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Product Manual

DM NAX[®]

Audio-over-IP Distribution Platform

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Original Instructions

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

Regulatory Model: M1845004

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What's New?

Updates to the DM NAX® audio-over-IP distribution platform and this document are described below.

December 16, 2025

- **DM-NAX-BTIO-1G firmware version 1.0.0677.10017 released**
 - Bluetooth® wireless audio transmission is now supported.
 - Refer to the release notes on the [Crestron website](#) for detailed information about this release.
 - **Documentation Updates**
 - Added information for configuring Bluetooth wireless audio transmission on the DM-NAX-BTIO-1G.
 - Refer to [Getting Started on page 3](#) and [Front Panel Menu on page 618](#) for information on front panel menu updates.
 - Refer to [Commercial Mode on page 637](#) or [Residential Mode on page 664](#) for information on web user interface updates.
 - The **Security** and **802.1X Configuration** tabs from the DM-NAX-BTIO-1G web user interface have been consolidated into the **Settings** tab. The settings for these features are now housed under the **System Setup**, **Access Control**, and **TLS Configuration** accordions. Refer to [Commercial Mode on page 637](#) or [Residential Mode on page 664](#) for more information.
 - Updated application diagrams:
 - New diagrams for the [DM-NAX-BTIO-1G on page 36](#) highlight the Bluetooth wireless audio modes of the DM-NAX-BTIO-1G.
 - Updated the existing diagrams for the [DM-NAX-8ZSA on page 19](#), [DM-NAX-16AIN on page 26](#), [DM-NAX-AMP-X300 on page 28](#), and [DM-NAX-XSP on page 40](#) to highlight the devices at the center of each use case.
-

May 27, 2025

- **DM-NAX-4ZSP, DM-NAX-8ZSA, and DM-NAX-16AIN firmware version 3.0 released**
 - Refer to the release notes on the [Crestron website](#) for detailed information about this release.

- **Documentation Updates**

- Added What's New and Getting Started sections.
- Updated application diagrams.
- Consolidated content from DM-NAX-XSP product manual into this platform manual.

Getting Started

Welcome to the DM NAX® Audio-over-IP Distribution Platform Manual. This one-stop-shop manual replaces documents for each DM NAX endpoint. If this is your first time setting up DM NAX audio-over-IP, or you are looking for content from these replaced documents, please refer to the headings below to get your system up and running smoothly.

- [Installation Content \(Quick Start Guides\) on page 3](#)
- [Specifications on page 3](#)
- [Web Interface Configuration on page 3](#)
- [Network Design and Configuration on page 3](#)
- [Starting an Audio-over-IP Stream on page 4](#)
- [Authorizing a Streaming Service Account on page 5](#)
- [Using Casting Services on page 7](#)
- [Changing Device Modes on page 8](#)
- [Pairing Bluetooth® Wireless Audio Devices on page 9](#)

Installation Content (Quick Start Guides)

Installation and connection instructions previously covered in individual Quick Start guides are now contained in a dedicated section for each DM NAX device. Refer to [Installation on page 83](#) for a full list of the installation instructions covered in this manual, then select the desired model from the list.

Specifications

The specifications for each DM NAX device are available on their respective product pages on the Crestron website, as are downloadable PDF files. For convenient reference, the specifications for all models covered in this manual are also available under [Specifications](#).

Web Interface Configuration

All information regarding how to use each device's web interface is contained in a dedicated configuration section. Refer to [Configuration](#) for a full list of the configuration topics covered in this manual, then select the desired model from the list.

Network Design and Configuration

Refer to [Audio-over-IP Network Design on page 739](#) for the fundamentals of how to design and configure a network that can handle multicast Audio-over-IP traffic.

Starting an Audio-over-IP Stream

Once a DM NAX device is connected to a network, any of its available network streams can be initiated (most DM NAX devices support multiple network streams). This will allow audio from the device to be received by any number of other DM NAX or AES67 devices on the network.

CAUTION: This process assumes that the network is ready to handle multicast DM NAX Audio-over-IP traffic. If the network is not properly configured to handle this traffic, starting a DM NAX stream can flood the network and take devices offline. Refer to [Audio-over-IP Network Design on page 739](#) for details on designing and configuring a network to handle multicast Audio-over-IP traffic.

To start a DM NAX stream:

1. Access the web interface of the DM NAX device.
2. Navigate to the **Settings** tab.
3. Select the **NAX Streams** accordion to expand the stream settings (DM-NAX-4ZSA-50 interface shown as an example).

Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
Office	Stream01	239.8.0.24	S/PDIF11c4.42.68.3fe4.59	Stream Started	▶ ⚙
Office	Stream02	239.8.0.25	TOSLINK12c4.42.68.3fe4.59	Stream Started	▶ ⚙
Office	Stream03	239.8.0.23	RCA13c4.42.68.3fe4.59	Stream Started	▶ ⚙
Analog Input 2	Stream04	0.0.0.0	RCA24c4.42.68.3fe4.59	Stream Stopped	▶ ⚙
MediaStream1	Stream05	239.8.0.18	MediaStream15c4.42.68.3fe4.59	Stream Started	▶ ⚙

4. In the **Transmitters** table, enter a multicast address in the **Multicast Address** field of one of the available streams. Each stream corresponds to a different local audio connection or media player. The name for each stream in the **Audio Source** column will reference which connection or media player that stream corresponds to.

NOTE: DM NAX devices can use multicast transmit addresses anywhere in the range from 239.0.8.0 to 239.127.255.255. If multiple DM NAX devices are present on the network, be sure the entered **Multicast Address** value is not already being used by another encoder.

The DM NAX device will begin transmitting this audio source as an audio-over-IP stream on the network at the specified multicast address.

To receive this DM NAX stream at another DM NAX device:

1. Access the web interface of the receiving DM NAX device.
2. Navigate to the **Settings** tab.

3. Select the **NAX Streams** accordion to expand the stream settings (DM-NAX-4ZSA-50 interface shown as an example).

Receivers (Autosaved)					
Zone Name	Stream	Current Stream Address	Requested Stream Address	Status	Actions
Room 5 (bussed)	Stream01	0.0.0.0	0.0.0.0 <input type="text"/>	Stream Stopped	▶ ⌵ ⚙
Room 5 (bussed)	Stream02	0.0.0.0	0.0.0.0 <input type="text"/>	Stream Stopped	▶ ⌵ ⚙
Room 5 (bussed)	Stream03	0.0.0.0	0.0.0.0 <input type="text"/>	Stream Stopped	▶ ⌵ ⚙
Room 5 (bussed)	Stream04	0.0.0.0	0.0.0.0 <input type="text"/>	Stream Stopped	▶ ⌵ ⚙
Zone5	Stream05	0.0.0.0	0.0.0.0 <input type="text"/>	Stream Stopped	▶ ⌵ ⚙

4. Enter the transmitting stream's multicast address in the **Requested Stream Address** column for the desired zone. Once the zone's receiver has connected to the stream, the **Status** column for that zone will read **Stream Started**.

NOTE: To hear the audio of the stream on the zone output, increasing the zone's volume level may be necessary. Expand the **Zones** accordion of the **Settings** tab to adjust the output volume level for the zone.

Authorizing a Streaming Service Account

The DM-NAX-4ZSA-50, DM-NAX-4ZSP, and DM-NAX-8ZSA feature multiple built-in media streaming players. Each media streaming player can stream content from supported streaming services discretely from the other players (for example, up to 8 different media streams can play back simultaneously on the DM-NAX-8ZSA). Multiple user profiles can be created for each of these players to access so that each user of the device can keep their content, favorites, and playlists separate from other users.

To create a user profile:

1. Access the web interface of the DM NAX device.
2. Navigate to the **Settings** tab.
3. Select the **Streaming Services** accordion to expand the streaming service settings.

Streaming Services

End User Access ☐

User Profiles (Autosaved)

Profile Name	Services	Actions
<input type="text" value="Test"/>		Delete Services

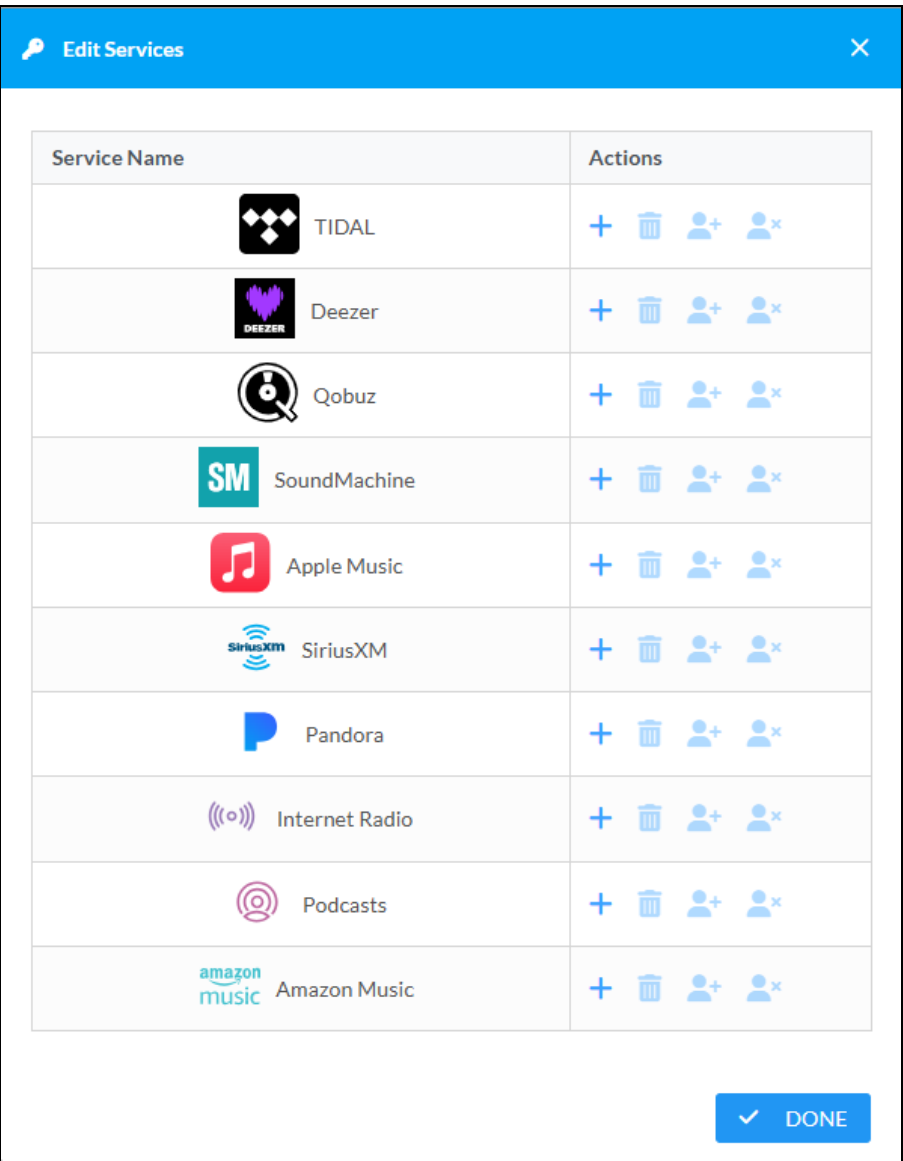
+ Add User Profile


4. Select **+ Add User Profile**.
5. Enter a name for the profile in the text entry field that appears, then select **Save**.


Services such as Internet Radio and Podcasts that do not require account authentication are added automatically to each new profile, and can be accessed from a paired control processor and user interface as soon as the account is added. The remaining streaming services will require a valid user

account to be accessible from a user interface. To authorize a streaming service within the created user profile (one account per streaming service can be added to each user profile):

1. Select **Services** from the **Actions** column in the new user profile's table row. The **Edit Services** window will appear.



2. Select the  icon to proceed to the account authorization process for a given streaming service. An **Authorize User** window will appear. Each service's authorization process may vary.
 - a. For services that can be authenticated directly from the DM NAX device web interface, enter the username and password of a valid account.
 - b. For services that require authentication through the streaming service provider's website, select the link that appears. Once at the provider's website, enter the username and password of a valid account.

NOTE: If a pairing code is provided in the Authorize User window, copy it to your clipboard by selecting the  icon, then enter it when prompted by the provider's authentication process.

Return to the DM NAX device's web interface when the authentication process has completed.

3. Select **Done** to close the **Edit Services** window.

Using Casting Services

The DM-NAX-4ZSA-50, DM-NAX-4ZSP, and DM-NAX-8ZSA feature multiple built-in media streaming players. Each media player can receive either an Apple AirPlay® or Spotify Connect™ casting stream from another device on the same network. This casting service feature must be enabled for each individual media player before they can be discovered by the casting device.

To enable the casting service feature for a media player:

1. Access the web interface of the DM NAX device.
2. Navigate to the **Settings** tab.
3. Select the **Zones** accordion to expand the zone settings.
4. Select **Configure** to open the **Edit Zone** window.
5. Select the **Output** accordion to expand the zone output settings.
6. Scroll to the **Casting** section of the **Output** accordion and configure the available settings:
 - **Maximum Casting Volume:** The maximum volume level that can be set on the output zone when a casting service is the active audio source.
 - **Casting Name:** The friendly name for the media player that will appear in the casting menu of devices that discover the media player on the network.
 - **AirPlay:** Set the toggle to the right position to enable Apple AirPlay casting for the media player.
 - **Spotify:** Set the toggle to the right position to enable Spotify Connect casting for the media player.

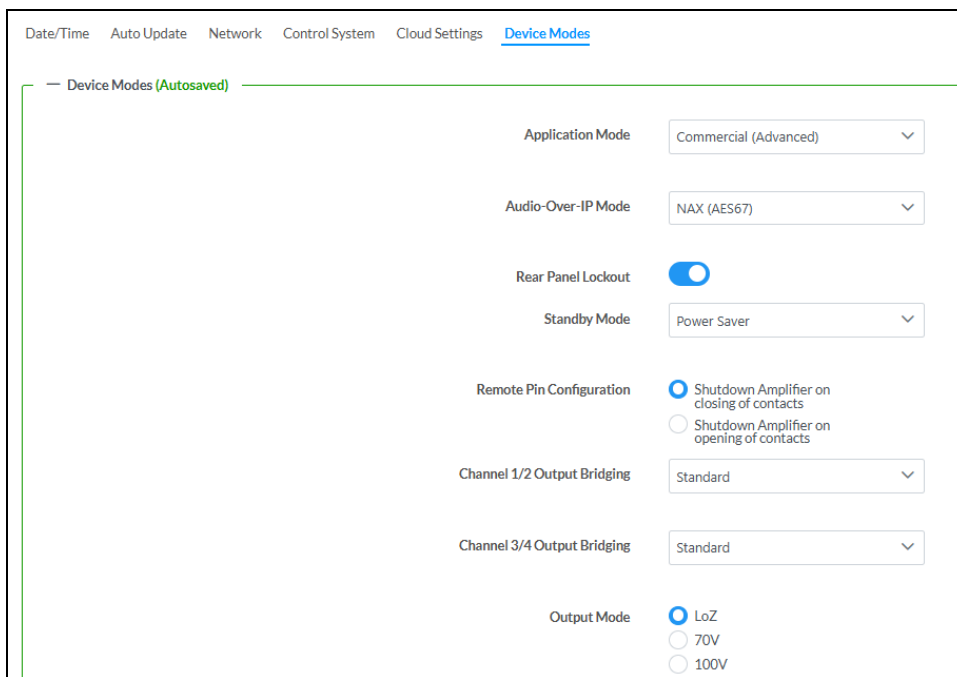
Changing Device Modes

Some DM NAX audio-over-IP devices feature an option to expose more advanced configuration settings. The simplified configuration mode for these devices is referred to as **Residential Mode**, while the more advanced configuration mode is referred to as **Commercial Mode**. The following DM NAX audio-over-IP devices support **Residential Mode** and **Commercial Mode**:

- DM-NAX-2XLRI-1G
- DM-NAX-AMP-X300
- DM-NAX-AUD-IO
- DM-NAX-AUD-USB
- DM-NAX-BTIO-1G

To change the device mode of a DM NAX audio-over-IP device:

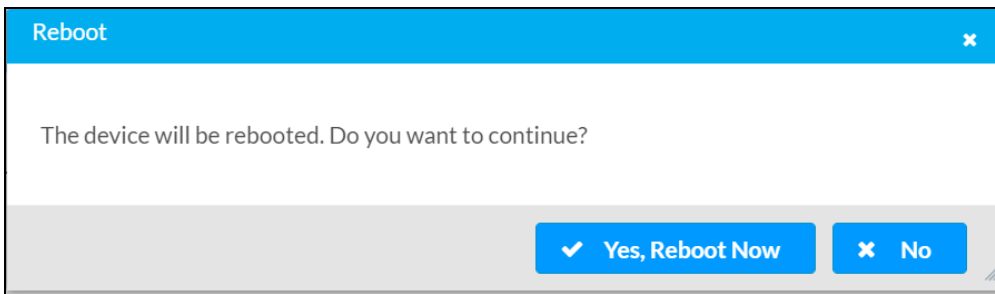
1. Access the web interface of the DM NAX device.
2. Navigate to the **Settings** tab.
3. Expand the **System Settings** accordion.
4. Select the **Device Modes** tab within this accordion.



The screenshot displays the 'Device Modes' configuration page within a web interface. At the top, a navigation bar includes links for 'Date/Time', 'Auto Update', 'Network', 'Control System', 'Cloud Settings', and 'Device Modes' (which is highlighted). Below the navigation bar, a green header indicates 'Device Modes (Autosaved)'. The main content area contains several settings:

- Application Mode:** A dropdown menu currently set to 'Commercial (Advanced)'.
- Audio-Over-IP Mode:** A dropdown menu currently set to 'NAX (AES67)'.
- Rear Panel Lockout:** A toggle switch that is currently turned on (blue).
- Standby Mode:** A dropdown menu currently set to 'Power Saver'.
- Remote Pin Configuration:** Two radio button options: 'Shutdown Amplifier on closing of contacts' (selected) and 'Shutdown Amplifier on opening of contacts'.
- Channel 1/2 Output Bridging:** A dropdown menu currently set to 'Standard'.
- Channel 3/4 Output Bridging:** A dropdown menu currently set to 'Standard'.
- Output Mode:** Three radio button options: 'LoZ' (selected), '70V', and '100V'.

5. Select either **Commercial (Advanced)** or **Residential (Standard)** from the **Application Mode** dropdown. A **Reboot** confirmation message box appears.




6. Select **Yes, Reboot Now** to apply the mode change or select **No** to cancel the change. If **Yes, Reboot Now** was selected, the device will reboot into the new mode. Wait for the reboot to fully complete before attempting to reconnect to the device's web interface.

Pairing Bluetooth® Wireless Audio Devices

The DM-NAX-BTIO-1G wall plate features built-in Bluetooth® wireless audio support. To pair Bluetooth devices with the wall plate, the wall plate must be put into pairing mode.

To put the wall plate into pairing mode, do one of the following:

- Press and hold the **Bluetooth Rune**  button on the front panel of the wall plate. Initially, the **HOLD TO PAIR** page will appear on the OLED display. Keep holding the button until a new page appears.

Sample Pairing Page - Hold to Pair



- In receive mode, a **DISCOVERABLE AS** page will appear. The name of the device as it will appear in a Bluetooth discovery list is shown at the bottom of this page.

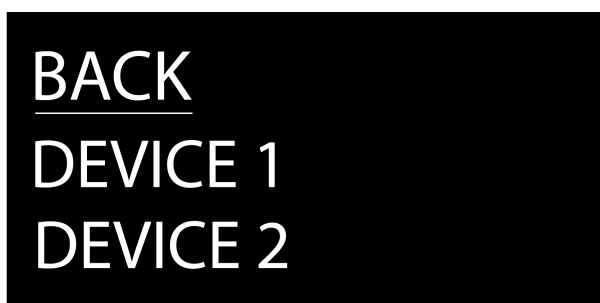
Sample Pairing Page - Receive Mode



Once the wall plate is in pairing mode, complete the pairing process from the source device (such as a smart phone or laptop). Consult manufacturer documentation for instructions on discovering a Bluetooth receiver from your source device.

- In transmit mode, a list of discovered sink devices (such as headphones and speakers) will appear.

Sample Pairing Page - Transmit Mode



Use the **Up**  and **Down**  buttons to highlight a device, then use the **Menu**  button to select and pair with it.

- Use the web interface of the DM-NAX-BTIO-1G to put the wall plate into pairing mode:
 1. Access the web interface of the device.
 2. Navigate to the **Settings** page.
 3. Expand the **Bluetooth** accordion.
 4. Set the **Pairing Active** toggle to the right to put the wall plate into pairing mode.

Overview

DM NAX® Audio-over-IP (AoIP) solutions are built on AES67 standards with the additional ease of configuration via a web interface, SIMPL, C#, and/or a RESTful API. It is compatible with DM NVX® endpoints through an AES67 secondary audio stream, and also with third-party AES67 solutions, including Dante® devices.

Features

- **Scalability:** DM NAX systems can scale to meet any demand. DM NAX supports up to 32 DM NAX devices in sync. In addition, DM NAX can support any combination of units for additional input-output requirements.
- **Flexibility:** Multiple input-output options are supported. Built-in streaming services and an expanding hardware lineup are available for a broad range of applications.
- **Interoperability:** DM NAX is built on AES67 AoIP standards and is compatible with any third-party AES67 solution

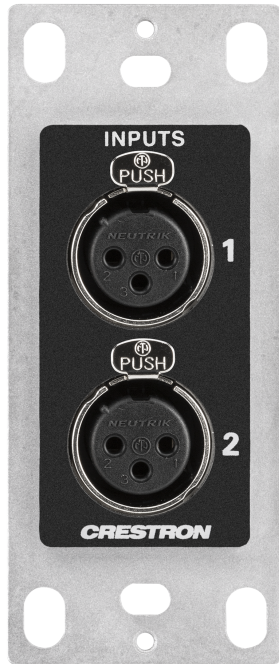
Products

The following products are described in this product manual:

- [DM-NAX-2XLRI-1G on page 13](#)
- [DM-NAX-8ZSA on page 19](#)
- [DM-NAX-16AIN on page 26](#)
- [DM-NAX-4ZSA-50 on page 15](#)
- [DM-NAX-4ZSP on page 17](#)
- [DM-NAX-AMP-X300 on page 28](#)
- [DM-NAX-AUD-IO on page 32](#)
- [DM-NAX-AUD-USB on page 34](#)
- [DM-NAX-BTIO-1G on page 36](#)
- [DM-NAX-XSP on page 40](#)

DM-NAX-2XLRI-1G

The DM-NAX-2XLRI-1G provides a single-gang wall mount for (2) XLR inputs. The rear of the wall plate features an Ethernet connection for power and DM NAX® audio-over-IP (AOIP) networking. The rear panel also features a five-pin line-level audio output for transmitting an audio signal to a Crestron media wall plate (MP-WP-2XLRO-1G and MP-WP-2RCAO-1G).



- Two XLR input connectors
- Two rear-panel line-level audio outputs
- Single-gang U.S. wall box installation
- Power over Ethernet (PoE) network powered
- Mountable in a standard US electrical box or on a rack rail via included hardware
- Connects directly to a managed network to route to or from other DM NAX® and DM NVX® devices
- Interoperable with Dante® audio networking devices via AES67 compatibility
- Streamlined configuration through a web interface
- Seamless Crestron system integration with SIMPL Windows programming

Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it on the network. The DM-NAX-2XLRI-1G sends and receives DM NAX and AES67 encoded audio over a standard IP network. A single DM NAX system with a Crestron Home OS processor can handle audio distribution between 32 DM NAX devices and supports up to 256 audio output zones. A SIMPL Windows program can handle as many DM NAX devices and zones as the network hardware will support. DM NAX devices can seamlessly pull and distribute the audio from DM NVX sources.

Line Level and Microphone Level Support

The front panel XLR connectors of the DM-NAX-2XLRI-1G can be configured for either line level or microphone level input. Each XLR input can be configured to send a +48V phantom power signal to power a connected condenser microphone.

Digital Signal Processing (DSP)

DSP capabilities such as a 5-band EQ per XLR input and level control of all input and output signal types are available to configure via the web user interface.

Encoder and Decoder Functionality

The DM-NAX-2XLRI-1G can operate as a network AV encoder and decoder. The local input sources on one amplifier can be sent as AoIP streams to DM NAX, Dante, or AES67 capable devices. Simultaneously, the DM-NAX-2XLRI-1G can receive AoIP streams from these same devices and decode them for local output.

DM-NAX-4ZSA-50

The Crestron DM-NAX-4ZSA-50 is a next generation DM NAX® Audio-over-IP (AoIP) amplifier that puts Crestron multiroom audio distribution on the network. It provides four amplified stereo zone (8-channel) outputs and an independent line level zone (2-channel) output.

A dedicated streaming service player for each of the four zones enables complete freedom to stream different content in every zone. Full DSP capabilities are available on the speaker outputs.



- Audio-over-IP (AoIP) amplifier
- Built-in streaming services support
- Full DSP capabilities
- Gallium Nitride (GaN) Class D amplification
- 50 W of output power per channel
- Provides four amplified output zones and one additional line-level output zone
- 1 RU high, half-rack width modular form factor
- Interoperable with Dante® audio networking devices via AES67 compatibility
- Built-in chime support
- Streamlined configuration through a web interface
- Seamless Crestron system integration with SIMPL Windows programming

The DM-NAX-4ZSA-50 supports [Amazon Connected Speakers](#).

Audio-over-IP

The DM-NAX-4ZSA-50 sends and receives DM NAX and AES67 encoded audio over a standard IP network. A single DM NAX system with a Crestron Home OS processor can handle audio distribution between 32 DM NAX devices and supports up to 256 audio output zones. A SIMPL Windows program can handle as many DM NAX devices and zones as the network hardware will support. DM NAX devices can seamlessly pull and distribute the audio from DM NVX sources.

Streaming and Casting Services

A dedicated streaming service player is built-in for each zone, supporting AirPlay® 2, Internet Radio, Spotify Connect™, Pandora®, SiriusXM®, TIDAL™, Deezer®, Qobuz®, Podcasts and more. The DM-NAX-4ZSA-50 delivers streaming, routing, distribution, and amplification in a single device. Streams can be routed to other non-streaming AoIP devices.

Chimes

A library of chimes is built into the unit. Chimes can be assigned to different zones to help identify them. Whenever a chime is triggered, the zone audio will duck or pause, so the chime can be clearly heard over active media until the chime concludes.

Digital Signal Processing (DSP)

DSP capabilities such as bass and treble boost and cut, loudness, adjustable delay, speaker protection and limiting, tone profiles, a full 10-band EQ per output, and an option to have line output as a fixed or variable level with or without DSP applied are available. Speaker profiles for first and third party speaker models are built in to simplify output DSP tuning.

Encoder and Decoder Functionality

The DM-NAX-4ZSA-50 can operate as a network AoIP encoder and decoder. The local input sources on one amplifier can be sent as AoIP streams to DM NAX, Dante, or AES67 capable devices. Simultaneously, the DM-NAX-4ZSA-50 can receive AoIP streams from these same devices and decode them for local output.

Modular Design

The DM-NAX-4ZSA-50 is housed in a half-width rack-mountable form factor that can be installed individually or ganged together in a single rack space. The amplifier is high-density stackable with other Crestron DM NAX or X-Series amplifiers, allowing multiple units to be installed vertically in an equipment rack without needing extra ventilation space. Rack mount parts are included, so no additional mounting accessories or rack shelves are required.

Whether mounting in a rack or placing on a shelf, it is easy to combine two amplifiers into a single, full rack-width assembly.

Gallium Nitride (GaN) Amplification

The DM-NAX-4ZSA-50 is the first Crestron amplifier to feature GaN Class D technology. GaN amplification allows higher output power to fit into small form factors without sacrificing efficiency or audio performance. The DM-NAX-4ZSA-50 is capable of 50 W per channel of amplifier output power in a half-width 1RU housing that matches the depth of the [DM-NAX-AMP-X300](#).

DM-NAX-4ZSP

The Crestron DM-NAX-4ZSP is a next generation Audio-over-IP (AoIP) preamplifier that puts Crestron multiroom audio distribution on the network. It provides four stereo zone (8-channel) line-level outputs. A dedicated streaming service player enables streaming different content in each of the four zones.



- Built-in streaming services support
- 1 RU form factor, low power consumption, cool running operation
- Built-in chime support
- Voice control support for Crestron Home OS
- Provides 4 stereo zones (8 channels total) of line-level output
- Output bussing enables linked operation of multiple adjacent zones
- Connects directly to a managed network to route to or from other DM NAX and DM NVX devices
- Interoperable with Dante® audio networking devices via AES67 compatibility
- Includes 4 stereo unbalanced analog RCA and 4 SPDIF (2 TOSLINK and 2 Coaxial) audio inputs
- Full DSP capabilities
- Streamlined setup and adjustment via the device's web interface
- Seamless Crestron system integration with Crestron Home® OS and SIMPL Windows programming

For installation information, refer to the [DM-NAX-4ZSP Quick Start](#).

Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it on the network. The DM-NAX-4ZSP sends and receives DM NAX and AES67 encoded audio over a standard IP network. A single DM NAX system with a Crestron Home OS processor can handle audio distribution between 32 DM NAX devices and supports up to 256 audio output zones. A SIMPL Windows program can handle as many DM NAX devices and zones as the network hardware will support. DM NAX devices can seamlessly pull and distribute the audio from DM NVX sources.

Streaming and Casting Services

A dedicated streaming service player for each of the zones supporting AirPlay® 2, Internet Radio, Spotify Connect™, Pandora®, SiriusXM®, TIDAL™, Deezer®, Qobuz®, SOUNDMACHINE®, Podcasts and more. The DM-NAX-4ZSP delivers streaming, routing, distribution, and amplification in a single device. Streams can be routed to other non-streaming AoIP amplifiers.

Chimes

A library of chimes is built into the unit. Chimes can be assigned to different zones to help identify them. Whenever a chime is triggered, the zone audio will duck or pause, so the chime can be clearly heard over active media until the chime concludes.

DSP

DSP capabilities such as bass and treble boost and cut, loudness, adjustable delay, speaker protection and limiting, tone profiles, a full 10-band EQ per output, and an option to have each line output at a fixed or variable level with or without DSP applied are available.

Zones can be permanently bussed together (up to 2 buses available per unit, and up to all 4 zones can join a given bus) for simultaneous routing and control, or grouped dynamically with other zones for a temporary collection of zones that play back the same media.

Encoder and Decoder Functionality

The DM-NAX-4ZSP operates simultaneously as a network AV encoder and decoder. The analog line level sources, digital S/PDIF sources or media streams on one DM NAX device can be sent to any other DM NAX or AES67 capable endpoint on the network.

DM-NAX-8ZSA

The Crestron DM-NAX-8ZSA is a next generation DM NAX® Audio-over-IP (AoIP) amplifier that puts Crestron multiroom audio distribution on the network. It provides eight amplified stereo zone (16-channel) outputs. Four stereo line-level outputs mirror speaker zone outputs 1-4.

A dedicated streaming service player for each of the eight zones enables complete freedom to stream different content in every zone. Full DSP capabilities are available on the line and speaker outputs.



- Robust, high-efficiency, audiophile grade amplification
- Built-in streaming services support
- 2 RU form factor, low power consumption, cool running operation
- Built-in chime support
- Voice control support for Crestron Home OS
- Provides 8 amplified stereo zones (16 channels total) of output
- 150 W/Ch. @ 8 Ω or 300 W/Ch. @ 4 Ω , with zones bridgeable up to 500 W/Ch.
- Four stereo line-level outputs mirror speaker zone outputs 1-4
- Output bussing enables linked operation of multiple adjacent zones
- Connects directly to a managed network to route to or from other DM NAX and DM NVX devices
- Interoperable with Dante® audio networking devices via AES67 compatibility
- Includes 4 stereo unbalanced analog RCA and 4 SPDIF (2 TOSLINK and 2 Coaxial) audio inputs
- Full DSP capabilities
- Individual zone power control and global standby
- Streamlined setup and adjustment via the device's web interface
- Seamless Crestron system integration with Crestron Home® OS and SIMPL Windows programming

The DM-NAX-8ZSA supports [Amazon Connected Speakers](#).

For installation information, refer to the [DM-NAX-8ZSA Quick Start](#).

Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it on the network. The DM-NAX-8ZSA sends and receives DM NAX and AES67 encoded audio over a standard IP network. A single DM NAX system with a Crestron Home OS processor can handle audio distribution between 32 DM NAX devices and supports up to 256 audio output zones. A SIMPL Windows program can handle as many DM NAX devices and zones as the network hardware will support. DM NAX devices can seamlessly pull and distribute the audio from DM NVX sources.

Streaming and Casting Services

A dedicated streaming service player for each of the zones supporting AirPlay® 2, Internet Radio, Spotify Connect™, Pandora®, SiriusXM®, TIDAL™, Deezer®, Qobuz®, SOUNDMACHINE®, Podcasts and more. The DM-NAX-8ZSA delivers streaming, routing, distribution, and amplification in a single device. Streams can be routed to other non-streaming AoIP amplifiers.

Voice Control

Amazon® Voice Services are currently only supported when using the DM-NAX-8ZSA with Crestron Home OS.

Chimes

A library of chimes is built into the unit. Chimes can be assigned to different zones to help identify them. Whenever a chime is triggered, the zone audio will duck or pause, so the chime can be clearly heard over active media until the chime concludes.

DSP

DSP capabilities such as bass and treble boost and cut, loudness, adjustable delay, speaker protection and limiting, tone profiles, a full 10-band EQ per output, and an option to have each line output at a fixed or variable level with or without DSP applied are available.

Zones can be permanently bussed together (up to 4 buses available per unit, and up to all 8 zones can join a given bus) for simultaneous routing and control, or grouped dynamically with other zones for a temporary collection of zones that play back the same media.

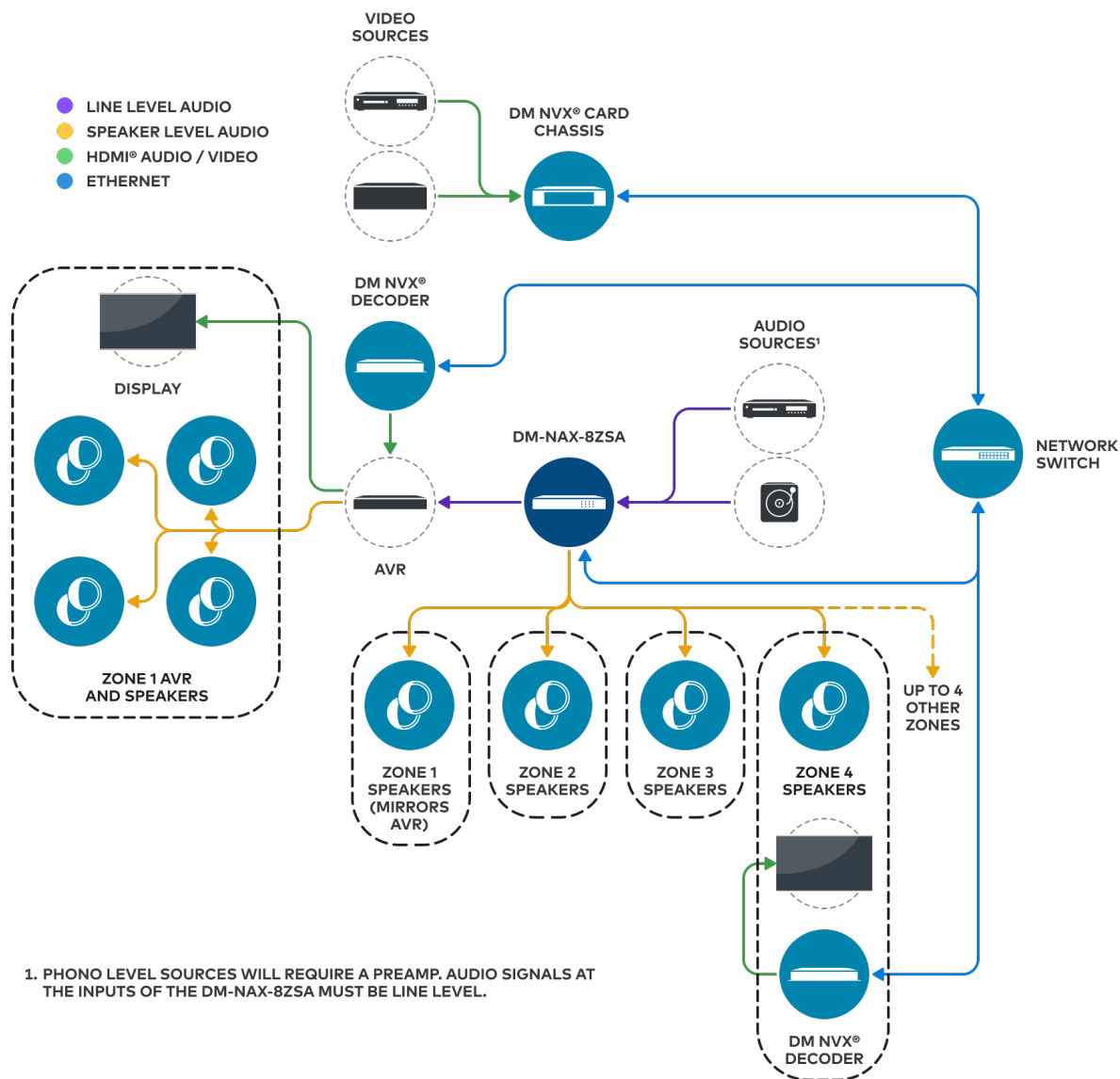
Encoder and Decoder Functionality

The DM-NAX-8ZSA operates simultaneously as a network AV encoder and decoder. The analog line level sources, digital S/PDIF sources or media streams on one DM NAX device can be sent to any other DM NAX or AES67 capable endpoint on the network.

Application Diagrams

This section shows the DM-NAX-8ZSA in multizone applications.

DM-NAX-8ZSA with DM NVX AV-over-IP Devices



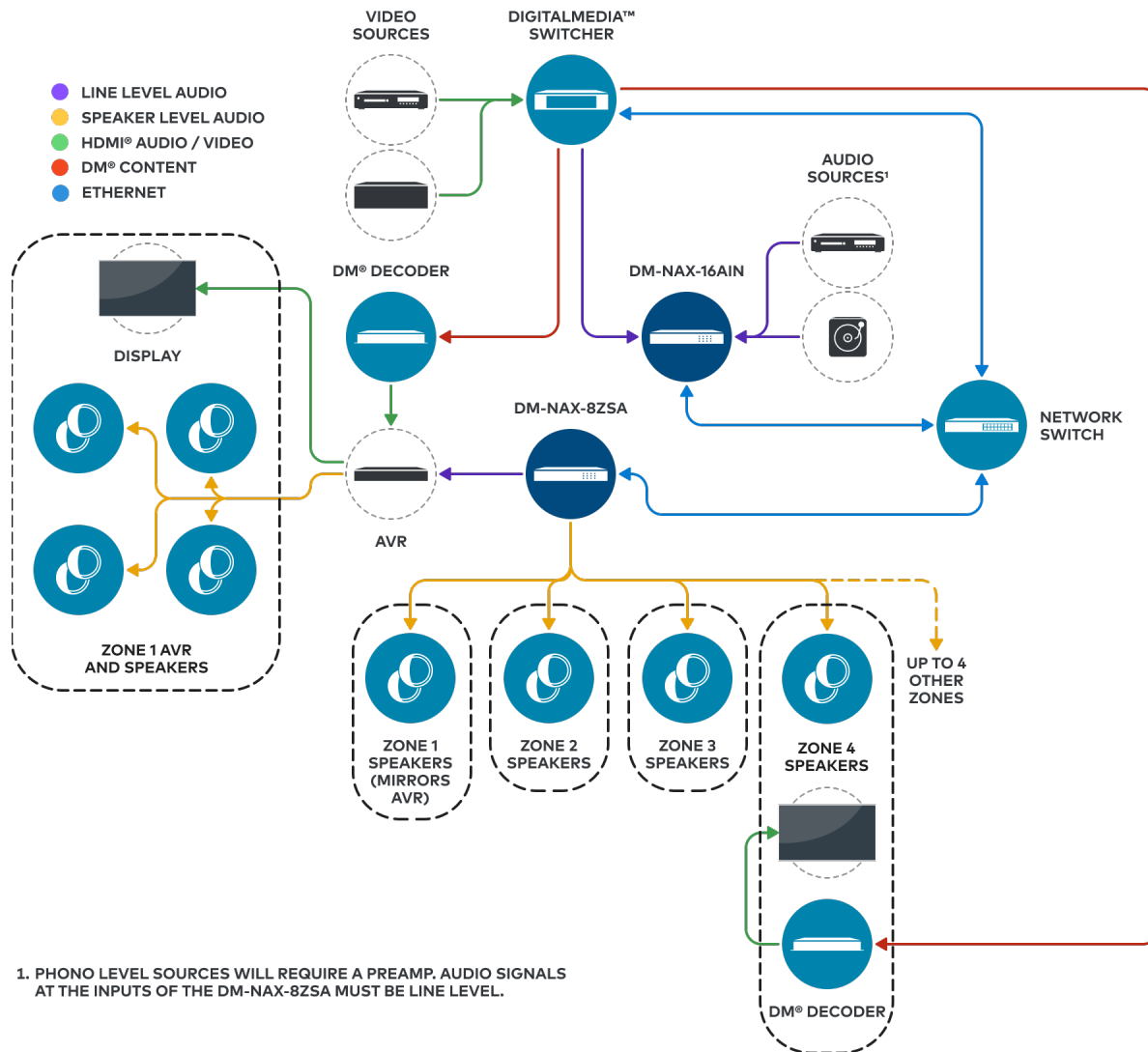
NOTES:

- DM NAX devices generate multicast traffic on the network. Even a single DM NAX device connected to an unmanaged network can cause communication issues with other devices connected to the same network. For information on system installation, refer to the [Audio-over-IP Network Design on page 739](#).
- If DM NAX devices must be set up before configuring network settings on a managed switch, refer to [Port Selection on page 383](#). The **Port Selection** feature allows the DM NAX device to isolate the AoIP traffic to the secondary Ethernet port. For example, when connecting the DM NAX to a control system or authenticating streaming service accounts. This ensures that during setup, the primary Management port of the device does not receive AoIP traffic.

This application diagram highlights the following:

- Up to eight zones of amplification and audio distribution
- Local line level input
- Local line level output to an Audio Video Receiver (AVR) mirroring a zone of amplification
- Available DM NVX audio streams to route audio from video sources to non-video zones
- Available music streaming services on up to eight DM NAX zones

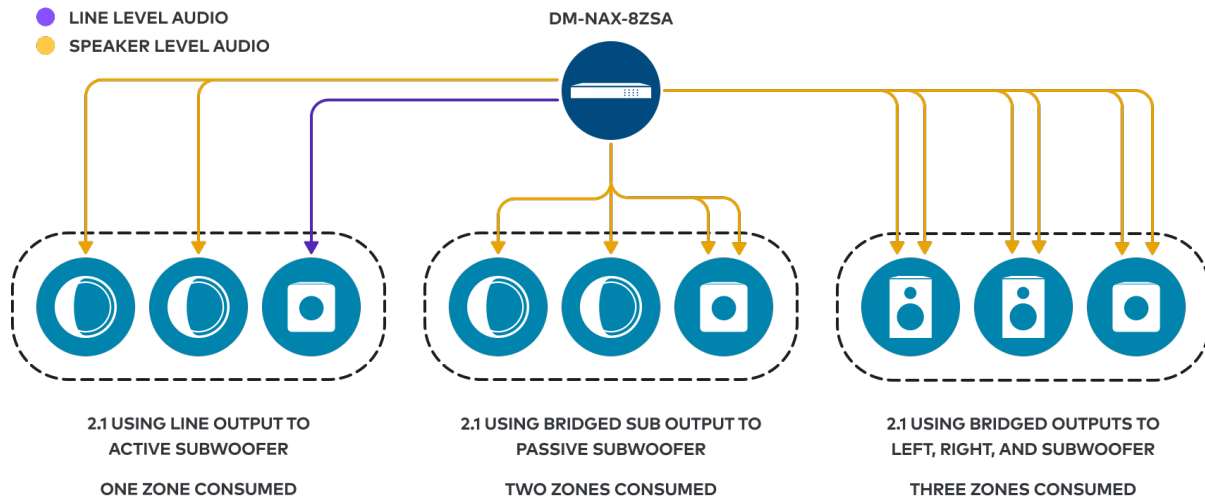
DM-NAX-8ZSA with a DM® Chassis



This application diagram highlights the following:

- Up to eight zones of amplification and audio distribution
- Local line level input
- Local line level output to an AVR mirroring a zone of amplification
- Available music streaming services on up to eight DM NAX zones
- The DM-NAX-16AIN is used to transmit audio from the DM chassis' video sources onto the DM NAX network for routing to the non-video zones on the DM-NAX-8ZSA

DM-NAX-8ZSA 2.1 Options



This application diagram shows different 2.1 configurations and how they affect the zone count of an DM-NAX-8ZSA. By default, the zones of the amplifier are configured as stereo pairs comprising two speaker outputs each - one left channel and one right channel. Each of the 2.1 zone output options can consume a different number of speaker outputs for the left, right, and subwoofer channels:

- The 2.1 configuration at the left of the diagram comprises two speaker outputs, with a line output that feeds an active subwoofer. If the subwoofer has a stereo input, only one zone needs to be consumed for this configuration. If the subwoofer only has a mono input, a second zone will need to be consumed to sum the signal to mono, effectively comprising four speaker outputs instead.

NOTE: This configuration is only applicable for zones with an available line output (zones 1 through 4).

- The middle configuration (referred to as **2.1 Bridged Sub** during zone configuration) comprises four speaker outputs - one for the left channel, one for the right channel, and two for the bridged subwoofer output.

NOTE: This configuration is only applicable when enough subsequently numbered zones are available on the amplifier. For example, the **2.1 Bridged Sub** configuration cannot be used on zone 8 as there is no speaker output pair 9.

- The right configuration (referred to as **Bridged 2.1** during zone configuration) comprises six speaker outputs - two for the left channel, two for the right channel, and two for the subwoofer output.

NOTE: This configuration is only applicable when enough subsequently numbered zones are available on the amplifier. For example, the 2.1 bridged sub cannot be used on zone 7 or 8 as there is no speaker output pair 9 or 10.

Having higher output-count zone configurations on a single DM-NAX-8ZSA will affect the total available zone count on a given box. For example, if you have a single Bridged 2.1 configuration on an

DM-NAX-8ZSA, it will lower the maximum zone count to six, as the Bridged 2.1 consumes three zones worth of speaker outputs on its own.

DM-NAX-16AIN

The Crestron DM NAX® Audio-over-IP (AoIP) encoder (DM-NAX-16AIN) provides 16 local stereo audio inputs to a DM NAX Crestron multiroom audio distribution network. It provides 8 digital inputs comprised of 4 SPDIF TOSLINK® connectors and 4 SPDIF coaxial connectors. Each digital input supports 2-channel PCM audio. The DM-NAX-16AIN also provides 8 analog stereo inputs. Inputs 1-4 offer balanced 5-pin terminal block connectors in parallel with unbalanced RCA connectors, and inputs 5-8 offer RCA connectors.



- 1 RU form factor, low power consumption, cool running operation
- Provides 16 stereo inputs for a DM NAX AoIP network
- Includes 8 SPDIF (4 TOSLINK and 4 Coaxial) digital audio inputs, 8 stereo unbalanced analog RCA inputs, and 4 stereo balanced analog terminal block connector inputs in parallel with RCA inputs 1-4
- Connects directly to a managed network to route to other DM NAX and DM NVX devices
- Adjustable level compensation for each local input
- Interoperable with Dante® audio networking devices via AES67 compatibility
- Streamlined setup and adjustment via the device's web interface
- Seamless Crestron system integration with Crestron Home® OS and SIMPL Windows programming

For installation information, refer to the [DM-NAX-16AIN Quick Start](#).

Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it on the network. The DM-NAX-16AIN sends DM NAX and AES67 encoded audio over a standard IP network. A single DM NAX system with a Crestron Home OS processor can handle audio distribution between 32 DM NAX devices and supports up to 256 audio output zones. A SIMPL Windows program can handle as many DM NAX devices and zones as the network hardware will support. DM NAX devices can seamlessly pull and distribute the audio from DM NVX sources.

This section shows the DM-NAX-16AIN device in a multizone application.



- Up to eight zones of amplification and audio distribution
- Local line level input
- Local line level output to an AVR mirroring a zone of amplification
- Available music streaming services on up to eight DM NAX zones
- The DM-NAX-16AIN is used to transmit audio from the DM chassis' video sources onto the DM NAX network for routing to the non-video zones on the DM-NAX-8ZSA

DM-NAX-AMP-X300

The DM-NAX-AMP-X300 is a high performance, space saving, energy efficient, professional grade Audio-over-IP (AoIP) amplifier. Supporting DM NAX, Dante, AES67, and local inputs, all with full DSP capabilities, this multichannel amplifier is suitable for both residential and commercial configurations.



- Audio-over-IP (AoIP) amplifier
- Native Dante® mode
- Full DSP capabilities
- Streamlined configuration through a web interface
- ENERGY STAR® certified power amplifier
- 1 RU high, half-rack width form factor supports surface and rack mounting
- Configurable for Lo-Z ($4/8\ \Omega$) or Hi-Z (70V or 100V) operation
- Configurable for 4 x up to 75 W output, 2 x up to 150 W output, 1 x up to 300 W (bridged) output, and 2 x up to 75 W + 1 x up to 150 W (bridged) output
- Matrix mixing of any input to any output
- Always On feature allows constant on connection with very low power consumption
- Connects directly to a managed network to route to or from DM NAX/DM NVX®, AES67, or Dante devices
- Supports mic/line level analog inputs and balanced/unbalanced line level outputs
- Individual zone power control and global standby
- Seamless Crestron system integration with Crestron Home® OS and SIMPL Windows programming

Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it on the network. The DM-NAX-AMP-X300 sends and receives DM NAX, Dante, and AES67 encoded audio over a standard IP network. A single DM NAX system with a Crestron Home OS processor can handle audio distribution between 32 DM NAX devices and supports up to 256 audio output zones. A SIMPL Windows program can handle as many DM NAX devices and zones as the network hardware will support. DM NAX devices can seamlessly pull and distribute the audio from DM NVX sources.

Digital Signal Processing (DSP)

The DM-NAX-AMP-X300 has two DSP modes. Residential mode enables the quick and easy configuration of layout, speaker protection output limits, and speaker profiles for each zone. In Commercial mode, make full use of the DM-NAX-AMP-X300's true mixing matrix as well as advanced options for equalization and dynamics processing on each individual speaker, line, and network channel.

Encoder and Decoder Functionality

The DM-NAX-AMP-X300 can operate as a network AV encoder and decoder. The local input sources on one amplifier can be sent as AoIP streams to DM NAX, Dante, or AES67 capable devices. Simultaneously, the DM-NAX-AMP-X300 can receive AoIP streams from these same devices and decode them for local output.

Lo-Z (4/8 Ω) and Hi-Z (70V or 100V) Output

The DM-NAX-AMP-X300 is a 4-channel amplifier (up to 75 W per channel) which can also be configured for 3-channel bridged operation (up to 75 W per single ended channel and up to 150 W for the bridged channel), 2-channel bridged operation (up to 150 W per channel), or 1 channel bridged operation (up to 300 W). A choice of Lo-Z outputs to drive 4- or 8- Ω speakers, or Hi-Z outputs to drive a distributed speaker system (70V or 100V) can be used. Balanced/Unbalanced inputs are provided for connection to two stereo or four mono sources through detachable terminal blocks.

ENERGY STAR® Certified

An energy-efficient design enables the DM-NAX-AMP-X300 to meet demanding ENERGY STAR requirements. In addition to its high efficiency under operation, the amplifier draws no added inrush current during power-up, thereby reducing AC circuit requirements and allowing multiple amplifiers to be connected to a single switched circuit. To reduce energy usage further, the DM-NAX-AMP-X300 can be configured to enter a low-power standby state if no input signal is detected on either channel for 25 minutes. Signal detection sensitivity has been optimized to improve response time when triggering the amplifier to the on state, allowing it to return to full operation within a half-second. The REMOTE input can be connected to a contact closure to place the amplifier outputs in controlled standby mode.

Modular Design

The DM-NAX-AMP-X300 is housed in a half-width rack-mountable form factor that can be installed individually or ganged together in a single rack space. The amplifier is high-density stackable with other Crestron modular amps, allowing multiple units to be installed vertically in an equipment rack without needing extra ventilation space. Rack and surface mount parts are included, so no additional mounting accessories or rack shelves are required.

Whether mounting in a rack, attaching to a flat surface, or placing on a shelf, it is easy to combine two amplifiers into a single, full rack-width assembly.

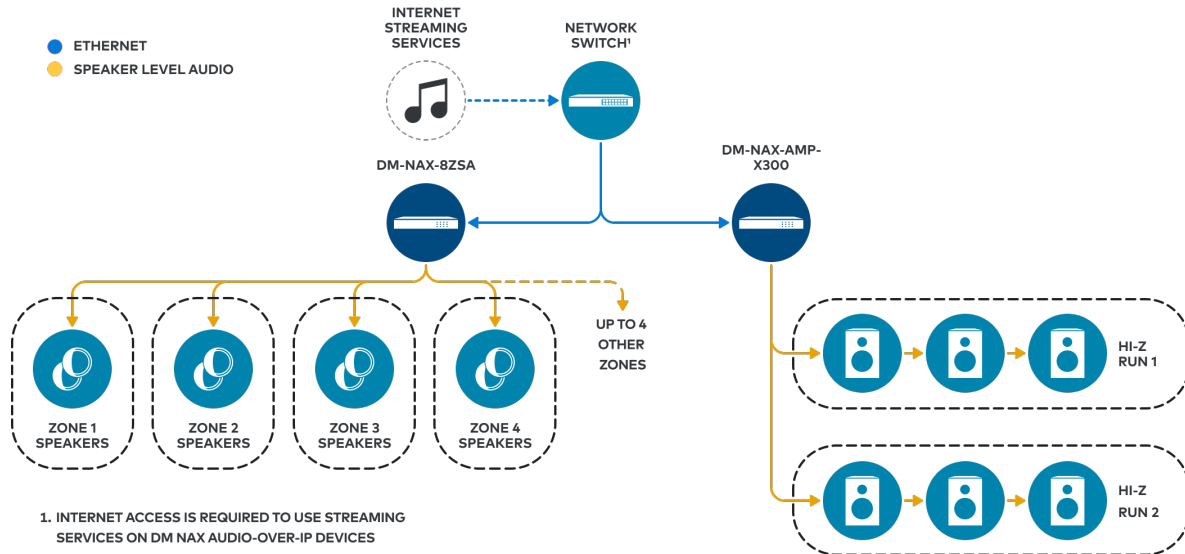
Fully Protected

The DM-NAX-AMP-X300 features protection against overheating, shorted or overloaded speaker lines, excessive input signals, and other faults. In the case of a shorted speaker line or overheating condition, paired outputs mute automatically until the fault condition is resolved. In the event of a prolonged fault, all outputs mute and the amplifier shuts down.

Application Diagrams

This section shows the DM-NAX-AMP-X300 in a broader DM NAX audio-over-IP system application.

Streaming Services with the DM-NAX-AMP-X300



NOTES:

- DM NAX devices generate multicast traffic on the network. Even a single DM NAX device connected to an unmanaged network can cause communication issues with other devices connected to the same network. For information on system installation, refer to the [Audio-over-IP Network Design on page 739](#).
- If DM NAX devices must be set up before configuring network settings on a managed switch, refer to [Port Selection on page 383](#). The **Port Selection** feature allows the DM NAX device to isolate the AoIP traffic to the secondary Ethernet port. For example, when connecting the DM NAX to a control system or authenticating streaming service accounts. This ensures that during setup, the primary Management port of the device does not receive AoIP traffic.

This application diagram highlights the following:

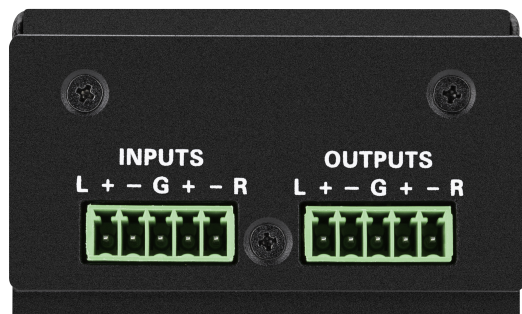
- A streaming service capable DM NAX device (such as a DM-NAX-8ZSA) routing cloud-based content over the network to a DM-NAX-AMP-X300.
 - For example, a TIDAL® stream on the DM-NAX-8ZSA can be routed as a DM NAX audio-

over-IP stream to the porch zone of the DM-NAX-AMP-X300.

- Hi-Z (70 or 100V) output from the DM-NAX-AMP-X300 to runs of multiple speakers.

DM-NAX-AUD-IO

The DM-NAX-AUD-IO is a DM NAX® encoder and decoder with support for analog line-level audio input and output. The device is housed in a versatile form factor that can be mounted in a single-gang standard electrical box, under a table, or on a rack rail. An additional polycarbonate label is included with rotated text to make the front panel more legible in electrical box installations. The rear panel of the device features an Ethernet connection for PoE, Audio over IP (AoIP), and control.



- Line-level, balanced/unbalanced analog audio input and output via detachable terminal block connectors
- Power over Ethernet (PoE) network powered
- Mountable in a standard US electrical box, under a table, or on a rack rail via included hardware
- Connects directly to a managed network to route to or from other DM NAX® and DM NVX® devices
- Interoperable with Dante® audio networking devices via AES67 compatibility
- Streamlined configuration through a web interface
- Seamless Crestron system integration with SIMPL Windows programming

Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it on the network. The DM-NAX-AUD-IO sends and receives DM NAX and AES67 encoded audio over a standard IP network. A single DM NAX system with a Crestron Home OS processor can handle audio distribution between 32 DM NAX devices and supports up to 256 audio output zones. A SIMPL Windows program can handle as many DM NAX devices and zones as the network hardware will support. DM NAX devices can seamlessly pull and distribute the audio from DM NVX sources.

Digital Signal Processing (DSP)

DSP capabilities such as bass and treble boost and cut, loudness, adjustable delay, tone profiles, and a full 10-band EQ per output are available on each output channel of the DM-NAX-AUD-IO.

Encoder and Decoder Functionality

The DM-NAX-AUD-IO can operate as a network AV encoder and decoder. The local input sources on the adapter can be sent as AoIP streams to DM NAX, Dante, or AES67 capable devices. Simultaneously, the DM-NAX-AUD-IO can receive AoIP streams from these same devices and decode them for local output.

DM-NAX-AUD-USB

The DM-NAX-AUD-USB is a DM NAX® encoder and decoder with support for USB audio and analog line-level audio input and output. The device is housed in a versatile form factor that can be mounted in a single-gang standard electrical box, under a table, or on a rack rail. An additional polycarbonate label is included with rotated text to make the front panel more legible in electrical box installations. Two 1/8 in. (3.5 mm) TRS connectors for analog line-level audio input and output are also included on the front panel. The rear panel of the device features an Ethernet connection for PoE, Audio over IP (AoIP), and control.



- USB Audio Class 1 (UAC1) device with bidirectional stereo USB audio support
- Power over Ethernet (PoE) network powered
- Line-level, unbalanced analog audio input and output via 1/8 in. (3.5 mm) TRS connectors
- Mountable in a standard US electrical box, under a table, or on a rack rail via included hardware
- Connects directly to a managed network to route to or from other DM NAX® and DM NVX® devices
- Interoperable with Dante® audio networking devices via AES67 compatibility
- Streamlined configuration through a web interface
- Seamless Crestron system integration with SIMPL Windows programming

USB Audio

A USB-C® connector is built-in to the front panel of the DM-NAX-AUD-USB, allowing for bidirectional stereo USB audio transfer at rates up to 24-bit/48 kHz. This stereo signal can be output as a DM NAX AoIP stream onto the network or as an unbalanced line-level analog signal from the local 1/8 in. (3.5 mm) audio output connector.

Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it on the network. The DM-NAX-AUD-USB sends and receives DM NAX and AES67 encoded audio over a standard IP network. A single DM NAX system with a Crestron Home OS processor can handle audio distribution between 32 DM NAX devices and supports up to 256 audio output zones. A SIMPL Windows program can handle as many DM NAX devices and zones as the network hardware will support. DM NAX devices can seamlessly pull and distribute the audio from DM NVX sources.

Digital Signal Processing (DSP)

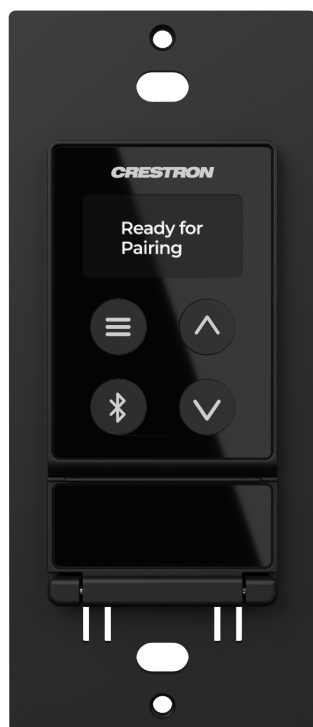
DSP capabilities such as bass and treble boost and cut, loudness, adjustable delay, tone profiles, and a full 10-band EQ per output are available on each output channel of the DM-NAX-AUD-USB.

Encoder and Decoder Functionality

The DM-NAX-AUD-USB can operate as a network AV encoder and decoder. The local input sources on the adapter can be sent as AoIP streams to DM NAX, Dante, or AES67 capable devices. Simultaneously, the DM-NAX-AUD-USB can receive AoIP streams from these same devices and decode them for local output.

DM-NAX-BTIO-1G

The DM-NAX-BTIO-1G is a DM NAX® encoder and decoder with support for Bluetooth® wireless and analog line-level wired audio input and output, housed in a single-gang wall plate form factor. The front panel features an OLED display and four buttons for device pairing and menu navigation. Two 1/8 in. (3.5 mm) TRS connectors for stereo unbalanced analog line-level audio input and output are concealed under a front panel door. The rear panel of the wall plate features an Ethernet connection for PoE, Audio over IP (AoIP), and control.



- Built-in Bluetooth® wireless audio input and output support
- Front panel OLED display provides metadata readout and device setup menus
- Single-gang U.S. wall box installation
- Power over Ethernet (PoE) network powered
- Stereo unbalanced analog line-level audio input and output via 3.5 mm TRS connectors
- Mountable in a standard US electrical box or on a rack rail via included hardware
- Connects directly to a managed network to route to or from other DM NAX® and DM NVX® devices
- Interoperable with Dante® audio networking devices via AES67 compatibility
- Streamlined configuration through front panel push buttons and a web interface
- Seamless Crestron system integration with SIMPL Windows programming

Bluetooth® Wireless Connectivity

Bluetooth wireless audio input and output support is built into the DM NAX®. In transmitter mode, the wall plate transmits an audio signal to a sink device such as wireless headphones, a soundbar, or a freestanding speaker.

In receiver mode, a smart phone or other source device transmits an audio signal to the wall plate. Metadata for the audio signal is displayed on the front panel, and up to seven previous source device connections can be recalled. This audio signal can also be made available to other devices on the network as a DM NAX audio-over-IP stream.

Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it on the network. The DM-NAX-BTIO-1G sends and receives DM NAX and AES67 encoded audio over a standard IP network. A single DM NAX system with a Crestron Home OS processor can handle audio distribution between 32 DM NAX devices and supports up to 256 audio output zones. A SIMPL Windows program can handle as many DM NAX devices and zones as the network hardware will support. DM NAX devices can seamlessly pull and distribute the audio from DM NVX sources.

Encoder and Decoder Functionality

The DM-NAX-BTIO-1G can operate as a network AV encoder and decoder. The local input sources on the wall plate can be sent as AoIP streams to DM NAX, Dante, or AES67 capable devices. Simultaneously, the DM-NAX-BTIO-1G can receive AoIP streams from these same devices and decode them for local output.

Front Panel Controls and Display

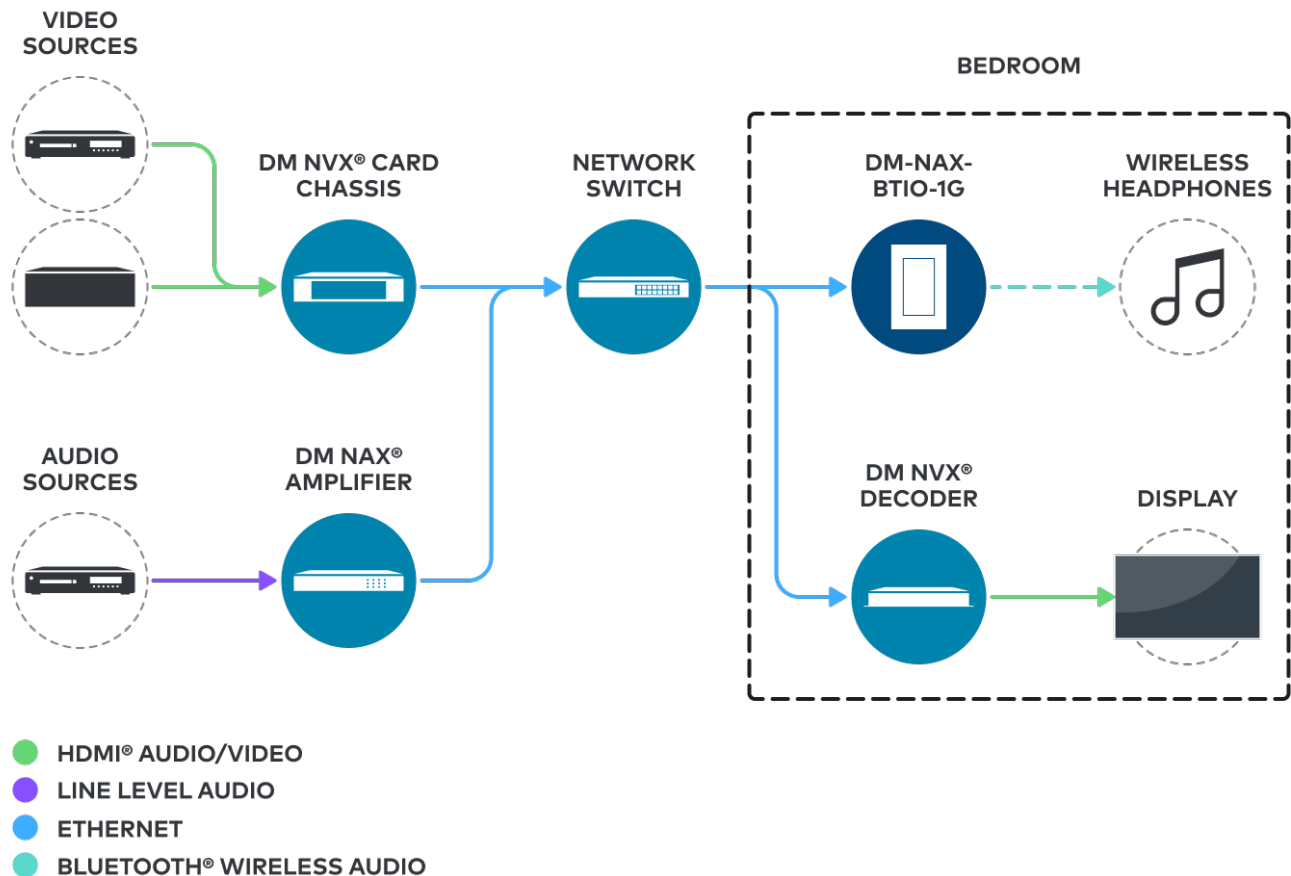
The DM-NAX-BTIO-1G features four front panel push buttons and a 128 x 64 dot matrix OLED display. The push buttons allow local volume control and Bluetooth pairing, with volume feedback and pairing status reflected in real time on the display. Metadata for Bluetooth media and basic configuration menus are also shown on the display.

Both the display and push buttons can be disabled via the configuration web interface or programming for applications where a more discreet or secure installation is required.

Application Diagrams

This section shows the DM-NAX-BTIO-1G in applications highlighting transmit mode and receive mode use cases.

DM-NAX-BTIO-1G Transmit Mode



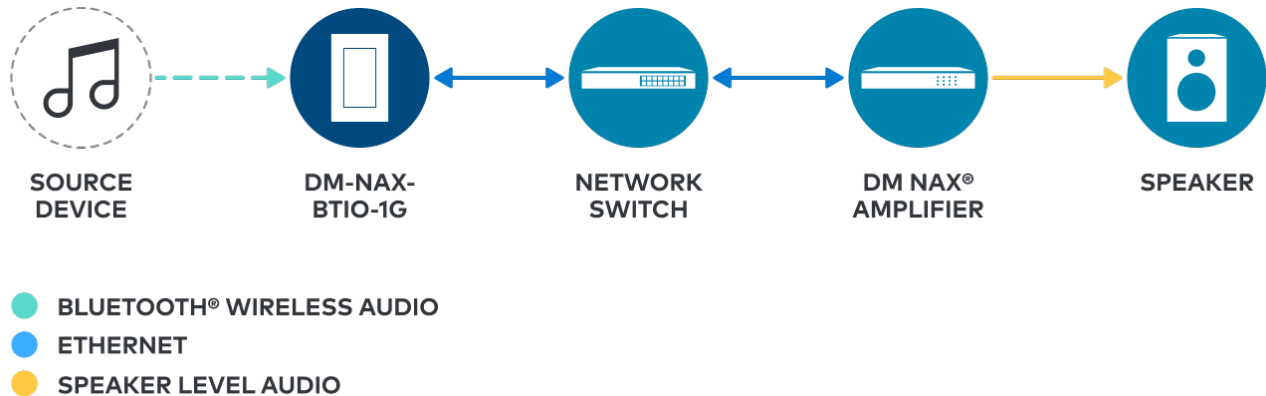
NOTE: DM NAX devices generate multicast traffic on the network. Even a single DM NAX device connected to an unmanaged network can cause communication issues with other devices connected to the same network. For information on system installation, refer to the [Audio-over-IP Network Design on page 739](#).

This application diagram highlights the DM-NAX-BTIO-1G transmitting a Bluetooth wireless stereo audio signal to a pair of headphones in a bedroom. This allows a user in a shared space to hear the audio from a DM NAX audio-over-IP, DM NVX AV-over-IP, or Dante networked audio source without disturbing other users.

NOTE: The DM-NAX-BTIO-1G is only compatible with Dante networked audio devices if AES67 Compatibility Mode is enabled on the Dante devices. Dante network streams must be transmitted

as AES67 streams to be received by a DM NAX audio-over-IP device. Refer to the original manufacturer's documentation to ensure that AES67 Compatibility Mode is available on a Dante device.

DM-NAX-BTIO-1G Receive Mode



NOTE: DM NAX devices generate multicast traffic on the network. Even a single DM NAX device connected to an unmanaged network can cause communication issues with other devices connected to the same network. For information on system installation, refer to the [Audio-over-IP Network Design on page 739](#).

This application diagram highlights the DM-NAX-BTIO-1G receiving a Bluetooth wireless stereo audio signal from a source device, such as a smart phone or laptop. The incoming stereo audio is converted to a DM NAX audio-over-IP stream, which is sent over a managed network to a DM NAX amplifier for playback over a speaker.

This use case allows users who are not connected to the network or who have source devices that do not support Apple AirPlay to transmit wireless audio to DM NAX audio-over-IP zones. This also provides a way to get Bluetooth wireless audio onto a Dante audio network via the AES67 compatibility mode on the Dante device.

NOTE: Not all Dante devices support AES67 compatibility mode. Refer to the original manufacturer's documentation to ensure that this mode is available on the Dante device.

DM-NAX-XSP

The [DM-NAX-XSP](#) is an 8K display controller with a local HDMI input and HDMI passthrough, DM NAX AoIP encoder and decoder functionality, and eARC support. Its compact form factor facilitates mounting the device behind a display, or it can be mounted to a single rack rail using included hardware.

DM NAX® audio-over-IP is built on the AES67 standards, with additional ease of configuration via a web interface, SIMPL Windows, C#, and/or a RESTful API. It is compatible with DM NVX® AV-over-IP through the AES67 secondary audio stream, and also with third-party AES67 solutions and Dante® Networking via the compatibility mode enabled through Dante Controller.



- Audio-over-IP (AoIP) display controller and audio encoder/decoder
- Handles video resolutions up to 8K60 4:2:0 and 4K120 4:4:4
- Supports HDR10, HDR10+, and Dolby Vision® video formats
- Supports all Dolby® audio formats up to Dolby Atmos® and all DTS® formats up to DTS:X®
- eARC support available on HDMI® connection to display
- HDCP 2.3 compliant
- Connected device control via CEC, RS-232, IR, and relays
- Connects directly to a managed network to route audio to or from other DM NAX® and DM NVX® devices
- Interoperable with Dante® audio networking devices via AES67 compatibility
- Streamlined configuration through a web interface
- Seamless Crestron system integration with SIMPL Windows programming
- Compact, surface-mountable design
- PoE+ powered device

8K60 4:2:0, 4K120 4:4:4, and HDR Support

The DM-NAX-XSP supports video resolutions up to 8K60 with 4:2:0 color sampling, 8K30 4:4:4, or 4K120 4:4:4. HDR10, HDR10+, and Dolby Vision video formats are also supported.

eARC Support

The HDMI output of the DM-NAX-XSP supports Enhanced Audio Return Channel (eARC) connectivity, allowing audio to be extracted from a connected display and transmitted over the network as a DM NAX AoIP stream. Extracting audio from the display via the eARC connection means only a single

cable is required for video and bidirectional audio. This connection also allows local audio content from the display (such as smart TV streaming applications) to be encoded as streams available to an AoIP audio distribution system.

Surround Sound and Downmixing

The HDMI input and eARC connections of the DM-NAX-XSP support Dolby audio formats including Dolby Atmos and DTS formats including DTS:X. Digital audio formats received at the HDMI input can be passed through to the HDMI output. Supported surround sound formats can be downmixed to stereo via the built-in DSP to transmit a 2-channel AoIP stream onto the network.

Device Control via RS-232, IR, Relay, and Digital Input Ports

The DM-NAX-XSP includes built-in COM (RS-232), IR, relay, and digital input ports for controlling source devices and accessories.

CEC Control

CEC (Consumer Electronics Control) can control compatible source and display devices via the HDMI connection, eliminating the need for dedicated serial cables or IR emitters. CEC over the HDMI output can also turn the connected display on or off without additional programming.

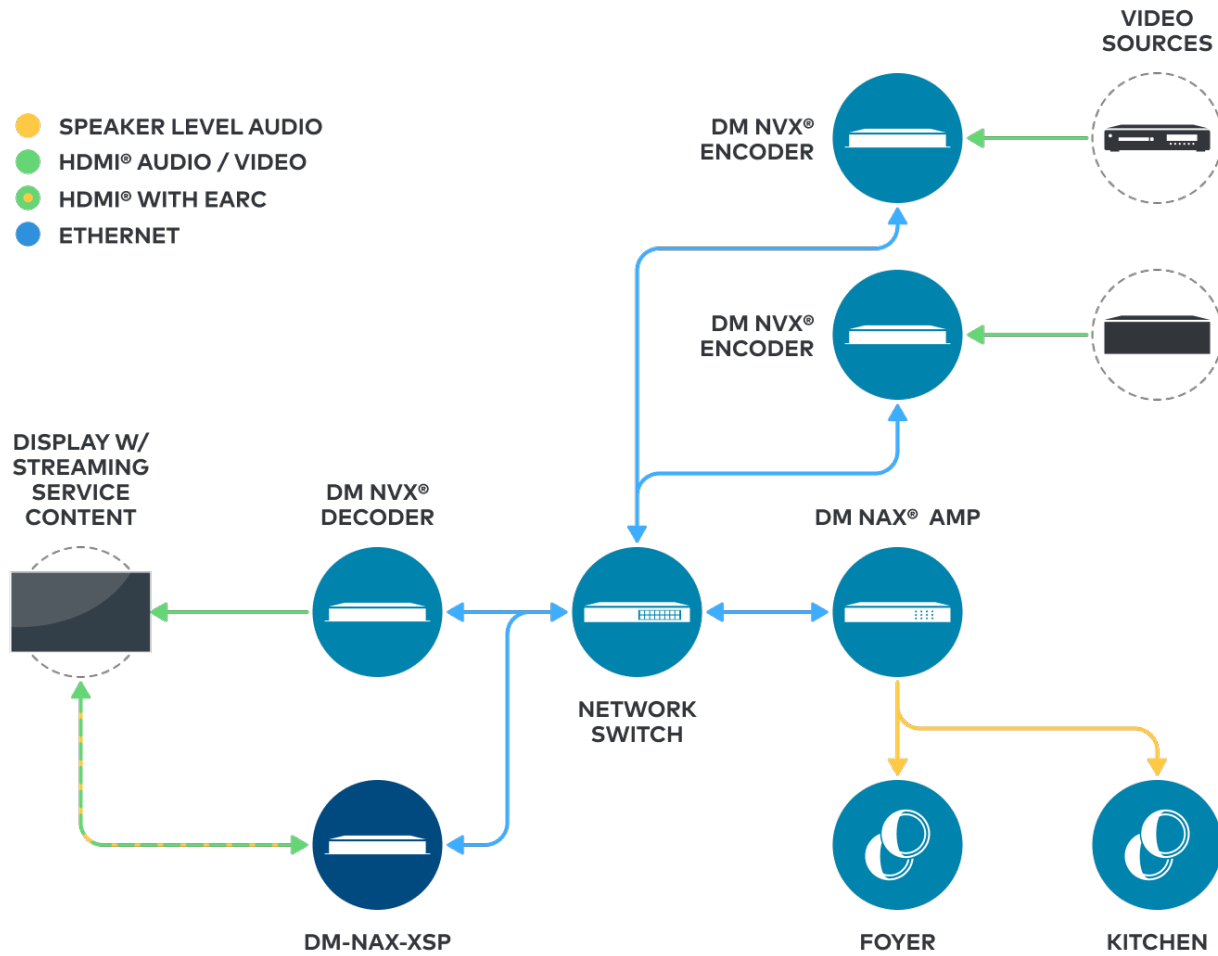
Audio-over-IP

DM NAX takes audio distribution to a whole new level by putting it on the network. The DM-NAX-XSP sends and receives DM NAX and AES67 encoded audio over a standard IP network. A single DM NAX system can handle audio distribution between 32 DM NAX devices and supports up to 256 audio output zones. DM NAX devices can seamlessly pull and distribute the audio from DM NVX sources.

Application Diagrams

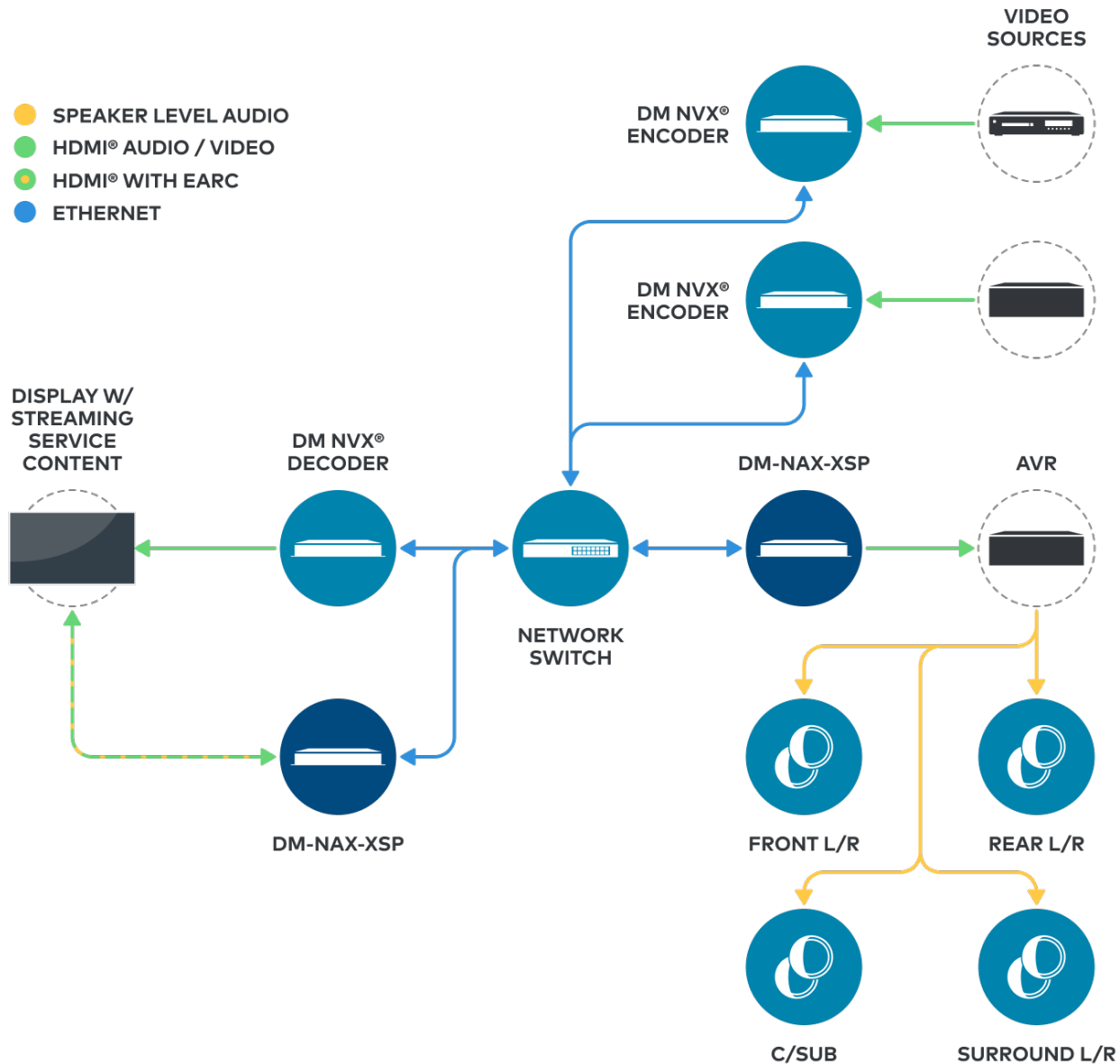
This section shows the DM-NAX-XSP in the context of a broader DM NAX audio-over-IP system application.

DM-NAX-XSP eARC Return from a Display to a DM NAX Amplifier



In this application, the DM-NAX-XSP extracts all audio from the display via an eARC connection. This allows audio from either connected sources (such as the DM NVX decoder) or internal sources (such as streaming applications) to be sent over the network to a DM NAX audio-over-IP amplifier as a stereo downmix stream.

DM-NAX-XSP Multichannel BTS Stream to another DM-NAX-XSP



In this application, the DM-NAX-XSP extracts all audio from the display via an eARC connection. This allows multichannel audio from either connected sources (such as the DM NVX decoder) or internal sources (such as streaming applications) to be sent over the network to another DM-NAX-XSP as a multichannel BTS stream. This multichannel audio can then be output to a multichannel amplifier or AVR to power a surround sound home theater or listening room.

Specifications

Refer to the following sections for more information on the specifications for various DM NAX devices.

- [DM-NAX-2XLRI-1G](#)
- [DM-NAX-8ZSA](#)
- [DM-NAX-4ZSA-50](#)
- [DM-NAX-4ZSP](#)
- [DM-NAX-16AIN](#)
- [DM-NAX-AMP-X300](#)
- [DM-NAX-AUD-IO](#)
- [DM-NAX-AUD-USB](#)
- [DM-NAX-BTIO-1G](#)
- [DM-NAX-XSP](#)

DM-NAX-2XLRI-1G Specifications

Product specifications for the DM-NAX-2XLRI-1G are provided below.

Specifications

Audio

Input Signal Types	Balanced/unbalanced analog line/mic-level; DM NAX/AES67 audio-over-IP
Output Signal Types	Balanced/unbalanced analog line-level; DM NAX/AES67 audio-over-IP
Source Compensation	±10.0 dB per input
Input Monitoring	Source Signal Detect
Frequency Response (at line-level output)	From mic-level input: 20 Hz to 20 kHz ±1.0 dB; From line-level input: 20 Hz to 20 kHz +0.1/-1.0 dB
THD+N (at line-level output)	From mic-level input: 0.3% @ 1 kHz, max output From line-level input: 0.005% @ 1 kHz, max output
S/N Ratio (at line-level output)	From analog input: 105 dB, 20 Hz to 20 kHz, A-weighted; From digital input: 111 dB, 20 Hz to 20 kHz, A-weighted
Balance Control	Left/right adjustable
EQ Filter Types	EQ, High Pass, Low Pass, Treble Shelf, Bass Shelf, Notch
EQ Center Frequency	10 Hz to 20 kHz per band

EQ Gain	+20/-40 dB per band
EQ Bandwidth	0.1 to 4.0 octaves per band

Connectors

INPUTS 1-2	<p>(2) Balanced XLR input ports</p> <p>Line or microphone-level audio inputs;</p> <p>Mic-level maximum gain: 60 dB</p> <p>Mic-level maximum signal level: 2Vrms;</p> <p>Mic-level channel separation: 70 dB @ 60 dB gain @ 1 kHz;</p> <p>Line-level maximum signal level: +21 dBu (8.7Vrms)</p> <p>Impedance: >10 kΩ;</p> <p>+48V phantom power is available when used as mic-level inputs</p>
OUTPUT L-R	<p>(1) 5-pin 3.5 mm screw terminal block;</p> <p>Balanced line-level audio output;</p> <p>Pins 1-2: Left channel output;</p> <p>Pin 3: Shared ground;</p> <p>Pins 4-5: Right channel output;</p> <p>Maximum signal level: +14.7 dBu (4.2Vrms)</p> <p>Impedance: 200 Ω;</p> <p>Channel separation: 100 dB @ 1 kHz</p>
G	<p>(1) 6-32 screw;</p> <p>Chassis ground lug</p>
ETHERNET PoE	<p>(1) 8-pin RJ-45 connector, female;</p> <p>100BASE-TX/1000BASE-T Ethernet port</p>

Controls and Indicators

ETHERNET PoE	<p>Left amber LED indicates 1000 Mb link status;</p> <p>Left green LED indicates 100 Mb link status;</p> <p>Flashing right amber LED indicates Ethernet activity</p>
SETUP	<p>(1) Push button: Used for factory reset procedures;</p> <p>(1) LED, illuminates red when the button is pressed, flashes red when reset has been initiated</p>

Power

PoE	<p>IEEE 802.3af Class 0 (12.95 W) compliant;</p> <p>Compatible with IEEE 802.3af compliant Ethernet switch or third-party PoE compliant PSE</p>
Power Consumption	2.9 W

Environmental

Temperature	32° to 95° F (0° to 35° C)
Humidity	10% to 95% RH (noncondensing)
Heat Dissipation	9.9 BTU/hr

Construction

Chassis	Metal, black and silver finish, vented sides
Mounting	Mountable on the following: 1-gang U.S. electrical box or plaster ring (not included), 3.5 in. (26 mm) electrical box depth recommended; Rack rail

Dimensions

Height	4.12 in. (105 mm)
Width	1.72 in. (44 mm)
Depth	2.14 in. (55 mm)

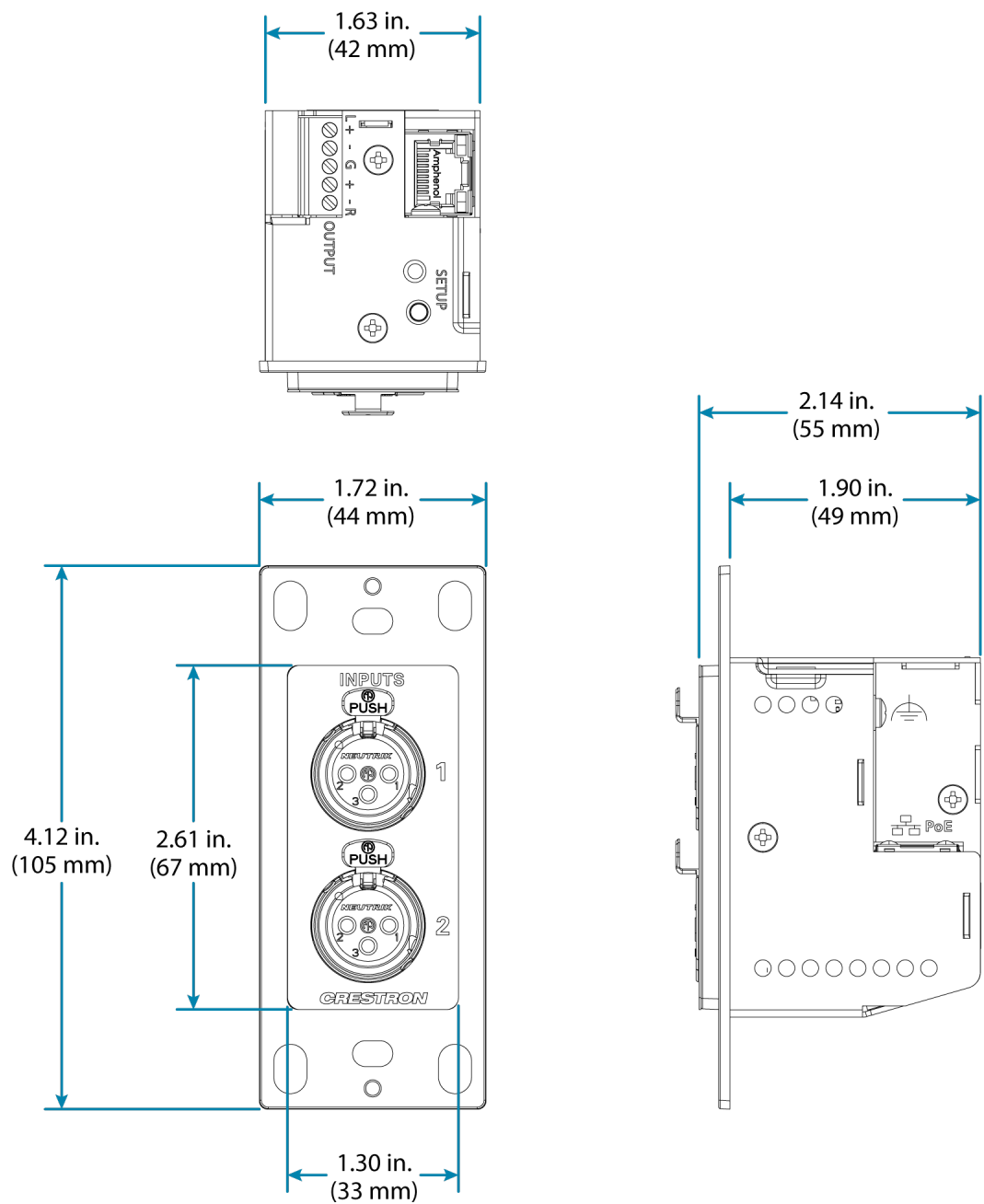
Weight

6 oz. (170 g)

Compliance

Regulatory Model: M202050006
IC, FCC Part 15 Class B digital device

Dimension Drawing



DM-NAX-4ZSA-50 Specifications

Product specifications for the DM-NAX-4ZSA-50 are provided below.

Specifications

Audio

Input Signal Types	2 stereo analog (RCA); 2 digital S/PDIF (1 TOSLINK® connection and 1 coaxial connection, PCM only)
Output Signal Types	4 stereo speaker-level amplified outputs; 1 stereo analog line-level output
Sampling Rates and Bit Depths	Digital Input (Coaxial): Up to 192 kHz, 24-bit; Digital Input (Optical): Up to 192 kHz, 24-bit; Media Players: Up to 192 kHz, 24-bit
Source Compensation	±10.0 dB per input
Input Monitoring	Source Signal Detect
Output Power	50 W per channel at 4 Ω or 8 Ω
Amplifier Monitoring	Over Current, Over/Under Voltage, Over Temperature, DC Offset, Clipping
Frequency Response	20 Hz to 20 kHz ± 0.5 dB
THD	0.006%
S/N Ratio	110 dB digital in; 108 dB analog in
Stereo Separation	95 dB @ 1 kHz, 8 Ohm; 90 dB @ 1 kHz, 4 Ohm
Zone Separation	100 dB @ 1 kHz, 8 Ohm; 95 dB @ 1 kHz, 4 Ohm
Zone Volume Level Control	-80.0 to +20.0 dB, adjustable from 0% to 100% plus mute
Bass Control	±12.0 dB
Treble Control	±12.0 dB
Loudness Compensation	On/Off
Dynamic Range Control	Off/Low/Medium/High
Balance Control	Left/right adjustable
Zone Configuration	Stereo Single Ended; Mono Single Ended
Power Limiting	Configurable 5 to 50 W @ 4 Ω or 8 Ω
Tone Profiles	Flat, Classical, Jazz, Pop, Rock, Spoken Word
EQ Filter Types	EQ, High Pass, Low Pass, Treble Shelf, Bass Shelf, Notch

EQ Center Frequency	10 Hz to 20 kHz per band
EQ Gain	-40.0 to +20.0 dB per band
EQ Bandwidth	0.1 to 4.0 octaves per band
Bus Volume Offset	±12.0 dB per zone for output bussing

Communications

Ethernet	For control, AoIP, and/or console; 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
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Connectors

SPEAKER ZONES 1-4	(4) 4-pin 5.08 mm detachable terminal blocks; Stereo speaker-level audio outputs; Maximum Wire Size: 12 AWG
LINE OUT 5	(2) RCA female comprising (1) unbalanced stereo line-level audio output; Output Impedance: 100 Ω ; Maximum Output Level: 2Vrms
DIGITAL INPUT 1	(1) RCA female; S/PDIF coaxial digital audio input; Input Impedance: 75 Ω
DIGITAL INPUT 2	(1) JIS F05 female TOSLINK® optical fiber connector; S/PDIF optical digital audio input
ANALOG INPUTS 3-4	(4) RCA female comprising (2) unbalanced stereo line-level audio inputs; Input Impedance: 10 k Ω ; Maximum Input Level: 2Vrms
ETHERNET 1-2	(2) 8-pin RJ-45 connectors, female; 100BASE-TX/1000BASE-T Ethernet port; Green LED indicates Ethernet link status; Flashing amber LED indicates Ethernet activity
100-240 VAC 1.0-0.4A 50/60HZ	(1) 100-240V~50/60Hz Universal AC; IEC 60320 C14 main power inlet, mates with removable power cord (included)

Controls and Indicators

PWR	(1) LED; Amber indicates that the device is booting; White indicates that the device is switched on with audio passing; Red indicates that the device is in standby mode
LAN	(1) White LED; Indicates that the device has a valid IP address
NAX	(1) White LED; White indicates that audio-over-IP traffic is passing in or out of the DM NAX unit

SOURCE 1-4	(4) LEDs; White indicates signal presence on the specified input/source; Red indicates there is clipping on the specified input/source
ZONE 1-5	(5) LEDs; White indicates there is audio output on the indicated zone; Red indicates a fault due to clipping, over current, over temperature, or low voltage
SETUP	(1) Push button: Pressing and holding the SETUP button for 15 seconds with power supplied clears network settings and restores the default DHCP mode; To perform a factory restore, press and hold the SETUP button with power disconnected, then connect the power supply and continue to hold the SETUP button for 30 seconds; (1) LED, illuminates red when the button is pressed, flashes red when reset has been initiated

Power

Main Power	1.0-0.4A @ 100-240VAC, 50/60 Hz
Power Consumption	50 W (all channels driven at 1/8 output power, 8 Ω)

Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	85 BTU/hr (all channels driven at 1/8 output power, 4 Ω)

Construction

Chassis	Metal, black and silver finish, vented front and rear panels
Mounting	1 RU rack-mountable

Dimensions

Height	1.72 in. (44 mm)
Width	8.66 in. (220 mm)
Depth	10.97 in. (279 mm)

Weight

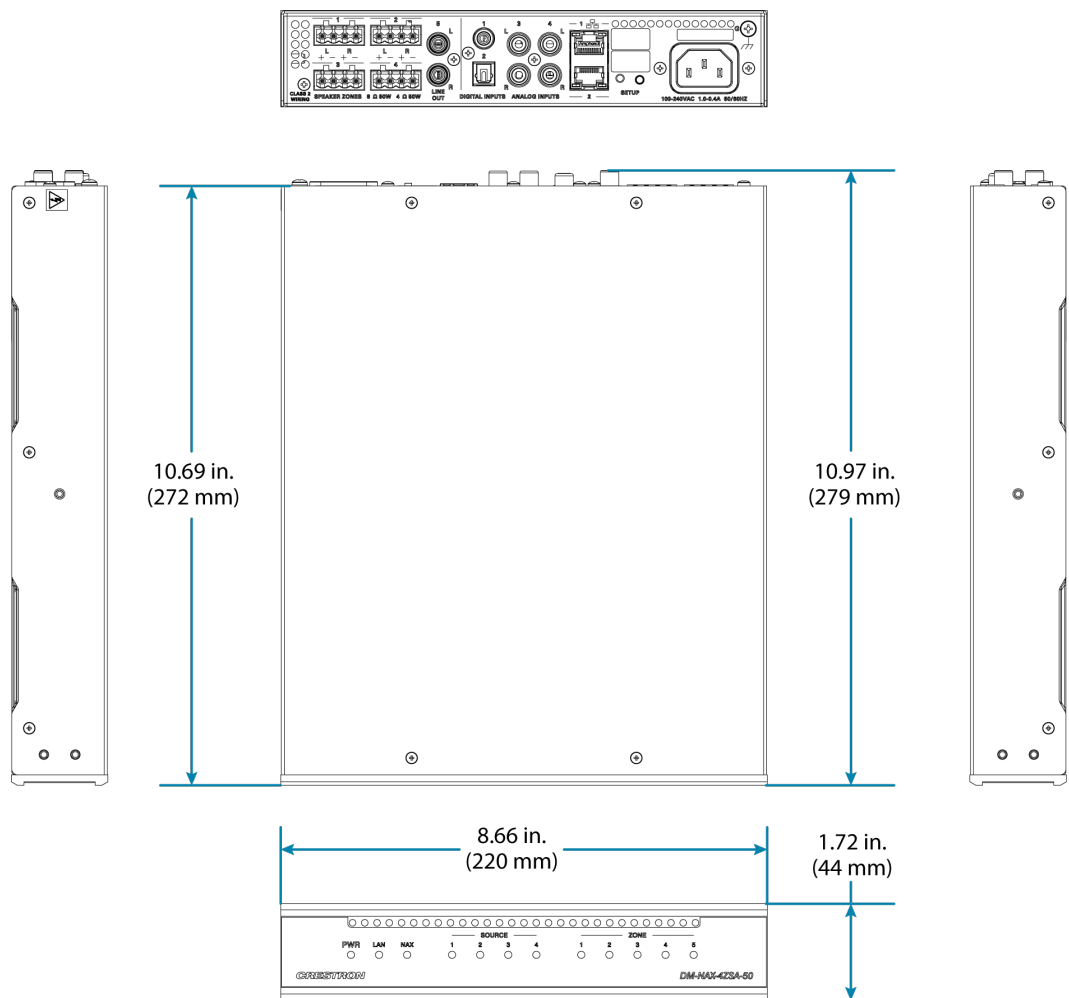
4.15 lb (1.88 kg)

Compliance

Regulatory Model: M202123001

Intertek® Listed for US & Canada, CE, IC, FCC Part 15 Class B digital device

Dimension Drawing



DM-NAX-4ZSP Specifications

Product specifications for the DM-NAX-4ZSP are provided below.

Specifications

Audio

Input Signal Types	4 stereo analog (RCA); 4 digital S/PDIF (2 TOSLINK® and 2 Coaxial)
Output Signal Types	4 stereo analog outputs, Outputs 1 and 2 have a balanced 5-pin stereo Phoenix connection and an unbalanced RCA connection
Sampling Rates and Bit Depths	Digital Input (Coaxial): Up to 192 kHz, 24-bit; Digital Input (Optical): Up to 96 kHz, 24-bit; Media Players: Up to 192 kHz, 24-bit
Source Compensation	±10.0 dB per input
Input Monitoring	Source Signal Detect
Frequency Response	20 Hz to 20 kHz ±0.2 dB
THD	0.006%
S/N Ratio	110 dB digital in, 108 dB analog in
Zone Volume Level Control	-80.0 to +20.0 dB, adjustable from 0% to 100% plus mute
Bass Control	±12.0 dB
Treble Control	±12.0 dB
Loudness Compensation	On/Off
Dynamic Range Control	Off/Low/Medium/High
Balance Control	Left/right adjustable
Tone Profiles	Flat, Classical, Jazz, Pop, Rock, Spoken Word
EQ Filter Types	EQ, High Pass, Low Pass, Treble Shelf, Bass Shelf, Notch
EQ Center Frequency	10 Hz to 20 k Hz per band
EQ Gain	+20/-40 dB per band
EQ Bandwidth	0.1 to 4.0 octaves per band
Bus Volume Offset	±12.0 dB per zone for output bussing

Communications

Ethernet	For control, AoIP, and or console, 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
USB	For configuration management

Connectors

SPDIF SOURCES 1 – 2	(2) JIS F05 female (TOSLINK) optical fiber connector; S/PDIF optical digital audio input
SPDIF SOURCES 3 – 4	(2) RCA female; S/PDIF coaxial digital audio inputs; Input Impedance: 75 Ohms
ANALOG SOURCES L/R 5 – 8	(8) RCA female comprising (4) unbalanced stereo line-level audio inputs; Input Impedance: 10k Ohms; Maximum Input Level: 2 Vrms
ANALOG OUT L/R 1 – 4	(8) RCA connectors, female; Comprises (4) unbalanced line-level stereo audio outputs (mirror corresponding amplified output pairs 1 – 4); Output Impedance: 100 Ohms; Maximum Output Level: 2 Vrms
ANALOG OUT L/R 1 – 2	(2) 5-pin 3.5mm detachable terminal blocks; Balanced stereo line-level audio outputs (mirror corresponding unbalanced output pairs 1 – 2); Output Impedance: 150 Ohms; Maximum Output Level: 4 Vrms
I/O 1-4	(1) 5-pin 3.5 mm detachable terminal block; Comprises (4) Versiport digital input/output or analog input ports (referenced to G); Digital Input: Rated for 0-24VDC, input impedance 20 kΩ, logic threshold >3.125V low/0 and <1.875V high/1; Digital Output: 250mA sink from maximum 24VDC, catch diodes for use with real world loads; Analog Input: Rated for 0-10VDC, protected to 24VDC maximum, input impedance 21 kΩ with pull-up resistor disabled; Programmable 5V, 2 kΩ pull-up resistor per pin
TRIGGER 1-4	(2) 4-pin 3.5 mm detachable terminal block; Comprises (4) voltage triggers to turn on a connected external amplifier; Outputs +12VDC @ 50mA for as long as an audio output signal is detected on the corresponding ANALOG OUT
Ethernet 1	(1) 8-wire RJ45 female; 100Base-T/1000Base-TX Ethernet port
Ethernet 2	(1) 8-wire RJ45 female; 100Base-T/1000Base-TX Ethernet port

USB	(1) USB Type B connector, female; USB computer console port (cable included); For setup only
100-240V~50/60Hz Universal AC	(1) IEC 60320 C14 main power inlet, mates with removable power cord (included)
I/O	(1) 5-pin 3.5 mm detachable terminal block; Comprises (4) Versiport digital input/output or analog input ports (referenced to GND); Digital Input: Rated for 0–24VDC, input impedance 20k Ω , logic threshold >3.125V low/0 and <1.875V high/1; Digital Output: 250 mA sink from maximum 24VDC, catch diodes for use with real world loads; Analog Input: Rated for 0–10VDC, protected to 24VDC maximum, input impedance 21k Ω with pull-up resistor disabled; Programmable 5V, 2k Ω pull-up resistor per pin
G	6-32 screw, chassis ground lug

Controls and Indicators

PWR	(1) LED. White indicates that the device is switched on with audio passing. Red indicates that the device is in standby mode. Off indicates that there is no power from the power supply.
LAN	(1) LED. White indicates that the device is switched on and has a valid IP address. Off indicates that the device is not connected to a network or the IP address is invalid.
NAX	(1) LED. White indicates that AoIP is ready to pass and the unit's PTP clock is synced. Off indicates that no AoIP is passing to or from and/or PTP is not synced.
SOURCE 1-8	(8) LEDs. White indicates signal presence on the specified input/source. Red indicates there is a clipping on an analog input or a bitstream issue on a digital input. Off indicates that there is no signal detected on the specified input/source.
ZONE 1-4	(4) LEDs. White indicates there is audio output on the indicated zone. Red indicates clipping is detected on the output audio.
SETUP	(1) LED. Blinking red indicates that a network reset or factory restore has been initiated via the adjacent SETUP button.

Power

Power Consumption	15.9 W
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Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	57 BTU/hr

Construction

Chassis	Metal, black and silver finish, vented sides
Mounting	1 RU rack-mountable

Dimensions

Height	1.73 in. (44 mm)
Width	19 in. (482 mm) 17.28 in. (439 mm) without rack ears
Depth	14.50 in. (368 mm)

Weight

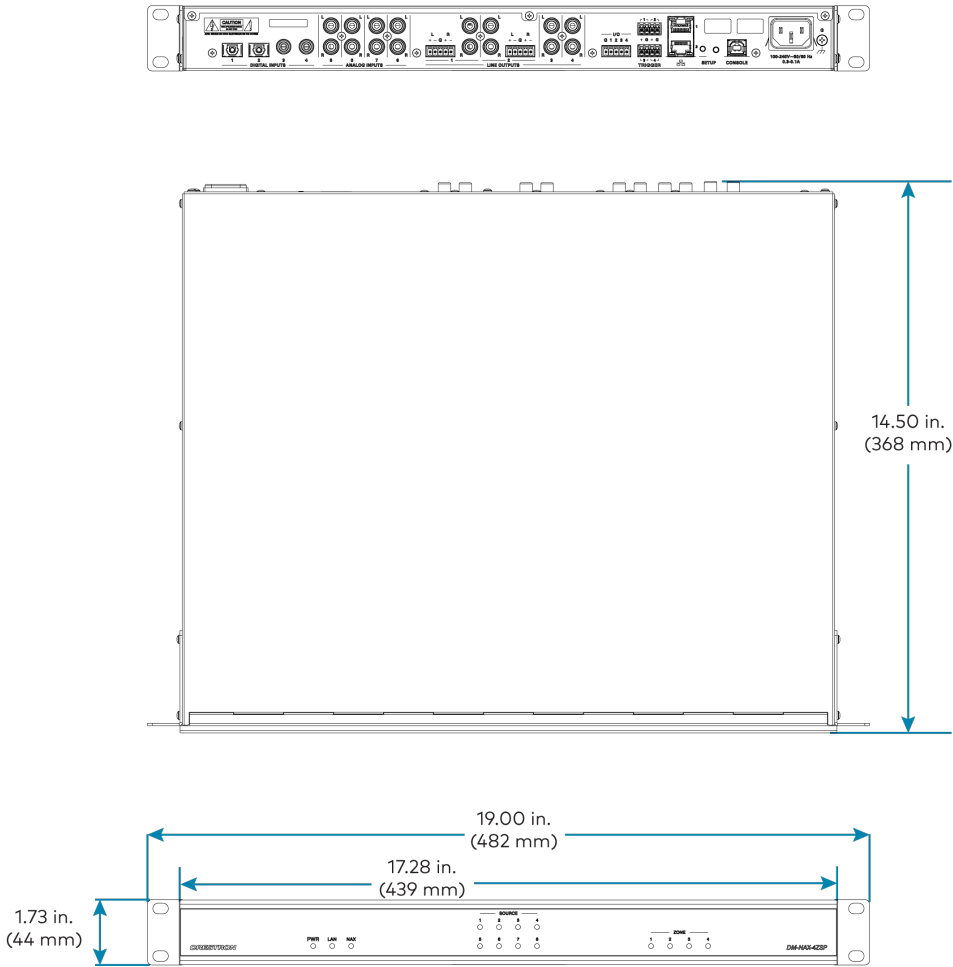
8.06 lb (3.65 kg)

Compliance

Regulatory Model: M202123001

FCC Part 15 Class B digital device, IC Class B, CE, ETL listed

Dimension Drawing



DM-NAX-8ZSA Specifications

Product specifications for the DM-NAX-8ZSA are provided below.

