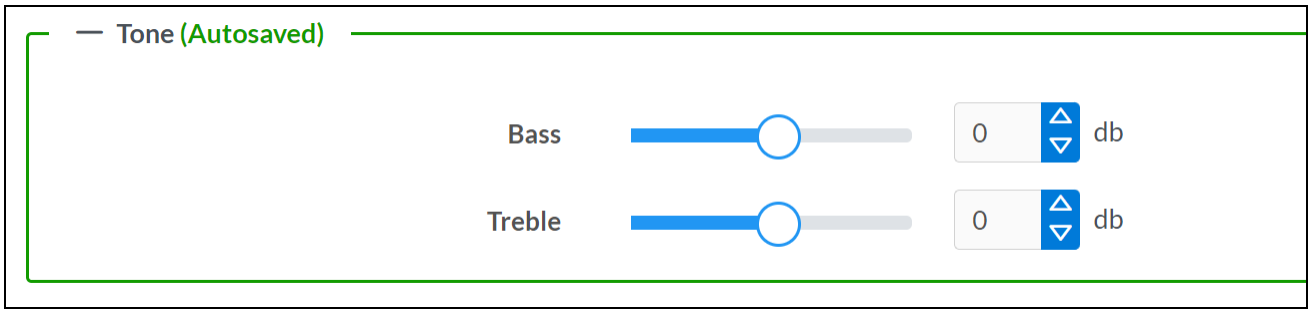
Zone

To configure additional speaker settings, select **Edit**. The **Edit Zone** window appears.

The **Zone** accordion will be open by default, which contains the settings for **Tone** and **Delay**.



Tone



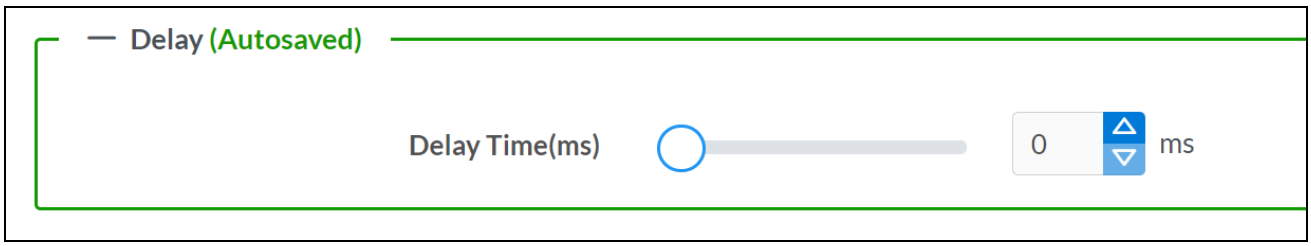
Bass values range from -12 dB to 12 dB, adjustable in increments of .1 dB. To adjust the bass, do one of the following:

- Move the **Bass** slider to the right to increase or to the left to decrease the bass level.
- Use the **db** arrows to increase or decrease the bass level.
- Manually enter a value in the **Bass** field.

Treble values range from -12 dB to 12 dB, adjustable in increments of .1 dB. To adjust the treble, do one of the following:

- Move the **Treble** slider to the right to increase or to the left to decrease the treble level.
- Use the **db** arrows to increase or decrease the level.
- Manually enter a value in the **Treble** field.

Delay

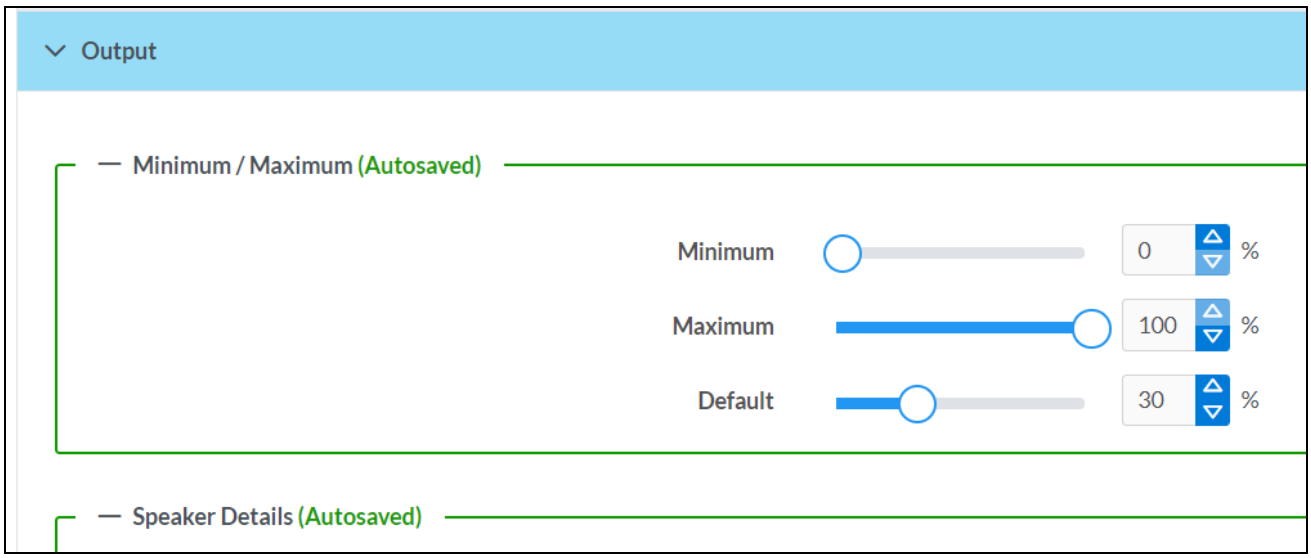


Delay Time values range from 0 ms to 85 ms, adjustable in increments of 1 ms. To set the delay, do one of the following:

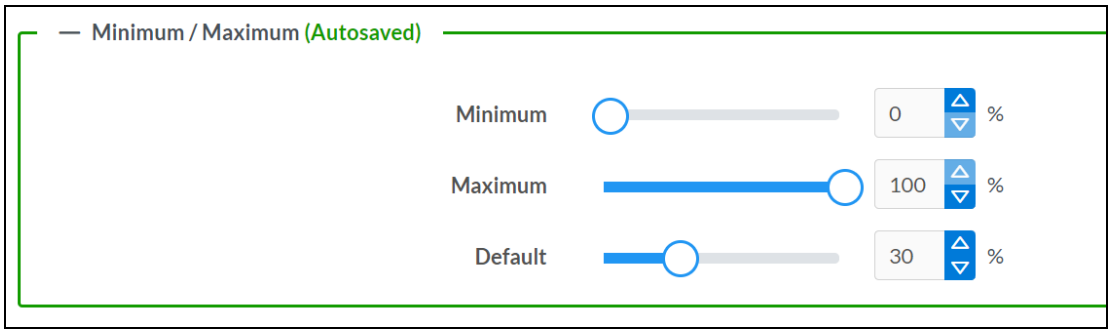
- Move the **Delay Time(ms)** slider to the right to increase or to the left to decrease the delay time.
- Use the **ms** arrows to increase or decrease the delay time.
- Manually enter a value in the **Delay Time(ms)** field.

Output

Select **Output** to expand the accordion that contains the **Minimum / Maximum Volume**, **Speaker Details**, **Signal**, **Bussing Volume Offset**, **Speaker / Faults**, and **Equalizer Settings**.



Minimum / Maximum Volume



1. The minimum volume values range from 0 to 50%, adjustable in increments of 1%. To set the minimum volume of the zone, do one of the following:
    - Move the **Minimum** slider to the right to increase or to the left to decrease the minimum volume.
    - Use the **%** arrows to increase or decrease the minimum volume.
    - Manually enter a value in the **Minimum** field.

2. The maximum volume values range from 70 to 100%, adjustable in increments of 1%. To set the maximum volume of the zone, do one of the following:
    - Move the **Maximum** slider to the right to increase or to the left to decrease the maximum volume.
    - Use the **%** arrows to increase or decrease the maximum volume.
    - Manually enter a value in the **Maximum** field.

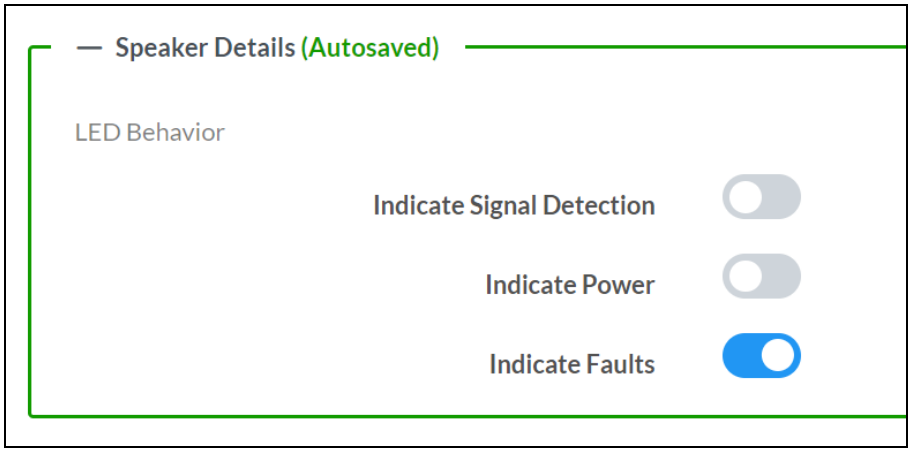
    > **NOTE:** When a **Minimum** and **Maximum** volume are set, the 1-100% range represented by the **Zone** and **Default** volume controls are scaled to the range set. For example, if a **Minimum** of 10% and a **Maximum** of 80% are set for a zone, the 1-100% range of the **Zone** volume control is scaled to the 10%-80% range set as the **Minimum** and **Maximum**.

3. Default volume values range from 0 to 50%, adjustable in increments of 1%. To set the default volume of the zone, do one of the following:
    - Move the **Default** slider to the right to increase or to the left to decrease the default volume.
    - Use the **%** arrows to increase or decrease the default volume.
    - Manually enter a value in the **Default** field.

    > **NOTE:** The **Default** volume is applied as the **Zone** volume any time the zone receives a source route and no source was previously routed to that zone.

Speaker Details

The **Speaker Details** section enables configuration of the baffle LED on the speaker.



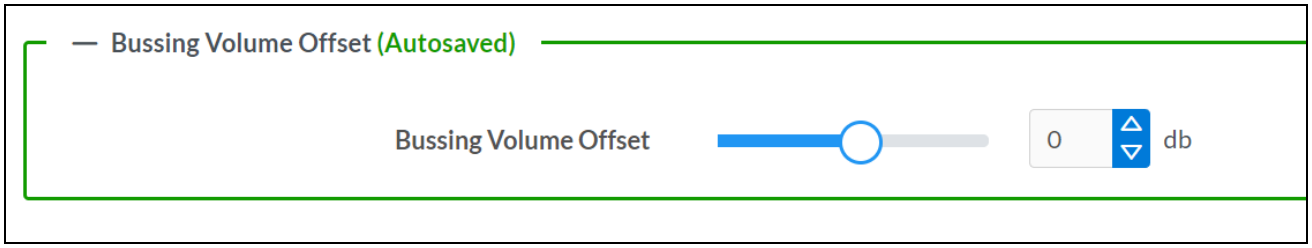
- Set the **Indicate Signal Detection** toggle to the right to have the baffle LED illuminate white whenever an audio signal is detected at the speaker. Set the **Indicate Signal Detection** toggle to the left to disable this LED behavior.
- Set the **Indicate Power** toggle to the right to have the baffle LED illuminate white whenever the speaker is powered up. Set the **Indicate Power** toggle to the left to disable this LED behavior.
- Set the **Indicate Faults** toggle to the right to have the baffle LED illuminate red whenever a fault is detected at the speaker. Set the **Indicate Faults** toggle to the left to disable this LED behavior.

Signal

The **Signal** section is a read-only field that displays the **Signal** and **Clipping** status of the zone output.

- If an output signal is present but not clipping, **Signal** will display **Present** in green and **Clipping** will display **None** in green.
- If an output signal is present and clipping, **Signal** will display **Present** in green and **Clipping** will display **Present** in red.
- If no output signal is detected, **Signal** will display **Not Present** in red and **Clipping** will display **None** in green.

Bussing Volume Offset

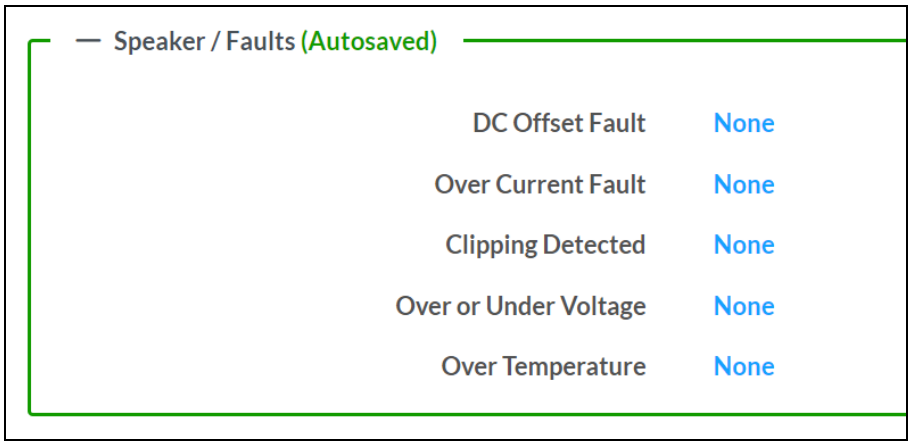


Bussing Volume Offset is an additional level compensation applied to the zone relative to any other zones it is grouped with via the **Bussing** feature.

Bussing Volume Offset values range from -12 dB to 12 dB, adjustable in increments of 1 dB. To set the bussing volume offset, do one of the following:

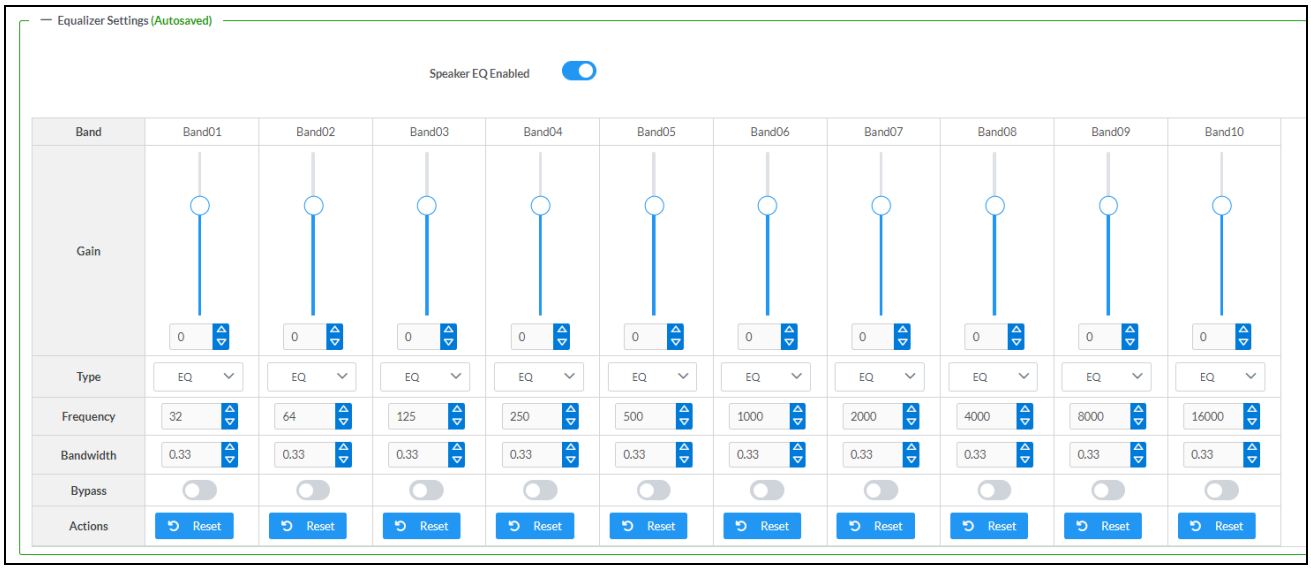
- Move the **Bussing Volume Offset** slider to the right to increase or to the left to decrease the offset.
- Use the **db** arrows to increase or decrease the offset.
- Manually enter a value in the **Bussing Volume Offset** field.

Speaker / Faults



The **Speaker / Faults** section is a read-only field that displays the status of the **DC Offset Fault**, **Over Current Fault**, **Clipping Detected**, **Over or Under Voltage**, and **Over Temperature** detectors for the zone output. If clipping or a given fault type is detected, then its corresponding readout displays **Fault Detected** in red. Otherwise, it displays **None** in blue.

Equalizer Settings



Each speaker output of the SAROS DM-NAX-IC4A-W has a dedicated ten-band equalizer that can be fully customized to tune the speaker output signal to the needs of an install. Each band can have a discrete gain, filter type, center frequency, and bandwidth set, and can also be bypassed. The equalizer itself can also be bypassed using the **Speaker EQ Enabled** toggle.

1. Set the **Speaker EQ Enabled** toggle to the right position to enable the equalizer. Set the toggle to the left position to bypass the equalizer.