Specifications

Audio

Input Signal Types	4 stereo analog (RCA); 4 digital S/PDIF (2 TOSLINK® and 2 Coaxial)
Output Signal Types	4 stereo analog outputs (mirrors speaker zone outputs 1-4), Outputs 1 and 2 have a balanced 5-pin stereo Phoenix connection and an unbalanced RCA connection
Sampling Rates and Bit Depths	Digital Input (Coaxial): Up to 192 kHz, 24-bit; Digital Input (Optical): Up to 96 kHz, 24-bit; Media Players: Up to 192 kHz, 24-bit
Source Compensation	±10.0 dB per input
Input Monitoring	Source Signal Detect
Output Power	150 Watts per channel at 8 Ohms; 300 Watts per channel at 4 Ohms; 500 Watts per channel at 8 Ohms bridged
Amplifier Monitoring	Over Current, Over/Under Voltage, Over Temperature, DC Offset, Clipping
Frequency Response	20 Hz to 20 kHz ±0.6 dB
THD	0.006%
S/N Ratio	110 dB digital in, 108 dB analog in
Stereo Separation	85 dB @ 1 kHz, 8 ohm; 80 dB @ 1 kHz, 4 ohm
Zone Separation	100 dB @ 1 kHz, 8 ohm; 95 dB @ 1 kHz, 4 ohm
Zone Volume Level Control	-80.0 to +20.0 dB, adjustable from 0% to 100% plus mute
Bass Control	±12.0 dB
Treble Control	±12.0 dB
Loudness Compensation	On/Off
Dynamic Range Control	Off/Low/Medium/High
Balance Control	Left/right adjustable
Zone Configuration	Stereo Single Ended, Mono Single Ended, Stereo Bridged, Mono Bridged, Bridged 2.1, and Bridged 2.1 with Bridged Sub

Power Limiting	Configurable 5 to 150 Watts @ 8 Ohms; 5 to 300 Watts @ 4 Ohms; 5 to 500 Watts @ 8 Ohms bridged
Tone Profiles	Flat, Classical, Jazz, Pop, Rock, Spoken Word
EQ Filter Types	EQ, High Pass, Low Pass, Treble Shelf, Bass Shelf, Notch
EQ Center Frequency	10 Hz to 20 kHz per band
EQ Gain	+20/-40 dB per band
EQ Bandwidth	0.1 to 4.0 octaves per band
Bus Volume Offset	±12.0 dB per zone for output bussing

Communications

Ethernet	For control, AoIP, and or console, 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
USB	For configuration management

Connectors

SPDIF SOURCES 1 – 2	(2) JIS F05 female (TOSLINK) optical fiber connector; S/PDIF optical digital audio input
SPDIF SOURCES 3 – 4	(2) RCA female; S/PDIF coaxial digital audio inputs; Input Impedance: 75 Ohms
ANALOG SOURCES L/R 5 – 8	(8) RCA female comprising (4) unbalanced stereo line-level audio inputs; Input Impedance: 10k Ohms; Maximum Input Level: 2 Vrms
ANALOG OUT L/R 1 – 4	(8) RCA connectors, female; Comprises (4) unbalanced line-level stereo audio outputs (mirror corresponding amplified output pairs 1 – 4); Output Impedance: 100 Ohms; Maximum Output Level: 2 Vrms
ANALOG OUT L/R 1 – 2	(2) 5-pin 3.5mm detachable terminal blocks; Balanced stereo line-level audio outputs (mirror corresponding unbalanced output pairs 1 – 2); Output Impedance: 150 Ohms; Maximum Output Level: 4 Vrms
I/O 1-4	(1) 5-pin 3.5 mm detachable terminal block; Comprises (4) Versiport digital input/output or analog input ports (referenced to G); Digital Input: Rated for 0-24VDC, input impedance 20 kΩ, logic threshold >3.125V low/0 and <1.875V high/1; Digital Output: 250mA sink from maximum 24VDC, catch diodes for use with real world loads; Analog Input: Rated for 0-10VDC, protected to 24VDC maximum, input impedance 21 kΩ with pull-up resistor disabled; Programmable 5V, 2 kΩ pull-up resistor per pin

TRIGGER 1-4	(2) 4-pin 3.5 mm detachable terminal block; Comprises (4) voltage triggers to turn on a connected external amplifier; Outputs +12VDC @ 50mA for as long as an audio output signal is detected on the corresponding ANALOG OUT
Ethernet 1	(1) 8-wire RJ45 female; 100Base-T/1000Base-TX Ethernet port
Ethernet 2	(1) 8-wire RJ45 female; 100Base-T/1000Base-TX Ethernet port
USB	(1) USB Type B connector, female; USB computer console port (cable included); For setup only
100-240V~50/60Hz Universal AC	(1) IEC 60320 C14 main power inlet, mates with removable power cord (included)
I/O	(1) 5-pin 3.5 mm detachable terminal block; Comprises (4) Versiport digital input/output or analog input ports (referenced to GND); Digital Input: Rated for 0–24VDC, input impedance 20k Ω , logic threshold >3.125V low/0 and <1.875V high/1; Digital Output: 250 mA sink from maximum 24VDC, catch diodes for use with real world loads; Analog Input: Rated for 0–10VDC, protected to 24VDC maximum, input impedance 21k Ω with pull-up resistor disabled; Programmable 5V, 2k Ω pull-up resistor per pin
G	6-32 screw, chassis ground lug
SPEAKER OUTPUTS L/R 1 – 8	(16) 2-pin 7.62mm 15A detachable terminal blocks; Power amplifier outputs; Wire Size: Terminals accept up to 12AWG

Controls and Indicators

PWR	(1) LED. Amber indicates that the device is booting. White indicates that the device is switched on with audio passing. Red indicates that the device is in standby mode. Off indicates that there is no power from the power supply.
LAN	(1) LED. White indicates that the device is switched on and has a valid IP address. Off indicates that the device is not connected to a network or the IP address is invalid.
NAX	(1) LED. White indicates that AoIP is ready to pass and the unit's PTP clock is synced. Off indicates that no AoIP is passing to or from and/or PTP is not synced.
SOURCE 1-8	(8) LEDs. White indicates signal presence on the specified input/source. Red indicates there is a clipping on an analog input or a bitstream issue on a digital input. Off indicates that there is no signal detected on the specified input/source.
ZONE 1-8	(8) LEDs. White indicates there is audio output on the indicated zone. Red indicates a fault due to clipping, over current, over temperature, or low voltage.

SETUP (1) LED. Blinking red indicates that a network reset or factory restore has been initiated via the adjacent SETUP button.

Power

Power Consumption 240 W (All channels driven at 1/8th power, 8 ohms)

Environmental

Temperature 32° to 104°F (0° to 40°C)
Humidity 10% to 90% RH (non-condensing)
Heat Dissipation 450 BTU/hr
Ambient Noise Idle, No Load: 28 dB @ 1 m;
Steady State Full Power: 39 dB @ 1 m;
Peak: 45 dB @ 1 m

Construction

Chassis Metal, black and silver finish, vented sides
Mounting 2 RU rack-mountable

Dimensions

Height 3.50 in. (89 mm)
Width 19 in. (482 mm)
17.28 in. (439 mm) without rack ears
Depth 14.52 in. (369 mm)

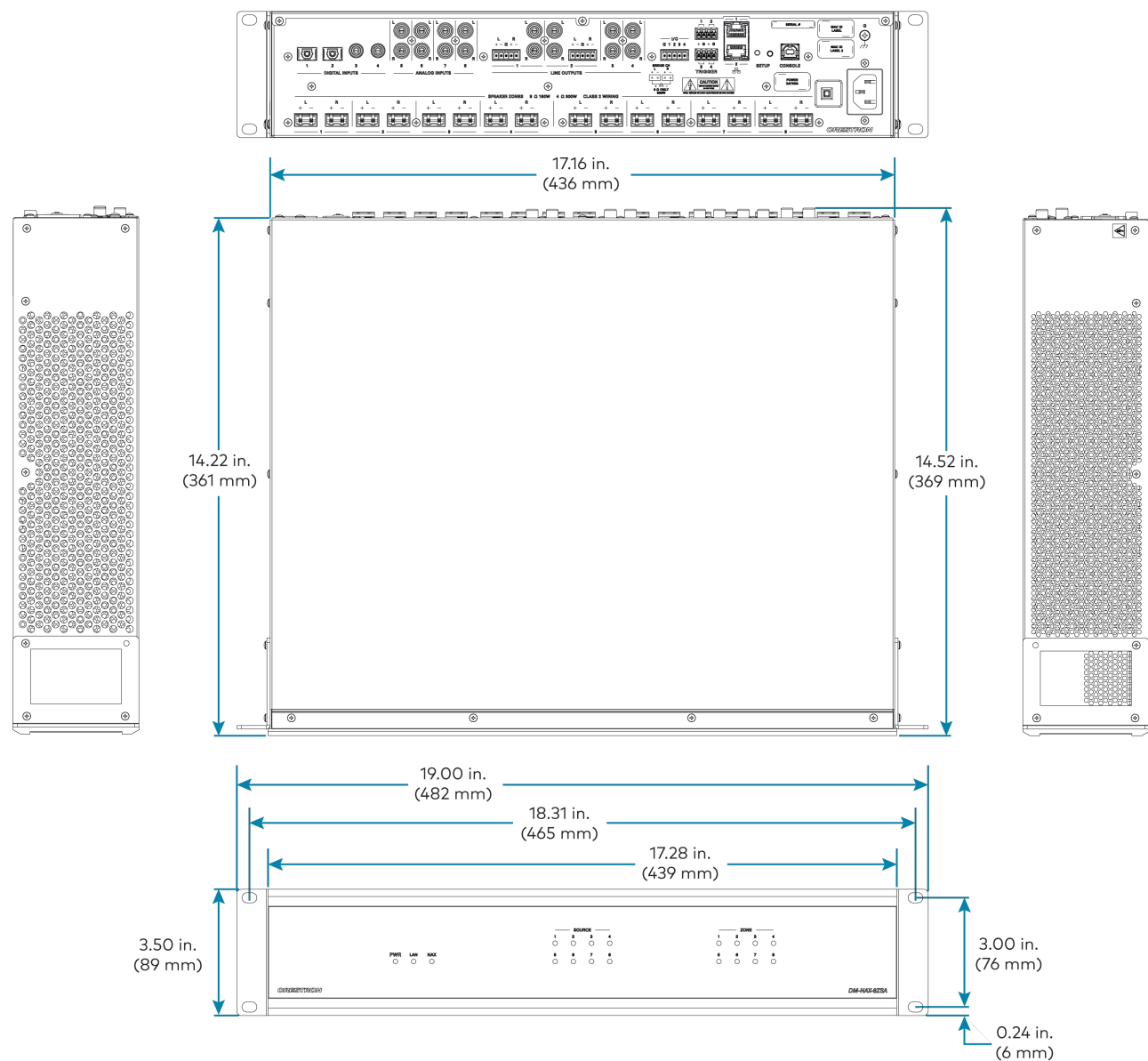
Weight

28 lb (12.70 kg)

Compliance

Regulatory Model: M1845004
FCC Part 15 Class B digital device, IC Class B, CE, ETL listed

Dimension Drawing



DM-NAX-16AIN Specifications

Product specifications for the DM-NAX-16AIN are provided below.

Specifications

Audio

Input Signal Types	8 stereo unbalanced analog (RCA) includes (4) 5-pin phoenix balanced connector; 8 digital SPDIF (4 TOSLINK® and 4 Coaxial)
Source Compensation	±10.0 dB per input
Input Monitoring	Source Signal Detect
THD	0.002%
S/N Ratio	110 dB digital in, 108 dB analog in
Frequency Response	20 Hz to 20 kHz (±0.6 dB)
Supported Sample Rates	Coaxial: Up to 192 kHz; Optical: 192 kHz

Communications

Ethernet	For control, AoIP, and or console, 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
USB	For configuration management

Connectors

ANALOG SOURCES L/R 1 – 8	(8) RCA female comprising (4) unbalanced stereo line-level audio inputs; (4) 5-pin phoenix balanced connector Input Impedance: 10 kΩ; Maximum Input Level: 2 Vrms
SPDIF SOURCES 9 – 12	(4) JIS F05 female (TOSLINK) optical fiber connector; S/SPDIF optical digital audio input
SPDIF SOURCES 13 – 16	(4) RCA female; S/SPDIF coaxial digital audio inputs; Input Impedance: 75 Ω
Ethernet 1	(1) 8-wire RJ45 female; 100Base-T/1000Base-TX Ethernet port
Ethernet 2	(1) 8-wire RJ45 female; 100Base-T/1000Base-TX Ethernet port
USB	(1) USB Type B connector, female; USB computer console port (cable included); For setup only
100-240V~50/60Hz Universal AC	(1) IEC 60320 C14 main power inlet, mates with removable power cord (included)

G 6-32 screw, chassis ground lug

Controls and Indicators

PWR	(1) LED. Amber indicates that the device is booting. White indicates that the device is switched on with audio passing. Red indicates that the device is in standby mode. Off indicates that there is no power from the power supply.
LAN	(1) LED. White indicates that the device is switched on and has a valid IP address. Off indicates that the device is not connected to a network or the IP address is invalid.
NAX	(1) LED. White indicates that AoIP is ready to pass and the unit's PTP clock is synced. Off indicates that no AoIP is passing to or from and/or PTP is not synced.
SOURCE 1-16	(16) LEDs. White indicates signal presence on the specified input/source. Red indicates there is a clipping on an analog input or a bitstream issue on a digital input. Off indicates that there is no signal detected on the specified input/source.
SETUP	(1) LED. Blinking red indicates that a network reset or factory restore has been initiated via the adjacent SETUP button.

Power

Power Consumption	20 Watts
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Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	70 BTU/hr

Construction

Chassis	Metal, black and silver finish, vented sides
Mounting	1 RU rack-mountable

Dimensions

Height	1.25 in. (32 mm)
Width	19 in. (483 mm); 17.28 in. (439 mm) without rack ears
Depth	14.46 in. (368 mm)

Weight

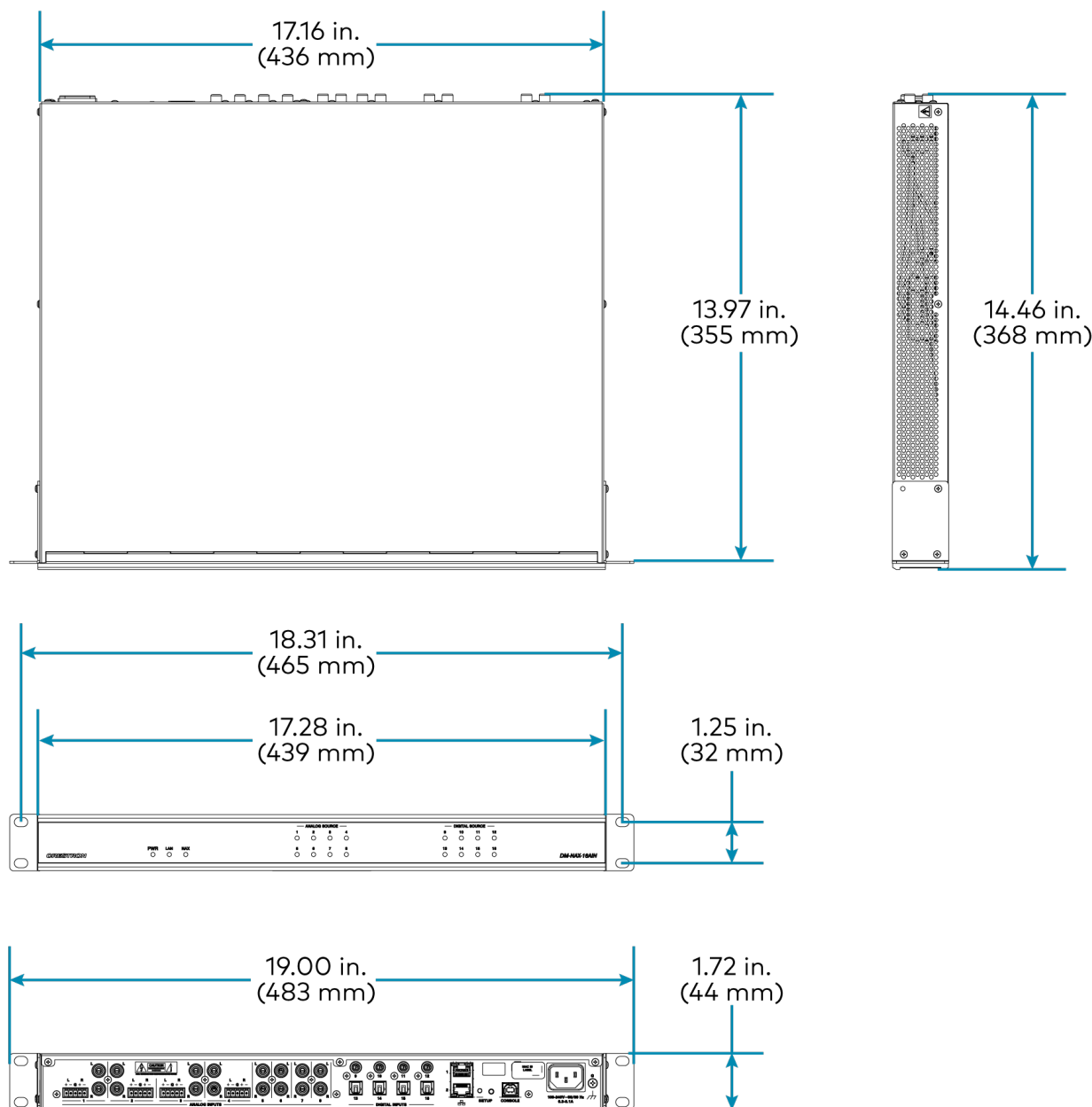
7.39 lb (3.35 kg)

Compliance

Regulatory Model: M201845005

FCC Part 15 Class B digital device, CE, ETL listed

Dimension Drawing



DM-NAX-AMP-X300 Specifications

Product specifications for the DM-NAX-AMP-X300 are provided below.

Specifications

Audio

Input Signal Types	Balanced/unbalanced analog line/mic-level and AoIP streams.
Balanced Analog Input	Maximum signal level: +21 dBu (8.7Vrms); Impedance: >10 k Ω ; f Response: 20 Hz to 20 kHz \pm 0.5 dB; THD+N: <0.005% @ 1 kHz; S/N Ratio: 105 dB A-weight; Channel Separation: 100 dB @ 1 kHz; Equalizer: 5-band
Mic Input	Maximum gain: 60 dB; Impedance: >10 k Ω ; f Response: 20 Hz to 20 kHz \pm 0.5 dB; THD+N: <0.005% @ 1 kHz @ 60 dB gain; S/N Ratio: 71 dB @ 60 dB gain A-weight; Channel Separation: 69 dB @ 60 dB gain @ 1 kHz; Equalizer: 5-band
Balanced Analog Output	Maximum signal level: +21 dBu (8.7Vrms); Impedance: 200 Ω ; f Response: 20 Hz to 20 kHz \pm 0.5 dB; THD+N: 0.005% @ 1 kHz at max output; S/N Ratio: 113 dB digital in, 105 dB analog in, 20 Hz -20 kHz, A-weight; Channel Separation: 100 dB @ 1 kHz; Equalizer: 10-band
Speaker Output	f Response: 20 Hz to 20 kHz \pm 0.5 dB at 1 W; High-Pass Filter (70V and 100V operation only): -3 dB @ 80 Hz, -12 dB/octave; THD+N: <0.1% at 1 kHz @ -3 dB full rated output power; S/N Ratio: >103 dB, 20 Hz to 20 kHz, balanced; Crosstalk: -75 dB at 1 kHz; Gain: 29 dB @ 8 Ω ; Equalizer: 10-band Protection: Over current, under voltage, over temperature, DC offset, extreme high frequency; Go to Sleep Time: 25 minutes with no signal present (when set to POWER SAVER); Wake Time: 0.5 s typical
EQ Filter Types	EQ, High Pass, Low Pass, Treble Shelf, Bass Shelf, Notch

EQ Center Frequency	10 Hz to 20 kHz per band
EQ Gain	+20/-40 dB per band
EQ Bandwidth	0.1 to 4.0 octaves per band

Output Power Per Channel

Mode	1 Channel Driven	2 Channels Driven	3 Channels Driven	4 Channels Driven
Lo-Z, 8 Ω (single ended)	150 W	150 W	75 W ¹	75 W
Lo-Z, 4 Ω (single ended)	200 W	150 W	75 W ¹	75 W
Lo-Z, 8 Ω Bridged	300 W	150 W	150 W ¹	N/A
Hi-Z 70V	300 W	150 W	N/A	N/A
Hi-Z 100V	300 W	150 W	N/A	N/A

NOTES:

- Total output power from all channels combined (simultaneously) is up to 300 W.
- Each mode will output power in watts up to the value listed in the table.

Connectors

CH1-CH4	(2) 4-pin 5.08 mm pitch, 12A plug with screw locking retainers; Power amplifier output; Terminals accept up to 12 AWG (3.31 mm)
	NOTE: Output is direct-coupled, not transformer isolated.
IN1-IN4	(4) 3-pin 3.5 mm detachable terminal block; Balanced/unbalanced line or mic-level audio inputs; Maximum Input Level: 8.7Vrms, +21 dBu; Input Impedance: 10 k Ω Wake threshold is -65 dBu; Phantom power is available when used as mic-level inputs
OUT1-OUT4	(4) 3-pin 3.5 mm detachable terminal block; Balanced/unbalanced line-level audio outputs; Maximum Output Level: 8.7Vrms, +21 dBu
REMOTE	(1) 2-pin 3.5 mm detachable terminal block; Connect to dry contact closure to place amplifier in standby mode
G	(1) 6-32 screw; Chassis ground lug
100-240V~ 1.2-0.6A 50/60 Hz	(1) IEC 60320 C14 main power inlet; Mates with removable power cord, included
Ethernet 1	(1) 8-wire RJ45 female; 100Base-T/1000Base-TX Ethernet port
Ethernet 2	(1) 8-wire RJ45 female; 100Base-T/1000Base-TX Ethernet port

Controls and Indicators

PWR	(1) LED; White indicates amplifier is on and ready for use; Amber indicates the amplifier is booting; Red indicates amplifier is in standby
HI-Z	(1) White LED; Indicates when Hi-Z mode is enabled (70V or 100V)
LAN	(1) White LED; Indicates that the device has a valid IP address
AoIP	(1) White LED; Indicates an active AoIP stream
FAULT	(4) Red LEDs (one per speaker output); Indicates that the input channel has a fault or is clipping
SIGNAL	(4) White LEDs (one per speaker output); Indicates an active input signal
LOCKOUT	(1) Red LED; Indicates that rear panel slide switches are being overridden by programmatic or web UI control
Lo-Z MODES	(2) Slide switches, one switch controlling channels 1 and 2, and one switch controlling channels 3 and 4; Selects stereo, summed, or bridged operation: <ul style="list-style-type: none">• STEREO: The input signal received on each channel is sent to its respectively numbered speaker, line, and network output for use in applications where left and right channel separation is required.• SUM: The input signals received on a pair of line inputs (1 + 2 or 3 + 4) are each routed to both channels of their respectively numbered speaker, line, and network output pair.• BRIDGE: The input signals received on a pair of line inputs (1 + 2 or 3 + 4) are summed and sent to a bridged output (1 + 2 or 3 + 4) for use in high power applications.
Operations Mode	(1) Slide switch; Sets the amplifier for Lo-Z (4 or 8 Ω) or Hi-Z operation (70V or 100V)
Power Mode	(1) Slide switch; Selects Power Saver or Always On operation
SETUP	(1) Red LED and push button; Utilized in some restore procedures

Power

Main Power	1.2-0.6A @ 100-240VAC, 50/60 Hz
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Power Consumption	75 W (All channels driven at 1/8th power, 8 Ω)
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Environmental

Temperature	41 to 104°F (5° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	130 BTU/hr

Dimensions

Height	1.74 in. (44 mm)
Width	9.38 in. (238 mm)
Depth	11.03 in. (280 mm)

Weight

5.3 lb (2.4 kg)

Compliance

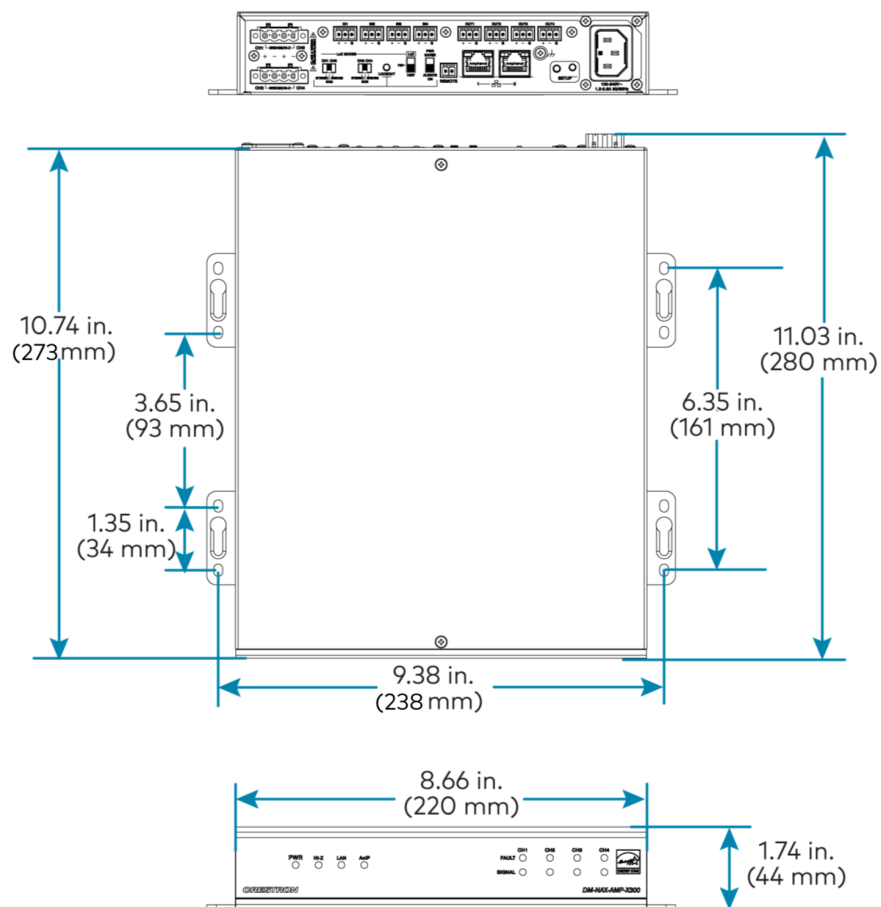
Regulatory Model: M1845006

UL® Listed for US & Canada, CE, IC, FCC Part 15 Class B digital device

Note:

1. 3 channel operation requires two single ended loads and one bridged load.

Dimension Drawings



DM-NAX-AUD-IO Specifications

Product specifications for the DM-NAX-AUD-IO are provided below.

Specifications

Audio

Input Signal Types	Balanced/unbalanced stereo analog line-level; DM NAX/AES67 audio-over-IP
Output Signal Types	Balanced/unbalanced stereo analog line-level; DM NAX/AES67 audio-over-IP
Source Compensation	±10.0 dB per input
Input Monitoring	Source Signal Detect
Frequency Response (at line-level output)	20 Hz to 20 kHz ±0.5 dB
THD+N (at line-level output)	0.005% @ 1 kHz, max output
S/N Ratio (at line-level output)	From line-level input: 110 dB, 20 Hz to 20 kHz, A-weighted; From digital input: 113 dB, 20 Hz to 20 kHz, A-weighted
Balance Control	Left/right adjustable
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

Communications

Ethernet	For control and PoE, AoIP, and/or console, 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
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Connectors

INPUTS	(1) 5-pin 3.5 mm detachable terminal block; Balanced/unbalanced line-level audio inputs; Maximum Input Level: +21 dBu (8.7Vrms); Input Impedance: 10 kΩ
OUTPUTS	(1) 5-pin 3.5 mm detachable terminal block; Balanced/unbalanced line-level audio outputs; Maximum Output Level: +21 dBu (8.7Vrms); Channel separation: 100 dB @ 1 kHz; Output Impedance: 400 Ω

G	(1) 6-32 screw; Chassis ground lug
ETHERNET PoE	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port;

Controls and Indicators

ETHERNET PoE	Left amber LED indicates 1000 Mb link status; Left green LED indicates 100 Mb link status; Flashing right amber LED indicates Ethernet activity
SETUP	(1) Push button: Used for factory reset procedures; (1) LED, illuminates red when the button is pressed, flashes red when reset has been initiated

Power

PoE	IEEE 802.3af Class 0 (12.95 W) compliant; Compatible with IEEE 802.3af compliant Ethernet switch or third-party PoE compliant PSE
Power Consumption	5 W

Environmental

Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 95% RH (noncondensing)
Heat Dissipation	17 BTU/hr

Construction

Chassis	Metal, black and silver finish
Mounting	Mountable on the following via included hardware: 1-gang U.S. electrical box or plaster ring (not included), 3.5 in. (26 mm) electrical box depth recommended; Rack rail; Surface mount

Dimensions

Height	1.59 in. (41 mm)
Width	2.60 in. (66 mm)
Depth	2.11 in. (54 mm)

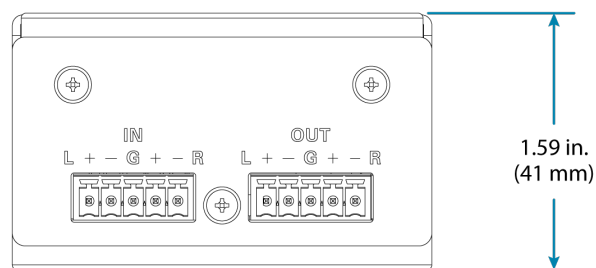
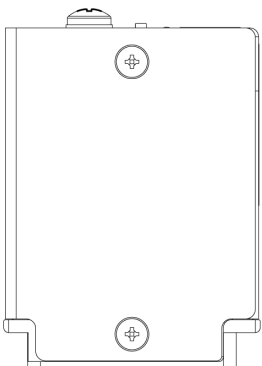
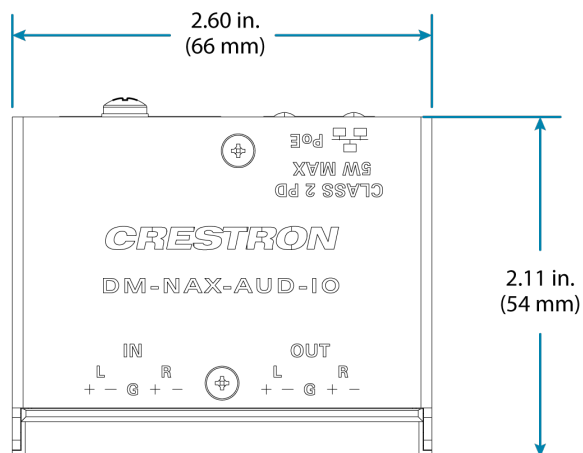
Weight

7 oz. (199 g)

Compliance

Regulatory Model: M202050001
IC, FCC Part 15 Class B digital device

Dimension Drawing



DM-NAX-AUD-USB Specifications

Product specifications for the DM-NAX-AUD-USB are provided below.

Specifications

Audio

Input Signal Types	USB stereo; Unbalanced stereo analog line-level; DM NAX/AES67 audio-over-IP
Output Signal Types	USB stereo; Unbalanced stereo analog line-level; DM NAX/AES67 audio-over-IP
Source Compensation	±10.0 dB per input
Input Monitoring	Source Signal Detect
Frequency Response (at line-level output)	20 Hz to 20 kHz ±0.5 dB
THD+N (at line-level output)	0.005% @ 1 kHz, max output
S/N Ratio (at line-level output)	From line-level input: 108 dB, 20 Hz to 20 kHz, A-weighted; From digital input: 111 dB, 20 Hz to 20 kHz, A-weighted
Balance Control	Left/right adjustable
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

Communications

Ethernet	For control and PoE, AoIP, and/or console, 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
USB	Bidirectional USB Audio Class 1 (UAC1) device connection, up to 24-bit/48 kHz stereo audio transfer

Connectors

USB	(1) USB Type-C connector, female; UAC1 audio support; Enumerates as a Non-AEC Enabled Speakerphone
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INPUT	(1) 1/8 in. 3.5 mm connector, female TRS; Unbalanced line-level audio input; Maximum input level: 2Vrms; Input Impedance: 10 kΩ
OUTPUT	(1) 1/8 in. 3.5 mm connector, female TRS; Unbalanced line-level audio output; Maximum output level: 2Vrms; Channel separation: 100 dB @ 1 kHz; Output impedance: 100 Ω
G	(1) 6-32 screw; Chassis ground lug
ETHERNET PoE	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port

Controls and Indicators

ETHERNET PoE	Left amber LED indicates 1000 Mb link status; Left green LED indicates 100 Mb link status; Flashing right amber LED indicates Ethernet activity
SETUP	(1) Push button: Used for factory reset procedures; (1) LED, illuminates red when the button is pressed, flashes red when reset has been initiated

Power

PoE	IEEE 802.3af Class 0 (12.95 W) compliant; Compatible with IEEE 802.3af compliant Ethernet switch or third-party PoE compliant PSE
Power Consumption	5 W

Environmental

Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 95% RH (noncondensing)
Heat Dissipation	17 BTU/hr

Construction

Chassis	Metal, black and silver finish
Mounting	Mountable on the following via included hardware: 1-gang U.S. electrical box or plaster ring (not included), 3.5 in. (26 mm) electrical box depth recommended; Rack rail; Surface mount

Dimensions

Height	1.59 in. (41 mm)
Width	2.60 in. (66 mm)

Depth 2.11 in. (54 mm)

Weight

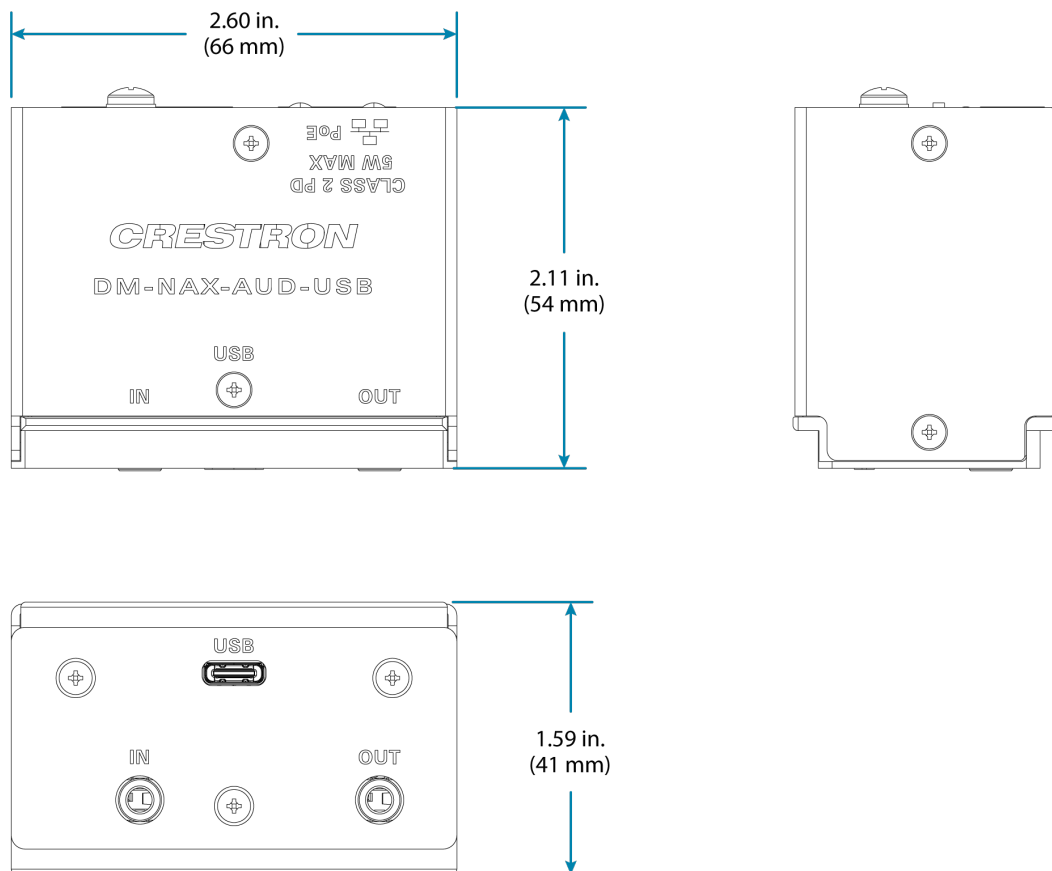
7 oz. (199 g)

Compliance

Regulatory Model: M202050001

IC, FCC Part 15 Class B digital device

Dimension Drawing



DM-NAX-BTIO-1G Specifications

Product specifications for the DM-NAX-BTIO-1G are provided below.

Specifications

Audio

Input Signal Types	Unbalanced stereo analog line-level; Stereo Bluetooth wireless; DM NAX/AES67 audio-over-IP
Output Signal Types	Unbalanced stereo analog line-level; Stereo Bluetooth wireless; DM NAX/AES67 audio-over-IP
Source Compensation	±10.0 dB per input
Input Monitoring	Source Signal Detect
Frequency Response (at line-level output)	20 Hz to 20 kHz ±0.5 dB
THD+N	Line-level: 0.005% @ 1 kHz, max output; Bluetooth: 0.05% @ 1 kHz, max output
S/N Ratio (at line-level output)	From line-level input: 108 dB, 20 Hz to 20 kHz, A-weighted; From digital input: 111 dB, 20 Hz to 20 kHz, A-weighted
Balance Control	Left/right adjustable

Communications

Ethernet	For control and PoE, AoIP, and/or console, 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
Bluetooth Receive	Bluetooth 5.2 sink device, recalls up to seven previously paired devices, persistent or nonpersistent pairing, exclusive, interrupting, or temporary connection modes; Maximum Simultaneous Connections: 1 active device; Exclusive Connection Mode: Remembers up to 7 paired devices; Interrupt Connection Mode: Remembers up to 6 paired devices; Temporary Connection Mode: Remembers 1 paired device; Connection Range: 30 to 60 ft (9 to 18 m) typical, line-of-sight
Bluetooth Transmit	Bluetooth 5.2 source device, recalls one previously paired device; Connection Range: 30 to 60 ft (9 to 18 m) typical, line-of-sight

Connectors

IN	(1) 3.5 mm connector, female TRS; Unbalanced line-level audio input; Maximum input level: 2Vrms; Input Impedance: 10 kΩ
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OUT	(1) 3.5 mm connector, female TRS; Unbalanced line-level audio output; Maximum output level: 2Vrms; Channel separation: 80 dB @ 1 kHz; Output Impedance: 100 Ω
G	(1) 6-32 screw; Chassis ground lug
ETHERNET PoE	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port

Controls and Indicators

Front Panel Display	(1) OLED screen, 128 x 64 dot matrix Height (active area): 0.43 in. (11 mm) Width (active area): 0.86 in. (22 mm) Displays metadata, menus, and volume feedback
Menu	(1) Push button Used to enter the front panel menu and select menu items
Bluetooth	(1) Push button Used to initiate Bluetooth pairing
UP and DOWN Arrows	(2) Push buttons Used to navigate menus and control volume
ETHERNET PoE	Left amber LED indicates 1000 Mb link status; Left green LED indicates 100 Mb link status; Flashing right amber LED indicates Ethernet activity
SETUP	(1) Push button: Used for factory reset procedures; (1) LED, illuminates red when the button is pressed, flashes red when reset has been initiated

Power

PoE	IEEE 802.3af Class 0 (12.95 W) compliant; Compatible with IEEE 802.3af compliant Ethernet switch or third-party PoE compliant PSE
Power Consumption	3.5 W

Environmental

Temperature	32° to 95° F (0° to 35° C)
Humidity	10% to 95% RH (noncondensing)
Heat Dissipation	11.95 BTU/hr

Construction

Chassis	Metal, black and silver finish, vented sides
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Mounting

Mountable on the following:
1-gang U.S. electrical box or plaster ring (not included), 3.5 in. (26 mm)
electrical box depth recommended;
Rack rail

Dimensions

Height 4.12 in. (105 mm)

Width 1.76 in. (45 mm)

Depth 2.25 in. (57 mm)

Weight

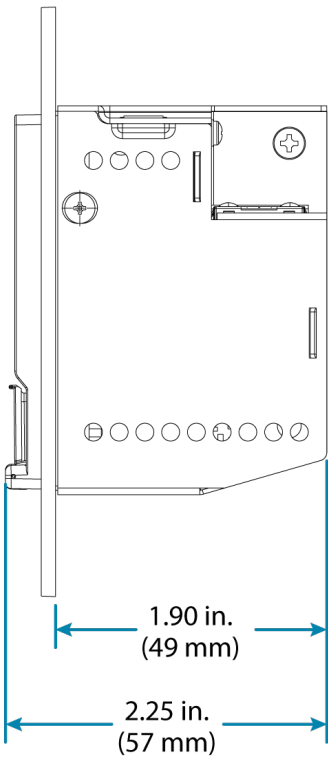
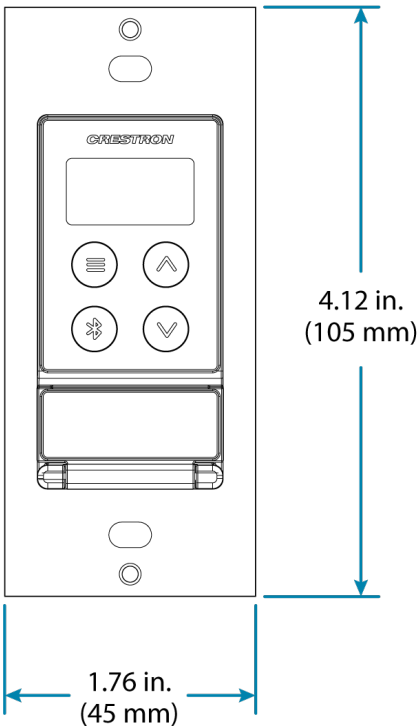
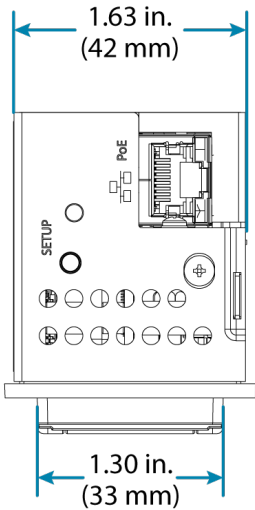
4.8 oz. (136 g)

Compliance

Regulatory Model: M202050005

IC, FCC Part 15 Class B digital device

Dimension Drawing



DM-NAX-XSP Specifications

Product specifications for the DM NAX® are provided below.

Product Specifications

Audio

Input Signal Types	HDMI®, DM NAX audio-over-IP, AES67
Output Signal Types	HDMI (multichannel pass-through), DM NAX audio-over-IP (2-channel downmix), AES67 (2-channel downmix)
Digital Formats	Dolby Digital®, Dolby Digital® EX, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos®, DTS®, DTS ES, DTS 96/24, DTS HD® High Res, DTS HD Master Audio, DTS:X®

Video

Input Signal Types	HDMI with HDR10, HDR10+, Dolby Vision, Deep Color, 8K30 4:4:4 12-bit, and 4K120 4:4:4 12-bit support
Output Signal Types	HDMI with HDR10, HDR10+, Dolby Vision, Deep Color, 8K30 4:4:4 12-bit, and 4K120 4:4:4 12-bit support
Copy Protection	HDCP 2.3

Connectors

Ethernet 1	(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
Ethernet 2	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port
HDMI IN	(1) HDMI Type A connector, female; HDMI digital video/audio input
HDMI OUT	(1) HDMI Type A connector, female; HDMI digital video/audio output, pass-through from HDMI IN ; eARC audio return support
COM	(1) 3-pin 3.5 mm detachable terminal block; Bidirectional RS-232 port; Up to 115.2k baud, hardware and software handshaking support
IR	(1) 2-pin 3.5 mm detachable terminal block; IR output up to 1.1 MHz; 1-way serial TTL (0-5 V) up to 19200 baud

RELAY	(1) 4-pin 3.5 mm detachable terminal blocks; Comprises (2) normally open, isolated relays; Rated 1A, 30VAC/VDC; MOV arc suppression across contacts
G	(1) 6-32 screw; Chassis ground lug
IN	(1) 2-pin 3.5 mm detachable terminal block; Programmable digital input; Input Voltage Range: 0-24VDC, referenced to GND; Logic Threshold: 2.5VDC nominal with 1V hysteresis band; Pull-up Resistor: 2.2k Ω

Communications

Ethernet	For control, and/or console, 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
RS-232	2-way device control and monitoring up to 115.2k baud with hardware and software handshaking via control system
IR	1-way device control via infrared up to 1.1 MHz or serial TTL (0-5V) up to 19.2k baud via control system
HDMI	HDCP 2.3, EDID, CEC

Controls and Indicators

PWR	(1) Green/amber bicolor LED; Amber indicates unit is powering up/loading firmware; Green indicates unit is fully powered and ready for use
HDMI IN	(1) Green LED, indicates sync detection at the HDMI input
HDMI OUT	(1) Green LED, indicates video signal transmission at the HDMI output
Ethernet 1	Left amber LED indicates 1000 Mb link status; Left green LED indicates 100 Mb link status; Flashing right amber LED indicates Ethernet activity
Ethernet 2	Left amber LED indicates 1000 Mb link status; Left green LED indicates 100 Mb link status; Flashing right amber LED indicates Ethernet activity
RESET	(1) Push button: Used for factory reset procedures; (1) LED, illuminates red when the button is pressed, flashes red when reset has been initiated

Power

PoE+	IEEE 802.3at Type 2 Class 4 (25.5 W) compliant; Compatible with Crestron DM-PSU-ULTRA-MIDSPAN, PoE+ compliant Ethernet switch, or third-party IEEE 802.3at compliant PSE
Power Consumption	14 W maximum

Environmental

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

Construction

Chassis	Metal, black finish, vented sides
Mounting	Surface-mountable or attachable to a single rack rail

Dimensions

Height	5.03 in. (128 mm)
Width	8.36 in. (213 mm)
Depth	1.12 in. (29 mm)

Weight

1.82 lb (0.83 kg)

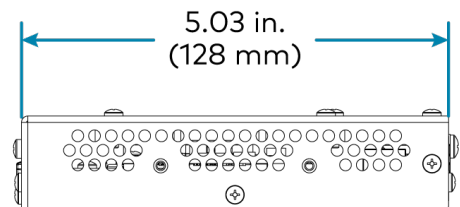
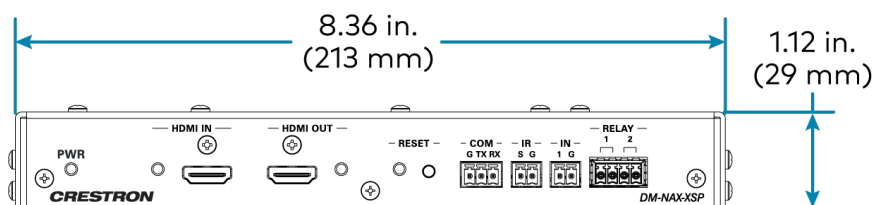
Compliance

Regulatory Model: M202116001

Intertek® Listed for US & Canada, CE, IC, FCC Part 15 Class B digital device

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 the various DM NAX devices.

- [DM-NAX-2XLRI-1G](#)
- [DM-NAX-8ZSA](#)
- [DM-NAX-4ZSA-50](#)
- [DM-NAX-4ZSP](#)
- [DM-NAX-16AIN](#)
- [DM-NAX-AMP-X300](#)
- [DM-NAX-AUD-IO](#)
- [DM-NAX-AUD-USB](#)
- [DM-NAX-BTIO-1G](#)
- [DM-NAX-XSP](#)

DM-NAX-2XLRI-1G Installation

Refer to the following sections to install the DM-NAX-2XLRI-1G.

- [In the Box on page 84](#)
- [Mounting the Device on page 84](#)
- [Connect the Device on page 87](#)
- [Reset the Device on page 88](#)

In the Box

Qty.	Description
1	DM-NAX-2XLRI
Additional Items	
2	Screw, 06-32, 3/4 in., Truss Head, Combo (2009211)

Mounting the Device

The DM-NAX-2XLRI-1G can be mounted into a 1-gang electrical box or onto a rack rail.

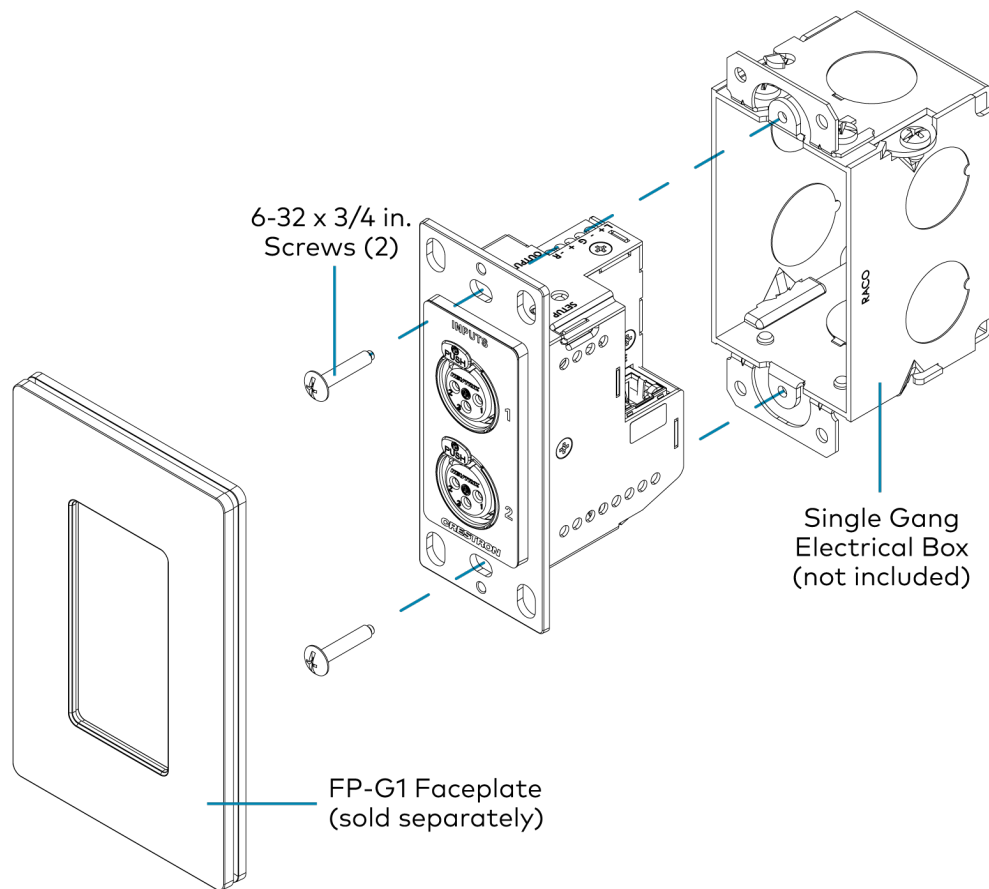
Mounting into a 1-Gang Electrical Box

NOTES:

- The DM-NAX-2XLRI-1G should only be mounted with a RACO® 3 in. x 2 in. x 2 in. gangable metal switch box with eight 0.5 in. knockouts and plaster ears (catalog ID #420), as it was designed to fit the box dimensions and knockout placements. Alternative metal switch boxes should not be used as they may have different knockout placements, which can lead to issues running the PoE connection to the unit due to cable bend radius restrictions.
- For thermal performance reasons, fully enclosed plastic back boxes should not be used with the DM-NAX-2XLRI-1G. In installations where an enclosed back box is not required, the DM-NAX-2XLRI-1G can be installed into most single gang metal or plastic mud rings.
- Connector boots should not be used on CAT5e (or greater) cables being connected to the DM-NAX-2XLRI-1G to avoid cable bend radius issues.

To mount the wall plate into a 1-gang electrical box:

1. Make connections to the rear of the device. For details, refer to [Top Panel on page 88](#).
2. Using a Phillips screwdriver and the two included 6-32 x 3/4 in. truss head screws, attach the wall plate to the electrical box.



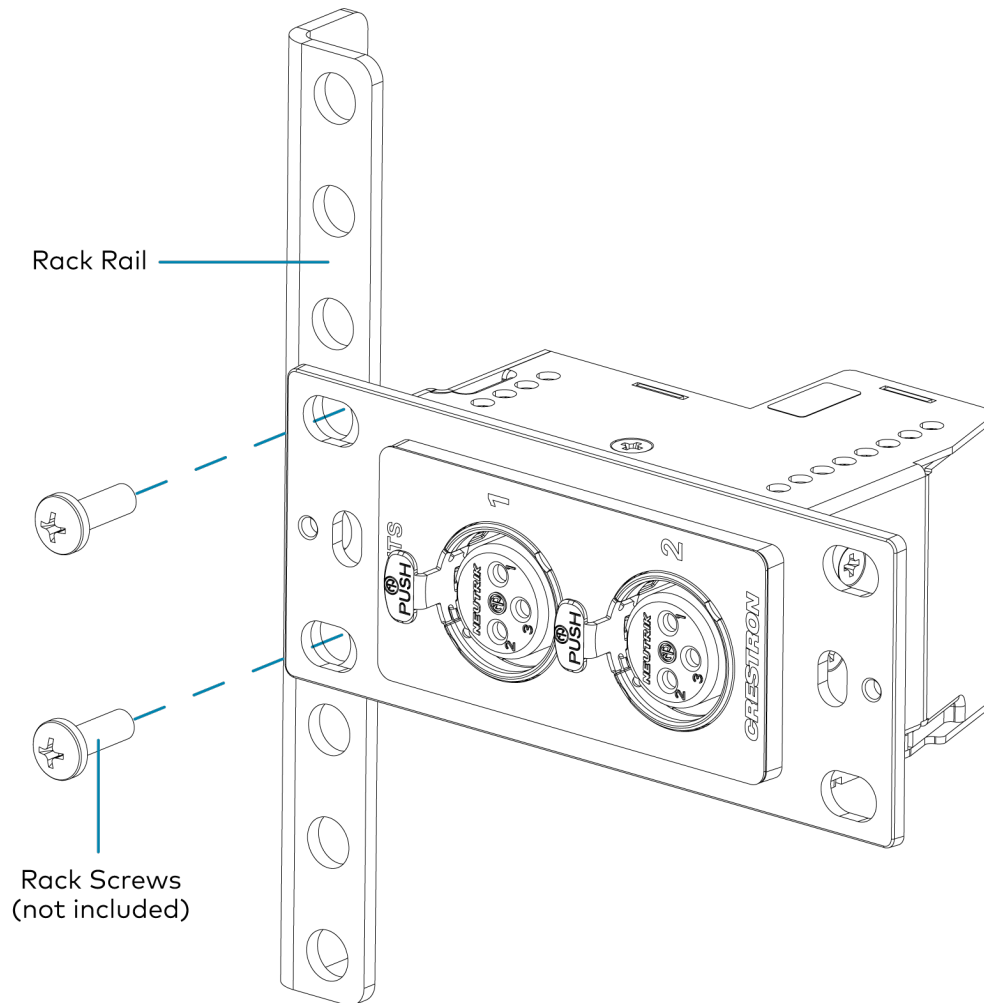
3. Using a Phillips screwdriver and two 6-32 x 1/4 in., flat head screws (not included), attach a FP-G1 decorator style faceplate (sold separately) to the wall plate.

Mounting onto a Rack Rail

To mount the wall plate onto a rack rail:

1. Position the wall plate horizontally so that the holes in the left or right mounting flange align with the holes in the rack rail.

2. Secure the wall plate to the rack rail using two mounting screws (not included).

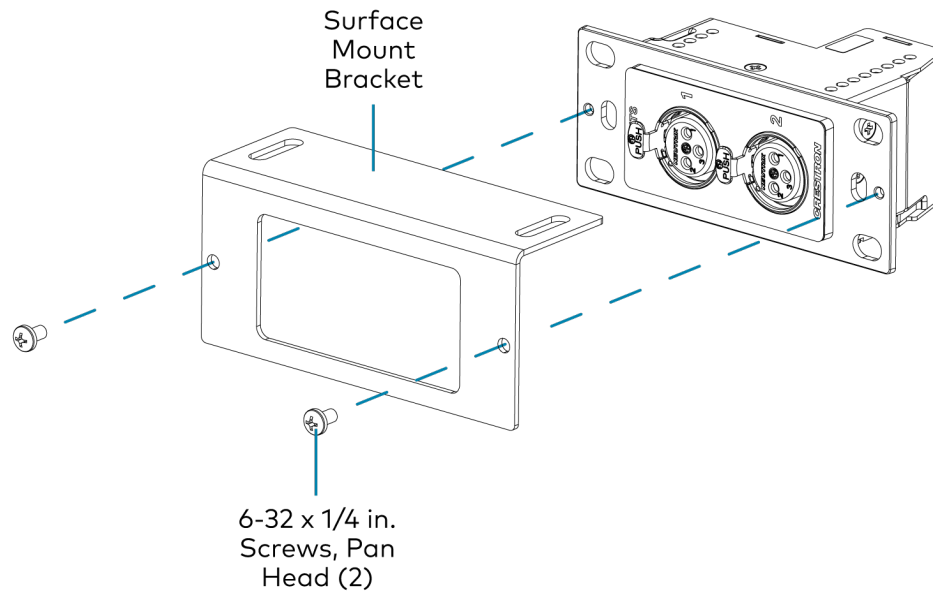


Mounting to a Flat Surface

To mount the wall plate to a flat surface:

1. Position the wall plate so that the holes in the mounting flange align with the mounting bracket (not included).

2. Connect the wall plate to the mounting bracket using a Phillips screwdriver and two SEMS screws 6-32 x 1/4 in. (not included).

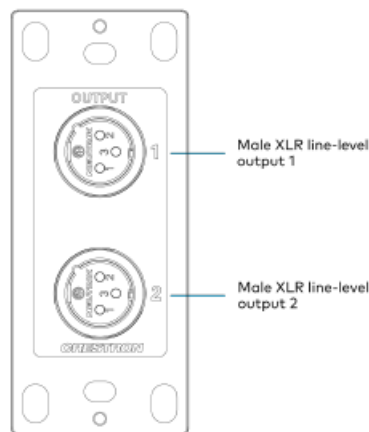


3. Secure the mounting bracket to a flat surface using the appropriate mounting screws (not included).

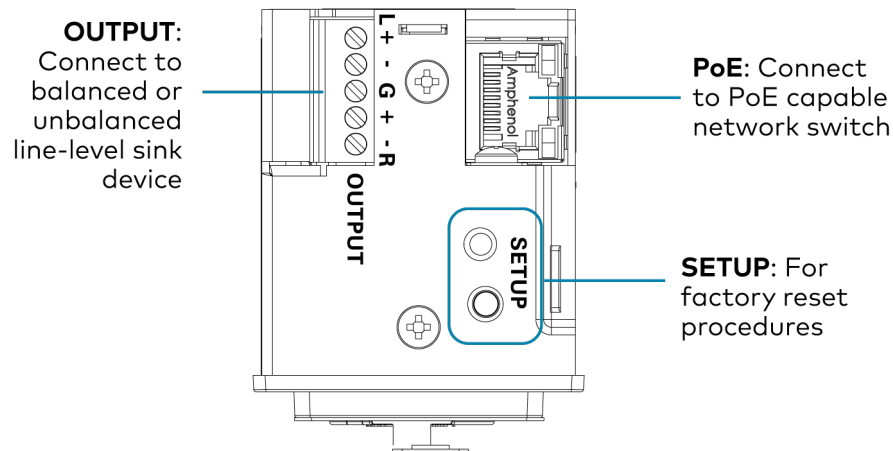
Connect the Device

Make connections to the front and top of the DM-NAX-2XLRI-1G.

Front Panel



Top Panel



NOTE: **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.

Connect a PoE capable network switch to the **PoE** port.

Connect a balanced or unbalanced line level sink device (such as the [MP-WP-2RCAO-1G](#) or [MP-WP-2XLRO-1G](#), sold separately) to the **OUTPUT** port.

Connect XLR sources to the front panel XLR connections.

Reset the Device

A network reset or factory restore may be performed when troubleshooting.

CAUTION: These procedures should only be performed to recover an unresponsive device. Both the Network Reset and Factory Restore procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before performing these procedures, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

Network Reset

1. Ensure the device is powered on.
2. Press and hold the **SETUP** button for up to 15 seconds until the **SETUP** LED flashes red.

The device will reboot, and the default network settings will be reset. The device will be reverted to its default hostname, with DHCP enabled, and no static IP set.

Factory Restore

1. Turn off the device by disconnecting the power cable from the device.
2. Press and hold the **SETUP** button and then reconnect the power cable while still holding the **SETUP** button. Continue holding the **SETUP** button for up to 30 seconds until the **SETUP** LED flashes.

The device will reboot, and all the factory default settings will be restored, such as audio settings, multicast addressing, etc.

CAUTION: Performing a factory restore will clear all settings from the device configuration.

DM-NAX-4ZSA-50 Installation

Refer to the following sections to install the DM-NAX-4ZSA-50.

- [In the Box on page 90](#)
- [Install the Device on page 90](#)
- [Connect the Device on page 94](#)
- [Apple® AirPlay® Setup on page 95](#)
- [Spotify® Setup on page 96](#)
- [Reset the Device on page 97](#)
- [Observe the LED Indicators on page 97](#)

In the Box

Qty.	Description
1	DM-NAX-4ZSA-50
Additional Items	
1	Power Cord, approx. 6.5 ft (2m) (2001134)
2	Bracket, rack ear, quarter-wide (2057495)
4	Joining plate (2056313)
4	Speaker Connector, 4-Pin (2057001)
4	Screw, 6-32 x 5/16 in., Flat Head, Phillips (2007223)
8	Screw, 8-32 x 5/16 in., Phillips (2056985)
4	Adhesive feet (2002389)

Install the Device

Refer to the [Safety Instructions](#) (Doc. 6607) prior to installation.

The device can be placed on a table or installed in a rack.

Place on a Table

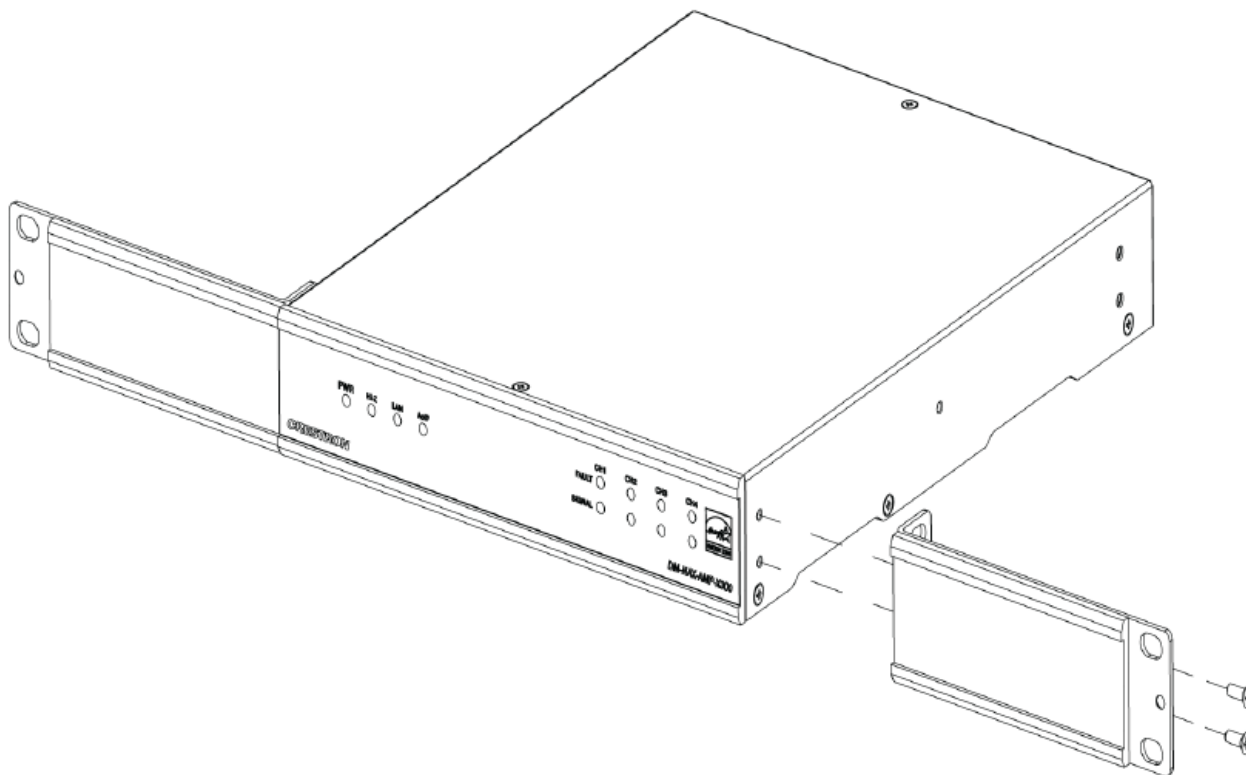
Attach the four adhesive feet to the bottom of the device. Place the device on a table or stack on top of another device.

Rack Installation

This device occupies 1/2 RU of rack space.

To install the included rack ears:

1. Use a #1 Phillips screwdriver and the included 6-32 5/16 in. Phillips screws to attach the included rack ears to the device.

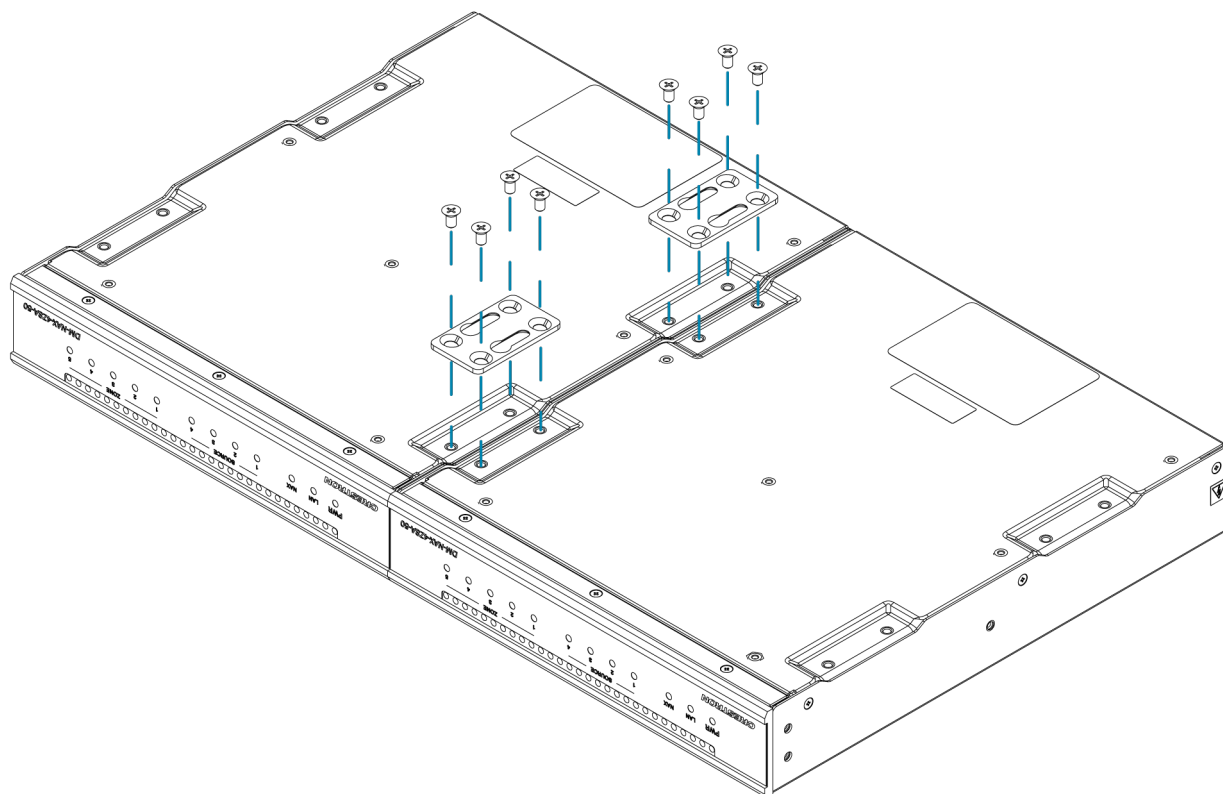


2. Mount the device into the rack using four rack mounting screws (not included).

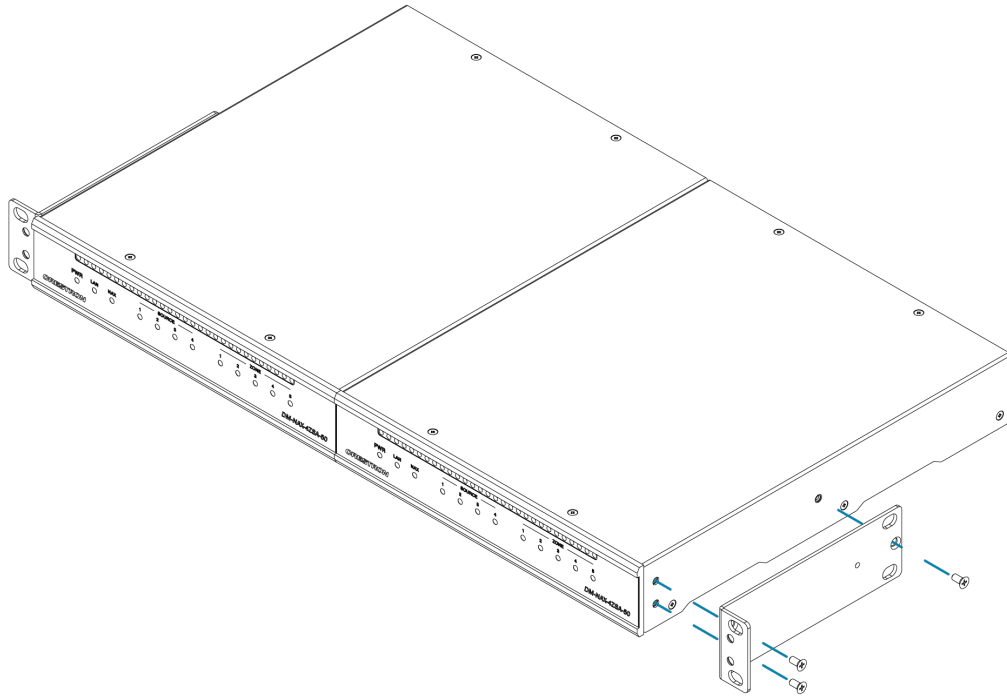
Double Mount

To rack-mount two Crestron 1/2 RU units together:

1. On a flat surface, place the devices upside-down and adjacent to each other.
2. Using a Philips screwdriver and the eight included 8-32 x 5/16 in. screws, gang the devices together with two of the joining plates.



3. Turn the device assembly over and, using six 6-32 x 5/16 in. screws, attach the rack ears to each side.



4. Mount the assembly into the rack using four rack mounting screws (not included).

Rack Mounting Safety Precautions

Elevated Operating Ambient Temperature: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.

Reduced Airflow: Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Earthing: Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

Connect the Device

Make the necessary connections as called out in the following illustration. Connect power last.

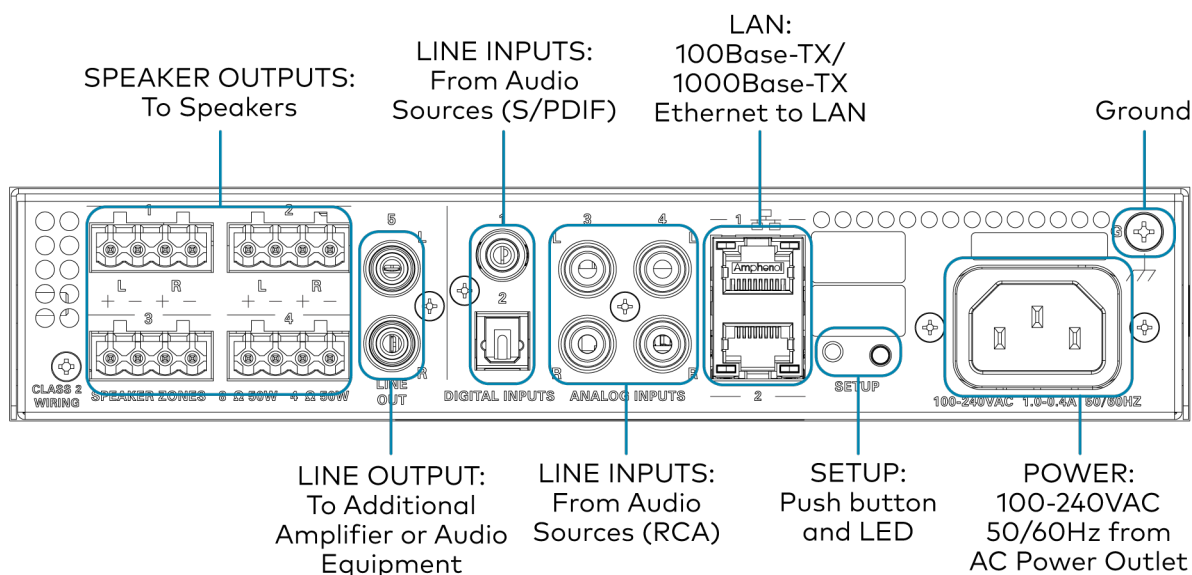
CAUTION:

- Keep the device unplugged until all of the input, network, output, and speaker wiring is complete.
- Check the speaker cables for shorts and frayed wiring around the **SPEAKER ZONES** connectors.

NOTE:

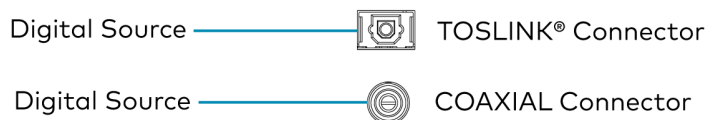
- Ensure that the unit is properly grounded by connecting the chassis ground lug to an earth ground (building steel).
- To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the product specifications.
- Do not bundle power cords together with connection cables. Doing so can result in noise.

Rear Panel



Digital Inputs

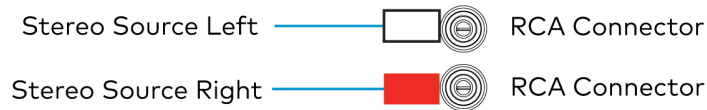
Refer to the following illustration when connecting digital audio sources.



NOTE: Only 2-channel PCM digital audio is supported at the digital inputs.

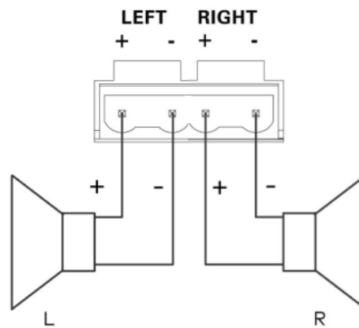
Analog Inputs

Refer to the following illustration when connecting analog audio sources.



Speaker Connections

Connect speakers to the DM-NAX-4ZSA-50 as shown in the following illustration.



Apple® AirPlay® Setup

The DM-NAX-4ZSA-50 supports AirPlay 2 and requires iOS 11.4 or later.

AirPlay can be enabled on any of the built-in media players on the DM-NAX-4ZSA-50.

To stream media from an iOS device to a speaker zone in your distributed audio system:

1. Ensure that the iOS device and DM-NAX-4ZSA-50 are on the same network.
2. On the DM-NAX-4ZSA-50, enable AirPlay for the built-in media player you would like to stream to, either using the web UI or programming.

NOTE: If the control/media and Audio-over-IP network traffic is isolated between two network ports on the DM-NAX-4ZSA-50, AirPlay will use the port specified for the Control/Media traffic.

3. On your iOS device:
 - a. Enable AirPlay
 - b. From the list of available AirPlay destinations, select the DM-NAX-4ZSA-50 zone you would like to stream to.

The media player will play back audio to the selected zone(s).

NOTE: By default, media players 1 - 5 route the audio signals to their respectively numbered speaker zones 1 - 5. If the user has not specified the speaker zone when Airplay streaming begins, the media player will automatically route to its default speaker zone. For example, the audio from the media player 3 will be routed to speaker zone 3.

After the AirPlay streaming begins, you will be able to control the volume of the streaming DM-NAX-4ZSA-50 speaker zones directly from your iOS device.

Spotify® Setup

The DM-NAX-4ZSA-50 supports Spotify.

To configure Spotify, use your phone, tablet or computer as a remote control for Spotify. Go to spotify.com/connect to learn how.

Spotify can be enabled on any of the built-in media players on the DM-NAX-4ZSA-50.

To stream media from a device to a speaker zone in your distributed audio system:

1. Ensure that the device and DM-NAX-4ZSA-50 are on the same network.
2. On the DM-NAX-4ZSA-50, enable Spotify for the built-in media player you would like to stream to, either using the web UI or programming.

NOTE: If the control/media and Audio-over-IP network traffic is isolated between two network ports on the DM-NAX-4ZSA-50, Spotify will use the port specified for the Control/Media traffic.

3. On your device:
 - a. Enable Spotify
 - b. From the list of available Spotify destinations, select the DM-NAX-4ZSA-50 zone you would like to stream to.

The media player will play back audio to the selected zone(s).

NOTE: By default, media players 1 - 5 route the audio signals to their respectively numbered speaker zones 1 - 5. If the user has not specified the speaker zone when Spotify streaming begins, the media player will automatically route to its default speaker zone. For example, the audio from the media player 3 will be routed to speaker zone 3.

After the Spotify streaming begins, you will be able to control the volume of the streaming DM-NAX-4ZSA-50 speaker zones directly from the Spotify application on the casting device.

Observe the LED Indicators

Refer to the following table for information about the LED indicators on the device.

LED Indicator	Color	Meaning
PWR	Amber	Power is being applied to the device. The device is booting.
	White	Device is powered on with audio passing.
	Red	Device is in standby mode.
Ethernet 1	White	The device is powered on and has a valid IP address.
	Off	Device is not connected to a network or the IP address is invalid.
Ethernet 2	White	AoIP is ready to pass and the unit's PTP clock is synced.
	Off	No AoIP is passing to or from and/or PTP is not synced.
SOURCE 1-4	White	Signal is detected on the specified input/source.
	Red	There is clipping on an analog input or bitstream audio detected on a digital input.
	Off	There is no signal detected on the specified input/source.
ZONE 1-4	White	There is audio output on the indicated zone.
	Red	Clipping or a fault is detected on the zone output due to over current, over temperature, or low voltage.
ZONE 5	White	There is audio output on the indicated zone.
	Red	Clipping is detected on the zone output due to over current, over temperature, or low voltage.
SETUP	Solid Red	The SETUP button is pressed.
	Blinking Red	A network reset or factory restore has been initiated via the adjacent SETUP button.

Reset the Device

A network reset or factory restore may be performed when troubleshooting.

CAUTION: These procedures should only be performed to recover an unresponsive device. Both the Network Reset and Factory Restore procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before performing these procedures, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

Network Reset

1. Ensure the device is powered on.
2. Press and hold the **SETUP** button for up to 15 seconds until the **SETUP** LED flashes red.

The device will reboot, and the default network settings will be reset. The device will be reverted to its default hostname, with DHCP enabled, and no static IP set.

Factory Restore

1. Turn off the device by disconnecting the power cable from the device.
2. Press and hold the **SETUP** button and then reconnect the power cable while still holding the **SETUP** button. Continue holding the **SETUP** button for up to 30 seconds until the **SETUP** LED flashes.

The device will reboot, and all the factory default settings will be restored, such as zone settings, streaming service accounts, multicast addressing, etc.

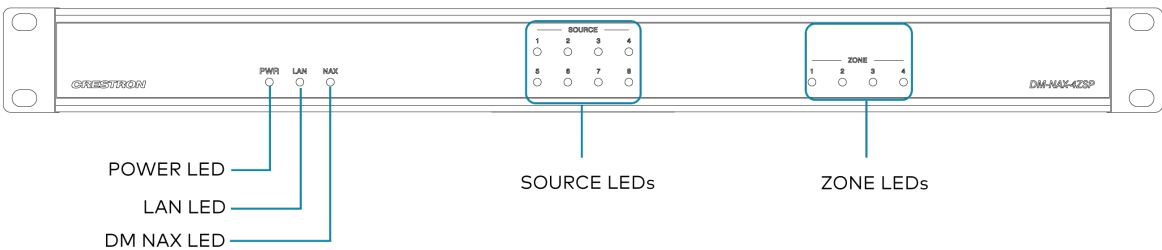
CAUTION: Performing a factory restore will clear all settings from the device configuration.

DM-NAX-4ZSP Installation

Refer to the following sections to install the DM-NAX-4ZSP.

- [In the Box on page 99](#)
- [Install the Device on page 99](#)
- [Connect the Device on page 101](#)
- [Observe the LED Indicators on page 105](#)
- [Apple® AirPlay® Setup on page 103](#)
- [Spotify® Connect Setup on page 104](#)
- [Reset the Device on page 106](#)

Front Panel



In the Box

Qty.	Description
1	DM-NAX-4ZSP
Additional Items	
2	Bracket, Rack Ear, 2 RU (2032122)
1	Power Cord, approx. 6.5 ft (2 m) (2001134)
2	Connector, 4-Pin (2003576)
3	Connector, 5-Pin (2003577)
4	Feet, Adhesive (2002389)

Install the Device

Refer to the [Safety Instructions](#) (Doc. 6607) prior to installation.

The device can be placed on a table or installed in a rack.

Place on a Flat Surface

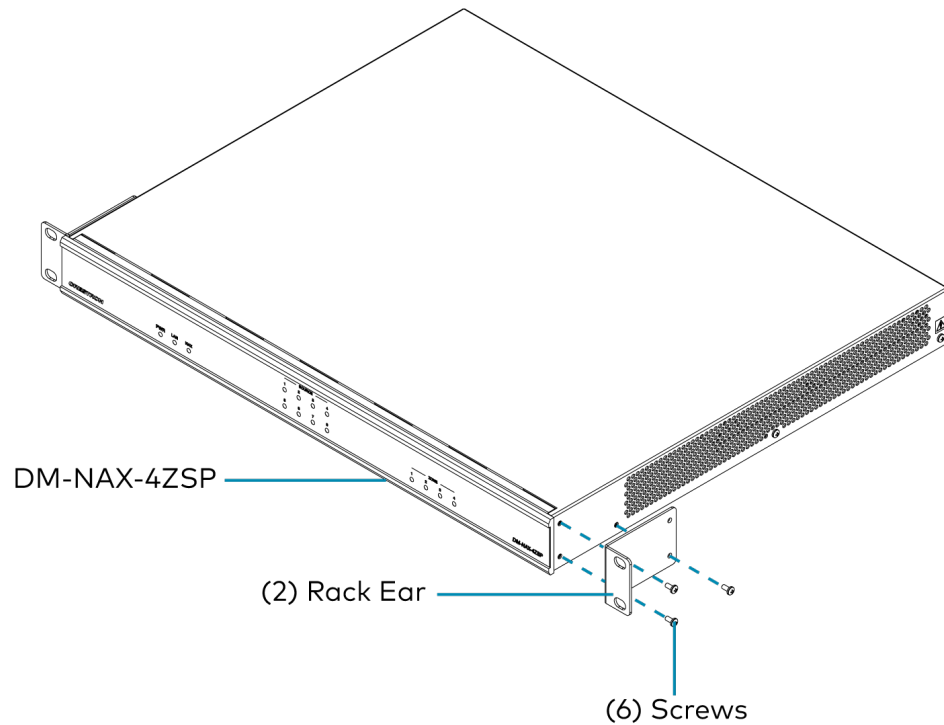
Place the device on a flat surface such as a table.

Install in a Rack

This device occupies 1U of rack space.

To mount the device into a rack:

1. Use a Phillips screwdriver (not included) to remove the three screws from each side of the device as shown in the illustration.
2. Use the screwdriver and the six screws (removed earlier) to attach the included rack ears to the device.



3. Mount the device into the rack using four rack mounting screws (not included).

Rack Mounting Safety Precautions

Elevated Operating Ambient Temperature: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.

Reduced Airflow: Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Earthing: Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

Connect the Device

Make the necessary connections as called out in the following illustration. Connect power last.

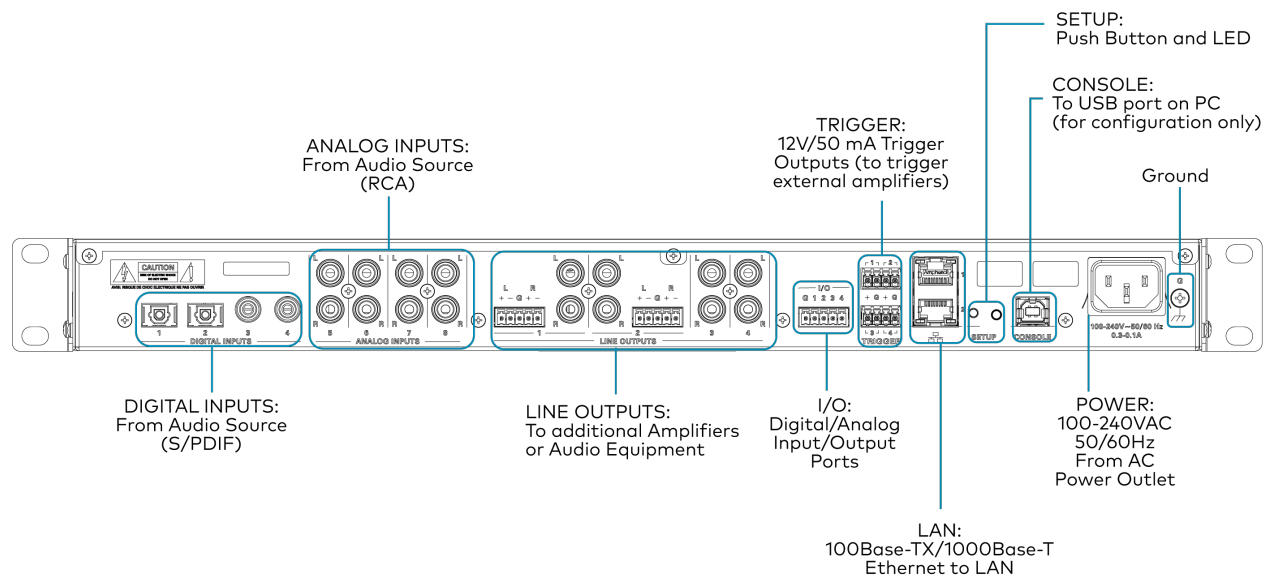
CAUTION:

- Keep the device unplugged until all of the input, network, output, and speaker wiring is complete.

NOTES:

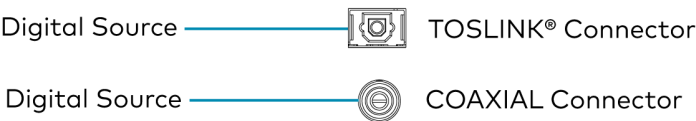
- Ensure that the unit is properly grounded by connecting the chassis ground lug to an earth ground (building steel).
- To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range of 32° to 104°F (0° to 40°C).
- Do not bundle power cords together with connection cables. Doing so can result in noise.

Rear Panel



Digital Inputs

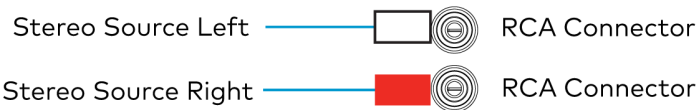
Refer to the following illustration when connecting digital audio sources.



NOTE: 2-channel PCM digital audio is the only supported digital input format.

Analog Inputs

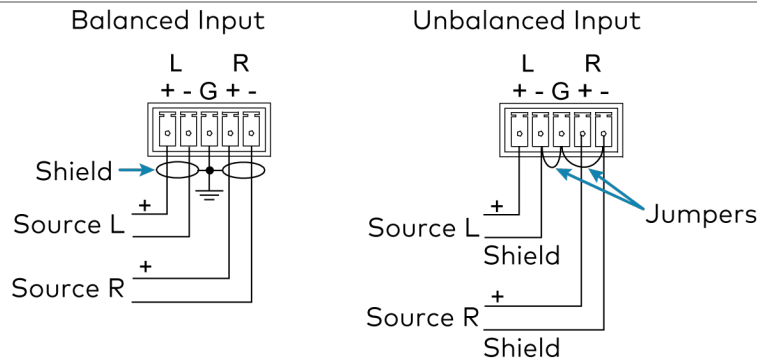
Refer to the following illustration when connecting analog audio sources.



Balanced/Unbalanced Audio Output

Refer to the following table and illustration for analog audio output pin assignments and connection information.

Signal Name	Balanced Audio Output	Unbalanced Audio Output
+	L+	L+
-	L-	L Shield
G	Shield/ground	G, L Shield, and R Shield
+	R+	R+
-	R-	R Shield



Apple® AirPlay® Setup

The DM-NAX-4ZSP supports AirPlay 2 and requires iOS 11.4 or later.

AirPlay can be enabled on any of the built-in media players on the DM-NAX-4ZSP.

To stream media from an iOS device to an output zone in your distributed audio system:

1. Ensure that the iOS device and DM-NAX-4ZSP are on the same network.
 2. On the DM-NAX-4ZSP, enable AirPlay for the built-in media player you would like to stream to, either using the web UI or programming.
- NOTE:** If the control/media and Audio-over-IP network traffic is isolated between two network ports on the DM-NAX-4ZSP, AirPlay will use the port specified for the Control/Media traffic.
3. On your iOS device:
 - a. Enable AirPlay
 - b. From the list of available AirPlay destinations, select the DM-NAX-4ZSP zone you would like to stream to.

The media player will play back audio to the selected zone(s).

Once AirPlay streaming begins, you will be able to control the volume of the streaming DM-NAX-4ZSP output zones directly from your iOS device.

NOTE: By default, media players 1 - 4 route the audio signals to their corresponding output zones when Airplay streaming begins. If the user has not already specified a destination output zone for the media player when streaming begins, the media player will automatically route to its default output zone. For example, if a user streams Airplay to media player 3, the audio will be routed to output zone 3.

Spotify® Connect Setup

The DM-NAX-4ZSP supports Spotify Connect.

To configure Spotify, use your phone, tablet or computer as a remote control for Spotify. Go to spotify.com/connect to learn how.

Spotify Connect can be enabled on any of the built-in media players on the DM-NAX-4ZSP.

To stream media from a device to a output zone in your distributed audio system:

1. Ensure that the device and DM-NAX-4ZSP are on the same network.
2. On the DM-NAX-4ZSP, enable Spotify Connect for the built-in media player you would like to stream to, either using the web UI or programming.

NOTE: If the control/media and Audio-over-IP network traffic is isolated between two network ports on the DM-NAX-4ZSP, Spotify will use the port specified for the Control/Media traffic.

3. On your device:
 - a. Open the Spotify application or web client.
 - b. From the list of available Spotify destinations, select the DM-NAX-4ZSP zone you would like to stream to.

The media player will play back audio to the selected zone(s).

Once Spotify Connect streaming begins, you will be able to control the volume of the streaming DM-NAX-4ZSP output zones directly from the Spotify application on your device.

NOTE: By default, media players 1 - 4 route the audio signals to their corresponding output zones when Spotify Connect streaming begins. If the user has not already specified a destination output zone when streaming begins, the media player will automatically route to its default output zone. For example, if a user streams Spotify Connect to media player 3, the audio will be routed to output zone 3.

Observe the LED Indicators

Refer to the following table for information about the LED indicators on the device.

LED Indicator	Color	Meaning
PWR	White	Device is powered on with audio passing.
	Red	Device is in standby mode.
	Off	Device is not powered on.
LAN	White	The device is powered on and has a valid IP address.
	Off	Device is not connected to a network or the IP address is invalid.
NAX	White	AoIP is ready to pass and the unit's PTP clock is synced.
	Off	No AoIP is passing to or from the unit and/or PTP is not synced.
SOURCE 1-8	White	Signal is detected on the specified input/source.
	Red	There is clipping on an analog input or bitstream audio detected on a digital input.
	Off	There is no signal detected on the specified input/source.
ZONE 1-4	White	There is audio output on the indicated zone.
	Red	Clipping is detected on the output audio.
SETUP	Solid Red	The SETUP button is pressed.
	Blinking Red	A network reset or factory restore has been initiated via the adjacent SETUP button.

Reset the Device

A network reset or factory restore may be performed when troubleshooting.

CAUTION: These procedures should only be performed to recover an unresponsive device. Both the Network Reset and Factory Restore procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before performing these procedures, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

Network Reset

1. Ensure the device is powered on.
2. Press and hold the **SETUP** button for up to 15 seconds until the **SETUP** LED flashes red.

The device will reboot, and the default network settings will be reset. The device will be reverted to its default hostname, with DHCP enabled, and no static IP set.

Factory Restore

1. Turn off the device by disconnecting the power cable from the device.
2. Press and hold the **SETUP** button and then reconnect the power cable while still holding the **SETUP** button. Continue holding the **SETUP** button for up to 30 seconds until the **SETUP** LED flashes.

The device will reboot, and all the factory default settings will be restored, such as Zone settings, streaming service accounts, multicast addressing, etc.

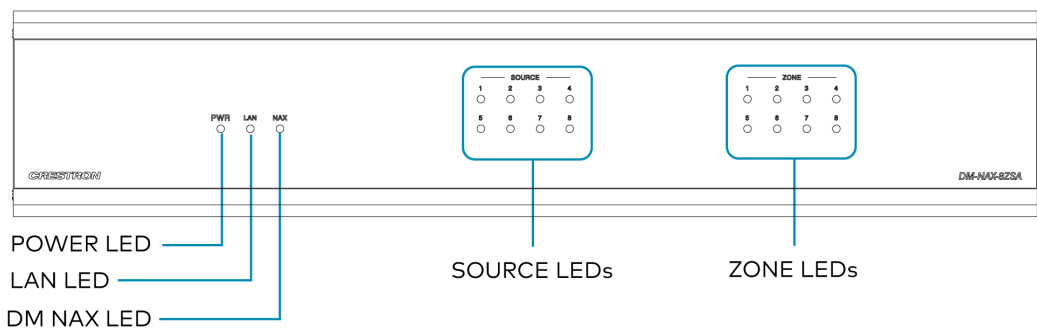
CAUTION: Performing a factory restore will clear all settings from the device configuration.

DM-NAX-8ZSA Installation

Refer to the following sections to install the DM-NAX-8ZSA.

- [In the Box on page 107](#)
- [Install the Device on page 107](#)
- [Connect the Device on page 109](#)
- [Apple® AirPlay® Setup on page 112](#)
- [Spotify® Connect Setup on page 113](#)
- [Observe the LED Indicators on page 114](#)
- [Reset the Device on page 114](#)

Front Panel



In the Box

Qty.	Description
1	DM-NAX-8ZSA
Additional Items	
2	Bracket, Rack Ear, 2 RU (2053799)
1	Power Cord, approx. 6.5 ft (2 m) (2014835)
1	Cable, CAT6, RJ45-to-RJ-45, approx. 5 ft (1.5 m) (2036196)
16	Connector, 2-Pin (2012361)
2	Connector, 4-Pin (2003576)
3	Connector, 5-Pin (2003577)
6	Screw, 4B x 1/4 in., Pan Head, Phillips (2007195)

Install the Device

Refer to the [Safety Instructions](#) (Doc. 6607) prior to installation.

The device can be placed on a table or installed in a rack.

Place on a Table

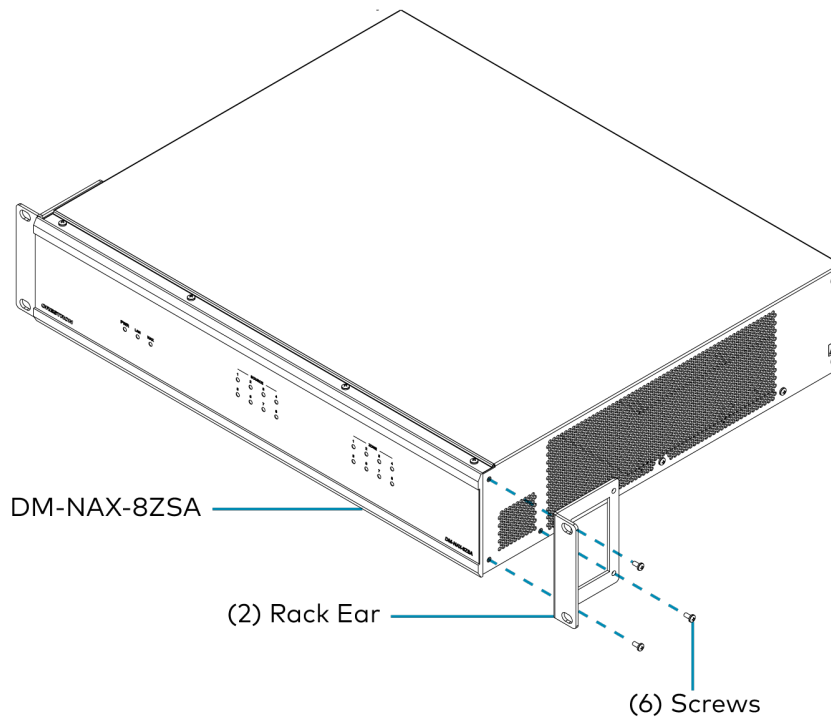
Place the device on a table or stack on top of another device.

Rack Installation

This device occupies 2 RU of rack space.

To install the included rack ears:

1. Use a #1 Phillips screwdriver to remove the three screws from each side of the front of the device as shown in the illustration.
2. Use the screwdriver and the six included 1/4 in. Phillips Pan Head screws to attach the included rack ears to the device.



3. Mount the device into the rack using four rack mounting screws (not included).

Rack Mounting Safety Precautions

Elevated Operating Ambient Temperature: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.

Reduced Airflow: Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Earthing: Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

Connect the Device

Make the necessary connections as called out in the following illustration. Connect power last.

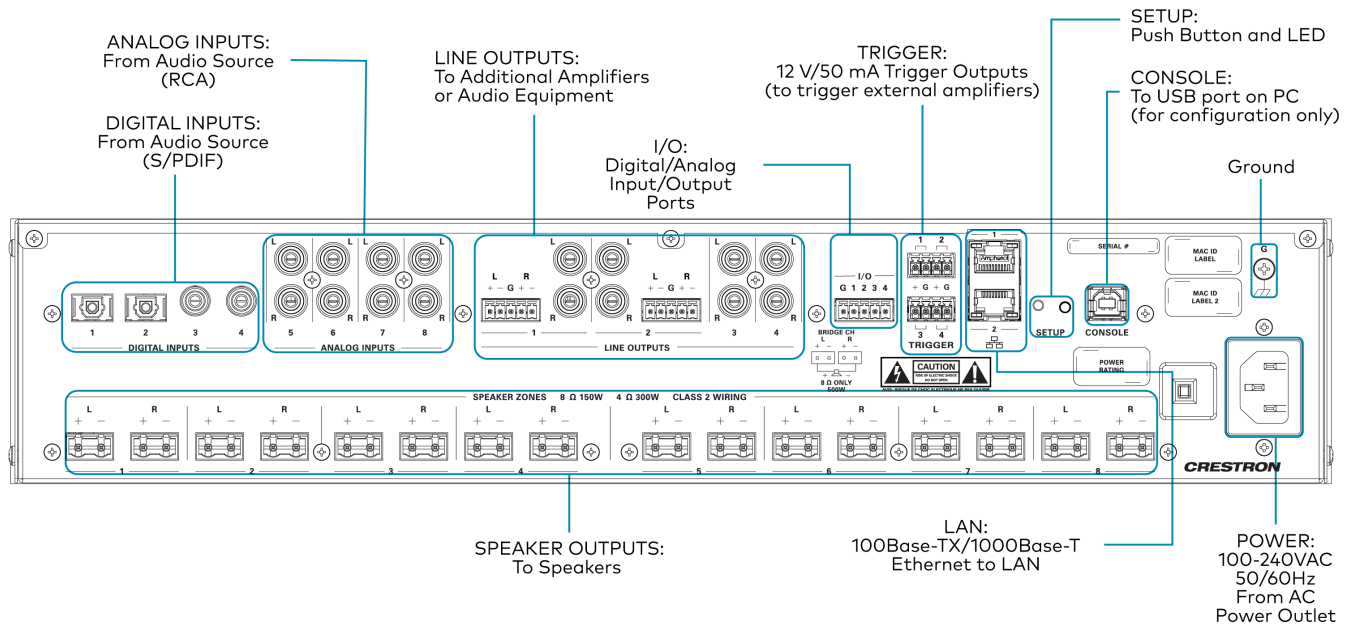
CAUTION:

- Keep the device unplugged until all of the input, network, output, and speaker wiring is complete.
- Check the speaker cables for shorts and frayed wiring around the SPEAKER OUTPUTS connectors.

NOTE:

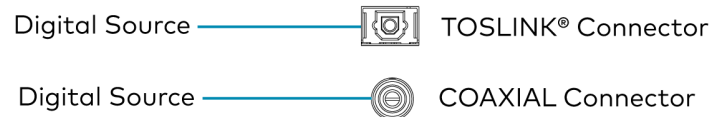
- Ensure that the unit is properly grounded by connecting the chassis ground lug to an earth ground (building steel).
- To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the product specifications.
- Do not bundle power cords together with connection cables. Doing so can result in noise.

Rear Panel



Digital Inputs

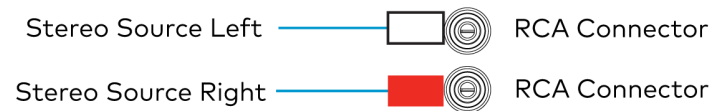
Refer to the following illustration when connecting digital audio sources.



NOTE: 2-channel PCM digital audio is the only supported digital input format.

Analog Inputs

Refer to the following illustration when connecting analog audio sources.



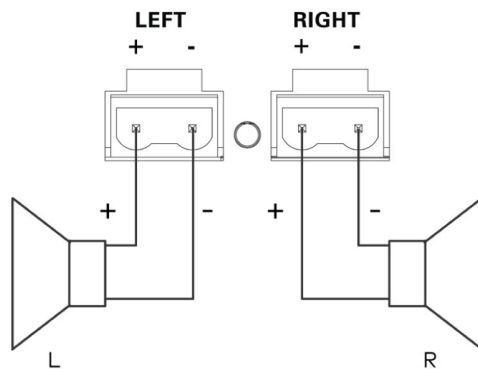
Speaker Connections

The speaker outputs can be wired conventionally or bridged together to deliver higher output power.

NOTE: The Line Outputs 1-4 mirror their respective Speaker Outputs 1-4. These outputs can feed another amplifier or an active subwoofer.

Conventional Wiring

Connect speakers to the DM-NAX-8ZSA as shown in the following illustration.

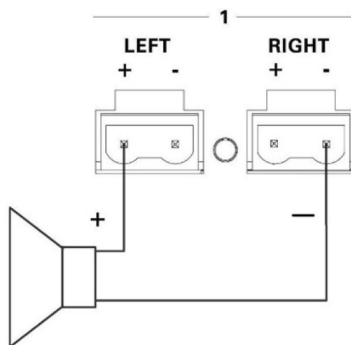


Bridged Wiring

Connect speaker outputs as shown in the following illustration to deliver more power to the speakers (8 ohm speakers only).

NOTE:

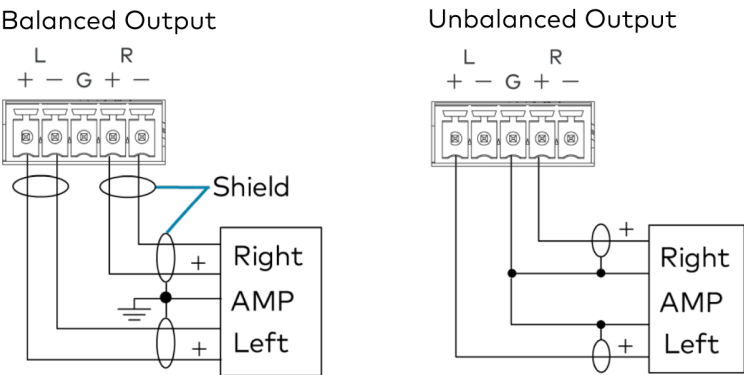
- Before wiring the speakers for bridging, ensure that the device is configured for bridging using web UI, Crestron Home™ software, or a Crestron SIMPL program running on a control system.
- Bridging can only be done between a left and a right output within the labeled zone.



Balanced/Unbalanced Audio Output

Refer to the following table and illustration for analog audio output pin assignments and connection information.

Signal Name	Balanced Audio Output	Unbalanced Audio Output
+	L+	L+ Out
-	L-	Open
G	Shield/ground	Open
+	R+	R+ Out
-	R-	Open



Apple® AirPlay® Setup

The DM-NAX-8ZSA supports AirPlay 2 and requires iOS 11.4 or later.

AirPlay can be enabled on any of the built-in media players on the DM-NAX-8ZSA.

To stream media from an iOS device to a speaker zone in your distributed audio system:

1. Ensure that the iOS device and DM-NAX-8ZSA are on the same network.
 2. On the DM-NAX-8ZSA, enable AirPlay for the built-in media player you would like to stream to, either using the web UI or programming.
- NOTE:** If the control/media and Audio-over-IP network traffic is isolated between two network ports on the DM-NAX-8ZSA, AirPlay will use the port specified for the Control/Media traffic.
3. On your iOS device:
 - a. Enable AirPlay
 - b. From the list of available AirPlay destinations, select the DM-NAX-8ZSA zone you would like to stream to.

The media player will play back audio to the selected zone(s).

Once AirPlay streaming begins, you will be able to control the volume of the streaming DM-NAX-8ZSA speaker zones directly from your iOS device.

NOTE: By default, media players 1 - 8 route the audio signals to their corresponding speaker zones when Airplay streaming begins. If the user has not already specified a destination speaker zone for the media player when streaming begins, the media player will automatically route to its default speaker zone. For example, if a user streams Airplay to media player 3, the audio will be routed to speaker zone 3.

Spotify® Connect Setup

The DM-NAX-8ZSA supports Spotify Connect.

To configure Spotify, use your phone, tablet or computer as a remote control for Spotify. Go to spotify.com/connect to learn how.

Spotify Connect can be enabled on any of the built-in media players on the DM-NAX-8ZSA.

To stream media from a device to a speaker zone in your distributed audio system:

1. Ensure that the device and DM-NAX-8ZSA are on the same network.
2. On the DM-NAX-8ZSA, enable Spotify Connect for the built-in media player you would like to stream to, either using the web UI or programming.

NOTE: If the control/media and Audio-over-IP network traffic is isolated between two network ports on the DM-NAX-8ZSA, Spotify will use the port specified for the Control/Media traffic.

3. On your device:
 - a. Open the Spotify application or web client.
 - b. From the list of available Spotify destinations, select the DM-NAX-8ZSA zone you would like to stream to.

The media player will play back audio to the selected zone(s).

Once Spotify Connect streaming begins, you will be able to control the volume of the streaming DM-NAX-8ZSA speaker zones directly from the Spotify application on your device.

NOTE: By default, media players 1 - 8 route the audio signals to their corresponding speaker zones when Spotify Connect streaming begins. If the user has not already specified a destination speaker zone when streaming begins, the media player will automatically route to its default speaker zone. For example, if a user streams Spotify Connect to media player 3, the audio will be routed to speaker zone 3.

Observe the LED Indicators

Refer to the following table for information about the LED indicators on the device.

LED Indicator	Color	Meaning
PWR	Amber	Power is being applied to the device. The device is booting.
	White	Device is powered on with audio passing.
	Red	Device is in standby mode.
LAN	White	The device is powered on and has a valid IP address.
	Off	Device is not connected to a network or the IP address is invalid.
NAX	White	AoIP is ready to pass and the unit's PTP clock is synced.
	Off	No AoIP is passing to or from and/or PTP is not synced.
SOURCE 1-8	White	Signal is detected on the specified input/source.
	Red	There is clipping on an analog input or bitstream audio detected on a digital input.
	Off	There is no signal detected on the specified input/source.
ZONE 1-8	White	There is audio output on the indicated zone.
	Red	Clipping or a fault is detected on the zone output due to over current, over temperature, or low voltage.
SETUP	Solid Red	The SETUP button is pressed.
	Blinking Red	A network reset or factory restore has been initiated via the adjacent SETUP button.

Reset the Device

A network reset or factory restore may be performed when troubleshooting.

CAUTION: These procedures should only be performed to recover an unresponsive device. Both the Network Reset and Factory Restore procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before performing these procedures, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

Network Reset

1. Ensure the device is powered on.
2. Press and hold the **SETUP** button for up to 15 seconds until the **SETUP** LED flashes red.

The device will reboot, and the default network settings will be reset. The device will be reverted to its default hostname, with DHCP enabled, and no static IP set.

Factory Restore

1. Turn off the device by disconnecting the power cable from the device.
2. Press and hold the **SETUP** button and then reconnect the power cable while still holding the **SETUP** button. Continue holding the **SETUP** button for up to 30 seconds until the **SETUP** LED flashes.

The device will reboot, and all the factory default settings will be restored, such as Zone settings, streaming service accounts, multicast addressing, etc.

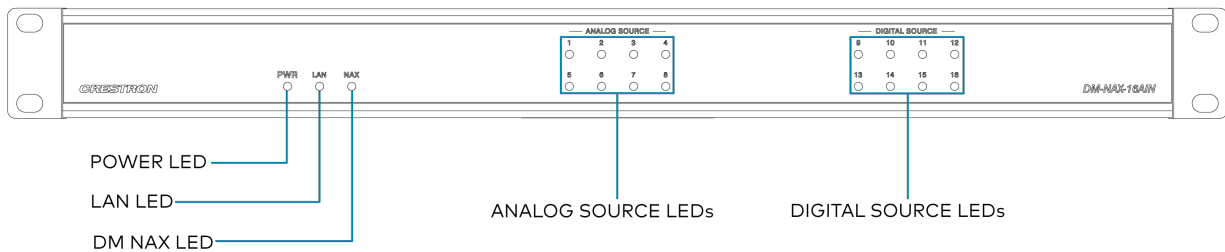
CAUTION: Performing a factory restore will clear all settings from the device configuration.

DM-NAX-16AIN Installation

Refer to the following sections to install the DM-NAX-16AIN.

- [In the Box on page 116](#)
- [Install the Device on page 116](#)
- [Connect the Device on page 118](#)
- [Observe the LED Indicators on page 120](#)
- [Reset the Device on page 121](#)

Front Panel



In the Box

Qty.	Description
1	DM-NAX-16AIN
Additional Items	
2	Bracket, Rack Ear, 1U (2032122)
4	Connector, 5-Pin (2003577)
1	Power Cord, 6 ft 7 in. (2 m) (2001134)

Install the Device

Refer to the [Safety Instructions](#) (Doc. 6607) prior to installation.

The device can be placed on a flat surface or installed in a rack.

Place on a Flat Surface

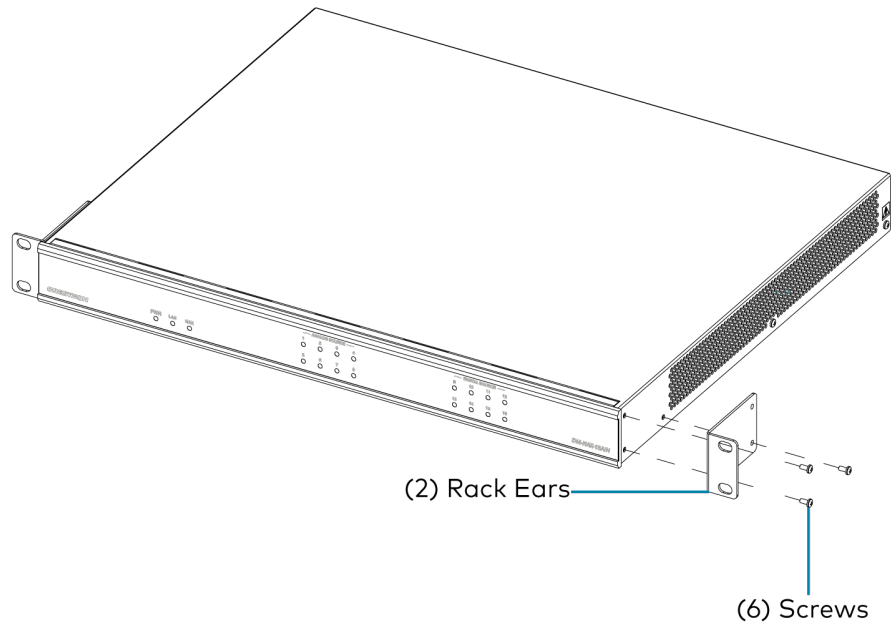
Place the device on a flat surface such as a table.

Install in a Rack

This device occupies 1U of rack space.

To install the device in a rack:

1. Use a Phillips screwdriver (not included) to remove the three screws from each side of the device as shown in the illustration.
2. Use the screwdriver and the six screws (removed earlier) to attach the included rack ears to the device.



3. Mount the device into the rack using four rack mounting screws (not included).

Rack Mounting Safety Precautions

Elevated Operating Ambient Temperature: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.

Reduced Airflow: Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Earthing: Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

Connect the Device

Make the necessary connections as called out in the following illustration. Connect power last.

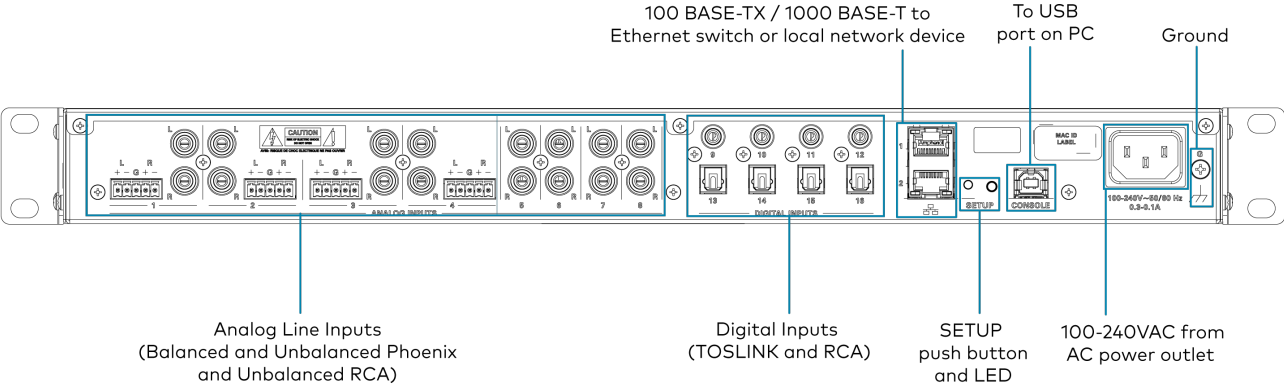
CAUTION:

- Keep the device unplugged until all of the input wiring is complete.
- Check the connections for shorts and frayed wiring at all the input connectors.

NOTES:

- Ensure that the unit is properly grounded by connecting the chassis ground lug to an earth ground (building steel).
- To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range of 32° to 104°F (0° to 40°C).
- Do not bundle power cords together with connection cables. Doing so can result in noise.

Rear Panel



Digital Inputs

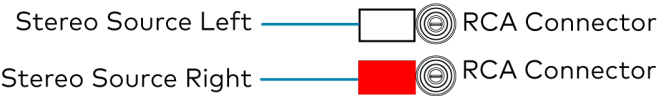
Refer to the following illustration when connecting digital audio sources.



NOTE: 2-channel PCM digital audio is the only supported digital input format.

Analog Inputs

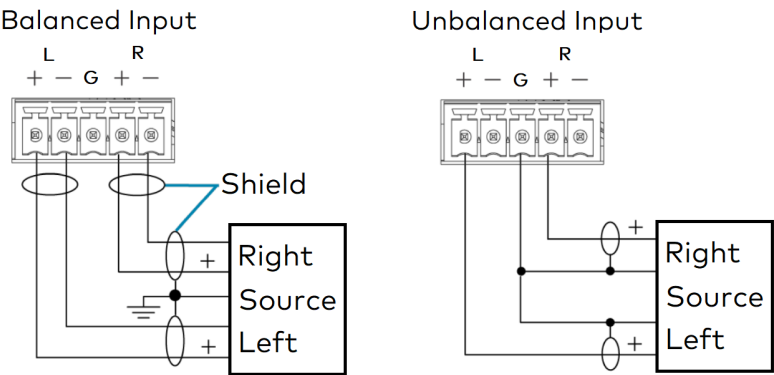
Refer to the following illustration when connecting analog audio sources.



Balanced/Unbalanced Audio Input

Refer to the following table and illustration for analog audio input pin assignments and connection information.

Signal Name	Balanced Audio Input	Unbalanced Audio Input
+	L+	L+
-	L-	Open
G	Shield/ground	Open
+	R+	R+
-	R-	Open



Observe the LED Indicators

Refer to the following table for information about the LED indicators on the device.

LED Indicator	Color	Meaning
PWR	Amber	Power is being applied to the device. The device is booting.
	White	Device is powered on with audio passing.
	Red	Device is in standby mode.
LAN	White	The device is powered on and has a valid IP address.
	Off	Device is not connected to a network or the IP address is invalid.
NAX	White	AoIP is ready to pass and the unit's PTP clock is synced.
	Off	No AoIP is passing to or from and/or PTP is not synced.
SOURCE 1-16	White	Signal is detected on the specified input/source.
	Red	There is clipping on an analog input or bitstream audio detected on a digital input.
	Off	There is no signal detected on the specified input/source.

LED Indicator	Color	Meaning
SETUP	Solid Red	The SETUP button is pressed.
	Blinking Red	A network reset or factory restore has been initiated via the adjacent SETUP button.

Reset the Device

A network reset or factory restore may be performed when troubleshooting.

CAUTION: These procedures should only be performed to recover an unresponsive device. Both the Network Reset and Factory Restore procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before performing these procedures, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

Network Reset

1. Ensure the device is powered on.
2. Press and hold the **SETUP** button for up to 15 seconds until the **SETUP** LED flashes red.

The device will reboot, and the default network settings will be reset. The device will be reverted to its default hostname, with DHCP enabled, and no static IP set.

Factory Restore

1. Turn off the device by disconnecting the power cable from the device.
2. Press and hold the **SETUP** button and then reconnect the power cable while still holding the **SETUP** button. Continue holding the **SETUP** button for up to 30 seconds until the **SETUP** LED flashes.

The device will reboot, and all the factory default settings will be restored, such as Zone settings, names, multicast addressing, etc.

CAUTION: Performing a factory restore will clear all settings from the device configuration.

DM-NAX-AMP-X300 Installation

Refer to the following sections to install the DM-NAX-AMP-X300.

- [In the Box on page 123](#)
- [Install the Device on page 124](#)
- [Connect the Device on page 128](#)
- [Speaker Mode Selection Switch on page 128](#)
- [Lo-Z Modes Selection Switch on page 129](#)
- [Observe the LED Indicators on page 129](#)
- [Reset the Device on page 130](#)

In the Box

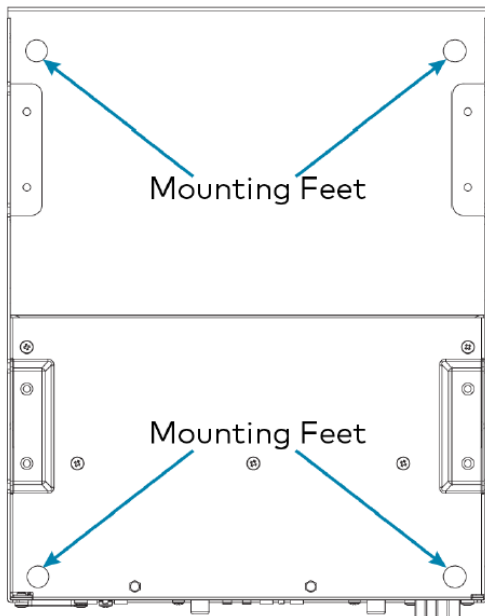
Qty.	Description
1	DM-NAX-AMP-X300
Additional Items	
4	Screw, 6-32 x 3/8 in., Undercut Head, Philips (2055196)
4	Foot, Adhesive, Black (2055200)
2	Rack Ear, 1U, Quarter-width (2055199)
8	Connector, input, output (2055207)
1	Connector, 2-Pin (2003574)
1	Power cord (2055205)

Install the Device

Out of the box, the DM-NAX-AMP-X300 can be placed on a flat surface or installed in a rack. To surface-mount the DM-NAX-AMP-X300 or gang it alongside another half-width or quarter-width 1RU amplifier, the [RMK-AMP-X](#) (sold separately) is required.

Place on a Flat Surface

Place the DM-NAX-AMP-X300 on a table or other flat surface. Attach the four adhesive feet as shown below.



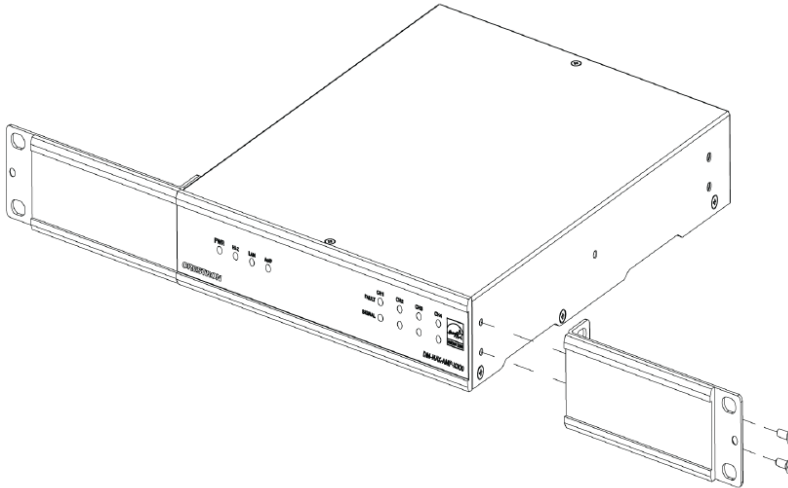
Rack Installation

The DM-NAX-AMP-X300 occupies one half of 1RU of rack space. Two DM-NAX-AMP-X300 units can be ganged together using the [RMK-AMP-X](#) (sold separately) and only occupy 1 RU of rack space.

Single Amp

To install the included rack ears on a single DM-NAX-AMP-X300:

1. Use a #1 Philips screwdriver to remove the three screws from each side of the front of the device.
2. Use the screwdriver and the four included 1/4 in. Philips Pan Head screws to attach the included rack ears to the device.

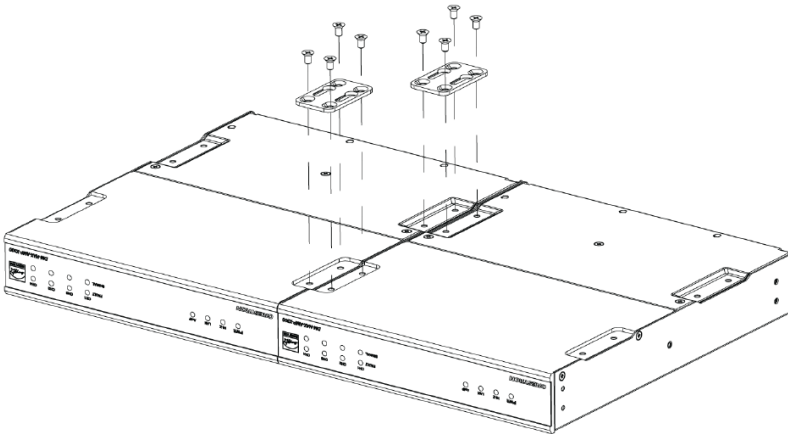


3. Mount the device into the rack using four rack mounting screws (not included).

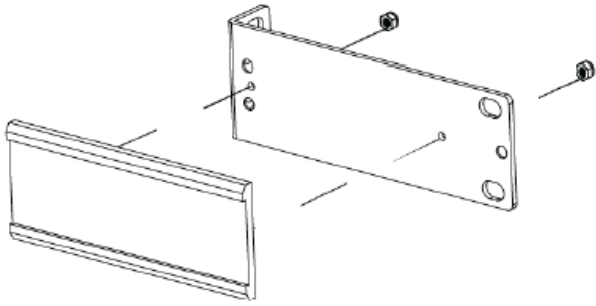
Double Mount

To rack-mount two DM-NAX-AMP-X300 units together ([RMK-AMP-X](#) required, sold separately):

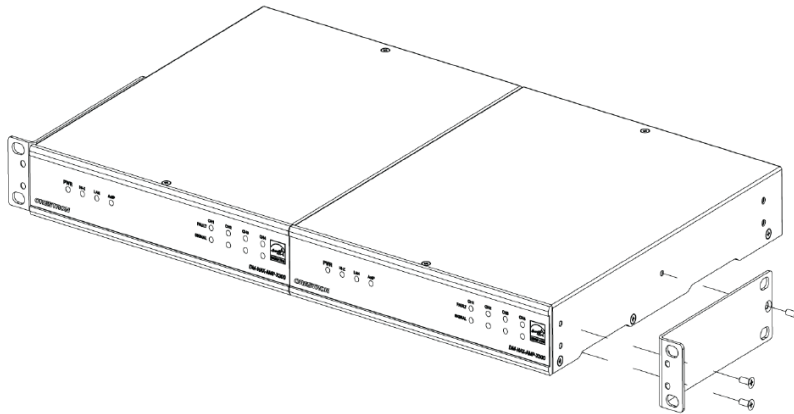
1. On a flat surface, place the amplifiers upside-down and adjacent to each other.
2. Using a Philips screwdriver and the eight 8-32 x 5/16 in. screws, gang the amplifiers together with two of the joining plates.



3. Use a wrench or M5.5 socket to remove the nuts from the rack ears.



4. Turn the amplifier assembly over and, using six 6-32 x 3/8 in. screws, attach the rack ears to each side.



5. Mount the assembly into the rack using four rack mounting screws (not included).

NOTE: Observe the following rack mount installation guidelines.

Elevated Operating Ambient Temperature: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.

Reduced Airflow: Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Earthing: Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

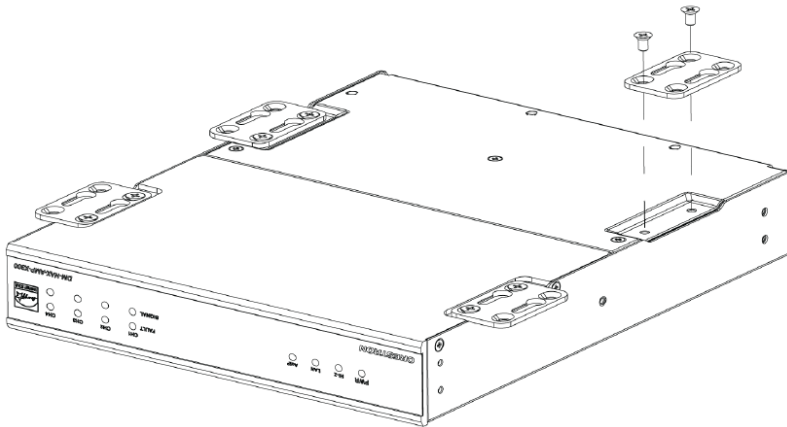
WARNING: To prevent bodily injury when mounting or servicing the unit in a rack:

- When mounting the unit into a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

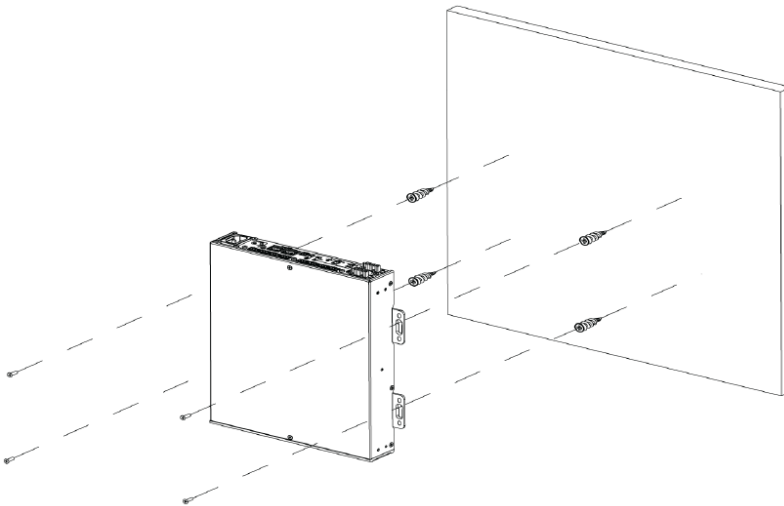
Mount on a Flat Surface

To mount the DM-NAX-AMP-X300 on a flat surface ([RMK-AMP-X](#) required, sold separately):

1. Use the eight 8-32 x 5/16 in. screws to attach the four joining plates to the underside of the device as shown in the illustration.



2. Position the device as desired and use screws (not included) and anchors (not included) to mount it.



Connect the Device

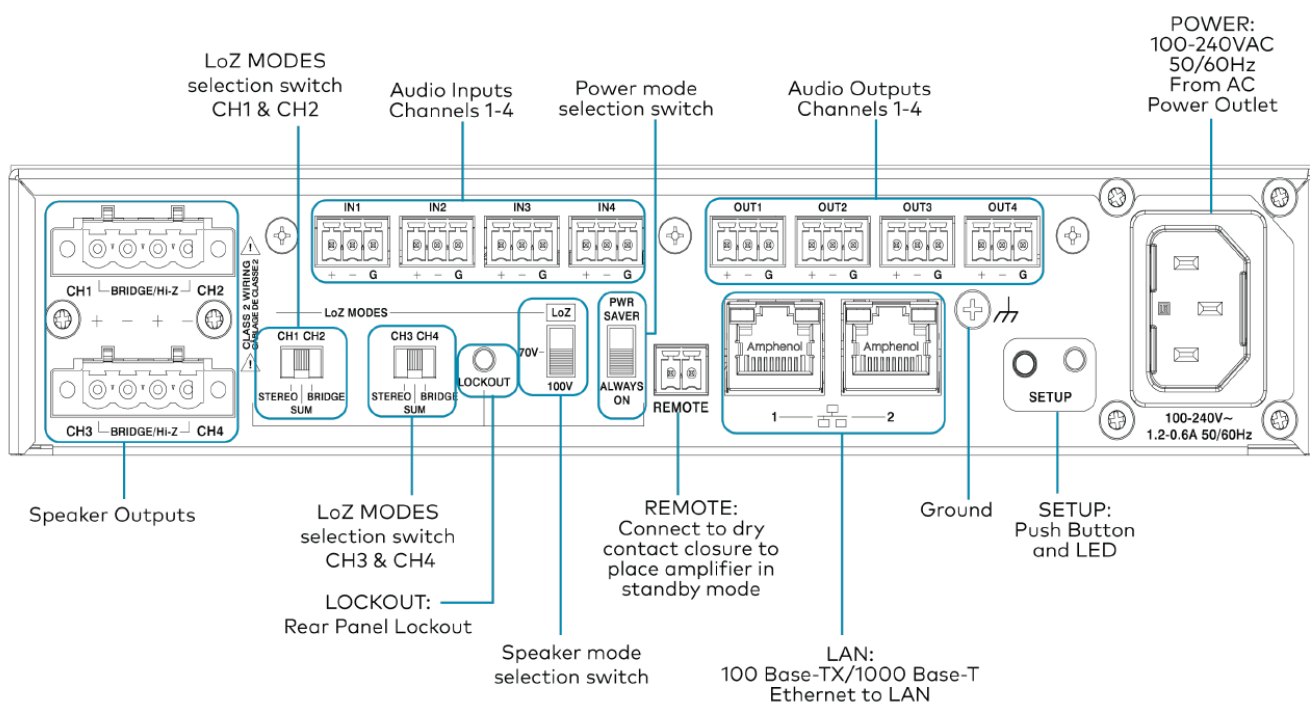
Make the necessary connections as called out in the following illustration. For details on wiring, refer to [Output Wiring Options on page 131](#).

CAUTION:

- Keep the device unplugged until all of the input, network, output, and speaker wiring is complete.
- Check the speaker cables for shorts and frayed wiring around the speaker output connectors.

NOTES:

- Ensure that the unit is properly grounded by connecting the chassis ground lug to an earth ground (building steel).
- To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the table of specifications.
- Ensure that both the Ethernet ports are not connected to the same network or switch.



Speaker Mode Selection Switch

The DM-NAX-AMP-X300 can be configured to work with 4 Ω and 8 Ω (low impedance or Lo-Z) loads or a distributed audio (high impedance or Hi-Z) 70/100V system.

- **Lo-Z:** Set the switch to LoZ to use the amplifier with 4 Ω or 8 Ω low impedance loudspeakers.
- **70V:** Set the switch to 70V to use the amplifier in a 70V distributed audio system.
- **100V:** Set the switch to 100V to use the amplifier in a 100V distributed audio system.

Lo-Z Modes Selection Switch

When operating in Lo-Z mode, the DM-NAX-AMP-X300 outputs can operate in stereo, as summed outputs or as bridged outputs. Set the **Lo-Z Modes** selection switch to the desired setting and connect the outputs as required.

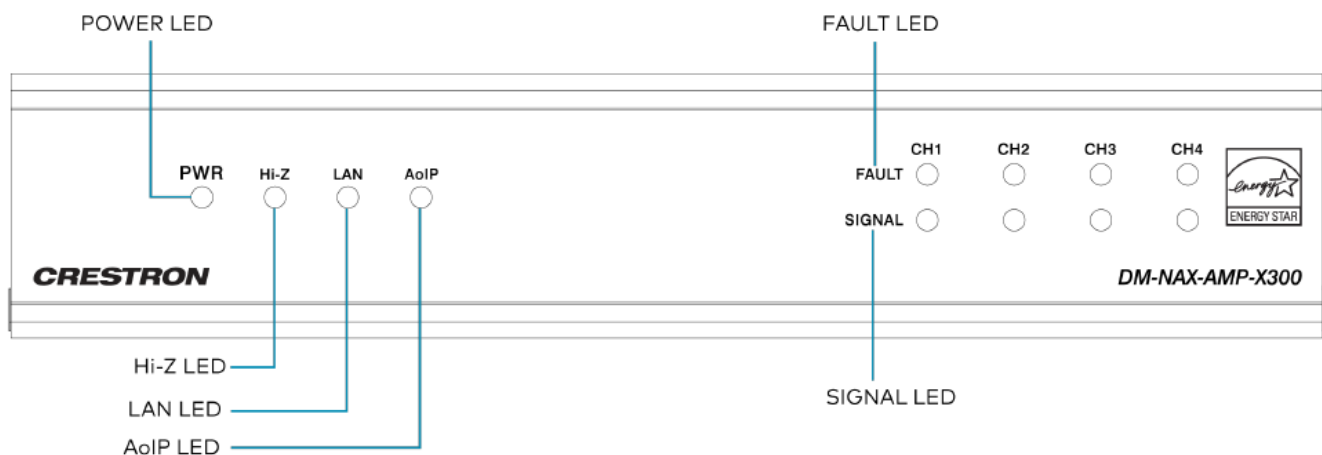
Select stereo, summed, or bridged operation:

- **STEREO:** The input signal received on each channel is sent to its respective output for use in applications where left and right channel separation is required.
- **SUM:** The input signals sent to a channel pair (1 + 2 or 3 + 4) are summed and sent to their respective individual outputs.
- **BRIDGE:** The input signals sent to a channel pair (1 + 2 or 3 + 4) are summed and sent to a bridged output (1 + 2 or 3 + 4) for use in high power applications.

NOTE:

- If the Rear Panel Lockout indicator is enabled, the web user interface settings will override the both switch selections.

Observe the LED Indicators



The LEDs provide the following information:

LED Indicator	Color	Meaning
PWR	White	The device is operating normally.
	Amber	The device is booting.
	Red	The device has entered Standby (Power Saver) mode.
Hi-Z	White	Hi-Z mode is enabled (70V or 100V); Channels 1-2 and 3-4 are bridged and set to 70V or 100V operation.
LAN	White	The device has a valid IP address.
AoIP	White	The device has is handling an AoIP stream.
FAULT	Red	There is a fault on the indicated channel.
SIGNAL	White	An audio signal is present on the indicated speaker channel.
	Red	Clipping is detecting on the indicated speaker channel.

Reset the Device

A network reset or factory restore may be performed when troubleshooting.

CAUTION: These procedures should only be performed to recover an unresponsive device. Both the Network Reset and Factory Restore procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before performing these procedures, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

Network Reset

1. Ensure the device is powered on.
2. Press and hold the **SETUP** button for up to 15 seconds until the **SETUP** LED flashes red.

Factory Restore

To restore all settings to factory default, perform the following steps:

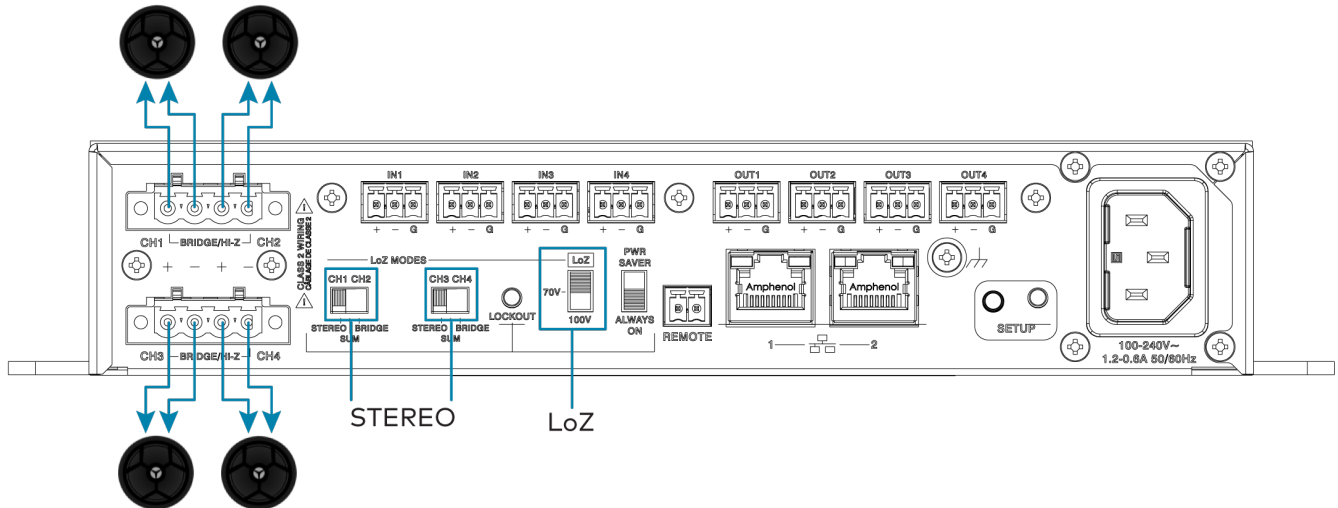
1. Turn off the device by disconnecting the power cable from the device.
2. Press and hold the **SETUP** button and then reconnect the power cable while still holding the **SETUP** button. Continue holding the **SETUP** button for up to 30 seconds until the **SETUP** LED flashes.

The device will reboot, and all the factory default settings will be restored, such as Zone settings, names, multicast addressing, etc.

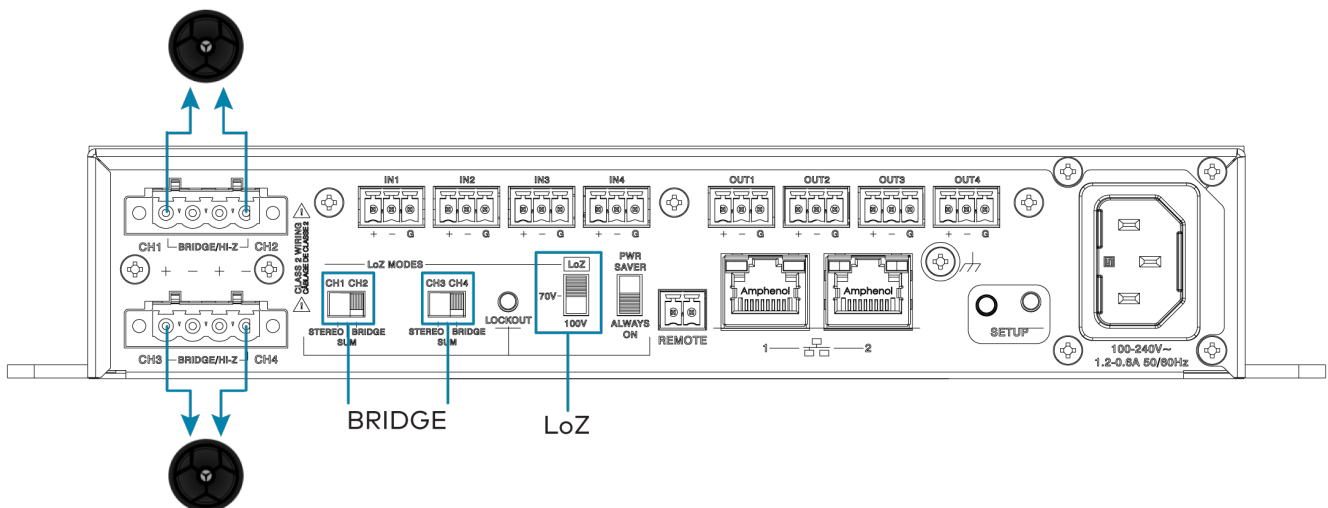
CAUTION: Performing a factory restore will clear all settings from the device configuration.

The DM-NAX-AMP-X300 can be configured for low impedance (LoZ) stereo operation over two or four channels and high impedance (70 V or 100 V) operation over two channels. Refer to the following diagrams for details.

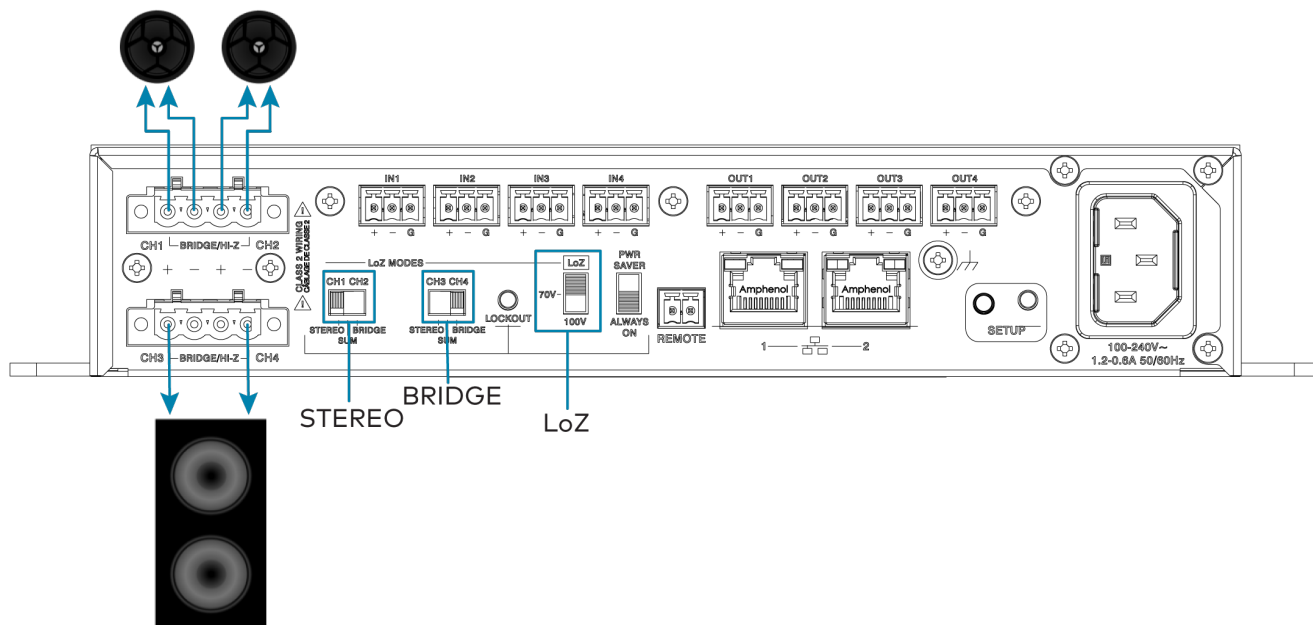
Four Channels up to 75 W (Lo-Z)



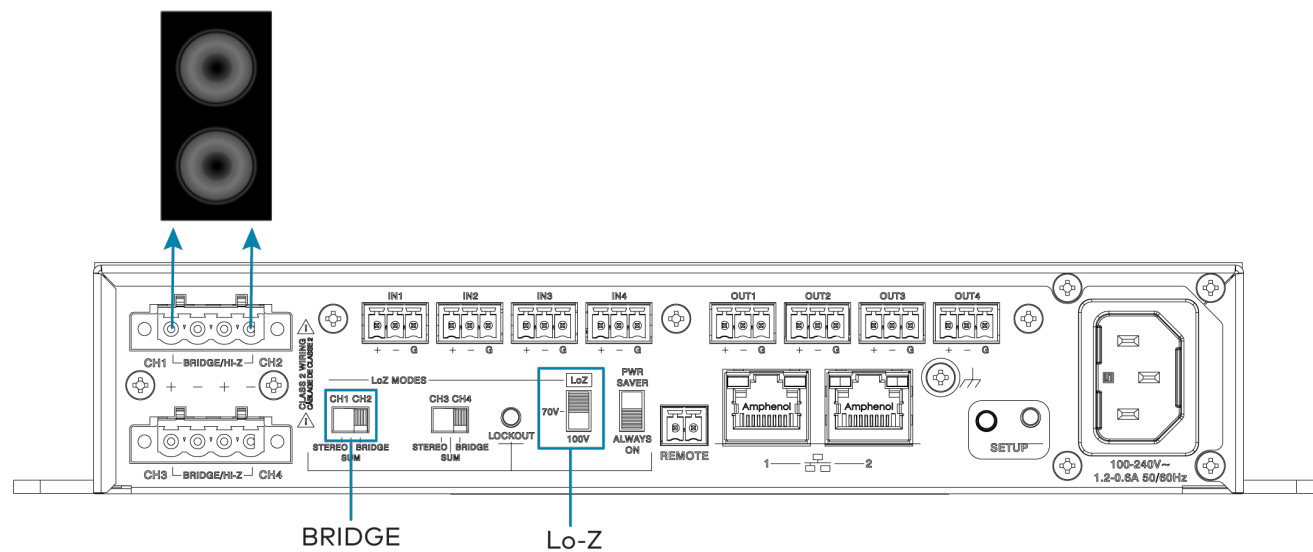
Two Channels up to 150 W (Lo-Z)



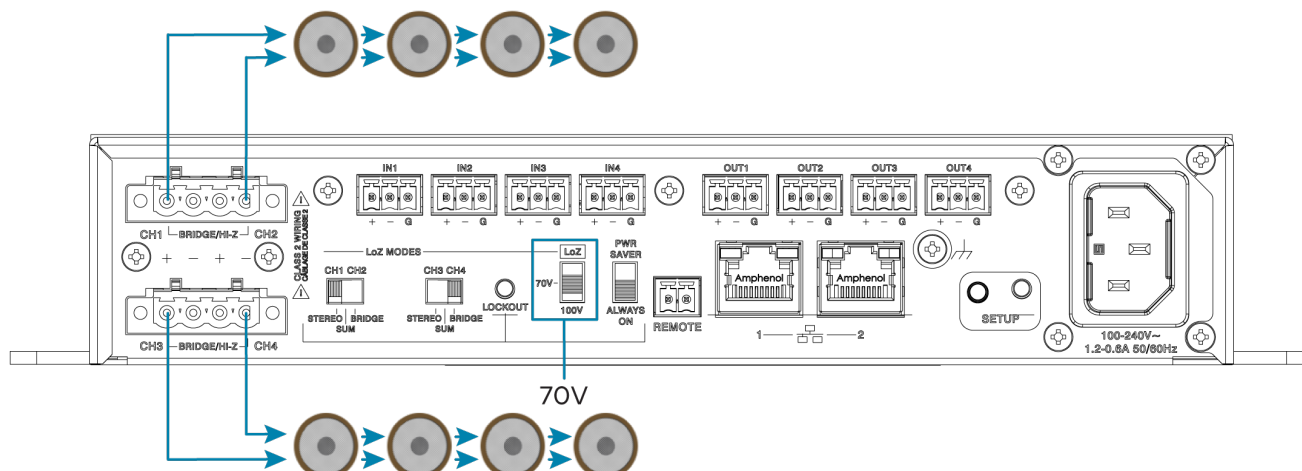
Two Channels up to 75 W and One Channel up to 150 W (Lo-Z)



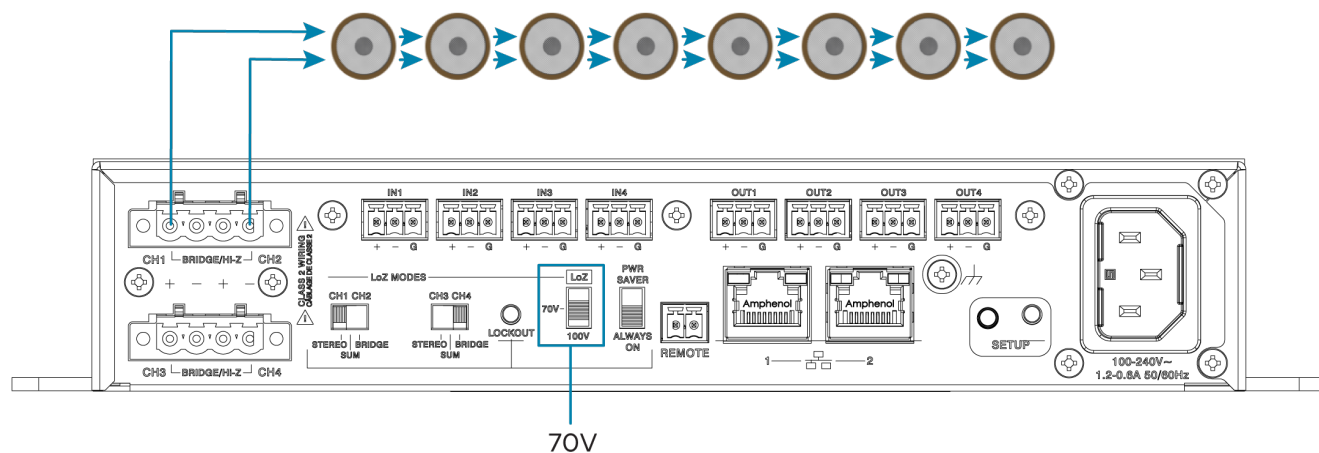
One Channel up to 300 W (Lo-Z)



Two Runs up to 150 W (Hi-Z)



One Run up to 300 W (Hi-Z)



DM-NAX-AUD-IO Installation

Refer to the following sections to install the DM-NAX-AUD-IO.

- [In the Box on page 134](#)
- [Mount the Device on page 134](#)
- [Connect the Device on page 139](#)
- [Reset the Device on page 140](#)

In the Box

Qty.	Description
1	DM-NAX-AUD-IO
Additional Items	
1	Single gang electrical box adapter bracket, galvanized metal (2059673)
2	Surface mount bracket, aluminum (2059674)
2	Connector, 5-pin (2003577)
2	Screws, M3 x 6 mm, Flat Head, Phillips (2062526)
4	Screws, M3 x 0.5 x 6 mm, Pan Head, Phillips (2058870)
1	Polycarbonate front panel label (4536923)

Mount the Device

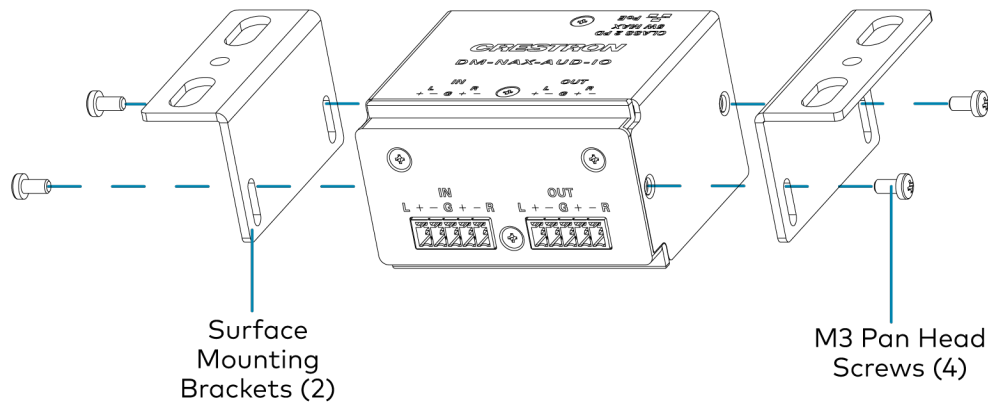
The DM-NAX-AUD-IO can be mounted under a table, into a 1-gang electrical box, or onto a rack rail.

Mounting under a Table

To mount the device under a table:

1. Using a Phillips screwdriver, remove the four flat head screws from the left and right panels of the device.
2. Align the two included right angle surface mount brackets with the left and right panels of the device. For mounting under a table, keep the flanged surface of the brackets flush with the top panel of the device. For mounting to a surface, keep the flanged surface of the brackets flush with the bottom panel of the device.

- Using a Phillips screwdriver and the four included M3 pan head screws, attach the mounting brackets to the device.



- Secure the device to a surface or under a table using the appropriate mounting screws (not included).

Mounting into a 1-Gang Electrical Box

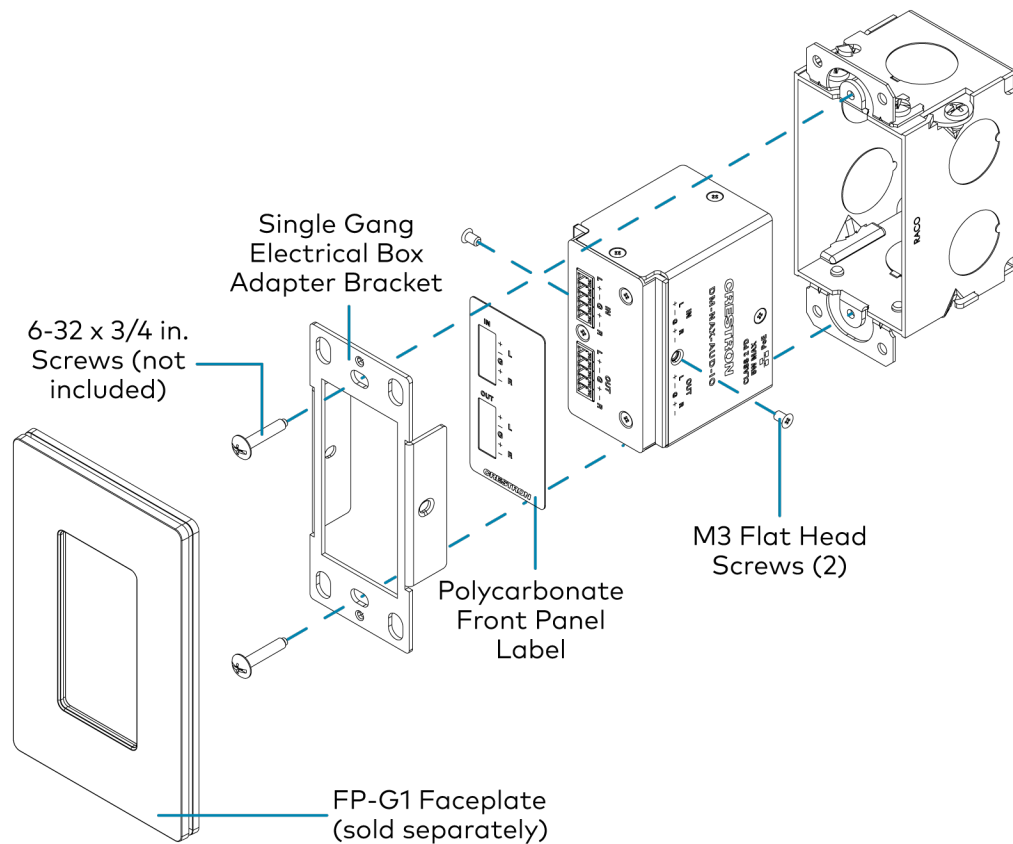
NOTES:

- The DM-NAX-AUD-IO should only be mounted with a RACO® 3 in. x 2 in. x 2 in. gangable metal switch box with eight 0.5 in. knockouts and plaster ears (catalog ID #420), as it was designed to fit the box dimensions and knockout placements. Alternative metal switch boxes should not be used as they may have different knockout placements, which can lead to issues running the PoE connection to the unit due to cable bend radius restrictions.
- For thermal performance reasons, fully enclosed plastic back boxes should not be used with the DM-NAX-AUD-IO. In installations where an enclosed back box is not required, the DM-NAX-AUD-IO can be installed into most single gang metal or plastic mud rings.
- Connector boots should not be used on CAT5e (or greater) cables being connected to the DM-NAX-AUD-IO to avoid cable bend radius issues.

To mount the device into a 1-gang electrical box:

- Using a Phillips screwdriver, remove the two screws from the top and bottom panels nearer to the front panel of the device.
- Align the included polycarbonate front panel label with the front panel of the device so the holes in the label line up with the 5-pin connectors.

- Using a Phillips screwdriver and the included M3 flat head screws, secure the included single gang electrical box adapter bracket to the top and bottom panels of the device.



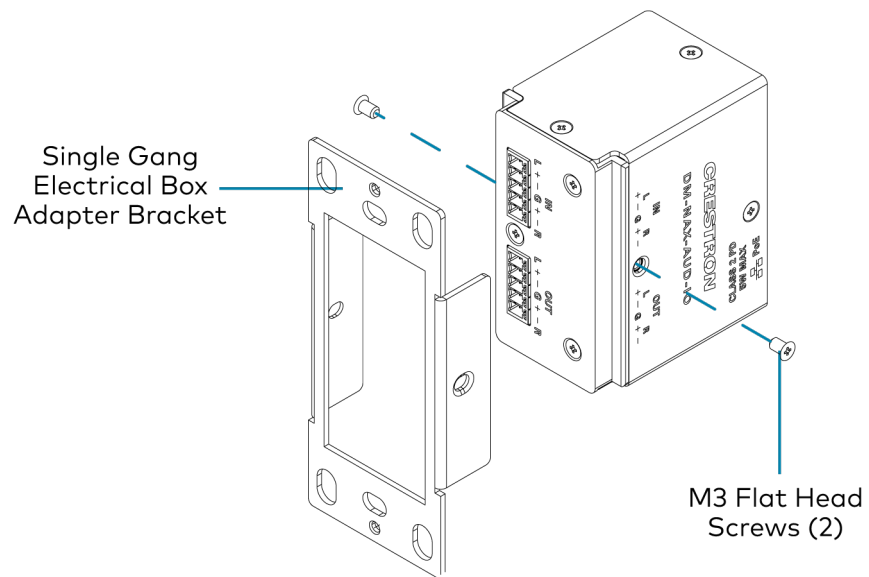
- Using a Phillips screwdriver and two 6-32 x 3/4 in., truss head screws (not included), attach the wall plate adapter bracket to the electrical box.
- Using a Phillips screwdriver and two 6-32 x 1/4 in., flat head screws (not included), attach a [FP-G1](#) decorator style faceplate (sold separately) to the wall plate.

Mounting onto a Rack Rail

To mount the device onto a rack rail:

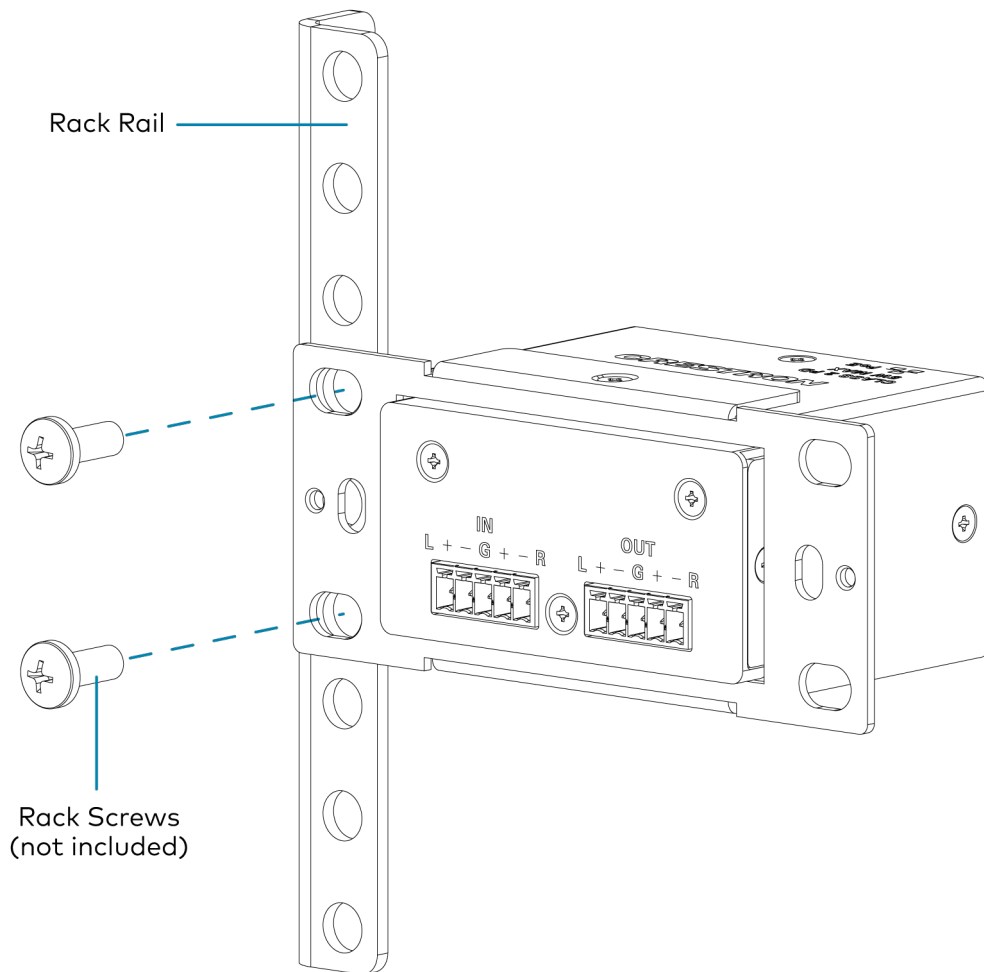
- Using a Phillips screwdriver, remove the two screws from the top and bottom panels nearer to the front panel of the device.

2. Using a Phillips screwdriver and the included M3 flat head screws, secure the included single gang electrical box adapter bracket to the top and bottom panels of the device.



3. Position the wall plate horizontally so that the holes in the left or right mounting flange align with the holes in the rack rail.

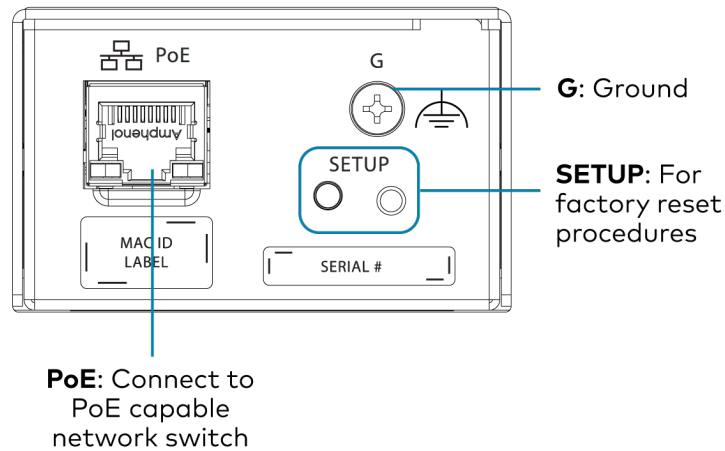
4. Secure the wall plate to the rack rail using two mounting screws (not included).



Connect the Device

Make connections to the front and rear panels of the DM-NAX-AUD-IO:

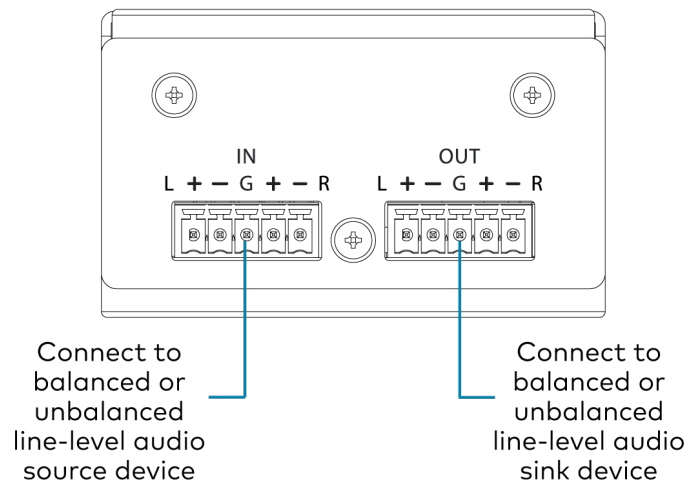
Rear Panel



NOTE: **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.

Connect a PoE capable network switch to the **PoE** port.

Front Panel



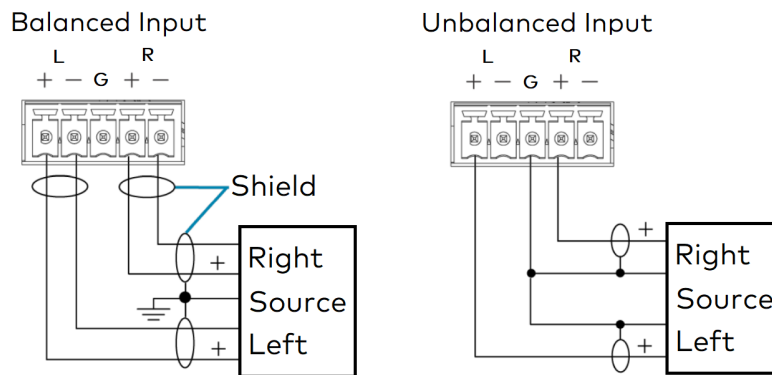
Connect a balanced or unbalanced line-level audio source signal to the **INPUTS** 5-pin terminal block.

Connect a balanced or unbalanced line-level audio sink device to the **OUTPUTS** 5-pin terminal block.

Balanced/Unbalanced Audio Input

Refer to the following table and illustration for analog audio input pin assignments and connection information.

Signal Name	Balanced Audio Input	Unbalanced Audio Input
+	L+	L+
-	L-	Open
G	Shield/ground	Open
+	R+	R+
-	R-	Open



Reset the Device

A network reset or factory restore may be performed when troubleshooting.

CAUTION: These procedures should only be performed to recover an unresponsive device. Both the Network Reset and Factory Restore procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before performing these procedures, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

Network Reset

1. Ensure the device is powered on.
2. Press and hold the **SETUP** button for up to 15 seconds until the **SETUP** LED flashes red.

The device will reboot, and the default network settings will be reset. The device will be reverted to its default hostname, with DHCP enabled, and no static IP set.

Factory Restore

1. Turn off the device by disconnecting the power cable from the device.
2. Press and hold the **SETUP** button and then reconnect the power cable while still holding the **SETUP** button. Continue holding the **SETUP** button for up to 30 seconds until the **SETUP** LED flashes.

The device will reboot, and all the factory default settings will be restored, such as audio settings, multicast addressing, etc.

CAUTION: Performing a factory restore will clear all settings from the device configuration.

DM-NAX-AUD-USB Installation

Refer to the following sections to install the DM-NAX-AUD-USB.

- [In the Box on page 142](#)
- [Mount the Device on page 142](#)
- [Connect the Device on page 147](#)
- [Reset the Device on page 148](#)

In the Box

Qty.	Description
1	DM-NAX-AUD-USB
Additional Items	
1	Single gang electrical box adapter bracket, galvanized metal (2059673)
2	Surface mount bracket, aluminum (2059674)
2	Screws, M3 x 6 mm, Flat Head, Phillips (2062526)
4	Screws, M3 x 0.5 x 6 mm, Pan Head, Phillips (2058870)
1	Polycarbonate front panel label (4536924)

Mount the Device

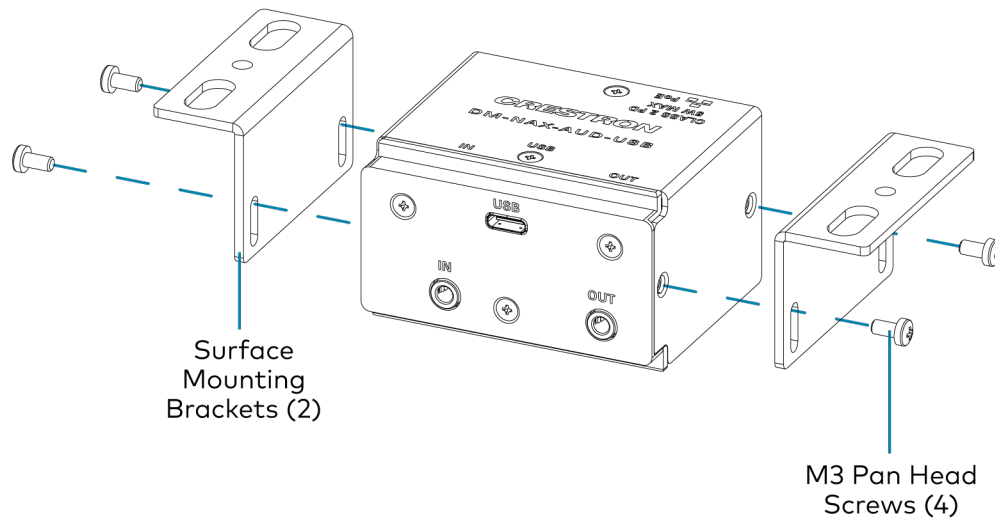
The DM-NAX-AUD-USB can be mounted under a table, into a 1-gang electrical box, or onto a rack rail.

Mounting under a Table

To mount the device under a table:

1. Using a Phillips screwdriver, remove the four flat head screws from the left and right panels of the device.
2. Align the two included right angle surface mount brackets with the left and right panels of the device. For mounting under a table, keep the flanged surface of the brackets flush with the top panel of the device. For mounting to a surface, keep the flanged surface of the brackets flush with the bottom panel of the device.

- Using a Phillips screwdriver and the four included M3 pan head screws, attach the mounting brackets to the device.



- Secure the device to a surface or under a table using the appropriate mounting screws (not included).

Mounting into a 1-Gang Electrical Box

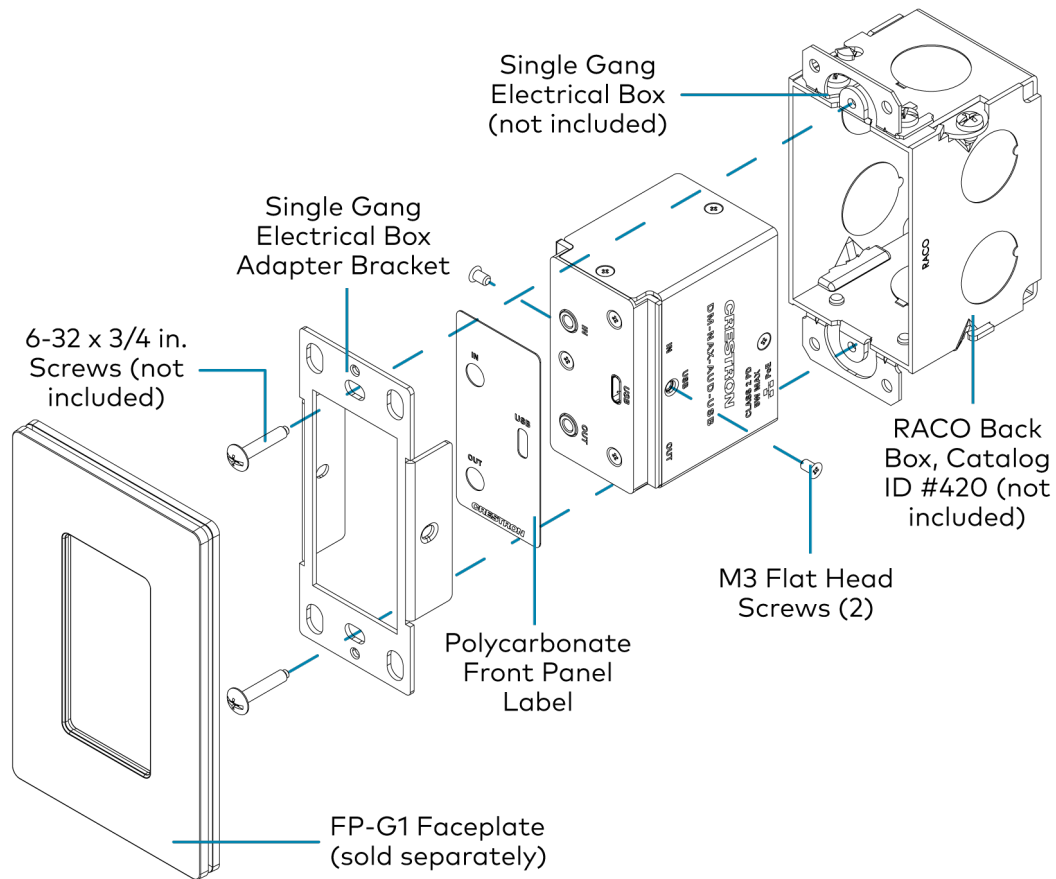
NOTES:

- The DM-NAX-AUD-USB should only be mounted with a RACO® 3 in. x 2 in. x 2 in. gangable metal switch box with eight 0.5 in. knockouts and plaster ears (catalog ID #420), as it was designed to fit the box dimensions and knockout placements. Alternative metal switch boxes should not be used as they may have different knockout placements, which can lead to issues running the PoE connection to the unit due to cable bend radius restrictions.
- For thermal performance reasons, fully enclosed plastic back boxes should not be used with the DM-NAX-AUD-USB. In installations where an enclosed back box is not required, the DM-NAX-AUD-USB can be installed into most single gang metal or plastic mud rings.
- Connector boots should not be used on CAT5e (or greater) cables being connected to the DM-NAX-AUD-USB to avoid cable bend radius issues.

To mount the device into a 1-gang electrical box:

- Using a Phillips screwdriver, remove the two screws from the top and bottom panels nearer to the front panel of the device.
- Align the included polycarbonate front panel label with the front panel of the device so the holes in the label line up with the 5-pin connectors.

- Using a Phillips screwdriver and the included M3 flat head screws, secure the included single gang electrical box adapter bracket to the top and bottom panels of the device.



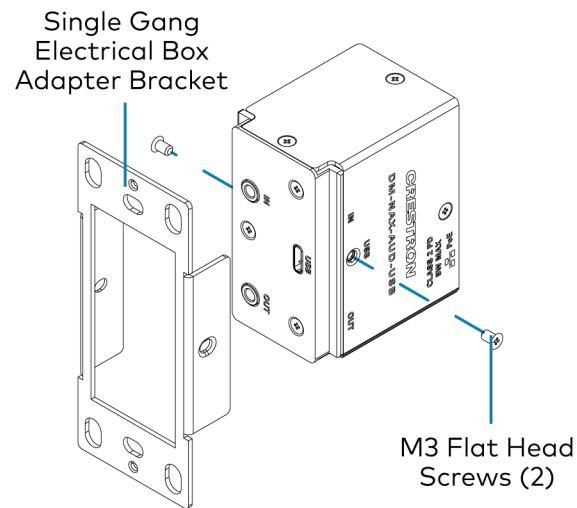
- Using a Phillips screwdriver and two 6-32 x 3/4 in., truss head screws (not included), attach the wall plate adapter bracket to the electrical box.
- Using a Phillips screwdriver and two 6-32 x 1/4 in., flat head screws (not included), attach a [FP-G1](#) decorator style faceplate (sold separately) to the wall plate.

Mounting onto a Rack Rail

To mount the device onto a rack rail:

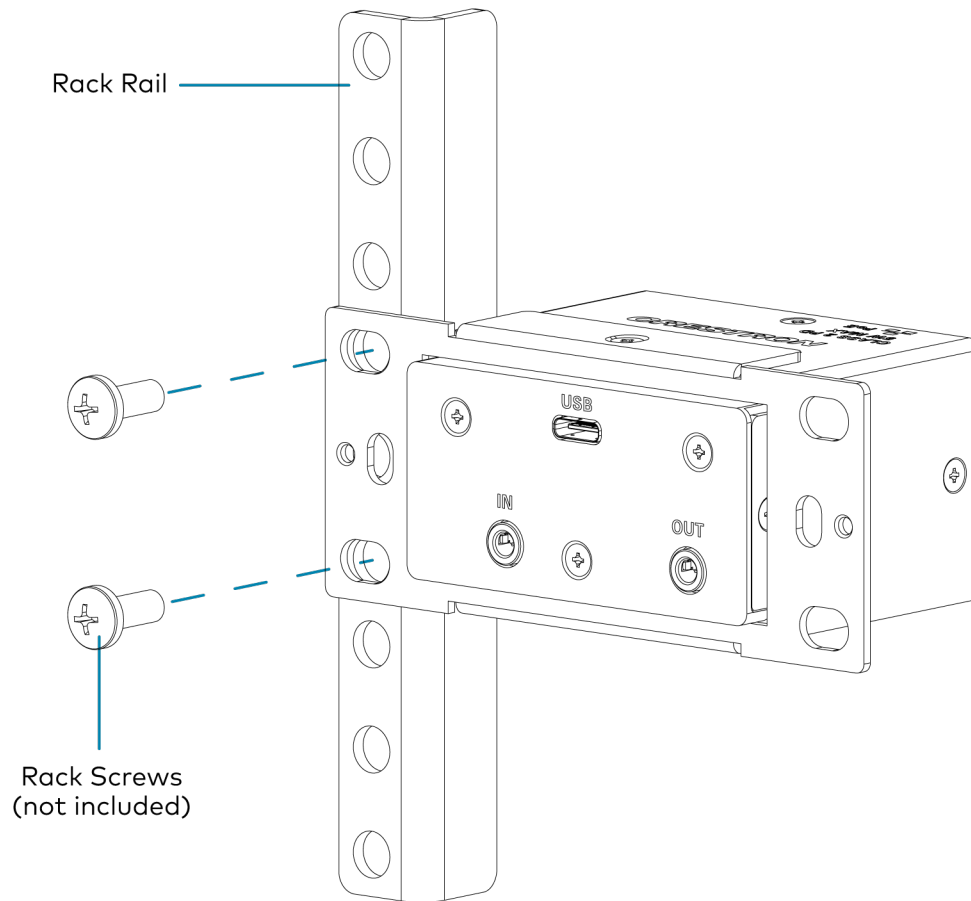
- Using a Phillips screwdriver, remove the two screws from the top and bottom panels nearer to the front panel of the device.

2. Using a Phillips screwdriver and the included M3 flat head screws, secure the included single gang electrical box adapter bracket to the top and bottom panels of the device.



3. Position the wall plate horizontally so that the holes in the left or right mounting flange align with the holes in the rack rail.

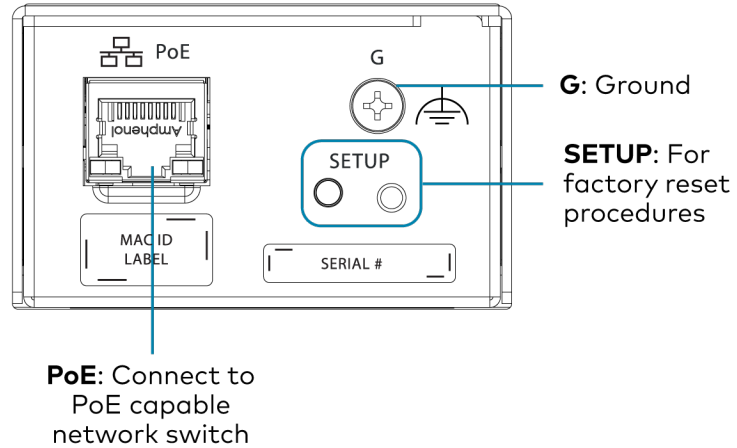
4. Secure the wall plate to the rack rail using two mounting screws (not included).



Connect the Device

Make connections to the front and rear panels of the DM-NAX-AUD-USB:

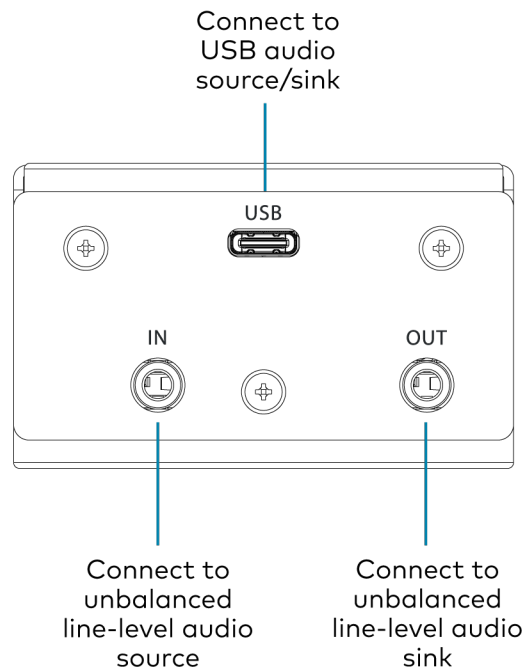
Rear Panel



NOTE: 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.

Connect a PoE capable network switch to the **PoE** port.

Front Panel



Connect a USB audio source to the **USB** port using a USB Type-C male connector .

Connect an unbalanced line-level audio source to the **INPUT** TRS port.

Connect an unbalanced line-level audio sink device to the **OUTPUT** TRS port.

Reset the Device

A network reset or factory restore may be performed when troubleshooting.

CAUTION: These procedures should only be performed to recover an unresponsive device. Both the Network Reset and Factory Restore procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before performing these procedures, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

Network Reset

1. Ensure the device is powered on.
2. Press and hold the **SETUP** button for up to 15 seconds until the **SETUP** LED flashes red.

The device will reboot, and the default network settings will be reset. The device will be reverted to its default hostname, with DHCP enabled, and no static IP set.

Factory Restore

1. Turn off the device by disconnecting the power cable from the device.
2. Press and hold the **SETUP** button and then reconnect the power cable while still holding the **SETUP** button. Continue holding the **SETUP** button for up to 30 seconds until the **SETUP** LED flashes.

The device will reboot, and all the factory default settings will be restored, such as audio settings, multicast addressing, etc.

CAUTION: Performing a factory restore will clear all settings from the device configuration.

DM-NAX-BTIO-1G Installation

Refer to the following sections to install the DM-NAX-BTIO-1G.

- [In the Box on page 150](#)
- [Mount the Device on page 150](#)
- [Connect the Device on page 153](#)
- [Reset the Device on page 153](#)

In the Box

Qty.	Description
1	DM-NAX-BTIO-1G
Additional Items	
1	Metal mounting bracket, steel (2016054)
2	Screw, 06-32, 1/4 in., Pan Head, Phillips (2007218)
2	Screws, 6-32 x 3/4 in., Truss Head, Combo (2009211)

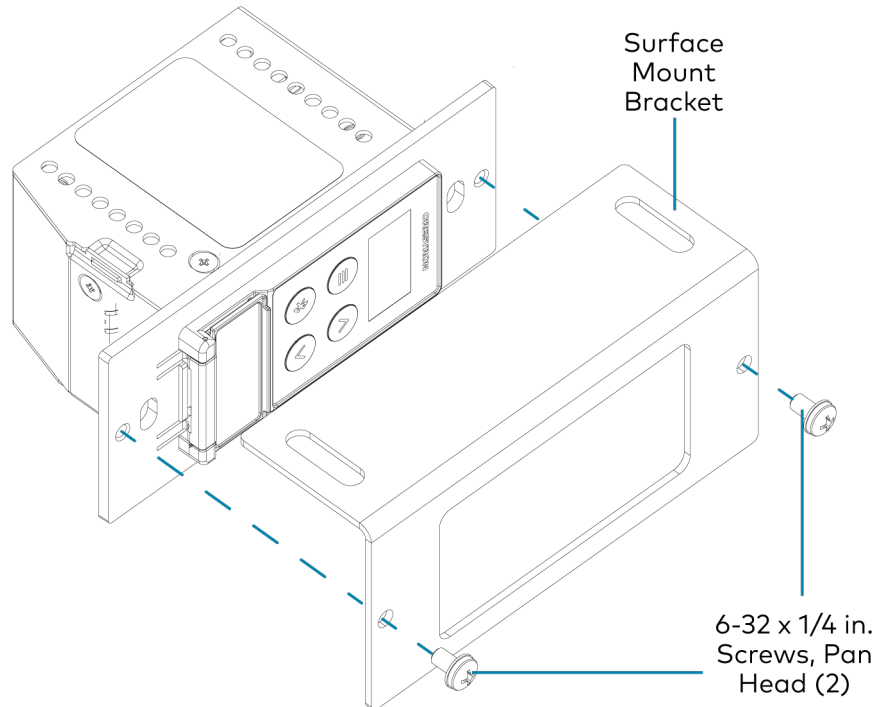
Mount the Device

The DM-NAX-BTIO-1G can be mounted under a table or into a 1-gang electrical box.

Mounting under a Table

To mount the device under a table:

1. Align the included right angle surface mount bracket with the front panel of the device.
2. Using a Phillips screwdriver and the two included 6-32 x 1/4 in. pan head screws, attach the mounting bracket to the device.



3. Secure the device to the underside of a table using the appropriate mounting screws (not included).

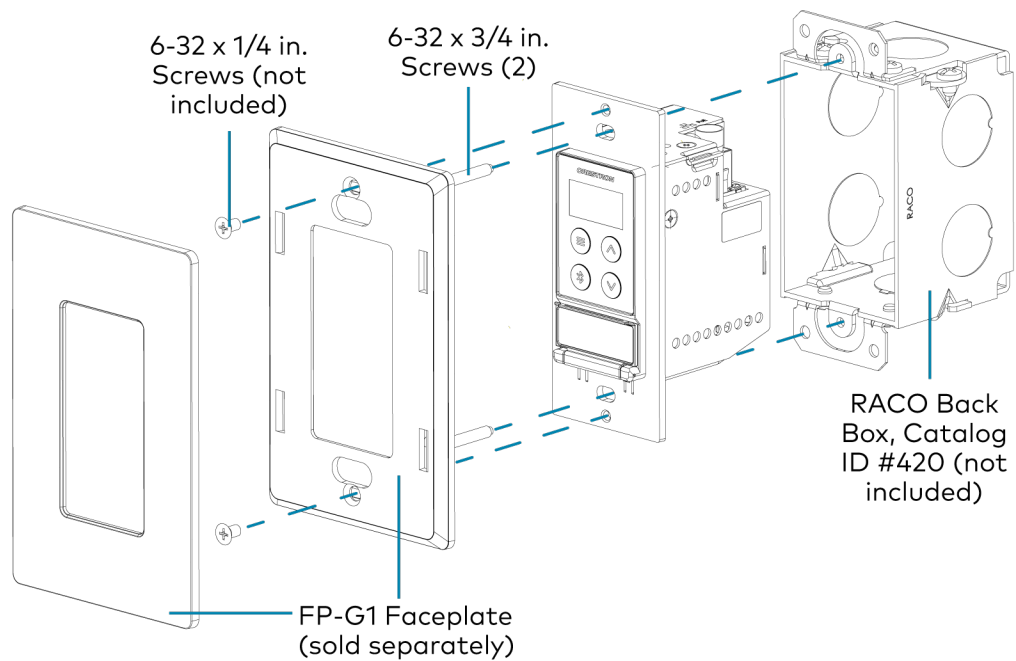
Mounting into a 1-Gang Electrical Box

NOTES:

- The DM-NAX-BTIO-1G should only be mounted with a RACO® 3 in. x 2 in. x 2 in. gangable metal switch box with eight 0.5 in. knockouts and plaster ears (catalog ID #420), as it was designed to fit the box dimensions and knockout placements. Alternative metal switch boxes should not be used as they may have different knockout placements, which can lead to issues running the PoE connection to the unit due to cable bend radius restrictions.
- For thermal performance reasons, fully enclosed plastic back boxes should not be used with the DM-NAX-BTIO-1G. In installations where an enclosed back box is not required, the DM-NAX-BTIO-1G can be installed into most single gang metal or plastic mud rings.
- Connector boots should not be used on CAT5e (or greater) cables being connected to the DM-NAX-BTIO-1G to avoid cable bend radius issues.

To mount the wall plate into a 1-gang electrical box:

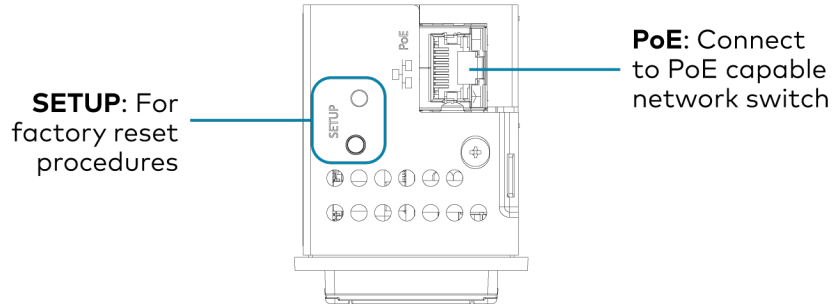
1. Using a Phillips screwdriver and two 6-32 x 3/4 in., truss head screws, attach the wall plate to the electrical box.
2. Using a Phillips screwdriver and two 6-32 x 1/4 in., flat head screws (not included), attach a [FP-G1](#) decorator style faceplate (sold separately) to the wall plate.



Connect the Device

Make connections to the front and top panels of the DM-NAX-BTIO-1G:

Top Panel



NOTE: **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.

Connect a PoE capable network switch to the **PoE** port.

Front Panel

Connect an unbalanced line-level audio input to the **INPUT** TRS port.

Connect an unbalanced line-level audio output to the **OUTPUT** TRS port.

Reset the Device

A network reset or factory restore may be performed when troubleshooting.

CAUTION: These procedures should only be performed to recover an unresponsive device. Both the Network Reset and Factory Restore procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before performing these procedures, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

Network Reset

1. Ensure the device is powered on.
2. Press and hold the **SETUP** button for up to 15 seconds until the **SETUP** LED flashes red.

The device will reboot, and the default network settings will be reset. The device will be reverted to its default hostname, with DHCP enabled, and no static IP set.

Factory Restore

1. Turn off the device by disconnecting the power cable from the device.
2. Press and hold the **SETUP** button and then reconnect the power cable while still holding the **SETUP** button. Continue holding the **SETUP** button for up to 30 seconds until the **SETUP** LED flashes.

The device will reboot, and all the factory default settings will be restored, such as audio settings, multicast addressing, etc.

CAUTION: Performing a factory restore will clear all settings from the device configuration.

DM-NAX-XSP Installation

Refer to the following sections to install the DM-NAX-XSP.

- [In the Box on page 156](#)
- [Install the Device on page 157](#)
- [Connect the Device on page 162](#)
- [Observe the LED Indicators on page 163](#)
- [Reset the Device on page 164](#)

In the Box

Qty. Description

1 DM-NAX-XSP

Additional Items

- 2 Room Box Mounting Bracket (2057072)
- 4 Screw, 04-40 x 1/4 in. Pan Head, Philips (2007158)
- 4 Screw, 06-32 x 3/4 in. Steel, Truss (2009211)
- 4 Wall Anchor
- 2 Connector, 2-Pin (2003574)
- 1 Connector, 3-Pin (2003575)
- 1 Connector, 4-Pin (2003576)
- 4 Washer, Flat, Steel (2007644)

Install the Device

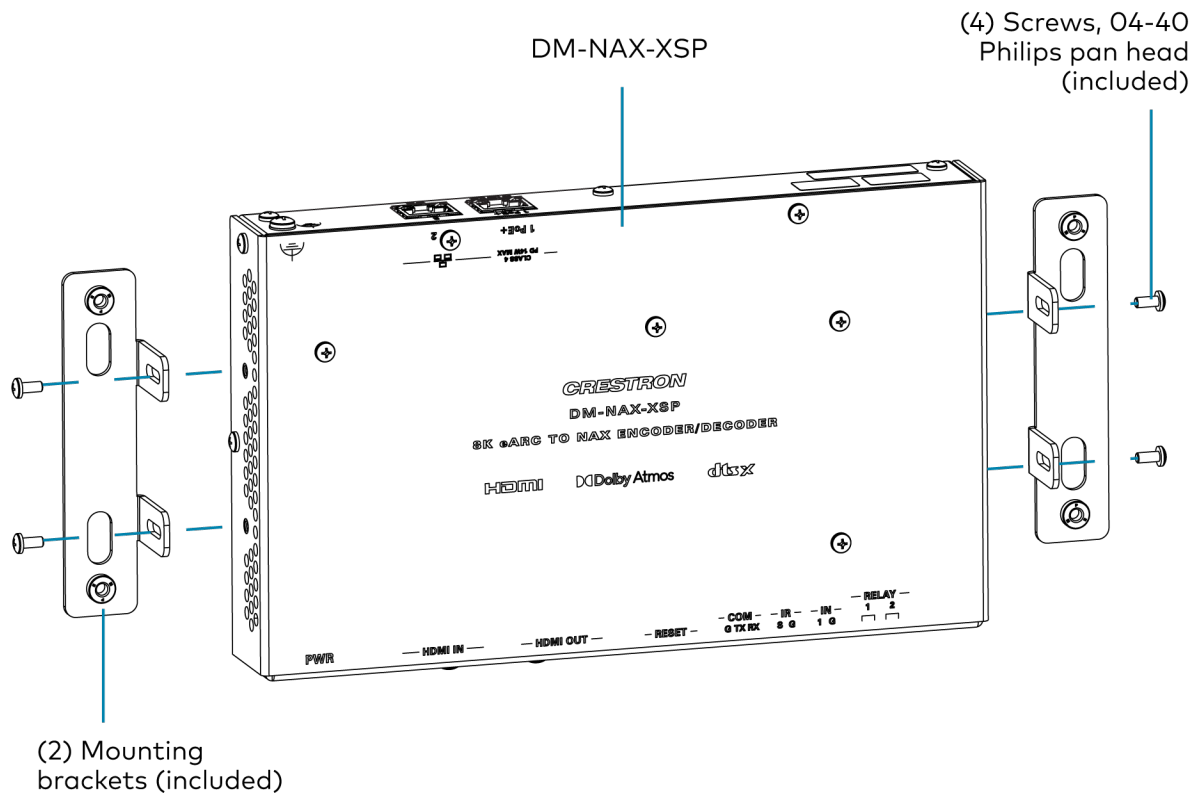
Refer to the [Safety Instructions](#) (Doc. 6607) prior to installation.

The device can be mounted to a wall, under a table, or installed on a single rack rail.

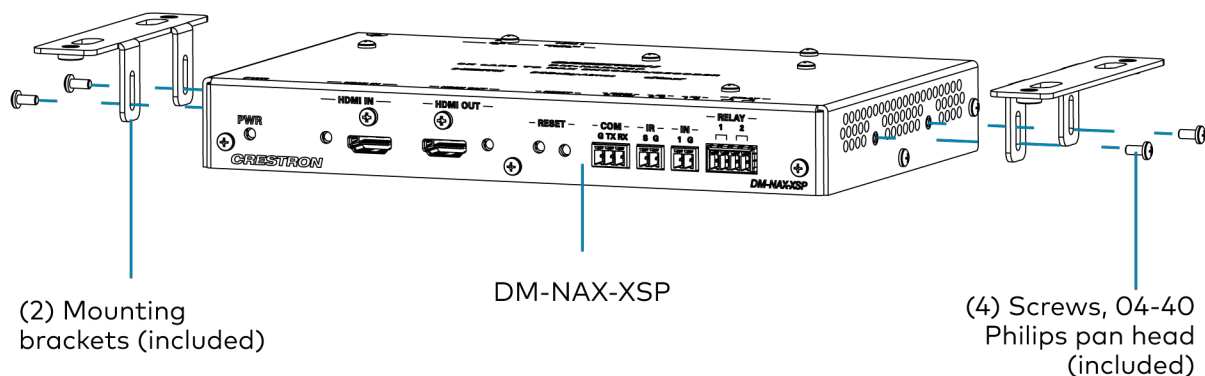
Connect the Mounting Brackets

Using the four included 4-40 x 1/4 in. Phillips pan head screws, attach the two included mounting brackets to the device.

- If mounting the device to a wall or a rack rail, orient the mounting brackets to be flush with the bottom face of the DM-NAX-XSP.

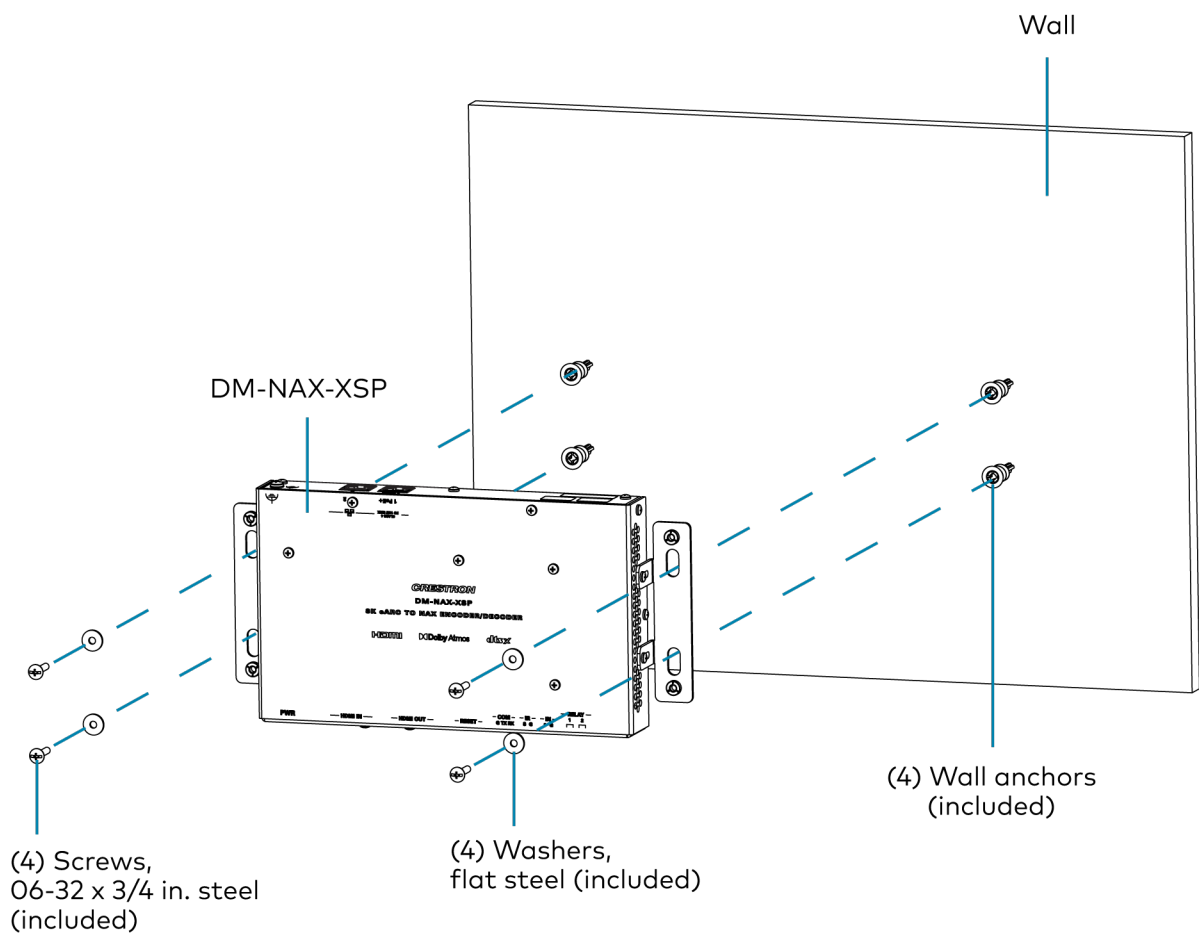


- If mounting the device under a table, orient the mounting brackets to be flush with the top face of the DM-NAX-XSP.



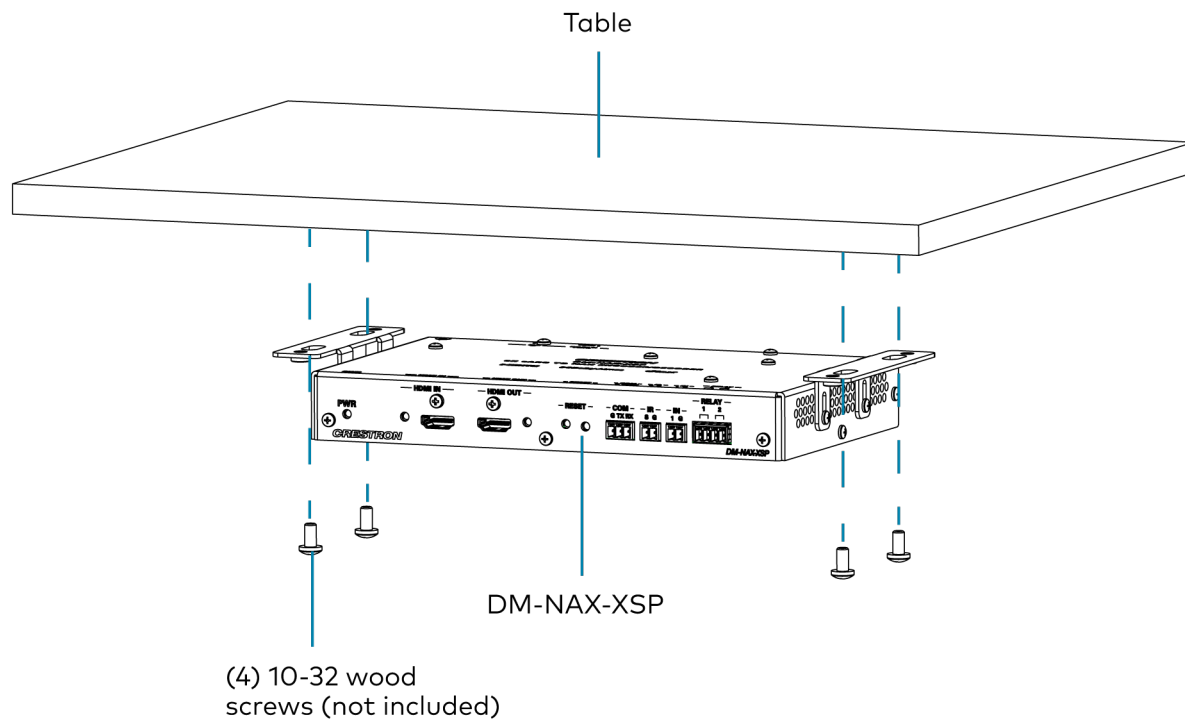
Mount to a Wall

To mount the device to a wall, use the four included sets of wall anchors, washers, and 6-32 x 3/4 in. Philips pan head screws.



Mount under a Table

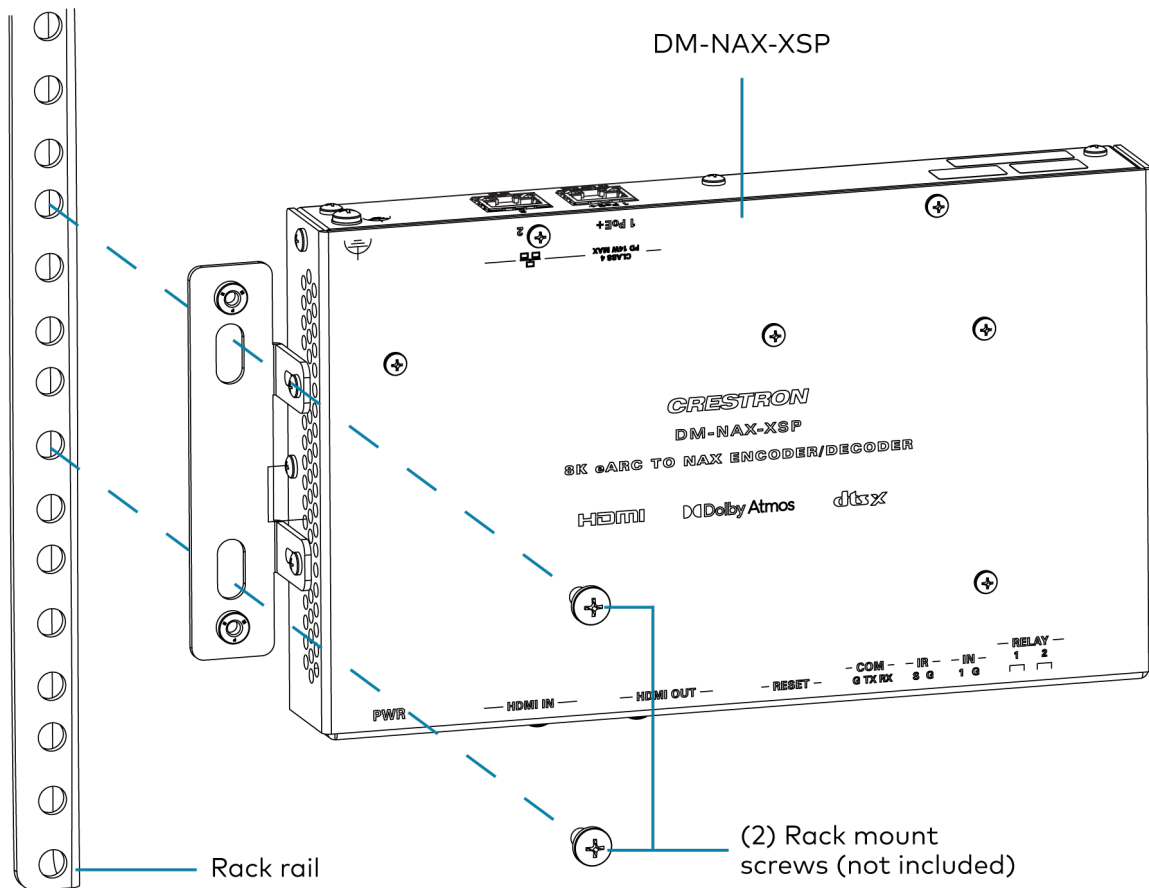
To mount the device under a table, use four 10-32 Philips pan head wood screws (not included).



Install on a Rack Rail

To mount the device onto a front or rear rack rail:

1. Position one of the mounting brackets so that the holes align with the holes in the rack rail.
2. Secure the device to the rack rail using two 10-32 Philips pan head rack mount screws (not included).



Rack Mounting Safety Precautions

Elevated Operating Ambient Temperature: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.

Reduced Airflow: Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

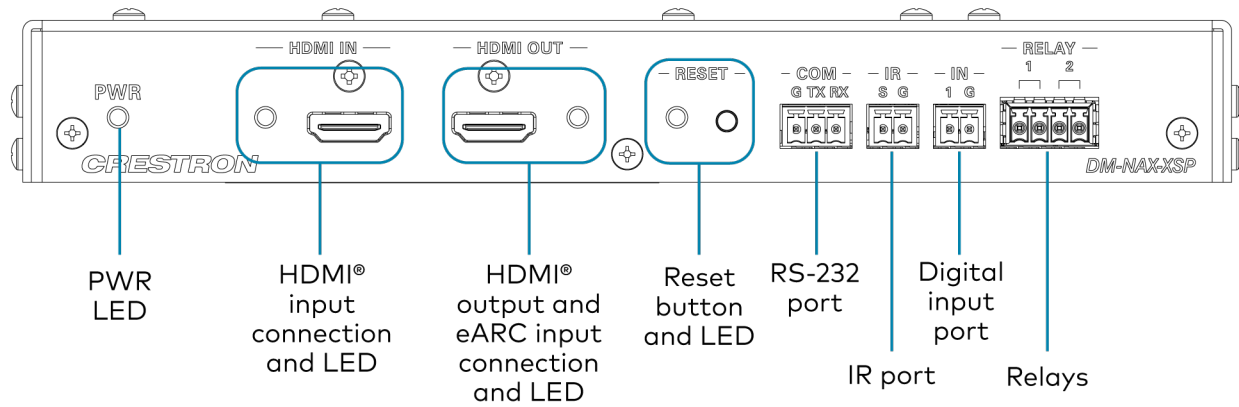
Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Reliable Grounding: Reliable grounding of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

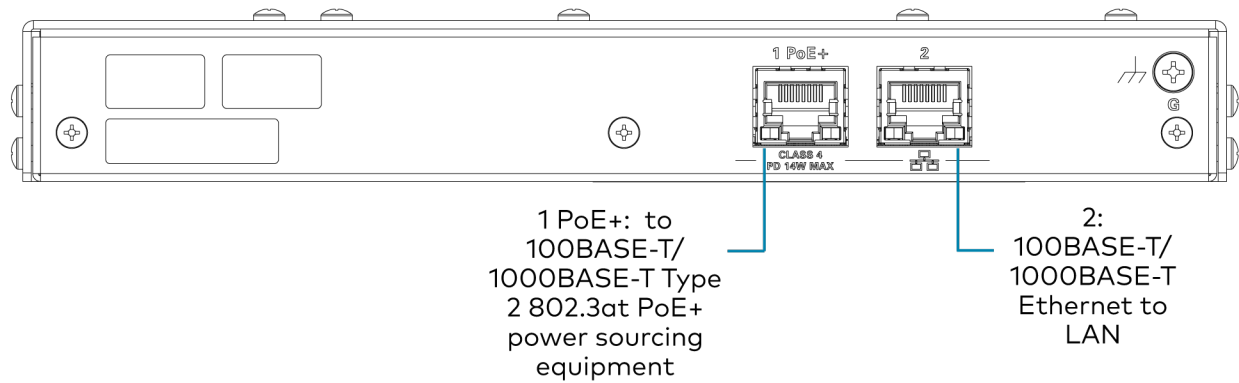
Connect the Device

Make the necessary connections as called out in the following illustrations.

Front Panel



Rear Panel



Observe the LED Indicators

Refer to the following table for information about the LED indicators on the device.

LED Indicator	Color	Meaning
PWR	Green	Device is powered on and fully booted.
	Amber	Device is booting up.
	Off	Device is not powered on.
HDMI IN	Green	HDMI sync is detected with the source connected to the HDMI IN connector.
	Off	No HDMI sync is detected at HDMI IN .
HDMI OUT	Green	HDMI sync is detected with the display connected to the HDMI OUT connector.
	Off	No HDMI sync is detected at HDMI OUT .
RESET	Solid Red	The RESET button is pressed.
	Blinking Red	A network reset or factory restore has been initiated via the adjacent RESET button.

Reset the Device

A network reset or factory restore may be performed when troubleshooting.

CAUTION: These procedures should only be performed to recover an unresponsive device. Both the Network Reset and Factory Restore procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before performing these procedures, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

Network Reset

1. Ensure the device is powered on.
2. Press and hold the **RESET** button for up to 15 seconds until the **RESET** LED flashes red.

The device will reboot, and the default network settings will be reset. The device will revert to its default hostname, with DHCP enabled, and no static IP set.

Factory Restore

1. Turn off the device by disconnecting the power cable from the device.
2. Press and hold the **RESET** button and then reconnect the power cable while still holding the **RESET** button. Continue holding the **RESET** button for up to 30 seconds until the **RESET** LED flashes.

The device will reboot, and all the factory default settings will be restored, such as Zone settings, streaming service accounts, multicast addressing, etc.

CAUTION: Performing a factory restore will clear all settings from the device configuration.

Configuration

The following products can be configured:

- [DM-NAX-2XLRI-1G on page 166](#)
- [DM-NAX-4ZSA-50 on page 221](#)
- [DM-NAX-4ZSP on page 278](#)
- [DM-NAX-8ZSA on page 333](#)
- [DM-NAX-16AIN on page 394](#)
- [DM-NAX-AMP-X300 on page 422](#)
- [DM-NAX-AUD-IO on page 495](#)
- [DM-NAX-AUD-USB on page 555](#)
- [DM-NAX-BTIO-1G on page 615](#)
- [DM-NAX-XSP on page 691](#)

DM-NAX-2XLRI-1G

This section describes how to configure the DM-NAX-2XLRI-1G.

Web Interface Configuration

The DM-NAX-2XLRI-1G web interface allows you to view status information and configure network and device settings.

Access the Web Interface

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

- [Access the Web Interface with a Web Browser on page 167](#)
- [Access the Web Interface With Crestron Toolbox™ Software on page 169](#)

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

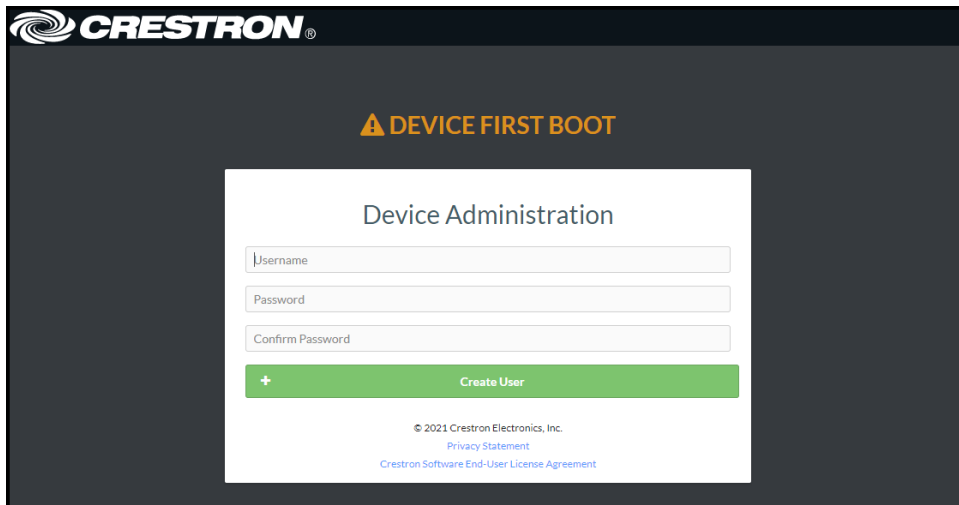
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later
	Firefox® web browser, version 31 and later
	Internet Explorer web browser, version 11 and later
	Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later
	Chrome 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 DM-NAX-2XLRI-1G into a web browser.

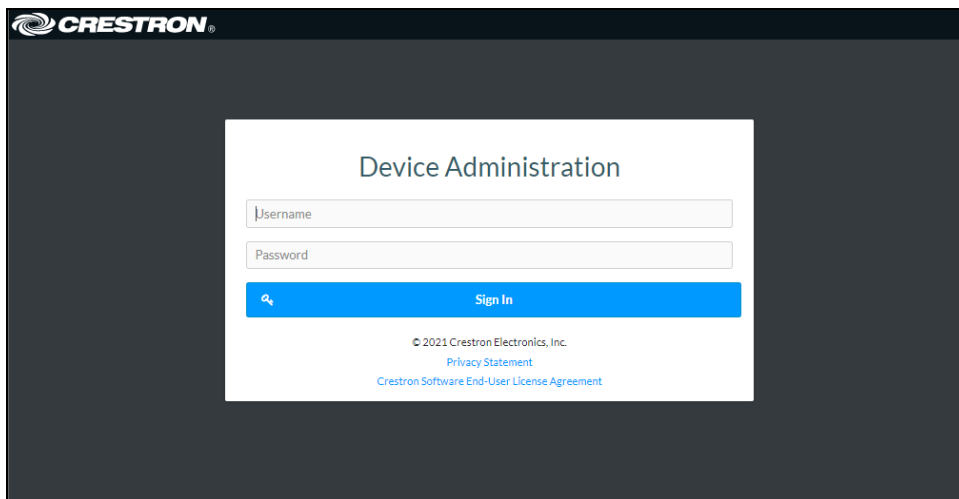
NOTE: To obtain the IP address, use the **Device Discovery Tool** in Crestron Toolbox™ software or an IP scanner application.