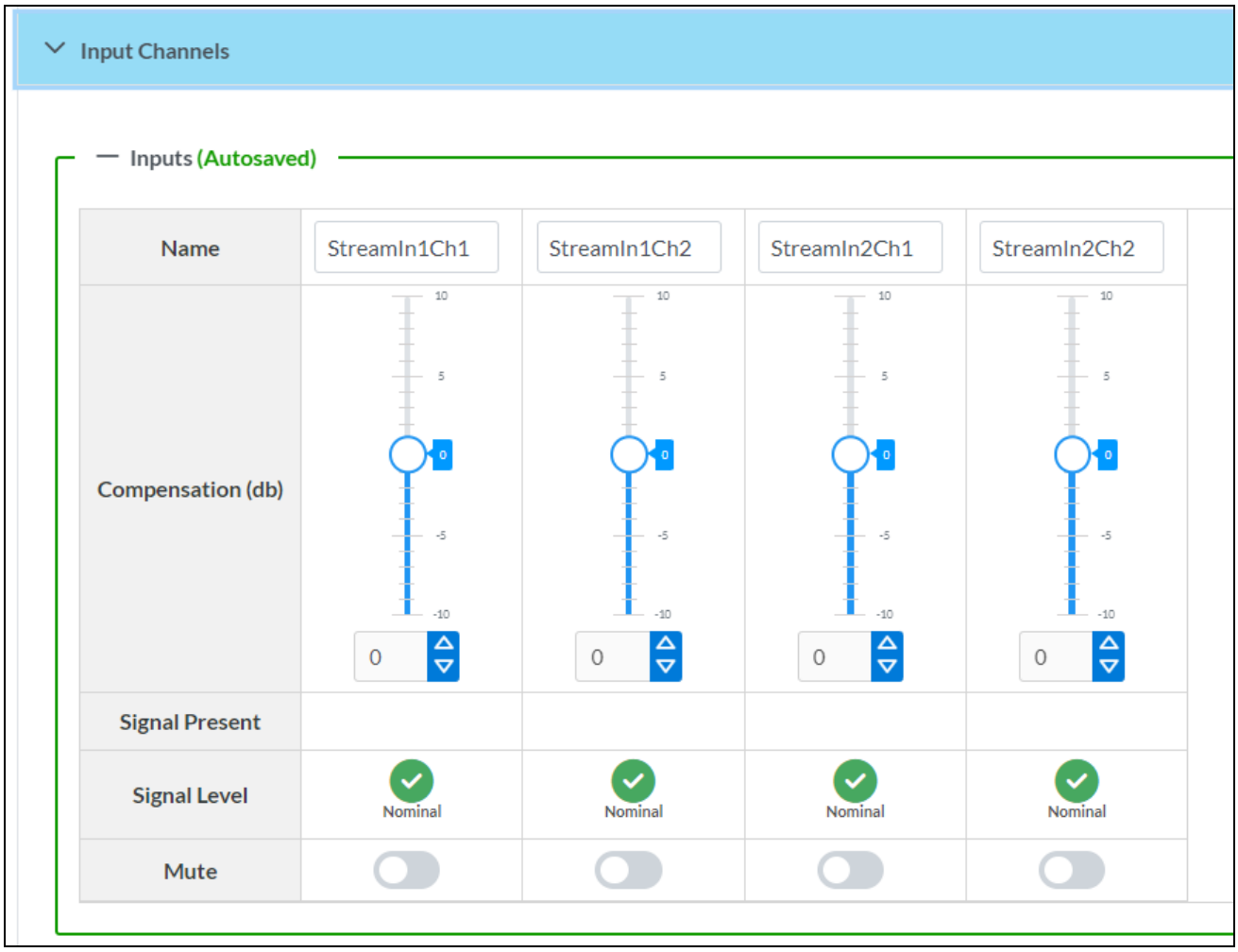
   > **NOTE:** When **Speaker EQ Enabled** is disabled, all equalizer bands are bypassed. This is a quick way to perform A/B testing of the entire EQ curve.

2. To configure a given equalizer band (with the **Speaker EQ Enabled** toggle in the right position):
    a. Set the band's **Gain**.
        - **Gain** values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB. Move the **Gain** slider up to increase or down to decrease the gain.
        - Use the arrows to increase or decrease the gain.
        - Manually enter a value in the **Gain** field.
    b. Select a filter type from the **Type** drop-down menu. By default, all bands are set to the **EQ** filter type. Some filter types will disable other settings in their respective band while enabled. For example, selecting the **LowPass** filter type for a band will disable that band's **Gain** and **Bandwidth** settings, since the **LowPass** filter applies a fixed roll-off slope at a set frequency. The available filter types are:
        - **EQ:** a fully parametric filter that can boost or cut a range of frequencies.
        - **Notch:** a parametric filter designed to more precisely cut a frequency or range of frequencies. A notch filter can achieve a narrower bandwidth than the standard EQ parametric filter type.
        - **TrebleShelf:** a filter that boosts or cuts all frequencies above a set frequency by a set gain.
        - **BassShelf:** a filter that boosts or cuts all frequencies below a set frequency by a set gain.
        - **LowPass:** a filter that fully cuts all frequencies above a set frequency using a fixed roll-off slope of -12 dB per octave.
        - **HighPass:** a filter that fully cuts all frequencies below a set frequency using a fixed roll-off slope of -12 dB per octave.
    c. Set a center frequency for the equalizer band to tune a specific portion of the audible frequency spectrum. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. To set the center frequency, do one of the following:
        - Use the arrows to increase or decrease the frequency. Each band has a default center frequency that will be applied if **Reset** at the bottom of the band is selected.
        - Manually enter a value in the **Frequency** field.
    d. Set a bandwidth to determine how wide of a frequency range is effected by the equalizer band. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave. To set the bandwidth, do one of the following:
        - Use the arrows to increase or decrease the bandwidth.
        - Manually enter a value in the **Bandwidth** field.
    e. The individual **Bypass** controls allow you to bypass a single band of equalization at a time for more granular A/B testing of a single filter. Set a band's **Bypass** toggle to the right position to bypass that band. Set the toggle to the left position to disable the bypass. By default, **Bypass** is disabled.
    f. Each equalizer band has a **Reset** that will reapply the default settings for that band when selected.

Select **Done** to return to the **Settings** tab of the web user interface.

Input Channels

The **Input Channels** section enables the viewing and configuration of the Audio-over-IP (AoIP) input channels.



Signal Presence indicates whether or not a signal is detected in that zone.

Signal Level indicates if the signal is **Clipping** or **Nominal** (non-clipping).

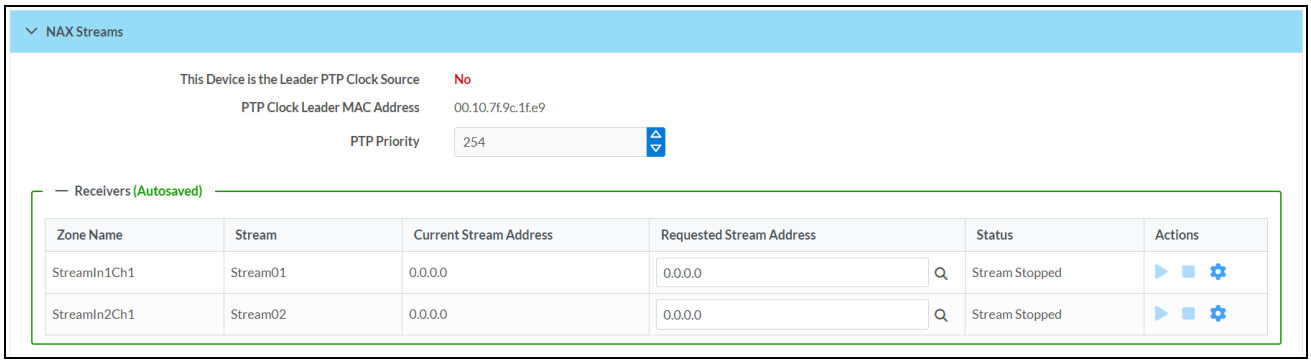
- If needed, enter a friendly name for each input in its **Name** field.
- Compensation increases the level of the incoming audio signal on any of the physical inputs on the device's rear panel. Values range from -10 dB to 10 dB, adjustable in increments of .1 dB. To set a level compensation adjustment for a given input, do one of the following:
  - Slide the **Compensation (db)** slider up to increase or down to decrease the compensation.
  - Use the **Compensation (db)** arrows to increase or decrease the compensation.
  - Manually enter a value in the **Compensation (db)** field.
- To mute the signal from the corresponding input, set its respective **Mute** toggle to the right. To unmute the input, set its **Mute** toggle to the left. By default, **Mute** is disabled.

DM NAX Streams

The SAROS DM-NAX-IC4A-W can receive up to two 2-channel AoIP streams from the connected network.

> **NOTE:** Refer to the Audio-over-IP Network Design topic of the DM NAX Product Manual for more information on properly configuring a network to handle AoIP traffic.

Select **NAX Streams** to display the following information:

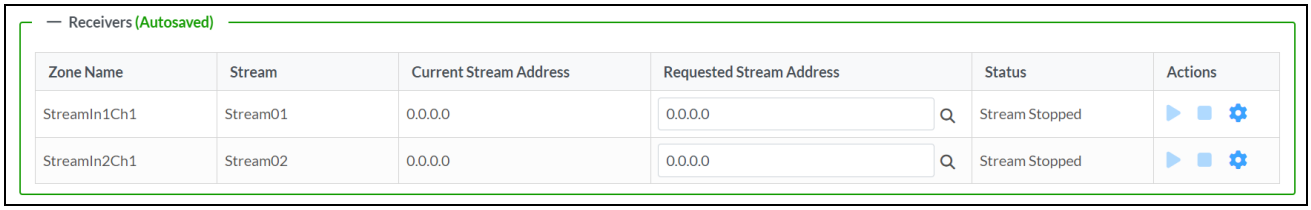


Device is Leader PTP Clock Source indicates whether the device is the leader for PTP on the network. **Yes** will be displayed in green when the local SAROS DM-NAX-IC4A-W is the PTP leader clock and **No** will be displayed in red when another PTP clock on the network is operating as the leader clock.

Leader Clock Status displays the Leader Clock ID of the device on the network that acts as the Leader Clock.

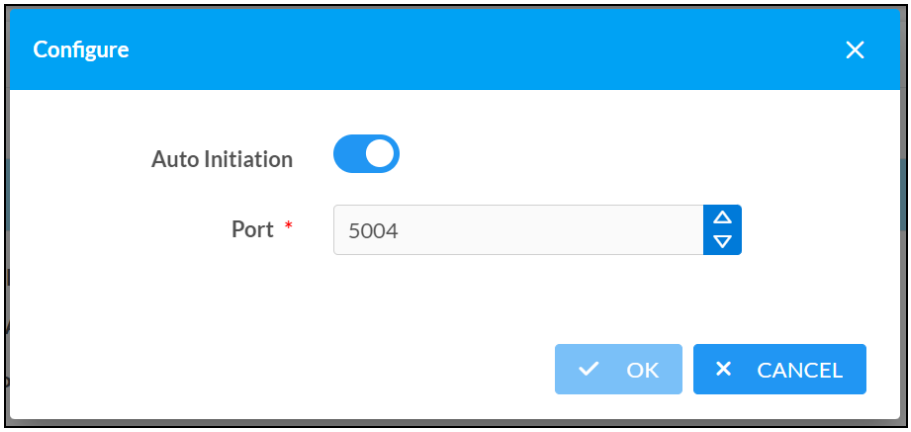
PTP Priority sets the priority of the local DM NAX device's PTP clock relative to other clocks on the network. The default setting is 254 (one increment higher than the lowest possible value) so that the SAROS DM-NAX-IC4A-W will only operate as the leader clock if no other PTP leader is present on the network. Valid values range from 1 to 255.

Configure Receivers



1. Enter the multicast address of a transmitting stream in the **Requested Stream Address** field to subscribe the receiver to the stream.

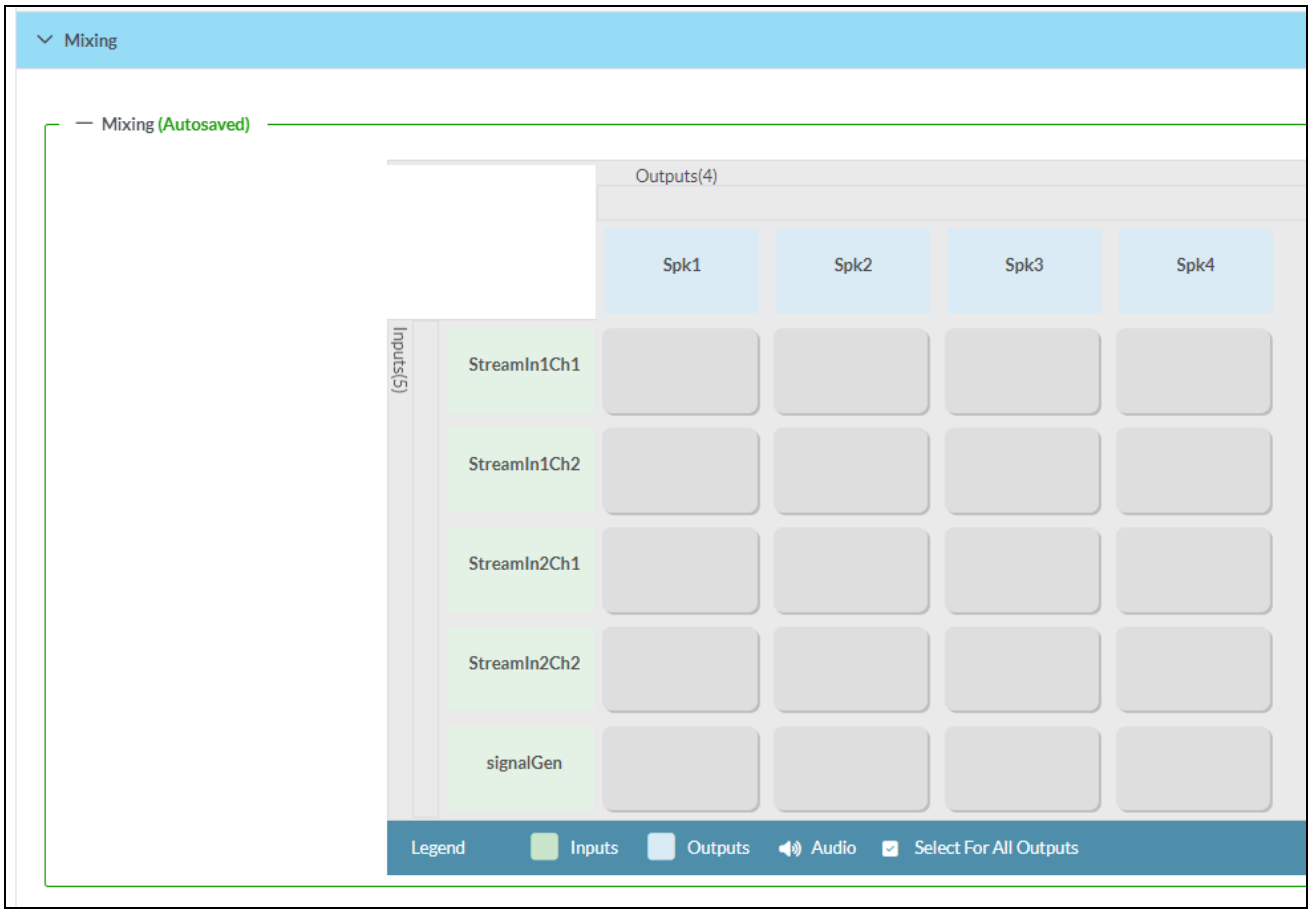
2. Select the gear icon in the **Actions** column. The **Configure** dialog appears:



3. Set the **Auto Initiation** toggle to the right position to enable auto initiation. Set the toggle to the left position to disable auto initiation.
    - If Auto Initiation is enabled, the stream will begin automatically when the receiver subscribes to the transmitter.
    - If Auto Initiation is disabled, the stream will not begin until it is manually initiated.
4. The default port number is 5004. To set a different port number, do one of the following:
    - Use the arrows to increase or decrease the port number by increments of 1.
    - Manually enter a port number in the **Port** field.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Mixing

The **Mixing** matrix is used to mix AES67 AoIP channels into the outputs of SAROS DM-NAX-IC4A-W.



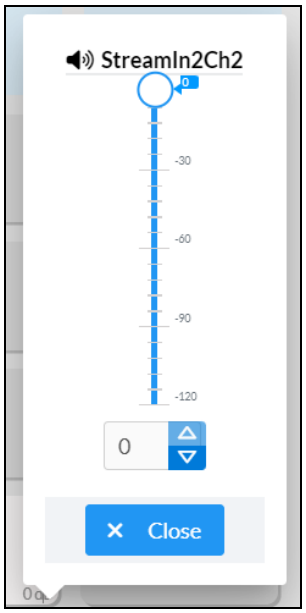
To route inputs to outputs on the device:

- Select the cells corresponding to the desired output that are to be paired for routing. Once a route is made, appears. The input that you have selected for a given row will route to the output corresponding to that row in the matrix.

To break a given route select or .

The bottom row of the mixing matrix is dedicated to the built-in signal generator. In Commercial Mode, this generates a 1 kHz sine tone that can be mixed into any of the output channels.

Each output can have any number of inputs routed to it. To adjust the mix setting for a route, select the **dB** value of the cell so the mix level adjustment pop-up appears.