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.



The screenshot shows the Crestron web interface during a "DEVICE FIRST BOOT". The header features the Crestron logo. Below it, a yellow warning icon is followed by the text "DEVICE FIRST BOOT". The main content area is titled "Device Administration" and contains three input fields: "Username", "Password", and "Confirm Password". Below these fields is a green button with a plus icon and the text "Create User". At the bottom of the form, there is copyright information: "© 2021 Crestron Electronics, Inc.", a link to the "Privacy Statement", and a link to the "Crestron Software End-User License Agreement".

- d. Select **Create User**. The Device Administration page appears.



The screenshot shows the same Crestron web interface, but the "Create User" button has been replaced by a blue button with a magnifying glass icon and the text "Sign In". The "Username" and "Password" fields remain, but the "Confirm Password" field is no longer present. The footer information remains the same: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Select **Sign In**.

Access the Web Interface With Crestron Toolbox™ Software

To access the web interface by opening a web browser from Crestron Toolbox™ software:

1. Open Crestron Toolbox software.
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 DM-NAX-2XLRI-1G 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.

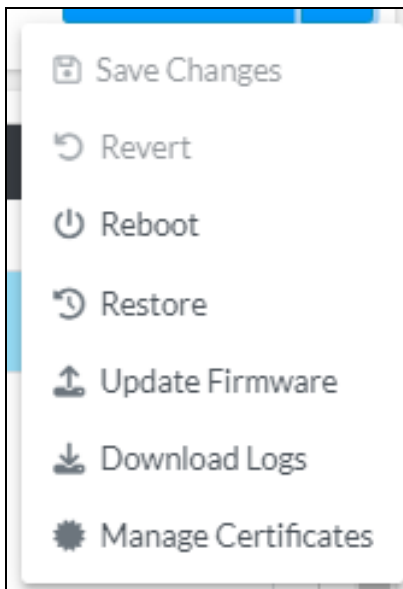
NOTE: If there is security software running on the computer, a security alert might be displayed when Crestron Toolbox software attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, select the device.
4. Enter the device credentials in the **Authentication Required** dialog that opens, then select **Log In**.
5. Select **Web Configuration**.

Action

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

- [Save Changes on page 170](#)
- [Revert on page 170](#)
- [Reboot on page 171](#)
- [Restore to Factory Default Settings on page 171](#)
- [Update Firmware on page 172](#)
- [Download Logs on page 172](#)
- [Manage Certificates on page 172](#)



Save Changes

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

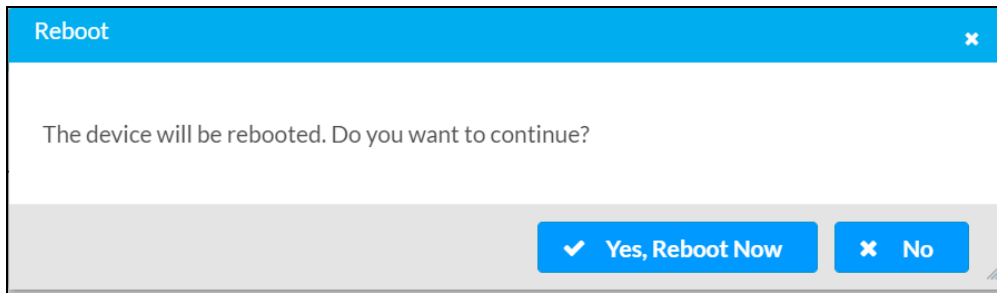
Revert

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

Reboot

Certain changes to the settings may require the DM-NAX-2XLRI-1G to be rebooted to take effect. To reboot the device:

1. Select **Reboot** in the **Action** menu. The **Confirmation** message box appears.



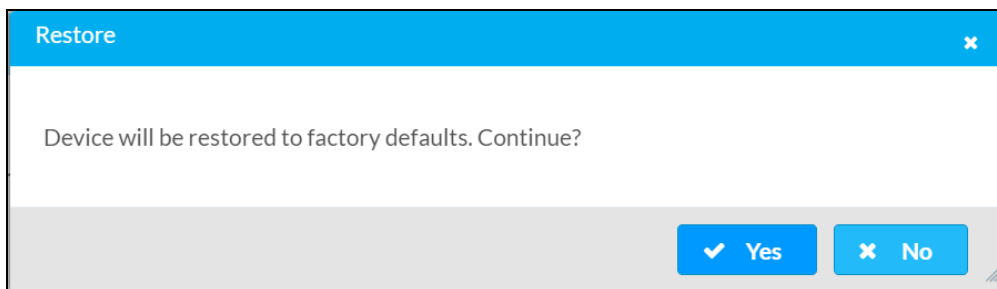
2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears. Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

CAUTION: This procedure should only be performed to recover an unresponsive device. Performing the **Restore** procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before proceeding, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

1. Select **Restore** in the **Action** menu to restore the settings of the DM-NAX-2XLRI-1G to factory defaults.

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.



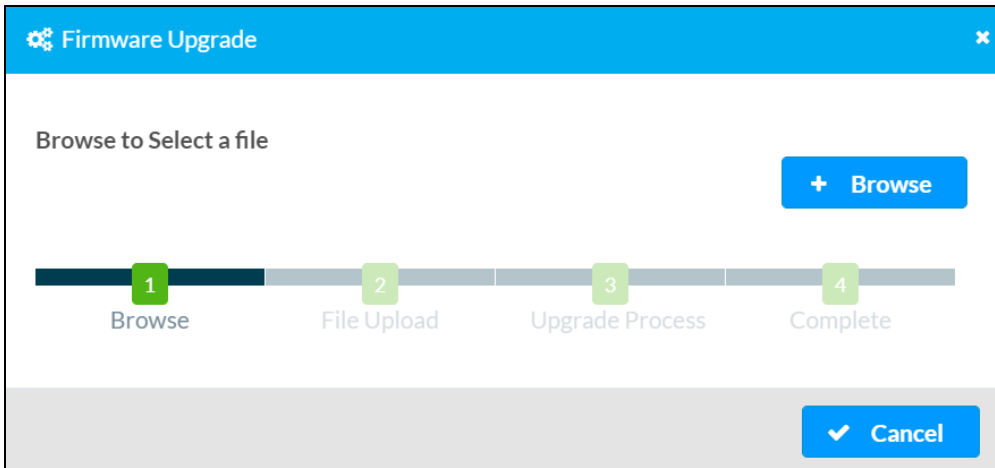
2. Select **Yes** in the **Confirmation** dialog to restore the DM-NAX-2XLRI-1G to factory settings. Select **No** to cancel the restore operation.

A dialog is displayed again, indicating that the restore process was successful and that the device rebooted.

You can also restore to factory settings by pressing and holding the **SETUP** button on the rear panel of the device with power disconnected then connect the power supply and continue to hold **SETUP** button for 30 seconds.

Update Firmware

1. Select **Update Firmware** in the **Action** menu.
2. In the **Firmware Upgrade** dialog, select **+ Browse**.



3. Locate and select the desired firmware file, then select **Open**. The selected firmware file name is displayed in the **Firmware Upgrade** dialog.
4. Select **Load** and wait for the progress bar to complete and for **OK** to become selectable.
5. Select **OK**. The device with new firmware can now be accessed.

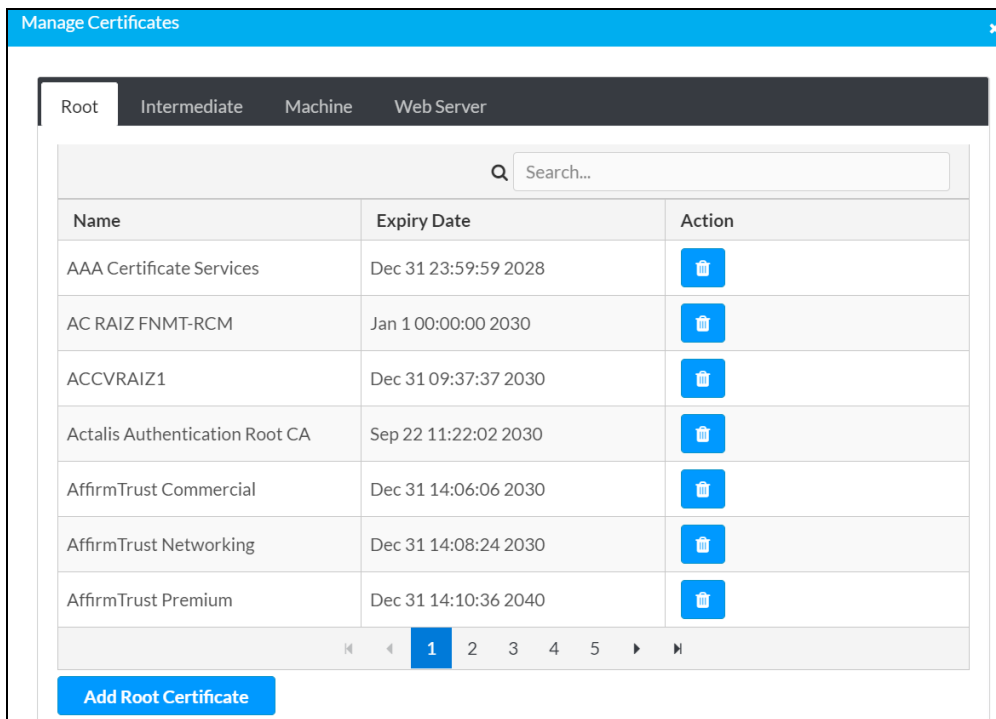
Download Logs

Select **Download Logs** in the **Action** menu to download the device message logs for diagnostic purposes.

The log file is downloaded to the Downloads folder of the PC.

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 **Action** menu. The following certificate tabs are displayed:

- **Root:** The Root certificate is used by the DM-NAX-2XLRI-1G to validate the network's authentication server. The DM-NAX-2XLRI-1G 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 DM-NAX-2XLRI-1G. 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, 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.

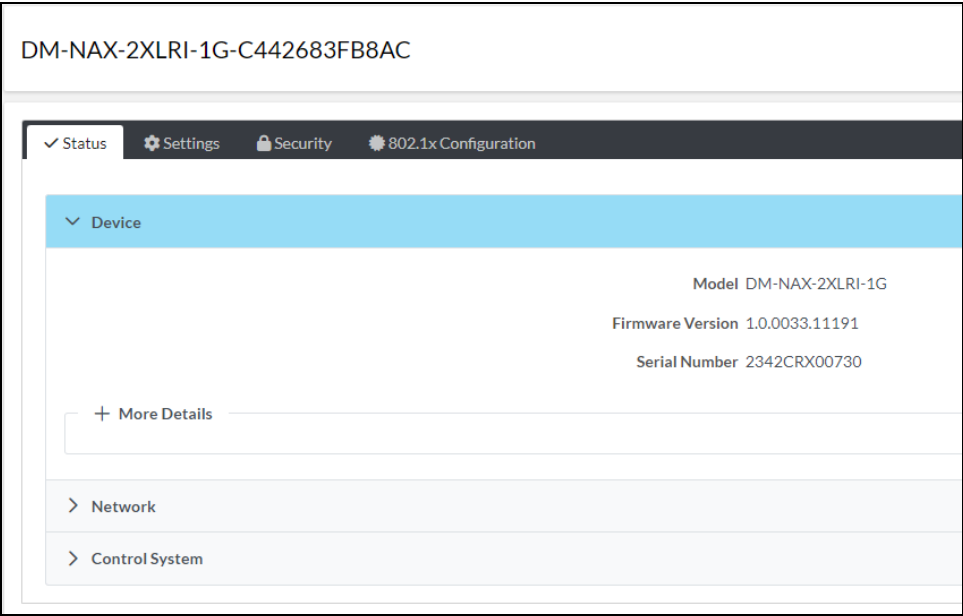
To Delete Certificates

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 DM-NAX-2XLRI-1G. It displays general information about the DM-NAX-2XLRI-1G (such as Model Name, Firmware Version, and Serial Number), current network settings (such as Host Name and IP Address, etc.), and input and output ports' current status.

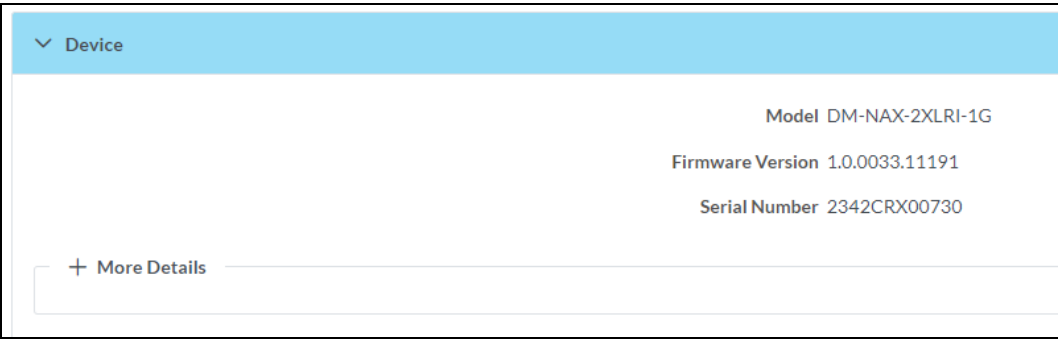
The **Status** page can be accessed at any time by selecting the **Status** tab of the DM-NAX-2XLRI-1G interface.



Information displayed on the **Status** tab is organized into different sections.

Device

The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-2XLRI-1G.



Select **+ More Details** to review additional information about the DM-NAX-2XLRI-1G.

— More Details	
DM-NAX-2XLRI-1G	1.0.0033.11191
Build	Feb 13 2024 (531246)
Updater	1.0.0033.11191
Bootloader	1.00.00
CCUI Version	1.1327.1
XIOSDK	3.8.2
IoTSDK	1.11.0
Build time	11:19:07
Product ID	0x7A07
Revision ID	0x0200
HDCP2X-SKE	
HDCP2X-SKE	HDCP2X-SKE [v9.0000.00000, #FFFFFFFFFFFF]
PRE-BOOT	[v9.0000.00000]
BOOTLOADER	[v9.0000.00000]
ctrl-extclk-in-pps	Driver v1.1
ctrl-prod-info	Driver v3.0
PUF	1.0.0033.11191
Forced Auth Mode	True

Network

The **Network** section displays network-related information about the DM-NAX-2XLRI-1G, including the **Hostname**, **Domain Name**, and **DNS Servers**.

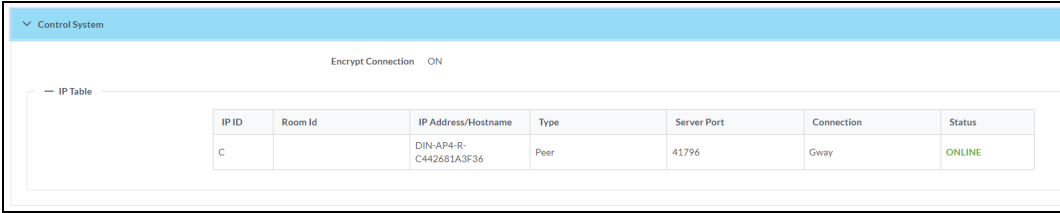
▼ Network	
Hostname DM-NAX-2XLRI-1G-C442683FB8AC	
Domain Name lan	
DNS Servers 192.168.1.1(DHCP)	
— Adapter 1	
DHCP	On
IP Address	192.168.1.231
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1
Link Active	true
MAC Address	c4,42,68,3f,b8,ac

NOTE: By default, the host name of the DM-NAX-2XLRI-1G consists of the model name followed by the MAC address of the device. For example, DM-NAX-2XLRI-1G-00107FB58088.

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

Control System

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



Control System						
Encrypt Connection ON						
IP Table						
IP ID	Room Id	IP Address/Hostname	Type	Server Port	Connection	Status
C		DIN-AP4-R- C442681A3F36	Peer	41796	Gway	ONLINE

- **Encrypt Connection:** Displays **ON** or **OFF**.
- **IP ID:** Displays the currently used IP ID of the DM-NAX-2XLRI-1G.
- **IP Address/Hostname:** Displays the IP address or hostname of the control system.
- **Room ID:** Displays the room ID.
- **Status:** Displays **OFFLINE** or **ONLINE**.

Settings

The **Settings** page enables configuration of the DM-NAX-2XLRI-1G settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the DM-NAX-2XLRI-1G interface.

Many options in the **Settings** page are exclusive to a specific device mode: Residential or Commercial. The DM-NAX-2XLRI-1G is in Commercial mode by default.

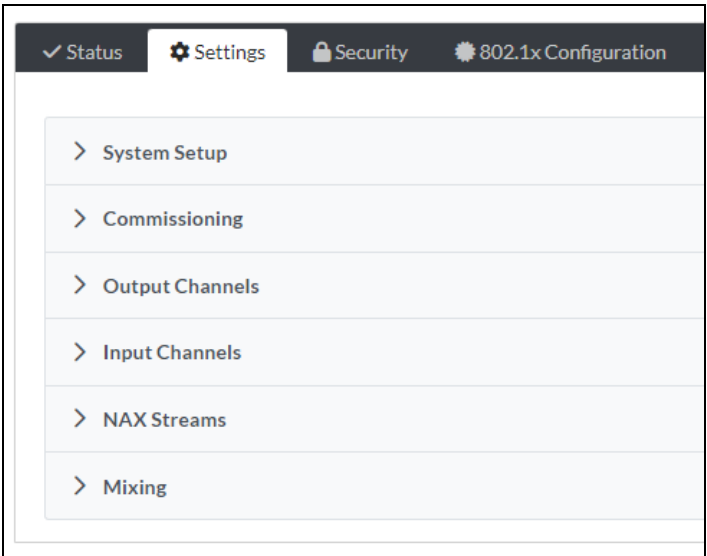
This section provides the following information:

- [Commercial Mode on page 179](#)
- [Residential Mode on page 196](#)

Commercial Mode

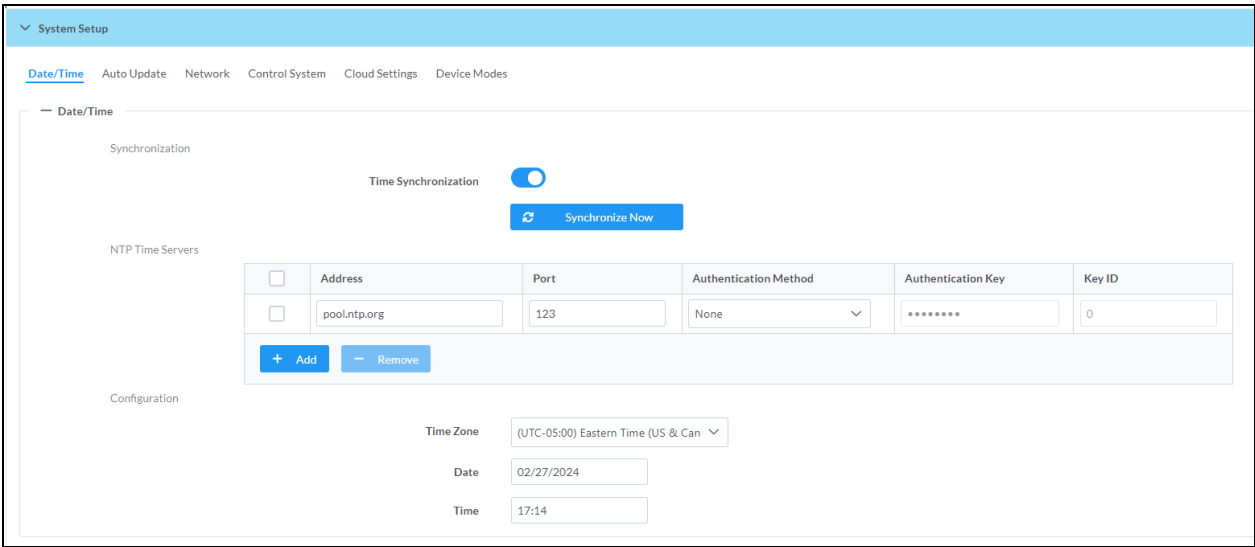
This section provides the following information:

- [System Setup on page 179](#)
- [Commissioning on page 184](#)
- [Output Channels on page 185](#)
- [Input Channels on page 188](#)
- [DM NAX Streams on page 191](#)
- [Mixing on page 194](#)



System Setup

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



Date/Time

Use the **Date/Time** tab to configure the date and time settings of the DM-NAX-2XLRI-1G.

Date/Time

Synchronization

Time Synchronization

Synchronize Now

NTP Time Servers

	Address	Port	Authentication Method	Authentication Key	Key ID
	pool.ntp.org	123	None	*****	0

+ Add

- Remove

Configuration

Time Zone

(UTC-05:00) Eastern Time (US & Can)

Date

02/21/2024

Time

12:40

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

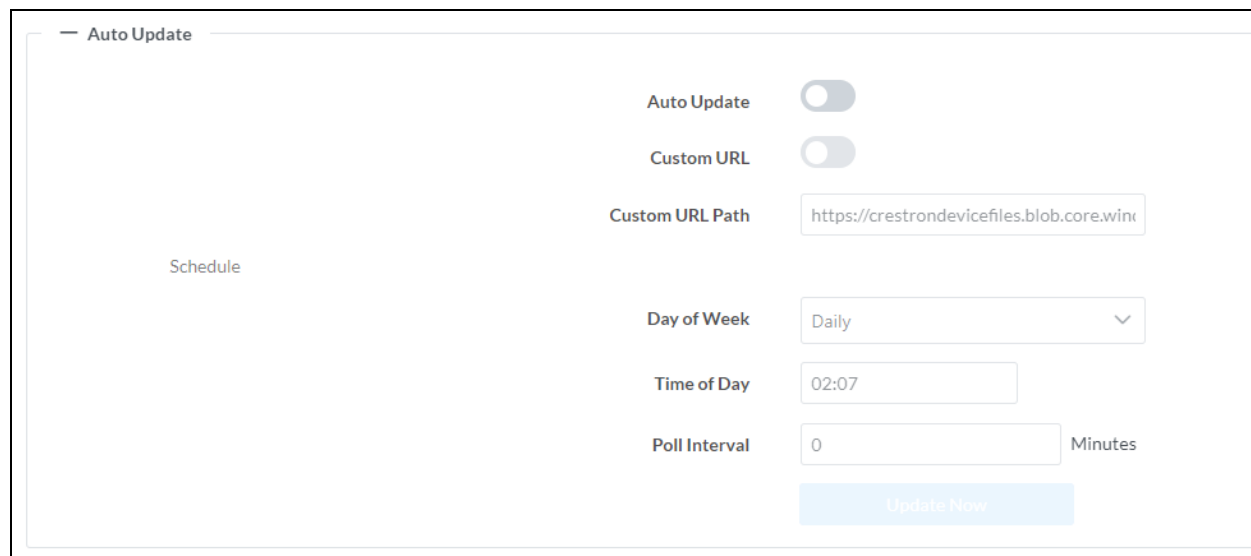
1. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-2XLRI-1G can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.



The screenshot shows the 'Auto Update' configuration page. On the left, there is a 'Schedule' section. On the right, there are several settings: 'Auto Update' and 'Custom URL' are both toggle switches in the 'off' position. Below 'Custom URL' is a text box for 'Custom URL Path' containing the URL 'https://crestrondevicefiles.blob.core.win'. Further down are three input fields: 'Day of Week' with a dropdown menu showing 'Daily', 'Time of Day' with a text box showing '02:07', and 'Poll Interval' with a text box showing '0' and a 'Minutes' label. At the bottom right is a blue button labeled 'Update Now'.

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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** tab contains network-related settings for the DM-NAX-2XLRI-1G, including the Hostname, Domain, Primary Static DNS, and Secondary Static DNS.

The screenshot shows the 'Network' configuration interface for 'Adapter 1'. The settings are as follows:

Field	Value
Hostname *	DM-NAX-2XLRI-1G-C442683FB8AC
Domain	lan
Primary Static DNS	192.168.1.1(DHCP)
Secondary Static DNS	_____._____._____
DHCP Enabled	<input checked="" type="checkbox"/>
IP Address	192.168.1.231
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1

NOTE: By default, the hostname of the DM-NAX-2XLRI-1G consists of the model name followed by the MAC address of the device. For example, DM-NAX-2XLRI-1G-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTE: DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-2XLRI-1G is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the DM-NAX-2XLRI-1G 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 DM-NAX-2XLRI-1G.
 - **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

Control System Username

chdevice

Control System Password

Encrypt Connection

IP Table

<input type="checkbox"/>	IP ID	IP Address/Hostname	Room Id
<input type="checkbox"/>	C	DIN-AP4-R-C442681A3F36	Room Id

+ Add

✕ Remove

1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-2XLRI-1G in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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

Date/Time

Auto Update

Network

Control System

Cloud Settings

Device Modes

Cloud Settings

Cloud Configuration Service Connection

Set the **Cloud Settings** toggle to the right position to enable or to the left to disable cloud settings. This specifies whether the DM-NAX-2XLRI-1G can communicate with the XiO Cloud® platform.

Device Modes

Use the **Device Modes** tab to configure the **Application Mode** of the DM-NAX-2XLRI-1G.

Date/Time

Auto Update

Network

Control System

Cloud Settings

Device Modes

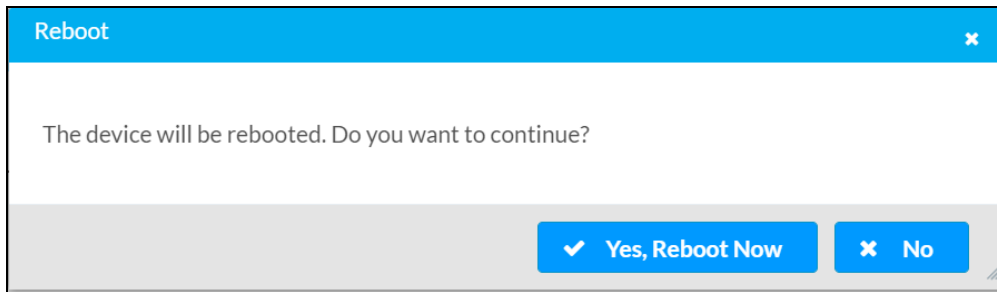
Device Modes (Autosaved)

Application Mode

Commercial (Advanced)

Application Mode determines which options and controls are available.

- Select **Residential (Standard)** or **Commercial (Advanced)**. A **Reboot** confirmation message box appears.

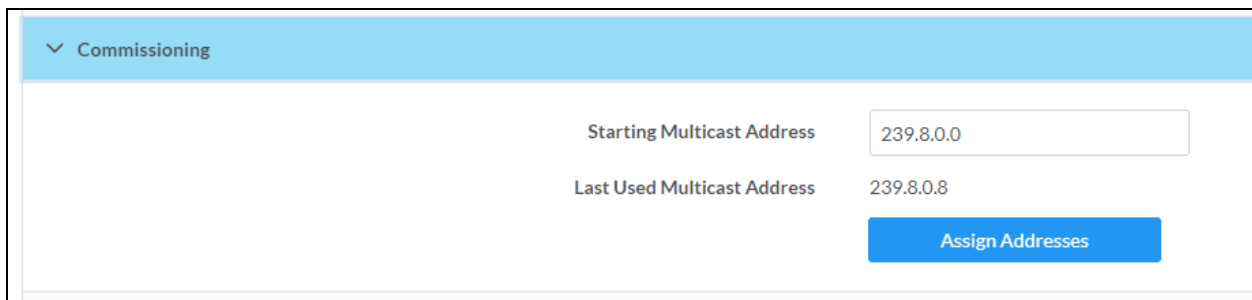


- Select **Yes, Reboot Now** to reboot the device into the selected mode. The **Reboot** message box appears.
- Wait for the device reboot to complete before attempting to reconnect to the device.

By default, the DM-NAX-2XLRI-1G is set to **Commercial (Advanced)** mode.

Commissioning

The **Commissioning** section provides a quick way to automatically assign multicast addresses to the device's internal audio-over-IP stream transmitters.

A screenshot of the 'Commissioning' section in a web interface. The section has a blue header with a dropdown arrow and the text 'Commissioning'. Below the header, there are two labels: 'Starting Multicast Address' and 'Last Used Multicast Address'. The 'Starting Multicast Address' label is next to a text input field containing '239.8.0.0'. The 'Last Used Multicast Address' label is next to the text '239.8.0.8'. Below these labels, there is a blue button with the text 'Assign Addresses'.

Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-2XLRI-1G a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.255.255.254.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

Output Channels

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

Output Channels

Zones (Autosaved)

Global Filter

Name	LineOut1	LineOut2	StreamOut1Ch1	StreamOut1Ch2
Volume (%)	<div><div></div><div>30</div></div>	<div><div></div><div>30</div></div>	<div><div></div><div>80</div></div>	<div><div></div><div>80</div></div>
Signal Presence				
Signal Level	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>
Mute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
Action	<div><div>Edit</div></div>	<div><div>Edit</div></div>	<div><div>Edit</div></div>	<div><div>Edit</div></div>

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

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.

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.

To configure the zone volume, do one of the following:

- Move the **Volume** slider up to increase or down to decrease the zone volume.
- Use the **%** arrows to increase or decrease the zone volume. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

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

Select **Edit** to view additional **Zone** and **Output** options.

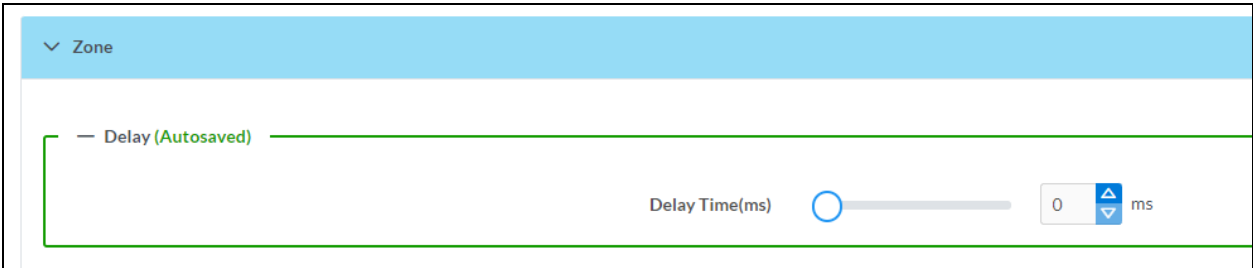
Zone Settings

To configure the settings for an output channel, select **Edit**. The **Edit Zone** window appears.



Zone

Select **Zone** to access the settings for **Delay**.



Delay

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. Values range from 0 ms to 85 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

NOTE: The delay feature is only available on the line level output channels.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume** and **Signal**.

Output

Minimum / Maximum (Autosaved)

Minimum
0
%

Maximum
100
%

Default
30
%

Signal (Autosaved)

Signal
Not Present

Clipping
None

Minimum/Maximum Volume

Minimum / Maximum (Autosaved)

Minimum
0
%

Maximum
100
%

Default
30
%

- 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. Values range from 0 to 50%, adjustable in increments of 1%.
 - Manually enter a value in the **Minimum** field.
- 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. Values range from 70 to 100%, adjustable in increments of 1%.
 - 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. 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. Values range from 0 to 50%, adjustable in increments of 1%.
 - 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.

Signal

Signal	Not Present
Clipping	None

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.

Input Channels

The **Input Channels** section is used to configure the **Name**, **Compensation**, and **Mute** attributes of the front panel XLR inputs on the DM-NAX-2XLRI-1G.

Input Channels

Analog Inputs (Autosaved)

Name	XLR1	XLR2	StreamIn1Ch1	StreamIn1Ch2
Analog Gain (db)	17	17		
Compensation (db)	 0	 0	 0	 0
Signal Present				
Signal Level				
Mode	Line	Line		
Phantom Power				
Mute				
Action				

Configure Inputs

1. If needed, enter a friendly name for each input in its **Name** field.
2. To set an analog gain value for a given input, use the **db** arrows to increase or decrease the compensation. Values range from 0 dB to 60 dB, adjustable in increments of 1 dB.
3. To set a level compensation adjustment for a given input, do one of the following:
 - Move the **Compensation** slider up to increase or down to decrease the level compensation. Compensation increases or decreases the level of the incoming audio signal on any of the physical inputs on the device's rear panel.
 - Use the **db** arrows to increase or decrease the compensation. Values range from -10 dB to 10 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Compensation** field.
4. To switch between microphone level and line level input signals, expand the **Mode** drop-down and select the desired input signal level. By default, the XLR inputs are both set to **Line** level.
5. Set a channel's **Phantom Power** toggle to the right position to enable +48V phantom power. Set the channel's **Phantom Power** toggle to the left to disable phantom power. By default, **Phantom Power** is disabled, and can only be enabled while the **Mode** of the channel is set to **Mic**.
6. To mute the signal from the corresponding input, set the **Mute** toggle to the right. To disable the mute, set the **Mute** toggle to the left. By default, **Mute** is disabled.

Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- **Signal Presence** indicates whether or not a signal is detected in that zone.
- **Clipping Detected** indicates if the signal is **Clipping** or **Nominal** (non-clipping).

Select **Edit** to open the equalizer for a given input channel.

Equalizer Settings

DM-NAX-2XLRI-1G-C442683FB8AC > Analog Inputs

XLR1

▼ Input

— Equalizer Settings (Autosaved)

Band	Band01	Band02	Band03	Band04	Band05
Gain	<div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div></div> <div>0</div>
Type	EQ	EQ	EQ	EQ	EQ
Frequency	32	64	125	250	500
Bandwidth	0.33	0.33	0.33	0.33	0.33
Bypass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Actions	Reset	Reset	Reset	Reset	Reset

Each XLR input channel of the DM-NAX-2XLRI-1G has a dedicated five-band equalizer that can be fully customized to tune the input 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.

To configure a given equalizer band:

1. To set a band's gain, do one of the following:
 - Move the **Gain** slider up to increase or down to decrease the gain.
 - Use the arrows to increase or decrease the gain. Values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Gain** field.

2. Select a filter type from the **Type** drop-down. 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.
3. Set a center frequency for the equalizer band to tune a specific portion of the audible frequency spectrum. To set the center frequency, do one of the following:
 - Use the arrows to increase or decrease the frequency. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. 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.
4. Set a bandwidth to determine how wide of a frequency range is effected by the equalizer band. To set the bandwidth, do one of the following:
 - Use the arrows to increase or decrease the bandwidth. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave.
 - Manually enter a value in the **Bandwidth** field.
5. 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.
6. Each equalizer band has a **Reset** that will reapply the default settings for that band.

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

DM NAX Streams

The local inputs of the DM-NAX-2XLRI-1G can be made available as a DM NAX audio-over-IP stream. This single two channel stream will encode XLR input 1 as the left channel, and XLR input 2 as the right channel.

Select **NAX Streams** to expand the tab and display the following information.

▼ NAX Streams

This Device is the Leader PTP Clock Source

No

PTP Clock Leader MAC Address

00:10:7f9c:1fa9

PTP Priority

254

▼

— Transmitters (Autosaved)

Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
StreamOut1Ch1	Stream01	<div>0.0.0.0</div>	<div>Stream01c4.42.68.3fb8.ac</div>	Stream Stopped	<div><div>▶</div><div>■</div><div>⚙</div></div>


— Receivers (Autosaved)

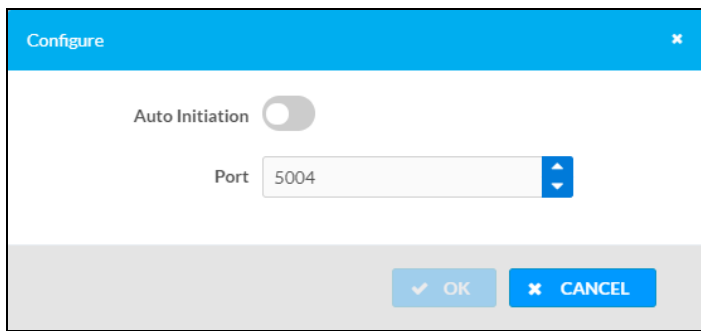
Zone Name	Stream	Current Stream Address	Requested Stream Address	Status	Actions
StreamIn1Ch1	Stream01	0.0.0.0	<div><div>0.0.0.0</div><div>🔍</div></div>	Stream Stopped	<div><div>▶</div><div>■</div><div>⚙</div></div>

- **Device is Leader PTP Clock Source** indicates whether the DM NAX device's PTP clock is the leader clock on the network. **Yes** will be displayed in green when the local DM-NAX-2XLRI-1G's clock 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 is currently acting as the leader clock.
- **PTP Priority**: This 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 DM-NAX-2XLRI-1G 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 Transmitters


To configure the DM NAX transmit stream:

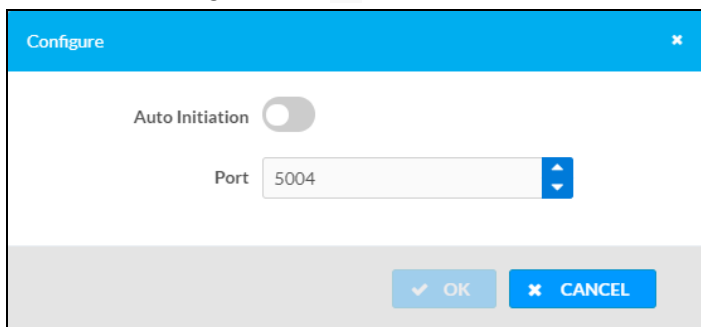
1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon  in the **Actions** column. The **Configure** dialog appears:



5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

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 configure icon  in the **Actions** column. The **Configure** dialog appears:



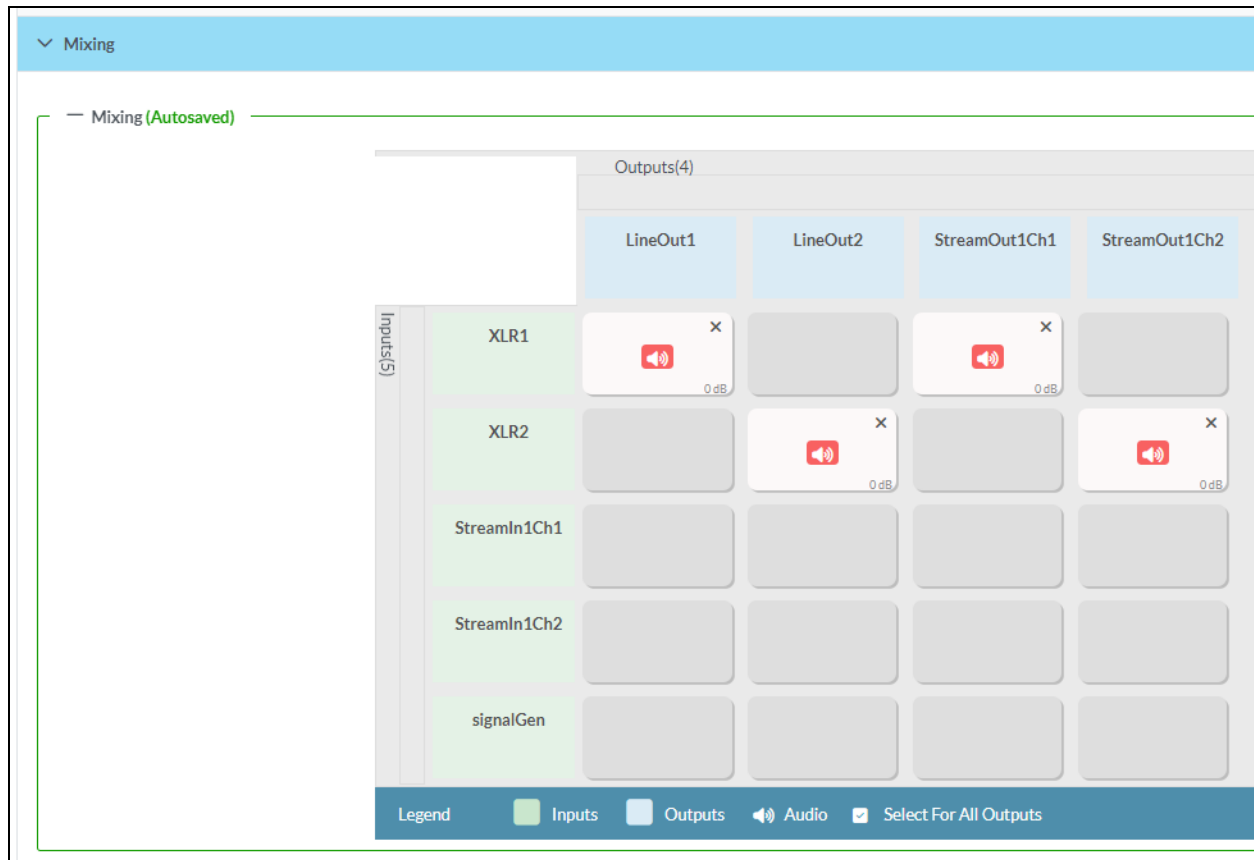
3. Set the **Auto Initiation** toggle to the right position to enable auto initiation. Set the toggle to the left position to disable auto initiation.
 - If **Auto Initiation** is enabled, the stream will begin automatically when the receiver subscribes to the transmitter.
 - If **Auto Initiation** is disabled, the stream will not begin until it is manually initiated.

4. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Mixing

The **Mixing** matrix is used to route a local input or AES67 stream to an output on the DM-NAX-2XLRI-1G.

NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).



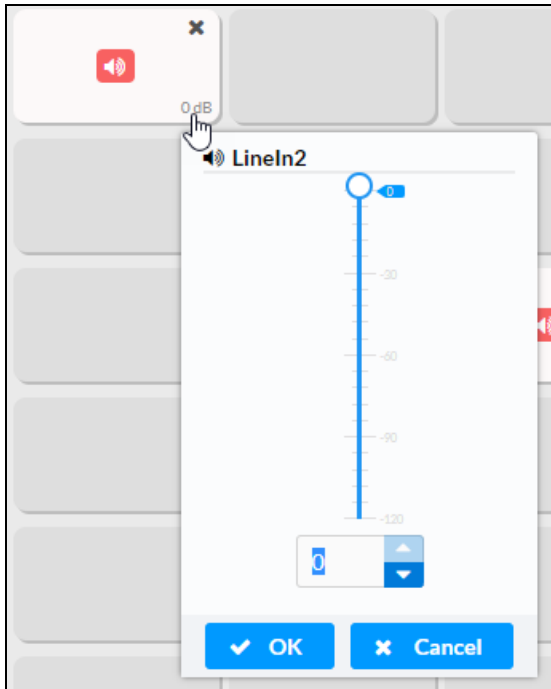
To route inputs to outputs on the device:

- 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 .

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, then 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.

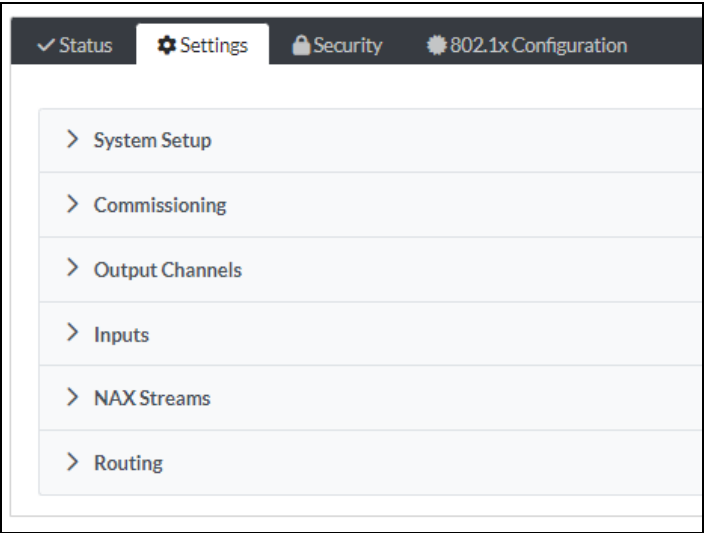
- Manually enter a value in the field.



Residential Mode

This section provides the following information:

- [System Setup on page 196](#)
- [Commissioning on page 200](#)
- [Output Channels on page 201](#)
- [Inputs on page 206](#)
- [NAX Streams on page 207](#)
- [Routing on page 210](#)

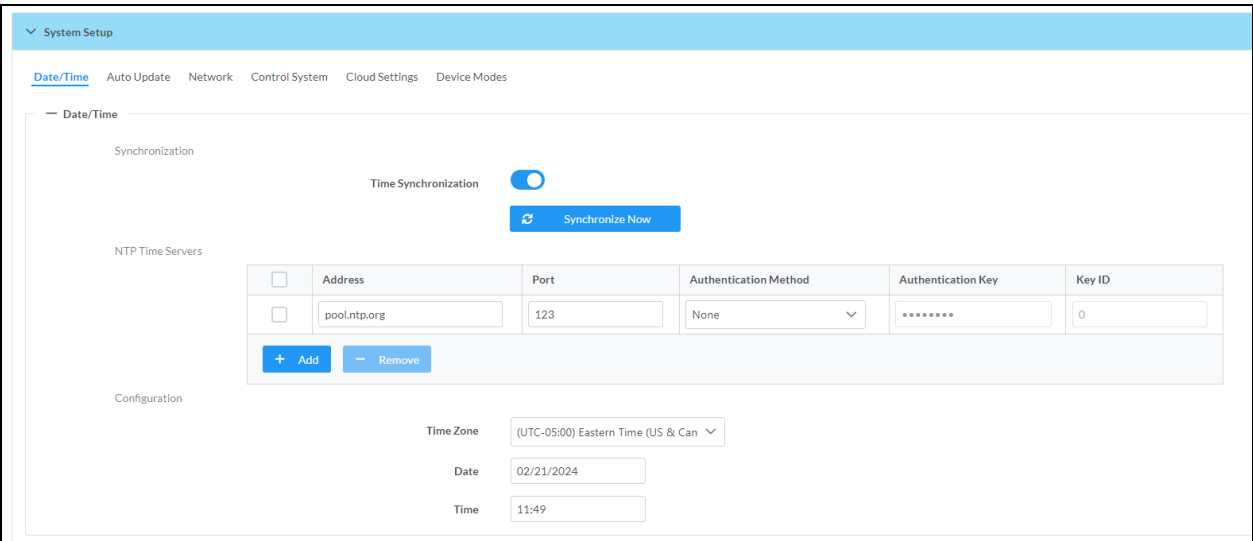


System Setup

The **System Setup** section displays information about the Date/Time, Auto Update, Network, Control System, Cloud Settings, and Device Modes.

Date/Time

Use the **Date/Time** section to configure the date and time settings of the DM-NAX-2XLRI-1G.



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

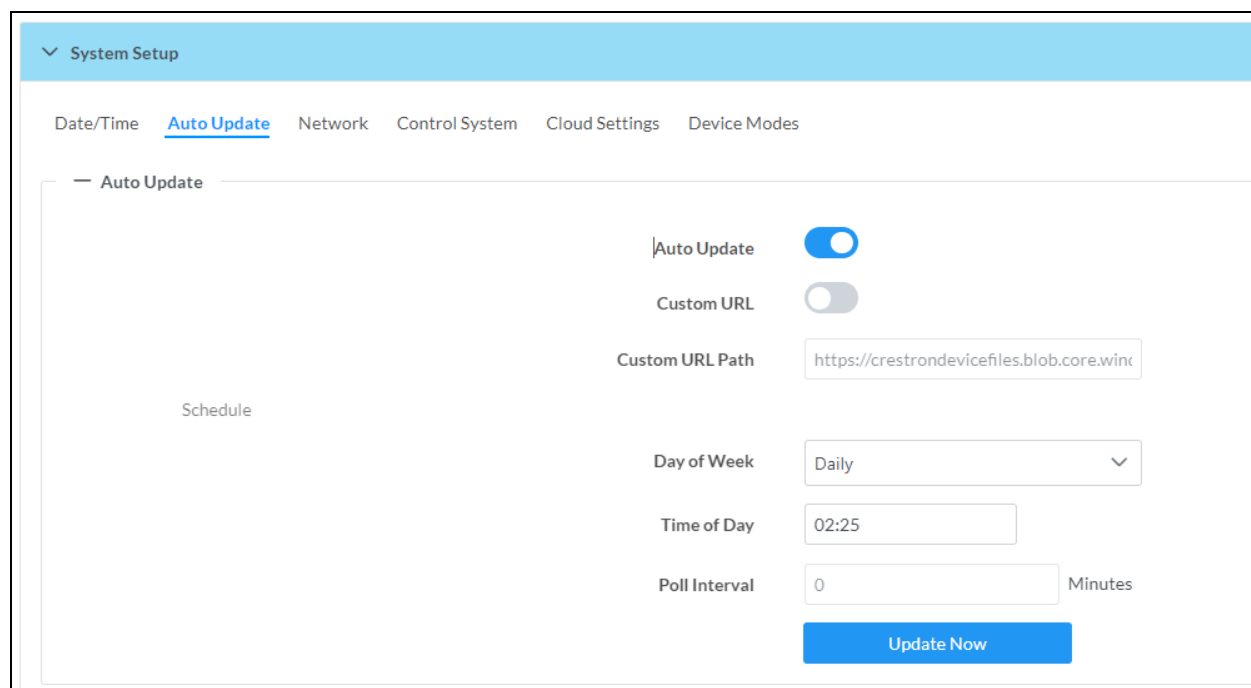
1. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-2XLRI-1G can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.



The screenshot shows the 'System Setup' menu with 'Auto Update' selected. The 'Auto Update' toggle is turned on. The 'Custom URL' toggle is turned off. The 'Custom URL Path' field contains the text 'https://crestrondevicefiles.blob.core.win'. The 'Schedule' section is expanded, showing 'Day of Week' set to 'Daily', 'Time of Day' set to '02:25', and 'Poll Interval' set to '0' minutes. An 'Update Now' button is located at the bottom right of the configuration area.

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:

- a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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 DM-NAX-2XLRI-1G, including the **Hostname**, **Domain**, **Primary Static DNS**, and **Secondary Static DNS**.

Network

Adapter 1

Hostname *

DM-NAX-2XLRI-1G-C442683FB8AC

Domain

lan

Primary Static DNS

192.168.1.1(DHCP)

Secondary Static DNS

DHCP Enabled

☒

IP Address

192.168.1.231

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

NOTE: By default, the host name of the DM-NAX-2XLRI-1G consists of the model name followed by the MAC address of the device. For example, DM-NAX-2XLRI-1G-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTE: DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-2XLRI-1G is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the DM-NAX-2XLRI-1G 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 DM-NAX-2XLRI-1G.
 - **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

The screenshot shows the 'Control System' configuration page. At the top, there's a navigation bar with 'System Setup' expanded, showing 'Date/Time', 'Auto Update', 'Network', 'Control System' (selected), 'Cloud Settings', and 'Device Modes'. Below this, the 'Control System' section is active. It features an 'Encrypt Connection' button. Underneath, there's an 'IP Table' section with a table header containing 'IP ID', 'IP Address/Hostname', and 'Room Id'. The table currently shows 'No records found'. At the bottom of the table, there are '+ Add' and 'X Remove' buttons.

1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-2XLRI-1G in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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.

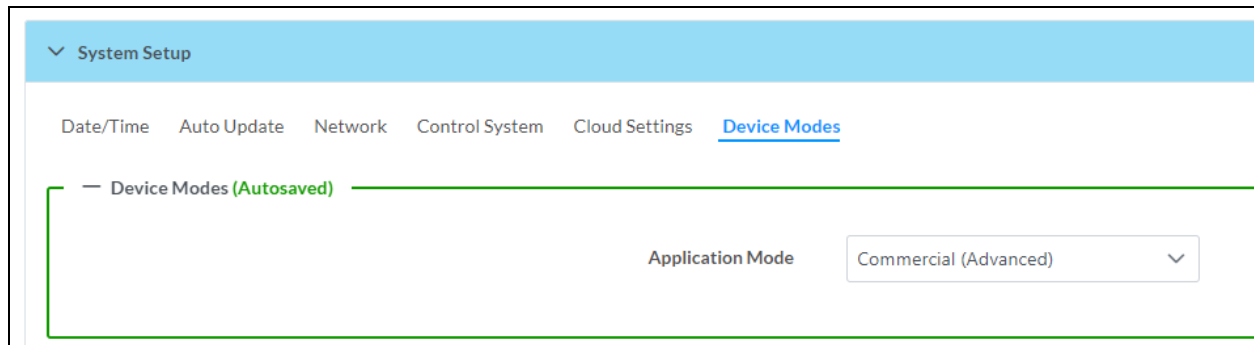
Cloud Settings



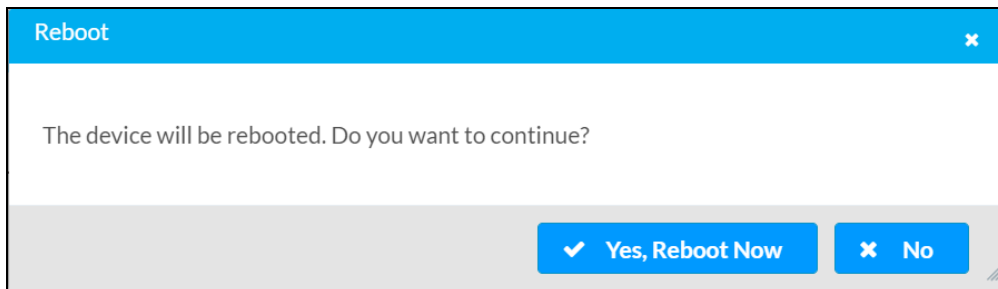
Set the **Cloud Settings** to the right position to enable or to the left to disable cloud settings. This specifies whether the DM-NAX-2XLRI-1G can communicate with the XiO Cloud® platform.

Device Modes

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



- **Application Mode:** The Application Mode determines which options and controls are available.
 - Select **Residential (Standard)** or **Commercial (Advanced)**. A **Reboot** confirmation message box appears.



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

Commissioning

The **Commissioning** section provides a quick way to automatically assign multicast addresses to the device's internal audio-over-IP stream transmitters.

Commissioning

Starting Multicast Address

239.69.19.1

Last Used Multicast Address

239.69.19.1

Assign Addresses

Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-2XLRI-1G a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.127.255.254.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

Output Channels

The **Output Channels** 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.

Output Channels

Zones (Autosaved)

Global Filter

Name

LineOut

Volume

30

%

Mute

Mute

Action

Configure


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.

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. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

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

Zone Settings

To configure zone settings, select **Configure** ( **Configure**). The **Edit Zone** window appears.

Zone

Select **Zone** to access the settings for **Balance**, and **Delay**.

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> Zone

— Balance (Autosaved)

Left / Right

0
%

— Delay (Autosaved)

Delay Time(ms)

0
ms

Balance

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. 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.

Delay

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. Values range from 0 ms to 85 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume**, **Stereo/Mono**, **Signal**, **Bussing Volume Offset**, and **Signal Generator**.

Output

Minimum / Maximum (Autosaved)

Minimum

0 %

Maximum

100 %

Default

30 %

Stereo / Mono (Autosaved)

Stereo / Mono

Stereo

Mono

Zone Configuration

Standard

Signal (Autosaved)

Signal

Not Present

Clipping

None

Minimum/Maximum Volume

Minimum / Maximum (Autosaved)

Minimum

0 %

Maximum

100 %

Default

30 %

- 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. Values range from 0 to 50%, adjustable in increments of 1%.
 - Manually enter a value in the **Minimum** field.

2. 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. Values range from 70 to 100%, adjustable in increments of 1%.
- 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. 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. Values range from 0 to 50%, adjustable in increments of 1%.
- 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.

Stereo/Mono

Stereo / Mono (Autosaved)

Stereo / Mono

☒ Stereo
☐ Mono

Zone Configuration

Standard

Select either **Stereo** or **Mono**. If **Stereo** is selected, both output channels can have independent audio content. If **Mono** is selected, both output channels receive the same audio content.

Signal

Signal (Autosaved)

Signal

Not Present

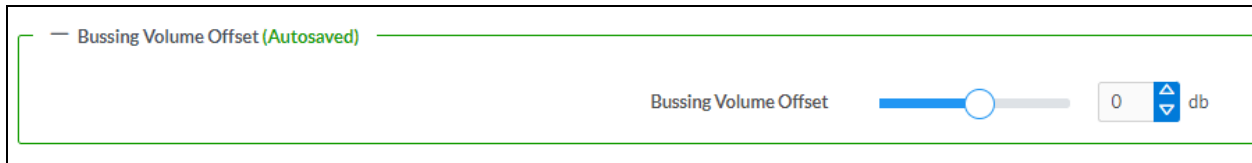
Clipping

None

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

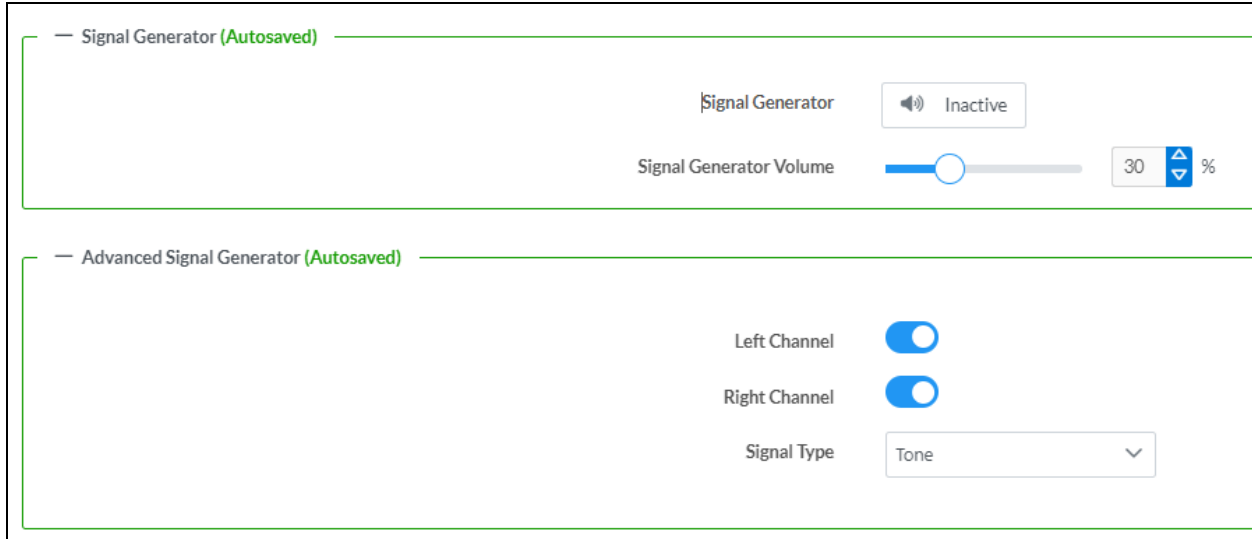


Bussing Volume Offset is an additional level compensation applied to the zone relative to any other zones it is grouped with via the **Bussing** feature.

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. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
- Manually enter a value in the **Bussing Volume Offset** field.

Signal Generator



The DM-NAX-2XLRI-1G has a built-in signal generator that allows an integrator to send an audio signal to the output for testing purposes.

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** again so that it displays **Inactive** and is highlighted in grey. By default, the signal generator is not routed to the zone output.

2. 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. Values range from 0 to 100, adjustable in increments of 1.
 - Manually enter a value in the **Signal Generator Volume** field.

Advanced Signal Generator

The advanced signal generator settings control the signal type of the signal generator, and allow the left and right channel to be enabled or disabled independently of one another.

1. 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.
2. 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.
3. Select an audio test signal type from the **Signal Type** drop-down. The available signal types are:
 - **Tone**: Generates a 1 kHz sine wave tone.
 - **Pink Noise**: Generates pink noise.
 - **White Noise**: Generates white noise.

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

Inputs

The **Inputs** section is used to configure the **Name**, **Compensation**, and **Mute** attributes of the available analog, digital, and media streaming inputs on the DM-NAX-2XLRI-1G.

Inputs	
— Analog Inputs (Autosaved)	
Name	XLR1-2
Gain (db)	<div> <div>10</div> <div>0</div> <div>-10</div> </div>
Signal Present	
Clipping Detected	<div>✓</div> <div>Nominal</div>
Mute	<div>○</div>
Action	<div>Edit</div>

Configure Inputs

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

Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- **Signal Presence** indicates whether or not a signal is detected in that zone.
- **Clipping Detected** indicates if the signal is **Clipping** or **Nominal** (non-clipping).

NAX Streams

The local inputs of the DM-NAX-2XLRI-1G can be made available as a DM NAX audio-over-IP stream. This single two channel stream will encode XLR input 1 as the left channel, and XLR input 2 as the right

channel.

Select **NAX Streams** to expand the tab and display the following information.

NAX Streams

This Device is the Leader PTP Clock Source

No




PTP Clock Leader MAC Address

00:10:7f:9c:1fe9




PTP Priority

254

Transmitters (Autosaved)

Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
StreamOut1Ch1	Stream01	0.0.0.0	Stream01c4.42.68.3fb8.ac	Stream Stopped	  







Receivers (Autosaved)

Zone Name	Stream	Current Stream Address	Requested Stream Address	Status	Actions
StreamIn1Ch1	Stream01	0.0.0.0	0.0.0.0	Stream Stopped	  


- **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 DM-NAX-2XLRI-1G 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**: This 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 DM-NAX-2XLRI-1G 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 Transmitters

Transmitters (Autosaved)

Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
IN1-IN2	Stream01	239.8.0.2	Stream01c4.42.68.18.54.47	Stream Started	  
IN3-IN4	Stream02	239.8.0.3	Stream02c4.42.68.18.54.47	Stream Started	  

To configure a DM NAX transmit stream:

1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon  in the **Actions** column. The **Configure** dialog appears:

The image shows a 'Configure' dialog box with a blue header and a close button. Inside, there is an 'Auto Initiation' toggle switch currently in the off position. Below it is a 'Port' field with the value '5004' and up/down arrows. At the bottom are 'OK' and 'CANCEL' buttons.

5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

Configure Receivers

Receivers (Autosaved)						
Zone Name	Stream	Current Stream Address	Requested Stream Address		Status	Actions
Zone_Amp1	Stream01	0.0.0.0	0.0.0.0		Stream Stopped	
Zone_Amp2	Stream02	0.0.0.0	0.0.0.0		Stream Stopped	

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 configure icon in the **Actions** column. The **Configure** dialog appears:

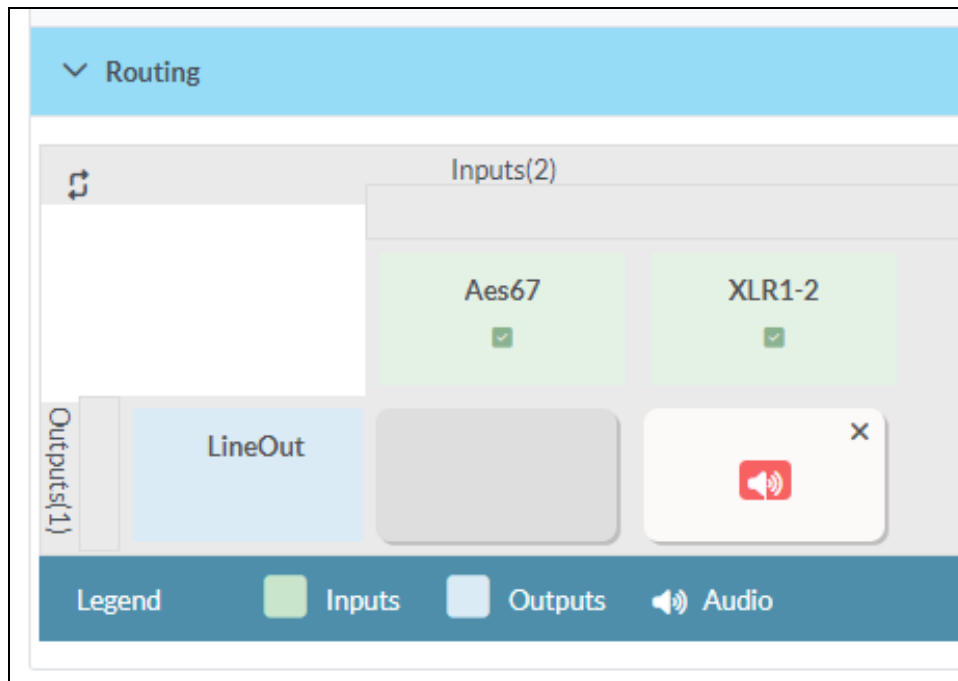
This is a duplicate of the 'Configure' dialog box shown at the top of the page, featuring the 'Auto Initiation' toggle and the 'Port' field set to 5004.

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. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Routing

The **Routing** section is used to route a local input or AES67 stream to a zone on the DM-NAX-2XLRI-1G.

NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).



- To route an input to a zone, select the box in the routing matrix where the zone's row overlaps the corresponding input's column. Once a route is made, appears.
- To break a given route select or .
- To route a single input to all zones, select the icon under the input's name.

Security

Select the **Security** tab to configure security for users and groups and to allow different levels of access to the DM-NAX-2XLRI-1G functions. By default, security is disabled.

✓ Status

⚙ Settings

🔒 Security

⚙ 802.1x Configuration

▼ Security

SSL Mode

Encrypt

▼

SSL Authentication

Username *

chdevice

Password *

Confirm Password *

Current User

Users

Groups

Name

admin

Access Level

Administrator

Active Directory User

No

Groups

Administrators

Change Current User Password

Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down, 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.

Current User

Users

Groups

Name

admin

Access Level

Administrator

Active Directory User

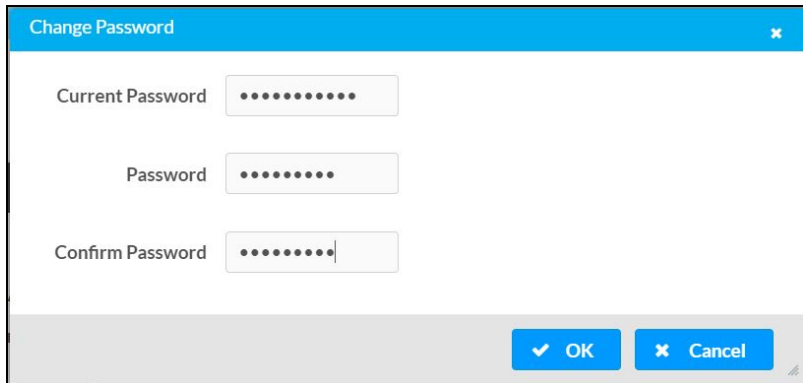
No

Groups

Administrators

Change Current User Password

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.



The image shows a 'Change Password' dialog box with a blue header bar containing the title and a close button. It contains three text input fields: 'Current Password', 'Password', and 'Confirm Password', each with a masked password (dots). At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.

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.



The image shows the 'Users' tab interface. At the top, there are tabs for 'Current User', 'Users' (selected), and 'Groups'. Below the tabs is a search bar labeled 'Search...'. A table displays user information with columns: 'Username', 'AD User', and 'Actions'. The table has two rows: 'admin' and 'chdevice'. The 'AD User' column shows 'No' for both. The 'Actions' column contains icons for adding, editing, and deleting users. At the bottom left is a 'Create User' button. At the bottom right is a pagination control showing '1' of 10 items.

Username	AD User	Actions
admin	No	[Add] [Edit] [Delete]
chdevice	No	[Add] [Edit] [Delete]

Use the **Search Users** 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 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.

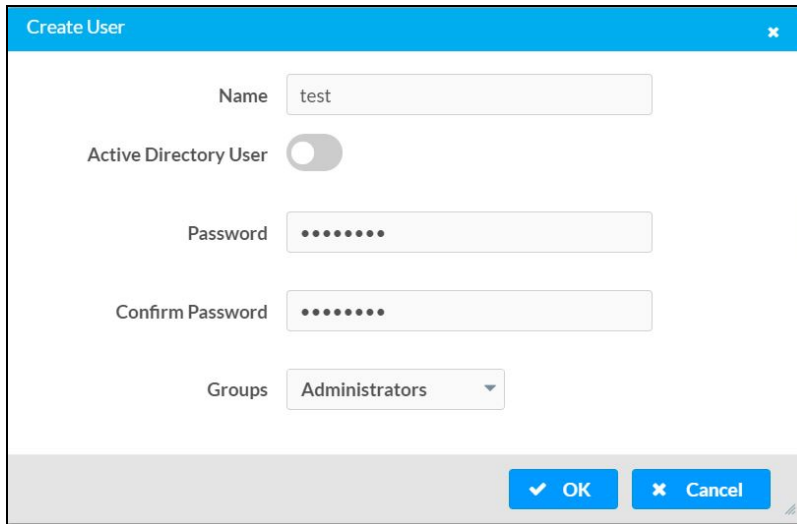
- **Username:** Displays the name of the user.
- **AD User:** Displays whether the user requires authentication using Active Directory.

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 **Users** 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.

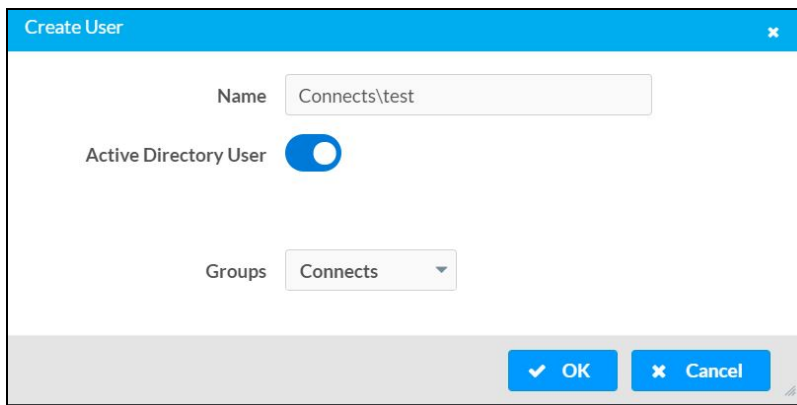
Add an Active Directory User

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 DM-NAX-2XLRI-1G, or add the Active Directory group(s) that they are a member of to the DM-NAX-2XLRI-1G.

To add an Active Directory user.

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




The 'Create User' dialog box has a blue title bar with the text 'Create User' and a close button. It contains three main sections: a 'Name' field with the text 'Connects\test', an 'Active Directory User' toggle switch that is turned on, and a 'Groups' dropdown menu with 'Connects' selected. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'x' icon.

- 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

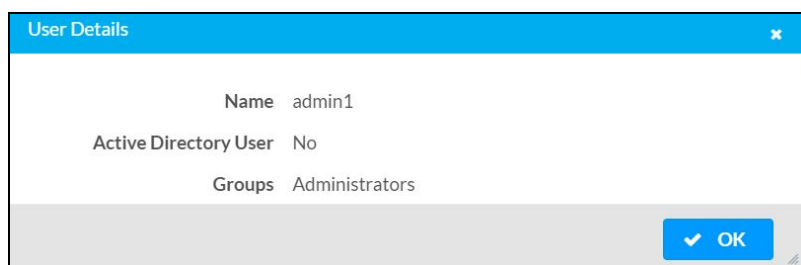
Select the trashcan icon  in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

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.



The 'User Details' dialog box has a blue title bar with the text 'User Details' and a close button. It displays three rows of information: 'Name' with the value 'admin1', 'Active Directory User' with the value 'No', and 'Groups' with the value 'Administrators'. At the bottom right, there is an 'OK' button with a checkmark icon.

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

Update User Details

Update User

Name

admin1

Active Directory User

Password

.....

Confirm Password


.....

Groups

Administrators

OK

Cancel

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

Current User

Users

Groups

Search...

Group Name	AD Group	Access Level	Actions
Administrators	No	Administrator	 
Connects	No	Connect	 
Operators	No	Operator	 
Programmers	No	Programmer	 
Users	No	User	 

1

10

Create Group

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 to the right of the navigation arrows.

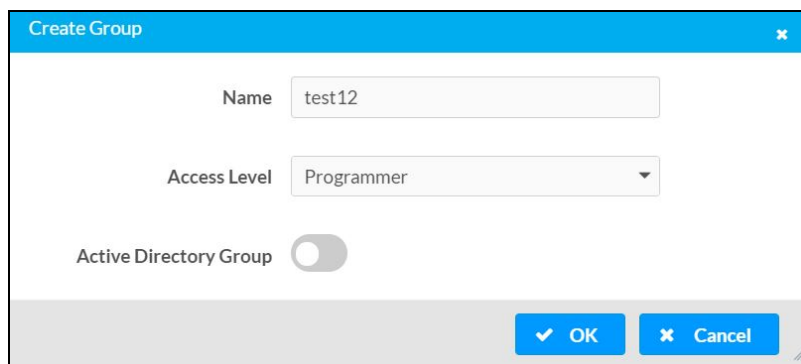
Existing groups are displayed in a table and the following information is provided for each group:

- **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 a new group.

Create Local Group



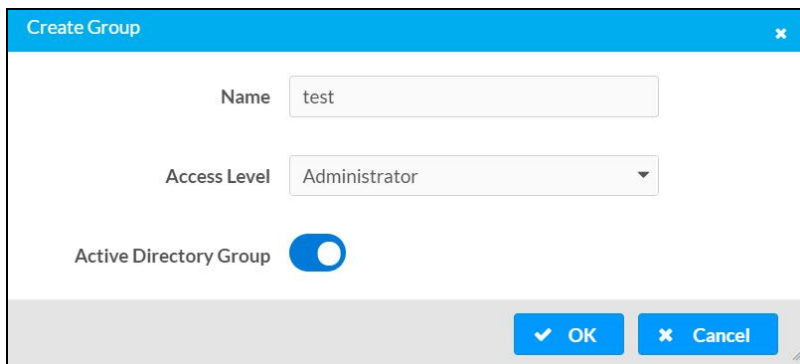
1. Select **Create Group**.
2. In the **Create Group** dialog, enter the following:
 - a. Enter the group name in the **Name** field.
 - b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

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



The **Create Group** dialog box has a blue title bar with a close button. It contains three fields: a text box for **Name** with the value "test", a dropdown for **Access Level** with "Administrator" selected, and a toggle for **Active Directory Group** which is turned on. At the bottom right are **OK** and **Cancel** buttons.


Once the group is added, all members of that group will have access to the DM-NAX-2XLRI-1G.

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.
3. 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.


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

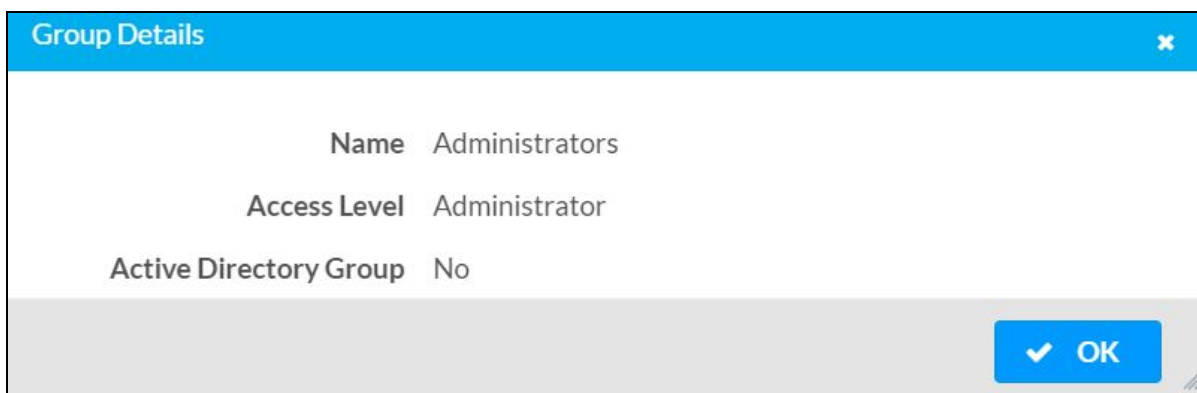
Delete a Group

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.



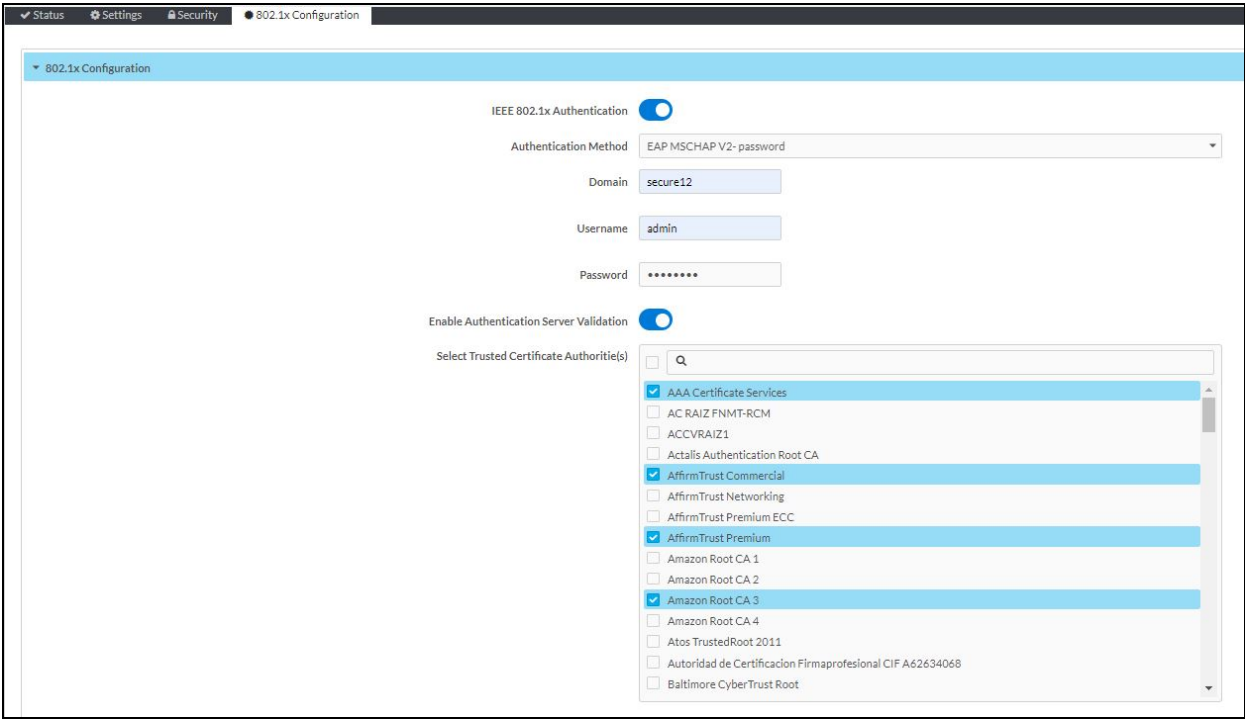
The **Group Details** dialog box has a blue title bar with a close button. It displays three rows of information: **Name** Administrators, **Access Level** Administrator, and **Active Directory Group** No. At the bottom right is an **OK** button.

- **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 DM-NAX-2XLRI-1G 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.



Configure DM-NAX-2XLRI-1G for 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 the **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. 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-2XLRI-1G.
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.
5. If required, type the domain name of the network in the **Domain** field.
6. 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.

DM-NAX-4ZSA-50

This section describes how to configure the DM-NAX-4ZSA-50.

Web Interface Configuration

The DM-NAX-2XLRI-1G web interface allows you to view status information and configure network and device settings.

Access the Web Interface

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

- [Access the Web Interface with a Web Browser on page 222](#)
- [Access the Web Interface With Crestron Toolbox™ Software on page 224](#)

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

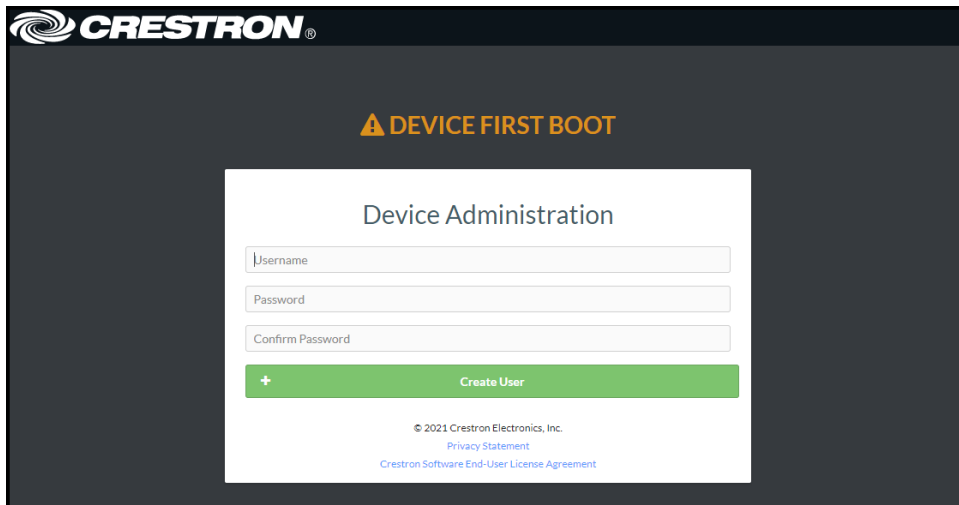
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later
	Firefox® web browser, version 31 and later
	Internet Explorer web browser, version 11 and later
	Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later
	Chrome 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 DM-NAX-4ZSA-50 into a web browser.

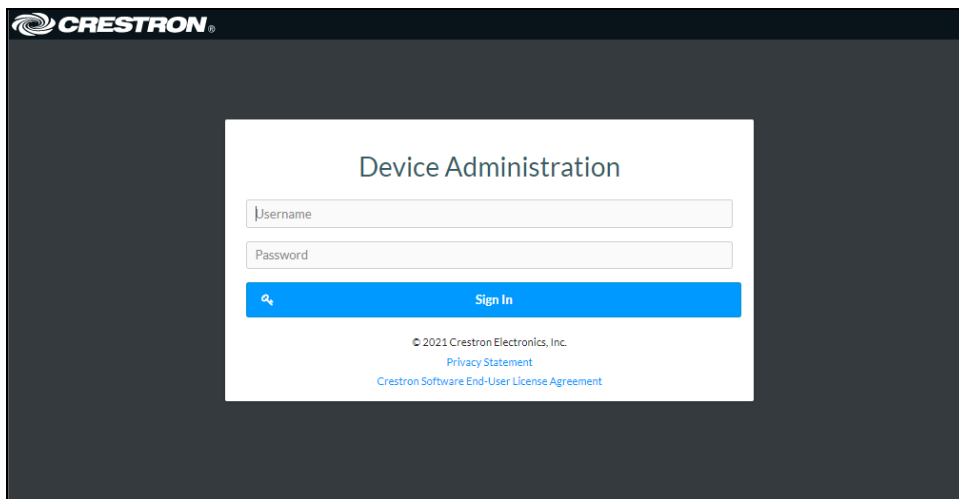
NOTE: To obtain the IP address, use the **Device Discovery Tool** in Crestron Toolbox™ software or an IP scanner application.

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.



The screenshot shows the Crestron logo at the top left. Below it, a yellow warning triangle icon is followed by the text "DEVICE FIRST BOOT". In the center, there is a white box titled "Device Administration". Inside this box, there are three input fields: "Username", "Password", and "Confirm Password". Below these fields is a green button with a white plus sign and the text "Create User". At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

- d. Select **Create User**. The Device Administration page appears.




The screenshot shows the same Crestron logo at the top left. Below it, the "DEVICE FIRST BOOT" message is no longer present. The white box titled "Device Administration" still contains the "Username" and "Password" input fields. Below these fields is a blue button with a white magnifying glass icon and the text "Sign In". At the bottom of the white box, the same small text is present: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Select **Sign In**.

Access the Web Interface With Crestron Toolbox™ Software

To access the web interface by opening a web browser from Crestron Toolbox™ software:

1. Open Crestron Toolbox software.
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 DM-NAX-4ZSA-50 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.

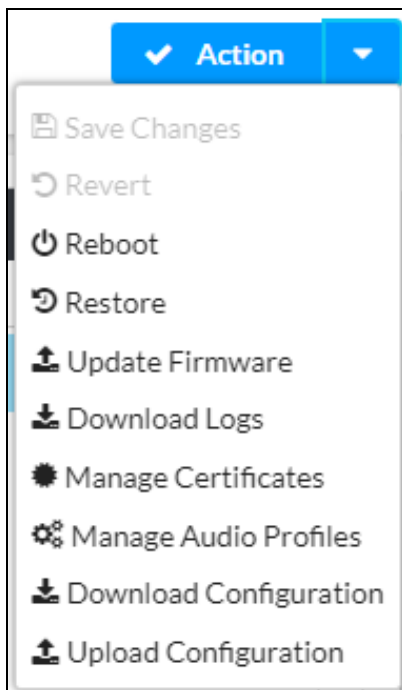
NOTE: If there is security software running on the computer, a security alert might be displayed when Crestron Toolbox software attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, select the device.
4. Enter the device credentials in the **Authentication Required** dialog that opens, then select **Log In**.
5. Select **Web Configuration**.

Action

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

- [Save Changes on page 225](#)
- [Revert on page 225](#)
- [Reboot on page 226](#)
- [Restore to Factory Default Settings on page 226](#)
- [Update Firmware on page 227](#)
- [Download Logs on page 227](#)
- [Manage Certificates on page 228](#)
- [Manage Audio Profiles on page 229](#)
- [Download Configuration on page 230](#)
- [Download Configuration on page 230](#)



Save Changes

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

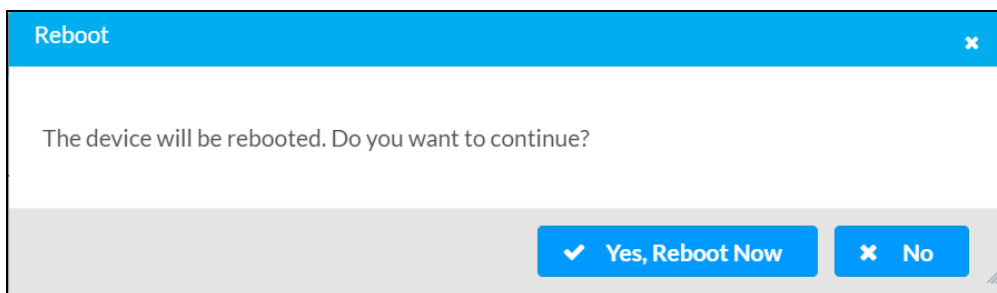
Revert

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

Reboot

Certain changes to the settings may require the DM-NAX-4ZSA-50 to be rebooted to take effect. To reboot the device:

1. Select **Reboot** in the **Action** menu. The **Confirmation** message box appears.



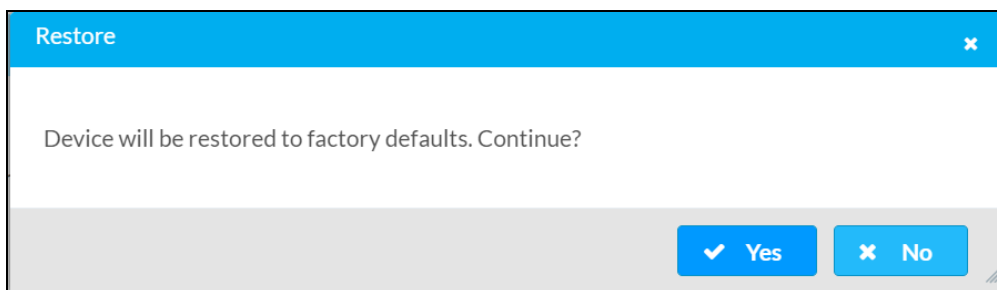
2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears. Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

CAUTION: This procedure should only be performed to recover an unresponsive device. Performing the **Restore** procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before proceeding, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

1. Select **Restore** in the **Action** menu to restore the settings of the DM-NAX-4ZSA-50 to factory defaults.

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.



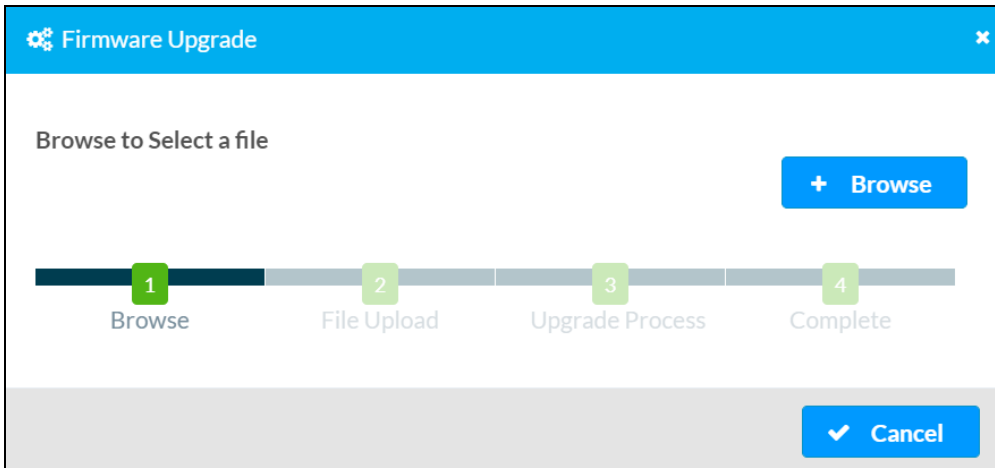
2. Select **Yes** in the **Confirmation** dialog to restore the DM-NAX-4ZSA-50 to factory settings. Select **No** to cancel the restore operation.

A dialog is displayed again, indicating that the restore process was successful and that the device rebooted.

You can also restore to factory settings by pressing and holding the **SETUP** button on the rear panel of the device with power disconnected then connect the power supply and continue to hold **SETUP** button for 30 seconds.

Update Firmware

1. Select **Update Firmware** in the **Action** menu.
2. In the **Firmware Upgrade** dialog, select **+ Browse**.



3. Locate and select the desired firmware file, then select **Open**. The selected firmware file name is displayed in the **Firmware Upgrade** dialog.
4. Select **Load** and wait for the progress bar to complete and for **OK** to become selectable.
5. Select **OK**. The device with new firmware can now be accessed.

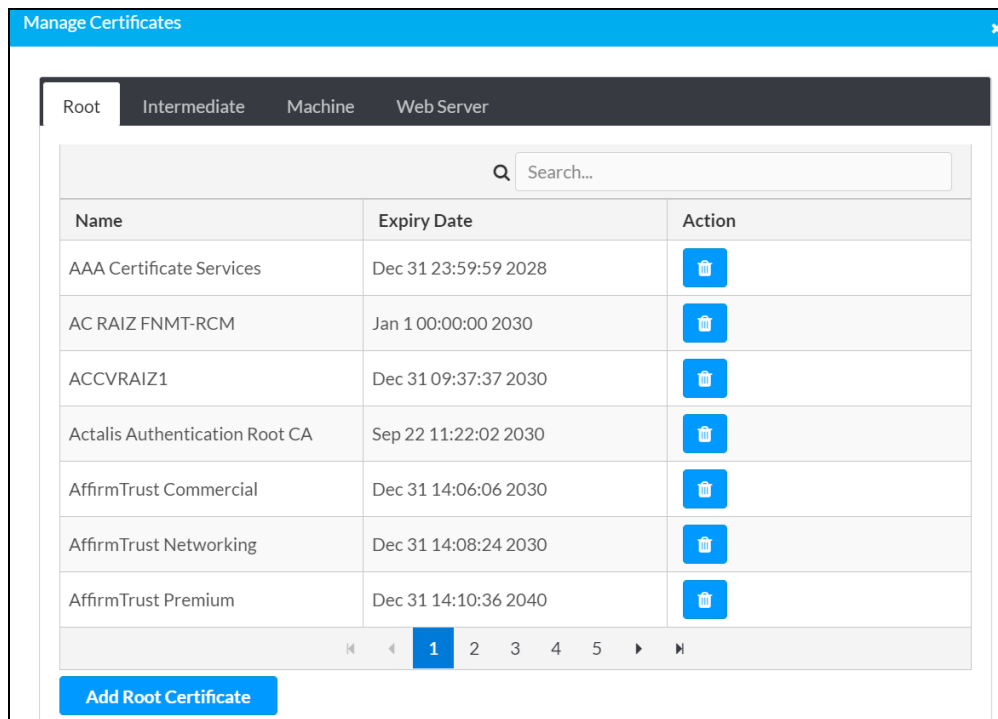
Download Logs

Select **Download Logs** in the **Action** menu to download the device message logs for diagnostic purposes.

The log file is downloaded to the Downloads folder of the PC.

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 **Action** menu. The following certificate tabs are displayed:

- **Root:** The Root certificate is used by the DM-NAX-4ZSA-50 to validate the network's authentication server. The DM-NAX-4ZSA-50 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 DM-NAX-4ZSA-50. 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.

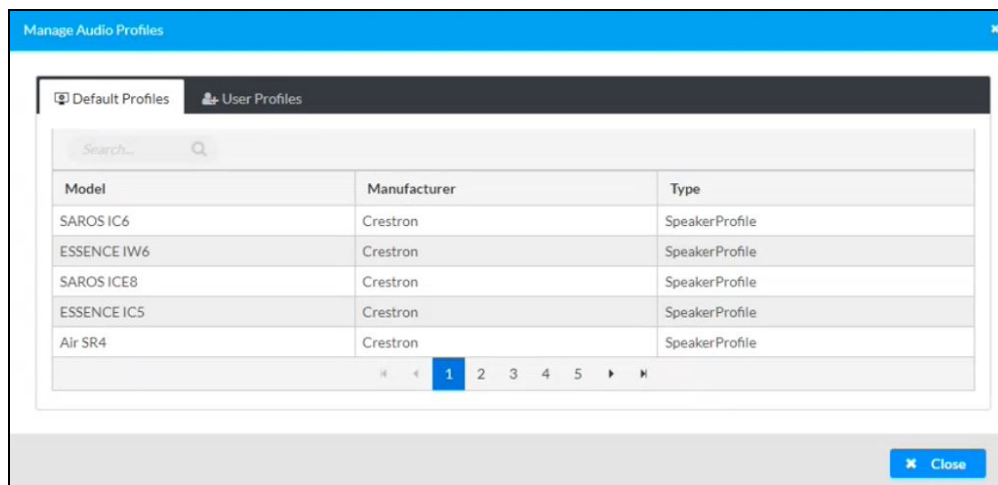
5. Select **OK**. This will add the certificate to the list box, displaying the file name and expiration date. The certificate is now available for selection and can be loaded to the device.

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.

Manage Audio Profiles

Use the **Manage Audio Profiles** dialog to add, remove, and manage the audio profiles of speakers.



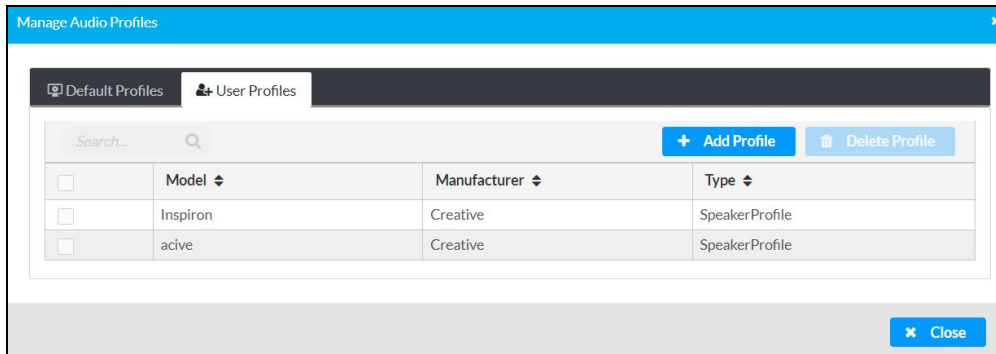
Select **Manage Audio Profiles** in the **Action** menu. The following audio profiles tabs are displayed, providing information such as **Model**, **Manufacturer**, and **Type** of the audio profiles:

- **Default Profiles:** Lists the default library of included audio profiles.
- **User Profiles:** Lists the custom, user loaded profiles, and allows them to be loaded and removed.

In the **Search** field, enter a name to search for a profile. The profile matching the search criteria is displayed.

NOTE: To create a custom audio profile, refer to [Knowledge Article 1001820](#).

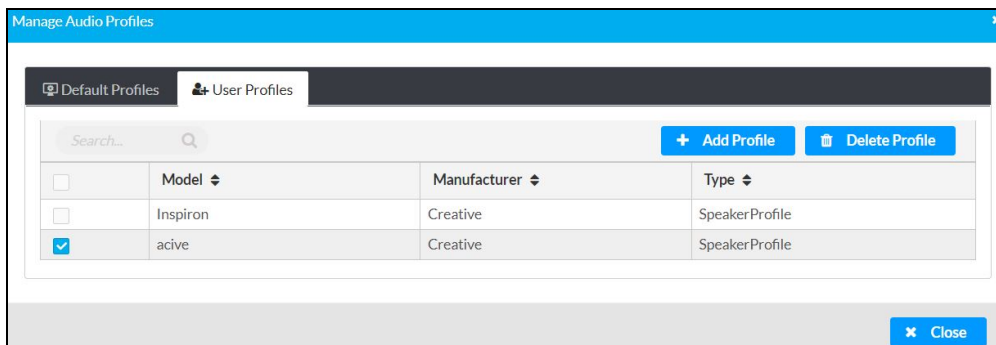
To Add an Audio Profile



1. Select the **User Profiles** tab.
2. Select **+ Add Profiles**.
3. Select **+ Browse**.
4. Locate and select the .prof file, then select **Open**.
5. Select **Upload**.
6. Select **OK**. This will add the profile to the list box.

The audio profile is now available for selection and can be applied.

To Delete an Audio Profile



1. Select the **User Profiles** tab.
2. Select the checkbox corresponding to the audio profile that needs to be deleted.
3. Select **Delete Profile**.

The audio profile is deleted.

Download Configuration

Select **Download Configuration** to download a TGZ file containing the settings data for the DM NAX device.

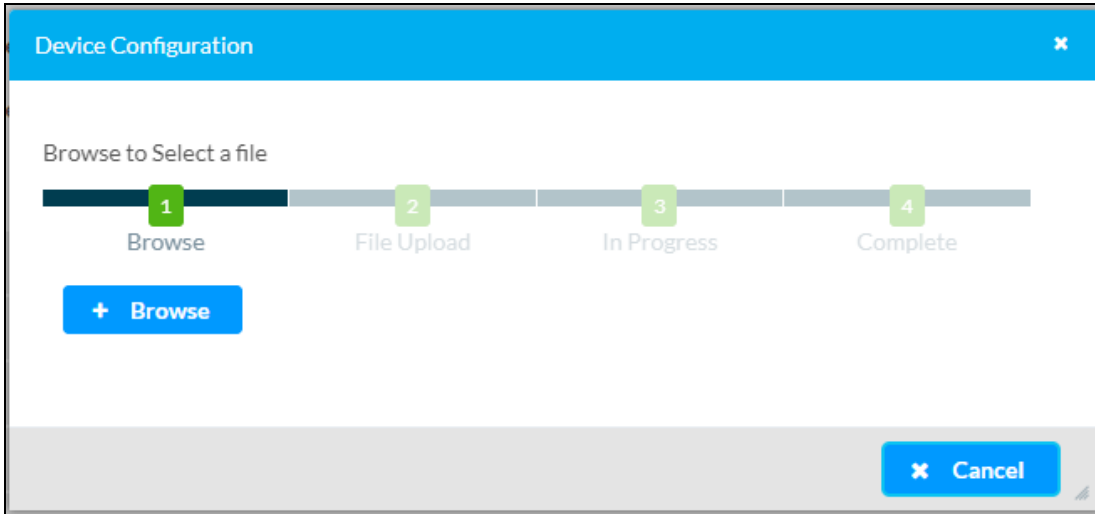
NOTE: User accounts for accessing the device, streaming service accounts, multicast addresses, and stream names are not saved in this configuration file.

Upload Configuration

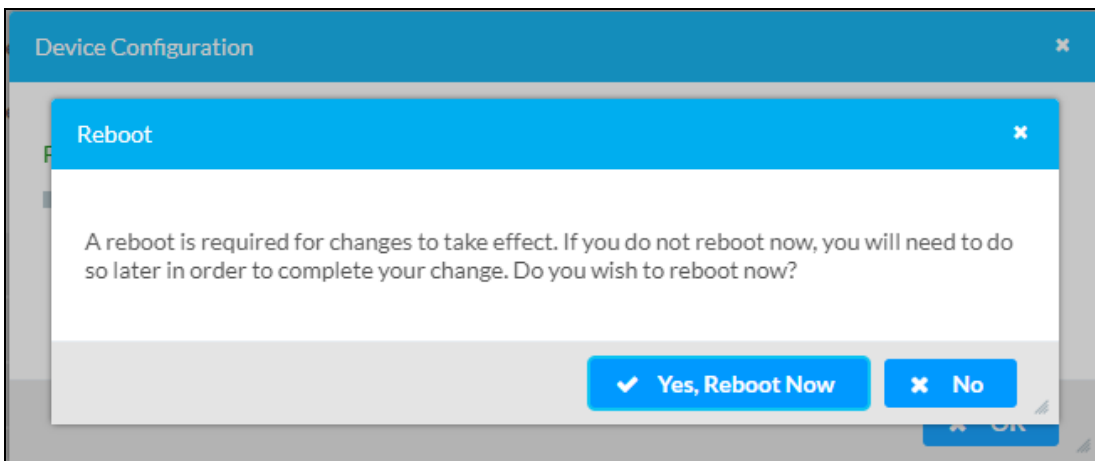
1. Select **Upload Configuration** to upload a TGZ file that will overwrite the current settings of the DM NAX device with a saved configuration.

CAUTION: Be sure to load a TGZ file for the same DM NAX device type while using the Load Configuration feature. For example, if loading a TGZ file to a DM-NAX-4ZSA-50, be sure that the TGZ file originated from a DM-NAX-4ZSA-50.

2. Select **Browse** to navigate to the desired TGZ file in your file browser. Select the file, then select **Open**.



3. Select **Upload** to begin the file upload process. A progress bar will indicate the status of the configuration file upload.
4. Once the upload is complete, the device will require a reboot. Select **Yes, Reboot Now** to begin the reboot, or select **No** to return to the web UI.

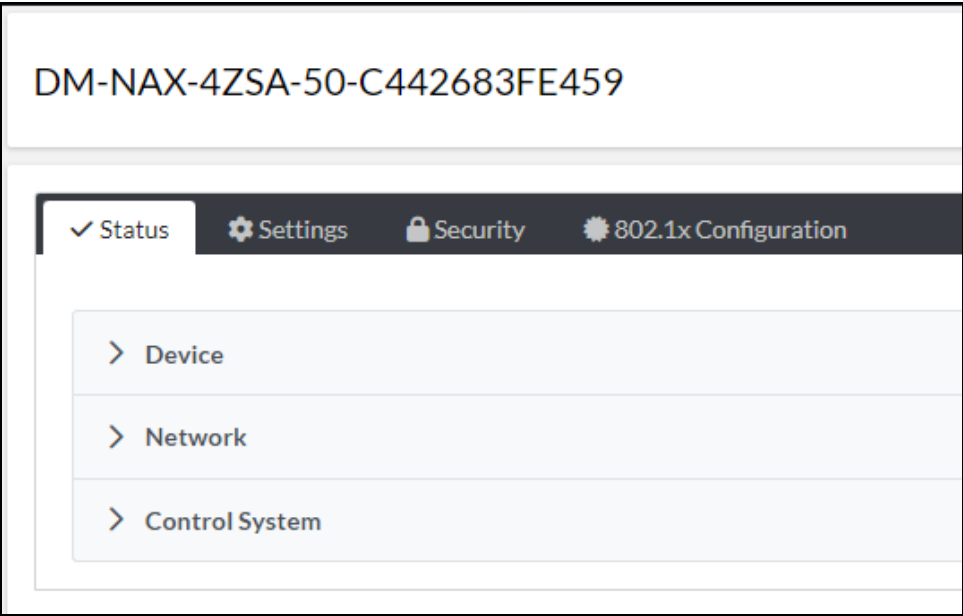


NOTE: Any changes made after the configuration file upload, but before a device reboot, may be overwritten when the device is rebooted.

Status

The **Status** page is the first page displayed when opening the interface of the DM-NAX-4ZSA-50. It displays general information about the DM-NAX-4ZSA-50 (such as **Model Name**, **Firmware Version**, and **Serial Number**), current network settings (such as Host Name and IP Address, etc.), and input and output ports' current status.

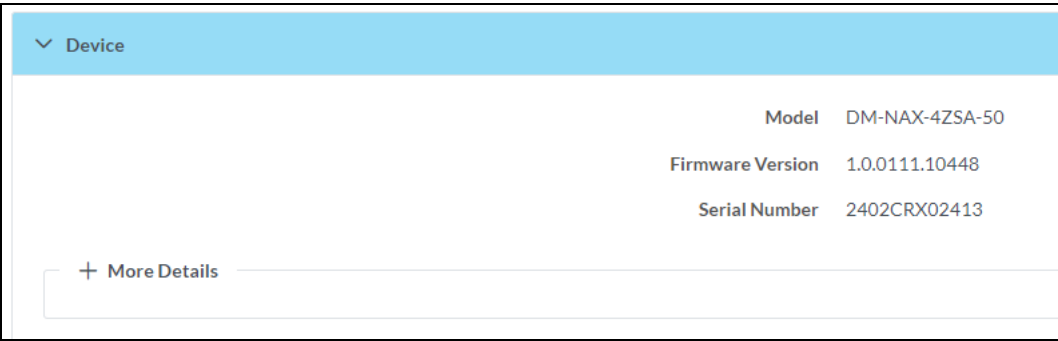
The **Status** page can be accessed at any time by selecting the **Status** tab of the DM-NAX-4ZSA-50 interface.



Information displayed on the **Status** tab is organized into different sections.

Device

The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-4ZSA-50.



Select **+ More Details** to review additional information about the DM-NAX-4ZSA-50.

— More Details	
DM-NAX-4ZSA-50	1.0.0111.10448
Build	Feb 16 2024 (531614)
Updater	1.0.0111.10448
Bootloader	02.019.000
CCUI Version	1.1338.557
XIOSDK	3.8.2
IoTSDK	1.10.1
Build time	10:44:52
Product ID	0x7A04
Revision ID	0x0300
HDCP2X-SKE	HDCP2X-SKE [v9.0000.00000, #FFFFFFFF]
PRE-BOOT	[v9.0000.00000]
BOOTLOADER	[v9.0000.00000]
amp0-fpga-4zsa	FW v551.39 Rev.17 (Driver v1.1)
ctrl-audio-dsp-0	FW v19 (Driver v4.00)
ctrl-prod-info	Driver v3.0
PUF	1.0.0111.10448
Forced Auth Mode	True

Network

The **Network** section displays network-related information about the DM-NAX-4ZSA-50, including the **Hostname**, **Domain Name**, and **DNS Servers**.

▼ Network	
Hostname	DM-NAX-4ZSA-50-C442683FE459
Domain Name	6vcrestronqelab.com
DNS Servers	10.253.31.12(DHCP)
— Adapter 1	
DHCP	On
IP Address	10.253.38.72
Subnet Mask	255.255.255.0
Default Gateway	10.253.38.1
Link Active	true
MAC Address	c4.42.68.3f.e4.59

NOTE: By default, the host name of the DM-NAX-4ZSA-50 consists of the model name followed by the MAC address of the device. For example, DM-NAX-4ZSA-50-00107FB58088.

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

NOTE: The **+ Adapter 2** option appears when the dual Ethernet ports on the DM-NAX-4ZSA-50 are set to isolate traffic using the **Port Selection** feature. Refer to [Settings on page 235](#) for details on configuring the **Port Selection** feature.

Control System

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

Control System

Encrypt Connection ON

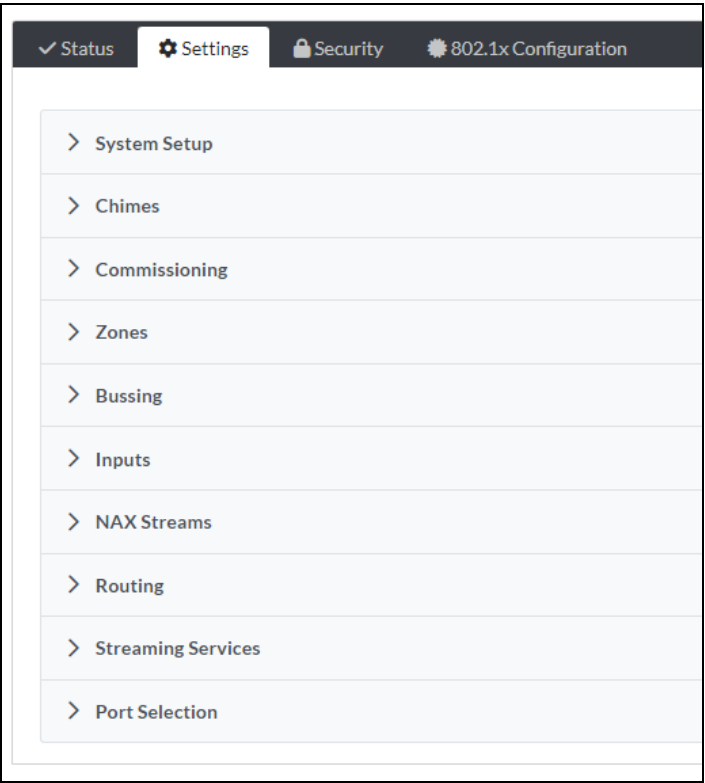
IP Table

IP ID	Room Id	IP Address/Hostname	Type	Server Port	Connection	Status
C		DIN-AP4-R-C442681A3F36	Peer	41796	Gway	ONLINE

- **Encrypt Connection:** Displays **ON** or **OFF**.
- **IP ID:** Displays the currently used IP ID of the DM-NAX-4ZSA-50.
- **IP Address/Hostname:** Displays the IP address or hostname of the control system.
- **Room ID:** Displays the room ID.
- **Status:** Displays **OFFLINE** or **ONLINE**.

Settings

The **Settings** page enables you to configure the DM-NAX-4ZSA-50 settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the DM-NAX-4ZSA-50 interface.



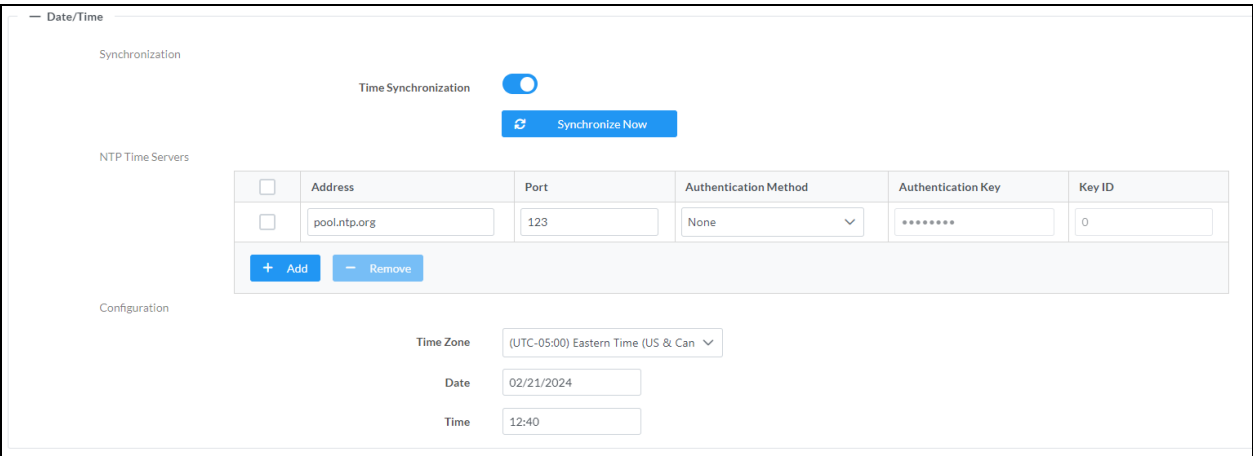
Settings available on the **Settings** tab are organized into different sections.

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 DM-NAX-4ZSA-50.



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. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-4ZSA-50 can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.

Auto Update

Auto Update ☐

Custom URL ☐

Custom URL Path

Schedule

Day of Week

Time of Day

Poll Interval Minutes

Update Now

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:

- a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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 DM-NAX-4ZSA-50, including the Hostname, Domain, Primary Static DNS, and Secondary Static DNS.

The screenshot shows the 'Network' configuration page for 'Adapter 1'. The settings are as follows:

Field	Value
Hostname *	DM-NAX-4ZSA-50-C442683FE459
Domain	6vcrestronqelab.com
Primary Static DNS	10.253.31.12(DHCP)
Secondary Static DNS	
DHCP Enabled	<input checked="" type="checkbox"/>
IP Address	10.253.38.72
Subnet Mask	255.255.255.0
Default Gateway	10.253.38.1

NOTE: By default, the hostname of the DM-NAX-4ZSA-50 consists of the model name followed by the MAC address of the device. For example, DM-NAX-4ZSA-50-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTES:

- An **+ Adapter 2** option only appears when the dual Ethernet ports on the DM-NAX-4ZSA-50 are set to isolate traffic using the **Port Selection** feature. The settings for **Adapter 2** are identical to those available for **Adapter 1**.
- DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-4ZSA-50 is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the DM-NAX-4ZSA-50 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 DM-NAX-4ZSA-50.
 - **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

Control System Username:

Control System Password:

IP Table

<input type="checkbox"/>	IP ID	IP Address/Hostname	Room Id
<input type="checkbox"/>	C	DIN-AP4-R-C442681A3F36	Room Id

1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-4ZSA-50 in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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.

Commissioning

The **Commissioning** section provides a quick way to automatically assign multicast addresses to all of the device's internal audio-over-IP stream transmitters.

▼ Commissioning

Starting Multicast Address

239.8.0.0

Last Used Multicast Address

239.8.0.8

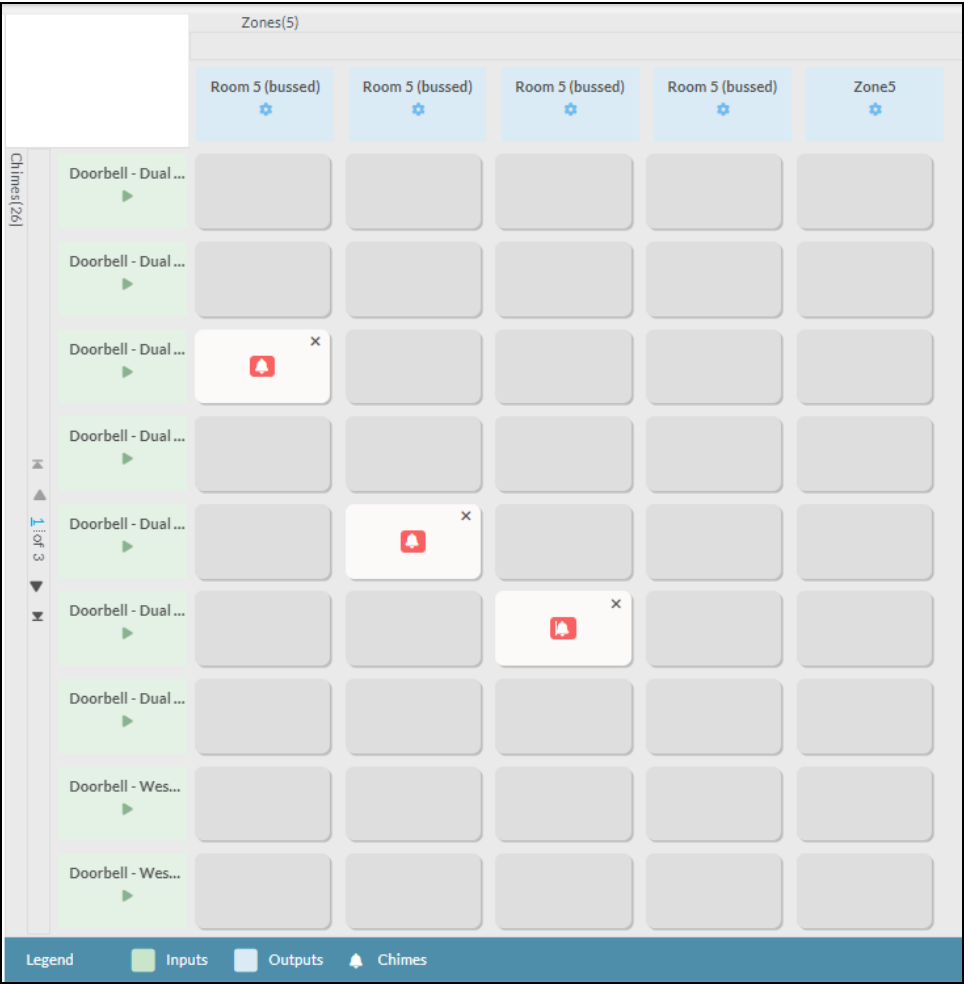
Assign Addresses

Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-4ZSA-50 a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.255.255.247.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.


Chimes

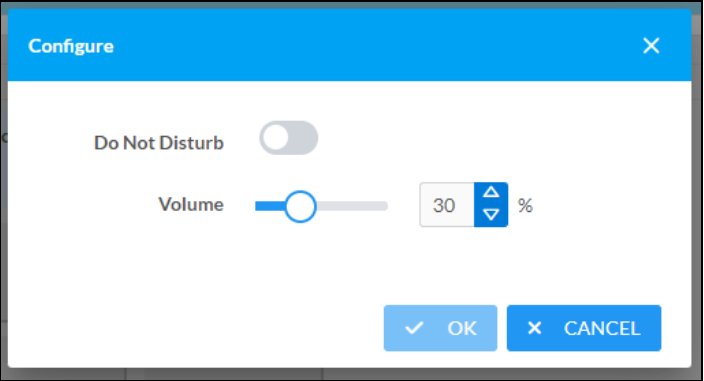
The **Chimes** section allows the built-in chime files to be assigned to any of the output zones on the device.



For each chime file, select the cells corresponding to the desired Zones for playback of that specific chime sound. You can assign multiple chimes to the same zone. To view all available chimes, use the ▲ or ▼ arrows at the left of the matrix to change pages.

To configure the chime volume of a zone:

1. Select the  icon corresponding to the zone. A **Configure** window appears.



2. To set the volume, do one of the following:
- Move the **Volume** slider to the right to increase or to the left to decrease the chime volume.
 - Use the **%** arrows to increase or decrease the chime volume. Values range from 0 to 100%, adjustable in increments of 1%.
 - Manually enter a value in the **Volume** field.

NOTE: The chime volume is independent of the zone volume control.

3. Set the **Do Not Disturb** toggle to the right to mute all chimes for the zone. Set the **Do Not Disturb** toggle to the left to unmute the chimes.
4. Select **OK** to apply the new settings.

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.

▼ Zones

Zones (Autosaved)

Global Filter

Name	Volume	Mute	Action
Room 5 (bussed)	<div><div></div><div>0</div><div>%</div></div>	<div><div></div>Mute</div>	<div>Configure</div>
Room 5 (bussed)	<div><div></div><div>0</div><div>%</div></div>	<div><div></div>Mute</div>	<div>Configure</div>
Room 5 (bussed)	<div><div></div><div>0</div><div>%</div></div>	<div><div></div>Mute</div>	<div>Configure</div>
Room 5 (bussed)	<div><div></div><div>0</div><div>%</div></div>	<div><div></div>Mute</div>	<div>Configure</div>
Zone5	<div><div></div><div>30</div><div>%</div></div>	<div><div></div>Mute</div>	<div>Configure</div>

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.

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. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

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

Zone Settings

To configure zone settings, select **Configure** ( **Configure**). The **Edit Zone** window appears.

DM-NAX-4ZSA-50-C442683FE459 > Zones
Room 5 (bussed)

▼ Zone

— Tone (Autosaved)

Tone Profile
Off

Bass
0 db

Treble
0 db

Loudness

Night Mode
Off

— Balance (Autosaved)

Left / Right
0

Zone

Select **Zone** to access the settings for **Tone**, **Balance**, and **Delay**.

Zone

Tone (Autosaved)

Tone Profile

Bass 0 db

Treble 0 db

Loudness ☐

Night Mode

Balance (Autosaved)

Left / Right 0

Tone

Tone (Autosaved)

Tone Profile

Bass 0 db

Treble 0 db

Loudness ☐

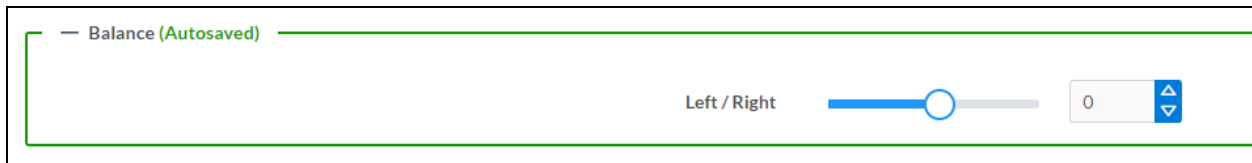
Night Mode

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. The available options are **Off**, **Classical**, **Jazz**, **Pop**, **Rock**, and **Spoken Word**. By default, **Off** is selected.
2. **Bass**: 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.
 - Use the **db** arrows to increase or decrease the bass level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Bass** field.
3. **Treble**: 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.
 - Use the **db** arrows to increase or decrease the treble level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Treble** field.
4. To enable the loudness setting on the zone output, slide the **Loudness** switch to the right. To disable loudness, slide the **Loudness** switch to 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. The available options are **Off**, **Low**, **Medium**, and **High**. By default, **Off** is selected.

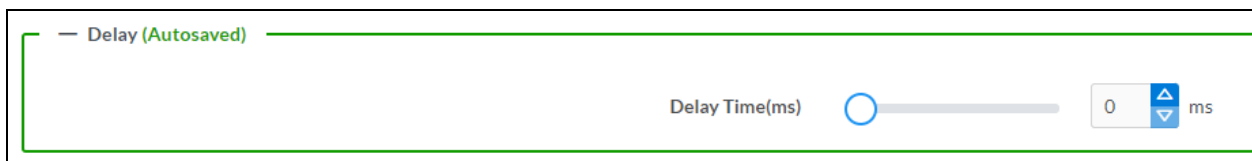
Balance

The image shows a control interface for the 'Balance' setting. It is titled 'Balance (Autosaved)' in green text. Below the title is a horizontal slider labeled 'Left / Right'. The slider has a blue circle indicating the current position, which is slightly to the right of the center. To the right of the slider is a numeric input field showing the value '0'. Next to the input field are two blue arrows, one pointing up and one pointing down, for manual adjustment.

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. 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.

Delay

The image shows a control interface for the 'Delay' setting. It is titled 'Delay (Autosaved)' in green text. Below the title is a horizontal slider labeled 'Delay Time(ms)'. The slider has a blue circle indicating the current position, which is at the left end (0 ms). To the right of the slider is a numeric input field showing the value '0'. Next to the input field are two blue arrows, one pointing up and one pointing down, for manual adjustment. The unit 'ms' is displayed to the right of the input field.

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. Values range from 0 ms to 250 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume, Stereo/Mono, Signal, Bussing Volume Offset, Configure Speaker Profile, Speaker Configuration, Casting, Speaker/Faults, Line Out, Signal Generator, Advanced Signal Generator, and Equalizer Settings.**

Output

Minimum / Maximum (Autosaved)

Minimum

0

%

Maximum

100

%

Default

30

%

Stereo / Mono (Autosaved)

Stereo / Mono

Stereo

Mono

Signal (Autosaved)

Signal

Not Present

Minimum/Maximum Volume

— Minimum / Maximum (Autosaved)

Minimum		0	 	%
Maximum		100	 	%
Default		30	 	%

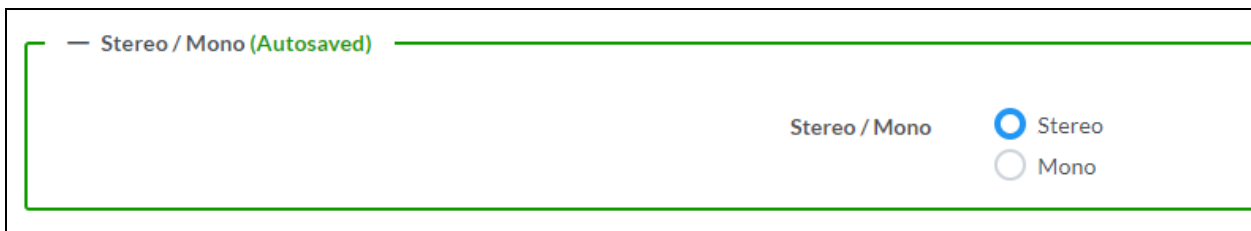
1. To set the minimum volume of the zone, do one of the following:
 - Move the **Minimum** slider to the right to increase or to the left to decrease the minimum volume.
 - Use the **%** arrows to increase or decrease the minimum volume. Values range from 0 to 50%, adjustable in increments of 1%.
 -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

Stereo/Mono

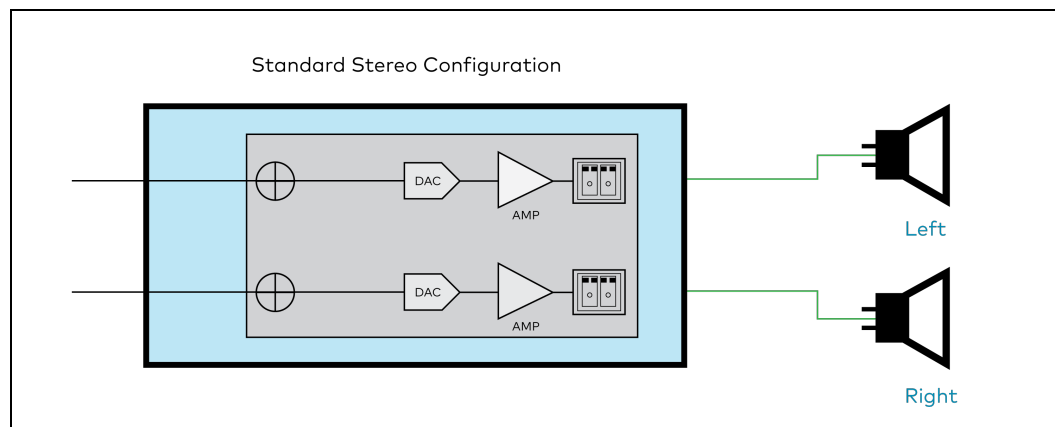


— Stereo / Mono (Autosaved)

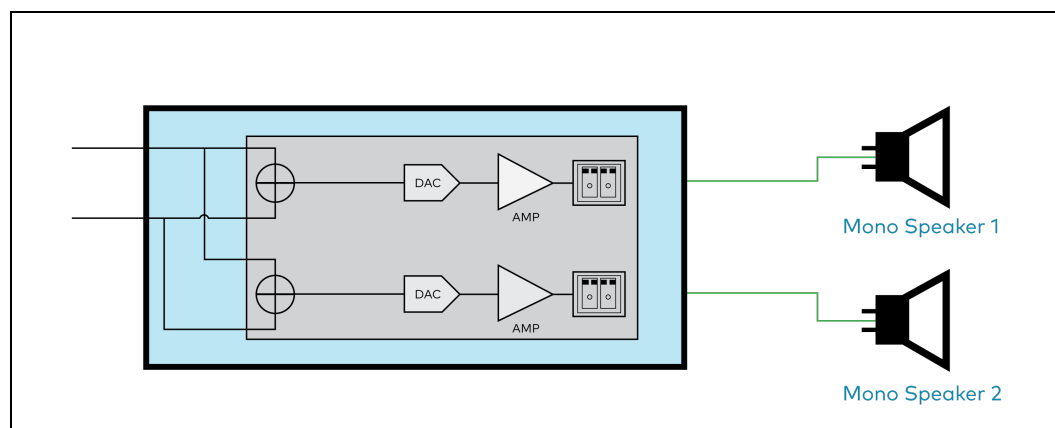
Stereo / Mono ☒ Stereo ☐ Mono

Select either **Stereo** or **Mono** from the **Stereo/Mono** field.

Stereo

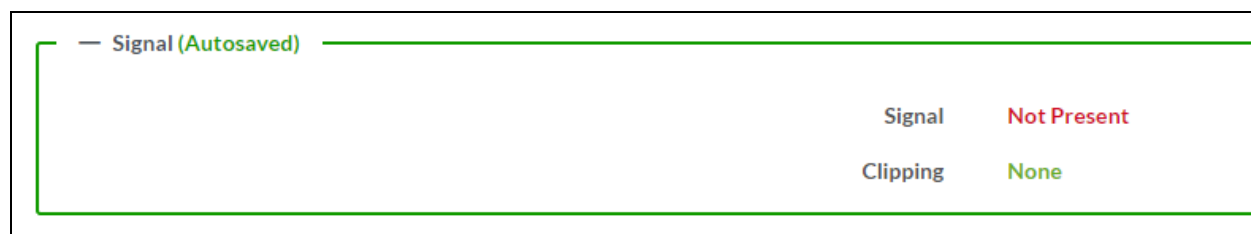


Mono



NOTE: The signal flow diagrams above are specifically for the speaker output zones (Zones 1 through 4). The diagrams still apply for Zone 5 with the exception of the amplifiers shown in the path of each output channel.

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.

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. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
- Manually enter a value in the **Bussing Volume Offset** field.

Configure Speaker Profile

The DM-NAX-4ZSA-50 has a library of built-in speaker profiles that contain equalizer, speaker protection, and impedance settings specific to Crestron and third-party speaker models. Custom speaker profiles can also be generated and loaded to the DM-NAX-4ZSA-50. The **Configure Speaker Profile** field is used to apply these speaker profiles to a given zone of the DM NAX device.

NOTE: Applying a speaker profile on a zone will overwrite the existing **Speaker Configuration** and **Equalizer** settings for that zone.

Applied Manufacturer		Crestron
Applied Model		SAROS ICE4
Global Filter <input type="text"/>		
	Model	Manufacturer
<input type="radio"/>	Air LS4	Crestron
<input type="radio"/>	Air LS6	Crestron
<input type="radio"/>	Air SR4	Crestron
<input type="radio"/>	Air SR6	Crestron
<input type="radio"/>	Air SR8	Crestron
1 of 9		
Apply		

In the **Global Filter** field, enter the speaker's model name to search for its associated profile. Any speaker profiles matching the search criteria are displayed.

To apply a speaker profile:

1. Select a speaker profile.
2. Select **Apply**.

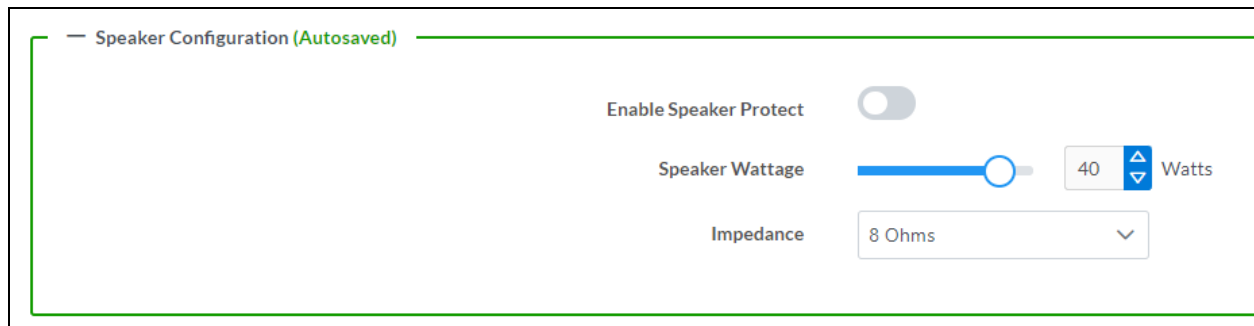
The equalizer, impedance, and speaker protection settings of the zone are updated as per the applied speaker profile.

NOTE: Zone 5 does not have impedance or speaker protection settings, but speaker profiles can still be applied to the zone output. Only the equalizer settings are effected when a speaker profile is applied to Zone 5.

After applying a speaker profile, the **Speaker Configuration** and **Equalizer** settings for the zone can still be edited. The **Configure Speaker Profile** section will display a notification if these settings were altered after the speaker profile was applied.

 Profile settings have been locally altered

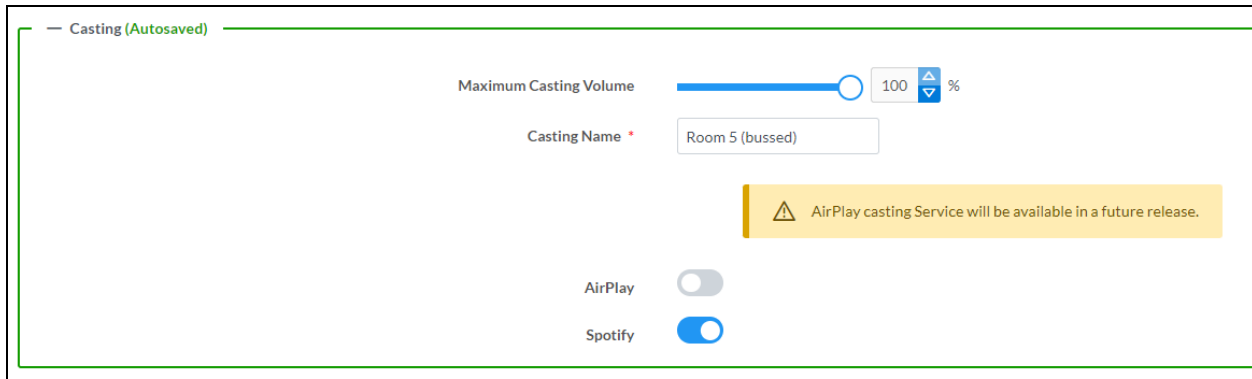
Speaker Configuration (Zones 1 through 4 only)



1. Set the **Enable Speaker Protect** toggle to the right position to enable speaker protection for the zone output. Set the toggle to the left position to disable speaker protection. By default, **Enable Speaker Protect** is set to the left position.
2. To set the maximum output wattage, do one of the following:
 - Move the **Speaker Wattage** slider to the right to increase or to the left to decrease the maximum peak amplifier wattage that can be output to the speaker.
 - Use the **Watts** arrows to increase or decrease the maximum peak amplifier wattage that can be output to the speaker. Values range from 5 W to 50 W, adjustable in increments of 1 W.
 - Manually enter a value in the **Speaker Wattage** field.
3. Select the impedance of the speaker on a selected zone from the **Impedance** drop-down. Values are **4 Ohms** and **8 Ohms**.

NOTE: The DM-NAX-4ZSA-50 does not support output bridging.

Casting



— Casting (Autosaved)

Maximum Casting Volume 100 %

Casting Name * Room 5 (bussed)

⚠ AirPlay casting Service will be available in a future release.

AirPlay ☐

Spotify ☒

The Casting section is used to enable or disable the ability of third-party devices to cast audio to the DM NAX output zone, as well as set a maximum casting volume and friendly name for the zone.

To configure Casting:

1. **Maximum Casting Volume** is an alternate value for the **Maximum** volume set under [Minimum/Maximum Volume on page 245](#), applied to the zone only when a casting service is routed to it. To set the maximum casting volume, do one of the following:
 - Move the **Maximum Casting Volume** slider right to increase or left to decrease the maximum volume.
 - Use the arrows to increase or decrease the maximum casting volume. Values range from 70% to 100%, adjustable in increments of 1%.
 - Manually enter a value in the **Maximum Casting Volume** field.

NOTE: If the **Maximum Casting Volume** value is higher than the regular **Maximum** volume value, the **Maximum** value will be applied instead.

2. A custom casting name (for example, "Living Room") must be entered so that a name for the zone will be displayed in the list of available casting destinations when initiating a stream. Enter this friendly name in the **Casting Name** field.

NOTE: Ensure that the **Casting Name** field is populated as any field with an asterisk (*) is mandatory.

Once Apple AirPlay® and/or Spotify Connect™ is enabled, this name will be displayed as an available destination on the casting device.

The DM-NAX-4ZSA-50 supports Apple AirPlay 2 casting.

To stream media from an iOS® device to a zone on the DM-NAX-4ZSA-50 via AirPlay casting:

1. Ensure that the iOS device and DM-NAX-4ZSA-50 are on the same network.

NOTE: If **Port Selection** is enabled on the DM-NAX-4ZSA-50, AirPlay will use the port specified for Control/Media traffic.

2. Set the **AirPlay** toggle to the right position to enable AirPlay casting to the zone's associated media player.
3. On your iOS device:
 - a. Enable AirPlay.
 - b. From the list of available AirPlay destinations, select the DM-NAX-4ZSA-50 media player you would like to stream to. The iOS device will cast the streaming audio to the selected media player.

NOTE: By default, media players 1-5 route to their respectively numbered output zones 1-5 if they are not already routed to any other zones when casting playback begins. For example, the audio from the media player 5 will be routed to output zone 5 if an AirPlay casting session on media player 5 starts and it is not already routed to another zone.

- c. After the AirPlay stream begins, control the volume of the streaming DM-NAX-4ZSA-50 output zone directly from your iOS device.

Set the **AirPlay** toggle to the left to disable AirPlay casting for a DM-NAX-4ZSA-50 media player.

The DM-NAX-4ZSA-50 supports Spotify Connect™ casting.

To stream media to a zone on the DM-NAX-4ZSA-50 via Spotify Connect casting:

1. Ensure that the casting device and DM-NAX-4ZSA-50 are on the same network.

NOTE: If **Port Selection** is enabled on the DM-NAX-4ZSA-50, Spotify Connect will use the port specified for Control/Media traffic.

2. Set the **Spotify Connect** toggle to the right position to enable Spotify Connect casting to the zone's associated media player.
3. On the casting device:
 - a. Open the Spotify application.
 - b. Enable Spotify Connect casting.
 - c. From the list of available casting destinations, select the DM-NAX-4ZSA-50 media player you would like to stream to. The device will cast the streaming audio to the selected media player.

NOTE: By default, media players 1-5 route to their respectively numbered output zones 1-5 if they are not already routed to any other zones when casting playback begins. For example, the audio from the media player 5 will be routed to output zone 5 if a Spotify Connect casting session on media player 5 starts and it is not already routed to another zone.

- d. After the Spotify Connect stream begins, control the volume of the streaming DM-NAX-4ZSA-50 output zone directly from the Spotify application on the casting device.

Set the **Spotify Connect** toggle to the left to disable Spotify Connect casting for a DM-NAX-4ZSA-50 media player.

To stream media from a Roon® streaming device to a zone in your distributed audio system:

1. Enable Apple AirPlay casting for each DM NAX zone.
2. Launch the Roon desktop app.
3. Open the Roon app menu and navigate to the **Settings** submenu, then select **Audio**. A table of discovered network devices that the Roon device can stream to will be displayed. Any devices that previously have been enabled for Roon casting are listed under the **Connected to Core** section, and the rest of the discovered devices are listed under **Other network devices**.
4. Find each of the DM NAX zones in the **Other network devices** list, then select **Enable** for each zone to connect it to the Roon Core® for casting.
5. Return to the Roon app home page and select the speaker icon at the bottom right. Select a DM NAX zone from the list of available casting destinations. With a zone selected, start a media stream, and the Roon device will cast the streaming audio to the zone.

Speaker/Faults

Speaker / Faults (Autosaved)	
DC Offset Fault	None
Over Current Fault	None
Clipping Detected	None
Over or Under Voltage	None
Over Temperature	None

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

Signal Generator (Autosaved)

Signal Generator Inactive

Signal Generator Volume 30 %

The DM-NAX-4ZSA-50 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.

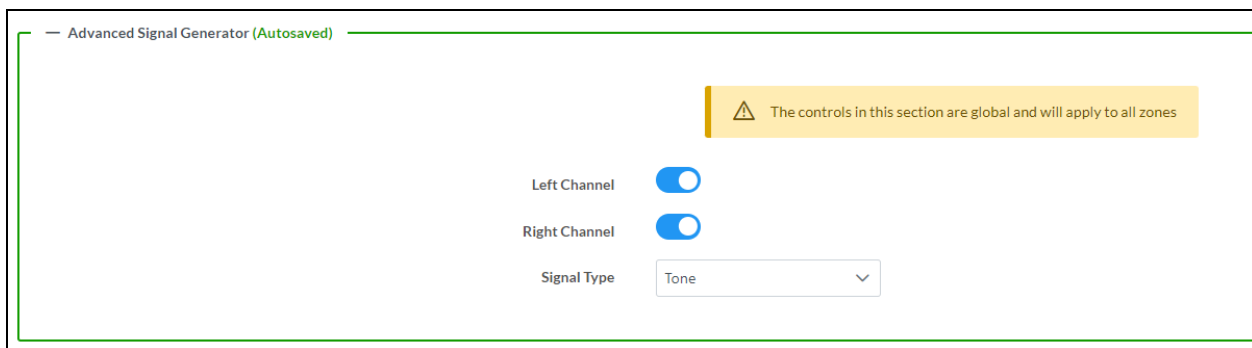
1. To route the signal generator to the zone output, select **Signal Generator** so that it displays **Active** and is highlighted in blue. To unroute the signal generator on the zone output, select **Signal Generator** so that it displays **Inactive** and is highlighted in grey. By default, the signal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

NOTES:

- There is only one signal generator built-in to the DM NAX device. Each zone has its own button 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.
- The **Signal Generator Volume** control 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. 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. Values range from 0 to 100, adjustable in increments of 1.
 - Manually enter a value in the **Signal Generator Volume** field.

Advanced Signal Generator



The screenshot shows the 'Advanced Signal Generator (Autosaved)' settings panel. At the top right, a yellow warning box contains a triangle icon and the text: 'The controls in this section are global and will apply to all zones'. Below this, there are three controls: 'Left Channel' with a blue toggle switch in the 'on' position, 'Right Channel' with a blue toggle switch in the 'on' position, and 'Signal Type' with a dropdown menu currently set to 'Tone'.

The advanced signal generator settings control the built-in signal generator directly, and are applied universally to all output zones of the DM NAX 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.

1. 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.
2. 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.
3. Select an audio test signal type from the **Signal Type** drop-down. 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

Equalizer Settings (Autosaved)

Speaker EQ Enabled
☒

Band	Band01	Band02	Band03	Band04	Band05	Band06	Band07	Band08	Band09	Band10
Gain										
	0	0	0	0	0	0	0	0	0	0
Type	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ
Frequency	32	64	125	250	500	1000	2000	4000	8000	16000
Bandwidth	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Bypass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Actions	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset

Each zone output of the DM-NAX-4ZSA-50 has a dedicated ten-band equalizer that can be fully customized to tune the zone 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. With the **Speaker EQ Enabled** toggle in the right position, configure the equalizer bands.
 - a. To set a band's gain, do one of the following:
 - Move the **Gain** slider up to increase or down to decrease the gain.
 - Use the arrows to increase or decrease the gain. Values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Gain** field.

- b. Select a filter type from the **Type** drop-down. 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. To set the center frequency, do one of the following:
- Use the arrows to increase or decrease the frequency. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. 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. To set the bandwidth, do one of the following:
- Use the arrows to increase or decrease the bandwidth. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave.
 - 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.

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 up to two buses on the DM-NAX-4ZSA-50.

Bussing

Bussing (Autosaved)

Global Filter

Name	Bus Id	Included Zones
Bus01	1	Room 5 (bussed), Room 5 (bussed), Room 5 (bussed), Room 5 (bussed)
Bus02	2	Choose Zones

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.

NOTE: Each zone can be a member of only one bus. Any zones that are already a member of another bus will not be shown in the **Included Zones** drop-down.

Inputs

The **Inputs** section is used to configure the **Name**, **Compensation**, and **Mute** attributes of the available analog and digital inputs on the DM-NAX-4ZSA-50.

A total of 9 inputs are available on the DM-NAX-4ZSA-50, including the 4 physical input connectors on the device's rear panel and the 5 internal media players used for media streaming services. Only the attributes of the 4 physical inputs can be adjusted in the **Inputs** section.

Inputs

Analog Inputs (Autosaved)

Name	Office	Office	Office	Analog Input 2
Gain (db)	<div> <div>10</div> <div>5</div> <div>0</div> <div>-5</div> <div>-10</div> </div> <div>0</div>	<div> <div>10</div> <div>5</div> <div>0</div> <div>-5</div> <div>-10</div> </div> <div>0</div>	<div> <div>10</div> <div>5</div> <div>0</div> <div>-5</div> <div>-10</div> </div> <div>0</div>	<div> <div>10</div> <div>5</div> <div>0</div> <div>-5</div> <div>-10</div> </div> <div>0</div>
Signal Present	<div>✗</div>	<div>✗</div>	<div>✗</div>	<div>✗</div>
Clipping Detected	<div>✓</div> Nominal	<div>✓</div> Nominal	<div>✓</div> Nominal	<div>✓</div> Nominal
Mute	<div>☐</div>	<div>☐</div>	<div>☐</div>	<div>☐</div>

Configure Inputs

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

Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- **Signal Presence** indicates whether or not a signal is detected in that zone.
- **Clipping Detected** indicates if the signal is **Clipping** or **Nominal** (non-clipping).

DM NAX Streams

Each local input of the DM-NAX-4ZSA-50 can be made available as a DM NAX audio-over-IP stream. This includes the four physical inputs on the rear panel of the device and the five internal media players.

Select **NAX Streams** to expand the tab and display the following information.

Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
Office	Stream01	239.8.0.24	S/PDIF11c4.42.68.3fe4.59	Stream Started	▶ □ ⚙
Office	Stream02	239.8.0.25	TOSLINK12c4.42.68.3fe4.59	Stream Started	▶ □ ⚙
Office	Stream03	239.8.0.23	RCA13c4.42.68.3fe4.59	Stream Started	▶ □ ⚙
Analog Input 2	Stream04	0.0.0.0	RCA24c4.42.68.3fe4.59	Stream Stopped	▶ □ ⚙
MediaStream1	Stream05	239.8.0.18	MediaStream15c4.42.68.3fe4.59	Stream Started	▶ □ ⚙

- **Device is Leader PTP Clock Source** indicates whether the DM NAX device's PTP clock is the leader clock on the network. **Yes** will be displayed in green when the local DM-NAX-4ZSA-50's clock 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 is currently acting as the leader clock.
- **PTP Priority**: This 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 DM-NAX-4ZSA-50 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 Transmitters

Transmitters (Autosaved)

Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
Office	Stream01	239.8.0.24	S/PDIF11c4.42.68.3fe4.59	Stream Started	▶ ◻ ⚙
Office	Stream02	239.8.0.25	TOSLINK12c4.42.68.3fe4.59	Stream Started	▶ ◻ ⚙
Office	Stream03	239.8.0.23	RCA13c4.42.68.3fe4.59	Stream Started	▶ ◻ ⚙
Analog Input 2	Stream04	0.0.0.0	RCA24c4.42.68.3fe4.59	Stream Stopped	▶ ◻ ⚙
MediaStream1	Stream05	239.8.0.18	MediaStream15c4.42.68.3fe4.59	Stream Started	▶ ◻ ⚙
MediaStream2	Stream06	239.8.0.19	MediaStream26c4.42.68.3fe4.59	Stream Started	▶ ◻ ⚙
MediaStream3	Stream07	239.8.0.20	MediaStream37c4.42.68.3fe4.59	Stream Started	▶ ◻ ⚙
MediaStream4	Stream08	239.8.0.21	MediaStream48c4.42.68.3fe4.59	Stream Started	▶ ◻ ⚙

1 of 2

NOTE: To configure transmitters not shown on the current page of the table, select the ▶ icon to display the next page of transmitters.

To configure a DM NAX transmit stream:

1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon ⚙ in the **Actions** column. The **Configure** dialog appears:

Configure

Auto Initiation

Port

5004

✓ OK

✗ CANCEL

5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.

6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

Configure Receivers

Receivers (Autosaved)						
Zone Name	Stream	Current Stream Address	Requested Stream Address		Status	Actions
Room 5 (bussed)	Stream01	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙
Room 5 (bussed)	Stream02	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙
Room 5 (bussed)	Stream03	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙
Room 5 (bussed)	Stream04	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙
Zone5	Stream05	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙

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 configure icon ⚙ in the **Actions** column. The **Configure** dialog appears:

Configure

Auto Initiation

Port

5004

▶

◀

✔ OK

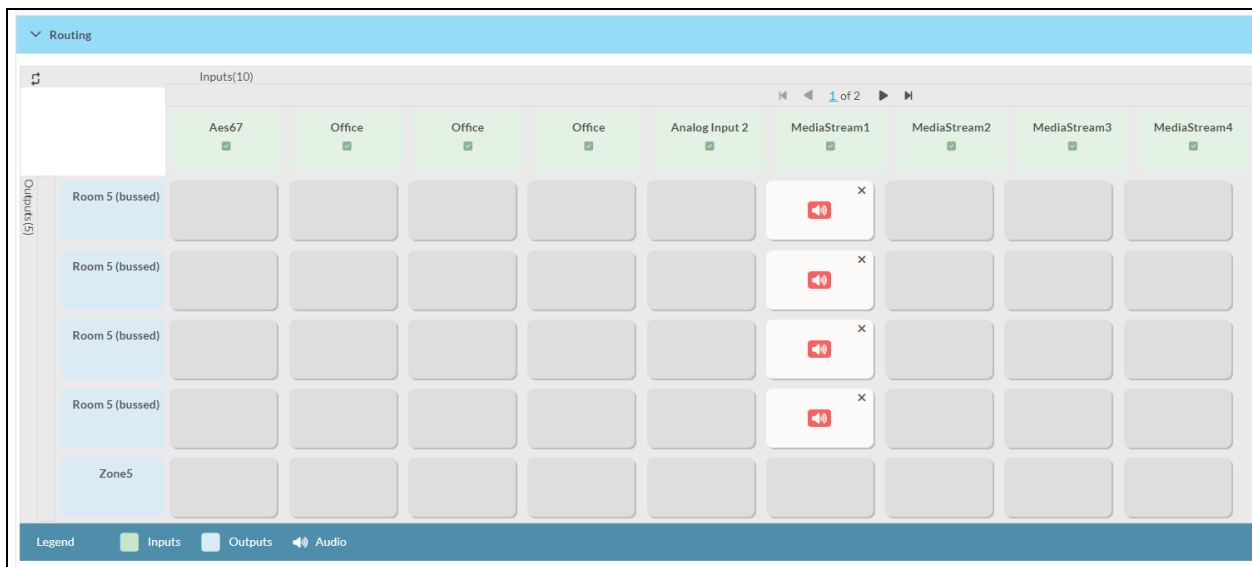
✖ CANCEL





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. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.



Routing

The **Routing** section is used to route a local input, media player, or AES67 stream to a zone on the DM-NAX-4ZSA-50.

NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).



- To route an input to a zone, select the box in the routing matrix where the zone's row overlaps the corresponding input's column. Once a route is made,  appears.
- To break a given route select  or .
- To route a single input to all zones, select the  icon under the input's name.

Use the arrows ( or ) at the top of the matrix to change pages to view all available inputs.

To select a specific DM NAX/AES67 stream when AES67 is selected as the source for a zone:

- Select the gear icon ⚙ to display the list of all DM NAX/AES67 streams discovered on the network, then select the corresponding stream to be routed to the zone.

	Stream Name	Network Address
<input type="radio"/>	MediaStream6147ff40efe	239.8.0.37
<input type="radio"/>	MediaStream2107ff40efe	239.8.0.41
<input type="radio"/>	RCA2600.10.7f.f4.0b.8d	239.8.10.25
<input type="radio"/>	Stream0100.10.7f.9c.9b.06	239.0.14.239
<input type="radio"/>	MediaStream61400.10.7f.b5.f3.24	239.8.0.8
<input type="radio"/>	MediaStream7157ff40efe	239.8.0.38
<input type="radio"/>	MediaStream31100.10.7f.b5.f3.24	239.8.0.2
<input type="radio"/>	RCA1500.10.7f.f4.0b.8d	239.8.10.24
<input type="radio"/>	MediaStream71500.10.7f.b5.f3.24	239.8.0.5
<input type="radio"/>	Stream0100.10.7f.05.23.9c	239.57.156.23

⏮ ⏪ 1 of 5 ⏩ ⏭

✓ OK

✕ CANCEL

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

Streaming Services

The DM-NAX-4ZSA-50 features five built-in media streaming players, each of which can play back a discrete media stream from a cloud-based service or local casting device. User profiles can be created for each user of the DM NAX device with discrete credentials, enabling multiple users access to media streaming services without interfering with other users' recommendations, favorites, or playlists.

Set the **End User Access** toggle to the right position to enable end user access. With **End User Access** enabled, any account on the device can access the **Streaming Services** settings to add or remove streaming service accounts. Set the toggle to the left position to disable end user access. By default, **End User Access** is disabled.

Streaming Services


End User Access ☐

User Profiles (Autosaved)

Profile Name

Test

Services



Actions

✕ Delete

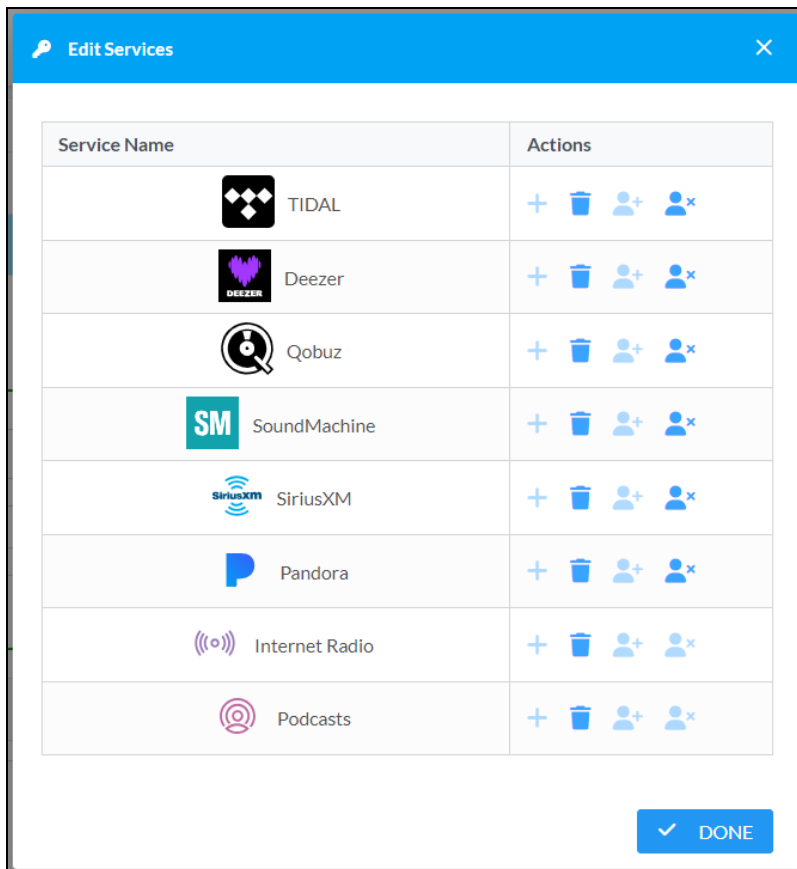
🔗 Services

+

Add User Profile

To configure streaming services:

1. Select **+ Add User Profile** to create a new user profile. Each user profile can contain a unique set of streaming service accounts.
2. Enter a name in the **Profile Name** field. Select **Save** to create the **User Profile**. Once the profile is created, you have the option to either **Delete** the profile, or add **Services** to it.
3. Select **Services** in the **Action** column and an **Edit Services** window appears.




4. Select from the available streaming services: **TIDAL™**, **Deezer®**, **Qobuz®**, **SOUNDMACHINE®**, **SiriusXM®**, **Pandora®**, **Internet Radio**, and **Podcasts**. Select **+** or **🗑️** to add or delete the desired streaming services for each user profile.

User Authentication

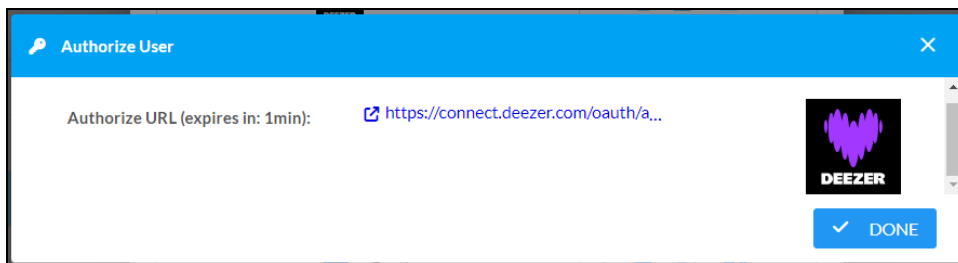
User authentication is required for Deezer, Pandora, Qobuz, SiriusXM, SOUNDMACHINE, and TIDAL.

Deezer

To authenticate a Deezer account:

1. Select the add user icon  in the Deezer row of the table.
2. Select the link to log in via the Deezer portal.



NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.

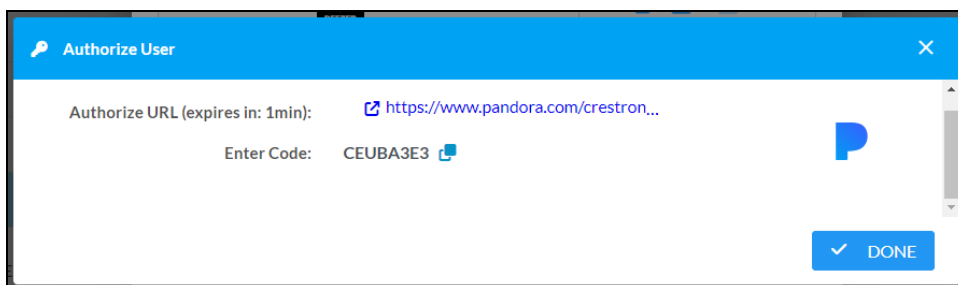


3. Select **DONE** to return to **Streaming Services**.

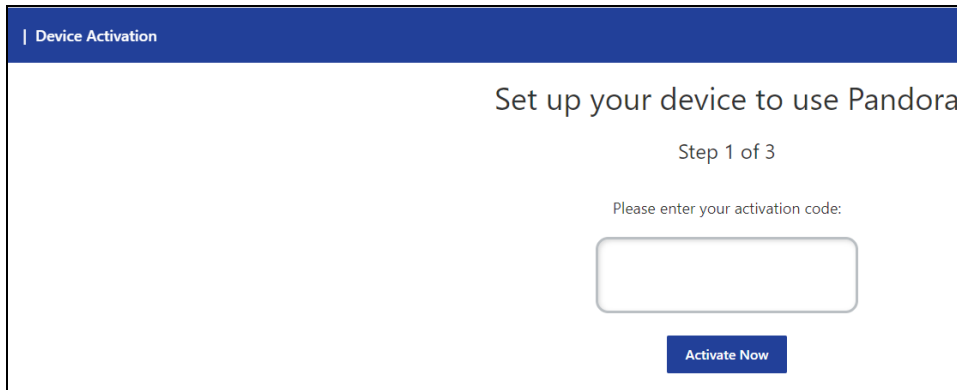
Pandora

To authenticate a Pandora account:

1. Select the add user icon  in the Pandora row of the table.
2. Select the  icon to copy the activation code.



3. Select the link to register the device. The **Device Activation** page is displayed.




The screenshot shows a web page titled "Device Activation" with a blue header. The main content area has the heading "Set up your device to use Pandora" and "Step 1 of 3". Below this, it says "Please enter your activation code:" followed by a large, empty rectangular input field. At the bottom right of the input field is a blue button labeled "Activate Now".

NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** and **Enter Code** are shown as blank. The **Authorize User** dialogue will need to be closed and reopened.


4. Paste the activation code in the **Please enter your activation code** field and select **Activate Now**.
5. Log in to the Pandora account.
6. Select **DONE** to return to **Streaming Services**.

Qobuz

To authenticate a Qobuz account:

1. Select the add user icon  in the Qobuz row of the table.
2. Select the link to log in via the Qobuz portal.

NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.



The screenshot shows a dialog box titled "Authorize User" with a blue header. The main content area displays "Authorize URL (expires in: 1min)" followed by a blue link icon and the URL "https://www.qobuz.com/signin/oauth...". At the bottom right is a blue button with a checkmark icon and the text "DONE".


3. Select **DONE** to return to **Streaming Services**.

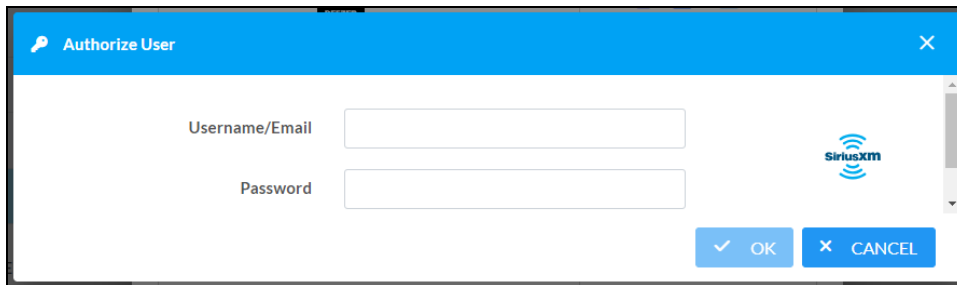
SiriusXM

Both consumer and commercial SiriusXM streaming accounts are supported on the DM-NAX-4ZSA-50.

NOTE: To determine whether to use commercial accounts, refer to the streaming service license agreement or FAQs on their respective portals. Refer to [this link](#) for SiriusXM documentation.

To authenticate a SiriusXM account:

1. Select the add user icon  in the SiriusXM row of the table.
2. Enter the user credentials and select **OK**




SOUNDMACHINE

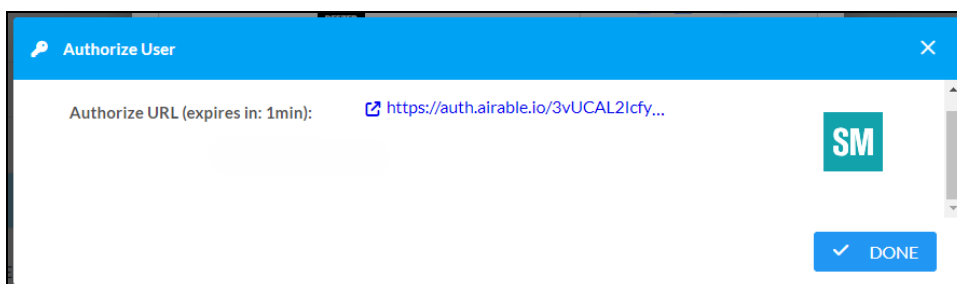
Both consumer and commercial SOUNDMACHINE streaming accounts are supported on the DM-NAX-4ZSA-50.

NOTE: To determine whether to use commercial accounts, refer to the streaming service license agreement or FAQs on their respective portals. Refer to [this link](#) for SOUNDMACHINE documentation.

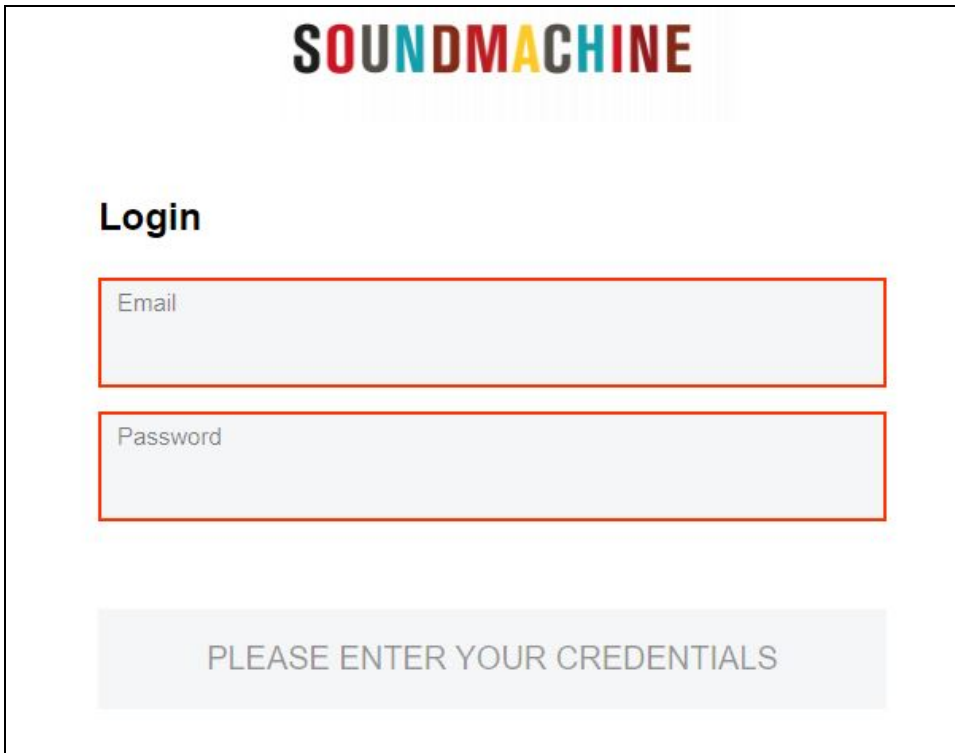
To authenticate a SOUNDMACHINE account:

1. Select the add user icon  in the SOUNDMACHINE row of the table.
2. Select the link to log in via the SOUNDMACHINE portal.

NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.




3. Log in to the SOUNDMACHINE account.

The screenshot shows the SOUNDMACHINE login interface. At the top is the SOUNDMACHINE logo in a colorful, multi-colored font. Below the logo is the word "Login" in a bold, black font. Underneath "Login" are two input fields: "Email" and "Password", both with red borders. Below these fields is a large, light gray button with the text "PLEASE ENTER YOUR CREDENTIALS" in all caps.

4. Select **DONE** to return to **Streaming Services**.

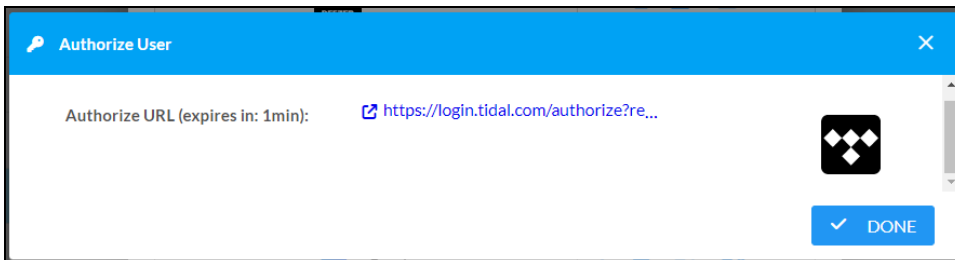
TIDAL

To authenticate a TIDAL account:

1. Select the add user icon  in the TIDAL row of the table.
2. Select the link to log in via the TIDAL portal.

NOTES:

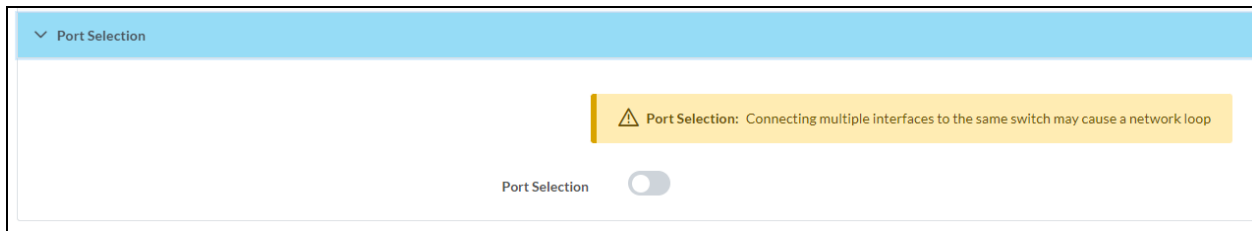
- The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.
- TIDAL free accounts are not supported on the DM NAX audio-over-IP platform.

The screenshot shows a dialog box titled "Authorize User" with a blue header bar. Inside the dialog, there is a label "Authorize URL (expires in: 1min):" followed by a blue hyperlink "https://login.tidal.com/authorize?re...". To the right of the URL is a TIDAL logo. At the bottom right of the dialog is a blue button with a white checkmark and the text "DONE".

3. Select **DONE** to return to **Streaming Services**.

Port Selection

The **Port Selection** feature allows the device's internal network traffic to be managed and segregated based on traffic type. Internal VLANs are used to segment device management and streaming service traffic to a separate physical device Ethernet port than audio-over-IP streaming traffic. With **Port Selection** enabled on all DM NAX devices on a network, DM NAX and AES67 network traffic can be physically separated from the control network onto a dedicated audio network.



To configure **Port Selection**:

1. Set the **Port Selection** toggle to the right position to enable or to the left position to disable **Port Selection**. By default, **Port Selection** is disabled.

NOTE: Ports 1 and 2 correspond to the Ethernet adapters labeled **1** and **2** on the rear panel of the DM-NAX-4ZSA-50, respectively.

2. With **Port Selection** enabled:

- a. Select an Ethernet port from the **Management** drop-down to designate which Ethernet port on the rear panel of the device will handle network traffic relating to device configuration, streaming services, and the device's connection to a control system.

NOTES:

- To access streaming services, the Management port must be connected to a network with internet access.
- The Management port determines your connection to the web interface. Changing the port value can result in losing your connection to the device via the web interface.

- b. Select an Ethernet port from the **Audio/NAX** drop-down to designate which Ethernet port on the rear panel of the device will handle audio-over-IP streaming network traffic.

3. Select **Save** changes to apply the new settings.

NOTE: Making changes to **Port Selection** settings will require a reboot.

Security

Select the **Security** tab to configure security for users and groups and to allow different levels of access to the DM-NAX-4ZSA-50 functions. By default, security is disabled.

✓ Status

⚙ Settings

🔒 Security

⚙ 802.1x Configuration

▼ Security

SSL Mode

Encrypt

▼

SSL Authentication

Username *

chdevice

Password *

Confirm Password *

Current User

Users

Groups

Name

admin

Access Level

Administrator

Active Directory User

No

Groups

Administrators

Change Current User Password

Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down, 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.

Current User

Users

Groups

Name

admin

Access Level

Administrator

Active Directory User

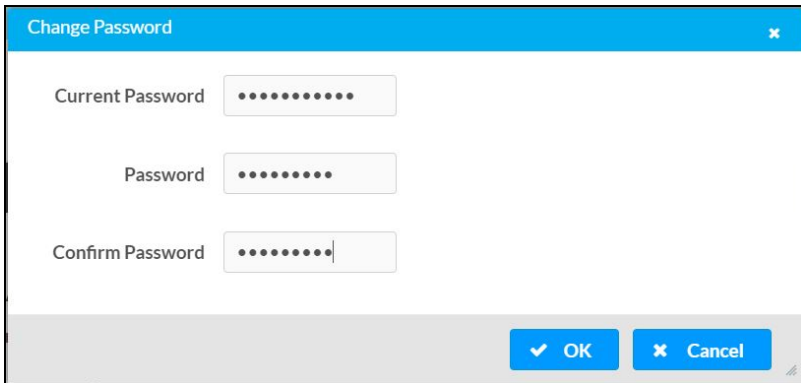
No

Groups

Administrators

Change Current User Password

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.

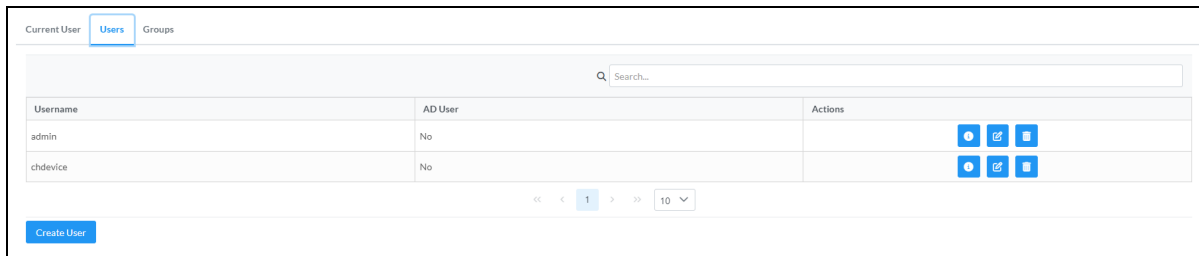


The image shows a 'Change Password' dialog box with a blue header and a close button. It contains three text input fields: 'Current Password', 'Password', and 'Confirm Password', each with a masked password (dots). At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.

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.



The image shows the 'Users' tab interface. At the top, there are tabs for 'Current User', 'Users' (selected), and 'Groups'. Below the tabs is a search bar labeled 'Search...'. A table displays user information with columns: 'Username', 'AD User', and 'Actions'. The table has two rows: 'admin' and 'chdevice'. The 'AD User' column shows 'No' for both. The 'Actions' column contains icons for adding, editing, and deleting users. At the bottom left is a 'Create User' button. At the bottom right is a pagination control showing '1' of 10 items.

Username	AD User	Actions
admin	No	[Add] [Edit] [Delete]
chdevice	No	[Add] [Edit] [Delete]

Use the **Search Users** 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 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.

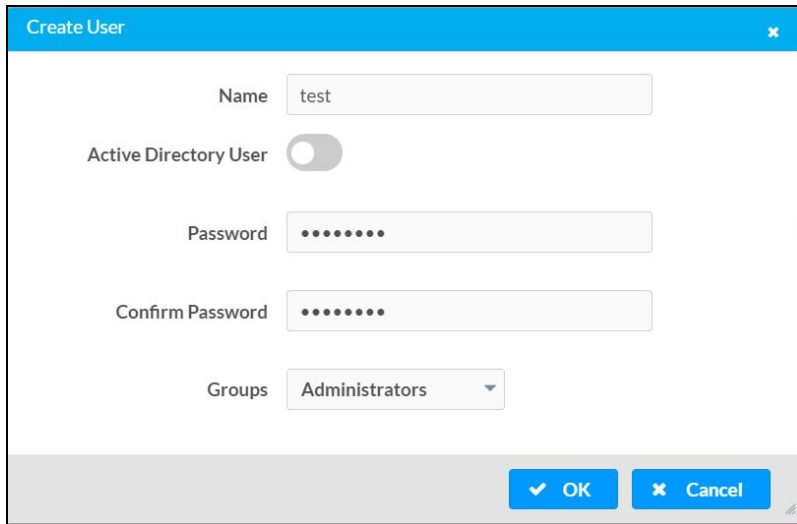
- **Username:** Displays the name of the user.
- **AD User:** Displays whether the user requires authentication using Active Directory.

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 **Users** 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.

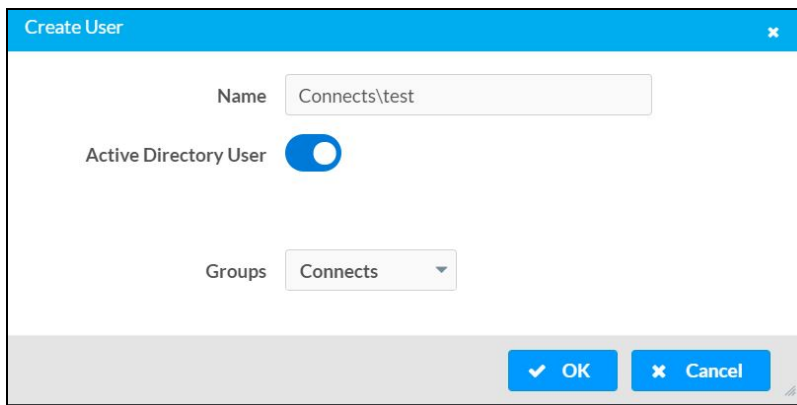
Add an Active Directory User

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 DM-NAX-4ZSA-50, or add the Active Directory group(s) that they are a member of to the DM-NAX-4ZSA-50.

To add an Active Directory user:

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




The 'Create User' dialog box has a blue title bar with the text 'Create User' and a close button. It contains three main sections: a 'Name' field with the text 'Connects\test', an 'Active Directory User' toggle switch that is turned on, and a 'Groups' dropdown menu with 'Connects' selected. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.

- 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

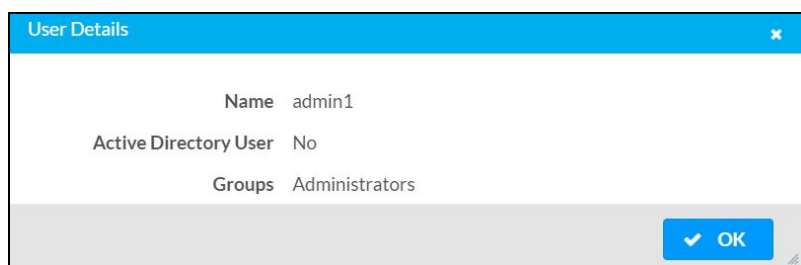
Select the trashcan icon  in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

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.



The 'User Details' dialog box has a blue title bar with the text 'User Details' and a close button. It displays three rows of information: 'Name' with the value 'admin1', 'Active Directory User' with the value 'No', and 'Groups' with the value 'Administrators'. At the bottom right, there is an 'OK' button with a checkmark icon.

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

Update User Details

Update User

Name

admin1

Active Directory User

☐

Password


Confirm Password

Groups

Administrators

OK

Cancel

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

Current User

Users

Groups

Search...

Group Name	AD Group	Access Level	Actions
Administrators	No	Administrator	 
Connects	No	Connect	 
Operators	No	Operator	 
Programmers	No	Programmer	 
Users	No	User	 

<<

<

1

>

>>

10

▼

Create Group

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 to the right of the navigation arrows.

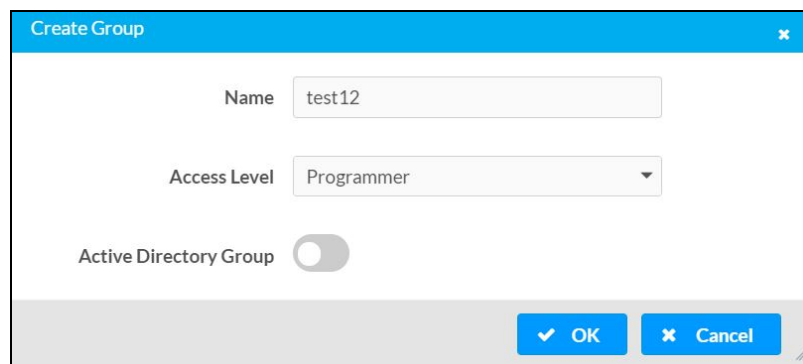
Existing groups are displayed in a table and the following information is provided for each group:

- **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 🗑 selected group.

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

Create Local Group



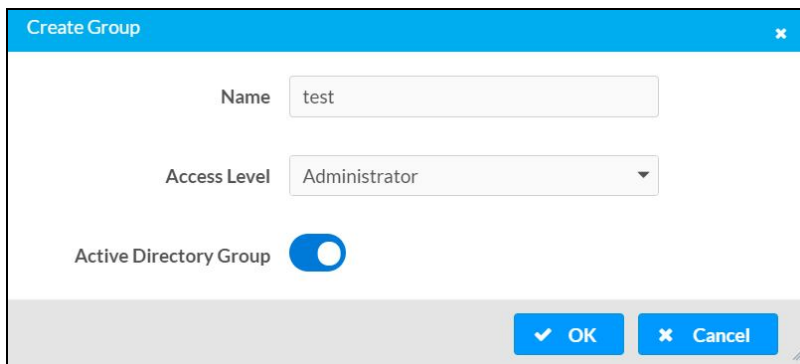
1. Select **Create Group**.
2. In the **Create Group** dialog, enter the following:
 - a. Enter the group name in the **Name** field.
 - b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

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



The **Create Group** dialog box has a blue header with a close button. It contains three fields: a text box for **Name** with the value "test", a dropdown for **Access Level** with "Administrator" selected, and a toggle for **Active Directory Group** which is turned on. At the bottom right are **OK** and **Cancel** buttons.


Once the group is added, all members of that group will have access to the DM-NAX-4ZSA-50.

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.
3. 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.


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

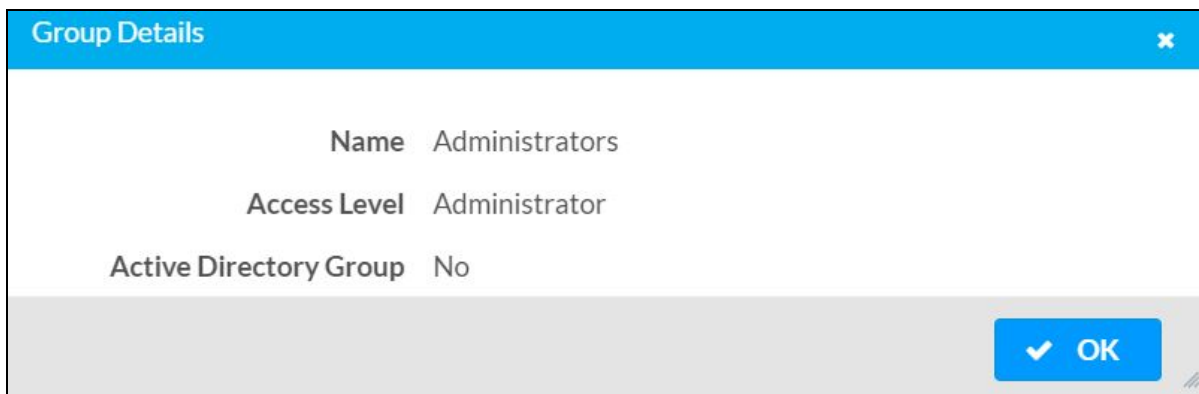
Delete a Group

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.



The **Group Details** dialog box has a blue header with a close button. It displays three rows of information: **Name** Administrators, **Access Level** Administrator, and **Active Directory Group** No. At the bottom right is an **OK** button.

- **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 DM-NAX-4ZSA-50 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.

The screenshot shows the '802.1X Configuration' page in a web browser. The top navigation bar includes 'Status', 'Settings', 'Security', and '802.1X Configuration'. The main content area has a blue header '802.1X Configuration'. Below it, the 'IEEE 802.1X Authentication' toggle is turned on. The 'Authentication Method' is set to 'EAP MSCHAP V2- password'. The 'Domain' field contains 'secure12', the 'Username' field contains 'admin', and the 'Password' field is masked with dots. The 'Enable Authentication Server Validation' toggle is also turned on. Below this, the 'Select Trusted Certificate Authority(s)' section shows a list of CA certificates with checkboxes. The checked certificates are: AAA Certificate Services, AffirmTrust Commercial, AffirmTrust Premium, and Amazon Root CA 3. Other certificates listed include AC RAIZ FNMT-RCM, ACCVRAIZ1, Actalis Authentication Root CA, AffirmTrust Networking, AffirmTrust Premium ECC, Amazon Root CA 1, Amazon Root CA 2, Amazon Root CA 4, Atos TrustedRoot 2011, Autoridad de Certificacion Firmaprofesional CIF A62634068, and Baltimore CyberTrust Root.

Configure DM-NAX-4ZSA-50 for 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 the **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. 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-4ZSA-50.

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.

5. If required, type the domain name of the network in the **Domain** field.
6. 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.

DM-NAX-4ZSP

This section describes how to configure DM-NAX-4ZSP.

Web Interface Configuration

The DM-NAX-4ZSP web interface allows you to view status information and configure network and device settings.

Access the Web Interface

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

- [Access the Web Interface with a Web Browser on page 279](#)
- [Access the Web Interface With Crestron Toolbox™ Software on page 281](#)

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

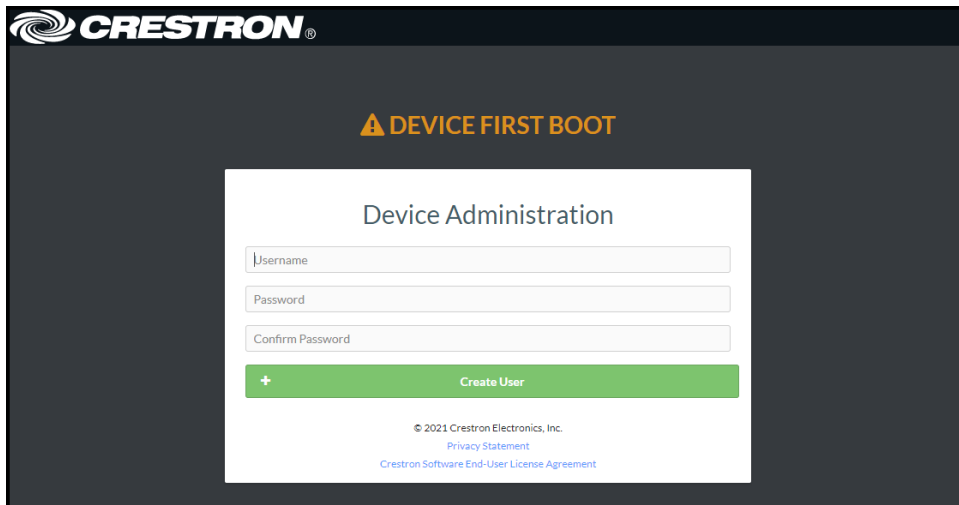
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later
	Firefox® web browser, version 31 and later
	Internet Explorer web browser, version 11 and later
	Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later
	Chrome 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 DM-NAX-4ZSP into a web browser.

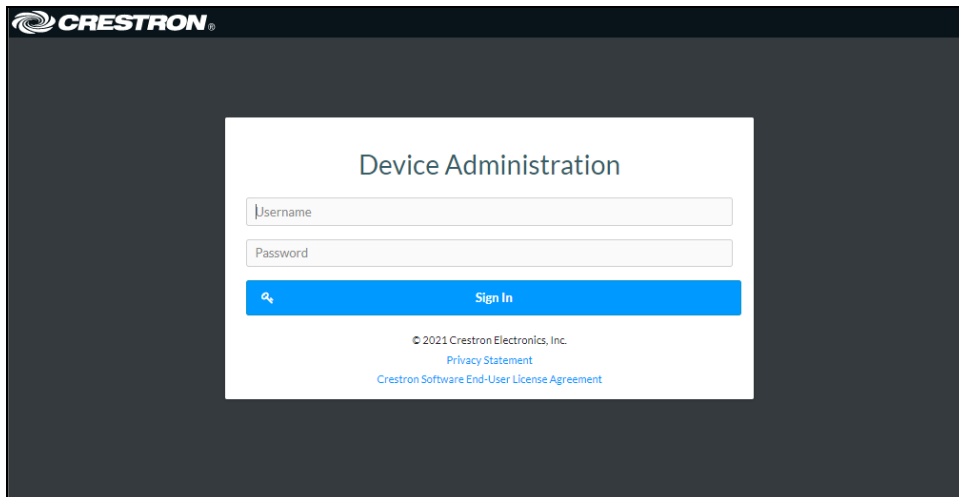
NOTE: To obtain the IP address, use the **Device Discovery Tool** in Crestron Toolbox™ software or an IP scanner application.

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.



The screenshot shows the Crestron logo at the top left. In the center, there is a yellow warning triangle icon followed by the text "DEVICE FIRST BOOT". Below this, a white box titled "Device Administration" contains three input fields: "Username", "Password", and "Confirm Password". A green button with a plus icon and the text "Create User" is positioned below the input fields. At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

- d. Select **Create User**. The Device Administration page appears.



The screenshot shows the Crestron logo at the top left. In the center, a white box titled "Device Administration" contains two input fields: "Username" and "Password". A blue button with a magnifying glass icon and the text "Sign In" is positioned below the input fields. At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Select **Sign In**.

Access the Web Interface With Crestron Toolbox™ Software

To access the web interface by opening a web browser from Crestron Toolbox™ software:

1. Open Crestron Toolbox software.
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 DM-NAX-4ZSP 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.

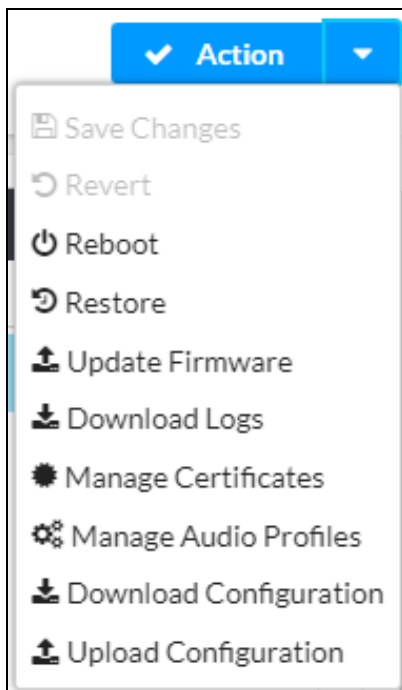
NOTE: If there is security software running on the computer, a security alert might be displayed when Crestron Toolbox software attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, select the device.
4. Enter the device credentials in the **Authentication Required** dialog that opens, then select **Log In**.
5. Select **Web Configuration**.

Action

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

- [Save Changes on page 282](#)
- [Revert on page 282](#)
- [Reboot on page 283](#)
- [Restore to Factory Default Settings on page 283](#)
- [Update Firmware on page 284](#)
- [Download Logs on page 284](#)
- [Manage Certificates on page 285](#)
- [Manage Audio Profiles on page 286](#)
- [Download Configuration on page 287](#)
- [Upload Configuration on page 288](#)



Save Changes

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

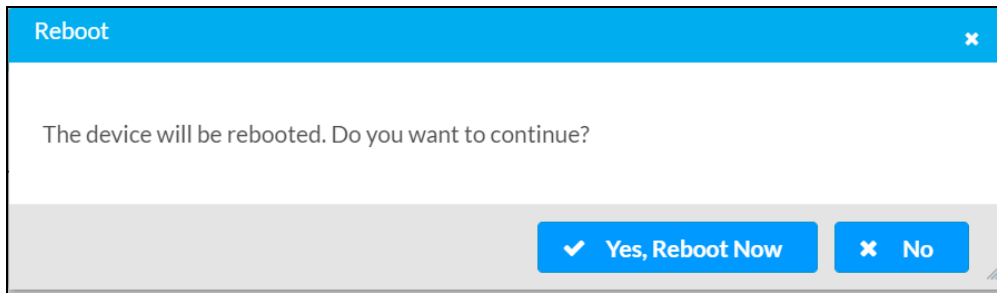
Revert

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

Reboot

Certain changes to the settings may require the DM-NAX-4ZSP to be rebooted to take effect. To reboot the device:

1. Select **Reboot** in the **Action** menu. The **Confirmation** message box appears.



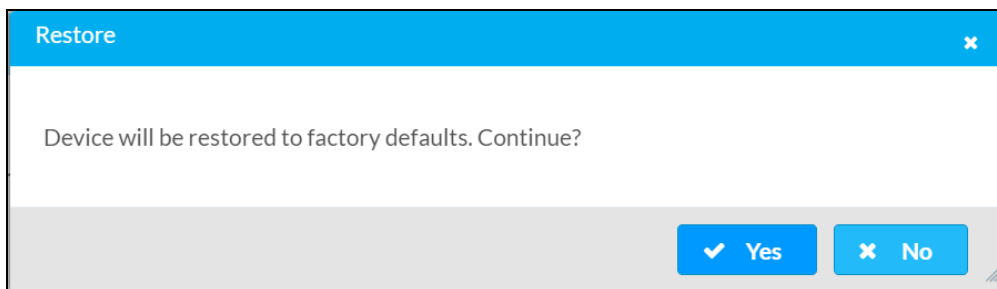
2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears. Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

CAUTION: This procedure should only be performed to recover an unresponsive device. Performing the **Restore** procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before proceeding, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

1. Select **Restore** in the **Action** menu to restore the settings of the DM-NAX-4ZSP to factory defaults.

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.



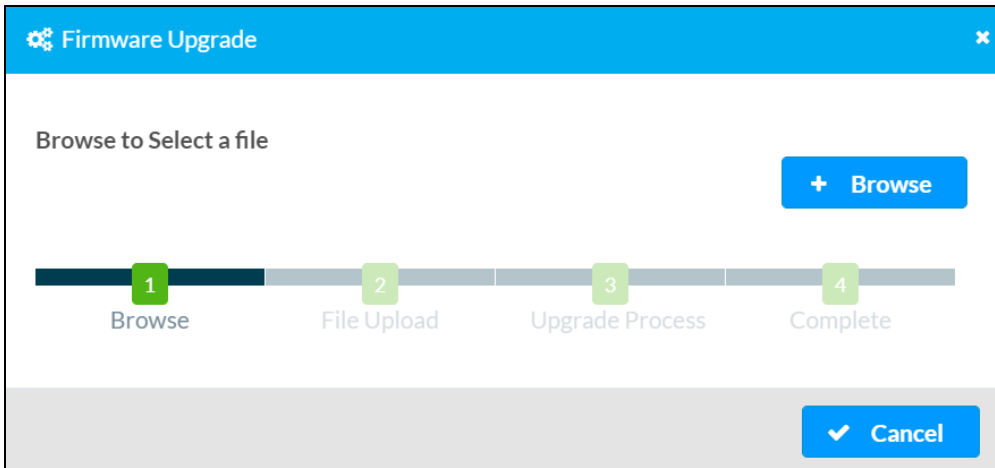
2. Select **Yes** in the **Confirmation** dialog to restore the DM-NAX-4ZSP to factory settings. Select **No** to cancel the restore operation.

A dialog is displayed again, indicating that the restore process was successful and that the device rebooted.

You can also restore to factory settings by pressing and holding the **SETUP** button on the rear panel of the device with power disconnected then connect the power supply and continue to hold **SETUP** button for 30 seconds.

Update Firmware

1. Select **Update Firmware** in the **Action** menu.
2. In the **Firmware Upgrade** dialog, select **+ Browse**.



3. Locate and select the desired firmware file, then select **Open**. The selected firmware file name is displayed in the **Firmware Upgrade** dialog.
4. Select **Load** and wait for the progress bar to complete and for **OK** to become selectable.
5. Select **OK**. The device with new firmware can now be accessed.

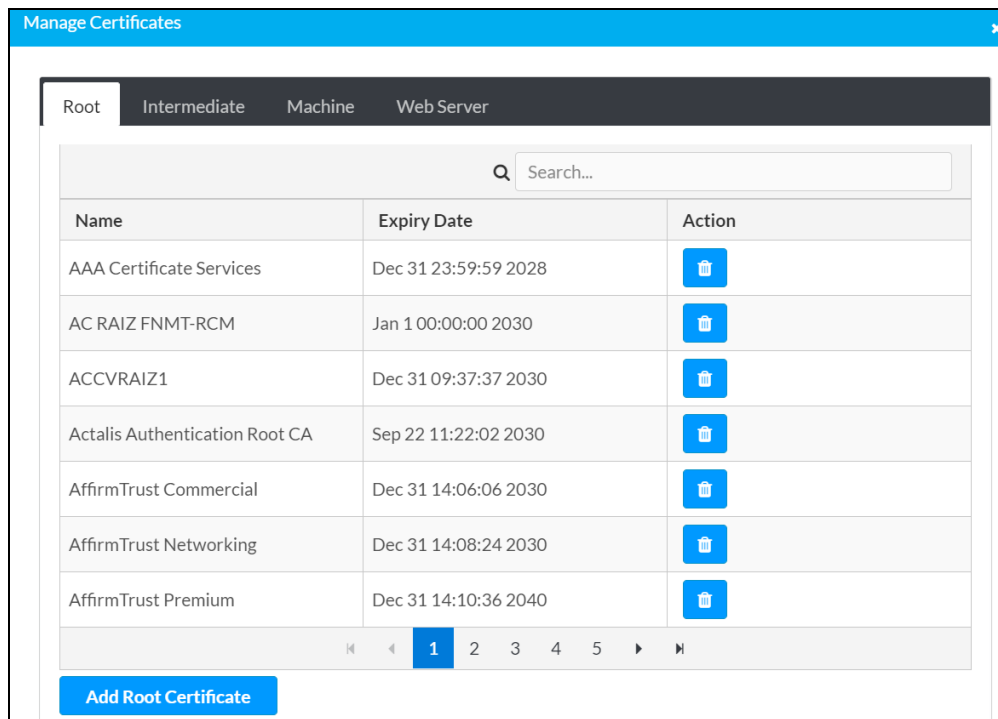
Download Logs

Select **Download Logs** in the **Action** menu to download the device message logs for diagnostic purposes.

The log file is downloaded to the Downloads folder of the PC.

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 **Action** menu. The following certificate tabs are displayed:

- **Root:** The Root certificate is used by the DM-NAX-4ZSP to validate the network's authentication server. The DM-NAX-4ZSP 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 DM-NAX-4ZSP. 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.

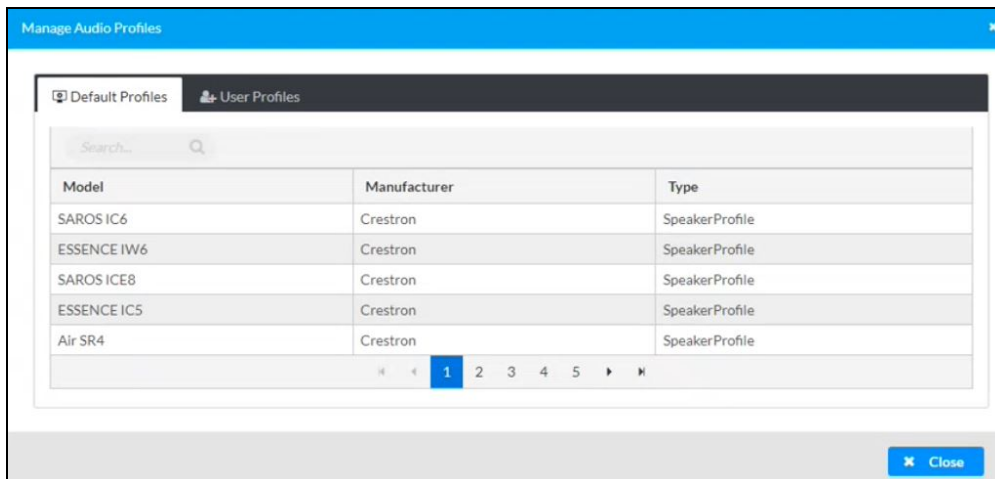
5. Select **OK**. This will add the certificate to the list box, displaying the file name and expiration date. The certificate is now available for selection and can be loaded to the device.

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.

Manage Audio Profiles

Use the **Manage Audio Profiles** dialog to add, remove, and manage the audio profiles of speakers.



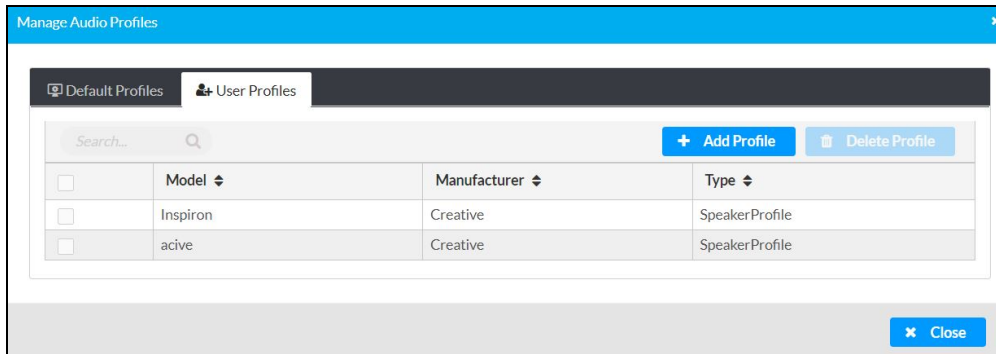
Select **Manage Audio Profiles** in the **Action** menu. The following audio profiles tabs are displayed, providing information such as **Model**, **Manufacturer**, and **Type** of the audio profiles:

- **Default Profiles:** Lists the default library of included audio profiles.
- **User Profiles:** Lists the custom, user loaded profiles, and allows them to be loaded and removed.

In the **Search** field, enter a name to search for a profile. The profile matching the search criteria is displayed.

NOTE: To create a custom audio profile, refer to [Knowledge Article 1001820](#).

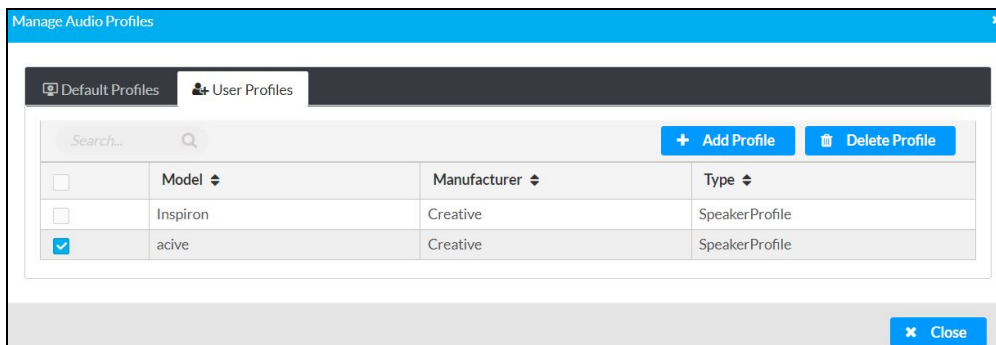
To Add an Audio Profile



1. Select the **User Profiles** tab.
2. Select **+ Add Profiles**.
3. Select **+ Browse**.
4. Locate and select the .prof file, then select **Open**.
5. Select **Upload**.
6. Select **OK**. This will add the profile to the list box.

The audio profile is now available for selection and can be applied.

To Delete an Audio Profile



1. Select the **User Profiles** tab.
2. Select the checkbox corresponding to the audio profile that needs to be deleted.
3. Select **Delete Profile**.

The audio profile is deleted.

Download Configuration

Select **Download Configuration** to download a TGZ file containing the settings data for the DM NAX device.

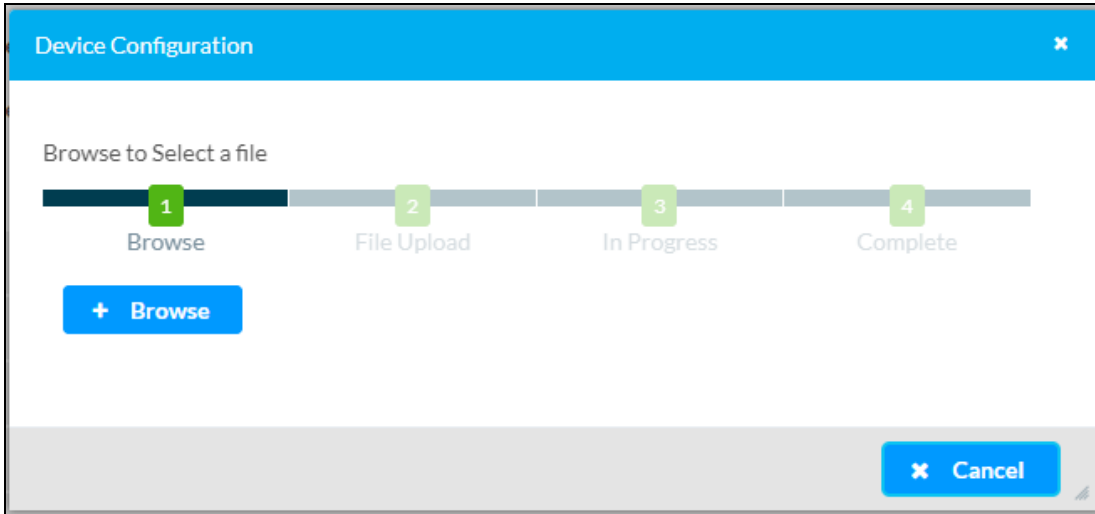
NOTE: User accounts for accessing the device, streaming service accounts, multicast addresses, and stream names are not saved in this configuration file.

Upload Configuration

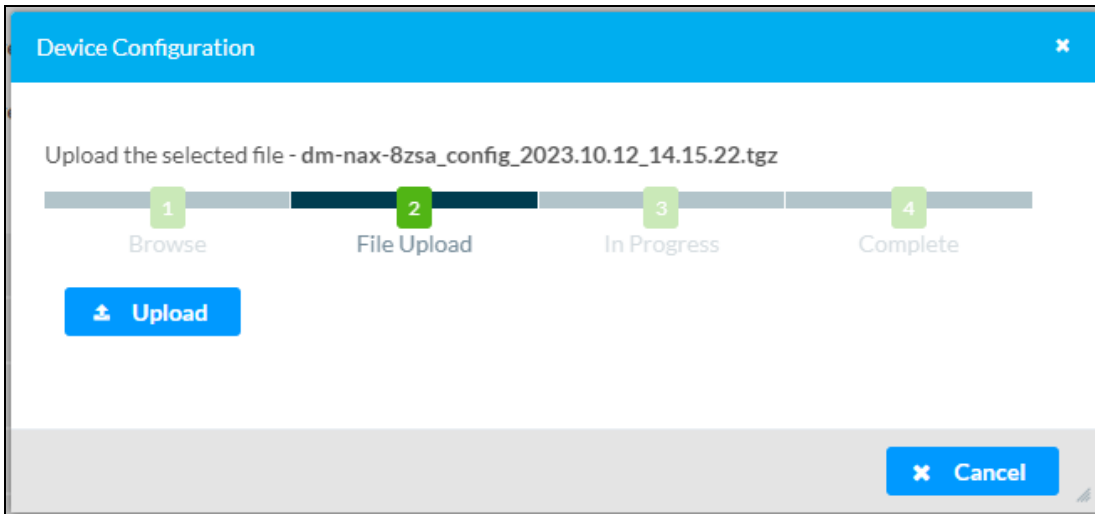
1. Select **Upload Configuration** to upload a TGZ file that will overwrite the current settings of the DM NAX device with a saved configuration.

CAUTION: Be sure to load a TGZ file for the same DM NAX device type while using the Load Configuration feature. For example, if loading a TGZ file to a DM-NAX-16AIN, be sure that the TGZ file originated from a DM-NAX-16AIN.

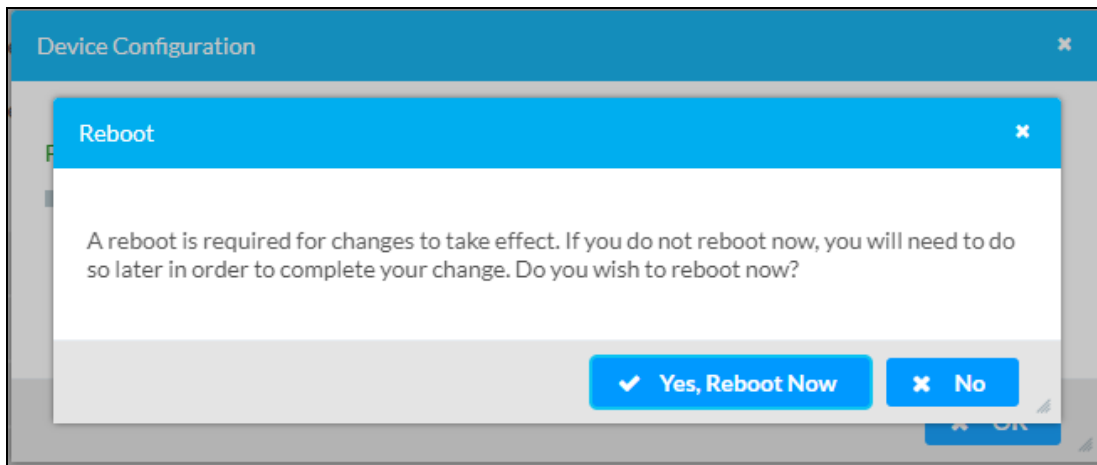
2. Select **Browse** to navigate to the desired TGZ file in your file browser. Select the file. then select **Open**.



3. Select **Upload** to begin the file upload process. A progress bar will indicate the status of the configuration file upload.



4. Once the upload is complete, the device will require a reboot. Select **Yes, Reboot Now** to begin the reboot, or select **No** to return to the web UI.

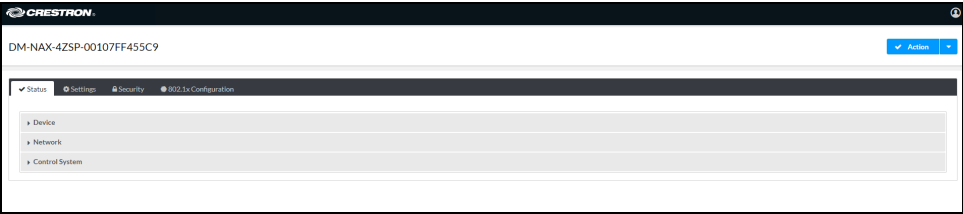


NOTE: Any changes made after the configuration file upload, but before a device reboot, may be overwritten when the device is rebooted.

Status

The **Status** page is the first page displayed when opening the interface of the DM-NAX-4ZSP. It displays general information about the DM-NAX-4ZSP (such as **Model Name**, **Firmware Version**, and **Serial Number**), current network settings (such as **Host Name** and **IP Address**, etc.), and input and output ports' current status.

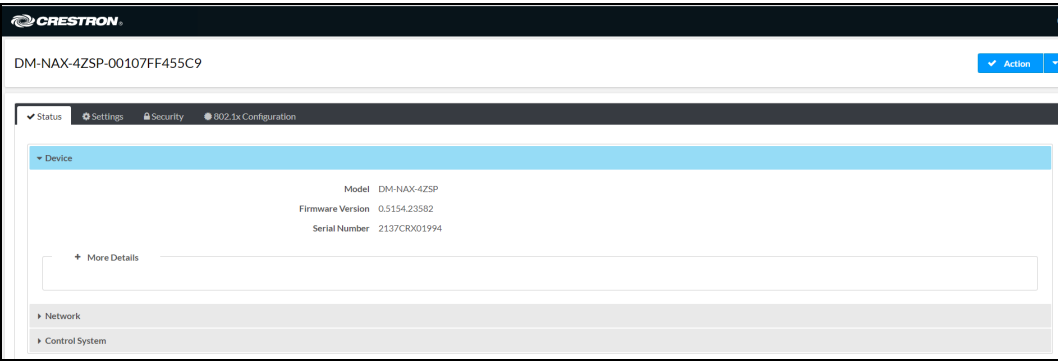
The **Status** page can be accessed at any time by selecting the **Status** tab of the DM-NAX-4ZSP interface.



Information displayed on the **Status** tab is organized into different sections.

Device

The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-4ZSP.



Select **+ More Details** to review additional information about the DM-NAX-4ZSP.

- More Details	
DM-NAX-4ZSP	0.5154.23582
Build	Feb 11 2022 (449289)
Updater	0.5154.23582
Bootloader	0.04.00
CCUI Version	1.602.877345
XIOSDK	3.8.0
IoTSDK	1.6.0
Build time	00:18:24
Product ID	0x7AFF
Revision ID	0x0400
ctrl-audio-dsp-0	FW v38 (Driver v3.9)
ctrl-audio-dsp-1	FW v38 (Driver v3.9)
ctrl-audio-fpga	FW v0.25 (Driver v1.2)
ctrl-sigma-dsp-0	FW v1.00 (Driver v1.1)
ctrl-sigma-dsp-1	FW v1.00 (Driver v1.1)
ctrl-hps-fpga	FW v1.20.2433093 (Driver v2.1)
PUF	Unknown
Forced Auth Mode	True

Network

The **Network** section displays network-related information about the DM-NAX-4ZSP, including the **Hostname**, **Domain Name**, and **DNS Servers**.

▼ Network	
Hostname	DM-NAX-4ZSP-00107FF455C9
Domain Name	crestronqelab.com
Primary Static DNS	10.254.64.12(DHCP)
Secondary Static DNS	192.168.200.133(DHCP)
- Adapter 1	
DHCP	On
IP Address	10.254.68.109
Subnet Mask	255.255.255.0
Default Gateway	10.254.68.1
Link Active	true
MAC Address	00:10:7f:f4:55:c9

NOTE: By default, the host name of the DM-NAX-4ZSP consists of the model name followed by the MAC address of the device. For example, DM-NAX-4ZSP-00107FF455C9.

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

NOTE: The + **Adapter 2** option appears when the dual Ethernet ports on the DM-NAX-4ZSP are set to isolate traffic using the **Port Selection** feature.

Control System

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

The screenshot shows the 'Control System' section of a web interface. At the top, there is a toggle for 'Encrypt Connection' set to 'OFF'. Below this is a section titled 'IP Table' which contains a table with the following columns: IP ID, Room ID, IP Address/Hostname, Type, Server Port, Connection, and Status. The table is currently empty, displaying the message 'No records found'.

IP ID	Room ID	IP Address/Hostname	Type	Server Port	Connection	Status
No records found						

- **Encrypt Connection:** Displays **ON** or **OFF**.
- **IP ID:** Displays the currently used IP ID of the DM-NAX-4ZSP.
- **IP Address/Hostname:** Displays the IP address or hostname of the control system.
- **Room ID:** Displays the room ID.
- **Status:** Displays **OFFLINE** or **ONLINE**.

Settings

The **Settings** page enables you to configure the DM-NAX-4ZSP settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the DM-NAX-4ZSP interface.



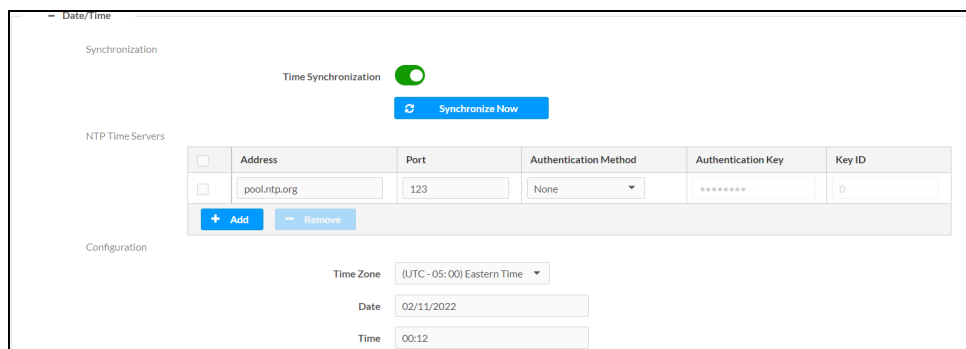
Settings available on the **Settings** page are organized into different sections.

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 DM-NAX-4ZSP.



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

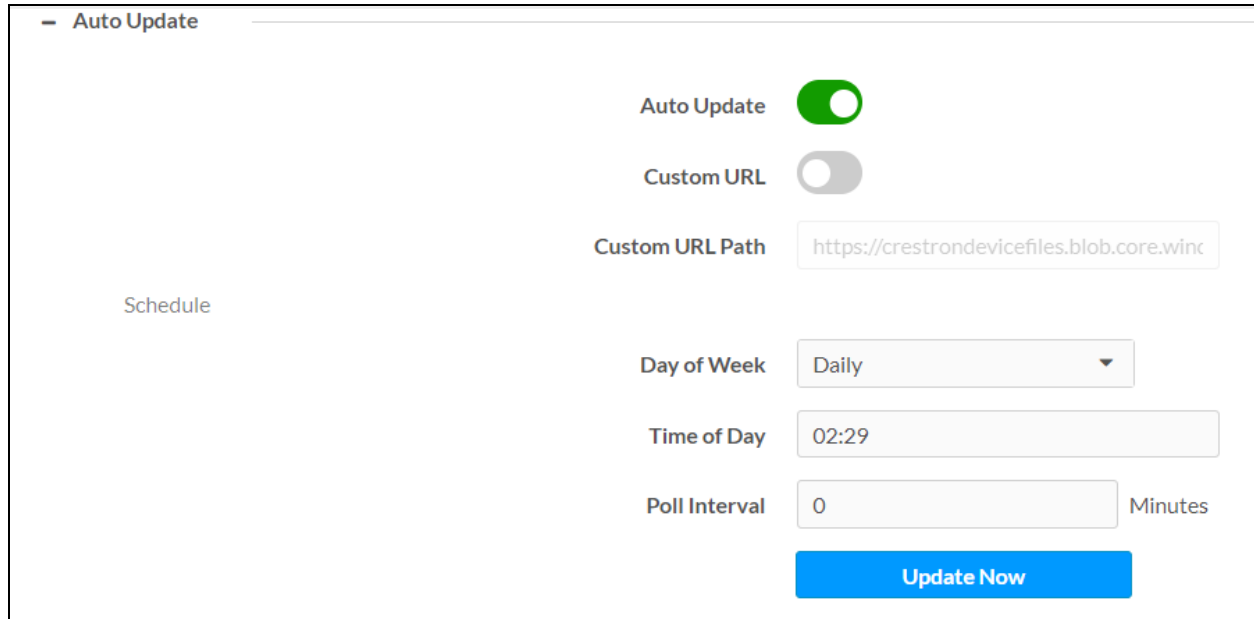
1. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-4ZSP can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.