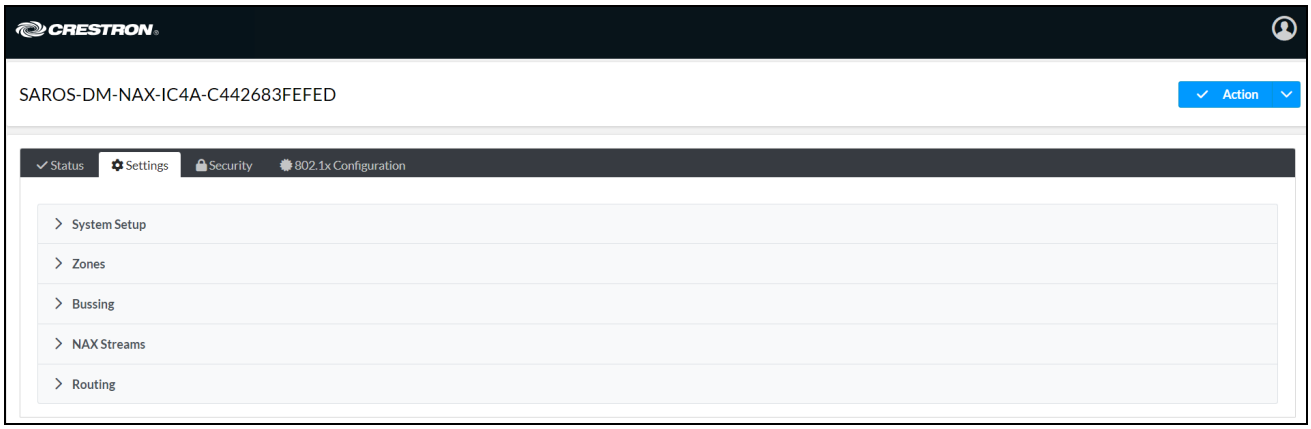


To adjust the mix level, do one of the following:

- Move the slider up to increase or down to decrease the mix level.
- Use the arrows to increase or decrease the mix level.
- Manually enter a value in the field.

Residential Mode

The Residential **Settings** page is used for configuration of the SAROS DM-NAX-IC4A-W settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the SAROS DM-NAX-IC4A-W interface.



Settings available on the Residential **Settings** page are organized into different sections:

- System Setup on page 54
- Zones on page 58
- Bussing on page 69

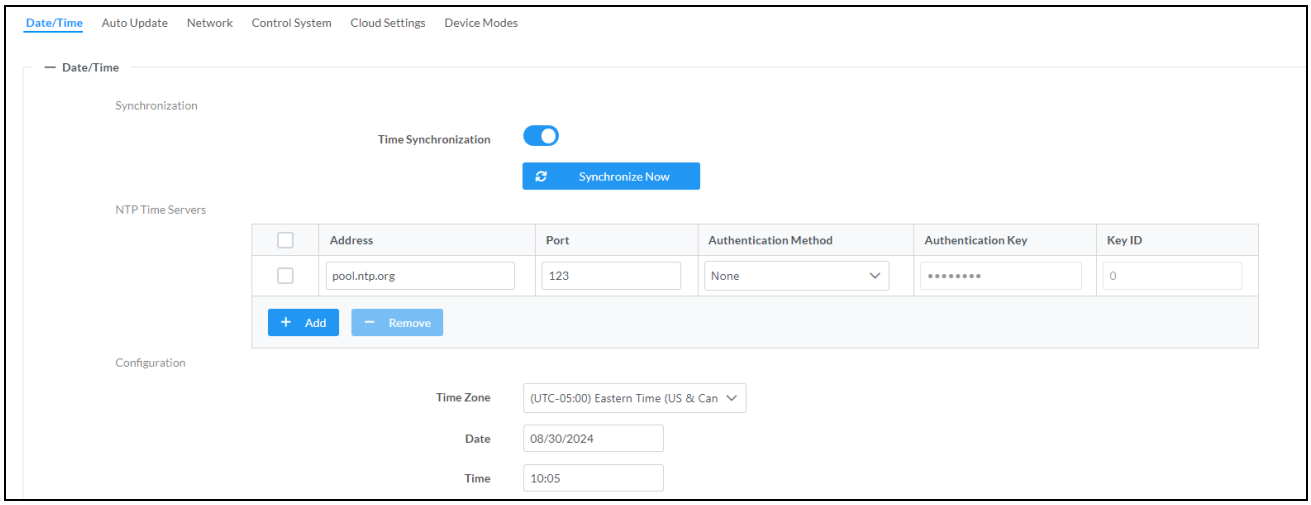
- DM NAX Streams on page 69
- Routing on page 71

System Setup

The **System Setup** section contains settings for **Date/Time**, **Auto Update**, **Network**, and **Control System**.

Date / Time

Use the **Date/Time** section to configure the date and time settings of the SAROS DM-NAX-IC4A-W.



Time Synchronization

1. Set the **Time Synchronization** toggle to the right position to enable or left position to disable time synchronization. By default, time synchronization is enabled.
2. In the **NTP Time Servers** table, enter the URL of a NTP (Network Time Protocol) or SNTP (Simple Network Time Protocol) server. Up to three time servers can be added on a device.
3. Select **Synchronize Now** to perform time synchronization between the device's internal clock and the time server.

Time Configuration

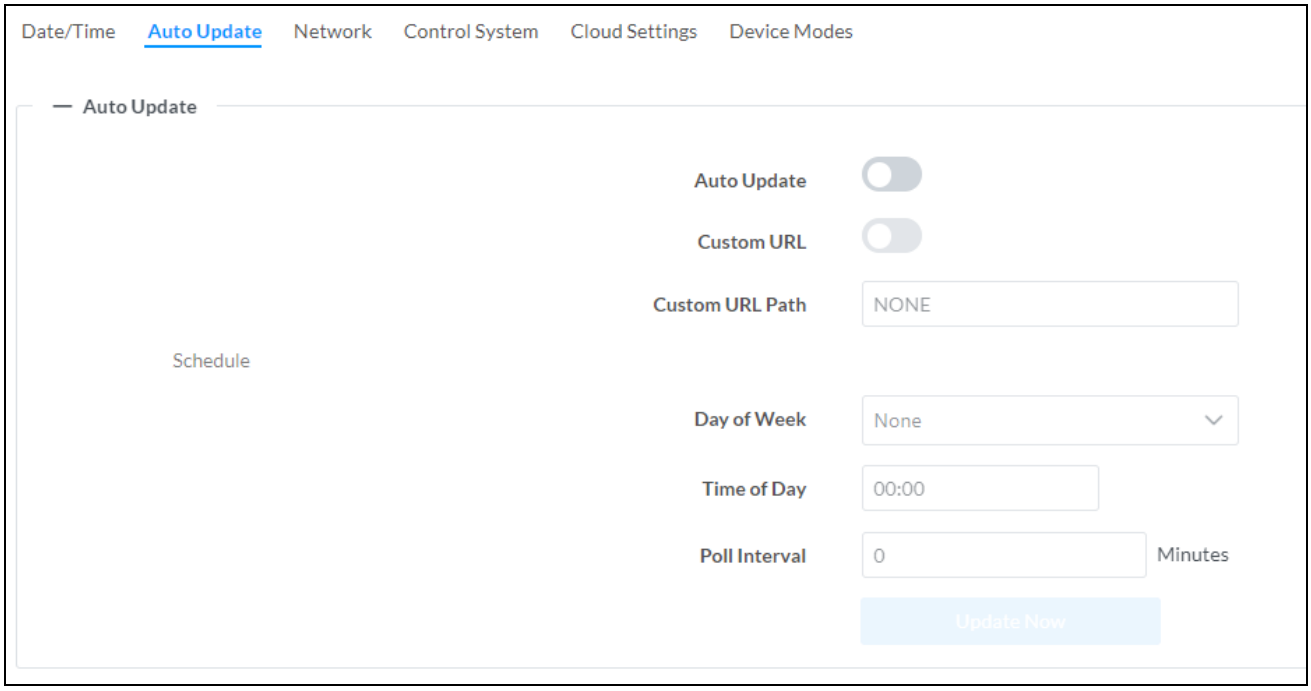
1. Select the **Time Zone** drop-down menu to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time** field, enter the current time in 24-hour format.

Select **Save Changes** at the top right of the interface to save the settings.

Select **Revert** from the **Action** drop-down menu to revert to the previous settings without saving.

Auto Update

The SAROS DM-NAX-IC4A-W can automatically check for and install firmware updates at scheduled intervals via the Auto Update feature.

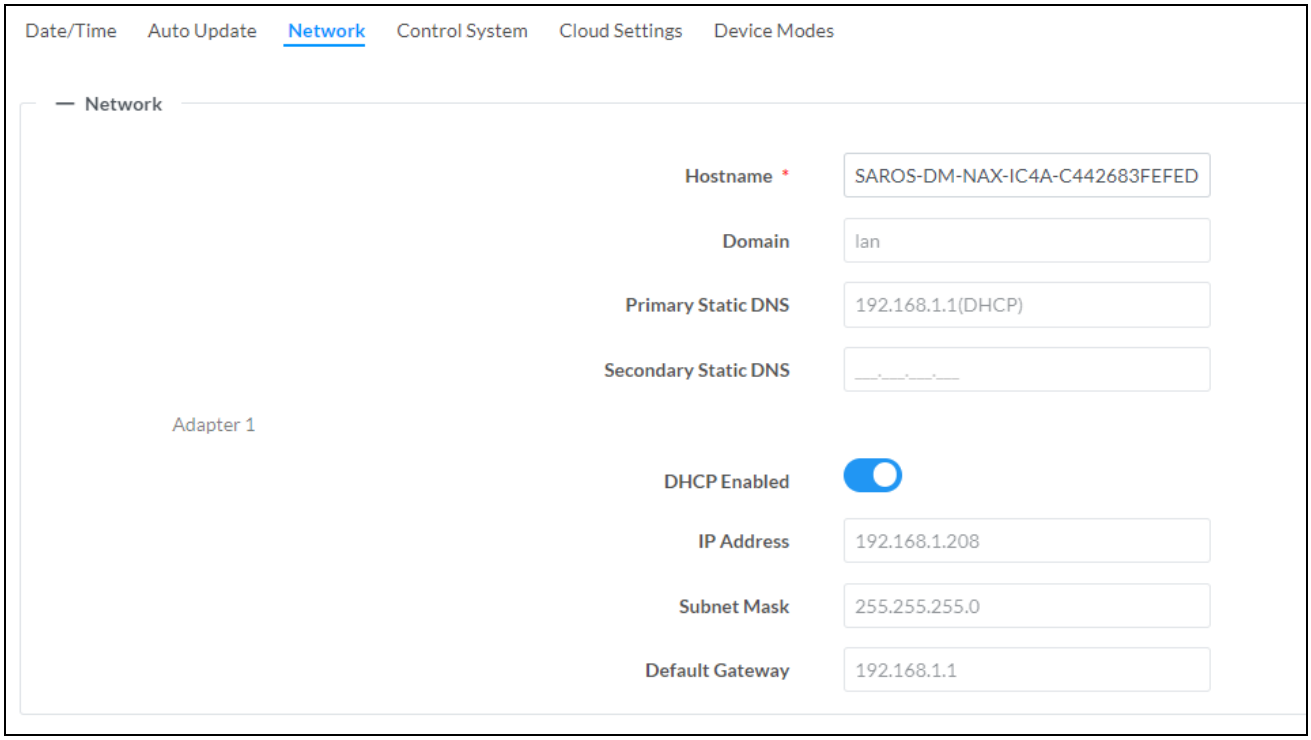


1. Set the **Auto Update** toggle to the right position to enable Auto Update.
2. Define the URL to download the updates by doing either of the following:
   - Use the default URL to download the updates from the Crestron server.
   - Use a custom URL. Set the **Custom URL** toggle to the right position to enable a custom URL. In the **Custom URL Path** text box, enter the path to a custom manifest file in the FTP or SFTP URL format. Use the Crestron Auto Update Tool to generate a custom manifest file, then store the file on an FTP (File Transfer Protocol) or SFTP (Secure File Transfer Protocol) server.
3. Set a schedule for the automatic firmware update by doing either of the following:
   - Select the desired **Day of Week** and **Time of Day** values.
   - Set the **Poll Interval** by entering a value from 60 to 65535 minutes. A value of 0 disables the **Poll Interval**.
4. Select **Save Changes**.

Selecting **Update Now** causes the device to check for a firmware update immediately. If a schedule was set in step 4 above, that schedule still remains in effect.

Network

The **Network** section contains network-related settings for the SAROS DM-NAX-IC4A-W, including the **Hostname**, **Domain**, **Primary Static DNS**, and **Secondary Static DNS**.



NOTE: By default, the host name of the SAROS DM-NAX-IC4A-W consists of a truncated model name followed by the MAC address of the device. For example, SAROS-DM-NAX-IC4A-C442683FEFED.

Adapter 1

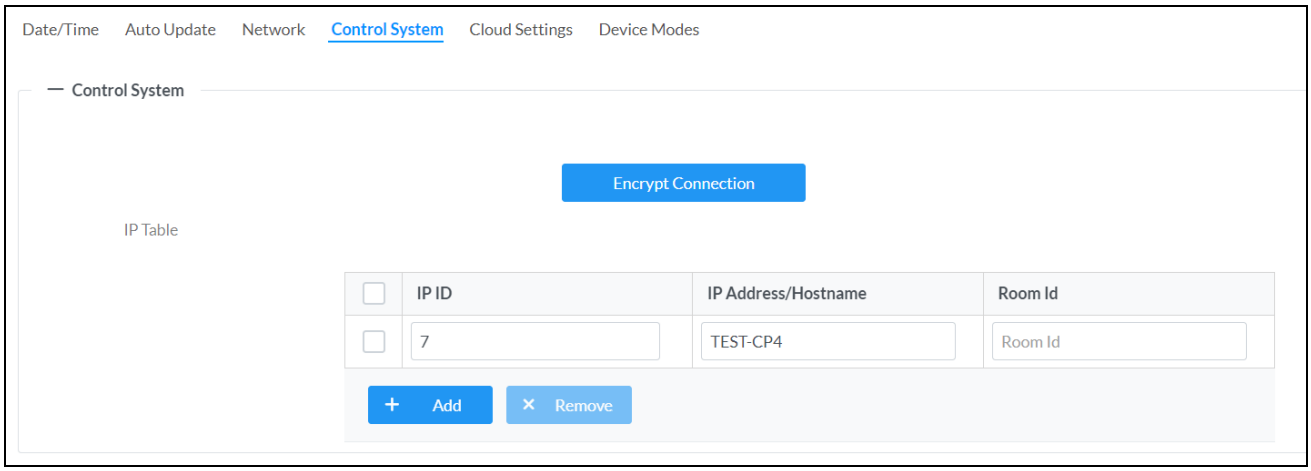
The Adapter 1 subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of the Network/PoE+ port of the speaker.

Set the **DHCP** toggle to enabled (right) or disabled (left) to specify whether the IP address of the SAROS DM-NAX-IC4A-W is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the SAROS DM-NAX-IC4A-W is automatically assigned by a DHCP server on the local area network (LAN).
- **Disabled:** When DHCP is disabled, manually enter information in the following fields:
  - **Primary Static DNS:** Enter a primary DNS IP address.
  - **Secondary Static DNS:** Enter a secondary DNS IP address.
  - **IP Address:** Enter a unique IP address for the SAROS DM-NAX-IC4A-W.
  - **Subnet Mask:** Enter the subnet mask that is set on the network.
  - **Default Gateway:** Enter the IP address that is to be used as the network's gateway.

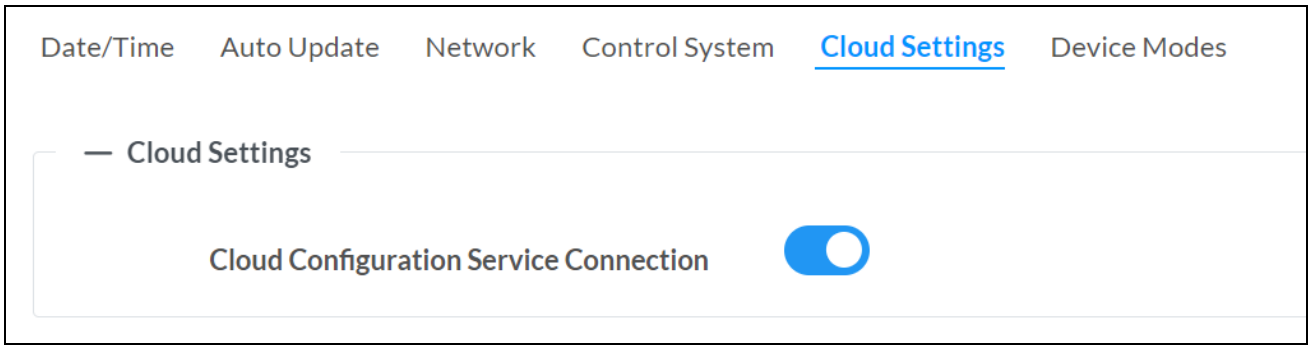
To save any new network entries, select **Save Changes**.

Control System



1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
2. Enter the username of the control system in the **Control System Username** field.
3. Enter the password associated with the previously entered username in the **Control System Password** field.
4. Enter the IP ID of the SAROS DM-NAX-IC4A-W in the **IP ID** field.
5. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
6. Enter a room ID in the **Room Id** field (optional).
7. Select **Save Changes** to save the new entries. The **Control System Save** message box appears, indicating that the control system settings were saved successfully. Select **Revert** to revert to the previous settings without saving.