The screenshot shows the 'Auto Update' configuration page. At the top left is a minus sign followed by the text 'Auto Update'. The page contains several settings: 'Auto Update' is a toggle switch that is turned on (green); 'Custom URL' is a toggle switch that is turned off (grey); 'Custom URL Path' is a text input field containing the URL 'https://crestrondevicefiles.blob.core.winc'; 'Schedule' is a section header on the left; 'Day of Week' is a dropdown menu set to 'Daily'; 'Time of Day' is a text input field set to '02:29'; 'Poll Interval' is a text input field set to '0' with a 'Minutes' label to its right; and at the bottom right is a blue button labeled 'Update Now'.

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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 DM-NAX-4ZSP, including the **Hostname**, **Domain**, **Primary Static DNS**, and **Secondary Static DNS**.

▼ Network

Hostname	DM-NAX-4ZSP-00107FF455C9
Domain Name	crestronqelab.com
Primary Static DNS	10.254.64.12(DHCP)
Secondary Static DNS	192.168.200.133(DHCP)

— Adapter 1

DHCP	On
IP Address	10.254.68.109
Subnet Mask	255.255.255.0
Default Gateway	10.254.68.1
Link Active	true
MAC Address	00.10.7f.f4.55.c9

NOTE: By default, the hostname of the DM-NAX-4ZSP consists of the model name followed by the MAC address of the device. For example, DM-NAX-4ZSP-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTES:

- An **+ Adapter 2** option only appears when the dual Ethernet ports on the DM-NAX-4ZSP are set to isolate traffic using the **Port Selection** feature. The settings for **Adapter 2** are identical to those available for **Adapter 1**.
- DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-4ZSP is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the DM-NAX-4ZSP 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 DM-NAX-4ZSP.

- **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

<input type="checkbox"/>	IP ID	IP Address/Hostname	Room ID
<input type="checkbox"/>	12	10.88.17.15	23
<input type="checkbox"/>	13	10.88.87.13	23
<input type="checkbox"/>	99	10.88.12.17	22
<input type="checkbox"/>	8B	CP4-R-00107FB9E0CC	Room ID

1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-4ZSP in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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.

Commissioning

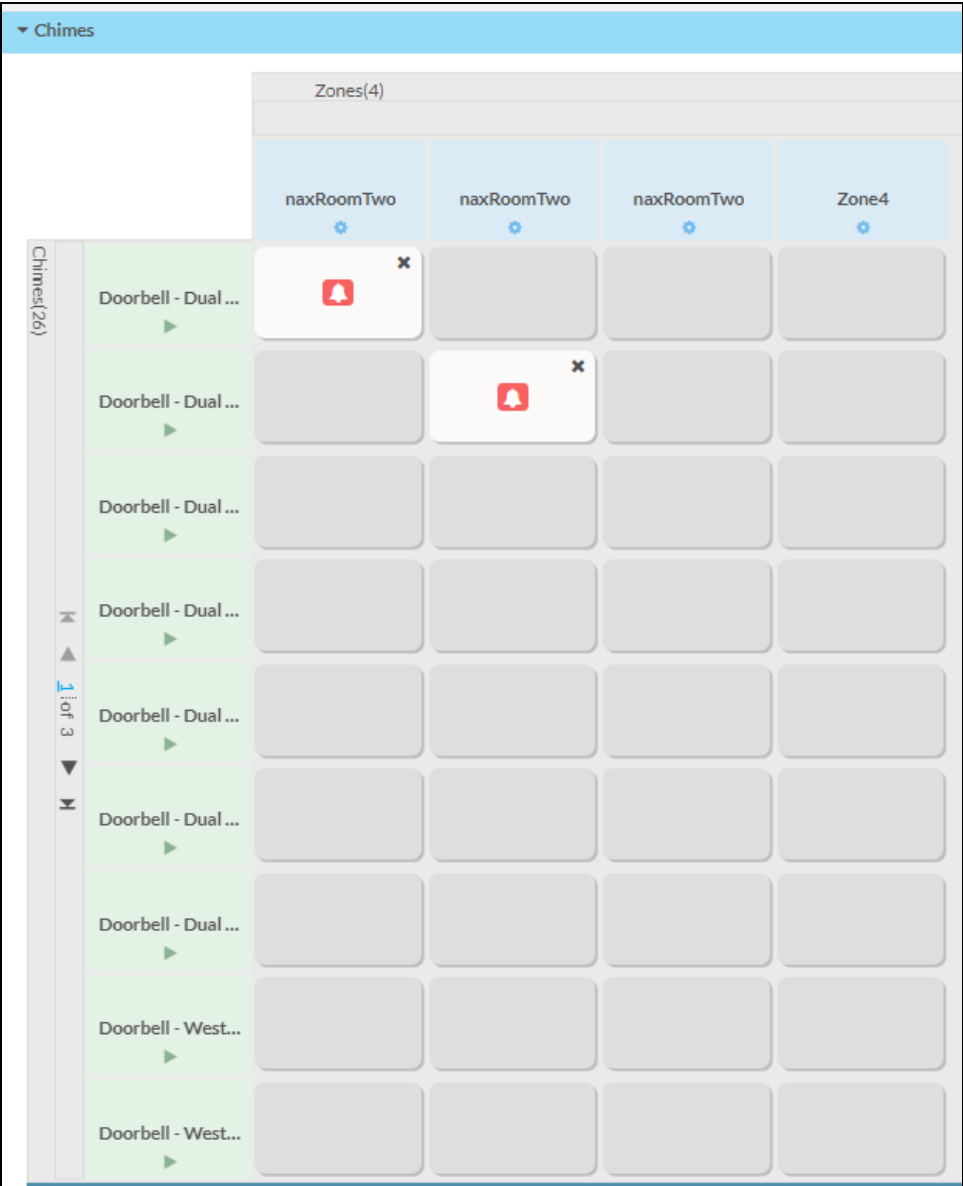
The **Commissioning** section provides a quick way to automatically assign multicast addresses to all of the device's internal audio-over-IP stream transmitters.

Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-4ZSP a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.255.255.239.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.


Chimes

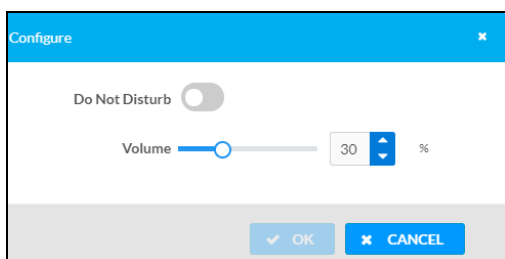
The **Chimes** section allows the built-in chime files to be assigned to any of the output zones on the device.



For each chime file, select the cells corresponding to the desired Zones for playback of that specific chime sound. You can assign multiple chimes to the same zone. To view all available chimes, use the ▲ or ▼ arrows at the left of the matrix to change pages.

To configure the chime volume of a zone:

1. Select the  icon corresponding to the zone. A **Configure** window appears.






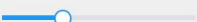

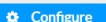



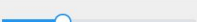

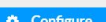
2. To set the volume, do one of the following:
 - Move the **Volume** slider to the right to increase or to the left to decrease the chime volume.
 - Use the **%** arrows to increase or decrease the chime volume. Values range from 0 to 100%, adjustable in increments of 1%.
 - Manually enter a value in the **Volume** field.

NOTE: The chime volume is independent of the zone volume control.

3. Set the **Do Not Disturb** toggle to the right to mute all chimes for the zone. Set the **Do Not Disturb** toggle to the left to unmute the chimes.
4. Select **OK** to apply the new settings.

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.

Zones				
Zones (Autosaved)				
Global Filter <input type="text"/>				
Name	Volume	Mute	Action	
Zone_01	 30 %	 Mute		
Zone_02	 30 %	 Mute		
Zone_03	 30 %	 Mute		
Zone_04	 30 %	 Mute		

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.

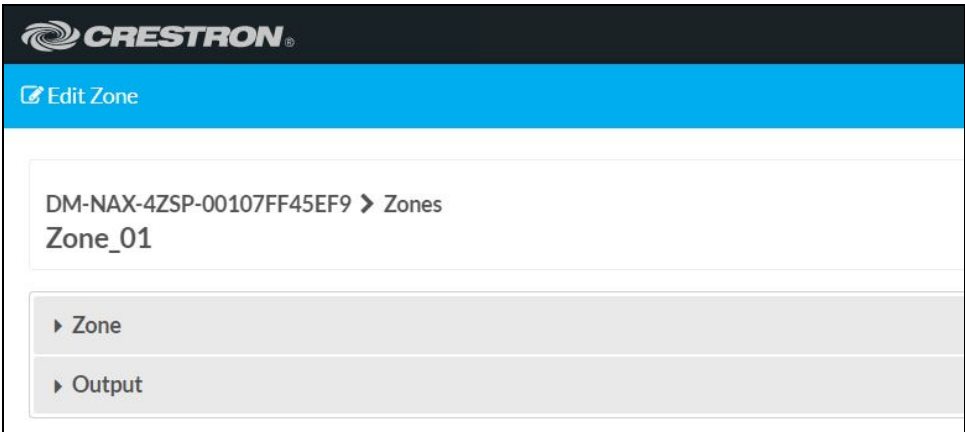
To configure the zone volume, do one of the following:

- 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. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

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

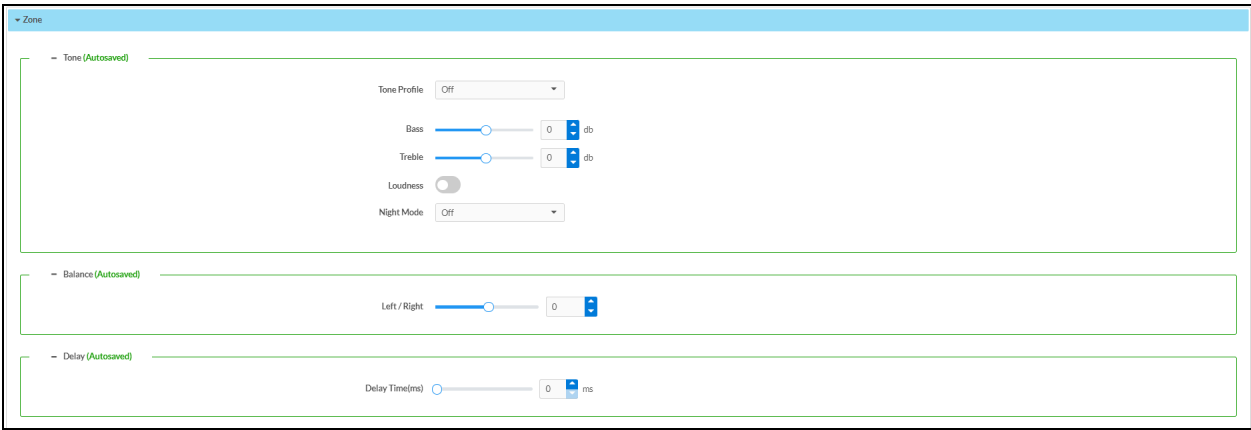
Zone Settings

To configure zone settings, select **Configure** ( **Configure**). The **Edit Zone** window appears.

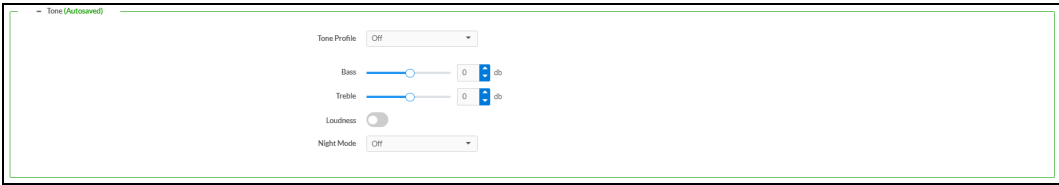


Zone

Select **Zone** to configure **Tone (Autosaved)**, **Balance (Autosaved)**, and **Delay (Autosaved)**.



Tone

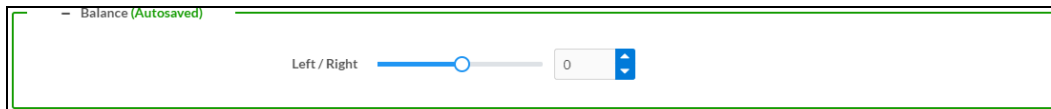


The **Tone** section provides adjustments for the **Tone Profile**, **Bass**, **Treble**, **Loudness**, and **Night Mode** settings of the zone output.

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. The available options are **Off**, **Classical**, **Jazz**, **Pop**, **Rock**, and **Spoken Word**. By default, **Off** is selected.
2. **Bass**: 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.
 - Use the **db** arrows to increase or decrease the bass level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Bass** field.
3. **Treble**: 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.
 - Use the **db** arrows to increase or decrease the treble level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Treble** field.
4. To enable the loudness setting on the zone output, slide the **Loudness** switch to the right. To disable loudness, slide the **Loudness** switch to 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. The available options are **Off**, **Low**, **Medium**, and **High**. By default, **Off** is selected.

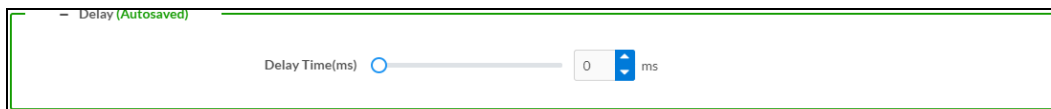
Balance



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. 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.

Delay



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. Values range from 0 ms to 250 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume**, **Stereo/Mono**, **Signal**, **Bussing**, **Volume Offset**, **Configure Speaker Profile**, **Speaker Configuration**, **Casting**, **Line Out**, **Signal Generator**, **Advanced Signal Generator**, and **Equalizer Settings**.

The screenshot shows the 'Output' settings menu. It contains three sections: 'Minimum / Maximum (Autosaved)' with sliders for Minimum (0%), Maximum (100%), and Default (30%); 'Stereo / Mono (Autosaved)' with radio buttons for Stereo (selected) and Mono, and a 'Zone Configuration' dropdown set to 'Standard'; and 'Signal (Autosaved)' with a 'Signal' status indicator showing 'Not Present'.

Minimum/Maximum Volume

This screenshot shows the 'Minimum / Maximum (Autosaved)' section in detail. It features three sliders: 'Minimum' set to 14%, 'Maximum' set to 86%, and 'Default' set to 27%. Each slider has a corresponding numerical input field and a percentage sign.

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. Values range from 0 to 50%, adjustable in increments of 1%.
 - Manually enter a value in the **Minimum** field.
2. 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. Values range from 51 to 100%, adjustable in increments of 1%.
 - Manually enter a value in the **Maximum** field.

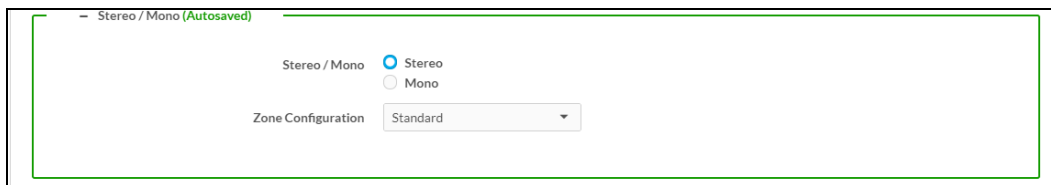
NOTE: When a **Minimum** and **Maximum** volume are set, the 1-100% range represented by the **Zone** and **Default** volume controls are scaled to the range set. For example, if a **Minimum** of 10% and a **Maximum** of 80% are set for a zone, the 1-100% range of the **Zone** volume control is scaled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

3. 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. Values range from 0 to 50%, adjustable in increments of 1%.
- 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.

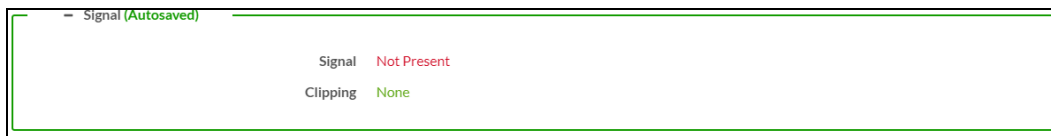
Stereo/Mono



1. Select either **Stereo** or **Mono** from the **Stereo/Mono** field.

NOTE: The **Zone Configuration** field is reserved for future use on the DM-NAX-4ZSP. Currently, the only available value is **Standard**.

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.

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. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
- Manually enter a value in the **Bussing Volume Offset** field.

Configure Speaker Profile

The DM-NAX-4ZSP has a library of built-in speaker profiles that contain equalizer and maximum output level settings specific to Crestron and third-party speaker models. Custom speaker profiles can also be generated and loaded to the DM-NAX-4ZSP. The **Configure Speaker Profile** field is used to apply these speaker profiles to a given zone of the DM NAX device.

NOTE: Applying a speaker profile on a zone will overwrite the existing **Speaker Configuration** and **Equalizer** settings for that zone.

Applied Manufacturer Crestron
Applied Model SAROS ICE4

Global Filter

Model	Manufacturer
<input type="radio"/> Air LS4	Crestron
<input type="radio"/> Air LS6	Crestron
<input type="radio"/> Air SR4	Crestron
<input type="radio"/> Air SR6	Crestron
<input type="radio"/> Air SR8	Crestron

1 of 9

Apply

In the **Global Filter** field, enter the speaker's model name to search for its associated profile. Any speaker profiles matching the search criteria are displayed.

To apply a speaker profile:

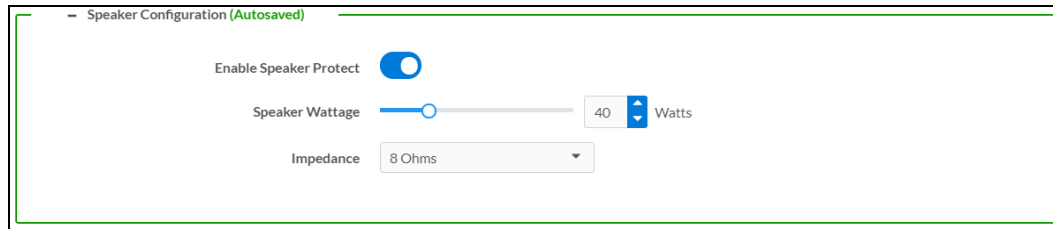
1. Select a speaker profile.
2. Select **Apply**.

The equalizer, impedance, and speaker protection settings of the zone are updated as per the applied speaker profile.

After applying a speaker profile, the **Speaker Configuration** and **Equalizer** settings for the zone can still be edited. The **Configure Speaker Profile** section will display a notification if these settings were altered after the speaker profile was applied.

Profile settings have been locally altered

Speaker Configuration



Speaker Configuration (Autosaved)

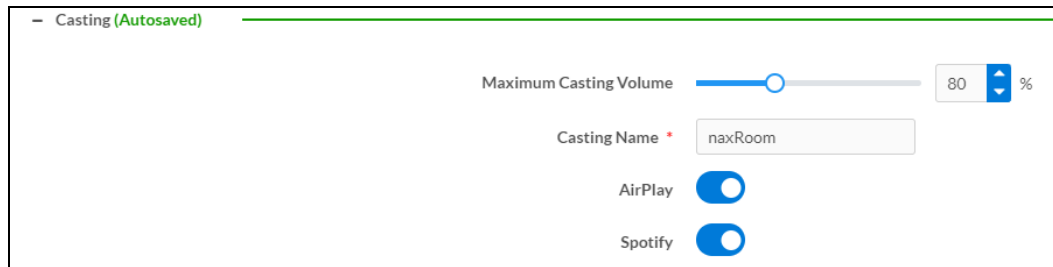
Enable Speaker Protect ☒

Speaker Wattage 40 Watts

Impedance

1. Set the **Enable Speaker Protect** toggle to the right position to enable speaker protection for the zone output. Set the toggle to the left position to disable speaker protection. By default, **Enable Speaker Protect** is set to the left position.
2. To set the maximum output wattage, do one of the following:
 - Move the **Speaker Wattage** slider to the right to increase or to the left to decrease the maximum peak amplifier wattage that can be output to the speaker.
 - Use the **Watts** arrows to increase or decrease the maximum peak amplifier wattage that can be output to the speaker. Values range from 5 W to 150 W, adjustable in increments of 1 W.
 - Manually enter a value in the **Speaker Wattage** field.

Casting



Casting (Autosaved)

Maximum Casting Volume 80 %

Casting Name *

AirPlay ☒

Spotify ☒

The Casting section is used to enable or disable the ability of third-party devices to cast audio to the DM NAX output zone, as well as set a maximum casting volume and friendly name for the zone.

To configure Casting:

1. **Maximum Casting Volume** is an alternate value for the **Maximum** volume set under [Minimum/Maximum Volume on page 301](#), applied to the zone only when a casting service is routed to it. To set the maximum casting volume, do one of the following:
 - Move the **Maximum Casting Volume** slider right to increase or left to decrease the maximum volume.
 - Use the arrows to increase or decrease the maximum casting volume. Values range from 51% to 100%, adjustable in increments of 1%.
 - Manually enter a value in the **Maximum Casting Volume** field.

NOTE: If the **Maximum Casting Volume** value is higher than the regular **Maximum** volume value, the **Maximum** value will be applied instead.

2. A custom casting name (for example, "Living Room") must be entered so that a name for the zone will be displayed in the list of available casting destinations when initiating a stream. Enter this friendly name in the **Casting Name** field.

NOTE: Ensure that the **Casting Name** field is populated as any field with an asterisk (*) is mandatory.

Once AirPlay® and/or Spotify Connect™ are enabled, this name will be displayed as an available destination on the casting device.

The DM-NAX-4ZSP supports Apple AirPlay 2 casting.

To stream media from an iOS® device to a zone on the DM-NAX-4ZSP via AirPlay casting:

1. Ensure that the iOS device and DM-NAX-4ZSP are on the same network.

NOTE: If **Port Selection** is enabled on the DM-NAX-4ZSP, AirPlay will use the port specified for Control/Media traffic.

2. Set the **AirPlay** toggle to the right position to enable AirPlay casting to the zone's associated media player.
3. On your iOS device:
 - a. Enable AirPlay.
 - b. From the list of available AirPlay destinations, select the DM-NAX-4ZSP media player you would like to stream to. The iOS device will cast the streaming audio to the selected media player.

NOTE: By default, media players 1-5 route to their respectively numbered output zones 1-5 if they are not already routed to any other zones when casting playback begins. For example, the audio from the media player 5 will be routed to output zone 5 if an AirPlay casting session on media player 5 starts and it is not already routed to another zone.

- c. After the AirPlay stream begins, control the volume of the streaming DM-NAX-4ZSP output zone directly from your iOS device.

Set the **AirPlay** toggle to the left to disable AirPlay casting for a DM-NAX-4ZSP media player.

The DM-NAX-4ZSP supports Spotify Connect™ casting.

To stream media to a zone on the DM-NAX-4ZSP via Spotify Connect casting:

1. Ensure that the casting device and DM-NAX-4ZSP are on the same network.

NOTE: If **Port Selection** is enabled on the DM-NAX-4ZSP, Spotify Connect will use the port specified for Control/Media traffic.

2. Set the **Spotify Connect** toggle to the right position to enable Spotify Connect casting to the zone's associated media player.

3. On the casting device:
 - a. Open the Spotify application.
 - b. Enable Spotify Connect casting.
 - c. From the list of available casting destinations, select the DM-NAX-4ZSP media player you would like to stream to. The device will cast the streaming audio to the selected media player.

NOTE: By default, media players 1-5 route to their respectively numbered output zones 1-5 if they are not already routed to any other zones when casting playback begins. For example, the audio from the media player 5 will be routed to output zone 5 if a Spotify Connect casting session on media player 5 starts and it is not already routed to another zone.

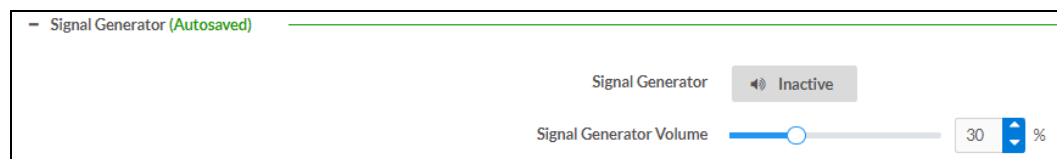
- d. After the Spotify Connect stream begins, control the volume of the streaming DM-NAX-4ZSP output zone directly from the Spotify application on the casting device.

Set the **Spotify Connect** toggle to the left to disable Spotify Connect casting for a DM-NAX-4ZSP media player.

To stream media from a Roon® streaming device to a zone in your distributed audio system:

1. Enable Apple AirPlay casting for each DM NAX zone.
2. Launch the Roon desktop app.
3. Open the Roon app menu and navigate to the **Settings** submenu, then select **Audio**. A table of discovered network devices that the Roon device can stream to will be displayed. Any devices that previously have been enabled for Roon casting are listed under the **Connected to Core** section, and the rest of the discovered devices are listed under **Other network devices**.
4. Find each of the DM NAX zones in the **Other network devices** list, then select **Enable** for each zone to connect it to the Roon Core® for casting.
5. Return to the Roon app home page and select the speaker icon at the bottom right. Select a DM NAX zone from the list of available casting destinations. With a zone selected, start a media stream, and the Roon device will cast the streaming audio to the zone.

Signal Generator



The DM-NAX-4ZSP 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.

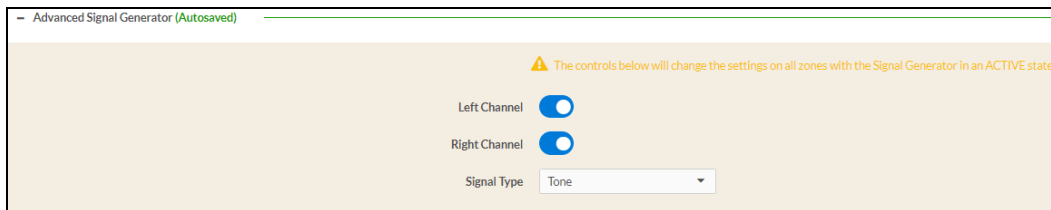
1. To route the signal generator to the zone output, select **Signal Generator** so that it displays **Active** and is highlighted in blue. To unroute the signal generator on the zone output, select **Signal Generator** so that it displays **Inactive** and is highlighted in grey. By default, the signal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

NOTES:

- There is only one signal generator built-in to the DM NAX device. Each zone has its own button 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.
- The **Signal Generator Volume** control 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. 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. Values range from 0 to 100, adjustable in increments of 1.
 - 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 DM NAX 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.

1. 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.
2. 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.
3. Select an audio test signal type from the **Signal Type** drop-down. 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

Equalizer Settings (Autosaved)

Speaker EQ Enabled ☒

Band	Band01	Band02	Band03	Band04	Band05	Band06	Band07	Band08	Band09	Band10
Gain										
	0	0	0	0	0	0	0	0	0	0
Type	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ
Frequency	32	64	125	250	500	1000	2000	4000	8000	16000
Bandwidth	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Actions	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset

Each zone output of the DM-NAX-4ZSP has a dedicated ten-band equalizer that can be fully customized to tune the zone 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. With the **Speaker EQ Enabled** toggle in the right position, configure the equalizer bands.
 - a. To set a band's gain, do one of the following:
 - Move the **Gain** slider up to increase or down to decrease the gain.
 - Use the arrows to increase or decrease the gain. Values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Gain** field.

- b. Select a filter type from the **Type** drop-down. 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. To set the center frequency, do one of the following:
- Use the arrows to increase or decrease the frequency. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. 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. To set the bandwidth, do one of the following:
- Use the arrows to increase or decrease the bandwidth. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave.
 - 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.

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 up to two buses on the DM-NAX-4ZSP.

Global Filter		
Name	Bus Id	Included Zones
Bus01	1	Choose Zones
Bus02	2	Choose Zones

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.

NOTE: Each zone can be a member of only one bus. Any zones that are already a member of another bus will not be shown in the **Included Zones** drop-down.

Inputs

The **Inputs** menu is used to configure **Name**, **Compensation**, and **Mute** attributes of the available analog, digital, and media streaming inputs on the DM-NAX-4ZSP.

A total of 12 inputs are available on the DM-NAX-4ZSP, including the 8 physical input connectors on the device's rear panel and the 4 internal media players used for media streaming services.


Name	TOSLINK1	TOSLINK2	S/PDIF1	S/PDIF2	RCA1	RCA2	RCA3	RCA4
Gain (db)								
Signal Present								
Clipping Detected								
Mute								

Configure Inputs

1. If needed, enter a friendly name for each input in its **Name** field.
2. To set a level compensation adjustment for a given input, do one of the following:
 - Move the **Compensation** slider up to increase or down to decrease the compensation. Compensation increases or decreases the level of the incoming audio signal on any of the physical inputs on the device's rear panel. Compensation is not available for any of the internal media players.
 - Use the **db** arrows to increase or decrease the compensation. Values range from -10 dB to 10 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Compensation** field.
3. To mute the signal from the corresponding input, select **Mute**. To disable the mute, select **Muted**. By default, **Mute** is disabled.

Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- **Signal Presence** indicates whether or not a signal is detected in that zone.
- **Clipping Detected** indicates if the signal is **Clipping** or **Nominal** (non-clipping).

Use the **Global Filter** text field to filter specific inputs by name. Not all of the available inputs are shown on the first page in this section when no **Global Filter** is applied. Use  at the bottom of the table to view the next page of inputs.

DM NAX Streams

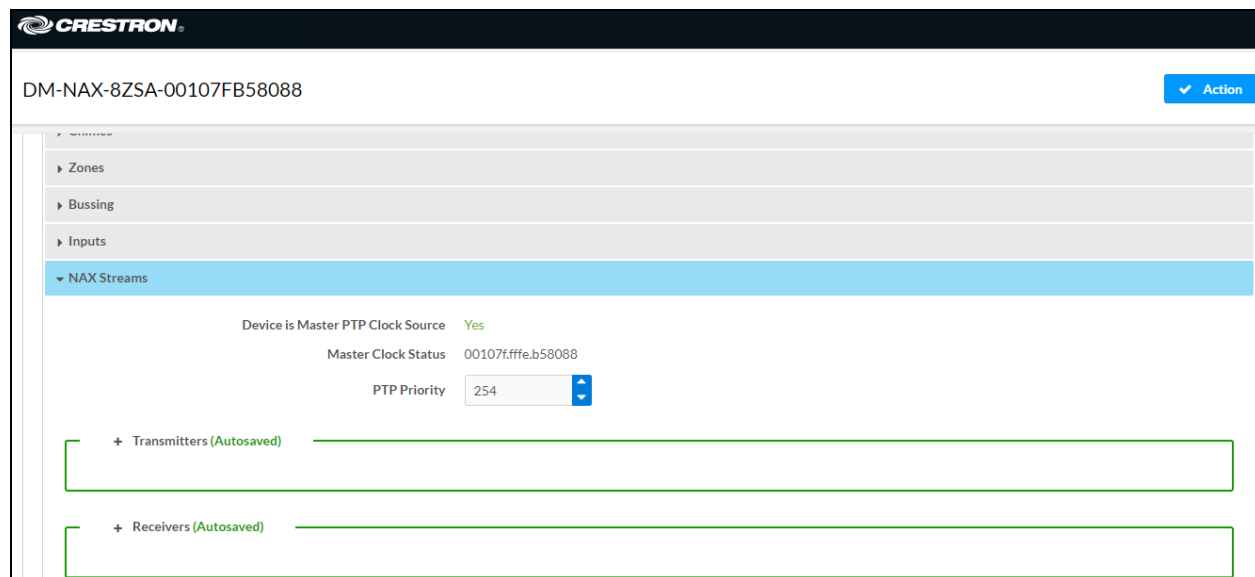
Each local input of the DM-NAX-4ZSP can be made available as a DM NAX audio-over-IP stream. This includes the eight physical inputs on the rear panel of the device and the four internal media players.

The DM-NAX-4ZSP also supports parallel DM NAX streams for each zone output, enabling an additional transmit stream per output to mirror all routes and DSP settings of its respective zone. These parallel streams enable control of the audio signal to third-party uncontrolled AES67 devices receiving audio from the DM-NAX-4ZSP.

NOTES:

- Under the **Transmitters** section (see [Configure Transmitters](#)), the last four listed transmitters are dedicated to parallel zone outputs.
- To configure the DSP settings, refer to [Zone Settings](#).

Select **NAX Streams** to expand the tab and display the following information.



The screenshot shows the Crestron configuration interface for device DM-NAX-8ZSA-00107FB58088. The 'NAX Streams' tab is selected and expanded. The interface displays the following information:

- Device is Master PTP Clock Source:** Yes (in green)
- Master Clock Status:** 00107f:ffe.b58088
- PTP Priority:** 254 (with a dropdown arrow)
- Transmitters (Autosaved):** A green-bordered box containing a list of transmitters.
- Receivers (Autosaved):** A green-bordered box containing a list of receivers.

- **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 DM-NAX-4ZSP 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:** This 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 DM-NAX-4ZSP 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 Transmitters

NAX Streams					
Device is Master PTP Clock Source: No					
Master Clock Status: 001071fff,9cc314					
PTP Priority: 254					
Transmitters (Autosaved)					
Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
Digital Input 1	Stream01	0.0.0.0	TOSLINK100.10.71b5.80.88	Stream Stopped	▶ ◻ ⚙
Digital Input 2	Stream02	0.0.0.0	TOSLINK200.10.71b5.80.88	Stream Stopped	▶ ◻ ⚙
Digital Input 3	Stream03	239.8.0.32	S/PDIF1300.10.71b5.80.88	Stream Started	▶ ◻ ⚙
Digital Input 4	Stream04	0.0.0.0	S/PDIF2400.10.71b5.80.88	Stream Stopped	▶ ◻ ⚙
Analog Input 5	Stream05	0.0.0.0	RCA1500.10.71b5.80.88	Stream Stopped	▶ ◻ ⚙
Analog Input 6	Stream06	0.0.0.0	RCA2600.10.71b5.80.88	Stream Stopped	▶ ◻ ⚙
Analog Input 7	Stream07	0.0.0.0	RCA3700.10.71b5.80.88	Stream Stopped	▶ ◻ ⚙
Analog Input 8	Stream08	0.0.0.0	RCA4800.10.71b5.80.88	Stream Stopped	▶ ◻ ⚙

NOTE: To configure transmitters not shown on the current page of the table, select the ▶ icon to display the next page of eight transmitters.

To configure a DM NAX transmit stream:

1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon ⚙ in the **Actions** column. The **Configure** dialog appears:

Configure

Auto Initiation

Port

5004

OK

CANCEL

5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.

6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

Configure Receivers

Receivers (Autosaved)						
Zone Name	Stream	Current Stream Address	Requested Stream Address		Status	Actions
Zone1	Stream01	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙
Zone2	Stream02	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙
Zone3	Stream03	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙
Zone4	Stream04	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙
Zone5	Stream05	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙
Zone6	Stream06	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙
Zone7	Stream07	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙
Zone8	Stream08	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ◻ ⚙

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 configure icon ⚙ in the **Actions** column. The **Configure** dialog appears:

Configure

Auto Initiation

Port

5004

✓ OK

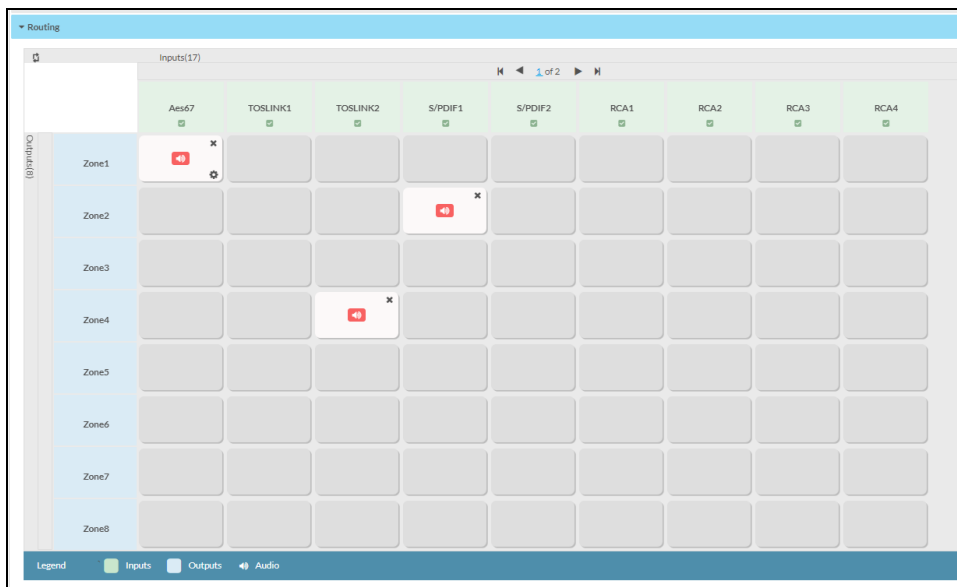
✕ CANCEL

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. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Routing

The **Routing** page is used to route a local input, media player, or AES67 stream to a zone on the DM-NAX-4ZSP.

NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).

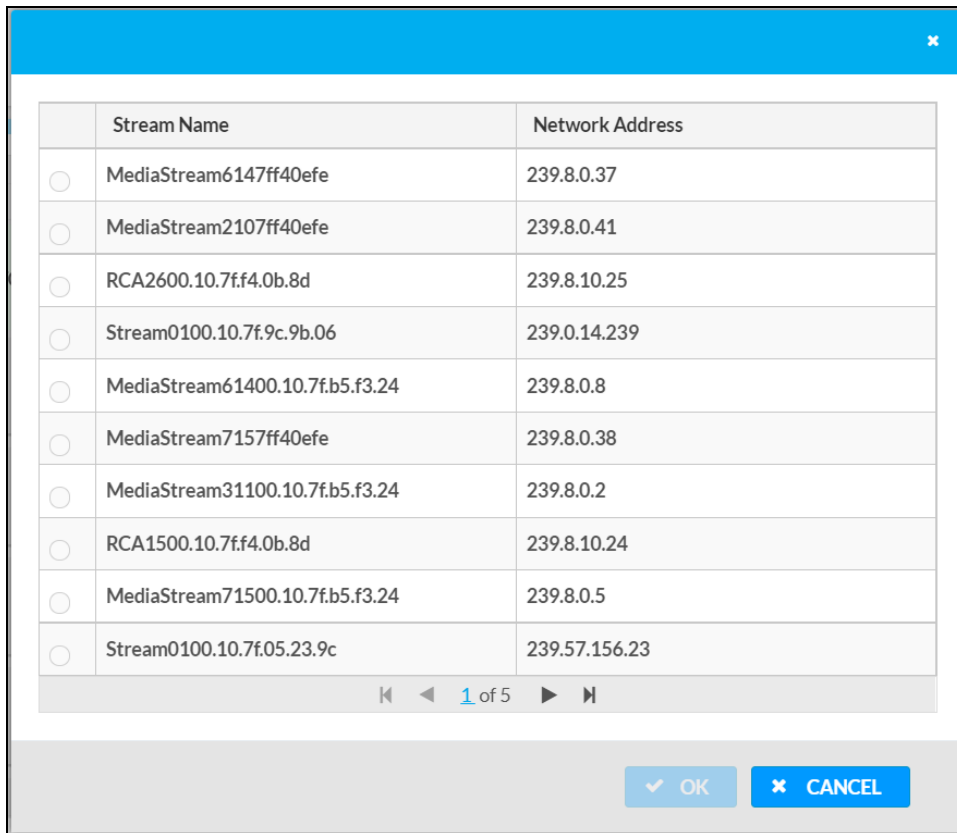


- To route an input to a zone, select the box in the routing matrix where the zone's row overlaps the corresponding input's column. Once a route is made, appears.
- To break a given route, select or .
- To route a single input to all zones, select the icon under the input's name.

Use the arrows (or) at the top of the matrix to change pages to view all available inputs.

To select a specific NAX/AES67 stream when AES67 is selected as the source for a zone:

- Select the gear icon ⚙ to display the list of all DM NAX/AES67 streams discovered on the network, then select the corresponding stream to be routed to the zone.



	Stream Name	Network Address
<input type="radio"/>	MediaStream6147ff40efe	239.8.0.37
<input type="radio"/>	MediaStream2107ff40efe	239.8.0.41
<input type="radio"/>	RCA2600.10.7f.f4.0b.8d	239.8.10.25
<input type="radio"/>	Stream0100.10.7f.9c.9b.06	239.0.14.239
<input type="radio"/>	MediaStream61400.10.7f.b5.f3.24	239.8.0.8
<input type="radio"/>	MediaStream7157ff40efe	239.8.0.38
<input type="radio"/>	MediaStream31100.10.7f.b5.f3.24	239.8.0.2
<input type="radio"/>	RCA1500.10.7f.f4.0b.8d	239.8.10.24
<input type="radio"/>	MediaStream71500.10.7f.b5.f3.24	239.8.0.5
<input type="radio"/>	Stream0100.10.7f.05.23.9c	239.57.156.23

1 of 5

OK CANCEL

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

Streaming Services

The DM-NAX-4ZSP features four built-in media streaming players, each of which can play back a discrete media stream from a cloud-based service or local casting device. User profiles can be created for each user of the DM NAX device with discrete credentials, enabling multiple users access to media streaming services without interfering with other users' recommendations, favorites, or playlists.

NOTE: Levels for each streaming service provider can be adjusted individually via console commands. Refer to [Knowledge Article 3144](#) for more information.

Set the **End User Access** toggle to the right position to enable **End User Access**. With **End User Access** enabled, any account on the device can access the **Streaming Services** accordion to add or remove streaming service accounts. Set the toggle to the left position to disable end user access. By default, **End User Access** is disabled.

Streaming Services







End User Access

User Profiles (Autosaved)

Profile Name

Test

Services

Actions

Delete











Services

Add User Profile

To configure streaming service providers:

1. Select **+ Add User Profile** to create a new user profile. Each user profile can contain a unique set of streaming service accounts.
2. Enter a name in the **Profile Name** field. Select **Save** to create the **User Profile**. Once the profile is created, you have the option to either **Delete** the profile, or add **Services** to it.
3. Select **Services** in the **Action** column and an **Edit Services** window appears.

Edit Services

Service Name	Actions
 TIDAL	<div>+</div> <div></div> <div>+</div> <div>×</div>
 Deezer	<div>+</div> <div></div> <div>+</div> <div>×</div>
 Qobuz	<div>+</div> <div></div> <div>+</div> <div>×</div>
 SoundMachine	<div>+</div> <div></div> <div>+</div> <div>×</div>
 Apple Music	<div>+</div> <div></div> <div>+</div> <div>×</div>
 SiriusXM	<div>+</div> <div></div> <div>+</div> <div>×</div>
 Pandora	<div>+</div> <div></div> <div>+</div> <div>×</div>
 Internet Radio	<div>+</div> <div></div> <div>+</div> <div>×</div>
 Podcasts	<div>+</div> <div></div> <div>+</div> <div>×</div>
 Amazon Music	<div>+</div> <div></div> <div>+</div> <div>×</div>

✓

DONE


4. Select from the available streaming services: **TIDAL™**, **Deezer®**, **Qobuz®**, **SOUNDMACHINE®**, **SiriusXM®**, **Pandora®**, **Internet Radio**, **Podcasts**, and **Amazon Music®**. Select **+** or to add or delete the desired streaming services for each user profile.

User Authentication

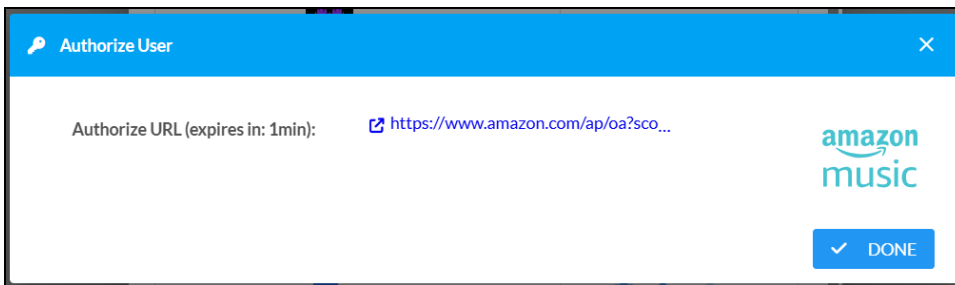
User authentication is required for Amazon Music, Deezer, Pandora, Qobuz, SiriusXM, SOUNDMACHINE, and TIDAL.

Amazon Music

To authenticate an Amazon Music account:

1. Select the add user icon  in the Amazon Music row of the table.
2. Select the link to log in via the Amazon Music portal.


NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.

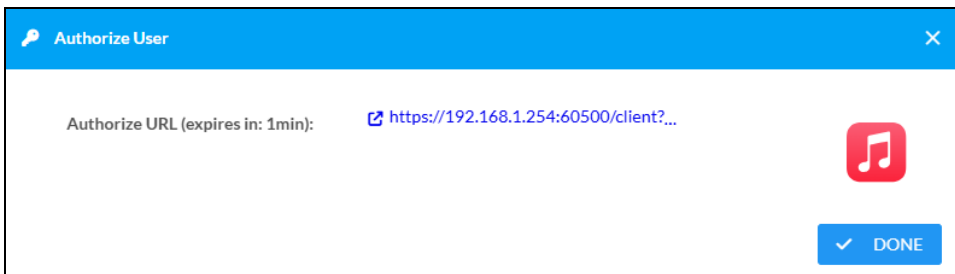


3. Select **DONE** to return to **Streaming Services**.

Apple Music

To authenticate an Apple Music account:


1. Select the add user icon  in the Apple Music row of the table.
2. Select the link to log in via the Apple Music portal.



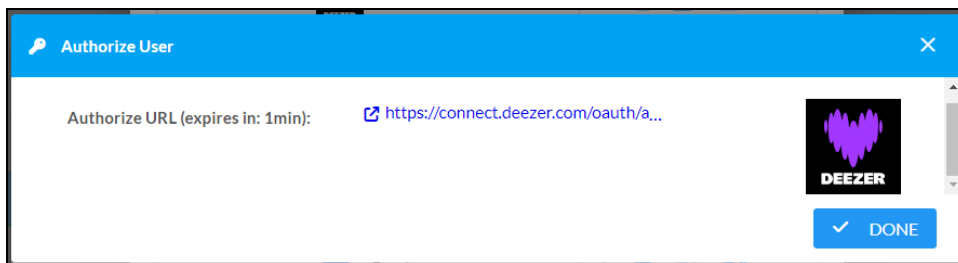
3. Select **DONE** to return to **Streaming Services**.

Deezer

To authenticate a Deezer account:

1. Select the add user icon  in the Deezer row of the table.
2. Select the link to log in via the Deezer portal.



NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.

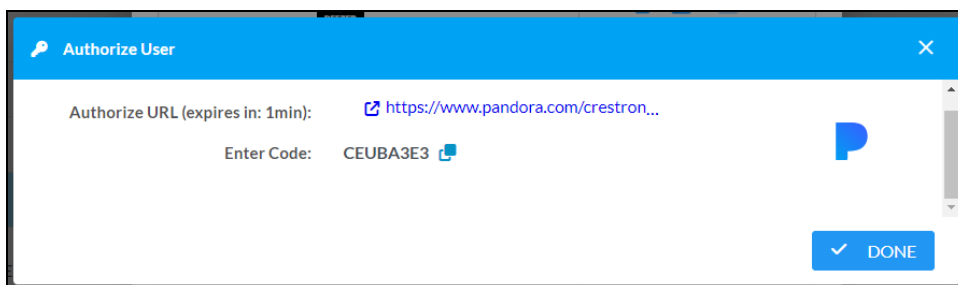


3. Select **DONE** to return to **Streaming Services**.

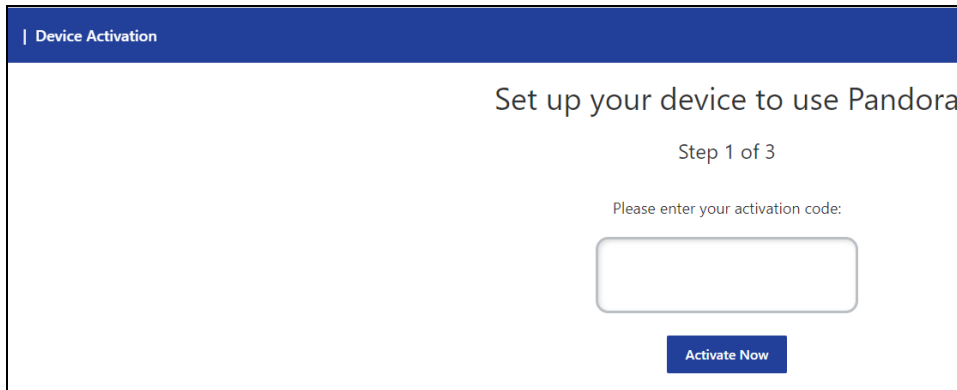
Pandora

To authenticate a Pandora account:

1. Select the add user icon  in the Pandora row of the table.
2. Select the  icon to copy the activation code.



3. Select the link to register the device. The **Device Activation** page is displayed.




NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** and **Enter Code** are shown as blank. The **Authorize User** dialogue will need to be closed and reopened.


4. Paste the activation code in the **Please enter your activation code** field and select **Activate Now**.
5. Log in to the Pandora account.
6. Select **DONE** to return to **Streaming Services**.

Qobuz

To authenticate a Qobuz account:

1. Select the add user icon  in the Qobuz row of the table.
2. Select the link to log in via the Qobuz portal.

NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.




3. Select **DONE** to return to **Streaming Services**.

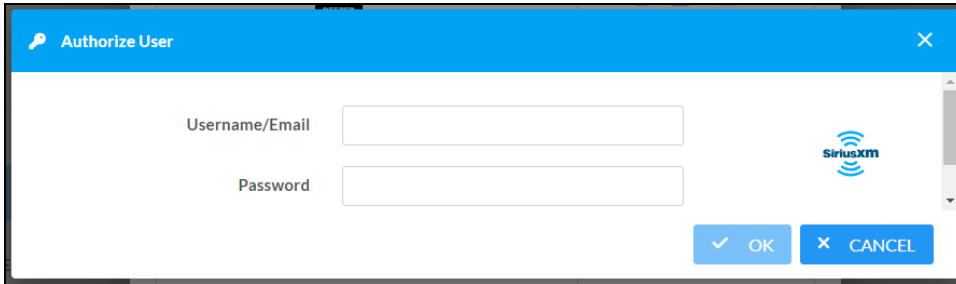
SiriusXM

Both consumer and commercial SiriusXM streaming accounts are supported on the DM-NAX-4ZSP.

NOTE: To determine whether to use commercial accounts, refer to the streaming service license agreement or FAQs on their respective portals. Refer to [this link](#) for SiriusXM documentation.

To authenticate a SiriusXM account:

1. Select the add user icon  in the SiriusXM row of the table.
2. Enter the user credentials and select **OK**




SOUNDMACHINE

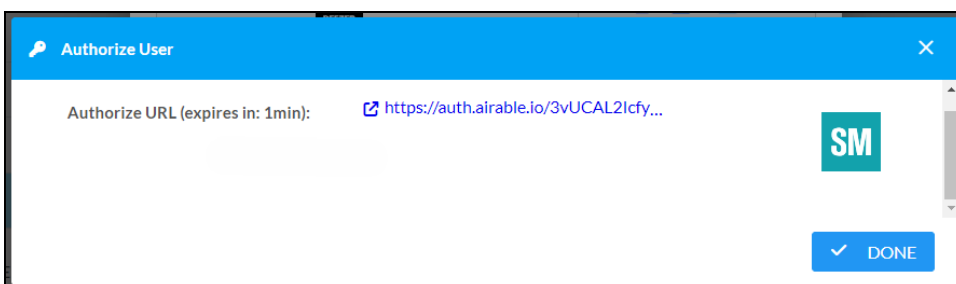
Both consumer and commercial SOUNDMACHINE streaming accounts are supported on the DM-NAX-4ZSP.

NOTE: To determine whether to use commercial accounts, refer to the streaming service license agreement or FAQs on their respective portals. Refer to [this link](#) for SOUNDMACHINE documentation.

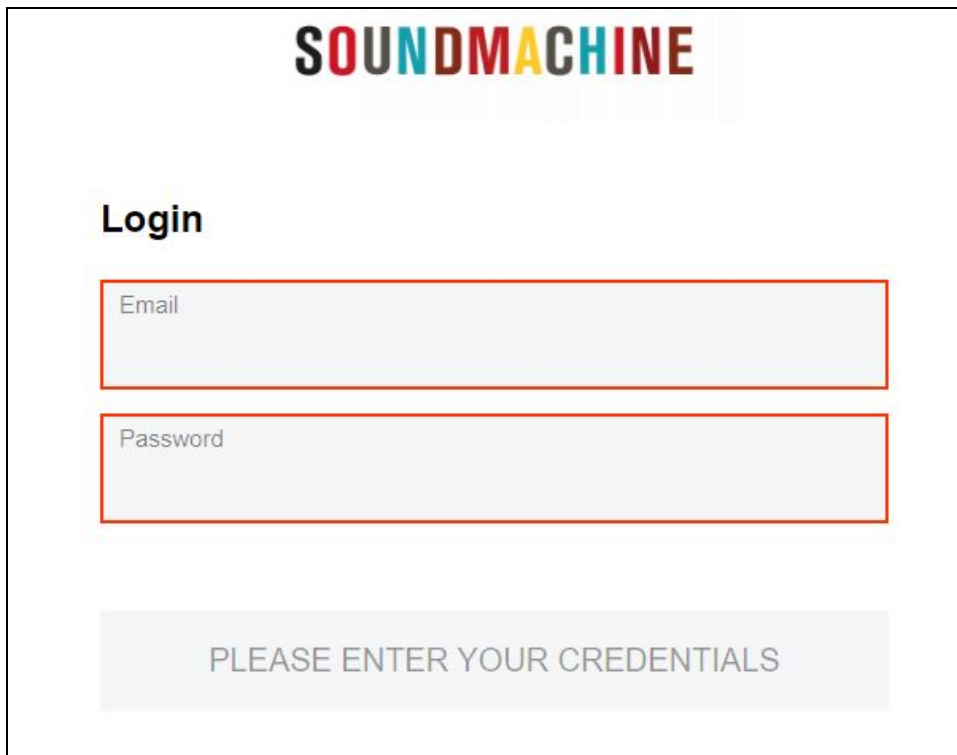
To authenticate a SOUNDMACHINE account:

1. Select the add user icon  in the SOUNDMACHINE row of the table.
2. Select the link to log in via the SOUNDMACHINE portal.

NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.



3. Log in to the SOUNDMACHINE account.




The image shows a login interface for SOUNDMACHINE. At the top is the SOUNDMACHINE logo in a colorful, multi-colored font. Below the logo is the word "Login" in a bold, black font. Underneath "Login" are two input fields: "Email" and "Password", both with red borders. Below these fields is a large, light gray button with the text "PLEASE ENTER YOUR CREDENTIALS" in all caps.

4. Select **DONE** to return to **Streaming Services**.

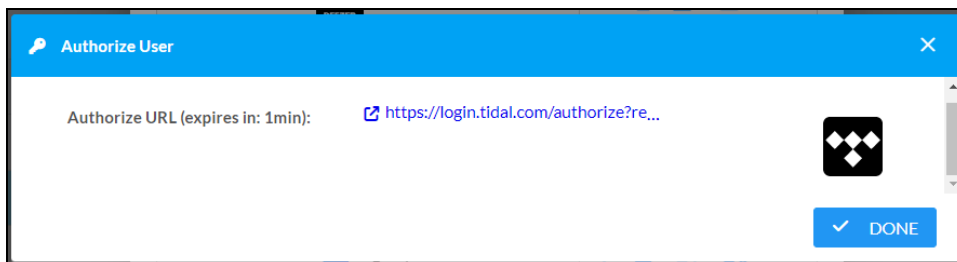
TIDAL

To authenticate a TIDAL account:

1. Select the add user icon  in the TIDAL row of the table.
2. Select the link to log in via the TIDAL portal.

NOTES:

- The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.
- TIDAL free accounts are not supported on the DM NAX audio-over-IP platform.

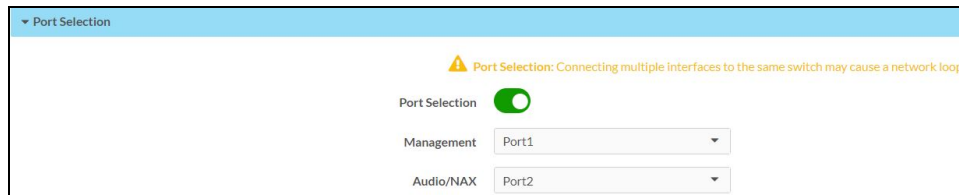


The image shows a dialog box titled "Authorize User" with a blue header bar. Inside the dialog, there is a label "Authorize URL (expires in: 1min):" followed by a blue link icon and the URL "https://login.tidal.com/authorize?re...". To the right of the URL is a TIDAL logo. At the bottom right of the dialog is a blue button with a white checkmark and the text "DONE".

3. Select **DONE** to return to **Streaming Services**.

Port Selection

The **Port Selection** feature allows the device's internal network traffic to be managed and segregated based on traffic type. Internal VLANs are used to segment device management and streaming service traffic to a separate physical device Ethernet port than audio-over-IP streaming traffic. With **Port Selection** enabled on all DM NAX devices on a network, DM NAX and AES67 network traffic can be physically separated from the control network onto a dedicated audio network.



To configure **Port Selection**:

1. Set the **Port Selection** toggle to the right position to enable or to the left position to disable **Port Selection**. By default, **Port Selection** is disabled.

NOTE: Ports 1 and 2 correspond to the Ethernet adapters labeled **1** and **2** on the rear panel of the DM-NAX-4ZSP, respectively.

2. With **Port Selection** enabled:
 - a. Select an Ethernet port from the **Management** drop-down to designate which Ethernet port on the rear panel of the device will handle network traffic relating to device configuration, streaming services, and the device's connection to a control system.

NOTES:

- To access streaming services, the Management port must be connected to a network with internet access.
- The Management port determines your connection to the web interface. Changing the port value can result in losing your connection to the device via the web interface.

- b. Select an Ethernet port from the **Audio/NAX** drop-down to designate which Ethernet port on the rear panel of the device will handle audio-over-IP streaming network traffic.
3. Select **Save** changes to apply the new settings.

NOTE: Making changes to **Port Selection** settings will require a reboot.

Security

Select the **Security** tab to configure security for users and groups and to allow different levels of access to the DM-NAX-4ZSP functions. By default, security is disabled.

The screenshot shows the 'Security' tab selected in the top navigation bar. Below the navigation bar, there is a 'Security' section with a dropdown menu for 'SSL Mode' set to 'OFF'. Below this, there is a 'Current User' tab selected, showing user details: Name: admin1, Access Level: Administrator, Active Directory User: No, and Groups: Administrators. A blue button labeled 'Change Current User Password' is located at the bottom left of the 'Current User' section.

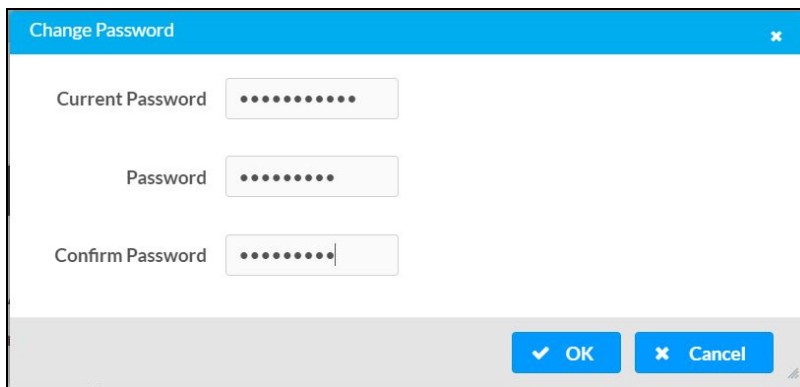
Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down, to specify whether to use encryption. By default, SSL Mode is set to **OFF**.

Current User

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

The screenshot shows the 'Current User' tab selected in the top navigation bar. Below the navigation bar, there is a 'Current User' section showing user details: Name: admin1, Access Level: Administrator, Active Directory User: No, and Groups: Administrators. A blue button labeled 'Change Current User Password' is located at the bottom left of the 'Current User' section.

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.

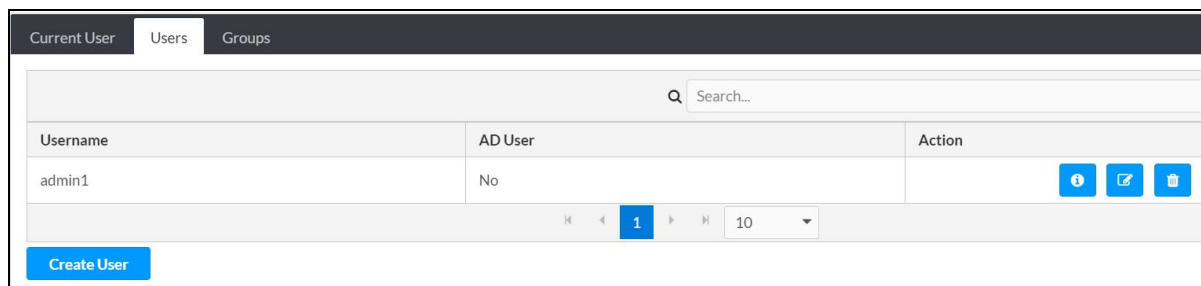


A dialog box titled "Change Password" with a close button (X) in the top right corner. It contains three password input fields: "Current Password", "Password", and "Confirm Password". Each field is represented by a text box with dots for the password characters. At the bottom right, there are two buttons: "OK" with a checkmark icon and "Cancel" with an X icon.

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.



The "Users" tab interface shows a table of users. At the top, there are tabs for "Current User", "Users", and "Groups". Below the tabs is a search bar labeled "Search...". The table has three columns: "Username", "AD User", and "Action". The first row shows "admin1" as the username, "No" as the AD User status, and three action icons (info, edit, delete). At the bottom of the table, there are navigation arrows and a page number "1" in a blue box, followed by a dropdown menu set to "10". A "Create User" button is located at the bottom left.

Use the **Search Users** 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 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 **Users** tab.
2. In the **Create User** dialog, enter the following:

Create User

Name: test

Active Directory User: ☐

Password:

Confirm Password:

Groups: Administrators

OK Cancel

- 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.
- Enter a password in the **Password** field; re-enter the same password in the **Confirm Password** field.
- 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.

- 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 DM-NAX-4ZSP, or add the Active Directory group(s) that they are a member of to the DM-NAX-4ZSP.

To add an Active Directory user.

- Select **Create User**.
- In the **Create User** dialog, enter the following.

Create User

Name: Connects\test

Active Directory User: ☒

Groups: Connects


OK Cancel

- 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

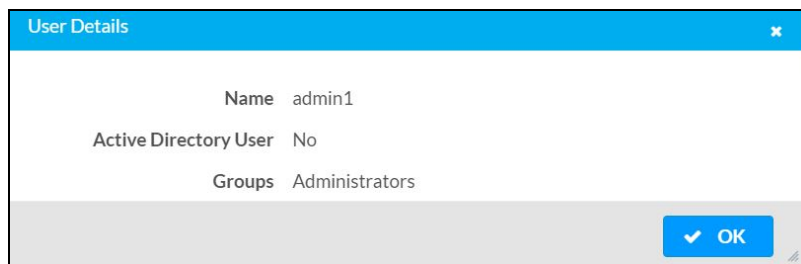
Select the trashcan icon  in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

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

Update User

Name

admin1

Active Directory User

☐

Password


Confirm Password

Groups

Administrators

OK

Cancel

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

Current UserUsersGroups

Search...

Group Name	AD Group	Access Level	Action
Administrators	No	Administrator	 
Connects	No	Connect	 
Operators	No	Operator	 
Programmers	No	Programmer	 
Users	No	User	 

1

10

Create Group

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 to the right of the navigation arrows.

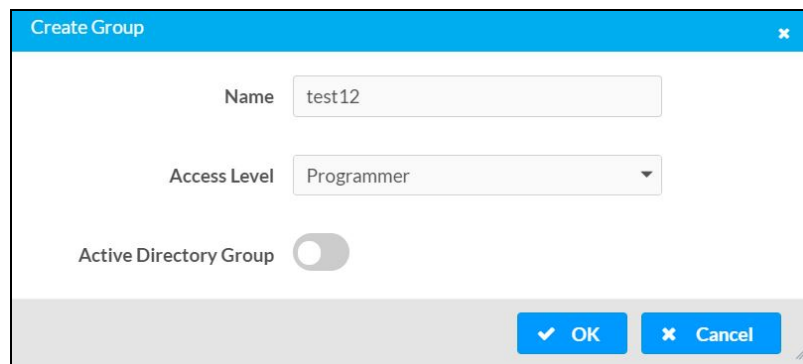
Existing groups are displayed in a table and the following information is provided for each group:

- **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 🗑 selected group.

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

Create Local Group

A screenshot of the 'Create Group' dialog box. It has a blue title bar with the text 'Create Group' and a close button. The dialog contains three fields: 'Name' with the text 'test12', 'Access Level' with a dropdown menu showing 'Programmer', and 'Active Directory Group' with a toggle switch that is currently turned off. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.

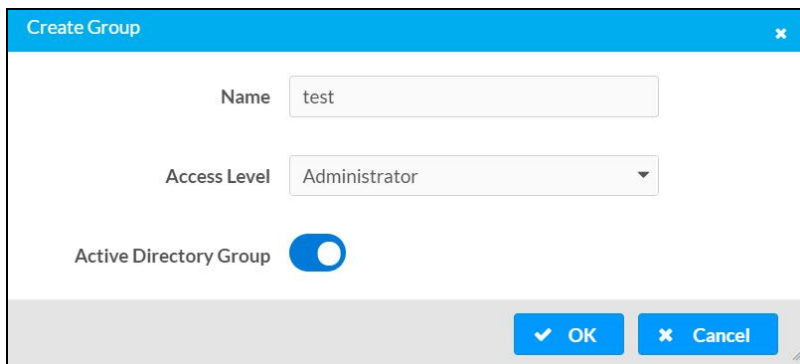
1. Select **Create Group**.
2. In the **Create Group** dialog, enter the following:
 - a. Enter the group name in the **Name** field.
 - b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

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



The **Create Group** dialog box has a blue title bar with a close button. It contains three fields: a text box for **Name** with the value "test", a dropdown for **Access Level** with "Administrator" selected, and a toggle for **Active Directory Group** which is currently turned on. At the bottom right are **OK** and **Cancel** buttons.


Once the group is added, all members of that group will have access to the DM-NAX-4ZSP.

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.
3. 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.


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

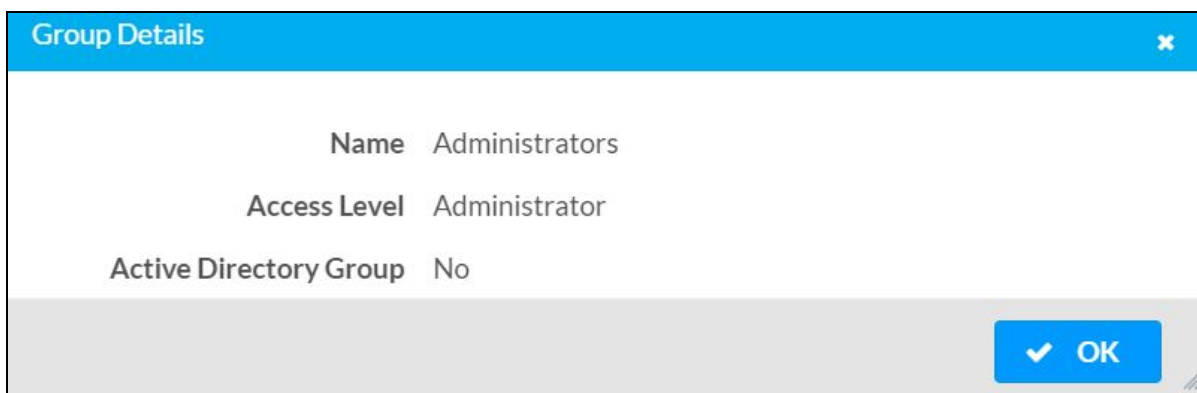
Delete a Group

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.



The **Group Details** dialog box has a blue title bar with a close button. It displays three rows of information: **Name** Administrators, **Access Level** Administrator, and **Active Directory Group** No. At the bottom right is an **OK** button.

- **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 DM-NAX-4ZSP 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.

IEEE 802.1X Authentication ☒

Authentication Method: EAP MSCHAP V2- password

Domain: secure12

Username: admin

Password:

Enable Authentication Server Validation ☒

Select Trusted Certificate Authority(ies)

Trusted Certificate Authority	Selected
AAA Certificate Services	<input checked="" type="checkbox"/>
AC RAIZ FNMT-RCM	<input type="checkbox"/>
ACCVRAIZ1	<input type="checkbox"/>
Actalis Authentication Root CA	<input type="checkbox"/>
AffirmTrust Commercial	<input checked="" type="checkbox"/>
AffirmTrust Networking	<input type="checkbox"/>
AffirmTrust Premium ECC	<input type="checkbox"/>
AffirmTrust Premium	<input checked="" type="checkbox"/>
Amazon Root CA 1	<input type="checkbox"/>
Amazon Root CA 2	<input type="checkbox"/>
Amazon Root CA 3	<input checked="" type="checkbox"/>
Amazon Root CA 4	<input type="checkbox"/>
Atos TrustedRoot 2011	<input type="checkbox"/>
Autoridad de Certificacion Firmaprofesional CIF A62634068	<input type="checkbox"/>
Baltimore CyberTrust Root	<input type="checkbox"/>

Configure DM-NAX-4ZSP for 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 the **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. 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-4ZSP.

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.

5. If required, type the domain name of the network in the **Domain** field.
6. 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.

DM-NAX-8ZSA

This section describes how to configure the DM-NAX-8ZSA.

Web Interface Configuration

The DM-NAX-8ZSA web interface allows you to view status information and configure network and device settings.

Access the Web Interface

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

- [Access the Web Interface with a Web Browser on page 334](#)
- [Access the Web Interface With Crestron Toolbox™ Software on page 336](#)

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

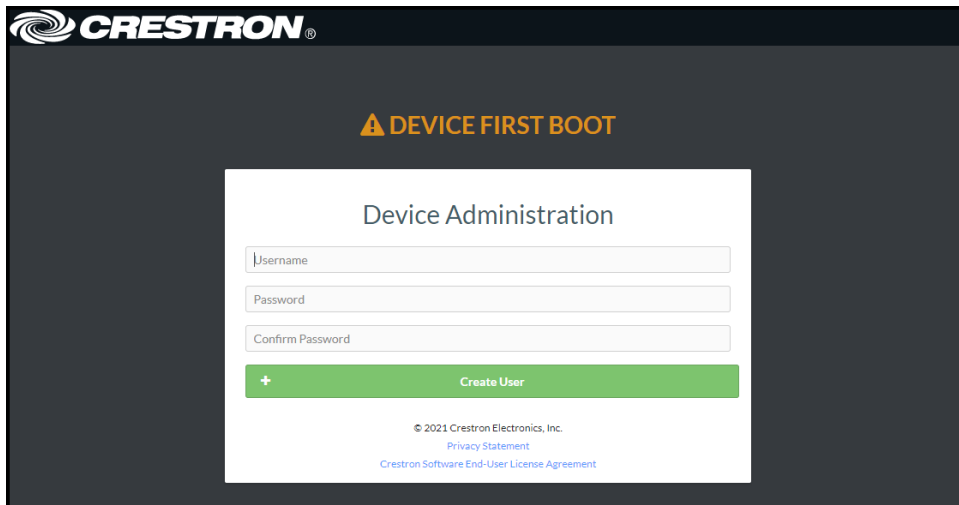
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later
	Firefox® web browser, version 31 and later
	Internet Explorer web browser, version 11 and later
	Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later
	Chrome 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 DM-NAX-8ZSA into a web browser.

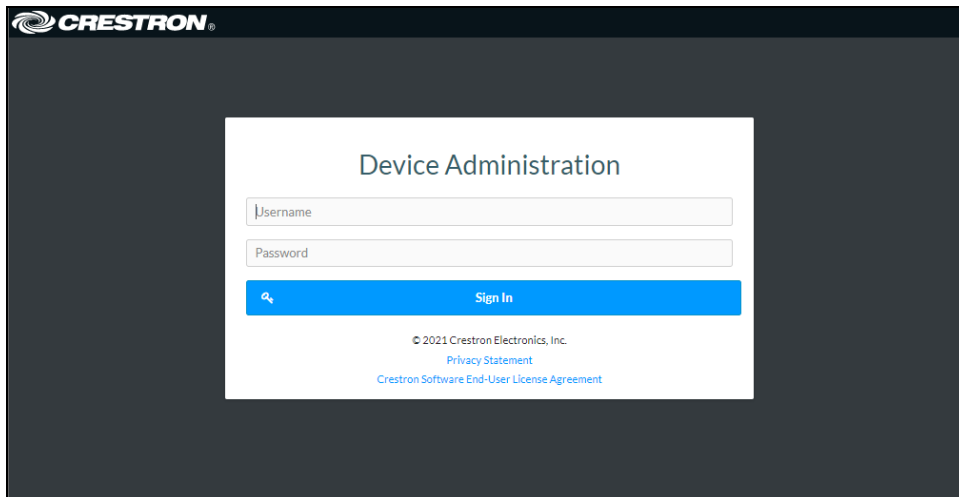
NOTE: To obtain the IP address, use the **Device Discovery Tool** in Crestron Toolbox™ software or an IP scanner application.

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.



The screenshot shows the Crestron logo at the top left. Below it, a yellow warning triangle icon is followed by the text "DEVICE FIRST BOOT". In the center, there is a white box titled "Device Administration". Inside this box, there are three input fields: "Username", "Password", and "Confirm Password". Below these fields is a green button with a white plus icon and the text "Create User". At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

- d. Select **Create User**. The Device Administration page appears.



The screenshot shows the same Crestron logo at the top left. Below it, the text "DEVICE FIRST BOOT" is no longer present. The white box titled "Device Administration" is still in the center. Inside this box, there are two input fields: "Username" and "Password". Below these fields is a blue button with a white magnifying glass icon and the text "Sign In". At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Select **Sign In**.

Access the Web Interface With Crestron Toolbox™ Software

To access the web interface by opening a web browser from Crestron Toolbox™ software:

1. Open Crestron Toolbox software.
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 DM-NAX-8ZSA 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.

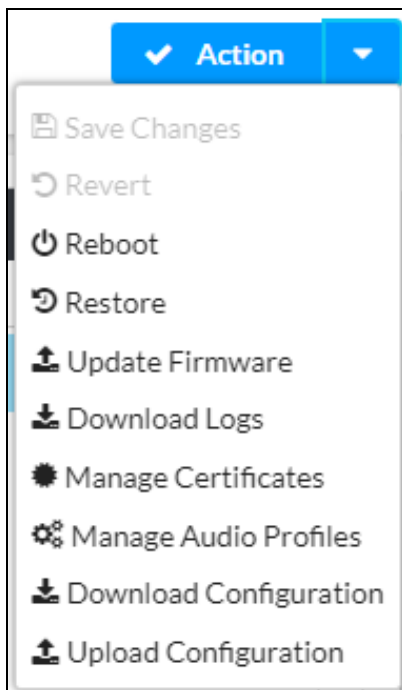
NOTE: If there is security software running on the computer, a security alert might be displayed when Crestron Toolbox software attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, select the device.
4. Enter the device credentials in the **Authentication Required** dialog that opens, then select **Log In**.
5. Select **Web Configuration**.

Action

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

- [Save Changes on page 337](#)
- [Revert on page 337](#)
- [Reboot on page 338](#)
- [Restore to Factory Default Settings on page 338](#)
- [Update Firmware on page 339](#)
- [Download Logs on page 339](#)
- [Manage Certificates on page 339](#)
- [Manage Audio Profiles on page 341](#)
- [Download Configuration on page 342](#)
- [Upload Configuration on page 342](#)



Save Changes

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

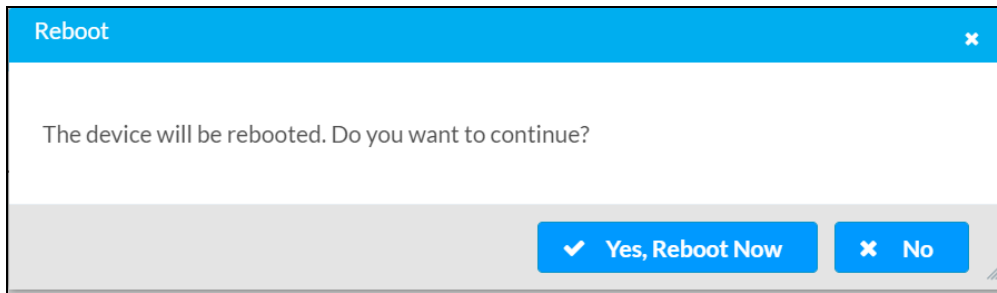
Revert

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

Reboot

Certain changes to the settings may require the DM-NAX-8ZSA to be rebooted to take effect. To reboot the device:

1. Select **Reboot** in the **Action** menu. The **Confirmation** message box appears.



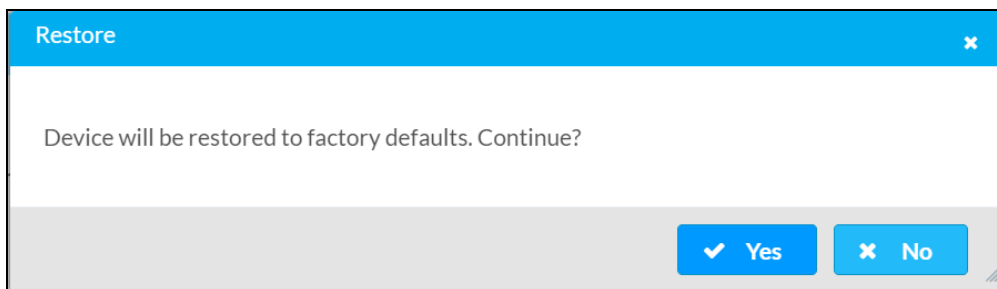
2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears. Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

CAUTION: This procedure should only be performed to recover an unresponsive device. Performing the **Restore** procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before proceeding, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

1. Select **Restore** in the **Action** menu to restore the settings of the DM-NAX-8ZSA to factory defaults.

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.



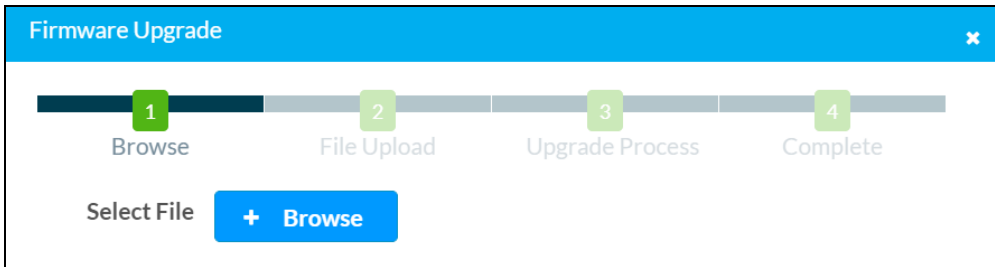
2. Select **Yes** in the **Confirmation** dialog to restore the DM-NAX-8ZSA to factory settings. Select **No** to cancel the restore operation.

A dialog is displayed again, indicating that the restore process was successful and that the device rebooted.

You can also restore to factory settings by pressing and holding the **SETUP** button on the rear panel of the device with power disconnected then connect the power supply and continue to hold **SETUP** button for 30 seconds.

Update Firmware

1. Select **Update Firmware** in the **Action** menu.
2. In the **Firmware Upgrade** dialog, 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** dialog.
4. Select **Load** and wait for the progress bar to complete and for **OK** to become selectable.
5. Select **OK**. The device with new firmware can now be accessed.

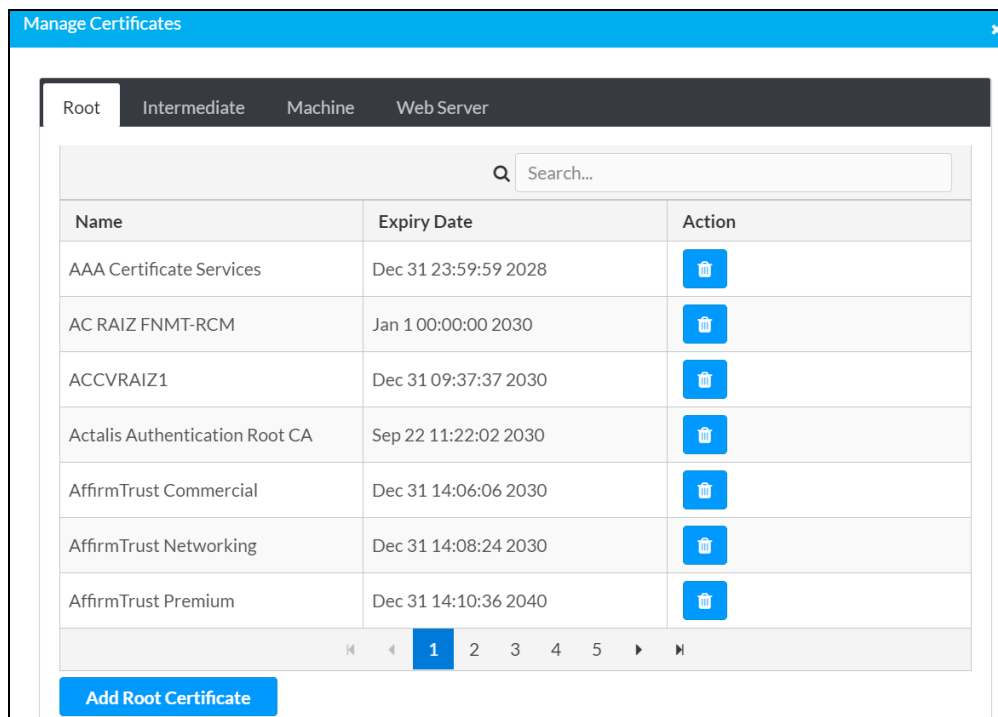
Download Logs

Select **Download Logs** in the **Action** menu to download the device message logs for diagnostic purposes.

The log file is downloaded to the Downloads folder of the PC.

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 **Action** menu. The following certificate tabs are displayed:

- **Root:** The Root certificate is used by the DM-NAX-8ZSA to validate the network's authentication server. The DM-NAX-8ZSA 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 DM-NAX-8ZSA. 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, then select **Open**.

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

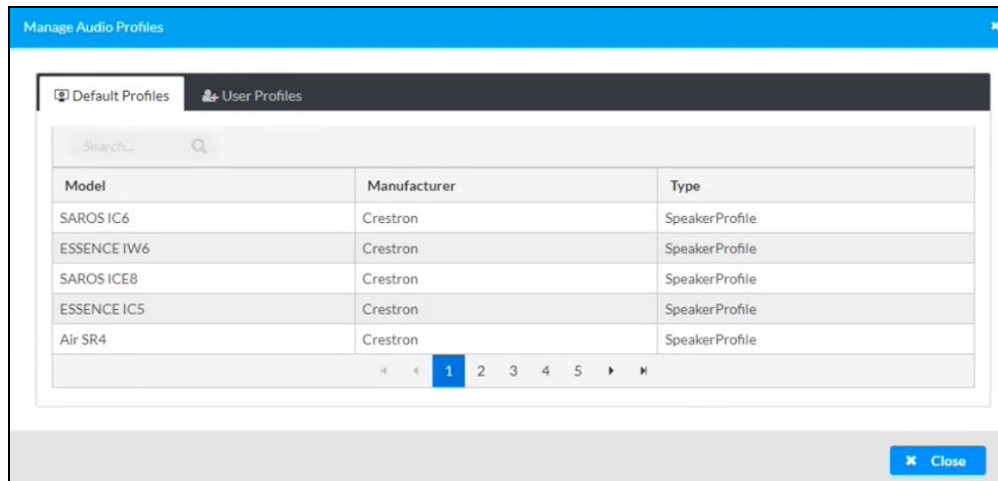
5. Select **OK**. This will add the certificate to the list box, displaying the file name and expiration date. The certificate is now available for selection and can be loaded to the device.

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.

Manage Audio Profiles

Use the **Manage Audio Profiles** dialog to add, remove, and manage output audio profiles on the DM-NAX-8ZSA.



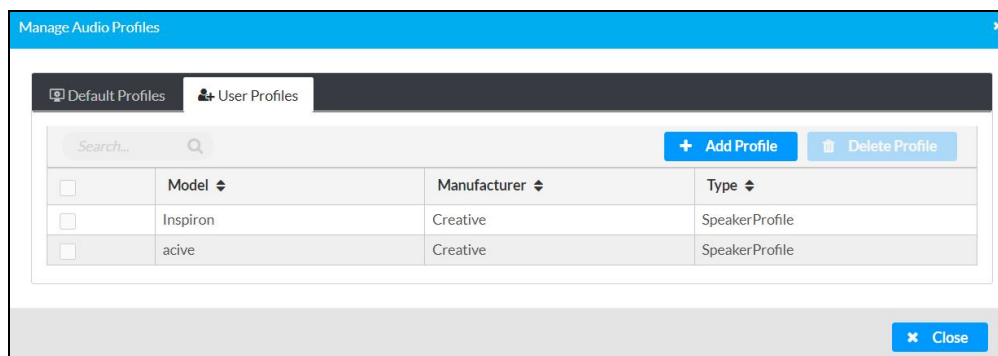
Select **Manage Audio Profiles** in the **Action** menu. The following audio profiles tabs are displayed, providing information such as **Model**, **Manufacturer**, and **Type** of the audio profiles:

- **Default Profiles:** Lists the default library of included audio profiles.
- **User Profiles:** Lists the custom, user loaded profiles, and allows them to be loaded and removed.

In the **Search** field, enter a name to search for the profile. The audio profile matching the search criteria is displayed.

NOTE: To create a custom audio profile, refer to [Knowledge Article 1001820](#).

To Add an Audio Profile

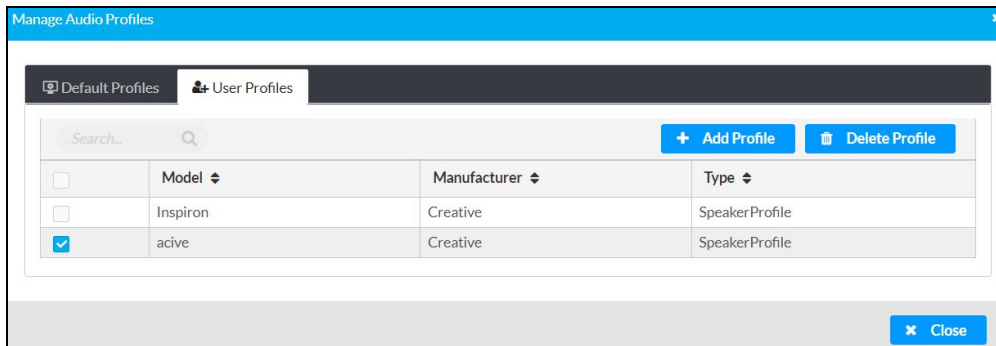


1. Select the **User Profiles** tab.
2. Select **+ Add Profiles**.
3. Select **+ Browse**.
4. Locate and select the .prof file, and then select **Open**.
5. Select **Upload**.

6. Select **OK**. This will add the profile to the list box.

The audio profile is now available for selection and can be applied.

To Delete an Audio Profile



1. Select the **User Profiles** tab.
2. Select the checkbox corresponding to the audio profile that needs to be deleted.
3. Select **Delete Profile**.

The audio profile is deleted.

Download Configuration

Select **Download Configuration** to download a TGZ file containing the settings data for the DM NAX device.

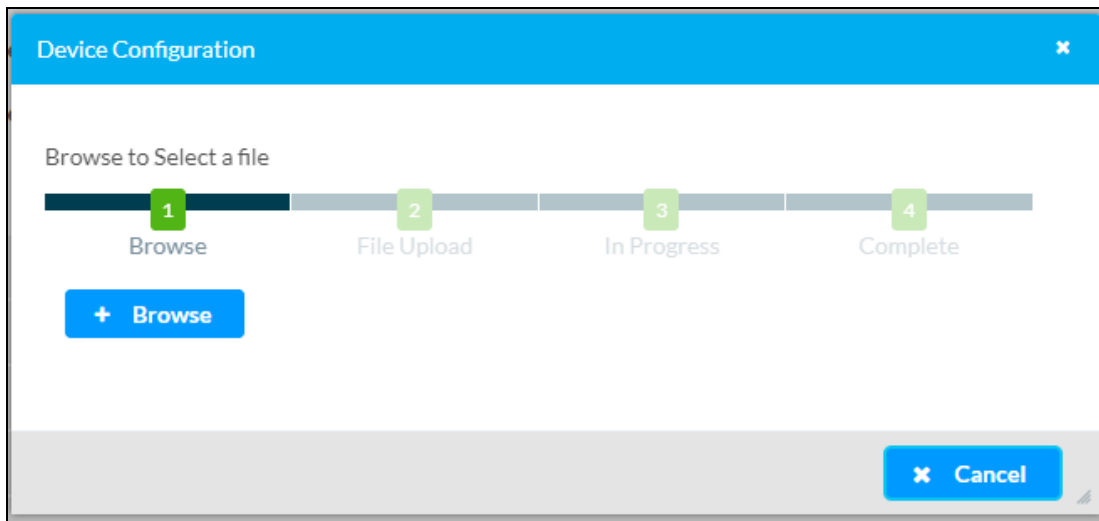
NOTE: User accounts for accessing the device, streaming service accounts, multicast addresses, and stream names are not saved in this configuration file.

Upload Configuration

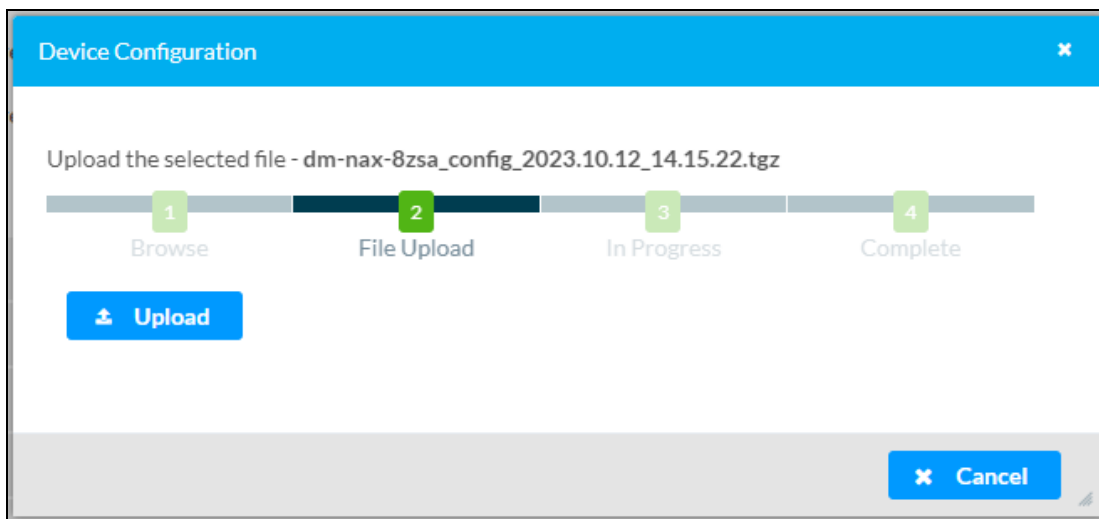
1. Select **Upload Configuration** to upload a TGZ file that will overwrite the current settings of the DM NAX device with a saved configuration.

CAUTION: Be sure to load a TGZ file for the same DM NAX device type while using the Load Configuration feature. For example, if loading a TGZ file to a DM-NAX-8ZSA, be sure that the TGZ file originated from a DM-NAX-8ZSA.

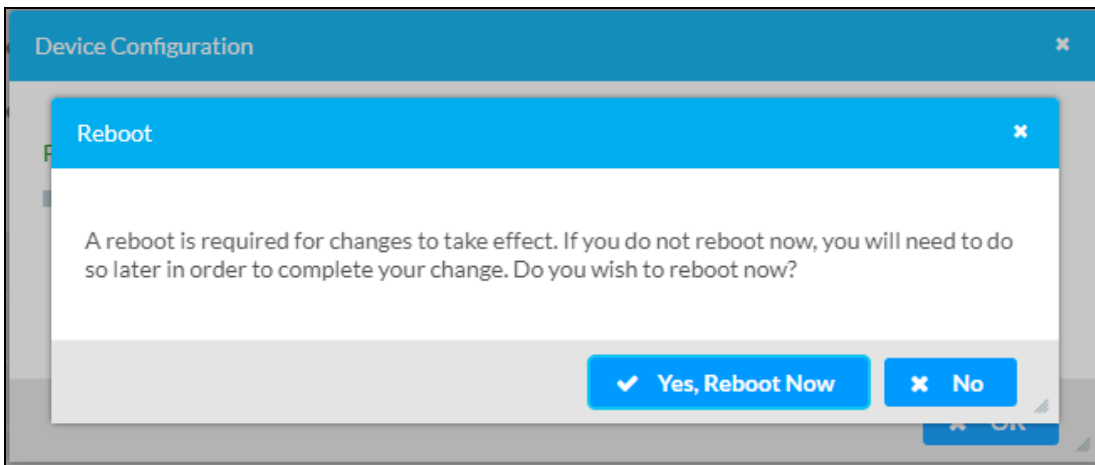
2. Select **Browse** to navigate to the desired TGZ file in your file browser. Select the file, then select **Open**.



3. Select **Upload** to begin the file upload process. A progress bar will indicate the status of the configuration file upload.



4. Once the upload is complete, the device will require a reboot. Select **Yes, Reboot Now** to begin the reboot, or select **No** to return to the web UI.



NOTE: Any changes made after the configuration file upload, but before a device reboot, may be overwritten when the device is rebooted.

Status

The **Status** page is the first page displayed when opening the interface of the DM-NAX-8ZSA. It displays general information about the DM-NAX-8ZSA (such as **Model Name**, **Firmware Version**, and **Serial Number**), current network settings (such as **Host Name** and **IP Address**, etc.), and input and output ports' current status.

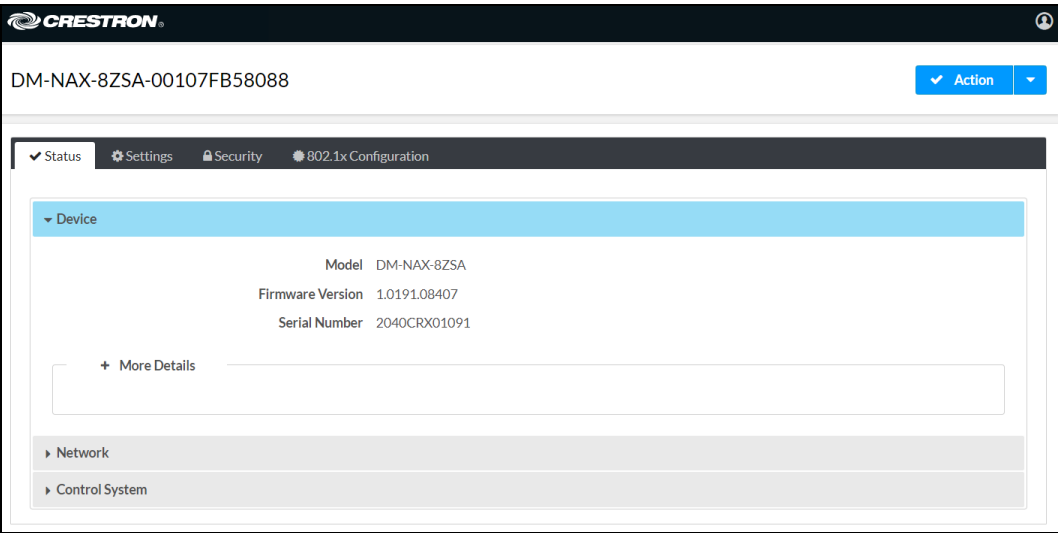
The **Status** page can be accessed at any time by selecting the **Status** tab of the DM-NAX-8ZSA interface.



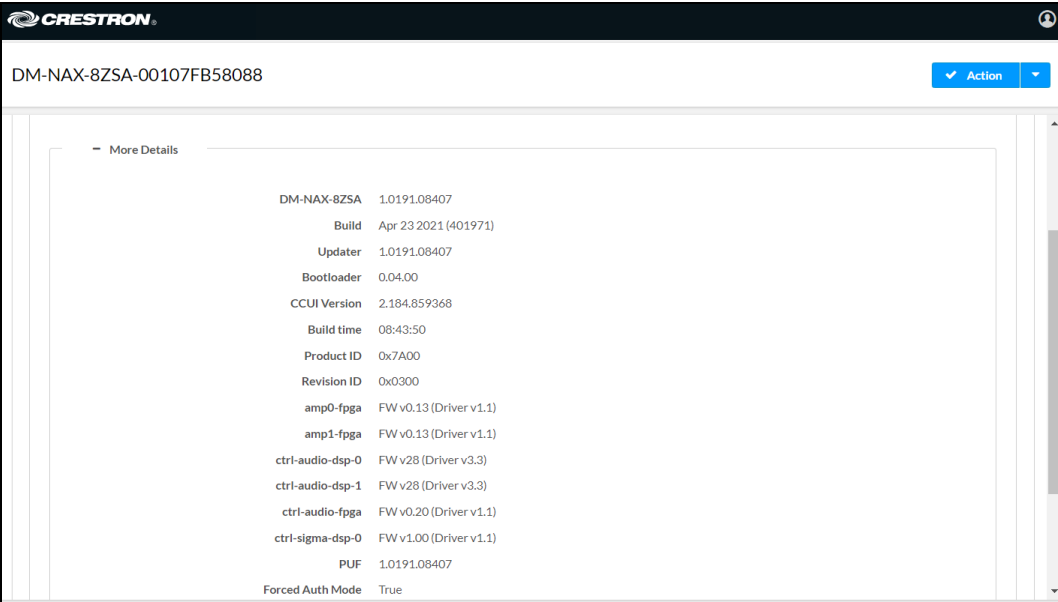
Information displayed on the **Status** tab is organized into different sections.

Device

The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-8ZSA.

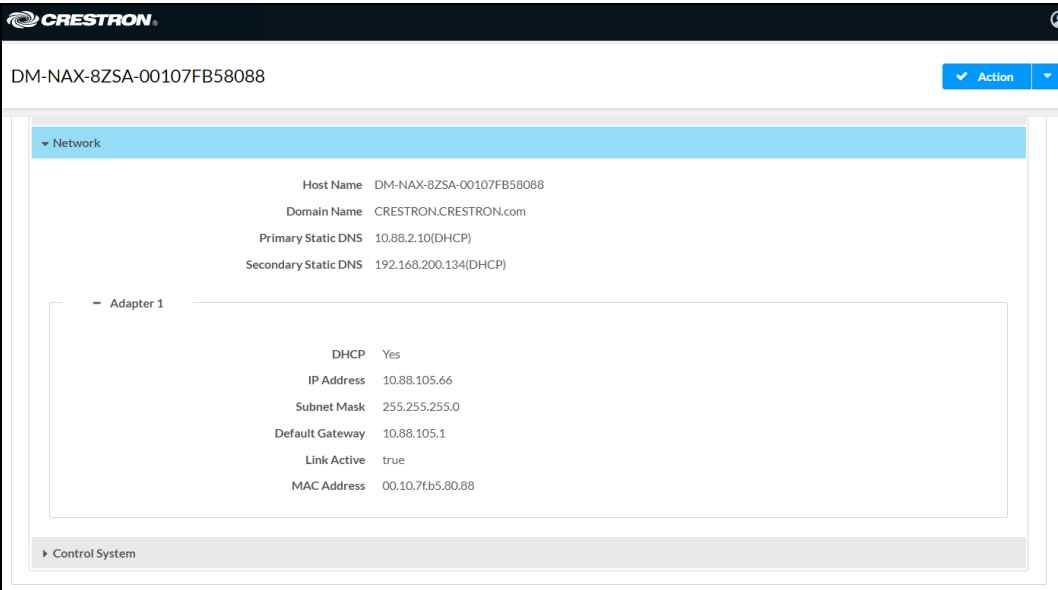


Select **+ More Details** to review additional information about the DM-NAX-8ZSA.



Network

The **Network** section displays network-related information about the DM-NAX-8ZSA, including the **Hostname**, **Domain Name**, and **DNS Servers**.



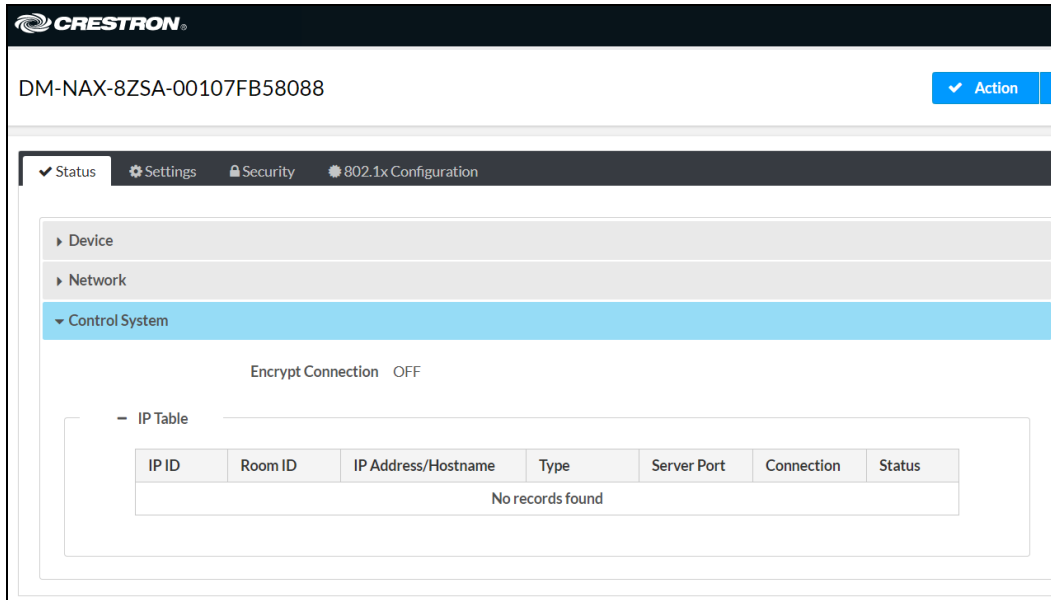
NOTE: By default, the host name of the DM-NAX-8ZSA consists of the model name followed by the MAC address of the device. For example, DM-NAX-8ZSA-00107FB58088.

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

NOTE: The **+ Adapter 2** option appears when the dual Ethernet ports on the DM-NAX-8ZSA are set to isolate traffic using the **Port Selection** feature. Refer to [Settings on page 348](#) for details on configuring the **Port Selection** feature.

Control System

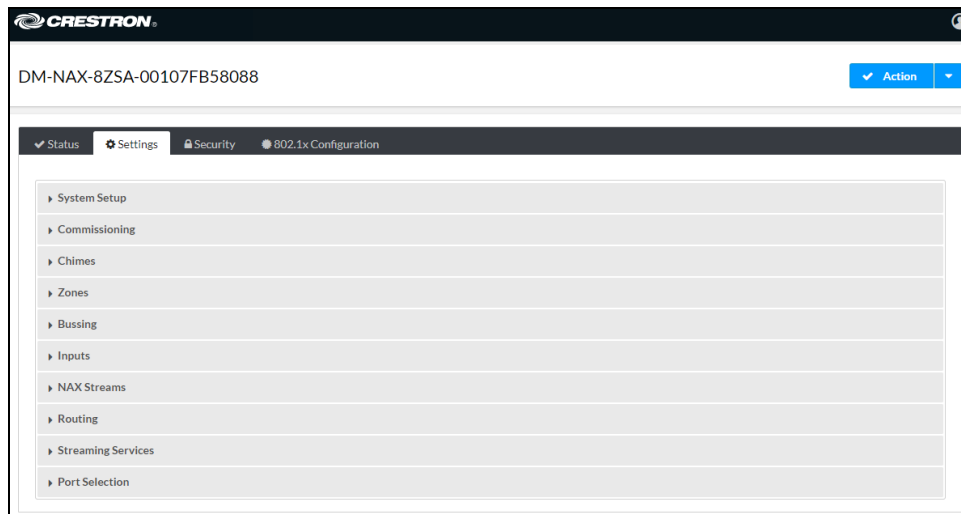
The **Control System** section displays connection information, consisting of the following:



- **Encrypt Connection:** Displays **ON** or **OFF**.
- **IP ID:** Displays the currently used IP ID of the DM-NAX-8ZSA.
- **IP Address/Hostname:** Displays the IP address or hostname of the control system.
- **Room ID:** Displays the room ID.
- **Status:** Displays **OFFLINE** or **ONLINE**.

Settings

The **Settings** page enables you to configure the DM-NAX-8ZSA settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the DM-NAX-8ZSA interface.



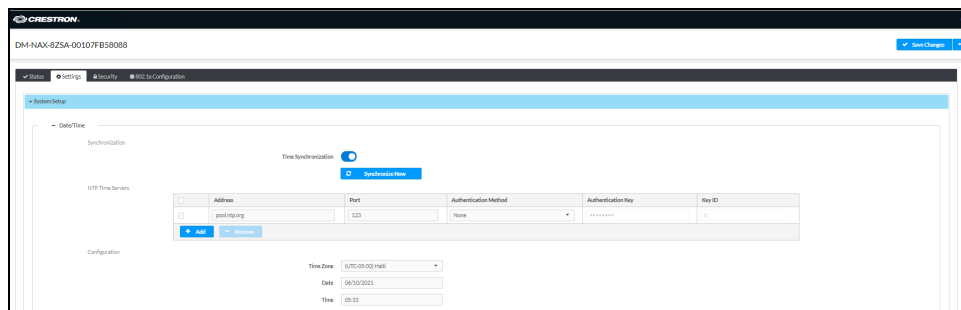
Settings available on the **Settings** tab are organized into different sections.

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 DM-NAX-8ZSA.



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. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-8ZSA can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.

The screenshot shows the Crestron configuration interface for device DM-NAX-8ZSA-00107FB58088. The 'System Setup' section is expanded, showing the 'Auto Update' settings. The 'Auto Update' toggle is turned on. The 'Custom URL' toggle is turned off. The 'Custom URL Path' is set to 'https://crestrondevicefiles.blob.core.winc'. The 'Schedule' section shows 'Day of Week' set to 'Daily', 'Time of Day' set to '02:10', and 'Poll Interval' set to '0' minutes. An 'Update Now' button is visible at the bottom of the settings panel.

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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 DM-NAX-8ZSA, including the **Hostname**, **Domain**, **Primary Static DNS**, and **Secondary Static DNS**.

The screenshot shows the Crestron web interface for the DM-NAX-8ZSA-00107FB58088. The 'Network' section is expanded, showing fields for Host Name (DM-NAX-8ZSA-00107FB58088), Domain (CRESTRON.CRESTRON.com), Primary Static DNS (10.88.2.10(DHCP)), and Secondary Static DNS (192.168.200.134(DHCP)). Below these, the 'Adapter 1' section is visible, featuring a DHCP toggle switch (currently turned on), and fields for IP Address (10.88.105.66), Subnet Mask (255.255.255.0), and Default Gateway (10.88.105.1). A 'Save Changes' button is located in the top right corner.

NOTE: By default, the hostname of the DM-NAX-8ZSA consists of the model name followed by the MAC address of the device. For example, DM-NAX-8ZSA-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTES:

- An **+ Adapter 2** option only appears when the dual Ethernet ports on the DM-NAX-8ZSA are set to isolate traffic using the **Port Selection** feature. The settings for **Adapter 2** are identical to those available for **Adapter 1**.
- DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-8ZSA is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the DM-NAX-8ZSA 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 DM-NAX-8ZSA.