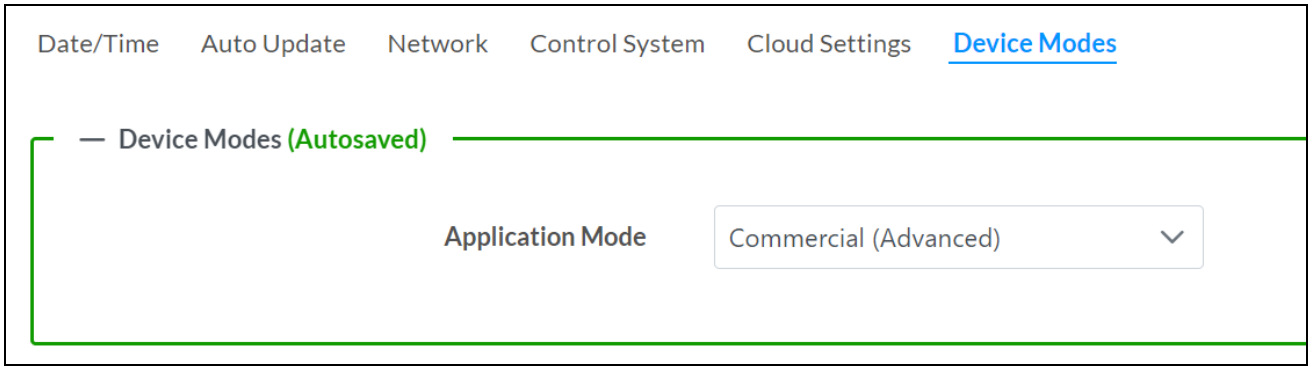
Cloud Settings



Set the Cloud Settings toggle to enabled (right) or disabled (left) to specify whether the SAROS DM-NAX-IC4A-W can communicate with the XiO Cloud® platform.

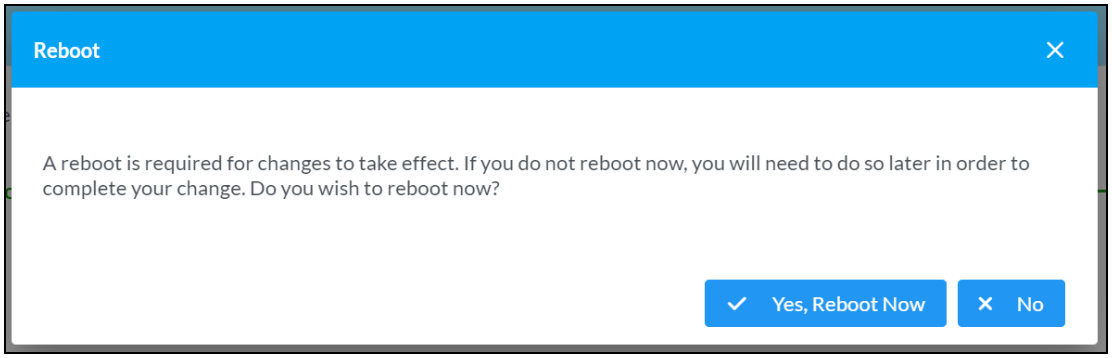
Device Modes

Use the **Device Modes** section to configure the **Application Mode** of the speaker.



The **Application Mode** setting determines which options and controls are available in the rest of the **Settings** tab of the interface. To change the **Application Mode**:

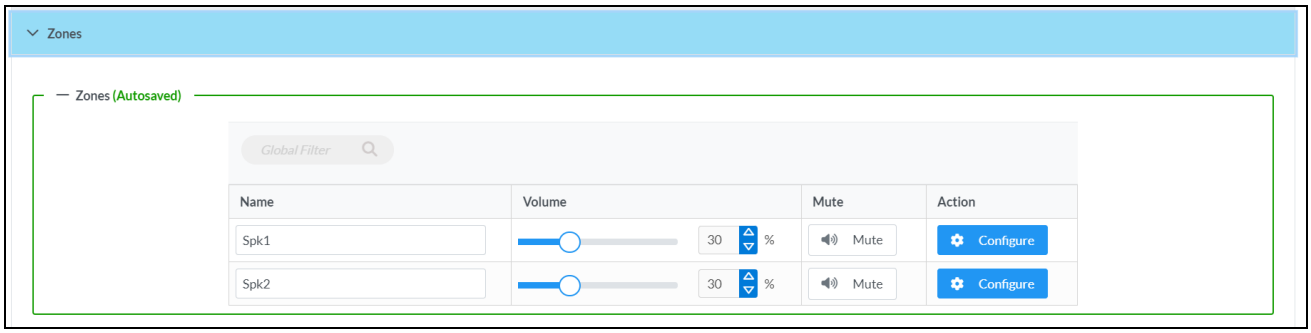
1. Select **Residential (Standard)** or **Commercial (Advanced)** from the **Application Mode** drop-down. A **Reboot** confirmation message box appears.



2. Select **Yes, Reboot Now** to reboot the device into the selected mode. The **Reboot** status message box appears.
3. Wait for the device reboot to complete before attempting to reconnect to the device.

Zones

The Zones section enables the viewing and configuration of pairs of speaker outputs, which are referred to as zones. The SAROS DM-NAX-IC4A-W groups these zones so that the built-in BMR transducer and a SAROS IC4P-W speaker connected to the first output port are paired as the first zone, and two SAROS IC4P-W speakers connected to the last two output ports are paired as the second zone.



Zones

The Zones section contains the **Volume** and **Mute** settings for all zone outputs of the device, as well as a **Configure** option for more advanced settings within each zone.

Give each zone a friendly name using the **Name** column of the **Zones** table. If the device is paired with a control system, these names may be overwritten by the control system's program.

Zone volume values range from 0 to 100%, adjustable in increments of 1%. To configure the zone volume, do one of the following:

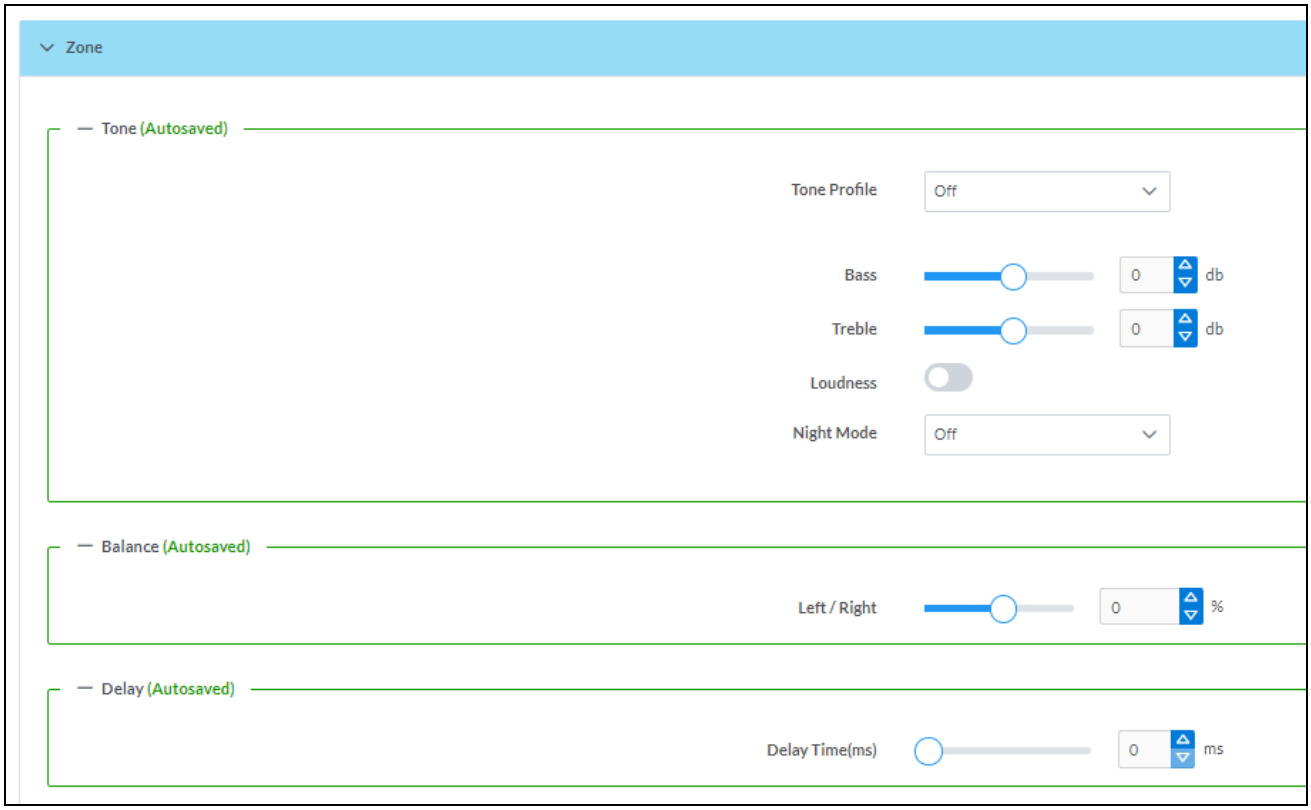
- Move the **Volume** slider to the right to increase or to the left to decrease the zone volume.
- Use the **%** arrows to increase or decrease the zone volume.
- Manually enter a value in the **Volume** field.

To mute all audio output from a zone, select its respective **Mute** . Select **Muted** to unmute a zone.

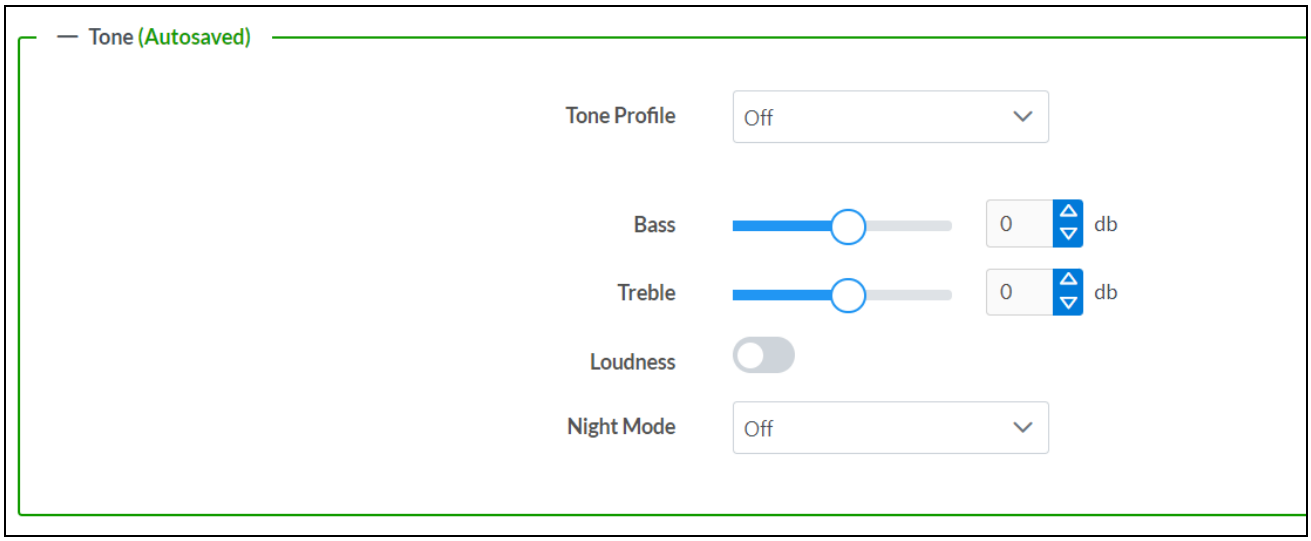
Zone Settings

To configure additional speaker settings, select **Configure**. The **Edit Zone** window appears.

The **Zone** accordion will be open by default, which contains the settings for **Tone**, **Balance**, and **Delay**.



Tone

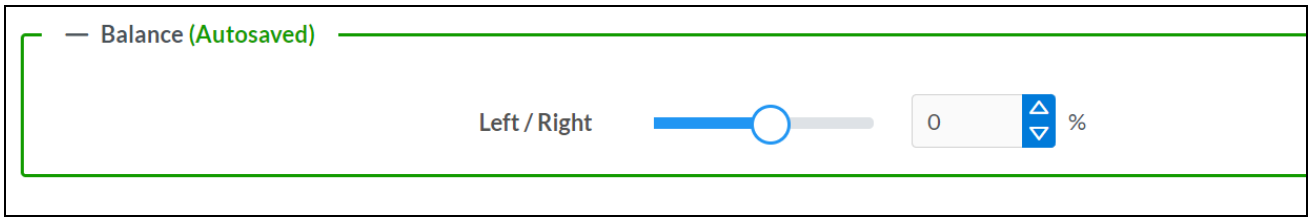


The **Tone** section provides adjustments for the **Tone Profile**, **Bass**, **Treble**, **Loudness**, and **Night Mode** settings of the zone output.

> **NOTE:** The **Tone Profile**, **Bass**, **Treble**, and **Loudness** settings in the **Tone** section are all applied separately from the **Equalizer Settings** for the zone. This means that any adjustments made in the **Tone** section will stack with those made in the **Equalizer Settings** section.

1. To select a tone profile preset for the zone, select an option from the **Tone Profile** drop-down menu. The available options are **Off**, **Classical**, **Jazz**, **Pop**, **Rock**, and **Spoken Word**. By default, **Off** is selected.
2. **Bass** values range from -12 dB to 12 dB, adjustable in increments of 1 dB. To adjust the bass, do one of the following:
    - Move the **Bass** slider to the right to increase or to the left to decrease the bass level.
    - Use the **db** arrows to increase or decrease the bass level.
    - Manually enter a value in the **Bass** field.
3. **Treble** values range from -12 dB to 12 dB, adjustable in increments of 1 dB. To adjust the treble, do one of the following:
    - Move the **Treble** slider to the right to increase or to the left to decrease the treble level.
    - Use the **db** arrows to increase or decrease the treble level.
    - Manually enter a value in the **Treble** field.
4. To enable the loudness setting on the zone output, set the **Loudness** toggle to the right. To disable loudness, set the **Loudness** toggleto the left.
5. The **Night Mode** feature applies subtle processing to restrict the dynamic range of the zone audio, to allow for lower listening levels at night or in rooms where higher listening levels would be disruptive. To select a dynamics processing level, select an option from the **Night Mode** drop-down menu. The available options are **Off**, **Low**, **Medium**, and **High**. By default, **Off** is selected.

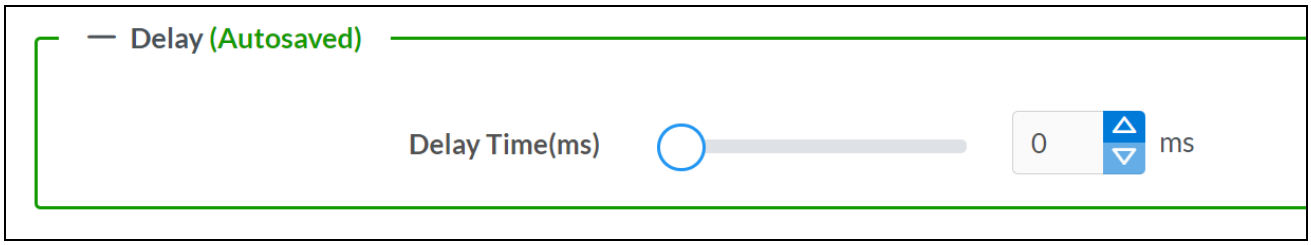
Balance



Balance values range from -50 to 50, adjustable in increments of 1. Positive values shift the balance to the right while negative values shift the balance to the left. To adjust the left/right balance of the stereo output signal, do one of the following:

- Move the **Balance** slider to the right to shift the stereo balance to the right channel or to the left to shift the balance to the left.
- Use the arrows to adjust the balance left or right. The up arrow shifts the balance to the right while the down arrow shifts the balance to the left.
- Manually enter a value in the **Balance** field.

Delay

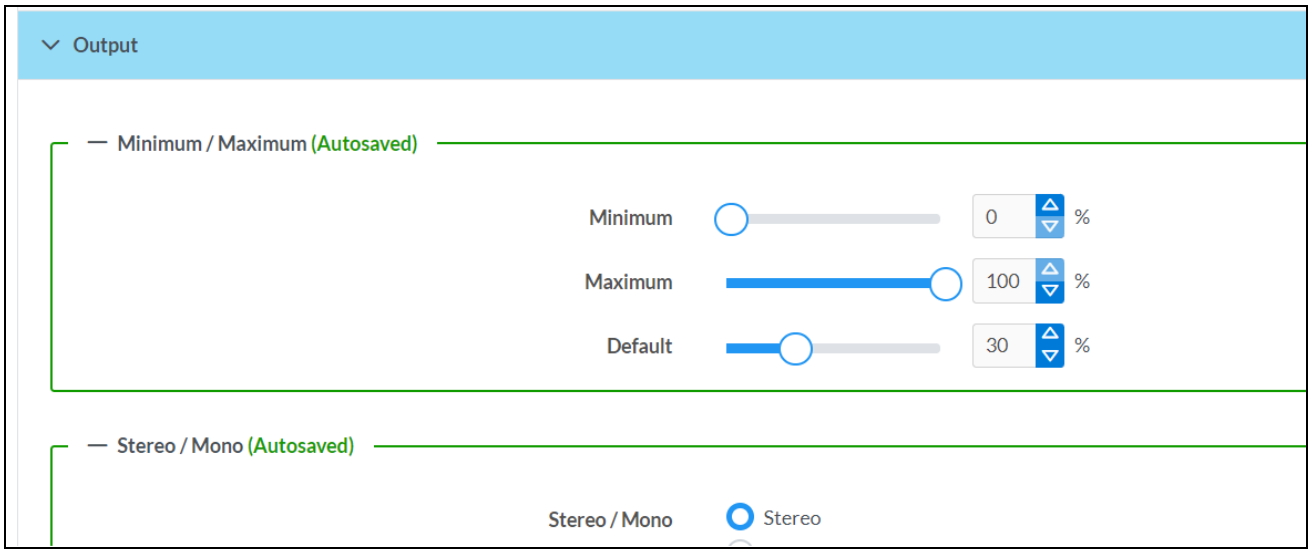


Delay Time values range from 0 ms to 85 ms, adjustable in increments of 1 ms. To set the delay, do one of the following:

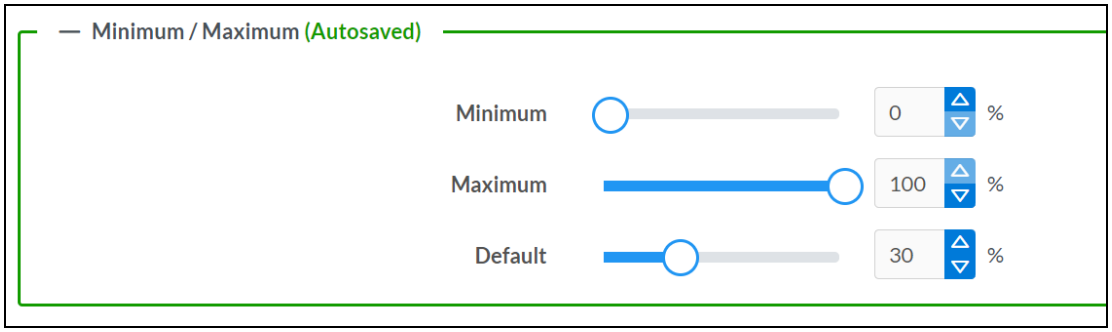
- Move the **Delay Time(ms)** slider to the right to increase or to the left to decrease the delay time.
- Use the **ms** arrows to increase or decrease the delay.
- Manually enter a value in the **Delay Time(ms)** field.

Output Settings

Select **Output** to expand the accordion that contains the **Minimum / Maximum Volume**, **Stereo / Mono**, **Speaker Details**, **Signal**, **Bussing Volume Offset**, **Speaker / Faults**, **Signal Generator**, and **Equalizer Settings**.



Minimum / Maximum Volume



1. The minimum volume values range from 0 to 50%, adjustable in increments of 1%. To set the minimum volume of the zone, do one of the following:
    - Move the **Minimum** slider to the right to increase or to the left to decrease the minimum volume.
    - Use the **%** arrows to increase or decrease the minimum volume.
    - Manually enter a value in the **Minimum** field.
2. The maximum volume values range from 70 to 100%, adjustable in increments of 1%. To set the maximum volume of the zone, do one of the following:
    - Move the **Maximum** slider to the right to increase or to the left to decrease the maximum volume.
    - Use the **%** arrows to increase or decrease the maximum volume.
    - Manually enter a value in the **Maximum** field.

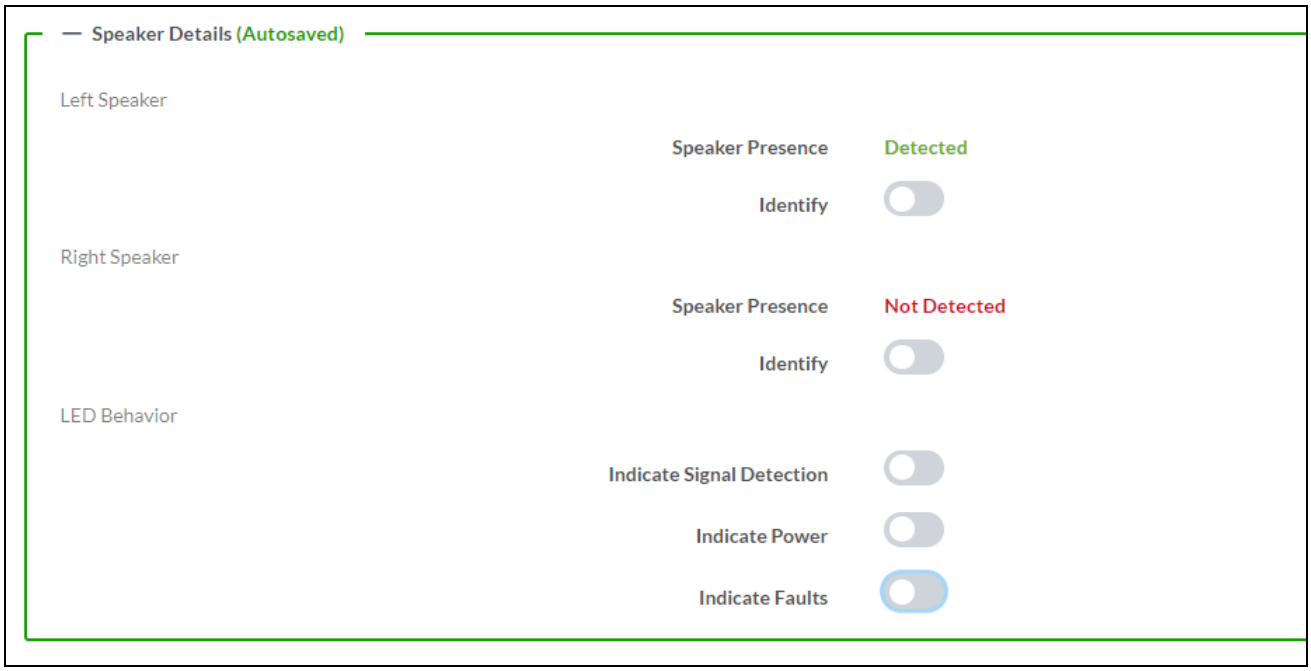
> **NOTE:** When a **Minimum** and **Maximum** volume are set, the 1-100% range represented by the **Zone** and **Default** volume controls are scaled to the range set. For example, if a **Minimum** of 10% and a **Maximum** of 80% are set for a zone, the 1-100% range of the **Zone** volume control is scaled to the 10%-80% range set as the **Minimum** and **Maximum**.

3. Default volume values range from 0 to 50%, adjustable in increments of 1%. To set the default volume of the zone, do one of the following:
    - Move the **Default** slider to the right to increase or to the left to decrease the default volume.
    - Use the **%** arrows to increase or decrease the default volume.
    - Manually enter a value in the **Default** field.

> **NOTE:** The **Default** volume is applied as the **Zone** volume any time the zone receives a source route and no source was previously routed to that zone.

Speaker Details

The Speaker Details section enables configuration of the baffle LED on the speaker.



The **Speaker Presence** field for the **Left Speaker** will read **Detected** in green if the associated speaker is connected and detected by the SAROS DM-NAX-IC4A-W. It will read **Not Detected** in red if the associated speaker is not connected or detected. Set the **Identify** toggle to the right to cause the baffle LED of the associated speaker to blink. Set the **Identify** toggle to the left to stop the baffle LED from blinking.

The **Speaker Presence** field for the **Right Speaker** will read **Detected** in green if the associated speaker is connected and detected by the SAROS DM-NAX-IC4A-W. It will read **Not Detected** in red if the associated speaker is not connected or detected. Set the **Identify** toggle to the right to cause the baffle LED of the associated speaker to blink. Set the **Identify** toggle to the left to stop the baffle LED from blinking.

To configure the **LED Behavior**:

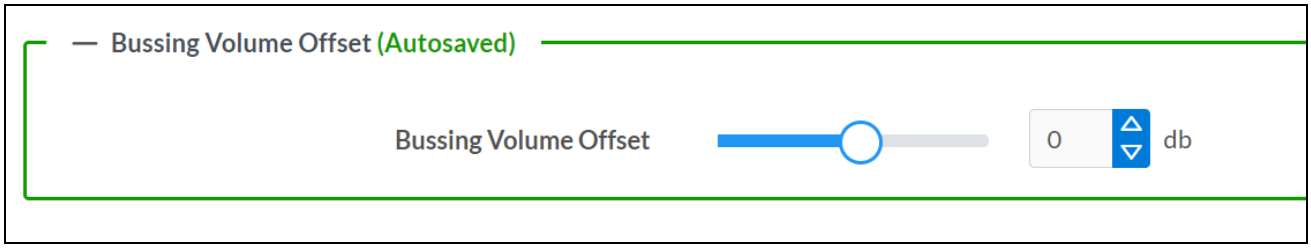
- Set the **Indicate Signal Detection** toggle to the right to have the baffle LED illuminate white whenever an audio signal is detected at the speaker. Set the **Indicate Signal Detection** toggle to the left to disable this LED behavior.
- Set the **Indicate Power** toggle to the right to have the baffle LED illuminate white whenever the speaker is powered up. Set the **Indicate Power** toggle to the left to disable this LED behavior.
- Set the **Indicate Faults** toggle to the right to have the baffle LED illuminate red whenever a fault is detected at the speaker. Set the **Indicate Faults** toggle to the left to disable this LED behavior.

Signal

The **Signal** section is a read-only field that displays the **Signal** and **Clipping** status of the zone output.

- If an output signal is present but not clipping, **Signal** will display **Present** in green and **Clipping** will display **None** in green.
- If an output signal is present and clipping, **Signal** will display **Present** in green and **Clipping** will display **Present** in red.
- If no output signal is detected, **Signal** will display **Not Present** in red and **Clipping** will display **None** in green.

Bussing Volume Offset

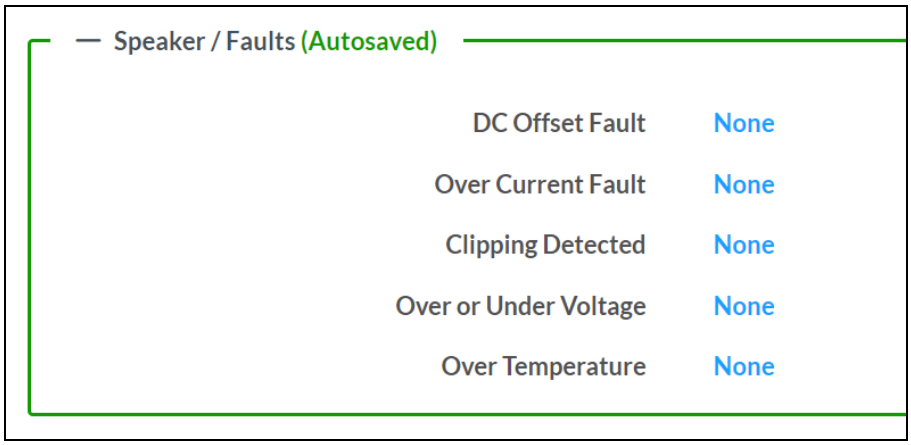


Bussing Volume Offset is an additional level compensation applied to the zone relative to any other zones it is grouped with via the **Bussing** feature.

Bussing Volume Offset values range from -12 dB to 12 dB, adjustable in increments of 1 dB. To set the bussing volume offset, do one of the following:

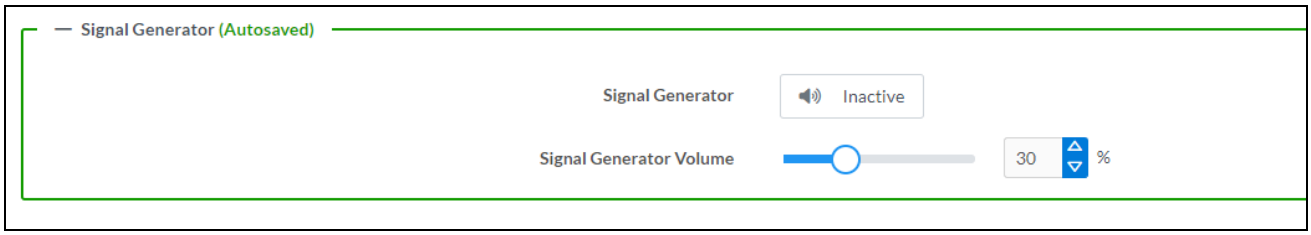
- Move the **Bussing Volume Offset** slider to the right to increase or to the left to decrease the offset.
- Use the **db** arrows to increase or decrease the offset.
- Manually enter a value in the **Bussing Volume Offset** field.

Speaker / Faults



The **Speaker / Faults** section is a read-only field that displays the status of the **DC Offset Fault**, **Over Current Fault**, **Clipping Detected**, **Over or Under Voltage**, and **Over Temperature** detectors for the zone output. If clipping or a given fault type is detected, then its corresponding readout displays **Fault Detected** in red. Otherwise, it displays **None** in blue.

Signal Generator



The SAROS DM-NAX-IC4A-W has a built-in signal generator that allows an integrator to send an audio signal to any number of selected zones to test output functionality.

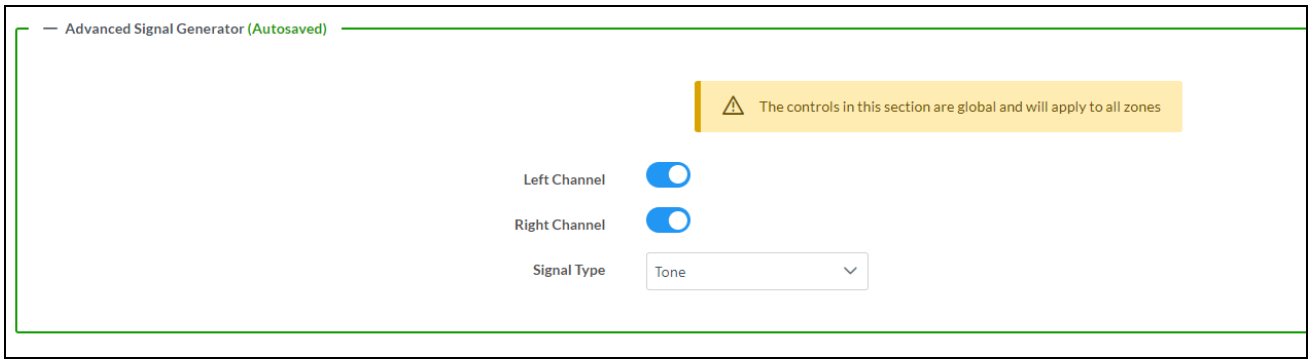
1. To route the signal generator to the zone output, select **Signal Generator** so that it displays **Active** and is highlighted in blue. To unroute the signal generator on the zone output, select **Signal Generator** so that it displays **Inactive** and is highlighted in grey. By default, the signal generator is not routed to the zone output.

   NOTES:

   - There is only one signal generator built-in to the device. Each zone has its own option to enable or disable the signal generator from passing signal to that output. Setting the signal generator to **Inactive** on a given zone output only breaks the route for that output and does not stop it from playing back in other zones.
   - **Signal Generator Volume** is a local control that does not affect the signal generator's volume on other zone outputs. Only the settings under **Advanced Signal Generator** are applied universally to all zones of the DM NAX device.

2. Signal generator volume values range from 0 to 100, adjustable in increments of 1. To adjust the signal generator's volume, do one of the following:
    - Move the **Signal Generator Volume** slider right to increase or left to decrease the volume.
    - Use the arrows to increase or decrease the signal generator volume.
    - Manually enter a value in the **Signal Generator Volume** field.

Advanced Signal Generator



The advanced signal generator settings control the built-in signal generator directly, and are applied universally to all output zones of the device. The signal type for the generator can be set, and the left and right channels of the test signal can be individually enabled or disabled.

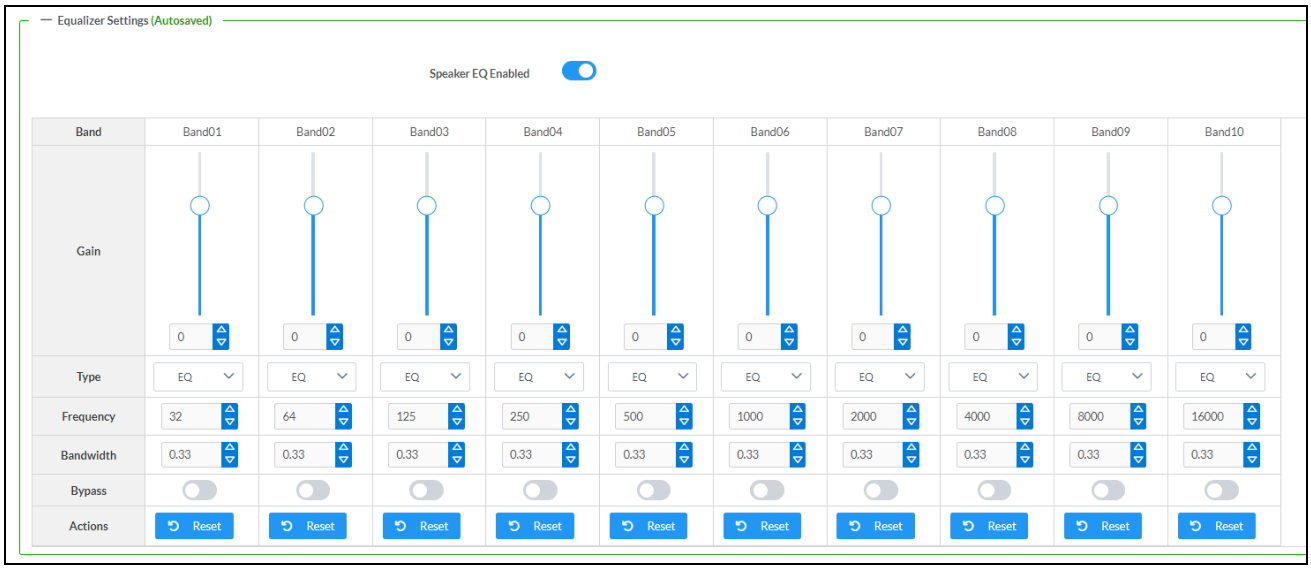
Set the **Left Channel** toggle to the right position to enable the left channel of the signal. Set the toggle to the left position to disable the left channel. By default, **Left Channel** is enabled.