- **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

The screenshot shows the Crestron configuration interface for a DM-NAX-8ZSA device. The top navigation bar includes 'Status', 'Settings', 'Security', and '802.1x Configuration'. The 'Settings' tab is active, and the 'System Setup' section is expanded. Under 'System Setup', there are fields for 'Date/Time', 'Auto Update', and 'Network'. The 'Control System' section is expanded, showing an 'Encrypt Connection' toggle switch. Below this is an 'IP Table' section with a table header containing 'IP ID', 'IP Address/Hostname', and 'Room ID'. The table currently shows 'No records found'. At the bottom of the IP Table section are '+ Add' and 'x Remove' buttons.

1. Select the **Encrypt Connection** toggle to the right position to enable a secure connection between the control system and the DM-NAX-8ZSA. Set the toggle to the left to use an unencrypted connection to the control system. If the toggle is set to the right:
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-8ZSA in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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.

Commissioning

The **Commissioning** section provides a quick way to automatically assign multicast addresses to all of the device's internal audio-over-IP stream transmitters.

▼ Commissioning

Starting Multicast Address

239.8.3.5

Last Used Multicast Address

239.8.3.36

Assign Addresses

Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-8ZSA a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.255.255.231.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

Chimes

The **Chimes** section allows the built-in chime files to be assigned to any of the output zones on the device.

CRESTRON

DM-NAX-8ZSA-00107FB58088

▼ Action

▼ Chimes

Zones(8)

	Zone1	Zone2	Zone3	Zone4	Zone5	Zone6	Zone7	Zone8
Chime(26)								
Doorbell - Dual ...								
Doorbell - Dual ...								
Doorbell - Dual ...								
Doorbell - Dual ...								
Doorbell - Dual ...								
Doorbell - Dual ...								
Doorbell - Dual ...								
Doorbell - West...								
Doorbell - Wes...								

Legend


Inputs

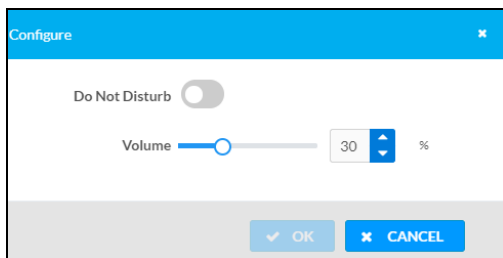
Outputs

Chimes

For each chime file, select the cells corresponding to the desired Zones for playback of that specific chime sound. You can assign multiple chimes to the same zone. To view all available chimes, use the ▲ or ▼ arrows at the left of the matrix to change pages.

To configure the chime volume of a zone:

1. Select the  icon corresponding to the zone. A **Configure** window appears.



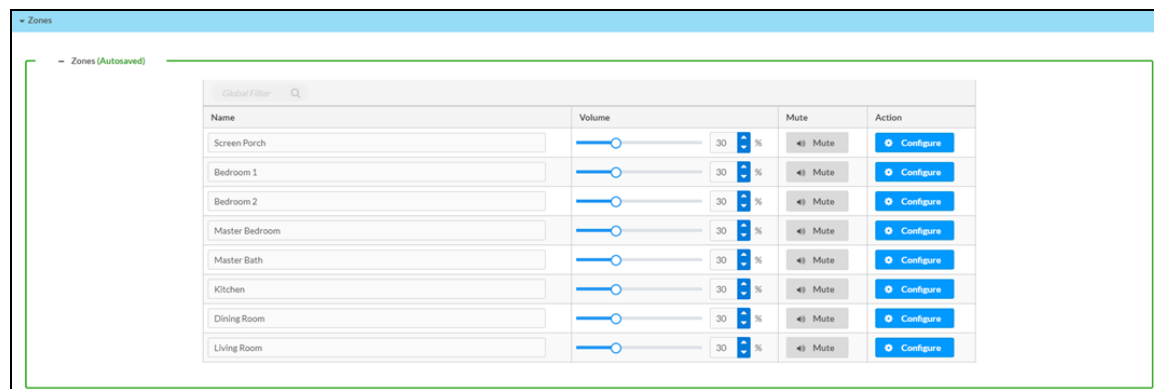
2. To set the volume, do one of the following:
 - Move the **Volume** slider to the right to increase or to the left to decrease the chime volume.
 - Use the **%** arrows to increase or decrease the chime volume. Values range from 0 to 100%, adjustable in increments of 1%.
 - Manually enter a value in the **Volume** field.

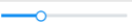


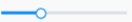





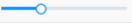


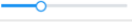


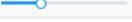


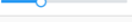


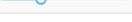


NOTE: The chime volume is independent of the zone volume control.

3. Set the **Do Not Disturb** toggle to the right to mute all chimes for the zone. Set the **Do Not Disturb** toggle to the left to unmute the chimes.
4. Select **OK** to apply the new settings.

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.



Name	Volume	Mute	Action
Screen Porch	 30 %		
Bedroom 1	 30 %		
Bedroom 2	 30 %		
Master Bedroom	 30 %		
Master Bath	 30 %		
Kitchen	 30 %		
Dining Room	 30 %		
Living Room	 30 %		

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.

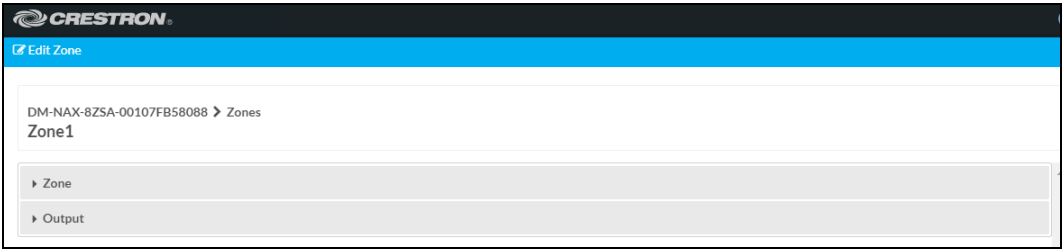
To configure the zone volume, do one of the following:

- 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. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

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

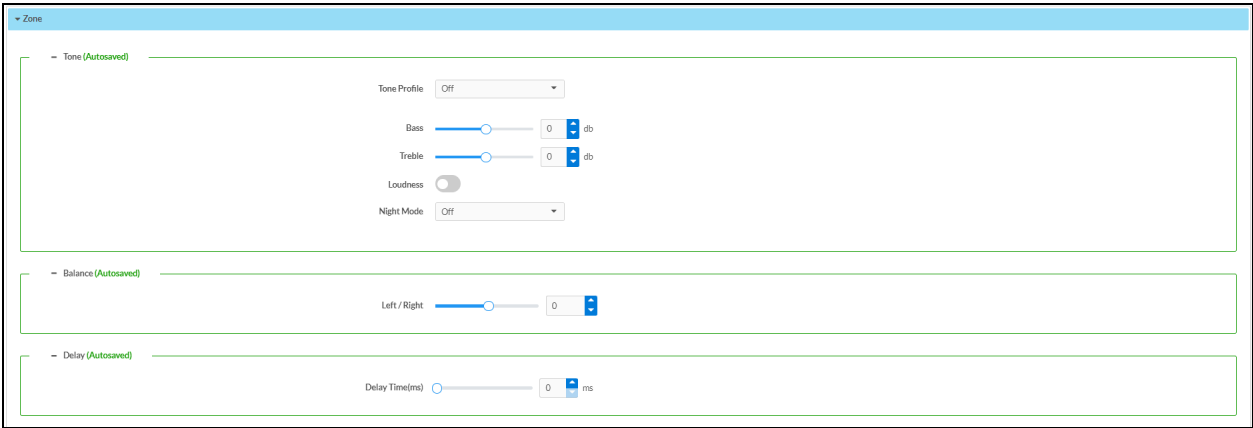
Zone Settings

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

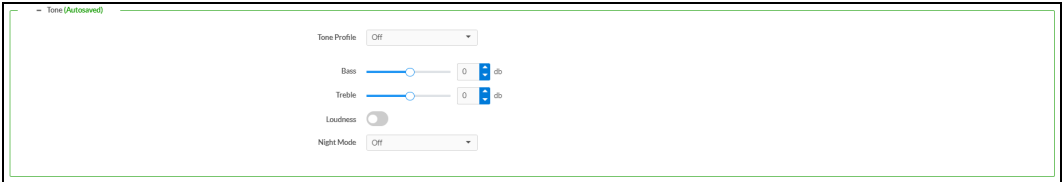


Zone

Select **Zone** to access the settings for **Tone**, **Balance**, and **Delay**.



Tone



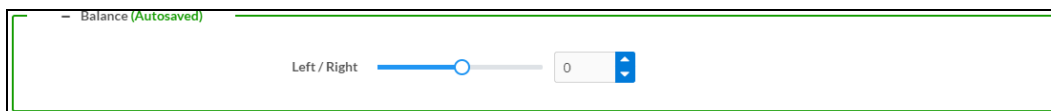
The **Tone** section provides adjustments for the **Tone Profile**, **Bass**, **Treble**, **Loudness**, and **Night Mode** settings of the zone output.

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. The available options are **Off**, **Classical**, **Jazz**, **Pop**, **Rock**, and **Spoken Word**. By default, **Off** is selected.

2. **Bass:** 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.
 - Use the **db** arrows to increase or decrease the bass level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Bass** field.
3. **Treble:** 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.
 - Use the **db** arrows to increase or decrease the treble level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Treble** field.
4. To enable the loudness setting on the zone output, slide the **Loudness** switch to the right. To disable loudness, slide the **Loudness** switch to 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. The available options are **Off**, **Low**, **Medium**, and **High**. By default, **Off** is selected.

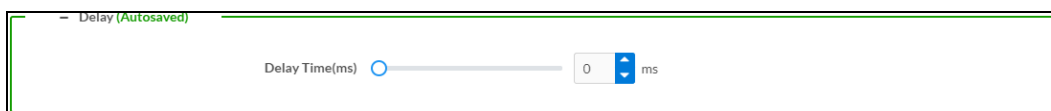
Balance



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. 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.

Delay



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. Values range from 0 ms to 250 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume**, **Stereo/Mono**, **Signal**, **Bussing Volume Offset**, **Configure Speaker Profile**, **Speaker Configuration**, **Casting**, **Speaker/Faults**, **Line Out**, **Signal Generator**, **Advanced Signal Generator**, and **Equalizer Settings**.

The screenshot shows the 'Output' settings menu. It has three sections: 'Minimum / Maximum (Autosaved)', 'Stereo / Mono (Autosaved)', and 'Signal (Autosaved)'. The first section contains sliders for Minimum (0%), Maximum (100%), and Default (30%) volume. The second section has radio buttons for Stereo (selected) and Mono, and a dropdown for Zone Configuration set to 'Standard'. The third section shows a 'Signal' status as 'Not Present'.

Minimum/Maximum Volume

This screenshot shows the 'Minimum / Maximum (Autosaved)' settings section. It features three sliders: Minimum (set to 14%), Maximum (set to 86%), and Default (set to 27%). Each slider has a corresponding numerical input field and percentage indicator.

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. Values range from 0 to 50%, adjustable in increments of 1%.
 - Manually enter a value in the **Minimum** field.
2. 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. Values range from 51 to 100%, adjustable in increments of 1%.
 - Manually enter a value in the **Maximum** field.

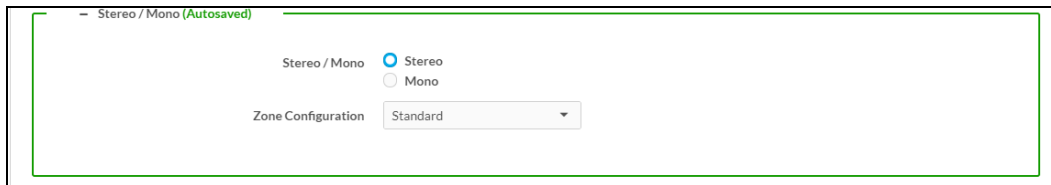
NOTE: When a **Minimum** and **Maximum** volume are set, the 1-100% range represented by the **Zone** and **Default** volume controls are scaled to the range set. For example, if a **Minimum** of 10% and a **Maximum** of 80% are set for a zone, the 1-100% range of the **Zone** volume control is scaled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

3. 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. Values range from 0 to 50%, adjustable in increments of 1%.
- 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.

Stereo/Mono



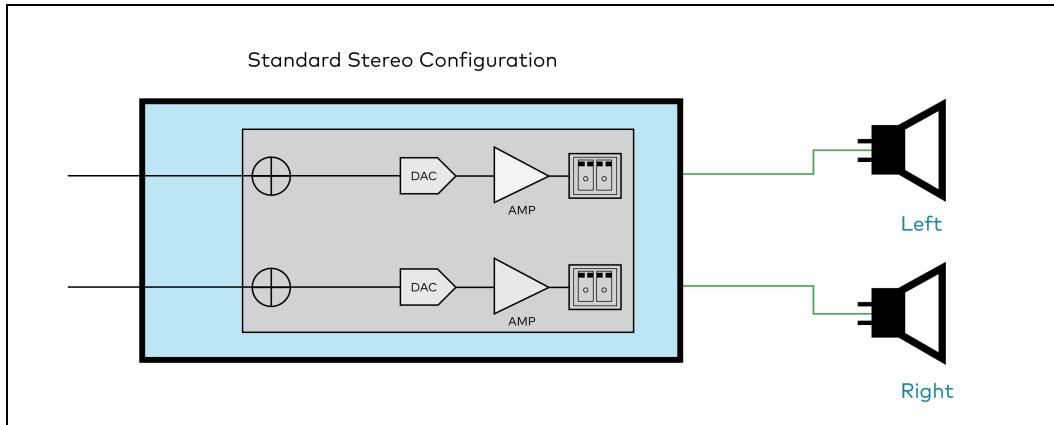
The screenshot shows a configuration window titled "Stereo / Mono (Autosaved)". Inside the window, there are two radio buttons: "Stereo" (which is selected) and "Mono". Below these, there is a label "Zone Configuration" followed by a dropdown menu currently set to "Standard".

1. Select either **Stereo** or **Mono** from the **Stereo/Mono** field.

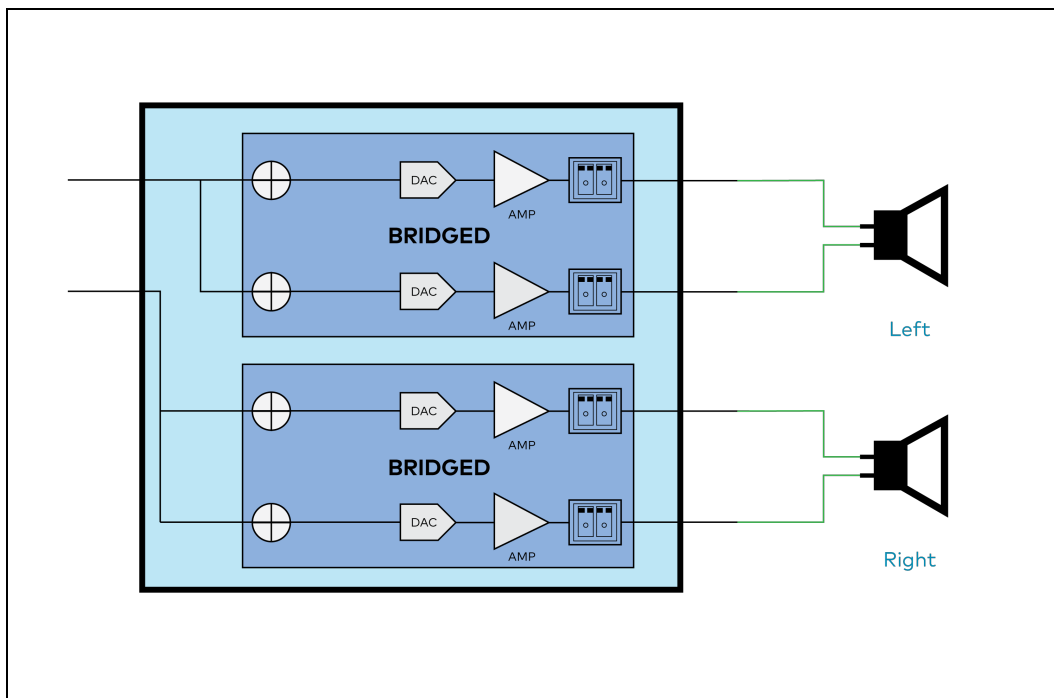
2. Select the zone configuration from the **Zone Configuration** drop-down. The available values are **Standard**, **Bridged**, **Bridged 2.1**, **Bridged Sub 2.1**, and **Bridged Mono**. Refer to the diagrams below for the output signal flow applied in each configuration.

NOTE: The **Stereo/Mono** field is disabled for the Bridged 2.1, Bridged Sub 2.1, and Bridged Mono zone configurations.

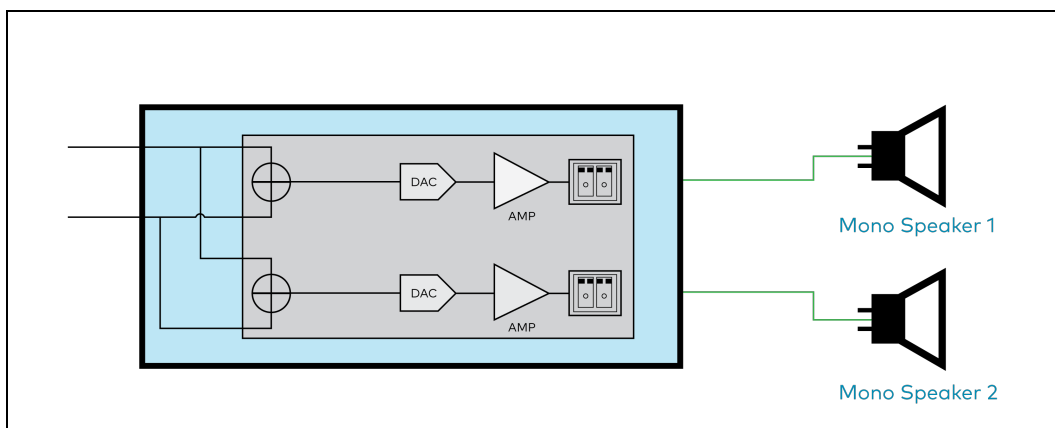
Stereo - Standard



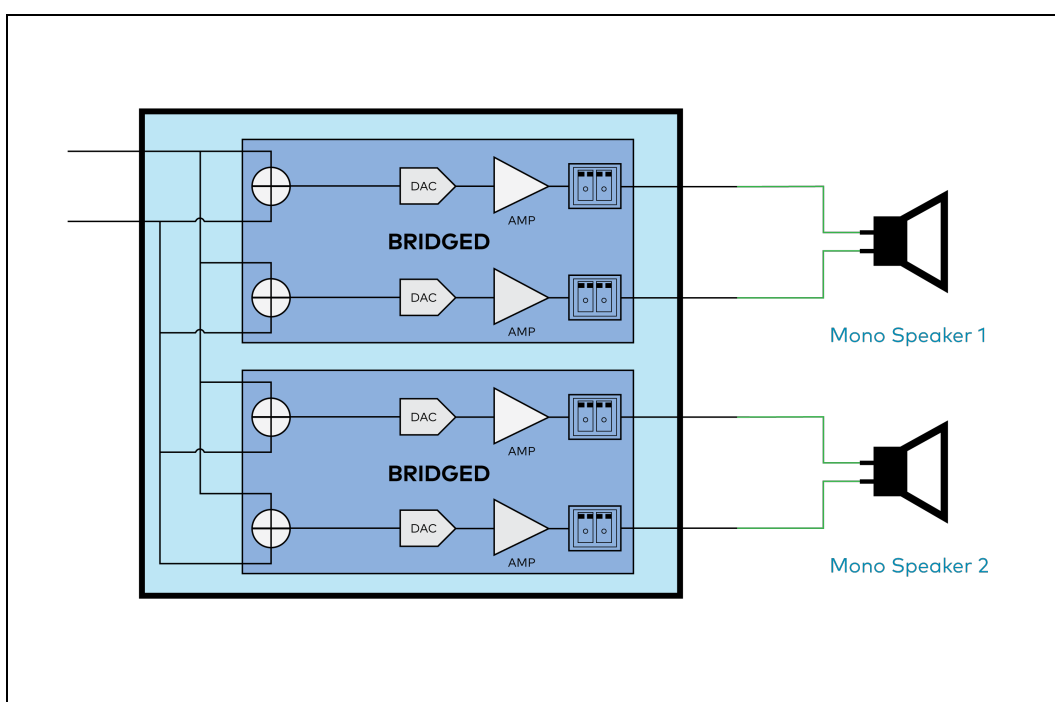
Stereo - Bridged



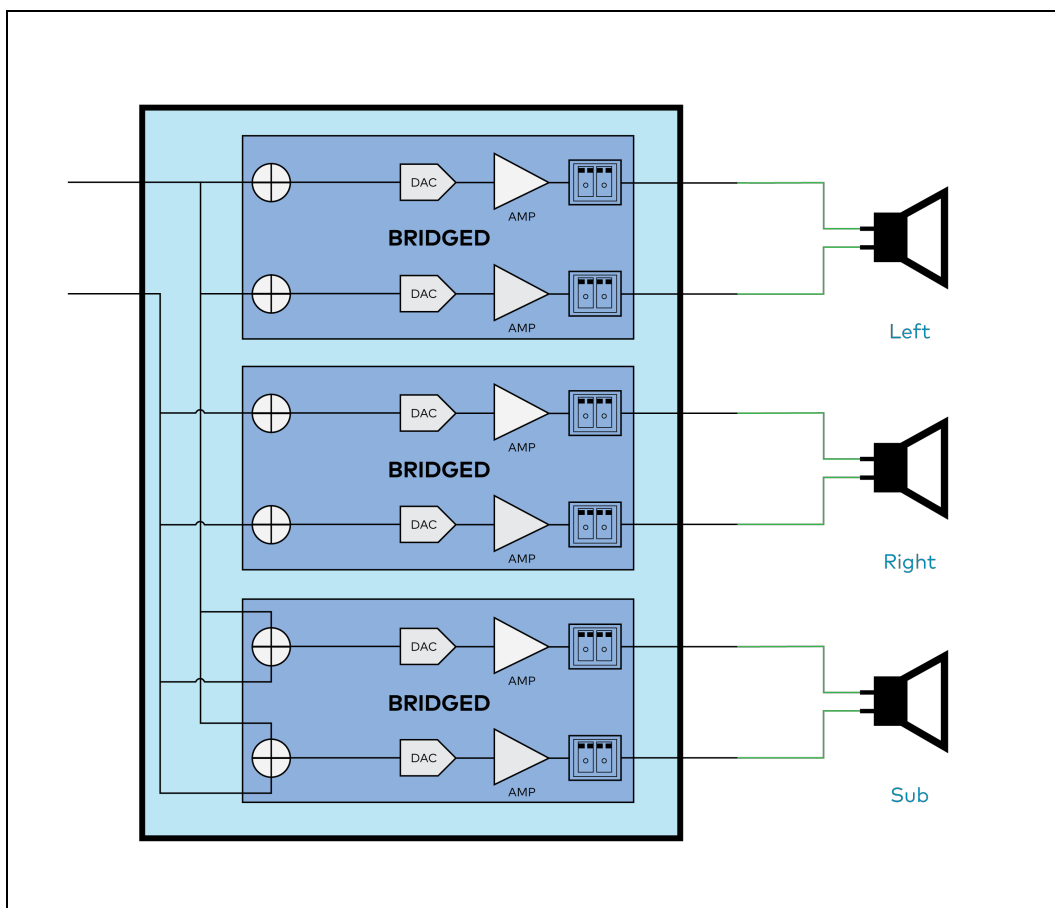
Mono - Standard



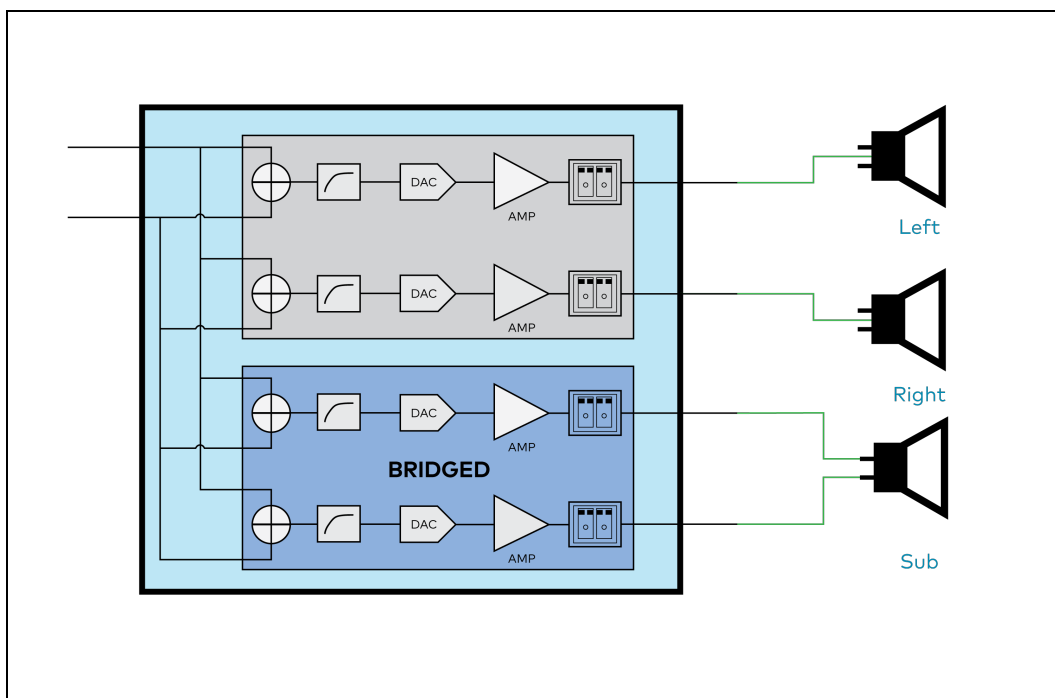
Mono - Bridged



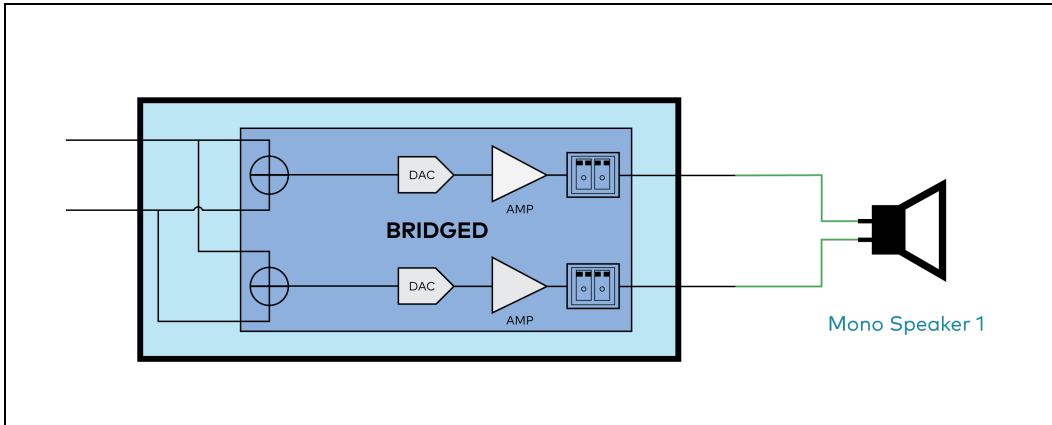
Bridged 2.1



Bridged Sub 2.1



Bridged Mono



Signal

Signal (Autosaved)

Signal

Not Present

Clipping

None

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 (Autosaved)

Bussing Volume Offset

0

db

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.

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. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
- Manually enter a value in the **Bussing Volume Offset** field.

Configure Speaker Profile

The DM-NAX-8ZSA has a library of built-in speaker profiles that contain equalizer, speaker protection, and impedance settings specific to Crestron and third-party speaker models. Custom speaker profiles

can also be generated and loaded to the DM-NAX-8ZSA. The **Configure Speaker Profile** field is used to apply these speaker profiles to a given zone of the DM NAX device.

NOTE: Applying a speaker profile on a zone will overwrite the existing **Speaker Configuration** and **Equalizer** settings for that zone.

Applied Manufacturer Crestron

Applied Model SAROS ICE4

Global Filter

Model	Manufacturer
<input type="radio"/> Air LS4	Crestron
<input type="radio"/> Air LS6	Crestron
<input type="radio"/> Air SR4	Crestron
<input type="radio"/> Air SR6	Crestron
<input type="radio"/> Air SR8	Crestron

1 of 9

Apply

In the **Global Filter** field, enter the speaker's model name to search for its associated profile. Any speaker profiles matching the search criteria are displayed.

To apply a speaker profile:

1. Select a speaker profile.
2. Select **Apply**.

The equalizer, impedance, and speaker protection settings of the zone are updated as per the applied speaker profile.

After applying a speaker profile, the **Speaker Configuration** and **Equalizer** settings for the zone can still be edited. The **Configure Speaker Profile** section will display a notification if these settings were altered after the speaker profile was applied.

Profile settings have been locally altered

Speaker Configuration

Speaker Configuration (Autosaved)

Enable Speaker Protect

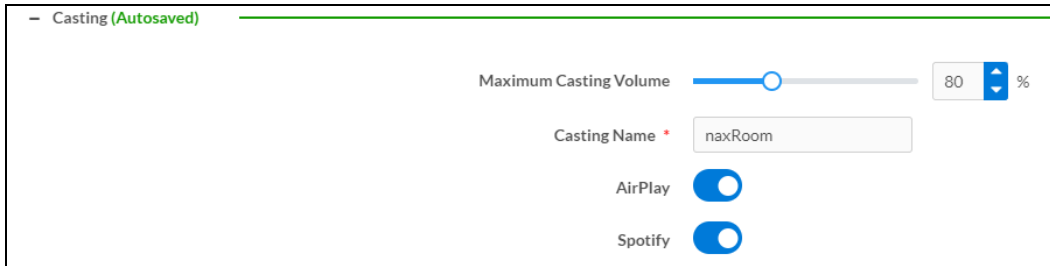
Speaker Wattage 40 Watts

Impedance 8 Ohms

1. Set the **Enable Speaker Protect** toggle to the right position to enable speaker protection for the zone output. Set the toggle to the left position to disable speaker protection. By default, **Enable Speaker Protect** is set to the left position.

2. To set the maximum output wattage, do one of the following:
 - Move the **Speaker Wattage** slider to the right to increase or to the left to decrease the maximum peak amplifier wattage that can be output to the speaker.
 - Use the **Watts** arrows to increase or decrease the maximum peak amplifier wattage that can be output to the speaker. Values range from 5 W to 150 W, adjustable in increments of 1 W.
 - Manually enter a value in the **Speaker Wattage** field.
3. Select the impedance of the speaker on a selected zone from the **Impedance** drop-down. Values are **4 Ohms**, **8 Ohms**, and **Bridged**.

Casting



- Casting (Autosaved)

Maximum Casting Volume 80 %

Casting Name *

AirPlay ☒

Spotify ☒

The **Casting** section is used to enable or disable the ability of third-party devices to cast audio to the DM NAX output zone, as well as set a maximum casting volume and friendly name for the zone.

To configure **Casting**:

1. **Maximum Casting Volume** is an alternate value for the **Maximum** volume set under [Minimum/Maximum Volume on page 356](#), applied to the zone only when a casting service is routed to it. To set the maximum casting volume, do one of the following:
 - Move the **Maximum Casting Volume** slider right to increase or left to decrease the maximum volume.
 - Use the arrows to increase or decrease the maximum casting volume. Values range from 51% to 100%, adjustable in increments of 1%.
 - Manually enter a value in the **Maximum Casting Volume** field.

NOTE: If the **Maximum Casting Volume** value is higher than the regular **Maximum** volume value, the **Maximum** value will be applied instead.

2. A custom casting name (for example, "Living Room") must be entered so that a name for the zone will be displayed in the list of available casting destinations when initiating a stream. Enter this friendly name in the **Casting Name** field.

NOTE: Ensure that the **Casting Name** field is populated as any field with an asterisk (*) is mandatory.

Once AirPlay® and/or Spotify Connect™ are enabled, this name will be displayed as an available destination on the casting device.

The DM-NAX-8ZSA supports Apple AirPlay 2 casting.

To stream media from an iOS® device to a zone on the DM-NAX-8ZSA via AirPlay casting:

1. Ensure that the iOS device and DM-NAX-8ZSA are on the same network.

NOTE: If **Port Selection** is enabled on the DM-NAX-8ZSA, AirPlay will use the port specified for Control/Media traffic.

2. Set the **AirPlay** toggle to the right position to enable AirPlay casting to the zone's associated media player.
3. On your iOS device:
 - a. Enable AirPlay.
 - b. From the list of available AirPlay destinations, select the DM-NAX-8ZSA media player you would like to stream to. The iOS device will cast the streaming audio to the selected media player.

NOTE: By default, media players 1-8 route to their respectively numbered output zones 1-8 if they are not already routed to any other zones when casting playback begins. For example, the audio from the media player 5 will be routed to output zone 5 if a Spotify Connect casting session on media player 5 starts and it is not already routed to another zone.

- c. After the AirPlay stream begins, control the volume of the streaming DM-NAX-8ZSA output zone directly from your iOS device.

Set the **AirPlay** toggle to the left to disable AirPlay casting for a DM-NAX-8ZSA media player.

The DM-NAX-8ZSA supports Spotify Connect™ casting.

To stream media to a zone on the DM-NAX-8ZSA via Spotify Connect casting:

1. Ensure that the casting device and DM-NAX-8ZSA are on the same network.

NOTE: If **Port Selection** is enabled on the DM-NAX-8ZSA, Spotify Connect will use the port specified for Control/Media traffic.

2. Set the **Spotify Connect** toggle to the right position to enable Spotify Connect casting to the zone's associated media player.

3. On the casting device:
 - a. Open the Spotify application.
 - b. Enable Spotify Connect casting.
 - c. From the list of available casting destinations, select the DM-NAX-8ZSA media player you would like to stream to. The device will cast the streaming audio to the selected media player.

NOTE: By default, media players 1-8 route to their respectively numbered output zones 1-8 if they are not already routed to any other zones when casting playback begins. For example, the audio from the media player 5 will be routed to output zone 5 if an AirPlay casting session on media player 5 starts and it is not already routed to another zone.

- d. After the Spotify Connect stream begins, control the volume of the streaming DM-NAX-8ZSA output zone directly from the Spotify application on the casting device.

Set the **Spotify Connect** toggle to the left to disable Spotify Connect casting for a DM-NAX-8ZSA media player.

To stream media from a Roon® streaming device to a zone in your distributed audio system:

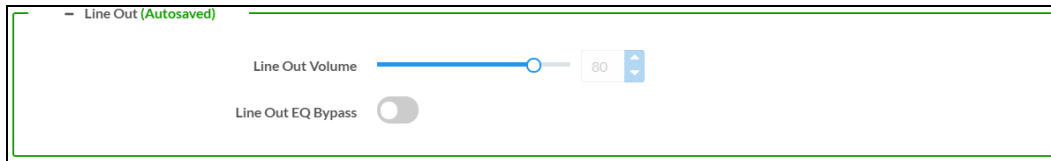
1. Enable Apple AirPlay casting for each DM NAX zone.
2. Launch the Roon desktop app.
3. Open the Roon app menu and navigate to the **Settings** submenu, then select **Audio**. A table of discovered network devices that the Roon device can stream to will be displayed. Any devices that previously have been enabled for Roon casting are listed under the **Connected to Core** section, and the rest of the discovered devices are listed under **Other network devices**.
4. Find each of the DM NAX zones in the **Other network devices** list, then select **Enable** for each zone to connect it to the Roon Core® for casting.
5. Return to the Roon app home page and select the speaker icon at the bottom right. Select a DM NAX zone from the list of available casting destinations. With a zone selected, start a media stream, and the Roon device will cast the streaming audio to the zone.

Speaker/Faults

Speaker / Faults (Autosaved)	
DC Offset Fault	None
Over Current Fault	None
Clipping Detected	None
Over or Under Voltage	None
Over Temperature	None

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.

Line Out

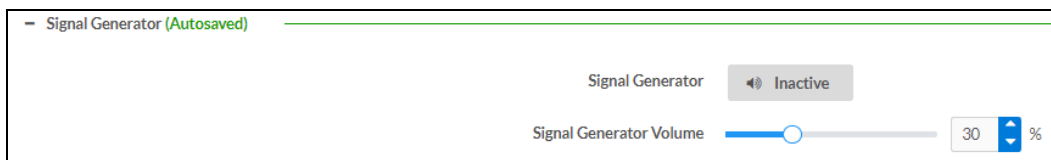


Line Out Volume controls the volume level of the corresponding line-level output on the DM NAX device. This setting is only available on zones 1 through 4 of the DM-NAX-8ZSA, as zones 5 through 8 do not have a corresponding line-level output. The Line Out Volume is only applied when **Line Out EQ Bypass** is enabled.

1. To set the line out volume, do one of the following:
 - Move the **Line Out Volume** slider to the right to increase or to the left to decrease the line out volume.
 - Use the arrows to increase or decrease the line out volume. Values range from 0 to 100, adjustable in increments of 1. This range in dB is -80 dB to 20 dB.
 - Manually enter a value in the **Line Out Volume** field.
2. Set the **Line Out EQ Bypass** toggle to the right position to have the line-level output signal bypass the zone's equalizer settings. Set the toggle to the left position to have the line-level output signal pass through the zone's equalizer. By default, **Line Out EQ Bypass** is disabled.

NOTE: When the **Line Out EQ Bypass** setting is disabled, the line-level output's level will mirror the speaker output's **Zone** volume control. This allows for a variable signal level in applications where the line-level output is connected to an uncontrolled device such as powered speakers. If the **Line Out EQ Bypass** setting is enabled, the **Line Out Volume** slider can be used to set a fixed level for the line-level output. This level will not be affected by the speaker output **Zone** volume controls, so this configuration is better suited to applications where the line output is connected to a controlled amplifier with its own level adjustment.

Signal Generator



The DM-NAX-8ZSA 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.

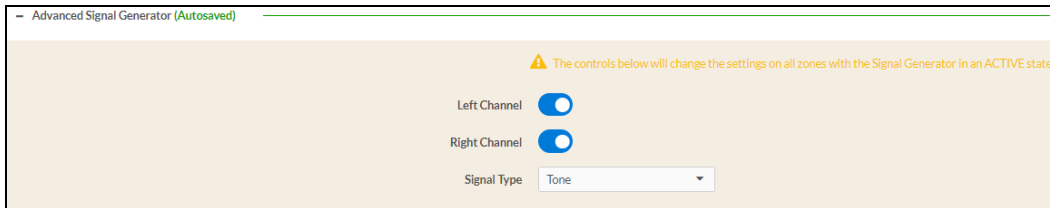
1. To route the signal generator to the zone output, select **Signal Generator** so that it displays **Active** and is highlighted in blue. To unroute the signal generator on the zone output, select **Signal Generator** so that it displays **Inactive** and is highlighted in grey. By default, the signal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

NOTES:

- There is only one signal generator built-in to the DM NAX device. Each zone has its own button 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.
- The **Signal Generator Volume** control 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. 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. Values range from 0 to 100, adjustable in increments of 1.
 - 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 DM NAX 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.

1. 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.
2. 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.
3. Select an audio test signal type from the **Signal Type** drop-down. 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

Equalizer Settings (Autosaved)

Speaker EQ Enabled ☒

Band	Band01	Band02	Band03	Band04	Band05	Band06	Band07	Band08	Band09	Band10
Gain										
	0	0	0	0	0	0	0	0	0	0
Type	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ
Frequency	32	64	125	250	500	1000	2000	4000	8000	16000
Bandwidth	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Actions	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset

Each zone output of the DM-NAX-8ZSA has a dedicated ten-band equalizer that can be fully customized to tune the zone 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. With the **Speaker EQ Enabled** toggle in the right position, configure the equalizer bands.
 - a. To set a band's gain, do one of the following:
 - Move the **Gain** slider up to increase or down to decrease the gain.
 - Use the arrows to increase or decrease the gain. Values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Gain** field.

- b. Select a filter type from the **Type** drop-down. 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. To set the center frequency, do one of the following:
- Use the arrows to increase or decrease the frequency. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. 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. To set the bandwidth, do one of the following:
- Use the arrows to increase or decrease the bandwidth. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave.
 - 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.

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 up to four buses on the DM-NAX-8ZSA.

— Bussing

Name	Bus Id	Included Zones
Bus01	1	Zone6, Zone7
Bus02	2	Choose Zones
Bus03	3	Choose Zones
Bus04	4	Choose Zones

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.

NOTE: Each zone can be a member of only one bus. Any zones that are already a member of another bus will not be shown in the **Included Zones** drop-down.

3. Select **Save Changes** in the top right corner.

Inputs

The **Inputs** section is used to configure the **Name**, **Compensation**, and **Mute** attributes of the available analog, digital, and media streaming inputs on the DM-NAX-8ZSA.

A total of 16 inputs are available on the DM-NAX-8ZSA, including the 8 physical input connectors on the device's rear panel and the 8 internal media players used for media streaming services.

— Inputs (Autosaved)

Name	TOSLINK1	TOSLINK2	S/PDIF1	S/PDIF2	RCA1	RCA2	RCA3	RCA4
Gain (db)								
Signal Present								
Clipping Detected								
Mute								


Configure Inputs

1. If needed, enter a friendly name for each input in its **Name** field.
2. To set a level compensation adjustment for a given input, do one of the following:
 - Move the **Compensation** slider up to increase or down to decrease the compensation. Compensation increases or decreases the level of the incoming audio signal on any of the physical inputs on the device's rear panel. Compensation is not available for any of the internal media players.
 - Use the **db** arrows to increase or decrease the compensation. Values range from -10 dB to 10 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Compensation** field.

- To mute the signal from the corresponding input, select **Mute**. To disable the mute, select **Muted**. By default, **Mute** is disabled.

Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- **Signal Presence** indicates whether or not a signal is detected in that zone.
- **Clipping Detected** indicates if the signal is **Clipping** or **Nominal** (non-clipping).

Use the **Global Filter** text field to filter specific inputs by name. Not all of the available inputs are shown on the first page in this section when no **Global Filter** is applied. Use  at the bottom of the table to view the next page of inputs.

DM NAX Streams

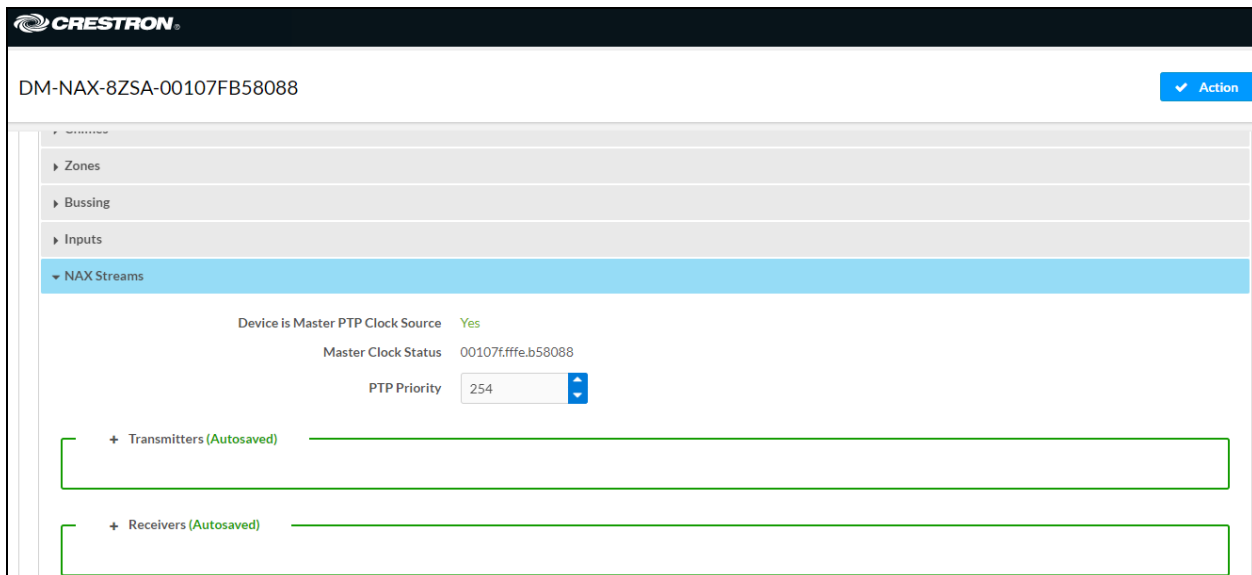
Each local input of the DM-NAX-8ZSA can be made available as a DM NAX audio-over-IP stream. This includes the eight physical inputs on the rear panel of the device and the eight internal media players.

The DM-NAX-8ZSA also supports parallel DM NAX streams for each zone output, enabling an additional transmit stream per output to mirror all routes and DSP settings of its respective zone. These parallel streams enable control of the audio signal to third-party uncontrolled AES67 devices receiving audio from the DM-NAX-8ZSA.

NOTES:

- Under the **Transmitters** section (see [Configure Transmitters](#)), the last four listed transmitters are dedicated to parallel zone outputs.
- To configure the DSP settings, refer to [Zone Settings](#).

Select **NAX Streams** to expand the tab and display the following information.



The screenshot shows the Crestron configuration interface for a DM-NAX-8ZSA device. The device ID is DM-NAX-8ZSA-00107FB58088. The left sidebar contains a menu with options: Zones, Bussing, Inputs, and NAX Streams (which is selected and highlighted in blue). The main content area displays the NAX Streams configuration. It includes a status indicator 'Device is Master PTP Clock Source' with a green 'Yes' label. Below this, the 'Master Clock Status' is shown as '00107f.ffe.b58088'. The 'PTP Priority' is set to '254' with a dropdown arrow. At the bottom, there are two expandable sections: '+ Transmitters (Autosaved)' and '+ Receivers (Autosaved)', both of which are currently collapsed.

- **Device is Leader PTP Clock Source** indicates whether the DM NAX device's PTP clock is the leader clock on the network. **Yes** will be displayed in green when the local DM-NAX-8ZSA's clock 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 is currently acting as the leader clock.
- **PTP Priority**: This 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 DM-NAX-8ZSA 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 Transmitters

NAX Streams

Device is Master PTP Clock Source **No**
Master Clock Status 00107ffffe.9cc314
PTP Priority 254

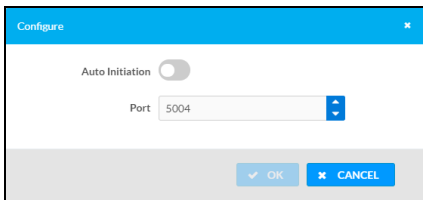
Transmitters (Autosaved)

Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
Digital Input 1	Stream01	0.0.0.0	TOSLINK1100.10.7fb5.80.88	Stream Stopped	▶ ■ ⚙
Digital Input 2	Stream02	0.0.0.0	TOSLINK2200.10.7fb5.80.88	Stream Stopped	▶ ■ ⚙
Digital Input 3	Stream03	239.8.0.32	S/PDIF1300.10.7fb5.80.88	Stream Started	▶ ■ ⚙
Digital Input 4	Stream04	0.0.0.0	S/PDIF2400.10.7fb5.80.88	Stream Stopped	▶ ■ ⚙
Analog Input 5	Stream05	0.0.0.0	RCA1500.10.7fb5.80.88	Stream Stopped	▶ ■ ⚙
Analog Input 6	Stream06	0.0.0.0	RCA2600.10.7fb5.80.88	Stream Stopped	▶ ■ ⚙
Analog Input 7	Stream07	0.0.0.0	RCA3700.10.7fb5.80.88	Stream Stopped	▶ ■ ⚙
Analog Input 8	Stream08	0.0.0.0	RCA4800.10.7fb5.80.88	Stream Stopped	▶ ■ ⚙

NOTE: To configure transmitters not shown on the current page of the table, select the ▶ icon to display the next page of eight transmitters.

To configure a DM NAX transmit stream:

1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon ⚙ in the **Actions** column. The **Configure** dialog appears:

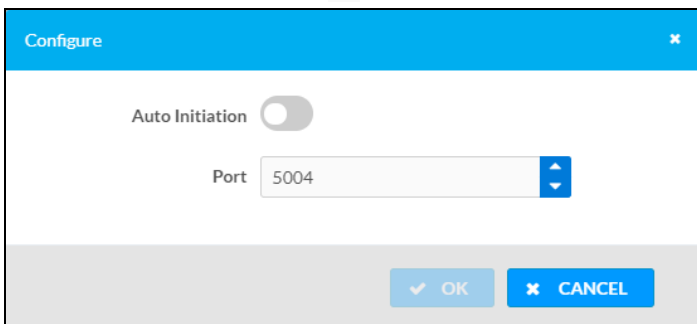


5. Set the **Auto Initiation** toggle to the right position to enable auto initiation. Set the toggle to the left position to disable auto initiation.
 - If **Auto Initiation** is enabled for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

Configure Receivers

Receivers (Autosaved)						
Zone Name	Stream	Current Stream Address	Requested Stream Address		Status	Actions
Zone1	Stream01	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ■ ⚙
Zone2	Stream02	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ■ ⚙
Zone3	Stream03	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ■ ⚙
Zone4	Stream04	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ■ ⚙
Zone5	Stream05	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ■ ⚙
Zone6	Stream06	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ■ ⚙
Zone7	Stream07	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ■ ⚙
Zone8	Stream08	0.0.0.0	0.0.0.0	Q	Stream Stopped	▶ ■ ⚙

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 configure icon ⚙ in the **Actions** column. The **Configure** dialog appears:

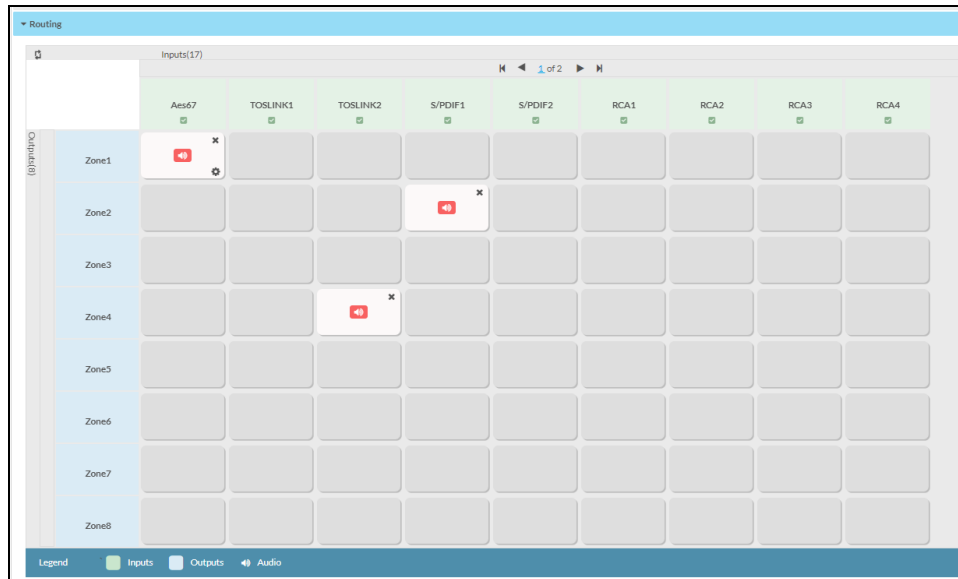


- Set the **Auto Initiation** toggle to the right position to enable auto initiation. Set the toggle to the left position to disable auto initiation.
 - If **Auto Initiation** is enabled, the stream will begin automatically when the receiver subscribes to the transmitter.
 - If **Auto Initiation** is disabled, the stream will not begin until it is manually initiated.
- To set the 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. The default port number is 5004.
- Select **OK** to save or select **Cancel** to cancel the changes.

Routing

The **Routing** section is used to route a local input, media player, or AES67 stream to a zone on the DM-NAX-8ZSA.

NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).

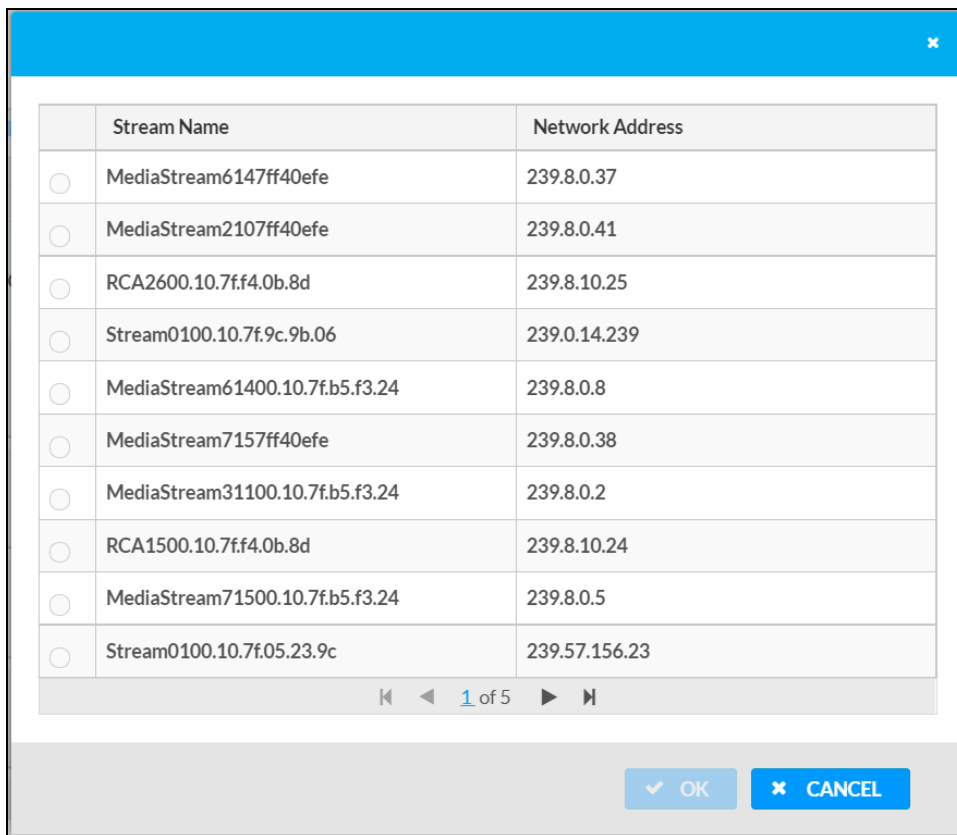


- To route an input to a zone, select the box in the routing matrix where the zone's row overlaps the corresponding input's column. Once a route is made, appears.
- To break a given route select or .
- To route a single input to all zones, select the icon under the input's name.

Use the arrows (or) at the top of the matrix to change pages to view all available inputs.

To select a specific DM NAX/AES67 stream when AES67 is selected as the source for a zone:

- Select the gear icon ⚙ to display the list of all DM NAX/AES67 streams discovered on the network, then select the corresponding stream to be routed to the zone.



	Stream Name	Network Address
<input type="radio"/>	MediaStream6147ff40efe	239.8.0.37
<input type="radio"/>	MediaStream2107ff40efe	239.8.0.41
<input type="radio"/>	RCA2600.10.7f.f4.0b.8d	239.8.10.25
<input type="radio"/>	Stream0100.10.7f.9c.9b.06	239.0.14.239
<input type="radio"/>	MediaStream61400.10.7f.b5.f3.24	239.8.0.8
<input type="radio"/>	MediaStream7157ff40efe	239.8.0.38
<input type="radio"/>	MediaStream31100.10.7f.b5.f3.24	239.8.0.2
<input type="radio"/>	RCA1500.10.7f.f4.0b.8d	239.8.10.24
<input type="radio"/>	MediaStream71500.10.7f.b5.f3.24	239.8.0.5
<input type="radio"/>	Stream0100.10.7f.05.23.9c	239.57.156.23

1 of 5

OK CANCEL

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

Streaming Services

The DM-NAX-8ZSA features eight built-in media streaming players, each of which can play back a discrete media stream from a cloud-based service or local casting device. User profiles can be created for each user of the DM NAX device with discrete credentials, enabling multiple users access to media streaming services without interfering with other users' recommendations, favorites, or playlists.

NOTE: Levels for each streaming service provider can be adjusted individually via console commands. Refer to [Knowledge Article 3144](#) for more information.

Set the **End User Access** toggle to the right position to enable end user access. With **End User Access** enabled, any account on the device can access the **Streaming Services** settings to add or remove streaming service accounts. Set the toggle to the left position to disable end user access. By default, **End User Access** is disabled.

Streaming Services

End User Access ☐

User Profiles (Autosaved)

Profile Name	Services	Actions
Test		<div>Delete</div> <div>Services</div>

+ Add User Profile

To configure streaming services:

1. Select **+ Add User Profile** to create a new user profile. Each user profile can contain a unique set of streaming service accounts.
2. Enter a name in the **Profile Name** field. Select **Save** to create the **User Profile**. Once the profile is created, you have the option to either **Delete** the profile, or add **Services** to it.
3. Select **Services** in the **Action** column and an **Edit Services** window appears.

Edit Services

Service Name	Actions
TIDAL	<div>+</div> <div>🗑️</div> <div>👤+</div> <div>👤×</div>
Deezer	<div>+</div> <div>🗑️</div> <div>👤+</div> <div>👤×</div>
Qobuz	<div>+</div> <div>🗑️</div> <div>👤+</div> <div>👤×</div>
SoundMachine	<div>+</div> <div>🗑️</div> <div>👤+</div> <div>👤×</div>
Apple Music	<div>+</div> <div>🗑️</div> <div>👤+</div> <div>👤×</div>
SiriusXM	<div>+</div> <div>🗑️</div> <div>👤+</div> <div>👤×</div>
Pandora	<div>+</div> <div>🗑️</div> <div>👤+</div> <div>👤×</div>
Internet Radio	<div>+</div> <div>🗑️</div> <div>👤+</div> <div>👤×</div>
Podcasts	<div>+</div> <div>🗑️</div> <div>👤+</div> <div>👤×</div>
Amazon Music	<div>+</div> <div>🗑️</div> <div>👤+</div> <div>👤×</div>

✓ DONE


4. Select from the available streaming services: **TIDAL™**, **Deezer®**, **Qobuz®**, **SOUNDMACHINE®**, **Apple Music®**, **SiriusXM®**, **Pandora®**, **Internet Radio**, **Podcasts**, and **Amazon Music®**. Select **+** or **🗑️** to add or delete the desired streaming services for each user profile.

User Authentication

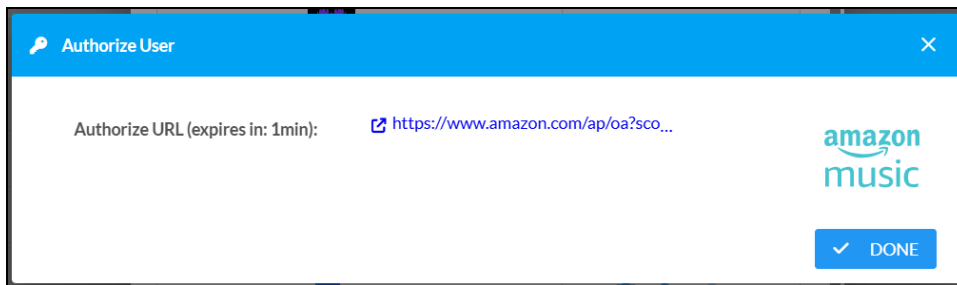
User authentication is required for Amazon Music, Deezer, Pandora, Qobuz, SiriusXM, SOUNDMACHINE, and TIDAL.

Amazon Music

To authenticate an Amazon Music account:

1. Select the add user icon  in the Amazon Music row of the table.
2. Select the link to log in via the Amazon Music portal.


NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.

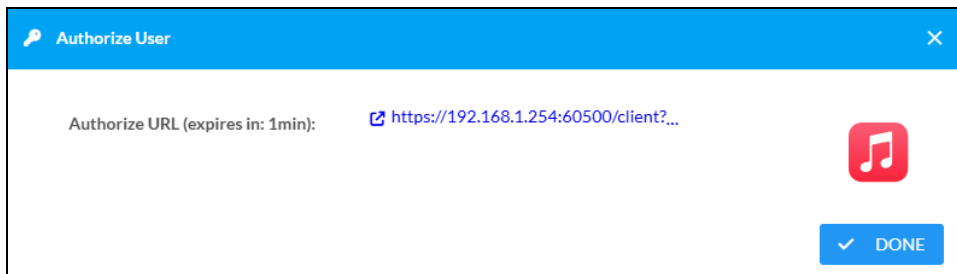


3. Select **DONE** to return to **Streaming Services**.

Apple Music

To authenticate an Apple Music account:


1. Select the add user icon  in the Apple Music row of the table.
2. Select the link to log in via the Apple Music portal.



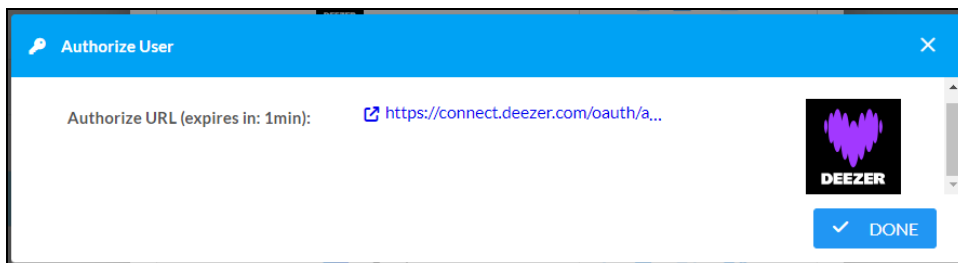
3. Select **DONE** to return to **Streaming Services**.

Deezer

To authenticate a Deezer account:

1. Select the add user icon  in the Deezer row of the table.
2. Select the link to log in via the Deezer portal.



NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.

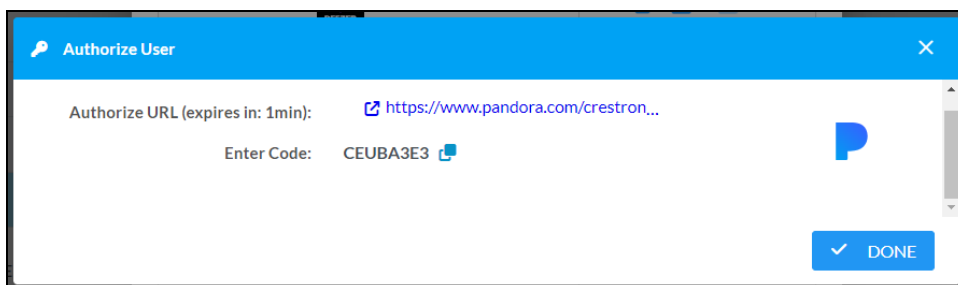


3. Select **DONE** to return to **Streaming Services**.

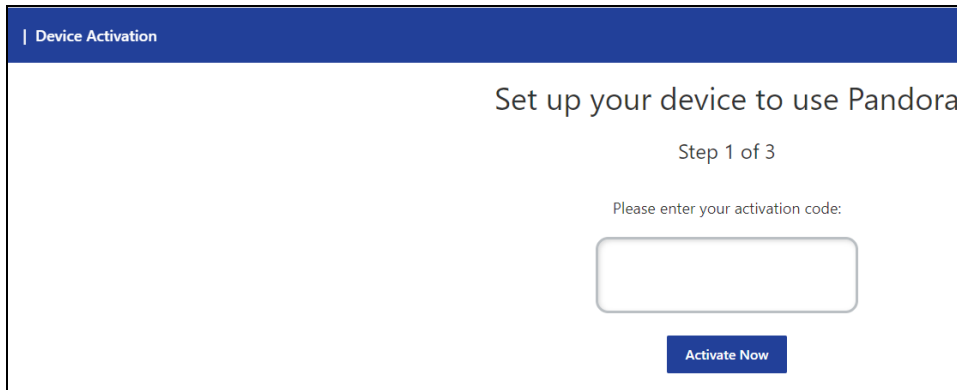
Pandora

To authenticate a Pandora account:

1. Select the add user icon  in the Pandora row of the table.
2. Select the  icon to copy the activation code.



3. Select the link to register the device. The **Device Activation** page is displayed.




NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** and **Enter Code** are shown as blank. The **Authorize User** dialogue will need to be closed and reopened.

4. Paste the activation code in the **Please enter your activation code** field and select **Activate Now**.
5. Log in to the Pandora account.
6. Select **DONE** to return to **Streaming Services**.

Qobuz

To authenticate a Qobuz account:

1. Select the add user icon  in the Qobuz row of the table.
2. Select the link to log in via the Qobuz portal.

NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.




3. Select **DONE** to return to **Streaming Services**.

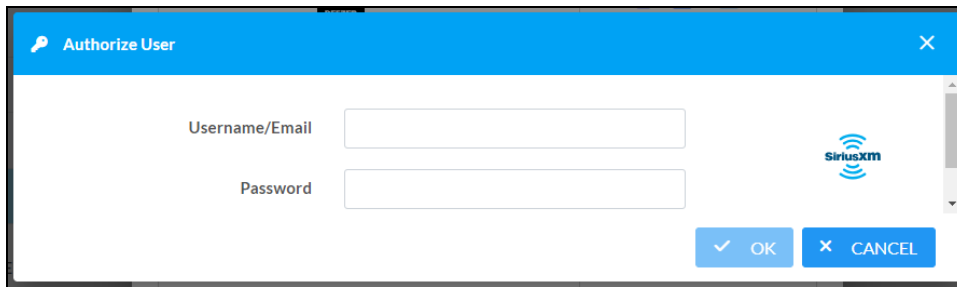
SiriusXM

Both consumer and commercial SiriusXM streaming accounts are supported on the DM-NAX-8ZSA.

NOTE: To determine whether to use commercial accounts, refer to the streaming service license agreement or FAQs on their respective portals. Refer to [this link](#) for SiriusXM documentation.

To authenticate a SiriusXM account:

1. Select the add user icon  in the SiriusXM row of the table.
2. Enter the user credentials and select **OK**




SOUNDMACHINE

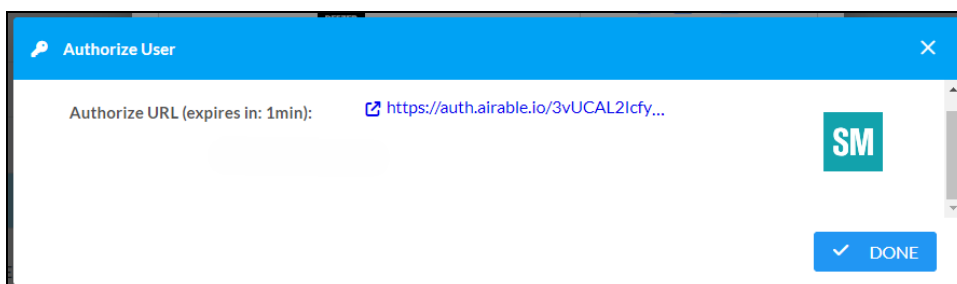
Both consumer and commercial SOUNDMACHINE streaming accounts are supported on the DM-NAX-8ZSA.

NOTE: To determine whether to use commercial accounts, refer to the streaming service license agreement or FAQs on their respective portals. Refer to [this link](#) for SOUNDMACHINE documentation.

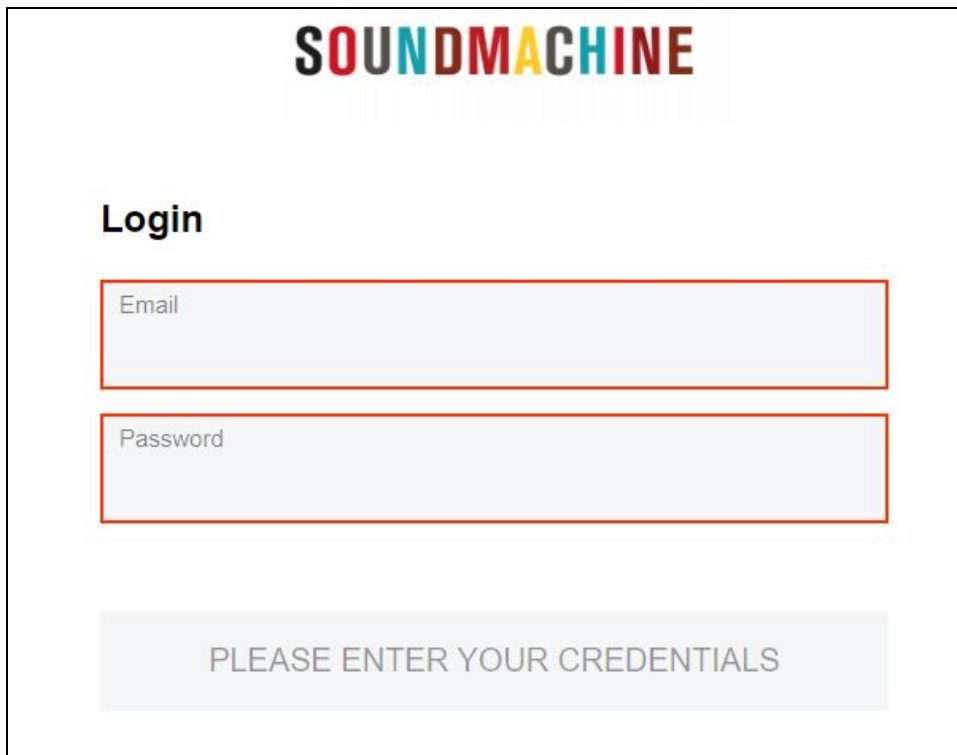
To authenticate a SOUNDMACHINE account:

1. Select the add user icon  in the SOUNDMACHINE row of the table.
2. Select the link to log in via the SOUNDMACHINE portal.

NOTE: The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.



3. Log in to the SOUNDMACHINE account.




The image shows a login interface for SOUNDMACHINE. At the top is the SOUNDMACHINE logo in a colorful, blocky font. Below the logo is the word "Login" in a bold, black font. Underneath "Login" are two input fields: "Email" and "Password", both with red borders. Below these fields is a large, light gray button with the text "PLEASE ENTER YOUR CREDENTIALS" in all caps.

4. Select **DONE** to return to **Streaming Services**.

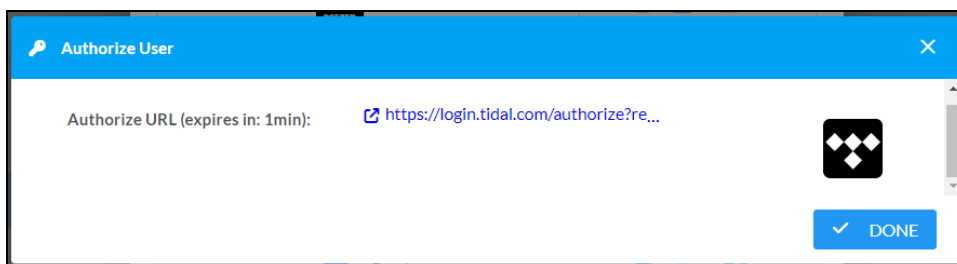
TIDAL

To authenticate a TIDAL account:

1. Select the add user icon  in the TIDAL row of the table.
2. Select the link to log in via the TIDAL portal.

NOTES:

- The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The **Authorize User** dialogue will need to be closed and reopened.
- TIDAL free accounts are not supported on the DM NAX audio-over-IP platform.

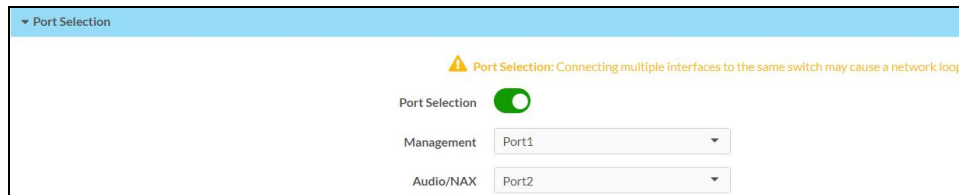


The image shows a dialog box titled "Authorize User" with a blue header bar. Inside the dialog, there is a label "Authorize URL (expires in: 1min):" followed by a blue hyperlink "https://login.tidal.com/authorize?re...". To the right of the URL is a TIDAL logo. At the bottom right of the dialog is a blue button with a white checkmark and the text "DONE".

3. Select **DONE** to return to **Streaming Services**.

Port Selection

The **Port Selection** feature allows the device's internal network traffic to be managed and segregated based on traffic type. Internal VLANs are used to segment device management and streaming service traffic to a separate physical device Ethernet port than audio-over-IP streaming traffic. With **Port Selection** enabled on all DM NAX devices on a network, DM NAX and AES67 network traffic can be physically separated from the control network onto a dedicated audio network.



To configure **Port Selection**:

1. Set the **Port Selection** toggle to the right position to enable **Port Selection**. Set the toggle to the left position to disable **Port Selection**. By default, **Port Selection** is disabled.

NOTE: **Port1** and **Port2** correspond to the Ethernet adapters labeled **1** and **2** on the rear panel of the DM-NAX-8ZSA, respectively.

2. With **Port Selection** enabled:
 - a. Select an Ethernet port from the **Management** drop-down to designate which Ethernet port on the rear panel of the device will handle network traffic relating to device configuration, streaming services, and the device's connection to a control system.

NOTES:

- To access streaming services, the Management port must be connected to a network with internet access.
- The Management port determines your connection to the web interface. Changing the port value can result in losing your connection to the device via the web interface.

- b. Select an Ethernet port from the **Audio/NAX** drop-down to designate which Ethernet port on the rear panel of the device will handle audio-over-IP streaming network traffic.
3. Select **Save** changes to apply the new settings.

NOTE: Making changes to **Port Selection** settings will require a reboot.

Security

Select the **Security** tab to configure security for users and groups and to allow different levels of access to the DM-NAX-8ZSA functions. By default, security is disabled.

The screenshot shows the 'Security' tab selected in the top navigation bar. Below the navigation bar, there is a 'Security' section with a dropdown menu for 'SSL Mode' set to 'OFF'. Below this, there is a 'Current User' tab selected, showing user details: Name: admin1, Access Level: Administrator, Active Directory User: No, and Groups: Administrators. A blue button labeled 'Change Current User Password' is located at the bottom left of the user details section.

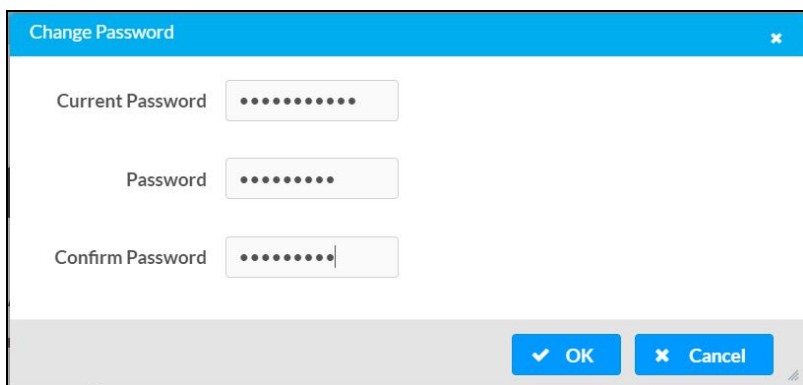
Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down, to specify whether to use encryption. By default, SSL Mode is set to **OFF**.

Current User

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

The screenshot shows the 'Current User' tab selected in the top navigation bar. Below the navigation bar, there is a 'Current User' section showing user details: Name: admin1, Access Level: Administrator, Active Directory User: No, and Groups: Administrators. A blue button labeled 'Change Current User Password' is located at the bottom left of the user details section.

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.

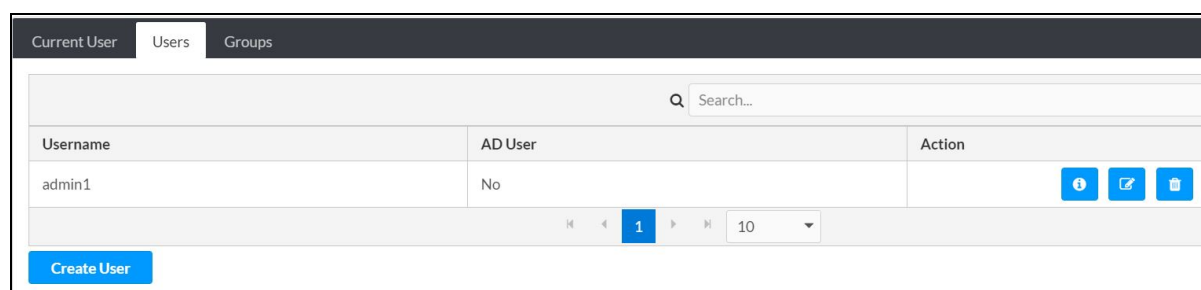


A dialog box titled "Change Password" with a close button (X) in the top right corner. It contains three password input fields: "Current Password", "Password", and "Confirm Password". Each field is represented by a text box with dots for masked characters. At the bottom right, there are two buttons: "OK" with a checkmark icon and "Cancel" with an X icon.

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.



The "Users" tab interface shows a table of users. At the top, there are tabs for "Current User", "Users", and "Groups". Below the tabs is a search bar labeled "Search...". The table has three columns: "Username", "AD User", and "Action". The first row shows "admin1" as the username, "No" as the AD User status, and three action icons (info, edit, delete). At the bottom left is a "Create User" button. At the bottom right, there are navigation arrows and a page number "1" in a blue box, followed by a dropdown menu showing "10".

Username	AD User	Action
admin1	No	[Info] [Edit] [Delete]

Use the **Search Users** 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 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 **Users** tab.
2. In the **Create User** dialog, enter the following:

Create User

Name: test

Active Directory User: ☐

Password:

Confirm Password:

Groups: Administrators

OK Cancel

- 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.
- Enter a password in the **Password** field; re-enter the same password in the **Confirm Password** field.
- 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.

- 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 DM-NAX-8ZSA, or add the Active Directory group(s) that they are a member of to the DM-NAX-8ZSA.

To add an Active Directory user.

- Select **Create User**.
- In the **Create User** dialog, enter the following.

Create User

Name: Connects\test

Active Directory User: ☒

Groups: Connects


OK Cancel

- 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

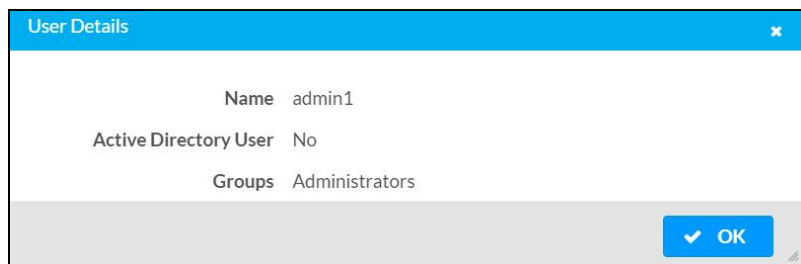
Select the trashcan icon  in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

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

Update User

Name

admin1

Active Directory User

☐

Password


Confirm Password

Groups

Administrators

OK

Cancel

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

Current UserUsersGroups

Search...

Group Name	AD Group	Access Level	Action
Administrators	No	Administrator	 
Connects	No	Connect	 
Operators	No	Operator	 
Programmers	No	Programmer	 
Users	No	User	 

1

10

Create Group

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 to the right of the navigation arrows.

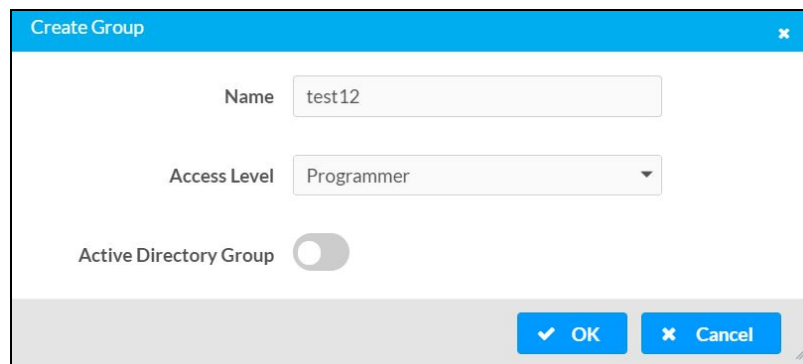
Existing groups are displayed in a table and the following information is provided for each group:

- **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 🗑 selected group.

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

Create Local Group

A screenshot of the 'Create Group' dialog box. It has a blue title bar with the text 'Create Group' and a close button. The dialog contains three fields: 'Name' with the text 'test12', 'Access Level' with a dropdown menu showing 'Programmer', and 'Active Directory Group' with a toggle switch that is currently turned off. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.

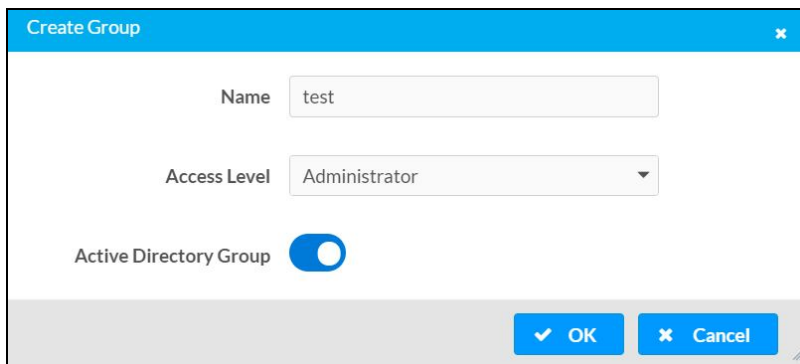
1. Select **Create Group**.
2. In the **Create Group** dialog, enter the following:
 - a. Enter the group name in the **Name** field.
 - b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

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



The **Create Group** dialog box has a blue header with a close button. It contains three fields: a text box for **Name** with the value "test", a dropdown for **Access Level** with "Administrator" selected, and a toggle for **Active Directory Group** which is currently turned on. At the bottom right are **OK** and **Cancel** buttons.


Once the group is added, all members of that group will have access to the DM-NAX-8ZSA.

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.
3. 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.


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

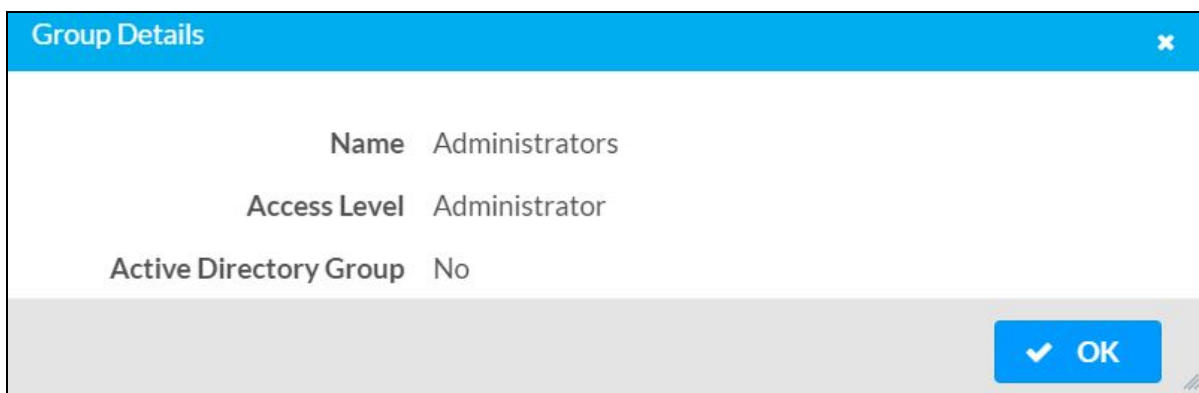
Delete a Group

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.



The **Group Details** dialog box has a blue header with a close button. It displays three rows of information: **Name** Administrators, **Access Level** Administrator, and **Active Directory Group** No. At the bottom right is an **OK** button.

- **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 DM-NAX-8ZSA 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.

The screenshot shows the '802.1X Configuration' page in a web browser. The top navigation bar includes 'Status', 'Settings', 'Security', and '802.1X Configuration'. The main content area has a blue header '802.1X Configuration'. Below it, the 'IEEE 802.1X Authentication' toggle is turned on. The 'Authentication Method' is set to 'EAP MSCHAP V2- password'. The 'Domain' field contains 'secure12', the 'Username' field contains 'admin', and the 'Password' field is masked with dots. The 'Enable Authentication Server Validation' toggle is also turned on. Below this, the 'Select Trusted Certificate Authority(s)' section shows a list of CA certificates with checkboxes. The checked certificates are: AAA Certificate Services, AffirmTrust Commercial, AffirmTrust Premium, and Amazon Root CA 3. Other certificates listed include AC RAIZ FNMT-RCM, ACCVRAIZ1, Actalis Authentication Root CA, AffirmTrust Networking, AffirmTrust Premium ECC, Amazon Root CA 1, Amazon Root CA 2, Amazon Root CA 4, Atos TrustedRoot 2011, Autoridad de Certificacion Firmaprofesional CIF A62634068, and Baltimore CyberTrust Root.

Configure DM-NAX-8ZSA for 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 the **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. 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-8ZSA.

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.

5. If required, type the domain name of the network in the **Domain** field.
6. 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.

DM-NAX-16AIN

This section describes how to configure DM-NAX-16AIN.

Web Interface Configuration

The DM-NAX-16AIN web interface allows you to view status information and configure network and device settings.

Access the Web Interface

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

- [Access the Web Interface with a Web Browser on page 395](#)
- [Access the Web Interface With Crestron Toolbox™ Software on page 397](#)

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

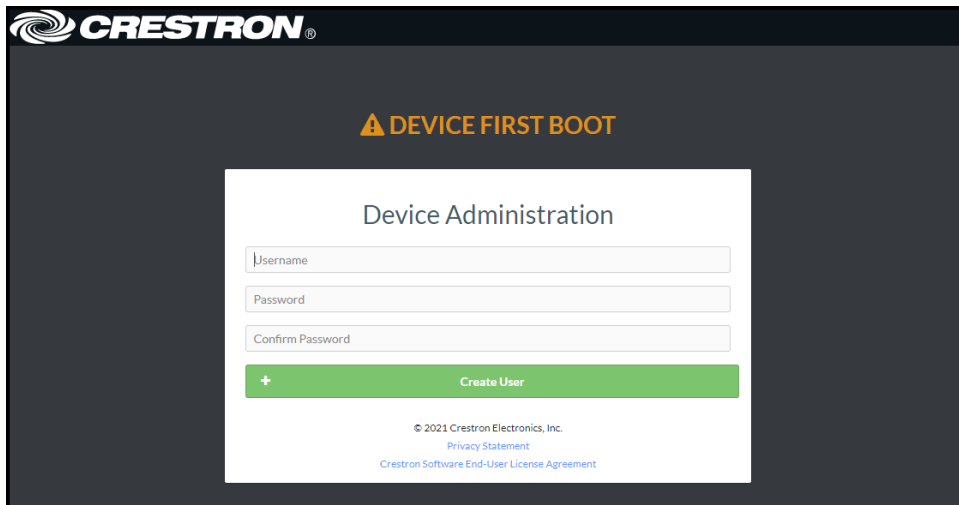
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later
	Firefox® web browser, version 31 and later
	Internet Explorer web browser, version 11 and later
	Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later
	Chrome 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 DM-NAX-16AIN into a web browser.

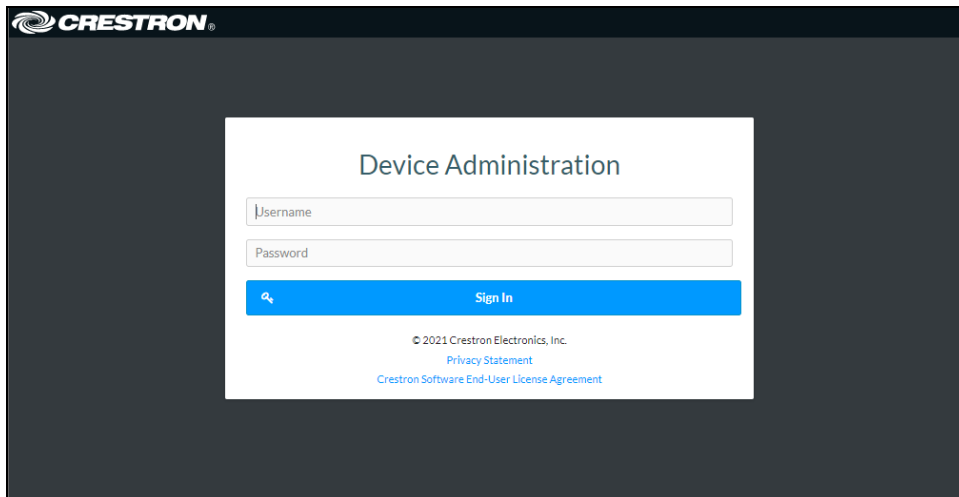
NOTE: To obtain the IP address, use the **Device Discovery Tool** in Crestron Toolbox™ software or an IP scanner application.

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.



The screenshot shows the Crestron logo at the top left. Below it, a yellow warning triangle icon is followed by the text "DEVICE FIRST BOOT". In the center, there is a white box titled "Device Administration". Inside this box, there are three input fields: "Username", "Password", and "Confirm Password". Below these fields is a green button with a white plus icon and the text "Create User". At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

- d. Select **Create User**. The Device Administration page appears.



The screenshot shows the same Crestron logo at the top left. Below it, the "DEVICE FIRST BOOT" message is no longer present. The white box titled "Device Administration" still contains the "Username" and "Password" input fields. Below these fields is a blue button with a white magnifying glass icon and the text "Sign In". At the bottom of the white box, the same small text is present: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Select **Sign In**.

Access the Web Interface With Crestron Toolbox™ Software

To access the web interface by opening a web browser from Crestron Toolbox™ software:

1. Open Crestron Toolbox software.
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 DM-NAX-16AIN 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.

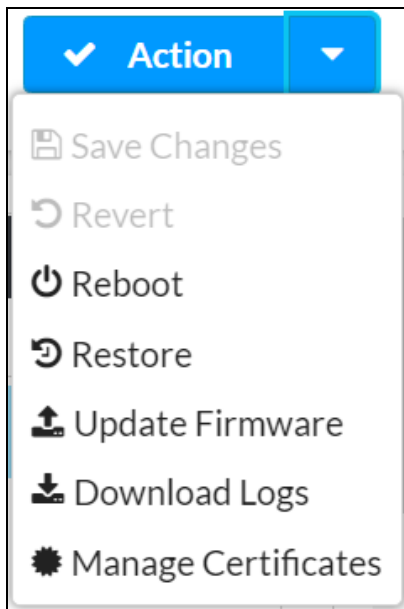
NOTE: If there is security software running on the computer, a security alert might be displayed when Crestron Toolbox software attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, select the device.
4. Enter the device credentials in the **Authentication Required** dialog that opens, then select **Log In**.
5. Select **Web Configuration**.

Action

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

- [Save Changes on page 398](#)
- [Revert on page 398](#)
- [Reboot on page 399](#)
- [Restore to Factory Default Settings on page 399](#)
- [Update Firmware on page 400](#)
- [Download Logs on page 400](#)
- [Manage Certificates on page 400](#)



Save Changes

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

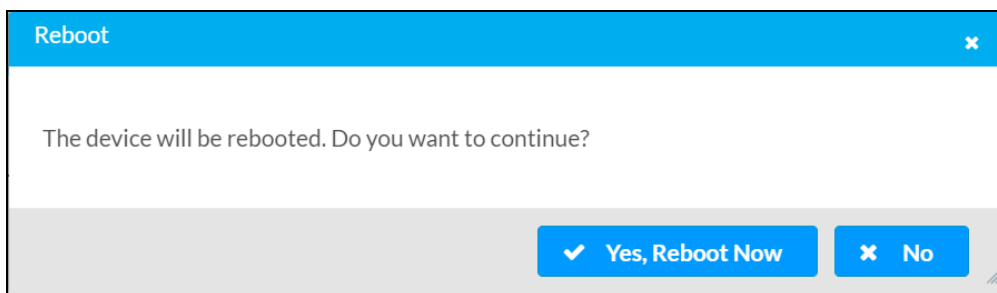
Revert

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

Reboot

Certain changes to the settings may require the DM-NAX-16AIN to be rebooted to take effect. To reboot the device:

1. Select **Reboot** in the **Action** menu. The **Confirmation** message box appears.



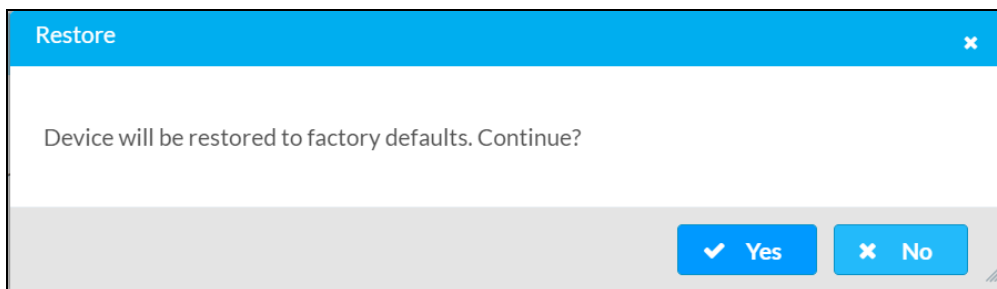
2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears. Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

CAUTION: This procedure should only be performed to recover an unresponsive device. Performing the **Restore** procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before proceeding, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

1. Select **Restore** in the **Action** menu to restore the settings of the DM-NAX-16AIN to factory defaults.

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.



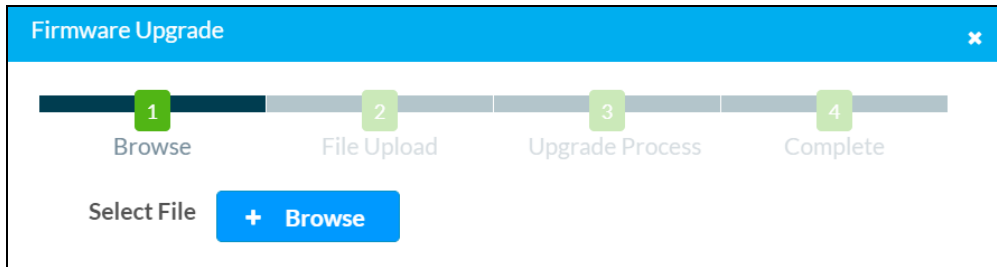
2. Select **Yes** in the **Confirmation** dialog to restore the DM-NAX-16AIN to factory settings. Select **No** to cancel the restore operation.

A dialog is displayed again, indicating that the restore process was successful and that the device rebooted.

You can also restore to factory settings by pressing and holding the **SETUP** button on the rear panel of the device with power disconnected then connect the power supply and continue to hold **SETUP** button for 30 seconds.

Update Firmware

1. Select **Update Firmware** in the **Action** menu.
2. In the **Firmware Upgrade** dialog, 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** dialog.
4. Select **Load** and wait for the progress bar to complete and for **OK** to become selectable.
5. Select **OK**. The device with new firmware can now be accessed.

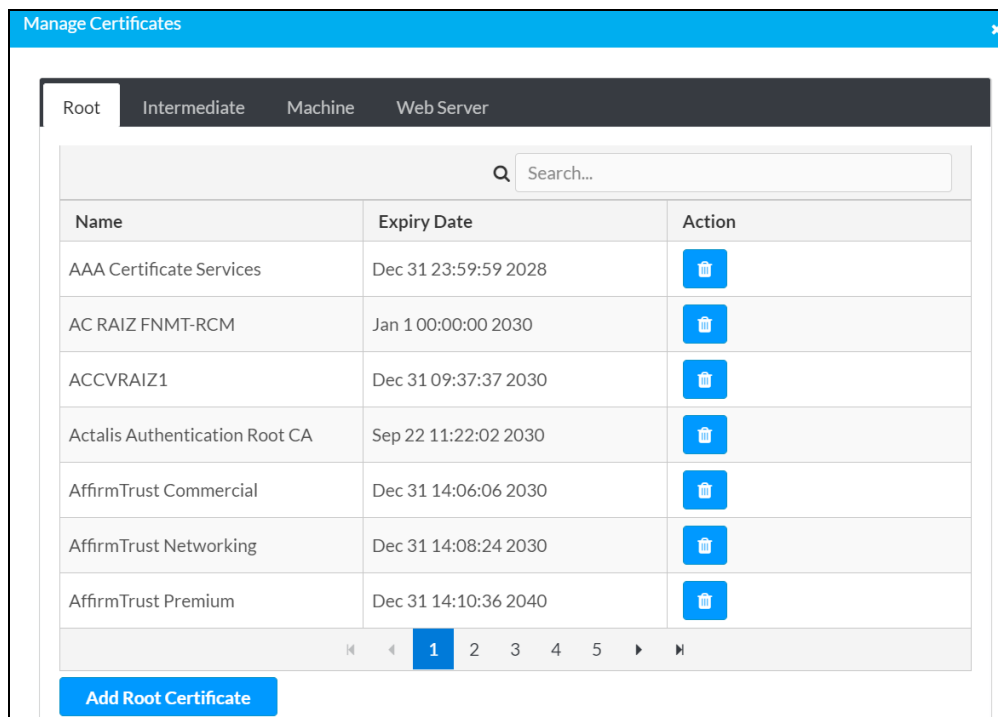
Download Logs

Select **Download Logs** in the **Action** menu to download the device message logs for diagnostic purposes.

The log file is downloaded to the Downloads folder of the PC.

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 **Action** menu. The following certificate tabs are displayed:

- **Root:** The Root certificate is used by the DM-NAX-16AIN to validate the network's authentication server. The DM-NAX-16AIN 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 DM-NAX-16AIN. 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 DM-NAX-16AIN. It displays general information about the DM-NAX-16AIN (such as Model Name, Firmware Version, and Serial Number) and current network settings (such as Host Name and IP Address, etc.).

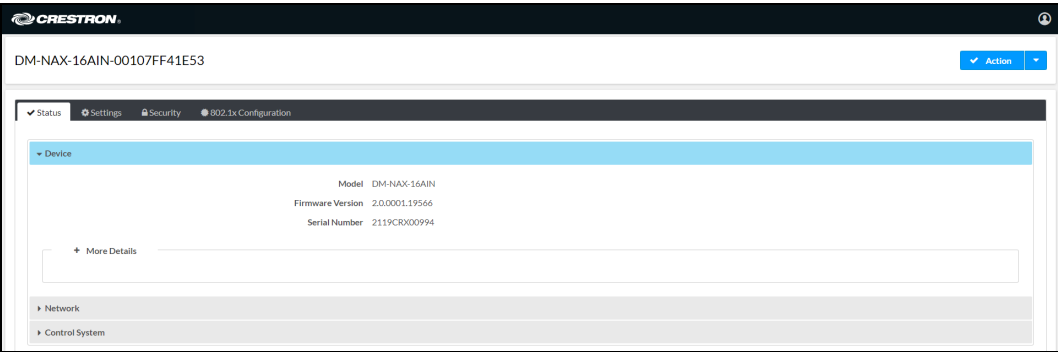
The Status page can be accessed at any time by selecting the **Status** tab of the DM-NAX-16AIN interface.



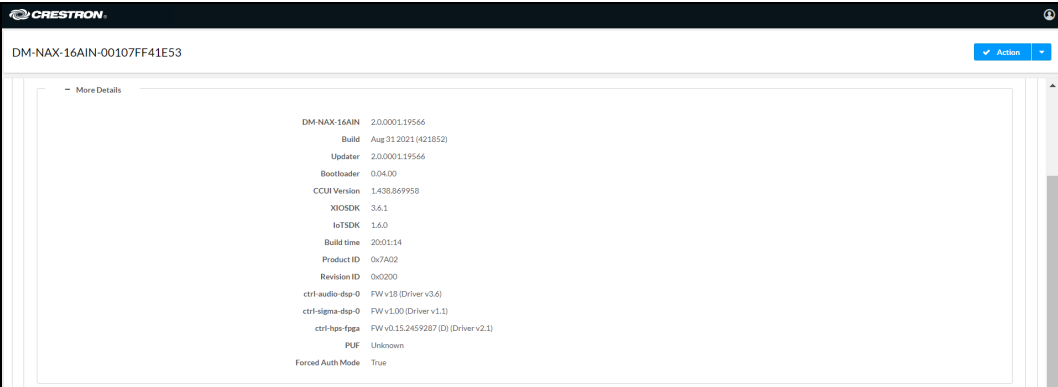
Information displayed on the **Status** tab is organized into different sections.

Device

The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-16AIN.



Select **+ More Details** to review additional information about the DM-NAX-16AIN.



Network

The **Network** section displays network-related information about the DM-NAX-16AIN, including the **Hostname**, **Domain Name**, and **DNS Servers**.

▼ Network

Hostname

DM-NAX-16AIN-00107FF41E53

Domain Name

Primary Static DNS

Secondary Static DNS

Adapter 1

DHCP

Yes

IP Address

10.254.68.87

Subnet Mask

255.255.0.0

Default Gateway

10.254.68.1

Link Active

true

MAC Address

00.10.7f.f4.1e.53

NOTE: By default, the host name of the DM-NAX-16AIN consists of the model name followed by the MAC address of the device. For example, DM-NAX-16AIN-00107FF41E53.

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

NOTE: The **+ Adapter 2** option appears when the dual Ethernet ports on the DM-NAX-16AIN are set to isolate traffic using the **Port Selection** feature. Refer to [Settings on page 404](#) for details on configuring the **Port Selection** feature.

Control System

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

▼ Control System

Encrypt Connection

OFF

IP Table

IP ID	Room ID	IP Address/Hostname	Type	Server Port	Connection	Status
No records found						

- **Encrypt Connection:** Displays **ON** or **OFF**.
- **IP ID:** Displays the currently used IP ID of the DM-NAX-16AIN.
- **IP Address/Hostname:** Displays the IP address or hostname of the control system.
- **Room ID:** Displays the room ID.
- **Status:** Displays **OFFLINE** or **ONLINE**.

Settings

The **Settings** page enables you to configure the DM-NAX-16AIN settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the DM-NAX-16AIN interface.



Settings available on the **Settings** page are organized into different sections.

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 DM-NAX-16AIN.

	Address	Port	Authentication Method	Authentication Key	Key ID
<input type="checkbox"/>	pool.ntp.org	123	None	*****	0

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

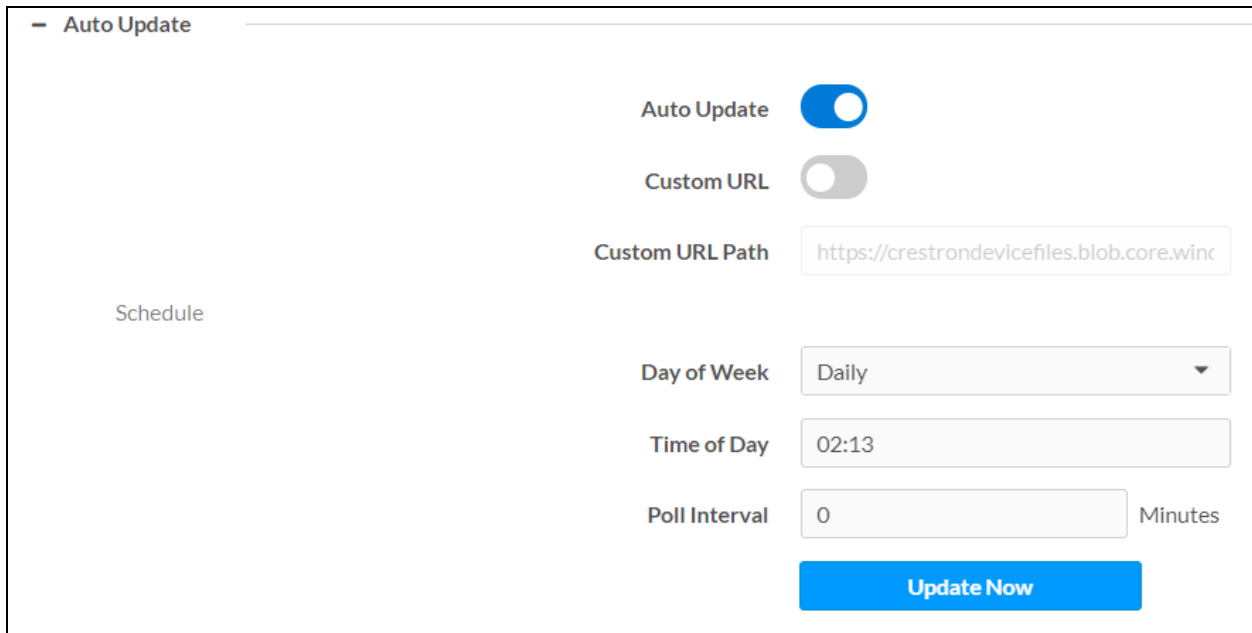
1. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-16AIN can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.



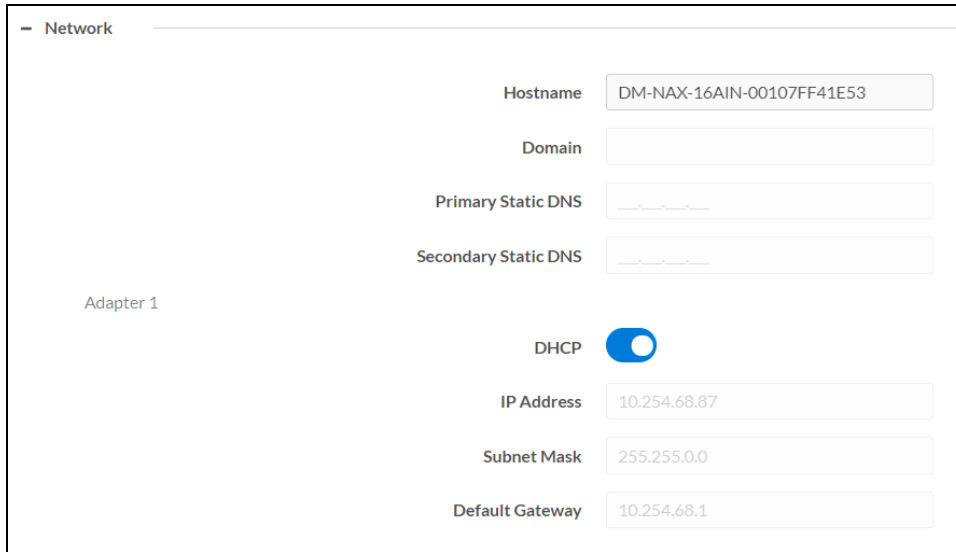
The screenshot shows the 'Auto Update' configuration page. On the left, there is a 'Schedule' section. On the right, there are several settings: 'Auto Update' is a toggle switch turned on (blue); 'Custom URL' is a toggle switch turned off (grey); 'Custom URL Path' is a text box containing 'https://crestrondevicefiles.blob.core.winc'; 'Day of Week' is a dropdown menu set to 'Daily'; 'Time of Day' is a text box set to '02:13'; 'Poll Interval' is a text box set to '0' with 'Minutes' to its right; and an 'Update Now' button at the bottom right.

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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 DM-NAX-16AIN, including the **Hostname**, **Domain**, **Primary Static DNS**, and **Secondary Static DNS**.



The screenshot shows the 'Network' configuration interface for 'Adapter 1'. It includes the following fields and settings:

- Hostname:** DM-NAX-16AIN-00107FF41E53
- Domain:** (empty field)
- Primary Static DNS:** (empty field)
- Secondary Static DNS:** (empty field)
- DHCP:** Enabled (toggle switch is turned on)
- IP Address:** 10.254.68.87
- Subnet Mask:** 255.255.0.0
- Default Gateway:** 10.254.68.1

NOTE: By default, the hostname of the DM-NAX-16AIN consists of the model name followed by the MAC address of the device. For example, DM-NAX-16AIN-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTES:

- An **+ Adapter 2** option only appears when the dual Ethernet ports on the DM-NAX-8ZSA are set to isolate traffic using the **Port Selection** feature. The settings for **Adapter 2** are identical to those available for **Adapter 1**.
- DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-16AIN is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the DM-NAX-16AIN 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 DM-NAX-16AIN.