Set the **Right Channel** toggle to the right position to enable the right channel of the signal. Set the toggle to the left position to disable the right channel. By default, **Right Channel** is enabled.

Select an audio test signal type from the **Signal Type** drop-down menu. The available signal types are:

- **Tone:** Generates a 1 kHz sine wave tone.
- **Pink Noise:** Generates pink noise.
- **White Noise:** Generates white noise.

Equalizer Settings



Each speaker output of the SAROS DM-NAX-IC4A-W has a dedicated ten-band equalizer that can be fully customized to tune the speaker output signal to the needs of an install. Each band can have a discrete gain, filter type, center frequency, and bandwidth set, and can also be bypassed. The equalizer itself can also be bypassed using the **Speaker EQ Enabled** toggle.

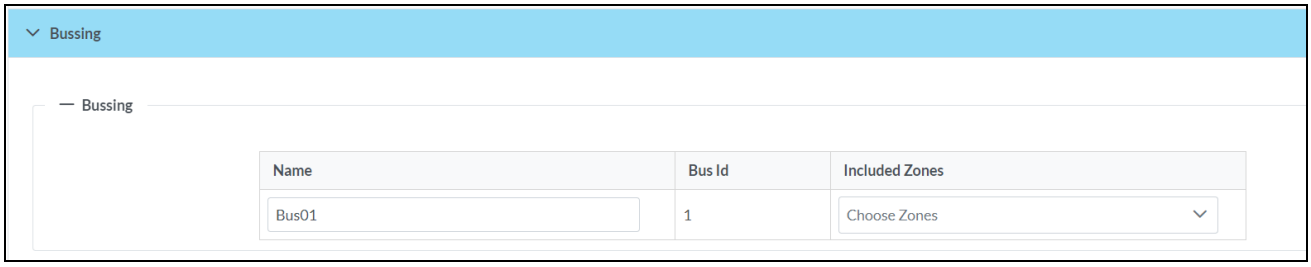
1. Set the **Speaker EQ Enabled** toggle to the right position to enable the equalizer. Set the toggle to the left position to bypass the equalizer.

   > **NOTE:** When **Speaker EQ Enabled** is disabled, all equalizer bands are bypassed. This is a quick way to perform A/B testing of the entire EQ curve.

2. To configure a given equalizer band (with the **Speaker EQ Enabled** toggle in the right position):
    a. Set the band's **Gain**.
        - **Gain** values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB. Move the **Gain** slider up to increase or down to decrease the gain.
        - Use the arrows to increase or decrease the gain.
        - Manually enter a value in the **Gain** field.
    b. Select a filter type from the **Type** drop-down menu. By default, all bands are set to the **EQ** filter type. Some filter types will disable other settings in their respective band while enabled. For example, selecting the **LowPass** filter type for a band will disable that band's **Gain** and **Bandwidth** settings, since the **LowPass** filter applies a fixed roll-off slope at a set frequency. The available filter types are:
        - **EQ:** a fully parametric filter that can boost or cut a range of frequencies.
        - **Notch:** a parametric filter designed to more precisely cut a frequency or range of frequencies. A notch filter can achieve a narrower bandwidth than the standard EQ parametric filter type.
        - **TrebleShelf:** a filter that boosts or cuts all frequencies above a set frequency by a set gain.
        - **BassShelf:** a filter that boosts or cuts all frequencies below a set frequency by a set gain.
        - **LowPass:** a filter that fully cuts all frequencies above a set frequency using a fixed roll-off slope of -12 dB per octave.
        - **HighPass:** a filter that fully cuts all frequencies below a set frequency using a fixed roll-off slope of -12 dB per octave.
    c. Set a center frequency for the equalizer band to tune a specific portion of the audible frequency spectrum. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. To set the center frequency, do one of the following:
        - Use the arrows to increase or decrease the frequency. Each band has a default center frequency that will be applied if **Reset** at the bottom of the band is selected.
        - Manually enter a value in the **Frequency** field.
    d. Set a bandwidth to determine how wide of a frequency range is effected by the equalizer band. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave. To set the bandwidth, do one of the following:
        - Use the arrows to increase or decrease the bandwidth.
        - Manually enter a value in the **Bandwidth** field.
    e. The individual **Bypass** controls allow you to bypass a single band of equalization at a time for more granular A/B testing of a single filter. Set a band's **Bypass** toggle to the right position to bypass that band. Set the toggle to the left position to disable the bypass. By default, **Bypass** is disabled.
    f. Each equalizer band has a **Reset** that will reapply the default settings for that band when selected.

Select **Done** to return to the **Settings** tab of the web user interface.

Bussing



The **Bussing** feature on DM NAX devices allows an integrator to assign any number of selected zones to a fixed group of zones (bus). Zones in a bus track the other zones' volume and routing. For example, when the source or volume for one zone in the bus is adjusted, all other zones in that bus receive the same adjustment. You can create a single output bus on the SAROS DM-NAX-IC4A-W.

To configure **Bussing**:

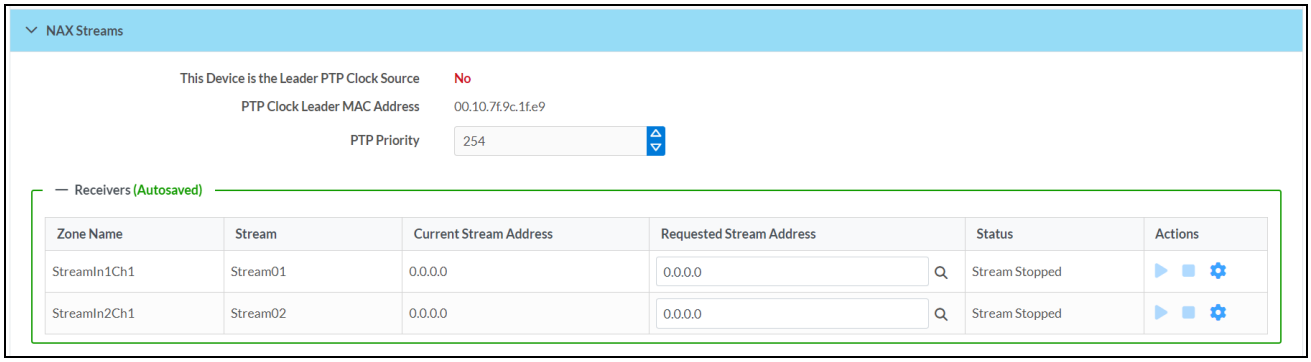
1. If needed, enter a friendly name for each bus in its **Name** field.
2. Select any number of zones from the **Included Zones** drop-down menu.

DM NAX Streams

The SAROS DM-NAX-IC4A-W can receive up to two 2-channel AoIP streams from the connected network.

> **NOTE:** Refer to the Audio-over-IP Network Design topic of the DM NAX Product Manual for more information on properly configuring a network to handle AoIP traffic.

Select **NAX Streams** to display the following information:

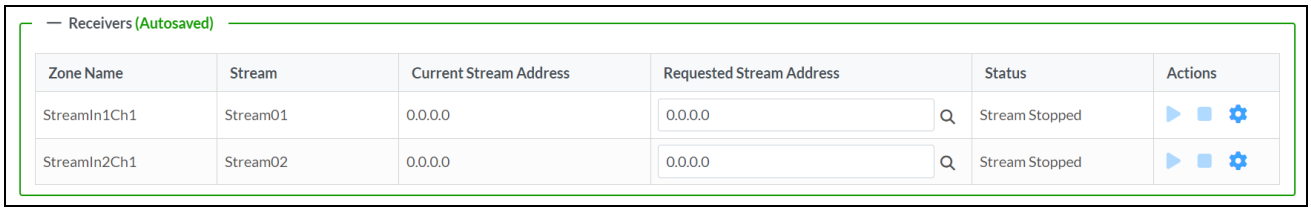


Device is Leader PTP Clock Source indicates whether the device is the leader for PTP on the network. **Yes** will be displayed in green when the local SAROS DM-NAX-IC4A-W is the PTP leader clock and **No** will be displayed in red when another PTP clock on the network is operating as the leader clock.

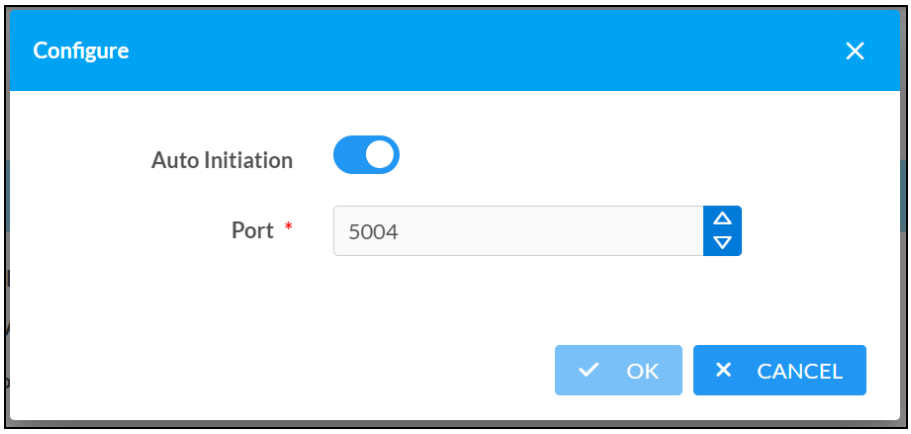
Leader Clock Status displays the Leader Clock ID of the device on the network that acts as the Leader Clock.

PTP Priority sets the priority of the local DM NAX device's PTP clock relative to other clocks on the network. The default setting is 254 (one increment higher than the lowest possible value) so that the SAROS DM-NAX-IC4A-W will only operate as the leader clock if no other PTP leader is present on the network. Valid values range from 1 to 255.

Configure Receivers



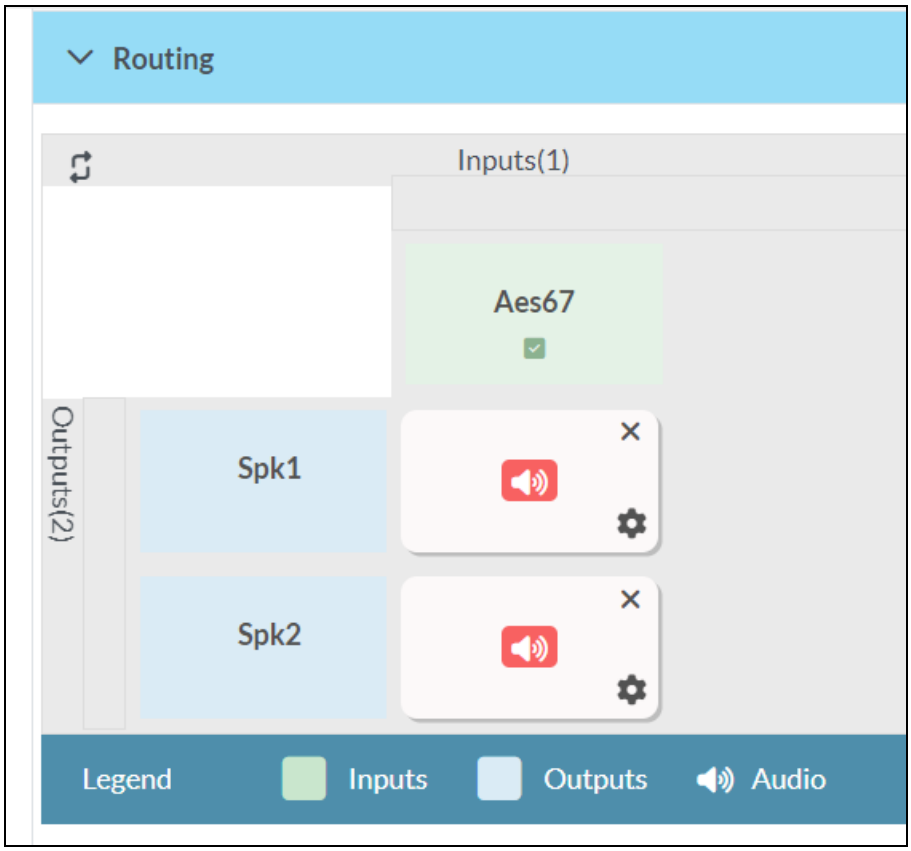
1. Enter the multicast address of a transmitting stream in the **Requested Stream Address** field to subscribe the receiver to the stream.
2. Select the gear icon in the **Actions** column. The **Configure** dialog appears:



3. Set the **Auto Initiation** toggle to the right position to enable auto initiation. Set the toggle to the left position to disable auto initiation.
    - If Auto Initiation is enabled, the stream will begin automatically when the receiver subscribes to the transmitter.
    - If Auto Initiation is disabled, the stream will not begin until it is manually initiated.
4. The default port number is 5004. To set a different port number, do one of the following:
    - Use the arrows to increase or decrease the port number by increments of 1.
    - Manually enter a port number in the **Port** field.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Routing

The **Routing** matrix is used to route AES67 AoIP channels to the outputs of SAROS DM-NAX-IC4A-W.

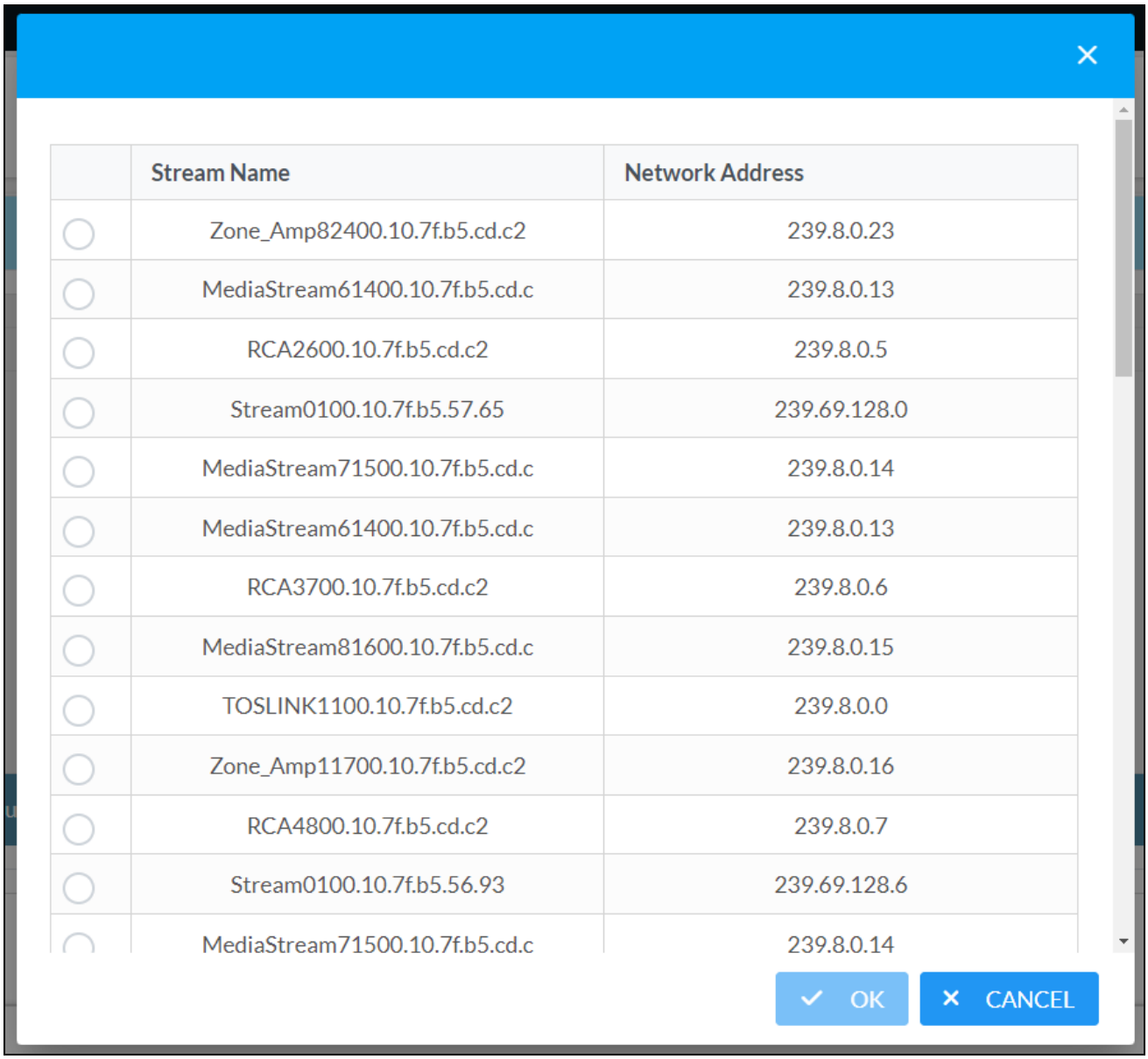


To route inputs to outputs on the device:

- Select the cells corresponding to the desired output that are to be paired for routing. Once a route is made, appears. The input that you have selected for a given row will route to the output corresponding to that row in the matrix.

To break a given route select or .

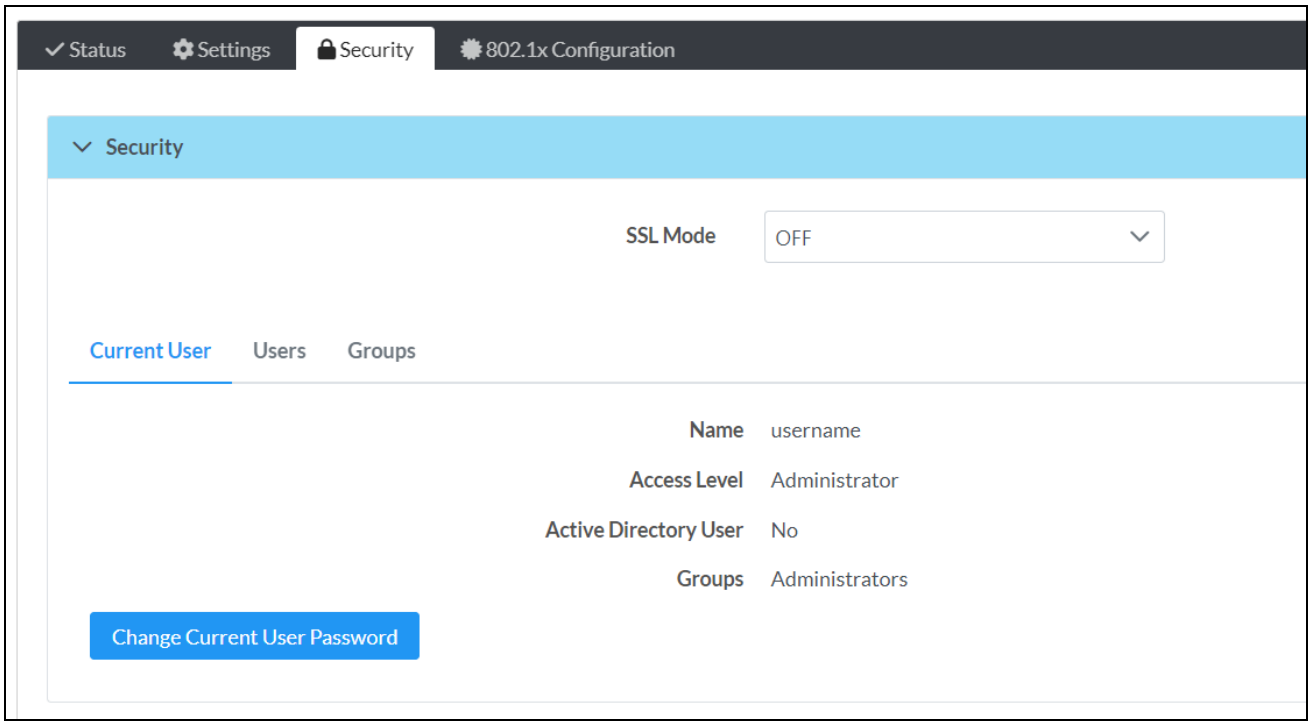
To select an available network AoIP stream for a given route, select the gear icon . A list of available streams appears.



Select the desired stream, then select **OK** to confirm or **Cancel** to cancel.

Security

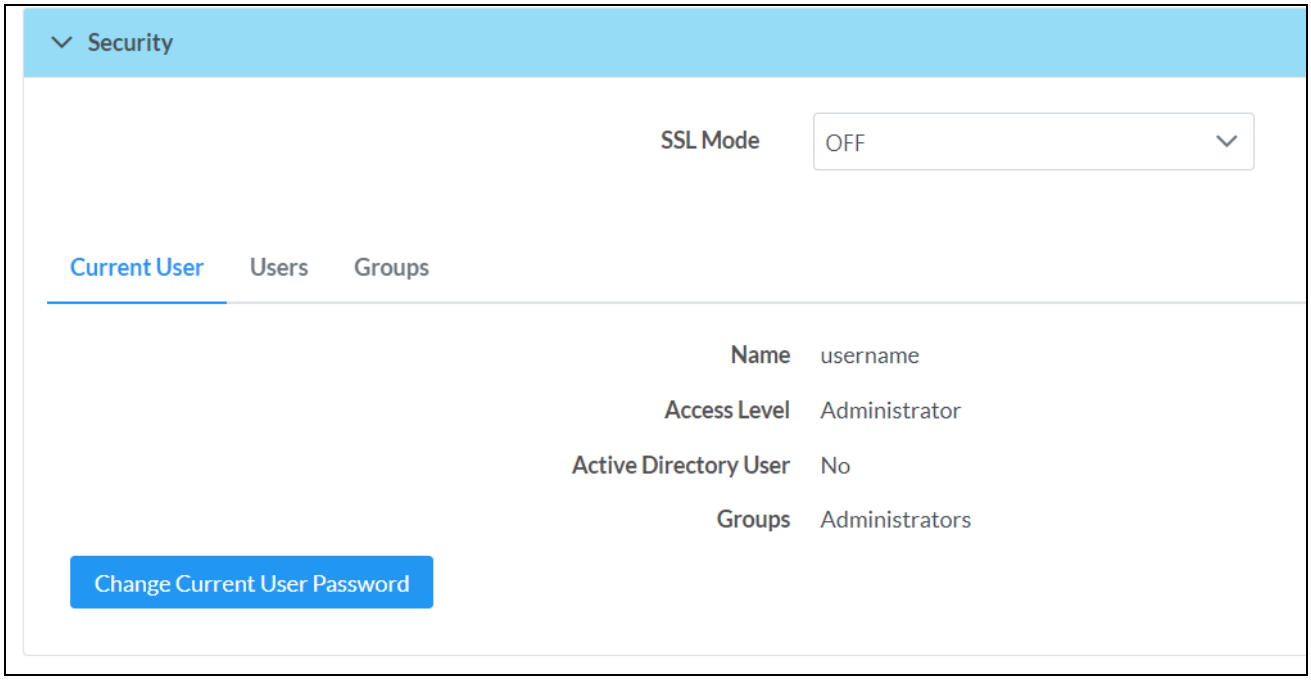
Select the **Security** tab to configure security for users and groups and to allow different levels of access to the SAROS DM-NAX-IC4A-W functions.



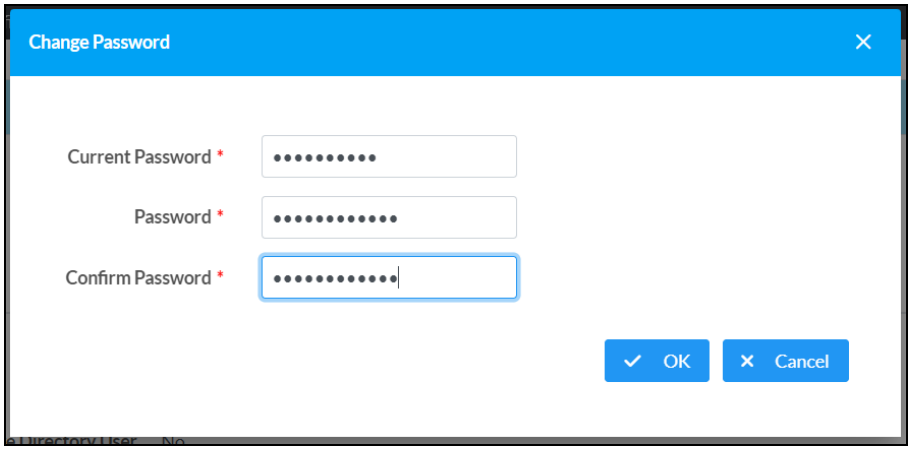
Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down menu, to specify whether to use encryption. By default, **SSL Mode** is set to **OFF**.

Current User

Select the **Current User** tab to view read-only information or to change the password for the current user.



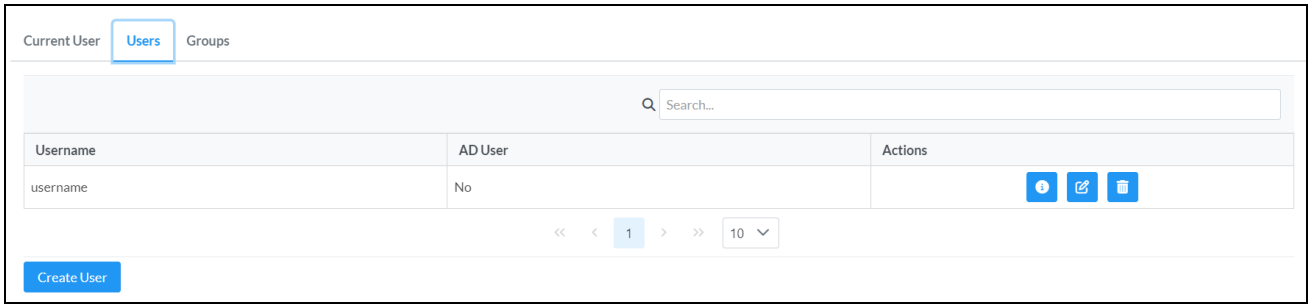
1. Select **Change Current User Password** to provide a new password for the current user.
2. In the **Change Password** dialog, enter the current password in the **Current Password** field, the new password in the **Password** field, and then re-enter the same new password in the **Confirm Password** field.



3. Select **OK** to save or select **Cancel** to cancel the changes.

Users

Select the **Users** tab to view and edit user settings. The **Users** tab can be used to add or remove local and Active Directory® users and preview information about users.



Use the **Search...** field to enter search term(s) and display users that match the search criteria.

If users listed in the **Users** table span across multiple pages, navigate through the list of users by selecting a page number or by using the left or right arrows at the bottom of the **Users** pane to move forward or backward through the pages.

Each page can be set to display 5, 10, or 20 users by using the drop-down menu to the right of the navigation arrows.

Information about existing users is displayed in table format and the following details are provided for each user.

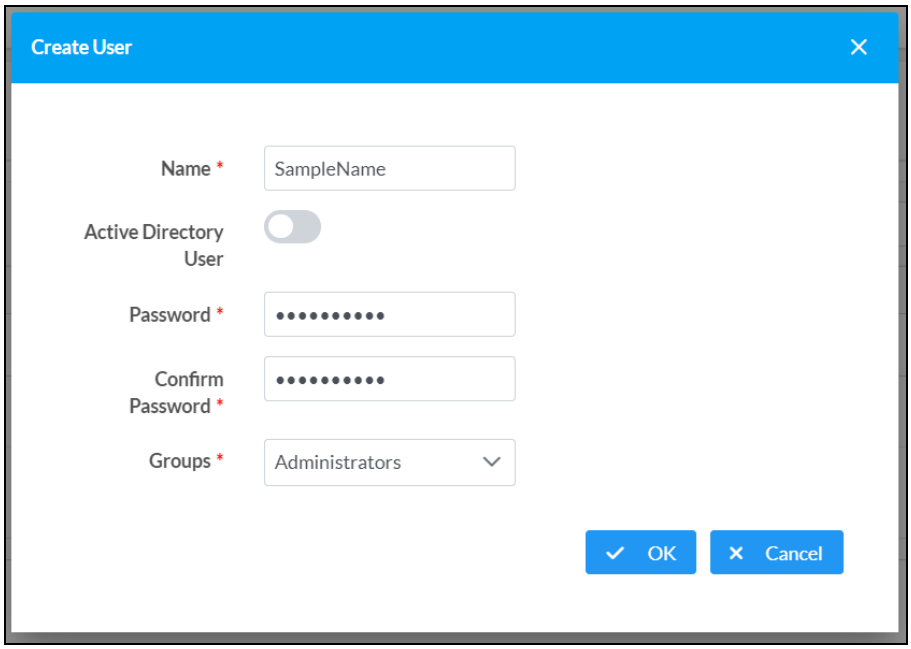
- **Username:** Displays the name of the user.
- **AD User:** Displays whether the user requires authentication using Active Directory.

Select the corresponding icon in the **Actions** column to view detailed user information ( ) or to delete ( ) the user.

To create a new user, select **Create User**.

Create a New Local User

1. Select **Create User** in the **User** tab.
2. In the **Create User** dialog, enter the following:



   a. Enter a user name in the **Name** field. A valid user name can consist of alphanumeric characters (letters a-z, A-Z, numbers 0-9) and the underscore "_" character.
   b. Enter a password in the **Password** field; re-enter the same password in the **Confirm Password** field.
   c. Assign the access level by selecting one or more groups from the **Groups** drop-down list.

> **NOTE:** Make sure that the Active Directory User toggle is disabled.

3. Select **OK** to save or select **Cancel** to cancel the changes.

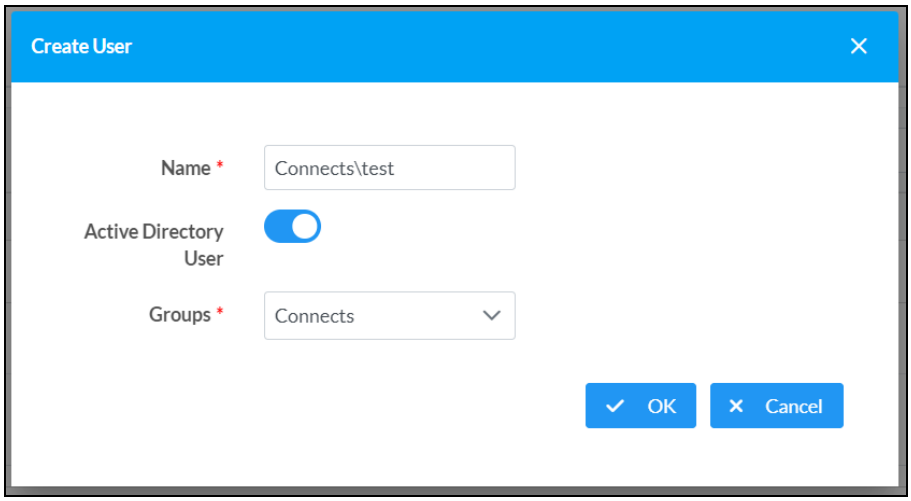
Add an Active Directory User

Users cannot be created or removed from the Active Directory server, but access can be granted to an existing user in the Active Directory server.

To grant access to an Active Directory user, you can either add the user to a local group on the SAROS DM-NAX-IC4A-W, or add the Active Directory group(s) that they are a member of to the SAROS DM-NAX-IC4A-W.

To add an Active Directory user:

1. Select **Create User**.
2. In the **Create User** dialog, enter the following:



   a. Enter a user name in the **Name** field in the format "Domain\UserName", for example "crestronlabs.com\JohnSmith". Valid user names can contain alphanumeric characters (letters a-z, A-Z, numbers 0-9) and the underscore "_" character.
   b. Select one or more groups from the **Groups** drop-down list.

> **NOTE:** Make sure that the **Active Directory User** toggle is set to enabled.

3. Select **OK** to save or select **Cancel** to cancel the changes.

Delete User

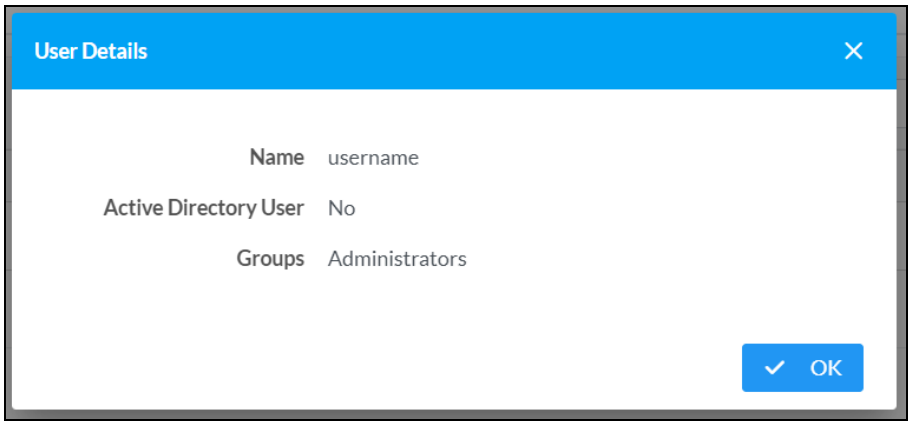
Select the trashcan icon in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

After a user is removed from a group, they lose any access rights associated with that group. Note that the user account is not deleted by the delete user operation.

View User Details

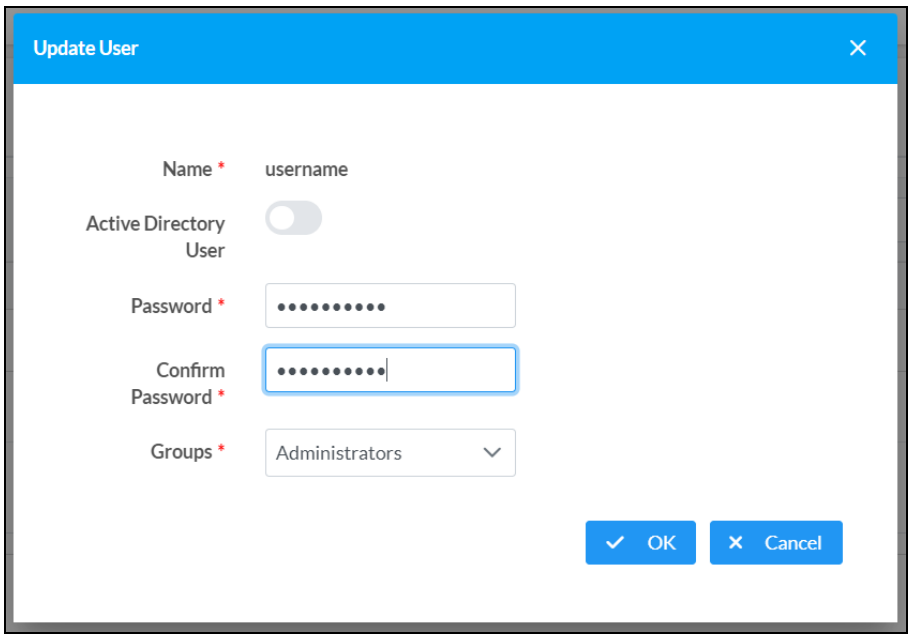
Select the information icon in the **Actions** column to view information for the selected user. The **User Details** dialog displays the following information for the selected user.

- **Name:** Displays the name of the selected user.
- **Active Directory User:** Displays whether the user is an Active Directory user.
- **Group:** Displays group(s) the selected user is part of.



Select **OK** to close the **User Details** dialog and to return to the **Users** tab.

Update User Details



1. Select the edit icon in the **Actions** column to update information for the selected user.
2. Enter a password in the **Password** field; re-enter the same password in the **Confirm Password** field.
3. Select one or more groups to assign the user to from the **Groups** drop-down list.
4. Select **OK** to save or select **Cancel** to cancel the changes.

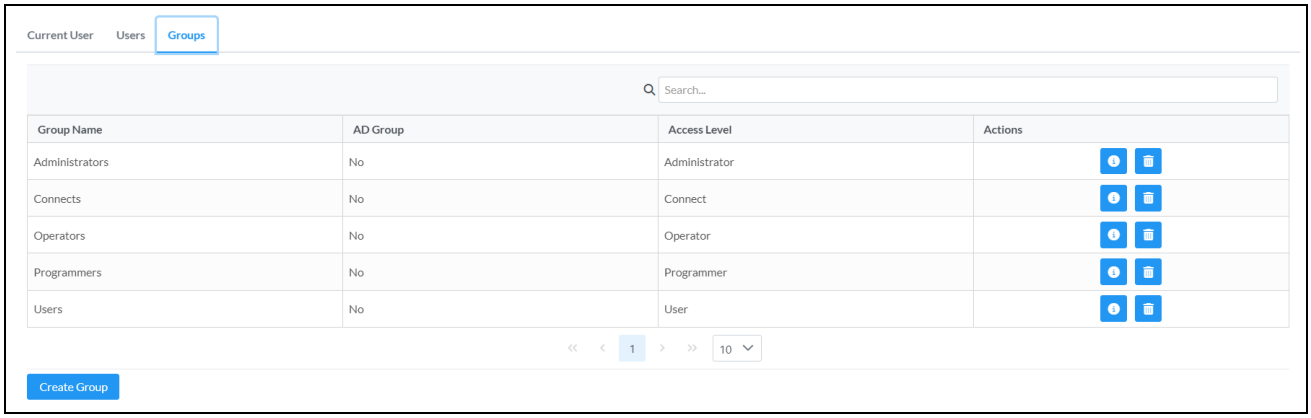
The **Update User** dialog also displays the following read-only information for the selected user.

- **Name:** Displays the name of the user.
- **Active Directory User:** Displays whether the user is an Active Directory user.

Groups

Select the **Groups** tab to view and edit group settings. The **Groups** tab can be used to add local and Active Directory groups, remove local and Active Directory groups, and preview information about a group.

Use the **Search...** field to enter search term(s) and display groups that match the search criteria.



If groups listed in the **Groups** table span across multiple pages, navigate through the groups by selecting a page number or by using the left or right arrows at the bottom of the **Groups** pane to move forward or backward through the pages.

Additionally, each page can be set to display 5, 10, or 20 groups by using the drop-down menu to the right of the navigation arrows.

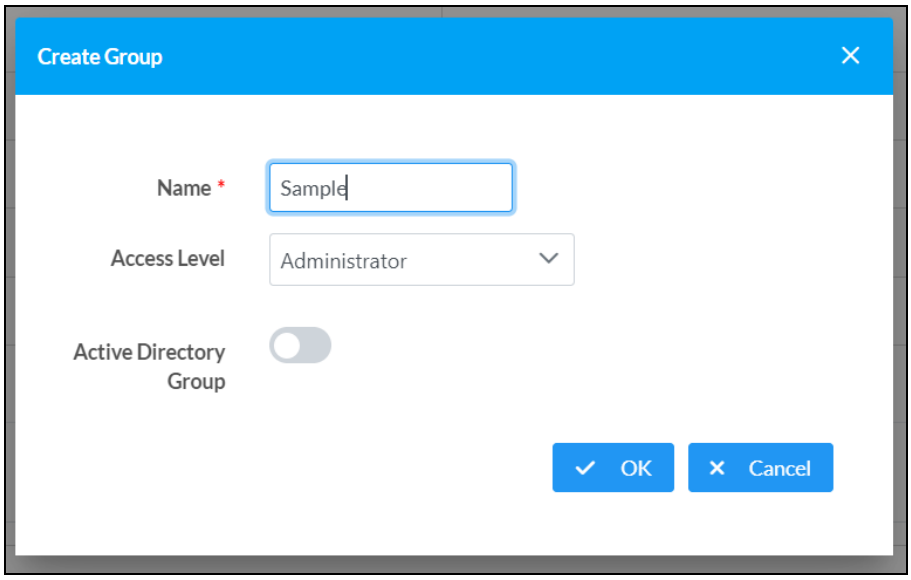
Existing groups are displayed in a table and the following information is provided for each group:

- **Group Name:** Displays the name of the group.
- **AD Group:** Displays whether the group requires authentication using Active Directory.
- **Access Level:** Displays the predefined access level assigned to the group (Administrator, Programmer, Operator, User, or Connect).

Select the corresponding icon in the **Actions** column to view detailed group information or to delete the selected group.

Select **Create Group** in the **Groups** tab to create new group.

Create Local Group



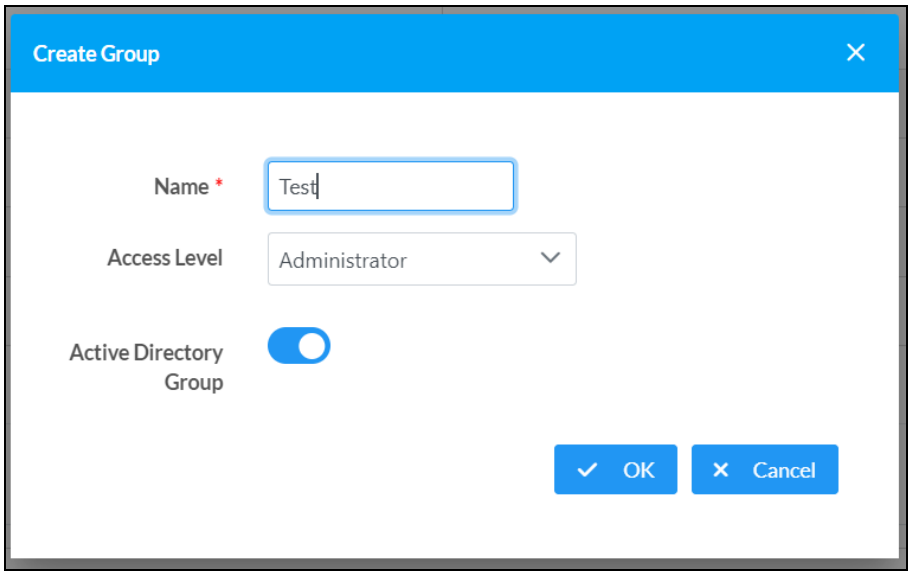
1. Select **Create Group**.
2. In the **Create Group** dialog, enter the following:
    a. Enter the group name in the **Name** field.
    a. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

    > **NOTE:** Make sure that the **Active Directory Group** toggle is disabled.

3. Select **OK** to save. Select **Cancel** to cancel the changes.

Add Active Directory Group

A group cannot be created or removed from the **Active Directory** server, but access can be granted to an existing group in **Active Directory**.



Once the group is added, all members of that group will have access to the SAROS DM-NAX-IC4A-W.

1. Select **Create Group**.
2. In the **Create Group** dialog enter the following:
    a. Enter the group name in the **Name** field, for example "Engineering Group". Note that group names are case sensitive; a space is a valid character that can be used in group names.
    b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

    > **NOTE:** Make sure that the **Active Directory Group** toggle is enabled.

3. Select **OK** to save. Select **Cancel** to cancel the changes.

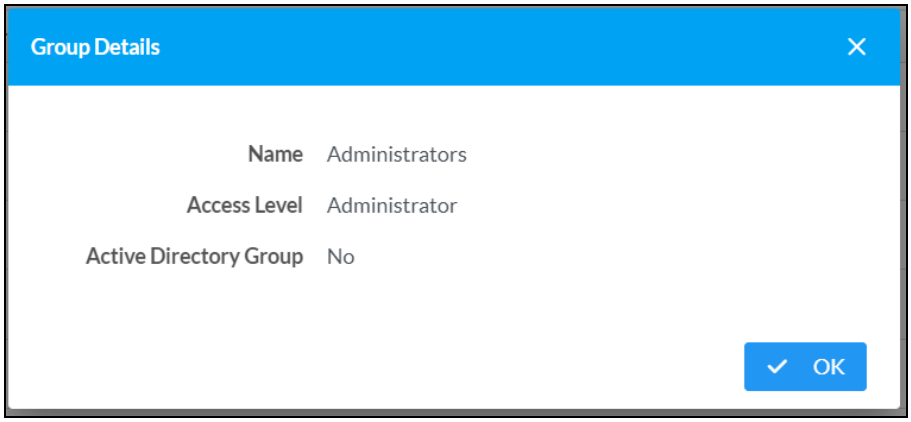
Delete a Group

Select the trashcan icon in the **Actions** column to delete a group. Select **Yes** when prompted to delete the group or **No** to cancel the deletion.

When a group is deleted, users in the group are not removed from the device or Active Directory server. However, because a user's access level is inherited from a group(s), users within the deleted group will lose access rights associated with the group.

View Group Details

Select the information icon in the **Actions** column to view information for the selected group. The **Group Details** dialog lists the following information for the selected group.

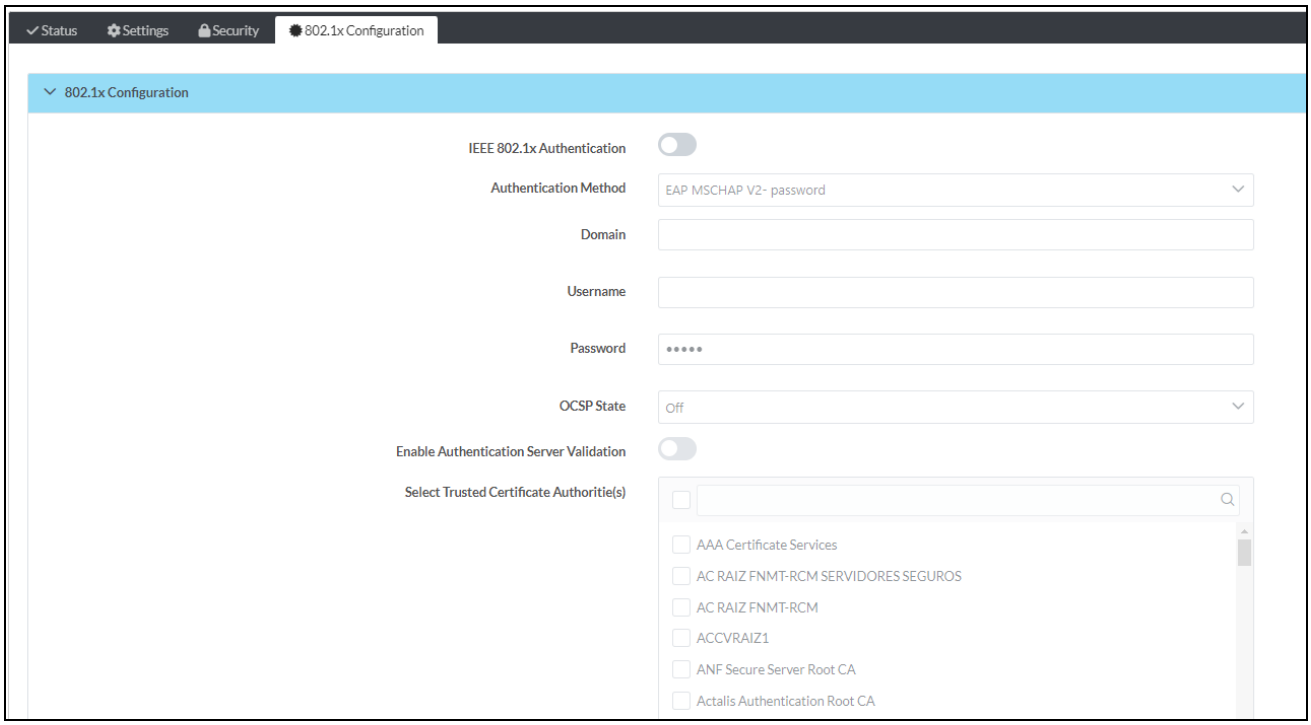


- **Name:** Displays the name of the group.
- **Access Level:** Displays the access level of the group and its users.
- **Active Directory Group:** Displays whether the group is an Active Directory group.

Select **OK** to close the **Group Details** dialog and to return to the **Groups** tab.

802.1x Configuration

The SAROS DM-NAX-IC4A-W has built-in support for the 802.1X standard (an IEEE network standard designed to enhance the security of wireless and Ethernet LANs. The standard relies on the exchange of messages between the device and the network's host, or authentication server), allowing communication with the authentication server and access to protected corporate networks.



To Configure 802.1X Authentication

1. Set the **IEEE 802.1X Authentication** toggle to enabled. This will enable all options on the 802.1X dialog.
2. Select an **Authentication Method**: **EAP-TLS Certificate** or **EAP-MSCHAP V2 Password** according to the network administrator's requirement.
3. Do either one of the following:
    - Select **EAP-TLS Certificate**: Select **Action/Manage Certificates** to upload the required machine certificate. The machine certificate is an encrypted file that will be supplied by the network administrator, along with the certificate password.
    - Select **EAP-MSCHAP V2 Password**: Enter the username and password supplied by the network administrator into the **Username** and **Password** fields. This method does not require the use of a machine certificate, only the user name and password credentials.
4. Select the **OCSP State**: If using OCSP, select **All**, **Required**, or **Optional**. To disable OCSP, select **Off**.

5. If you enabled the **Enable Authentication Server Validation** option, this will enable the **Select Trusted Certificate Authoritie(s)** list box which contains signed Trusted Certificate Authorities (CAs) preloaded into the DM-NAX-AMP-X300.

   Select the check box next to each CA whose certificate can be used for server validation, as specified by the network administrator.

   If the network does not use any of the listed certificates, the network administrator must provide a certificate, which must be uploaded manually via the **Manage Certificates** functionality.
6. If required, type the domain name of the network in the **Domain** field.
7. When the 802.1X settings are configured as desired, select **Save Changes** to save the changes to the device and reboot it. Select **Revert** to cancel any changes.

Access the Web Interface with the Crestron Toolbox Application

To access the web interface by opening a web browser within the Crestron Toolbox™ application:

1. Open the Crestron Toolbox application.
2. From the **Tools** menu, select **Device Discovery Tool**. You can also access the Device Discovery Tool by selecting the Device Discovery Tool icon in the Crestron Toolbox toolbar. The SAROS DM-NAX-IC4A-W is discovered and listed in the device list on the left side of the screen. The associated host name, IP address, and firmware version are also displayed.

   > **NOTE:** If there is security software running on the computer, a security alert might be displayed when the Crestron Toolbox application attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.
3. In the Device Discovery Tool list, double-click your device.
4. Enter your credentials in the **Authentication Required** dialog that opens, and then select **Log In**.
5. Select **Web Configuration** in the **Configuration** page displayed on the left side of the Device Discovery Tool.

Resources

The following resources are provided for the SAROS DM-NAX-IC4A-W and SAROS IC4P-W.

> **NOTE:** You may need to provide your Crestron.com web account credentials when prompted to access some of the following resources.

Crestron Support and Training

- Crestron True Blue Support
- Crestron Resource Library
- Crestron Online Help (OLH)
- Crestron Training Institute (CTI) Portal

Programmer and Developer Resources

- help.crestron.com: Provides help files for Crestron programming tools such as SIMPL, SIMPL#, and Crestron Toolbox™ software
- developer.crestron.com: Provides developer documentation for Crestron APIs, SDKs, and other development tools

Product Certificates

To search for product certificates, refer to the Product Certificates section of the Crestron Resource Library.

Crestron Electronics, Inc.
15 Volvo Drive, Rockleigh, NJ 07647
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www.crestron.com

Product Manual — Doc. 9466A
09/18/24
Specifications subject to
change without notice.