- **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. Set the **Encrypt Connection** toggle to the right position to enable a secure connection between the control system and the DM-NAX-16AIN. Set the toggle to the left to use an unencrypted connection to the control system. If the toggle is set to the right:
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-16AIN in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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.

Commissioning

The **Commissioning** section provides a quick way to automatically assign multicast addresses to all of the device's internal audio-over-IP stream transmitters.

Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-16AIN a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.255.255.239.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

Inputs

The **Inputs** menu is used to configure **Name**, **Compensation**, and **Mute** attributes of the available analog and digital inputs on the DM-NAX-16AIN.

Inputs (Autosaved)

Name	TOSLINK1	TOSLINK2	S/PDIF1	S/PDIF2	RCA1	RCA2	RCA3	RCA4	
Gain (db)	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>0</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>0</div>
Signal Present	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
Clipping Detected	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>	
Mute	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	

Configure Inputs

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

Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- **Signal Presence** indicates whether or not a signal is detected in that zone.
- **Clipping Detected** indicates if the signal is **Clipping** or **Nominal** (non-clipping).

Use the **Global Filter** text field to filter specific inputs by name. Not all of the available inputs are shown on the first page in this section when no **Global Filter** is applied. Use  at the bottom of the table to view the next page of inputs.

DM NAX Streams

Each local input of the DM-NAX-16AIN can be made available as a DM NAX audio-over-IP stream.

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

+ NAX Streams					
Device is Master PTP Clock Source No					
Master Clock Status 00107ffffe.f4062b					
PTP Priority 254					
- Transmitters (Autosaved)					
Input Name	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
Analog1	Stream01	0.0.0.0	Analog1100.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog2	Stream02	0.0.0.0	Analog2200.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog3	Stream03	0.0.0.0	Analog3300.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog4	Stream04	0.0.0.0	Analog4400.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog5	Stream05	0.0.0.0	Analog5500.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog6	Stream06	0.0.0.0	Analog6600.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog7	Stream07	0.0.0.0	Analog7700.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog8	Stream08	0.0.0.0	Analog8800.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
S/PDIF1	Stream09	0.0.0.0	S/PDIF1900.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙


- **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 DM-NAX-16AIN 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:** This 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 DM-NAX-16AIN will only operate as the leader clock if no other PTP leader is present on the network. Valid values range from 1 to 255.

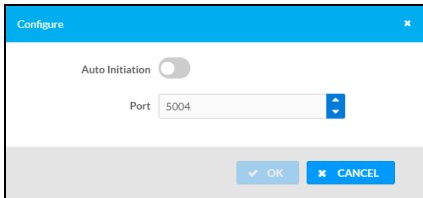
Configure Transmitters

- Transmitters (Autosaved)					
Input Name	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
Analog1	Stream01	0.0.0.0	Analog1100.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog2	Stream02	0.0.0.0	Analog2200.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog3	Stream03	0.0.0.0	Analog3300.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog4	Stream04	0.0.0.0	Analog4400.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog5	Stream05	0.0.0.0	Analog5500.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog6	Stream06	0.0.0.0	Analog6600.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog7	Stream07	0.0.0.0	Analog7700.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
Analog8	Stream08	0.0.0.0	Analog8800.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
S/PDIF1	Stream09	0.0.0.0	S/PDIF1900.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙
S/PDIF2	Stream10	0.0.0.0	S/PDIF21000.10.7f4.1e.53	Stream Stopped	▶ ◻ ⚙

NOTE: To configure transmitters not shown on the current page of the table, select the ▶ icon to display the next page of eight transmitters.

To configure a DM NAX transmit stream:

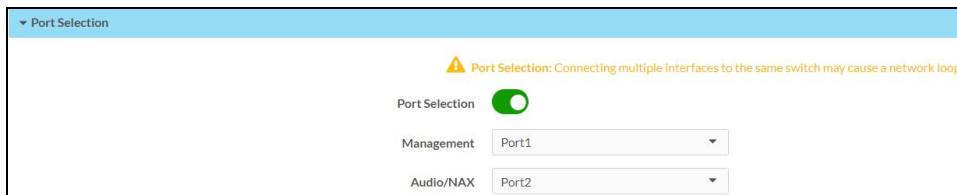
1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon  in the **Actions** column. The **Configure** dialog appears:



5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

Port Selection

The **Port Selection** feature allows the device's internal network traffic to be managed and segregated based on traffic type. Internal VLANs are used to segment device management and streaming service traffic to a separate physical device Ethernet port than audio-over-IP streaming traffic. With **Port Selection** enabled on all DM NAX devices on a network, DM NAX and AES67 network traffic can be physically separated from the control network onto a dedicated audio network.



To configure **Port Selection**:

1. Set the **Port Selection** toggle to the right position to enable or to the left position to disable **Port Selection**. By default, **Port Selection** is disabled.

NOTE: Ports 1 and 2 correspond to the Ethernet adapters labeled **1** and **2** on the rear panel of the DM-NAX-16AIN, respectively.

2. With **Port Selection** enabled:

- a. Select an Ethernet port from the **Management** drop-down to designate which Ethernet port on the rear panel of the device will handle network traffic relating to device configuration and the device's connection to a control system.

NOTE: The Management port controls your connection to the web interface. Changing the port value can result in losing your connection to the device via the web interface.

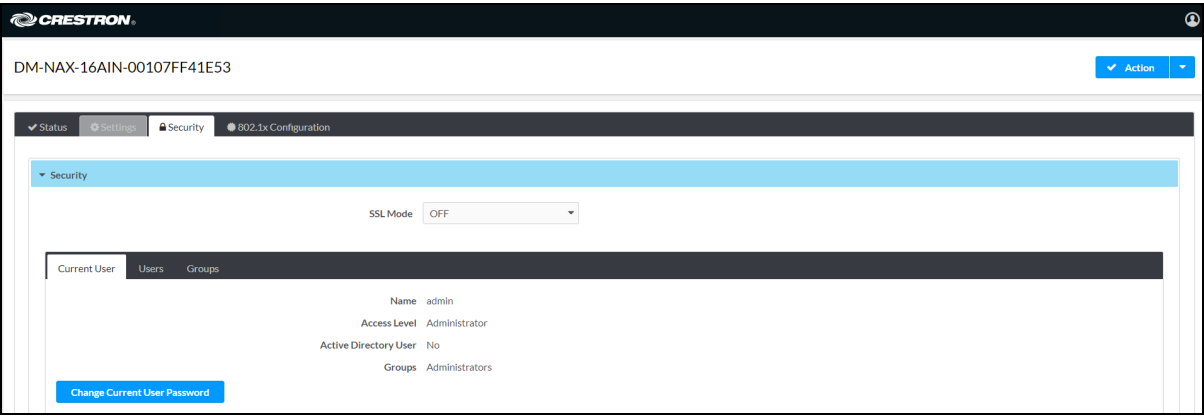
- b. Select an Ethernet port from the **Audio/NAX** drop-down to designate which Ethernet port on the rear panel of the device will handle audio-over-IP streaming network traffic.

3. Select **Save** changes to apply the new settings.

NOTE: Making changes to **Port Selection** settings will require a reboot.

Security

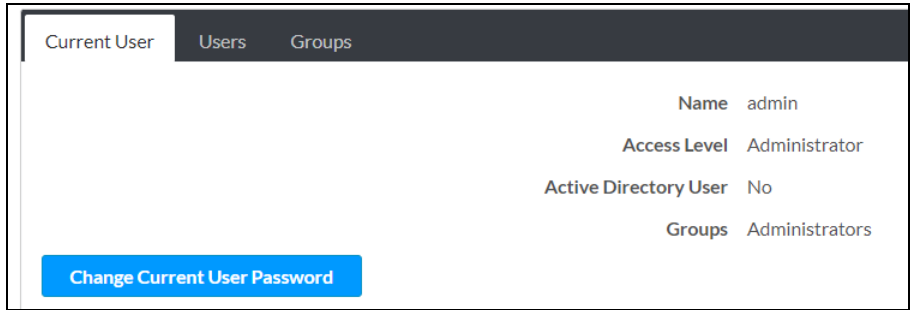
Select the **Security** tab to configure security for users and groups and to allow different levels of access to the DM-NAX-16AIN functions . By default, security is disabled.



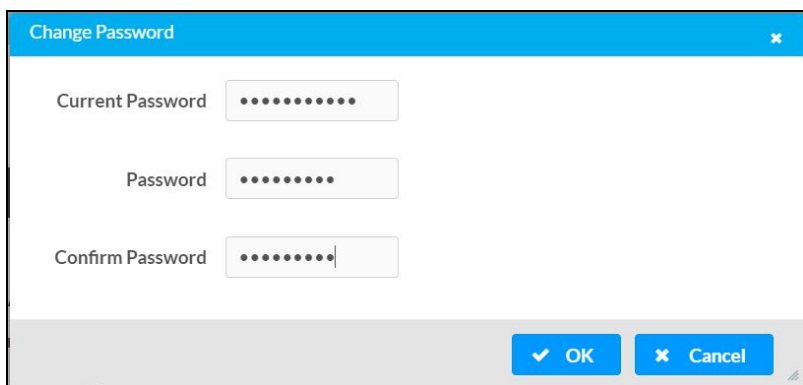
Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down, to specify whether to use encryption. By default, SSL Mode is set to **OFF**.

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.

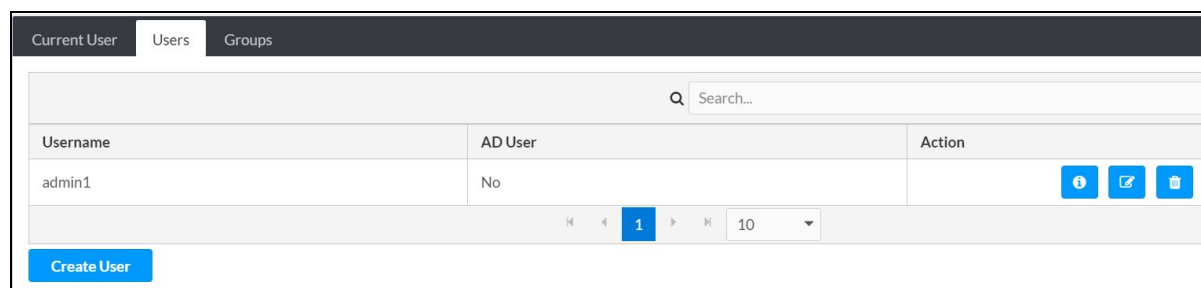


A dialog box titled "Change Password" with a close button (X) in the top right corner. It contains three password input fields: "Current Password", "Password", and "Confirm Password". Each field is represented by a text box with dots for masked characters. At the bottom right, there are two buttons: "OK" with a checkmark icon and "Cancel" with an X icon.

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.



The "Users" tab interface shows a table of users. At the top, there are tabs for "Current User", "Users", and "Groups". Below the tabs is a search bar labeled "Search...". The table has three columns: "Username", "AD User", and "Action". The first row shows "admin1" as the username, "No" as the AD User status, and three action icons (info, edit, delete). At the bottom left is a "Create User" button. At the bottom right, there are navigation arrows and a page number "1" next to a dropdown menu set to "10".

Username	AD User	Action
admin1	No	[Info] [Edit] [Delete]

Use the **Search Users** 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 to the right of the navigation arrows.

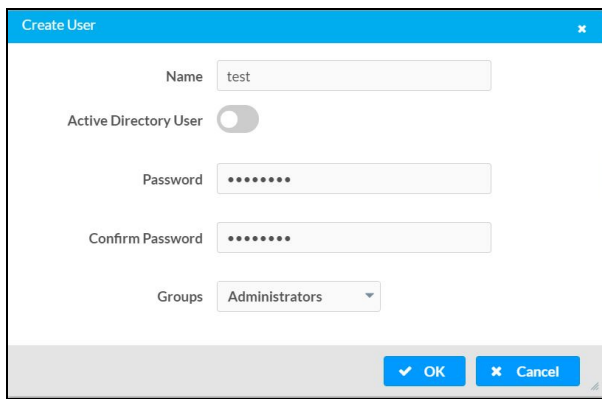
Information about existing users is displayed in table format and the following details are provided for each user.

- **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 **Users** tab.
2. In the **Create User** dialog, enter the following:



The screenshot shows a 'Create User' dialog box. The 'Name' field contains the text 'test'. The 'Active Directory User' toggle switch is disabled. The 'Password' and 'Confirm Password' fields are masked with dots. The 'Groups' dropdown menu is set to 'Administrators'. The 'OK' and 'Cancel' buttons are at the bottom right.

- 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.

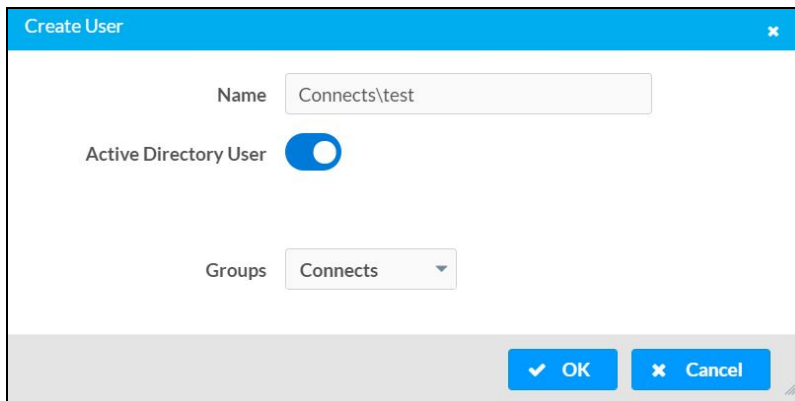
Add an Active Directory User

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 DM-NAX-16AIN, or add the Active Directory group(s) that they are a member of to the DM-NAX-16AIN.

To add an Active Directory user.

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




The screenshot shows a 'Create User' dialog box with a blue header. It contains three main fields: 'Name' with the text 'Connects\test', 'Active Directory User' with a blue toggle switch turned on, and 'Groups' with a dropdown menu showing 'Connects'. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.

- 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

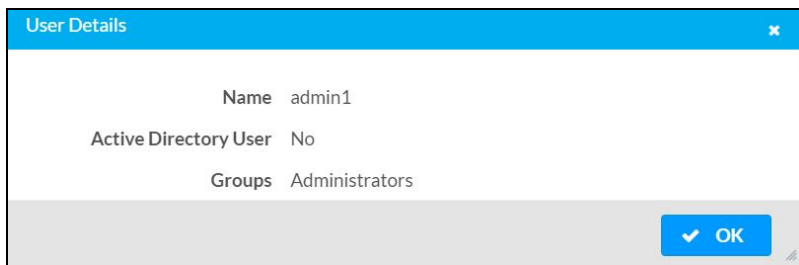
Select the trashcan icon  in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

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.



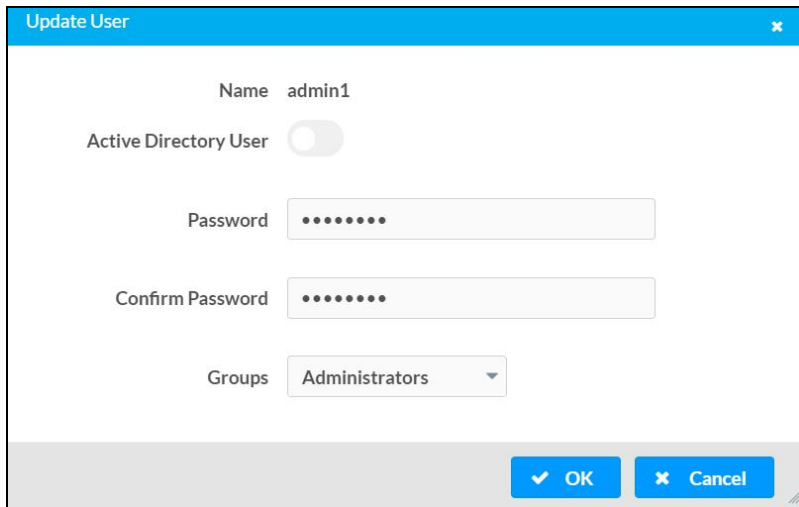
The **User Details** dialog box displays the following information:

Name	admin1
Active Directory User	No
Groups	Administrators

At the bottom right, there is a blue button with a checkmark icon and the text **OK**.

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


Update User Details



The **Update User** dialog box displays the following information:

Name	admin1
Active Directory User	<input type="checkbox"/>
Password
Confirm Password
Groups	Administrators

At the bottom right, there are two blue buttons: one with a checkmark icon and the text **OK**, and another with an 'X' icon and the text **Cancel**.

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

Current UserUsersGroups

Search...

Group Name	AD Group	Access Level	Action
Administrators	No	Administrator	 
Connects	No	Connect	 
Operators	No	Operator	 
Programmers	No	Programmer	 
Users	No	User	 

1

10



Create Group

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 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 a new group.

Create Local Group

Create Group

Name

test12

Access Level

Programmer

Active Directory Group

☐

✓ OK

✗ Cancel

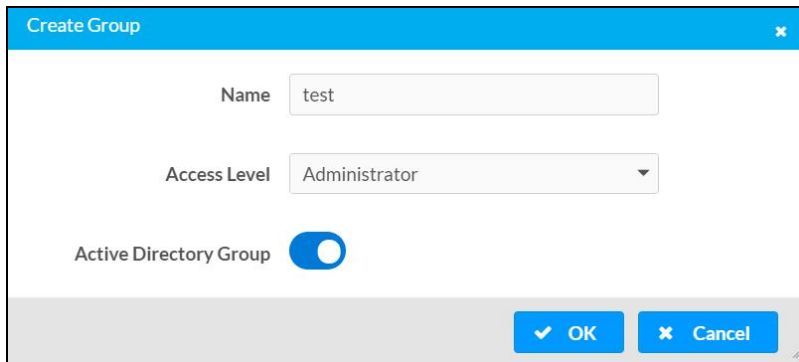
1. Select **Create Group**.
2. In the **Create Group** dialog, enter the following:
 - a. Enter the group name in the **Name** field.
 - b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

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



The screenshot shows a 'Create Group' dialog box with a blue header. It contains three main fields: 'Name' with the text 'test', 'Access Level' with a dropdown menu showing 'Administrator', and 'Active Directory Group' with a toggle switch that is currently turned on (blue). At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.


Once the group is added, all members of that group will have access to the DM-NAX-16AIN.

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.
3. 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.


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

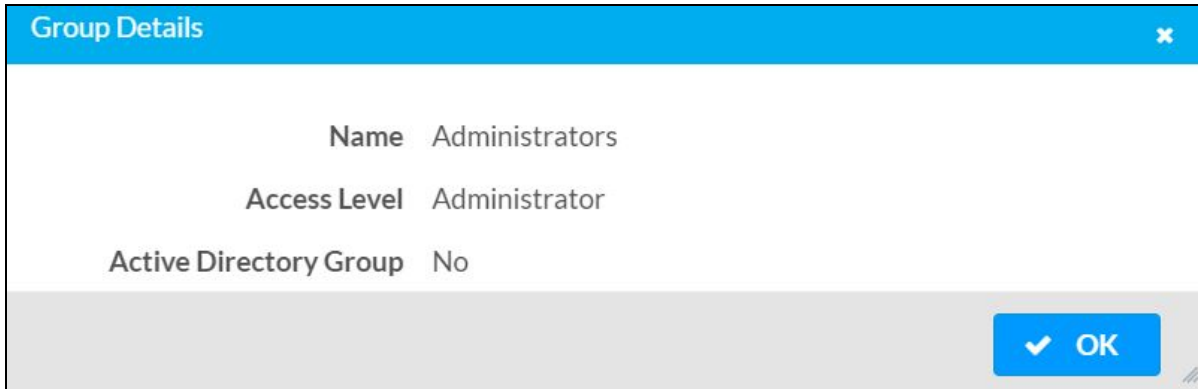
Delete a Group

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.



The **Group Details** dialog box displays the following information:

Name	Administrators
Access Level	Administrator
Active Directory Group	No

At the bottom right, there is a blue button with a checkmark and the text **OK**. A small close icon (X) is located in the top right corner of the dialog header.

- **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 DM-NAX-16AIN 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.

The screenshot shows the '802.1X Configuration' page in a web interface. At the top, there are tabs for 'Status', 'Settings', 'Security', and '802.1X Configuration'. The '802.1X Configuration' tab is active. Below the tab, there is a section titled 'IEEE 802.1X Authentication' with a toggle switch set to 'On'. Under this, the 'Authentication Method' is set to 'EAP MSCHAP V2- password' in a dropdown menu. Below this, there are input fields for 'Domain' (containing 'secure12'), 'Username' (containing 'admin'), and 'Password' (masked with dots). Further down, there is a section titled 'Enable Authentication Server Validation' with a toggle switch set to 'On'. Below this, there is a section titled 'Select Trusted Certificate Authorities' with a search bar and a list of certificate authorities. The list includes: 'AAA Certificate Services' (checked), 'AC RAIZ FNMT-RCM', 'ACCVRAIZ1', 'Actalis Authentication Root CA', 'AffirmTrust Commercial' (checked), 'AffirmTrust Networking', 'AffirmTrust Premium ECC', 'AffirmTrust Premium' (checked), 'Amazon Root CA 1', 'Amazon Root CA 2', 'Amazon Root CA 3' (checked), 'Amazon Root CA 4', 'Atos TrustedRoot 2011', 'Autoridad de Certificacion Firmaprofesional CIF A62634068', and 'Baltimore CyberTrust Root'.

Configure DM-NAX-16AIN for 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 the **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. 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-16AIN.

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.

5. If required, type the domain name of the network in the **Domain** field.
6. 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.

DM-NAX-AMP-X300

This section describes how to configure the DM-NAX-AMP-X300.

Web Interface Configuration

The DM-NAX-AMP-X300 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 or minimized or have no effect.

Access the Web Interface

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

- [Access the Web Interface with a Web Browser on page 423](#)
- [Access the Web Interface With Crestron Toolbox™ Software on page 424](#)

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

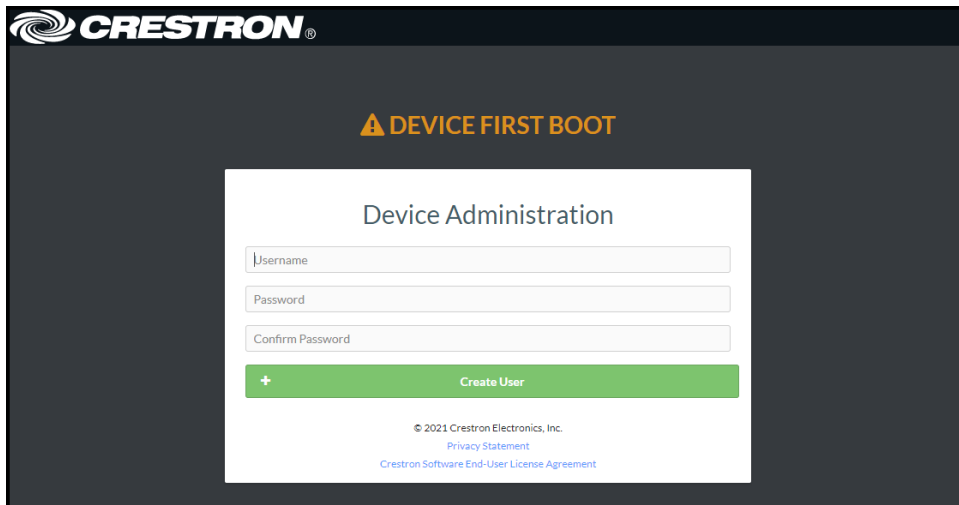
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later
	Firefox® web browser, version 31 and later
	Internet Explorer web browser, version 11 and later
	Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later
	Chrome 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 DM-NAX-AMP-X300 into a web browser.

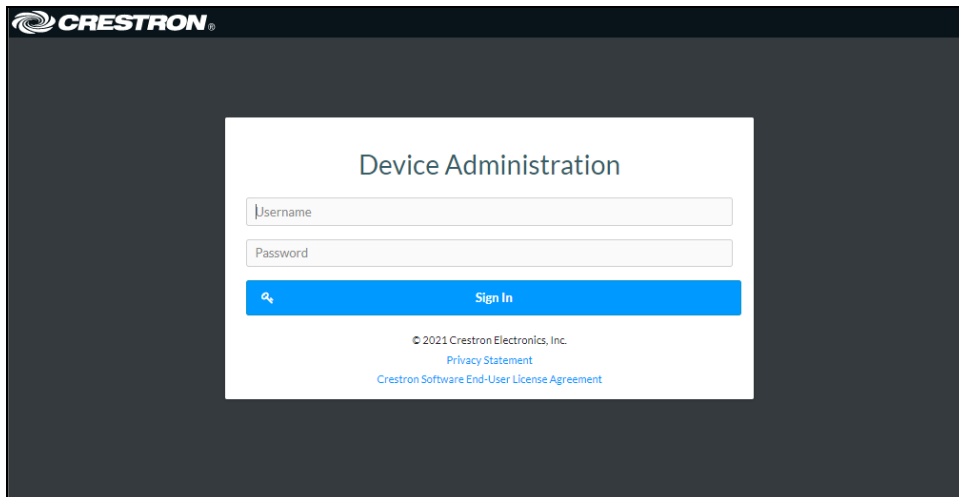
NOTE: To obtain the IP address, use the **Device Discovery Tool** in Crestron Toolbox™ software or an IP scanner application.

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.



The screenshot shows the Crestron logo at the top left. Below it, a yellow warning triangle icon is followed by the text "DEVICE FIRST BOOT". In the center, there is a white box titled "Device Administration". Inside this box, there are three input fields labeled "Username", "Password", and "Confirm Password". Below these fields is a green button with a white plus sign and the text "Create User". At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

- d. Select **Create User**. The Device Administration page appears.




The screenshot shows the same Crestron logo at the top left. Below it, the "DEVICE FIRST BOOT" message is no longer present. The white box titled "Device Administration" still contains the "Username" and "Password" input fields. Below these fields is a blue button with a white magnifying glass icon and the text "Sign In". At the bottom of the white box, the same small text as in the previous screenshot is visible: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Select **Sign In**.

Access the Web Interface With Crestron Toolbox™ Software

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

1. Open Crestron Toolbox software.
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 DM-NAX-AMP-X300 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.

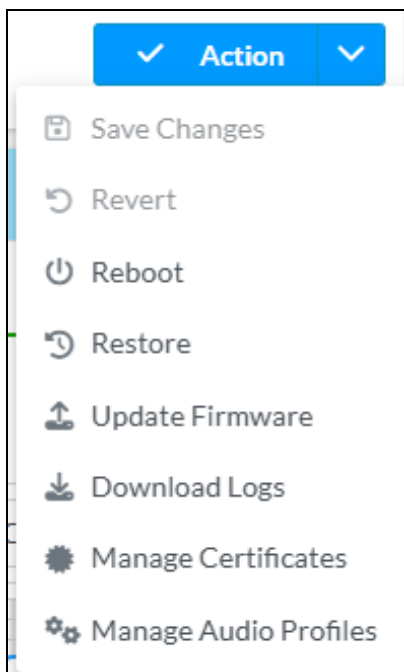
NOTE: If there is security software running on the computer, a security alert might be displayed when Crestron Toolbox software attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, select the device.
4. Enter the device credentials in the **Authentication Required** dialog that opens, then select **Log In**.
5. Select **Web Configuration**.

Action

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

- [Save Changes on page 425](#)
- [Revert on page 425](#)
- [Reboot on page 426](#)
- [Restore to Factory Default Settings on page 426](#)
- [Update Firmware on page 427](#)
- [Download Logs on page 427](#)
- [Manage Certificates on page 427](#)
- [Manage Audio Profiles on page 429](#)



Save Changes

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

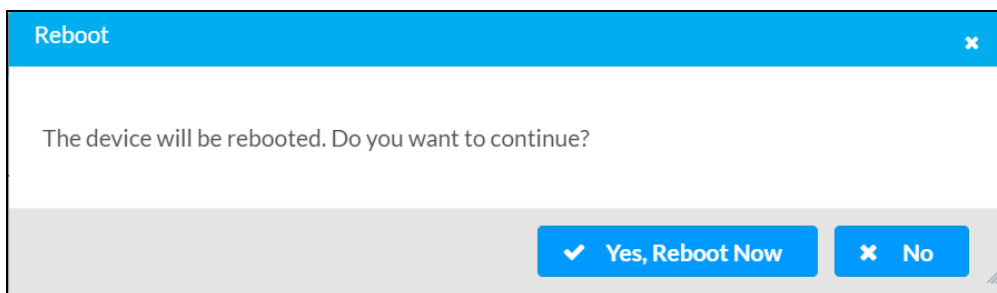
Revert

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

Reboot

Certain changes to the settings may require the DM-NAX-AMP-X300 to be rebooted to take effect. To reboot the device:

1. Select **Reboot** in the **Action** menu. The **Confirmation** message box appears.



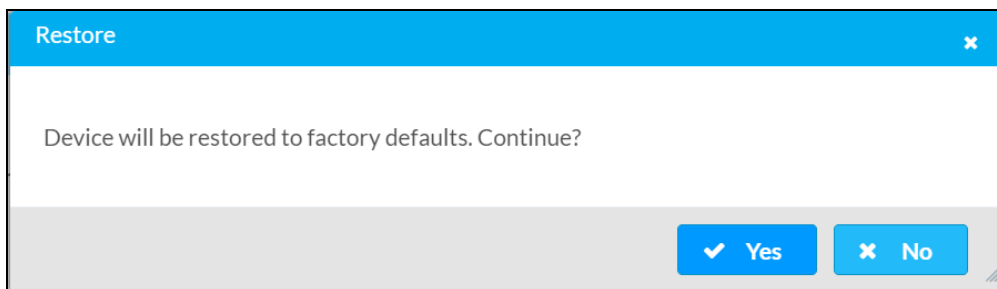
2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears. Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

CAUTION: This procedure should only be performed to recover an unresponsive device. Performing the **Restore** procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before proceeding, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

1. Select **Restore** in the **Action** menu to restore the settings of the DM-NAX-AMP-X300 to factory defaults.

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.



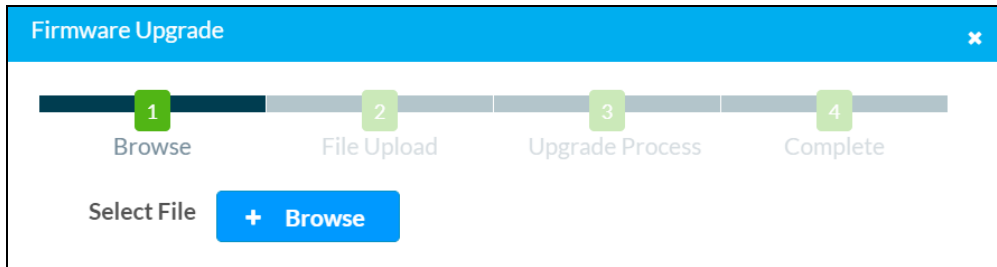
2. Select **Yes** in the **Confirmation** dialog to restore the DM-NAX-AMP-X300 to factory settings. Select **No** to cancel the restore operation.

A dialog is displayed again, indicating that the restore process was successful and that the device rebooted.

You can also restore the device by following the **Reset** procedures covered in [DM-NAX-AMP-X300 Installation on page 122](#).

Update Firmware

1. Select **Update Firmware** in the **Action** menu.
2. In the **Firmware Upgrade** dialog, 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** dialog.
4. Select **Load** and wait for the progress bar to complete and for **OK** to become selectable.
5. Select **OK**. The device with new firmware can now be accessed.

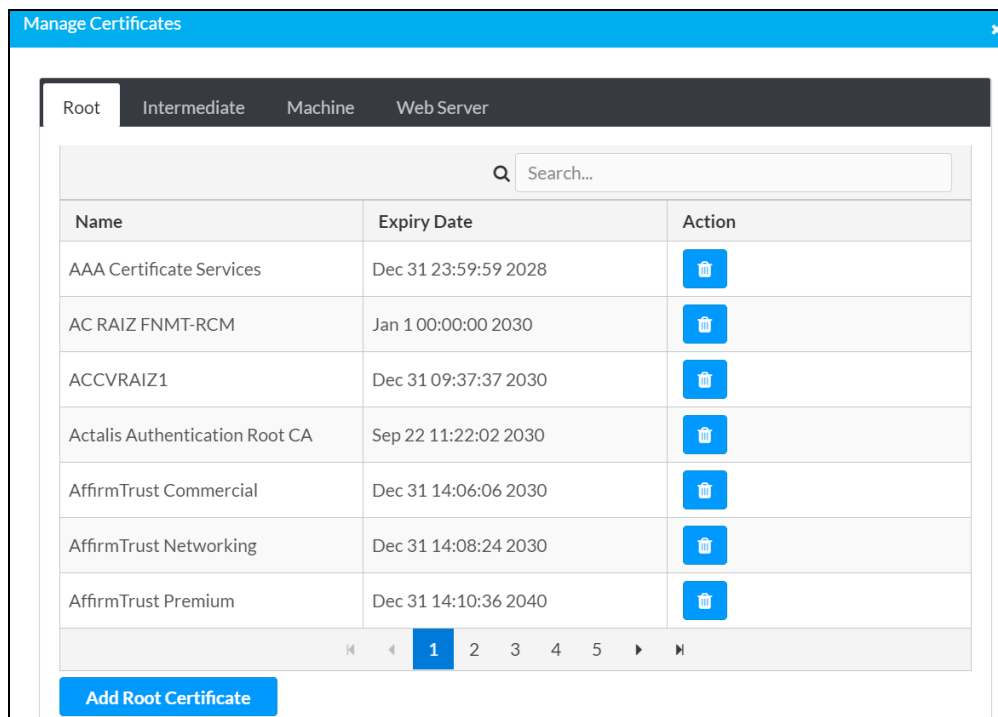
Download Logs

Select **Download Logs** in the **Action** menu to download the device message logs for diagnostic purposes.

The log file is downloaded to the Downloads folder of the PC.

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 **Action** menu. The following certificate tabs are displayed:

- **Root:** The Root certificate is used by the DM-NAX-AMP-X300 to validate the network's authentication server. The DM-NAX-AMP-X300 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 DM-NAX-AMP-X300. 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, then select **Open**.

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

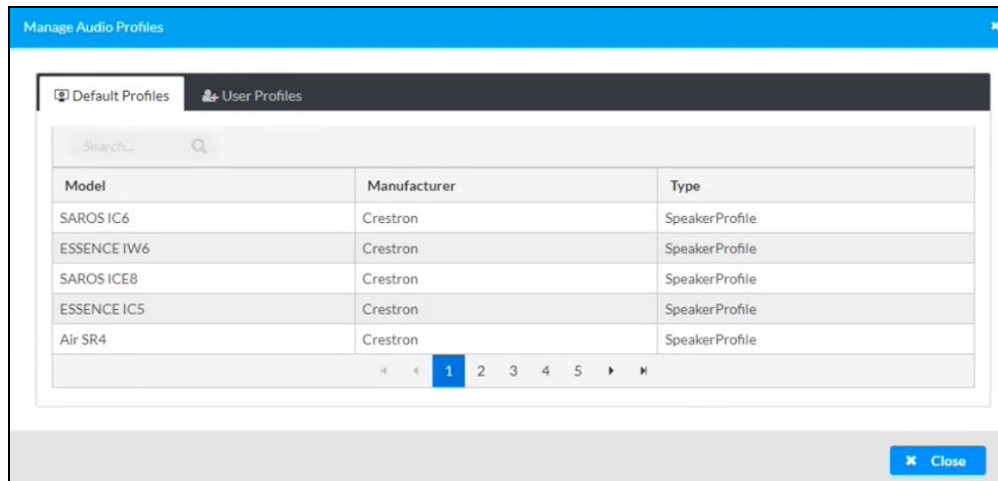
5. Select **OK**. This will add the certificate to the list box, displaying the file name and expiration date. The certificate is now available for selection and can be loaded to the device.

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.

Manage Audio Profiles

Use the **Manage Audio Profiles** dialog to add, remove, and manage output audio profiles on the DM-NAX-AMP-X300.



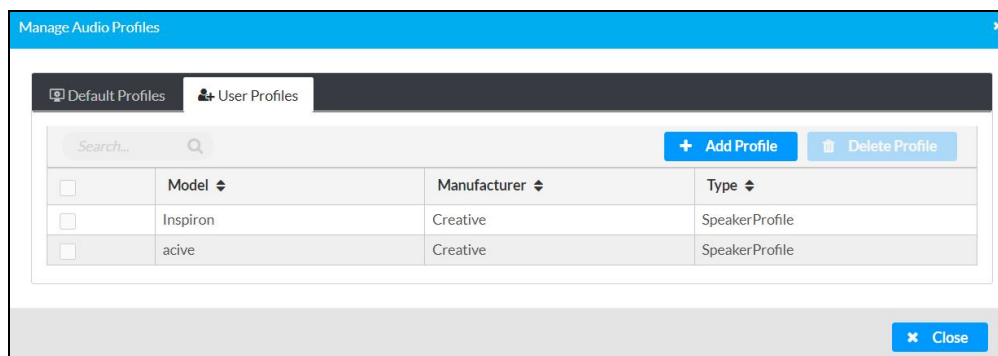
Select **Manage Audio Profiles** in the **Action** menu. The following audio profiles tabs are displayed, providing information such as **Model**, **Manufacturer**, and **Type** of the audio profiles:

- **Default Profiles:** Lists the default library of included audio profiles.
- **User Profiles:** Lists the custom, user loaded profiles, and allows them to be loaded and removed.

In the **Search** field, enter a name to search for the profile. The audio profile matching the search criteria is displayed.

NOTE: To create a custom audio profile, refer to [Knowledge Article 1001820](#).

To Add an Audio Profile

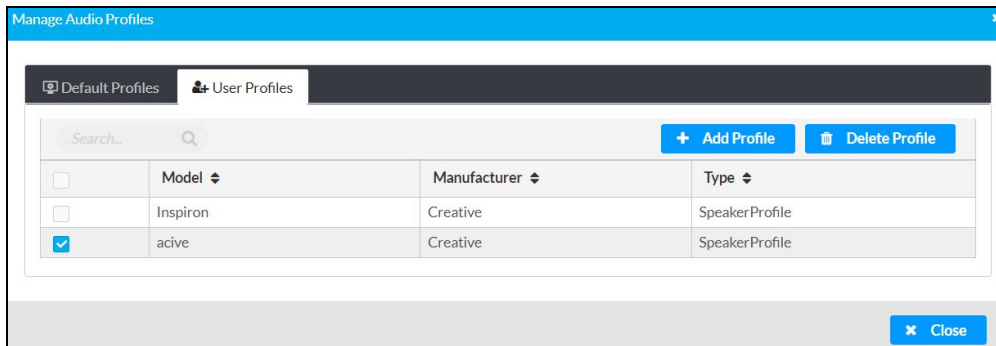


1. Select the **User Profiles** tab.
2. Select **+ Add Profiles**.
3. Select **+ Browse**.
4. Locate and select the .prof file, and then select **Open**.
5. Select **Upload**.

6. Select **OK**. This will add the profile to the list box.

The audio profile is now available for selection and can be applied.

To Delete an Audio Profile



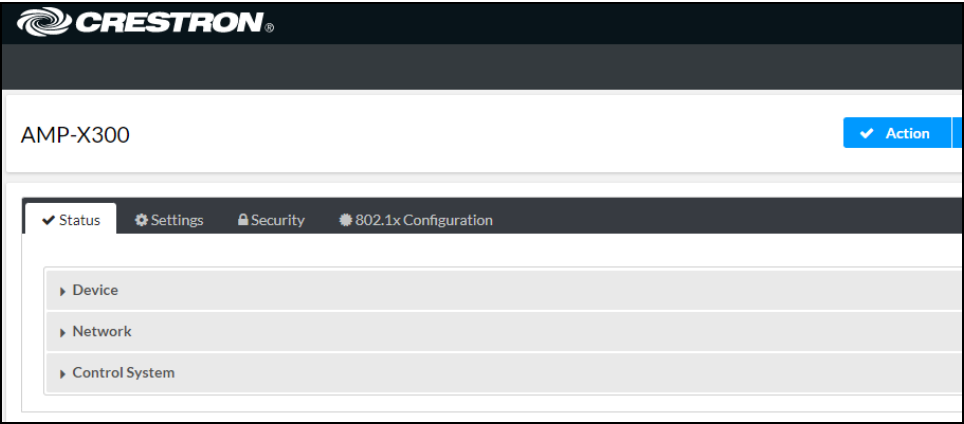
1. Select the **User Profiles** tab.
2. Select the checkbox corresponding to the audio profile that needs to be deleted.
3. Select **Delete Profile**.

The audio profile is deleted.

Status

The **Status** page is the first page displayed when opening the interface of the DM-NAX-AMP-X300. It displays general information about the DM-NAX-AMP-X300 (such as **Model Name**, **Firmware Version**, and **Serial Number**), current network settings (such as **Host Name** and **IP Address**, etc.), and input and output ports' current status.

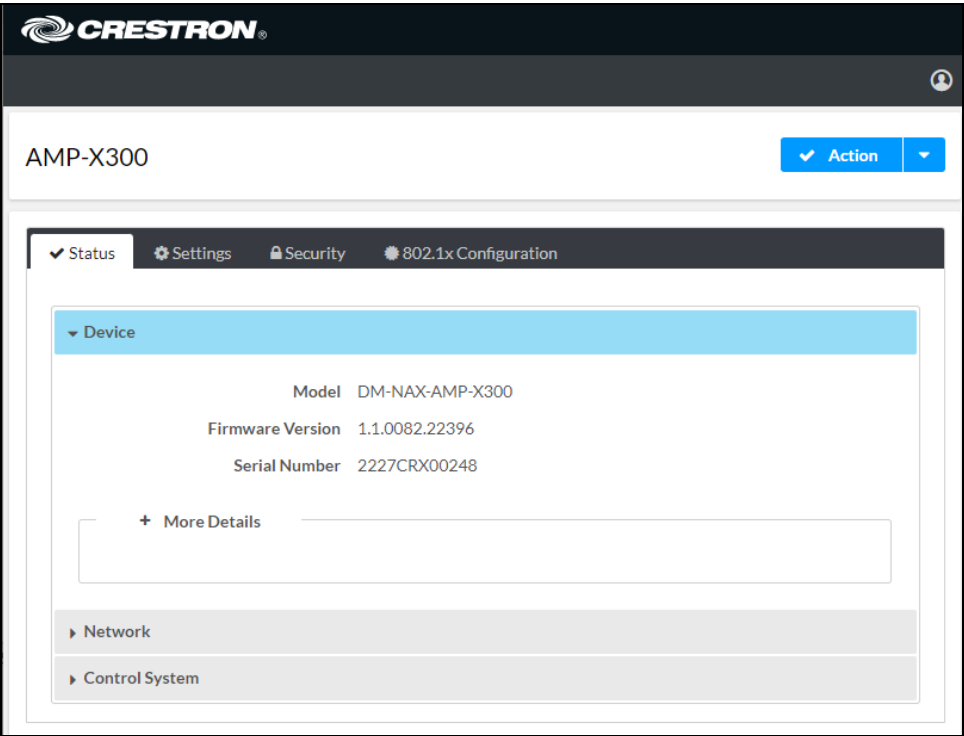
The **Status** page can be accessed at any time by selecting the **Status** tab of the DM-NAX-AMP-X300 interface.



Information displayed on the **Status** tab is organized into different sections.

Device

The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-AMP-X300.



Select **+ More Details** to review additional information about the DM-NAX-AMP-X300.

CRESTRON®

AMP-X300

▼ Action ▼

More Details

DM-NAX-AMP-X300

1.1.0082.22396

Build

Jan 24 2023 (490081)

Updater

1.1.0082.22396

Bootloader

1.00.00

CCUI Version

1.66.887159

XIOSDK

3.8.2

IoTSDK

1.9.1

Build time

22:39:41

Product ID

0x7A03

Revision ID

0x0200

ctrl-audio-dsp-0

FW v34 (Driver v3.11)

ctrl-extclkkin-pps

Driver v1.1

ctrl-prod-info

Driver v3.0

PUF

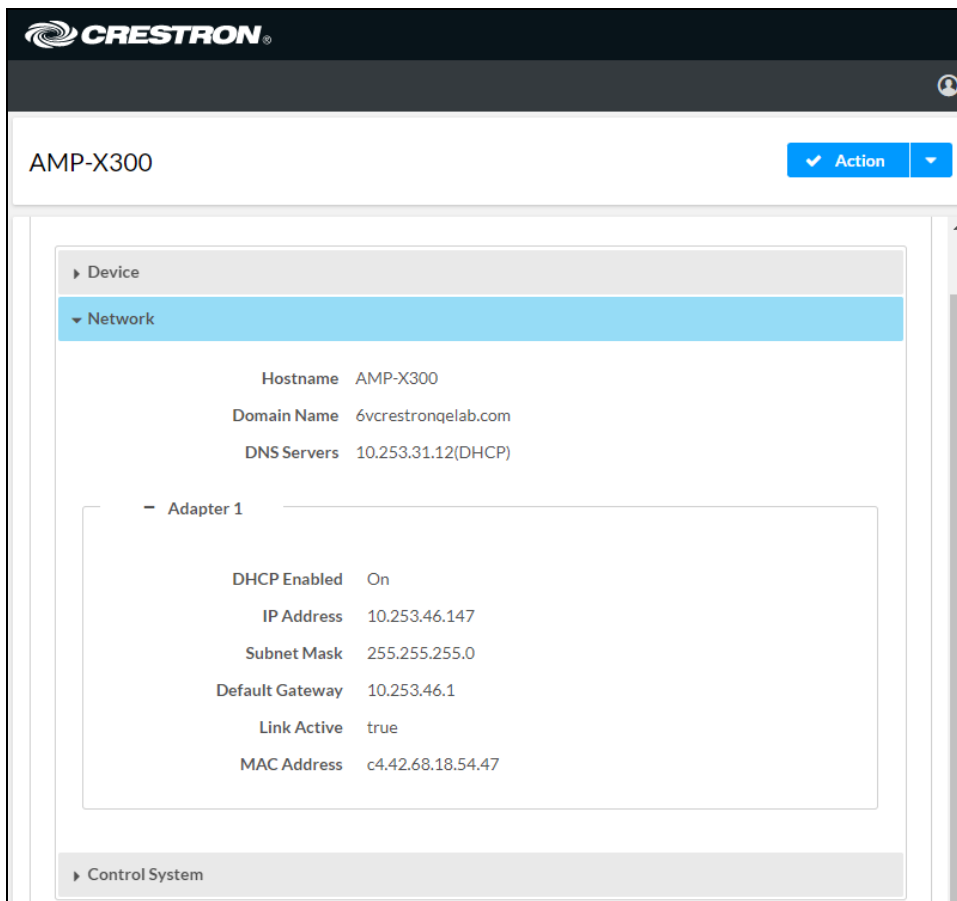
1.1.0082.22396

Forced Auth Mode

True

Network

The **Network** section displays network-related information about the DM-NAX-AMP-X300, including the **Hostname**, **Domain Name**, and **DNS Servers**.



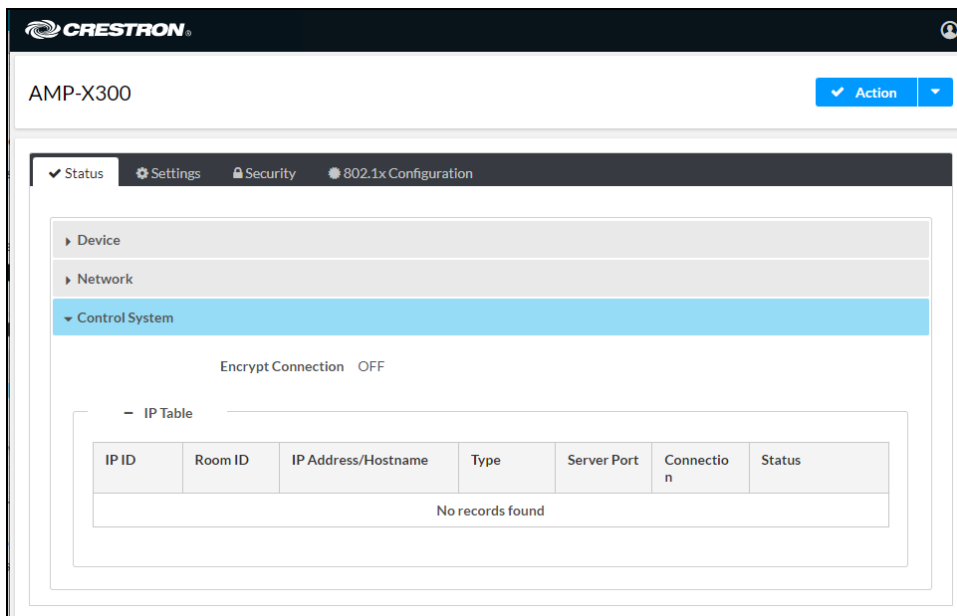
NOTE: By default, the host name of the DM-NAX-AMP-X300 consists of the model name followed by the MAC address of the device. For example, DM-NAX-AMP-X300-00107FB58088.

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

NOTE: The **+ Adapter 2** option appears when the dual Ethernet ports on the DM-NAX-AMP-X300 are set to isolate traffic using the **Port Selection** feature. Refer to [Commercial Mode on page 436](#) or [Residential Mode on page 460](#) for details on configuring the **Port Selection** feature.

Control System

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



- **Encrypt Connection:** Displays **ON** or **OFF**.
- **IP ID:** Displays the currently used IP ID of the DM-NAX-AMP-X300.
- **IP Address/Hostname:** Displays the IP address or hostname of the control system.
- **Room ID:** Displays the room ID.
- **Status:** Displays **OFFLINE** or **ONLINE**.

Settings

The **Settings** page enables configuration of the DM-NAX-AMP-X300 settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the DM-NAX-AMP-X300 interface.

Many options in the **Settings** page are exclusive to a specific device mode: Residential or Commercial. The DM-NAX-AMP-X300 is in Commercial mode by default.

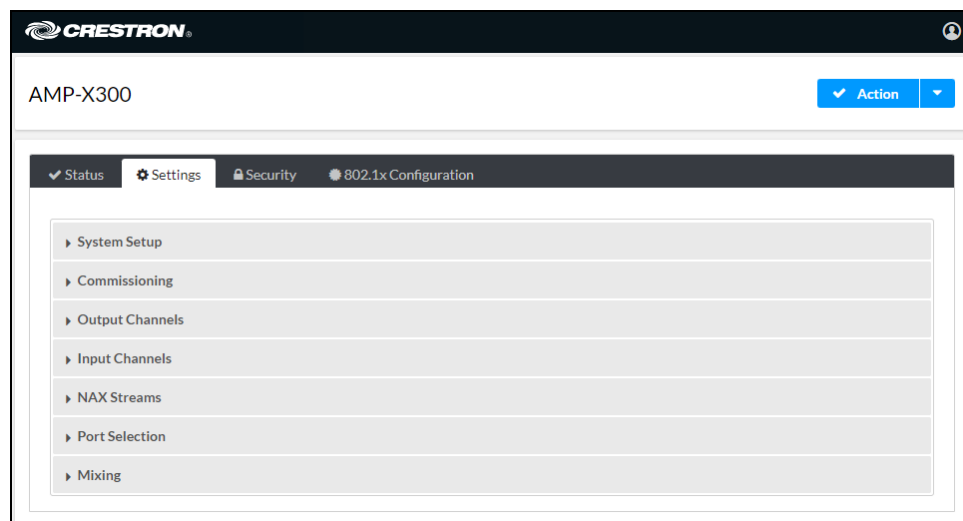
This section provides the following information:

- [Commercial Mode on page 436](#)
- [Residential Mode on page 460](#)

Commercial Mode

This section provides the following information:

- [System Setup on page 436](#)
- [Commissioning on page 442](#)
- [Output Channels on page 443](#)
- [Input Channels on page 449](#)
- [DM NAX Streams on page 452](#)
- [Port Selection on page 454](#)
- [Mixing on page 455](#)



System Setup

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

Date/Time

Use the **Date/Time** section to configure the date and time settings of the DM-NAX-AMP-X300.

Date/Time

Synchronization

Time Synchronization

Synchronize Now

NTP Time Servers

	Address	Port	Authentication Method	Authentication Key	Key ID
	pool.ntp.org	123	None	*****	0

+ Add

- Remove

Configuration

Time Zone

(UTC-05:00) Eastern Time (US & ...

Date

01/26/2023

Time

08:37

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. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-AMP-X300 can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.

— Auto Update

Auto Update ☒

Custom URL ☐

Custom URL Path

Schedule

Day of Week

Time of Day

Poll Interval Minutes

Update Now

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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 DM-NAX-AMP-X300, including the **Hostname**, **Domain**, **Primary Static DNS**, and **Secondary Static DNS**.

Network

Hostname * AMP-X300-TECH-DOCS

Domain 6vcrestrongelab.com

Primary Static DNS 10.253.31.12(DHCP)

Secondary Static DNS

Adapter 1

DHCP ☒

IP Address 10.253.46.147

Subnet Mask 255.255.255.0

Default Gateway 10.253.46.1

NOTE: By default, the hostname of the DM-NAX-AMP-X300 consists of the model name followed by the MAC address of the device. For example, DM-NAX-AMP-X300-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTES:

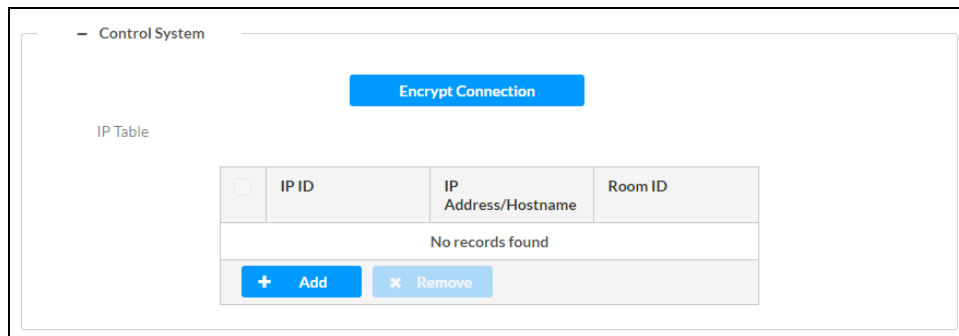
- An **+ Adapter 2** option only appears when the dual Ethernet ports on the DM-NAX-AMP-X300 are set to isolate traffic using the **Port Selection** feature. The settings for **Adapter 2** are identical to those available for **Adapter 1**.
- DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts with these internal addresses.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-AMP-X300 is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the DM-NAX-AMP-X300 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 DM-NAX-AMP-X300.
 - **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



Control System

Encrypt Connection

IP Table

	IP ID	IP Address/Hostname	Room ID
No records found			

+ Add ✕ Remove

1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
 - a. Enter a username in the **Control System Username** field.
 - b. Enter a password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-AMP-X300 in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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



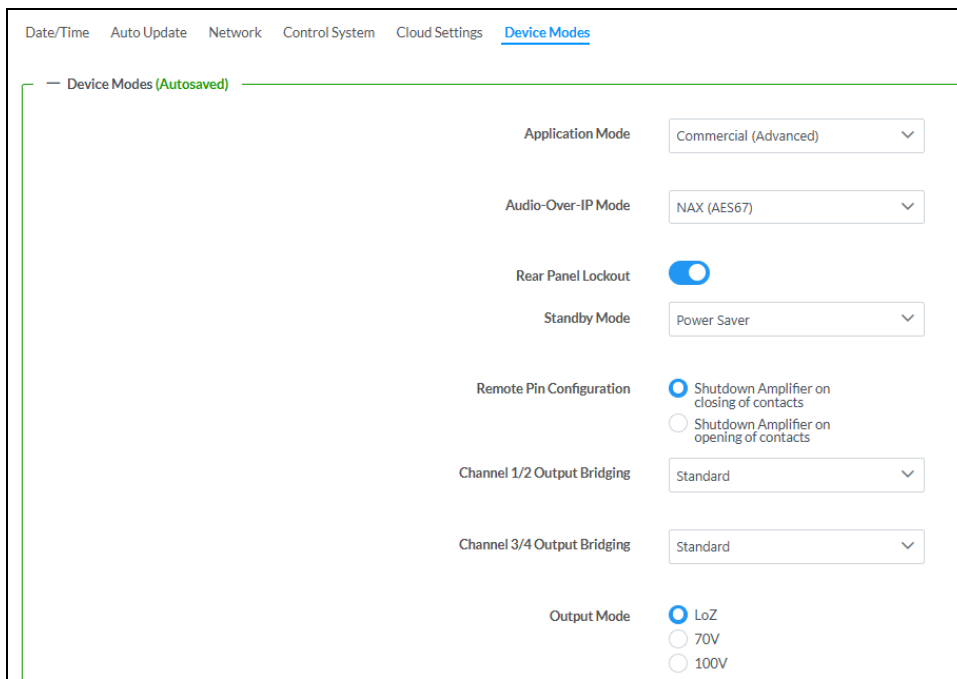
Cloud Settings

Cloud Configuration Service Connection ☒

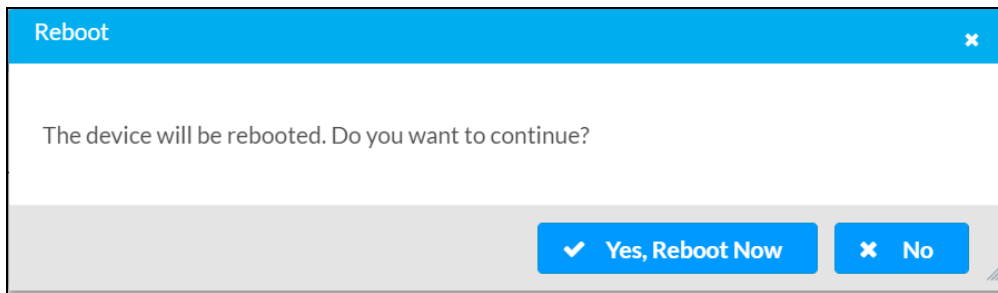
Set the **Cloud Settings** toggle to the right position to enable or to the left to disable cloud settings. This specifies whether the DM-NAX-AMP-X300 can communicate with the XiO Cloud® platform.

Device Modes

Use the **Device Modes** section to configure the **Application Mode**, **Audio-Over-IP Mode**, and **Standby Mode**, as well as see a live status readout of the device's rear panel functionality.



- **Application Mode:** The Application Mode determines which options and controls are available.
 - Select **Residential (Standard)** or **Commercial (Advanced)**. A **Reboot** confirmation message box appears.



- Select **Yes, Reboot Now** to reboot the device into the selected mode. The **Reboot** message box appears.
 - Wait for the device reboot to complete before attempting to reconnect to the device.
- **Audio Over IP Mode:** Select **NAX (AES67)** or **Dante** to specify what type of audio-over-IP streams the DM-NAX-AMP-X300 will accept and transmit.

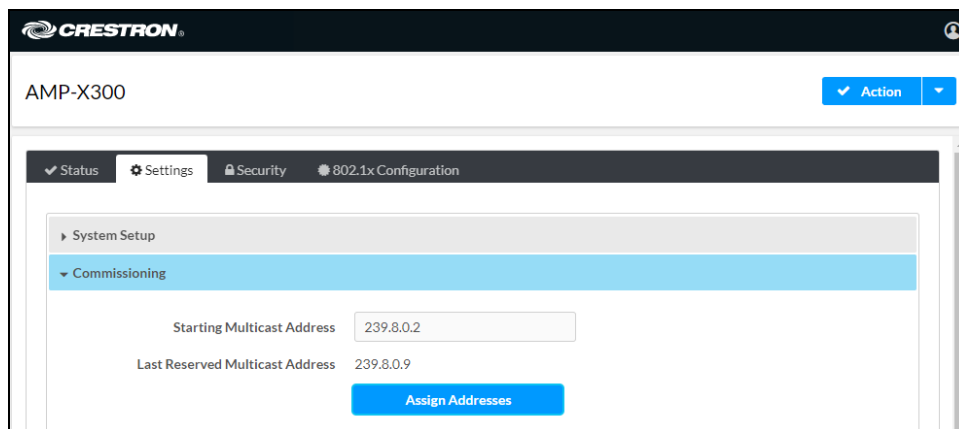
NOTE: In NAX (AES67) mode, the DM-NAX-AMP-X300 can still accept streams from Dante devices by way of the AES67 Compatibility Mode feature, which can be enabled on most Dante devices.

- **Rear Panel Lockout:** Set the **Rear Panel Lockout** toggle to the right position to enable or to the left to disable the rear panel lockout. This specifies whether the physical controls on the rear panel are locked (toggle enabled) or functional (toggle disabled). When the rear panel lockout is enabled, all device controls are handled through the web interface or custom programming.

- **Standby Mode:** Select the DM-NAX-AMP-X300 standby behavior.
 - **Always On:** The device's amplifier remains powered on at all times.
 - **Power Saver:** If no signal is detected for 25 minutes, the device enters a low power state by turning off the amplifier board. Upon detecting an audio signal, the amplifier will be turned back on.
- **Remote Pin Configuration:** Select the behavior of the **REMOTE** connector on the rear panel of the DM-NAX-AMP-X300.
 - To have the amplifier turn off when a connected dry contact is closed, select **Shutdown Amplifier on closing of contacts**.
 - To have the amplifier turn off when a connected dry contact is opened, select **Shutdown Amplifier on opening of contacts**.
- **Channel 1/2 Output Drive:** Set Channel 1/2 to **Standard** or **Bridged**. This option is only selectable when the **Output Mode** is set to **Lo-Z**.
- **Channel 3/4 Output Drive:** Set Channel 3/4 to **Standard** or **Bridged**. This option is only selectable when the **Output Mode** is set to **Lo-Z**.
- **Output Mode:** The DM-NAX-AMP-X300 can be configured to work with 4 Ω and 8 Ω (low impedance or "Lo-Z") loads or a distributed audio (high impedance or "Hi-Z") 70/100V system.
 - **Lo-Z:** Select **Lo-Z** to use the amplifier with 4 Ω or 8 Ω low impedance loudspeakers.
 - **70V:** Select **70V** to use the amplifier in a 70V distributed audio system.
 - **100V:** Select **100V** to use the amplifier in a 100V distributed audio system.

Commissioning

The **Commissioning** section provides a quick way to automatically assign multicast addresses to all of the device's internal audio-over-IP stream transmitters.

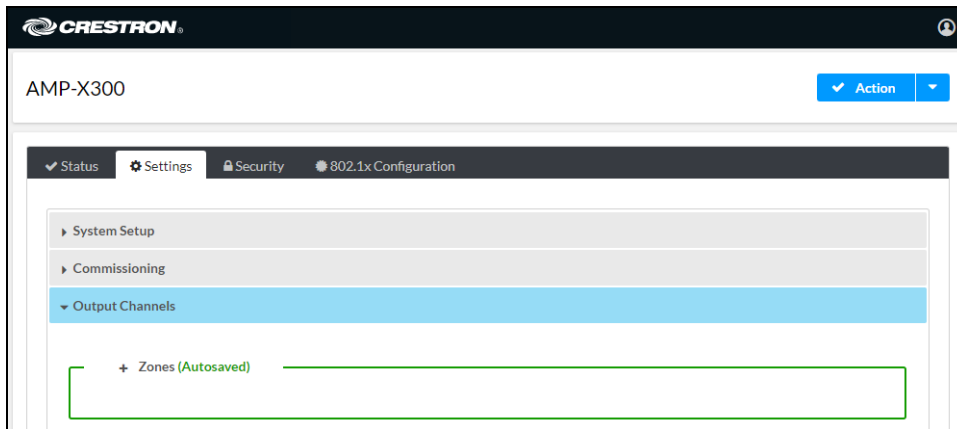


Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-AMP-X300 a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.127.255.255.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

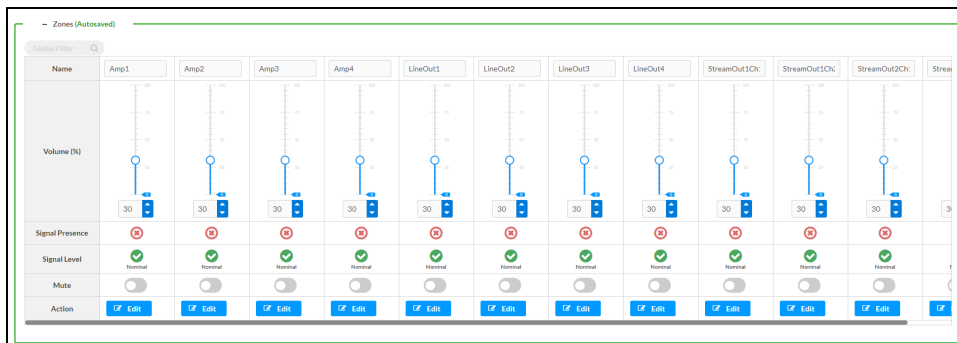
Output Channels

The **Output Channels** section enables the viewing and configuration of Zone outputs.



Zones

In the **Zones** section, the properties of each zone can be viewed and configured.



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

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.

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.

To configure the zone volume, do one of the following:

- Move the **Volume** slider up to increase or down to decrease the zone volume.
- Use the **%** arrows to increase or decrease the zone volume. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

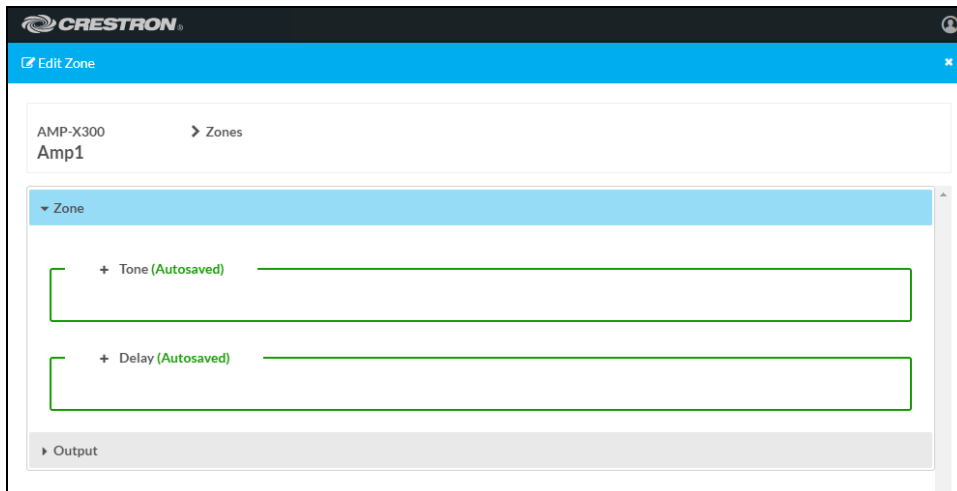
To mute all audio output from a zone, select its respective **Mute**. To unmute the zone, select **Muted**.

Select **Edit** to view additional **Zone** and **Output** options.

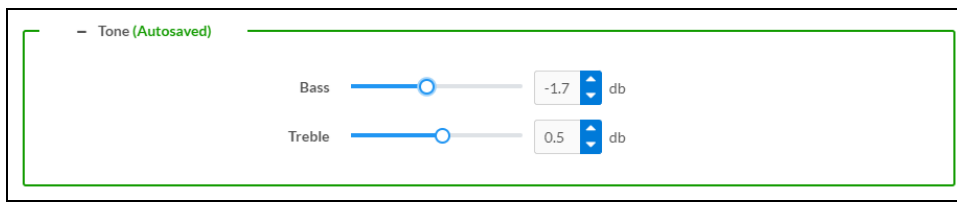
Zone

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

Select **Zone** to access the settings for **Tone** and **Delay**.

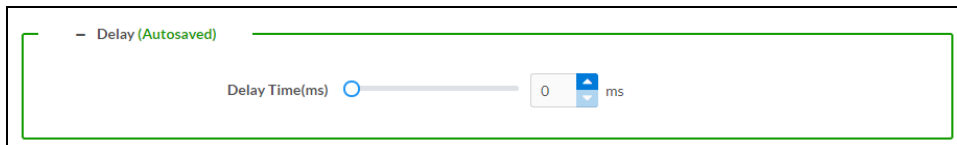


Tone



- **Bass:** 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.
 - Use the **db** arrows to increase or decrease the bass level. Values range from -12 dB to 12 dB, adjustable in increments of .1 dB.
 - Manually enter a value in the **Bass** field.
- **Treble:** 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.
 - Use the **db** arrows to increase or decrease the treble level. Values range from -12 dB to 12 dB, adjustable in increments of .1 dB.
 - Manually enter a value in the **Treble** field.

Delay



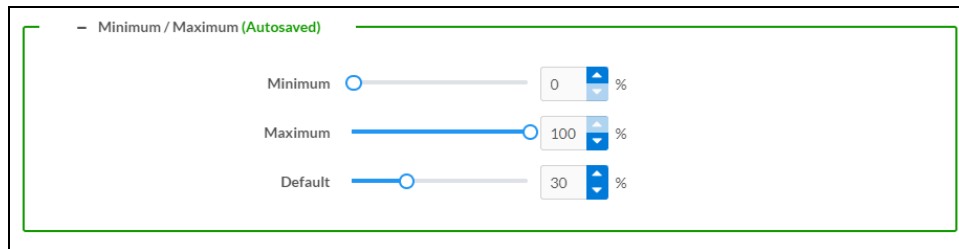
To set the delay, do one of the following:

- 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. Values range from 0 ms to 250 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

Output

Select **Output** to access the settings for **Minimum/Maximum**, **Signal**, **Speaker Configuration**, **Configure Speaker Profile**, **Speaker/Faults**, and **Equalizer Settings**.

Minimum/Maximum Volume



Minimum / Maximum (Autosaved)

Minimum 0 %

Maximum 100 %

Default 30 %

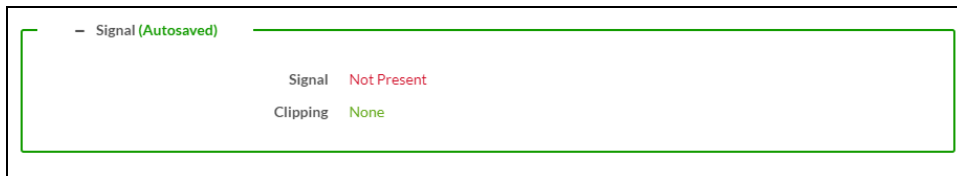
1. To set the minimum volume of the zone, do one of the following:
 - Move the **Minimum** slider to the right to increase or to the left to decrease the minimum volume.
 - Use the **%** arrows to increase or decrease the minimum volume. Values range from 0 to 50%, adjustable in increments of 1%.
 -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

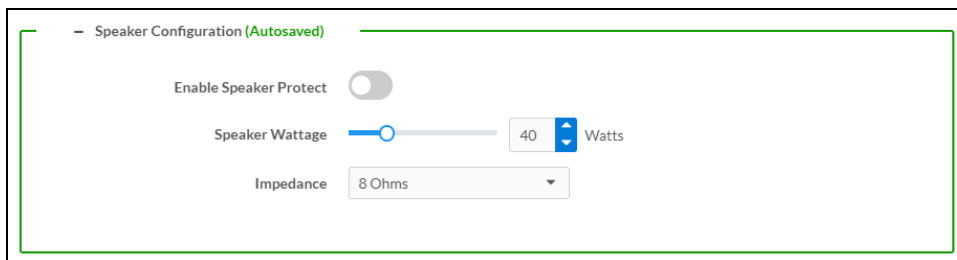
Signal



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.

Speaker Configuration



1. Set the **Enable Speaker Protect** toggle to the right position to enable speaker protection for the zone output. Set the toggle to the left position to disable speaker protection. By default, **Enable Speaker Protect** is set to the left position.
2. To set the maximum output wattage, do one of the following:
 - Move the **Speaker Wattage** slider to the right to increase or to the left to decrease the maximum peak amplifier wattage that can be output to the speaker.
 - Use the **Watts** arrows to increase or decrease the maximum peak amplifier wattage that can be output to the speaker. Values range from 5 W to 150 W, adjustable in increments of 1 W.
 - Manually enter a value in the **Speaker Wattage** field.

3. Select the impedance of the speaker on a selected zone from the **Impedance** drop-down. Values are **4 Ohms**, **8 Ohms**, and **Bridged**.

Configure Speaker Profile

The DM-NAX-AMP-X300 has a library of built-in speaker profiles that contain equalizer, speaker protection, and impedance settings specific to Crestron and third-party speaker models. Custom speaker profiles can also be generated and loaded to the DM-NAX-AMP-X300. The **Configure Speaker Profile** field is used to apply these speaker profiles to a given output of the DM NAX device.

NOTE: Applying a speaker profile on an output will overwrite the existing **Speaker Configuration** and **Equalizer** settings for that output.

Configure Speaker Profile

Applied Manufacturer

Applied Model

Global Filter

	Model ↑↓	Manufacturer ↑↓
<input type="radio"/>	SAROS IC4	Crestron
<input type="radio"/>	C1200QR	Crestron
<input type="radio"/>	SAROS IC14	Crestron
<input type="radio"/>	Air SR8	Crestron
<input type="radio"/>	Air LS4	Crestron

1 of 16

Apply

In the **Global Filter** field, enter the speaker's model name to search for its associated profile. Any speaker profiles matching the search criteria are displayed.

To apply a speaker profile:

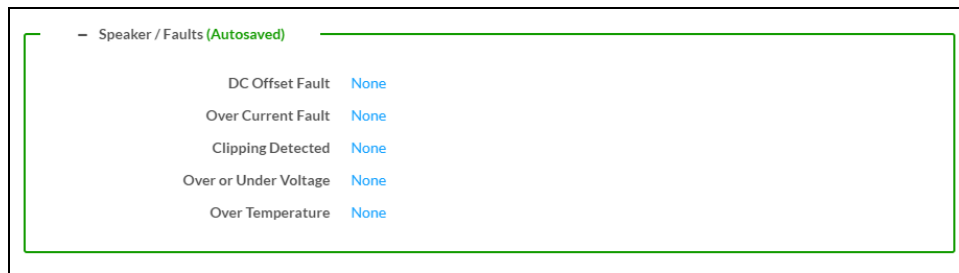
1. Select a speaker profile.
2. Select **Apply**.

The equalizer, impedance, and speaker protection settings of the output are updated as per the applied speaker profile.

After applying a speaker profile, the **Speaker Configuration** and **Equalizer** settings for the output can still be edited. The **Configure Speaker Profile** section will display a notification if these settings were altered after the speaker profile was applied.

 **Profile settings have been locally altered**

Speaker Faults



— Speaker / Faults (Autosaved)

DC Offset Fault None

Over Current Fault None

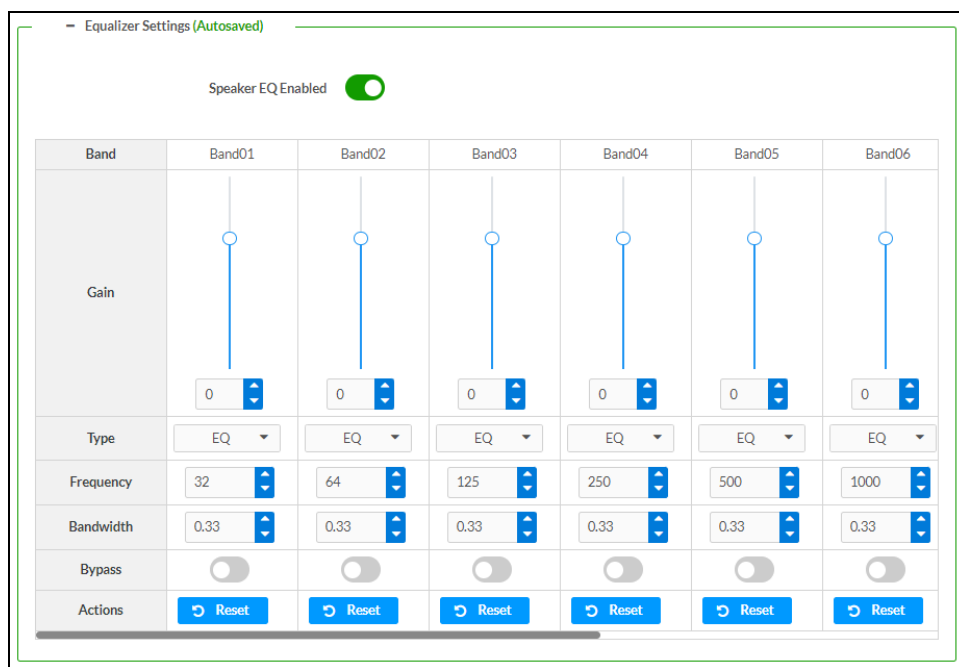
Clipping Detected None

Over or Under Voltage None

Over Temperature None

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



— Equalizer Settings (Autosaved)

Speaker EQ Enabled ☒

Band	Band01	Band02	Band03	Band04	Band05	Band06
Gain						
Type	EQ	EQ	EQ	EQ	EQ	EQ
Frequency	32	64	125	250	500	1000
Bandwidth	0.33	0.33	0.33	0.33	0.33	0.33
Bypass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Actions	Reset	Reset	Reset	Reset	Reset	Reset

Each zone output of the DM-NAX-AMP-X300 has a dedicated ten-band equalizer that can be fully customized to tune the zone 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. With the **Speaker EQ Enabled** toggle in the right position, configure the equalizer bands.

- a. To set a band's gain, do one of the following:
 - Move the **Gain** slider up to increase or down to decrease the gain.
 - Use the arrows to increase or decrease the gain. Values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Gain** field.
- b. Select a filter type from the **Type** drop-down. 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. To set the center frequency, do one of the following:
 - Use the arrows to increase or decrease the frequency. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. 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. To set the bandwidth, do one of the following:
 - Use the arrows to increase or decrease the bandwidth. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave.
 - 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.

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 **Analog Inputs**.

Input Channels

Inputs (Autosaved)

Name	LineIn1	LineIn2	LineIn3	LineIn4	StreamIn1Ch1	StreamIn1Ch2	StreamIn2Ch1	StreamIn2Ch2
Analog Gain (db)	17	17	17	17				
Compensation (db)	<div> <div>10</div> <div>0</div> <div>-10</div> </div> <div>0</div>	<div> <div>10</div> <div>0</div> <div>-10</div> </div> <div>0</div>	<div> <div>10</div> <div>0</div> <div>-10</div> </div> <div>0</div>	<div> <div>10</div> <div>0</div> <div>-10</div> </div> <div>0</div>	<div> <div>10</div> <div>0</div> <div>-10</div> </div> <div>0</div>	<div> <div>10</div> <div>0</div> <div>-10</div> </div> <div>0</div>	<div> <div>10</div> <div>0</div> <div>-10</div> </div> <div>0</div>	<div> <div>10</div> <div>0</div> <div>-10</div> </div> <div>0</div>
Signal Present								
Signal Level	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>	<div>Nominal</div>
Mode	Line	Line	Line	Line				
Phantom Power								
Mute								
Action	Edit	Edit	Edit	Edit	Edit	Edit	Edit	Edit

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.
- To set a level compensation adjustment for a given input, do one of the following:
 - Slide the **Compensation** slider up to increase or down to decrease the compensation. Compensation increases the level of the incoming audio signal on any of the physical inputs on the device's rear panel.
 - Use the **db** arrows to increase or decrease the compensation. Values range from -10 dB to 10 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Compensation** field.
- Use the Mode drop-down to select **Line** or **Mic**.
- If using **Mic Mode**, **Phantom Power** can be enabled by moving the **Phantom Power** toggle to the right. Disable **Phantom Power** by moving the toggle to the left.
- To mute the signal from the corresponding input, select **Mute**. To disable the mute, select **Muted**. By default, **Mute** is disabled.

Equalizer

To configure the equalizer settings for an input, select **Edit**. The **Edit Input** window appears.

Input

Equalizer Settings (Autosaved)

Band	Band01	Band02	Band03	Band04	Band05
Gain	<div> <div></div> <div>0</div> <div></div> </div>	<div> <div></div> <div>0</div> <div></div> </div>	<div> <div></div> <div>0</div> <div></div> </div>	<div> <div></div> <div>0</div> <div></div> </div>	<div> <div></div> <div>0</div> <div></div> </div>
Type	EQ	EQ	EQ	EQ	EQ
Frequency	32	64	125	250	500
Bandwidth	0.33	0.33	0.33	0.33	0.33
Bypass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Actions	Reset	Reset	Reset	Reset	Reset

Each input of the DM-NAX-AMP-X300 has a dedicated five-band equalizer that can be fully customized to tune the input 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. Configure each band individually:

- To set a band's gain, do one of the following:
 - Move the **Gain** slider up to increase or down to decrease the gain.
 - Use the arrows to increase or decrease the gain. Values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Gain** field.
- Select a filter type from the **Type** drop-down. 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.

- a. Set a center frequency for the equalizer band to tune a specific portion of the audible frequency spectrum. To set the center frequency, do one of the following:
 - Use the arrows to increase or decrease the frequency. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. 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.
- b. Set a bandwidth to determine how wide of a frequency range is effected by the equalizer band. To set the bandwidth, do one of the following:
 - Use the arrows to increase or decrease the bandwidth. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave.
 - Manually enter a value in the **Bandwidth** field.
- c. 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.
- d. Each equalizer band has a **Reset** that will reapply the default settings for that band.

DM NAX Streams

Each local input of the DM-NAX-AMP-X300 can be made available as a DM NAX audio-over-IP stream.

The DM-NAX-AMP-X300 also supports parallel DM NAX streams for each zone output, enabling an additional transmit stream per output to mirror all routes and DSP settings of its respective zone. These parallel streams enable control of the audio signal to third-party uncontrolled AES67 devices receiving audio from the DM-NAX-AMP-X300.

NOTES:

- Under the **Transmitters** section (see [Configure Transmitters](#)), the last two listed transmitters are dedicated to parallel zone outputs.
- To configure the DSP settings, refer to [Zone Settings](#).

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

The screenshot shows the Crestron AMP-X300 configuration web interface. The top navigation bar includes 'Status', 'Settings' (selected), 'Security', and '802.1x Configuration'. The left sidebar lists configuration categories: System Setup, Commissioning, Output Channels, Input Channels, and NAX Streams (highlighted). The main content area for 'NAX Streams' displays the following information:

- Device is Master PTP Clock Source: No
- Master Clock Status: 00107ffffe40615
- PTP Priority: 254 (with a dropdown arrow)
- Transmitters (Autosaved): A text input field.
- Receivers (Autosaved): A text input field.

- **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 DM-NAX-AMP-X300 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**: This 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 DM-NAX-AMP-X300 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 Transmitters

Transmitters (Autosaved)					
Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
IN1-IN2	Stream01	239.8.0.2	Stream01c4.42.68.18.54.47	Stream Started	▶ ◻ ⚙
IN3-IN4	Stream02	239.8.0.3	Stream02c4.42.68.18.54.47	Stream Started	▶ ◻ ⚙

To configure a DM NAX transmit stream:

1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon ⚙ in the **Actions** column. The **Configure** dialog appears:

The Configure dialog box has a title bar with a close button. Inside, there is a section for 'Auto Initiation' with a toggle switch currently in the 'off' position. Below this is a 'Port' field with a dropdown menu showing '5004'. At the bottom, there are two buttons: 'OK' with a checkmark icon and 'CANCEL' with an 'X' icon.

5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

Configure Receivers

Receivers (Autosaved)					
Zone Name	Stream	Current Stream Address	Requested Stream Address	Status	Actions
Zone_Amp1	Stream01	0.0.0.0	0.0.0.0	Stream Stopped	
Zone_Amp2	Stream02	0.0.0.0	0.0.0.0	Stream Stopped	

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 configure icon in the **Actions** column. The **Configure** dialog appears:

Configure

Auto Initiation

Port

OK

CANCEL

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. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Port Selection

The **Port Selection** feature allows the device's internal network traffic to be managed and segregated based on traffic type. Internal VLANs are used to segment device management and streaming service traffic to a separate physical device Ethernet port than audio-over-IP streaming traffic. With **Port Selection** enabled on all DM NAX devices on a network, DM NAX and AES67 network traffic can be physically separated from the control network onto a dedicated audio network.

Port Selection

Port Selection: Connecting multiple interfaces to the same switch may cause a network loop

Port Selection

Management

Audio/NAX

To configure **Port Selection**:

1. Set the **Port Selection** toggle to the right position to enable **Port Selection**. Set the toggle to the left position to disable **Port Selection**. By default, **Port Selection** is disabled.

NOTE: **Port1** and **Port2** correspond to the Ethernet adapters labeled **1** and **2** on the rear panel of the DM-NAX-AMP-X300, respectively.

2. With **Port Selection** enabled:

- a. Select an Ethernet port from the **Management** drop-down to designate which Ethernet port on the rear panel of the device will handle network traffic relating to device configuration and the device's connection to a control system.

NOTE: The **Management** port determines your connection to the web interface. Changing the port value can result in losing your connection to the device via the web interface.

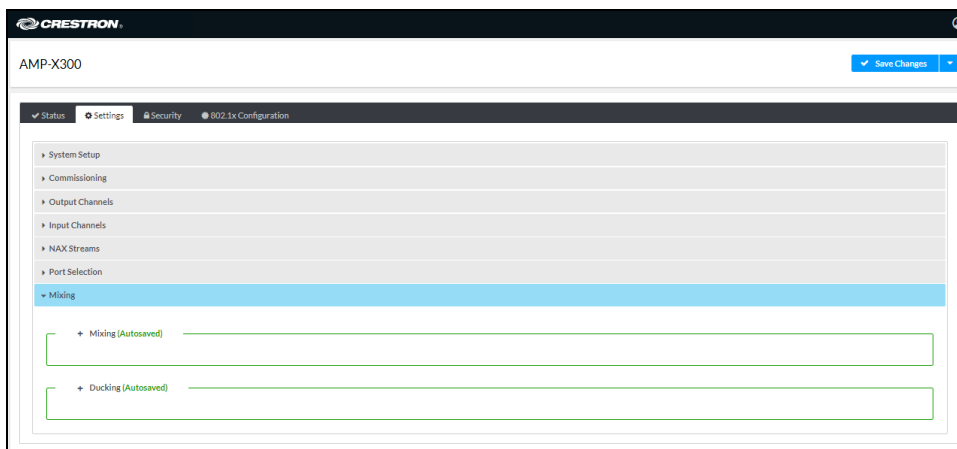
- b. Select an Ethernet port from the **Audio/NAX** drop-down to designate which Ethernet port on the rear panel of the device will handle audio-over-IP streaming network traffic.

3. Select **Save** changes to apply the new settings.

NOTE: Making changes to **Port Selection** settings will require a reboot.

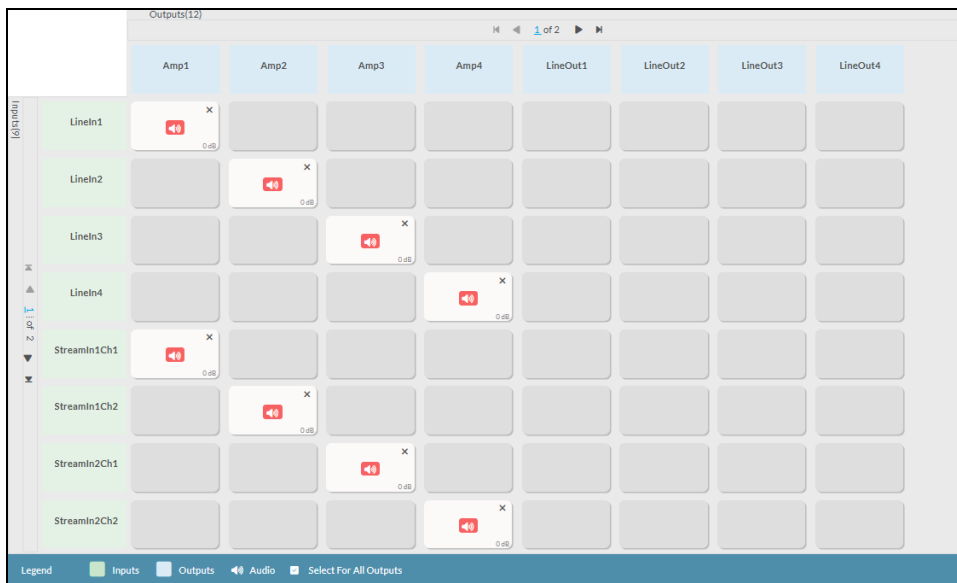
Mixing

This section contains the **Mixing** and **Ducking** matrices.






Mixing



The **Mixing** matrix is used to route a local input or AES67 stream to an output on the DM-NAX-AMP-X300.



To route inputs to outputs on the device:

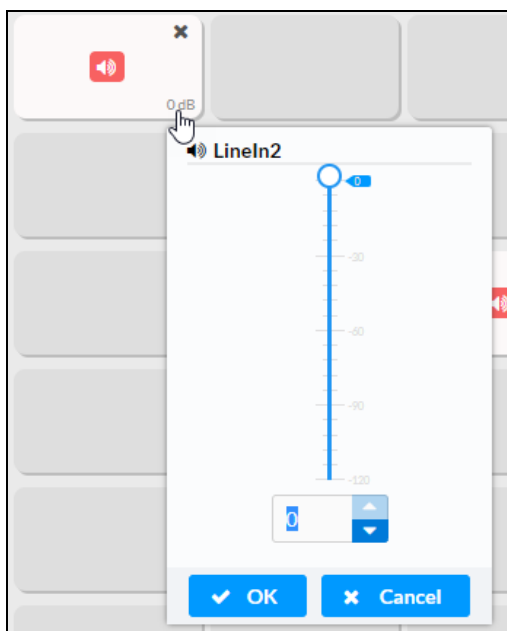
- Select the cells corresponding to the desired output that are to be paired for routing. Once a route is made,  appears. The input that you have selected for a given row will route to the output corresponding to that row in the matrix.
- Use the arrows ( or ) at the top or side of the matrix to change pages to view all available inputs or outputs.

NOTE: The signal generator input is on the second page of inputs. The Commercial Mode signal generator is a 1 kHz sine tone that can be mixed into any number of output channels.

- To break a given route select  or .
- Lock icons appear on any routes that are already configured in the **Ducking** matrix.

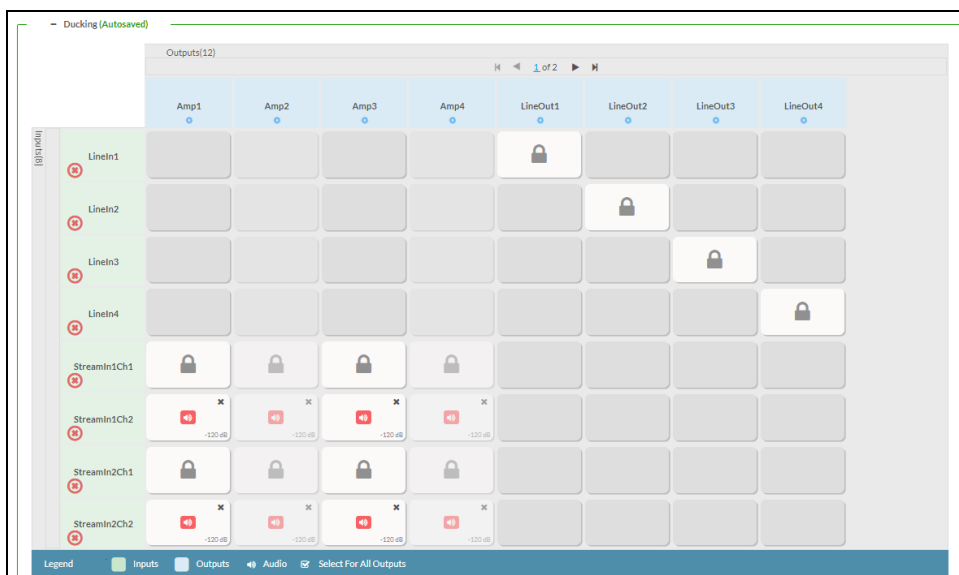
Each output can have any number of inputs routed to it. To adjust the mix setting for a route, select the **dB** value of the cell, then do one of the following:

- 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.








Ducking

The **Ducking** matrix is used to configure ducking routes. Audio signals on these routes will duck audio signals on the **Mixing** routes for a given output whenever the ducking signal exceeds the ducking threshold.



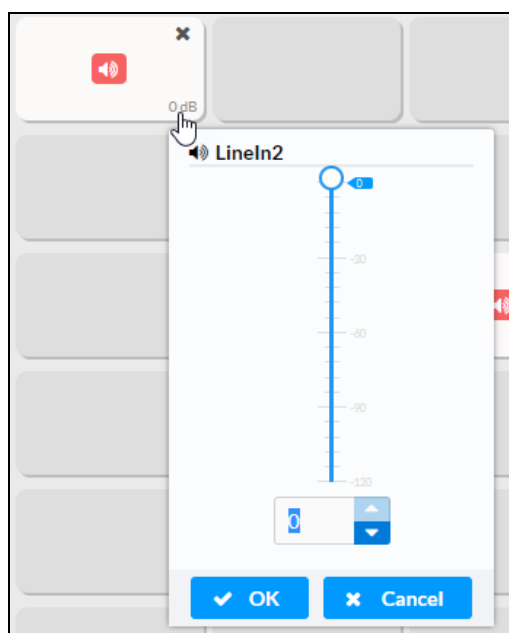
To assign inputs as ducking signals for zones on the device:


- Select the cells corresponding to the desired zone that are to be paired for ducking. Once a route is made,  appears. The input that you have selected for a given row will route to the zone corresponding to that row in the matrix, and will duck any other signals routed to that zone in the **Mixing** matrix.
- Use the arrows ( or ) at the top of the matrix to change pages to view all available inputs.

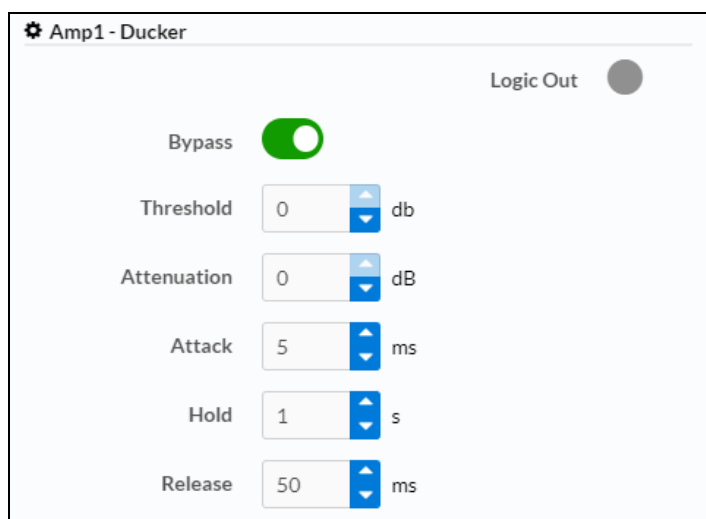
- To break a given route select  or .
- Lock icons appear on any routes that are already configured in the **Mixing** matrix.

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, then 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.



To configure the **Ducker** settings for a given output, select the configure icon  below it.



Logic Out: This indicator turns blue when the ducker is active.

Bypass: Set the **Bypass** toggle to the right position to bypass the ducker. Set the toggle to the left to enable the ducker.

Threshold: Set the dB value at which the ducker engages. Use the arrows or enter a number to set the dB value for the **Threshold**. Values range from 0 dB to -60 dB.

Attenuation: Set the dB value by which the **Mixing** matrix output signals will be reduced when ducking is triggered. Use the arrows or enter a number to set the dB value for the **Attenuation**. Values range from 0 dB to -80 dB.

Attack: Set how quickly the ducking occurs once triggered. Use the arrows or enter a number to set value in ms for the **Attack**. Values range from 0.1 ms to 2000 ms.

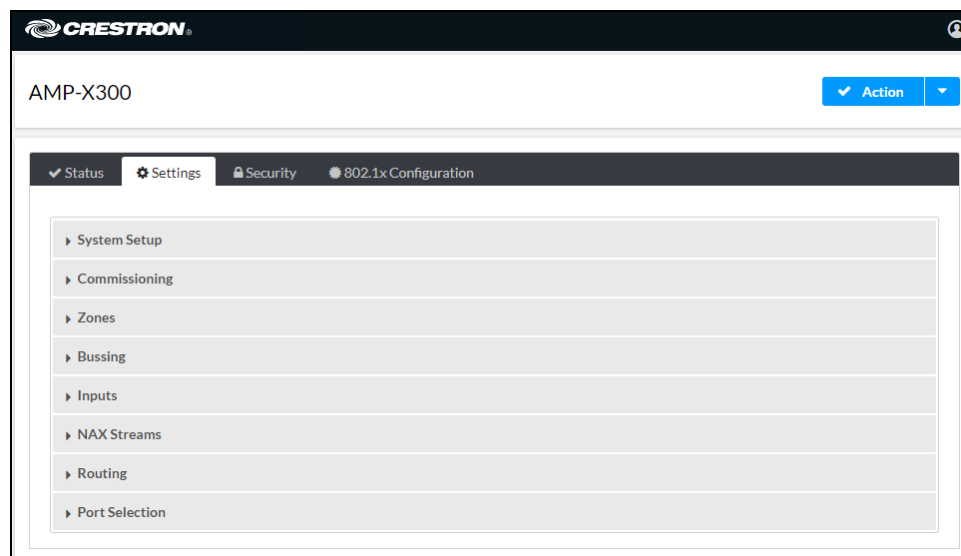
Hold: Set the length of time for which the ducker will stay at full attenuation once the ducking signal passes the **Threshold**. Use the arrows or enter a number to set a value in seconds for the **Hold**. Values range from 0.1 s to 20 s.

Release: Set the time for the **Mixing** matrix output signal to return to its full level after the ducking signal falls below the threshold and the **Hold** time ends. Use the arrows or enter a number to set the value in ms for the **Release**. Values range from 10 ms to 4000 ms.

Residential Mode

This section provides the following information:

- [System Setup on page 461](#)
- [Commissioning on page 465](#)
- [Zones on page 466](#)
- [Bussing on page 480](#)
- [Inputs on page 481](#)
- [NAX Streams on page 481](#)
- [Routing on page 484](#)
- [Port Selection on page 484](#)



System Setup

The **System Setup** section displays information about the Date/Time, Auto Update, Network, Control System, Cloud Settings, and Device Modes.

Date/Time

Use the **Date/Time** section to configure the date and time settings of the DM-NAX-AMP-X300.

Date/Time

Synchronization

Time Synchronization ☒

[Synchronize Now](#)

NTP Time Servers

<input type="checkbox"/>	Address	Port	Authentication Method	Authentication Key	Key ID
<input type="checkbox"/>	pool.ntp.org	123	None	*****	0

[+ Add](#) [- Remove](#)

Configuration

Time Zone: (UTC-05:00) Eastern Time (US & ...)

Date: 01/26/2023

Time: 08:37

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. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-AMP-X300 can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.

— Auto Update

Auto Update ☒

Custom URL ☐

Custom URL Path

Schedule

Day of Week

Time of Day

Poll Interval Minutes

[Update Now](#)

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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 DM-NAX-AMP-X300, including the **Hostname**, **Domain**, **Primary Static DNS**, and **Secondary Static DNS**.

Network

Hostname * AMP-X300-TECH-DOCS

Domain 6vcrestrongelab.com

Primary Static DNS 10.253.31.12(DHCP)

Secondary Static DNS

Adapter 1

DHCP ☒

IP Address 10.253.46.147

Subnet Mask 255.255.255.0

Default Gateway 10.253.46.1

NOTE: By default, the host name of the DM-NAX-AMP-X300 consists of the model name followed by the MAC address of the device. For example, DM-NAX-AMP-X300-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTES:

- An **+ Adapter 2** option only appears when the dual Ethernet ports on the DM-NAX-AMP-X300 are set to isolate traffic using the **Port Selection** feature. The settings for **Adapter 2** are identical to those available for **Adapter 1**.
- DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-AMP-X300 is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When **DHCP** is enabled (default setting), the IP address of the DM-NAX-AMP-X300 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 DM-NAX-AMP-X300.
 - **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

Control System

Encrypt Connection

IP Table

	IP ID	IP Address/Hostname	Room ID
No records found			

+ Add ✕ Remove

1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-AMP-X300 in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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

Cloud Settings

Cloud Configuration Service Connection ☒

Set the **Cloud Settings** toggle to the right position to enable or to the left to disable cloud settings. This specifies whether the DM-NAX-AMP-X300 can communicate with the XiO Cloud® platform.

Device Modes

Use the **Device Modes** section to configure the **Application Mode** and **Standby Mode**.

Device Modes (Autosaved)

Application Mode: Residential (Standard) ▼

Standby Mode: Power Saver ▼

Remote Pin Configuration:

- ☒ Shutdown Amplifier on closing of contacts
- ☐ Shutdown Amplifier on opening of contacts

- **Application Mode:** The Application Mode determines which options and controls are available.
 - Select **Residential (Standard)** or **Commercial (Advanced)**. A **Reboot** confirmation message box appears.

Reboot

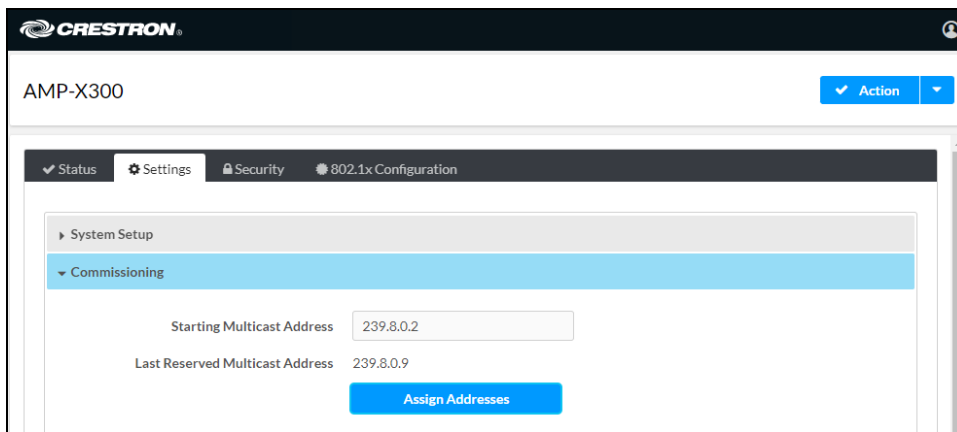
The device will be rebooted. Do you want to continue?

✓ Yes, Reboot Now ✕ No

- Select **Yes, Reboot Now** to reboot the device into the selected mode. The **Reboot** message box appears.
 - Wait for the device reboot to complete before attempting to reconnect to the device.
- **Standby Mode:** Select the DM-NAX-AMP-X300's standby behavior.
 - **Always On:** The device's amplifier remains powered on at all times.
 - **Power Saver:** If no signal is detected for 25 minutes, the device enters a low power state by turning off the amplifier board. Upon detecting an audio signal, the amplifier will be turned back on.
- **Remote Pin Configuration:** Select the behavior of the **REMOTE** connector on the rear panel of the DM-NAX-AMP-X300.
 - To have the amplifier turn off when a connected dry contact is closed, select **Shutdown Amplifier on closing of contacts**.
 - To have the amplifier turn off when a connected dry contact is opened, select **Shutdown Amplifier on opening of contacts**.

Commissioning

The **Commissioning** section provides a quick way to automatically assign multicast addresses to all of the device's internal audio-over-IP stream transmitters.

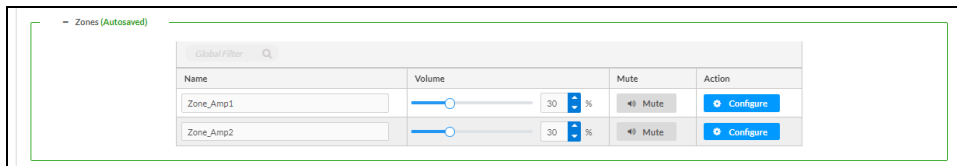


Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-AMP-X300 a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.127.255.255.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

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.

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. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

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

Zone Settings

To configure zone settings, select **Configure** (**Configure**). The **Edit Zone** window appears.

Zone

Select **Zone** to access the settings for **Tone**, **Balance**, and **Delay**.

The screenshot shows a 'Zone' settings panel with three expandable sections:

- Tone (Autosaved):** Contains a 'Tone Profile' dropdown set to 'Off', 'Bass' and 'Treble' sliders both at 0 dB with up/down arrows, a 'Loudness' toggle switch turned off, and a 'Night Mode' dropdown set to 'Off'.
- Balance (Autosaved):** Contains a 'Left / Right' slider set to 0.
- Delay (Autosaved):** Contains a 'Delay Time(ms)' slider set to 0 ms.

Tone

This close-up shows the 'Tone (Autosaved)' section with the following controls:

- Tone Profile:** A dropdown menu currently showing 'Off'.
- Bass:** A slider and a numeric field both showing '0' with 'dB' units and up/down arrows.
- Treble:** A slider and a numeric field both showing '0' with 'dB' units and up/down arrows.
- Loudness:** A toggle switch currently in the 'Off' position.
- Night Mode:** A dropdown menu currently showing 'Off'.

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. The available options are **Off**, **Classical**, **Jazz**, **Pop**, **Rock**, and **Spoken Word**. By default, **Off** is selected.
2. **Bass:** 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.
 - Use the **dB** arrows to increase or decrease the bass level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Bass** field.
3. **Treble:** 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.
 - Use the **dB** arrows to increase or decrease the treble level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Treble** field.
4. To enable the loudness setting on the zone output, slide the **Loudness** switch to the right. To disable loudness, slide the **Loudness** switch to 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. The available options are **Off**, **Low**, **Medium**, and **High**. By default, **Off** is selected.

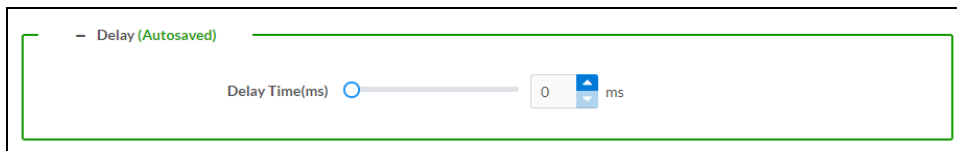
Balance



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. 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.

Delay



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. Values range from 0 ms to 250 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume**, **Stereo/Mono**, **Signal**, **Bussing Volume Offset**, **Speaker Configuration**, **Configure Speaker Profile**, **Speaker/Faults**, **Line Out**, **Signal Generator**, and **Equalizer Settings**.

AMP-X300
Zone_Amp1

> Zones

Output

- + Minimum / Maximum (Autosaved)
- + Stereo / Mono (Autosaved)
- + Signal (Autosaved)
- + Bussing Volume Offset (Autosaved)
- + Speaker Configuration (Autosaved)
- + Speaker / Faults (Autosaved)
- + Line Out (Autosaved)
- + Signal Generator (Autosaved)
- + Advanced Signal Generator (Autosaved)
- + Equalizer Settings (Autosaved)

Minimum/Maximum Volume

Minimum / Maximum (Autosaved)

Minimum 0 %

Maximum 100 %

Default 30 %

- 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. Values range from 0 to 50%, adjustable in increments of 1%.
 - Manually enter a value in the **Minimum** field.
- 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. Values range from 70 to 100%, adjustable in increments of 1%.
 - Manually enter a value in the **Maximum** field.

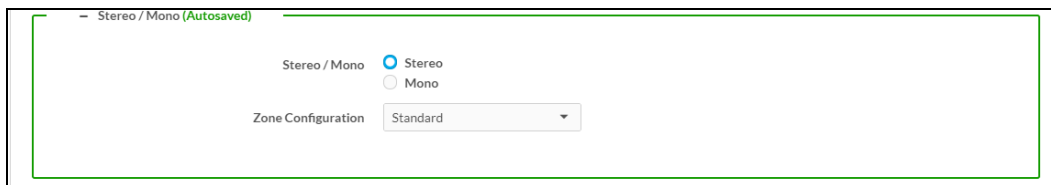
NOTE: When a **Minimum** and **Maximum** volume are set, the 1-100% range represented by the **Zone** and **Default** volume controls are scaled to the range set. For example, if a **Minimum** of 10% and a **Maximum** of 80% are set for a zone, the 1-100% range of the **Zone** volume control is scaled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

3. 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. Values range from 0 to 50%, adjustable in increments of 1%.
- 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.

Stereo/Mono



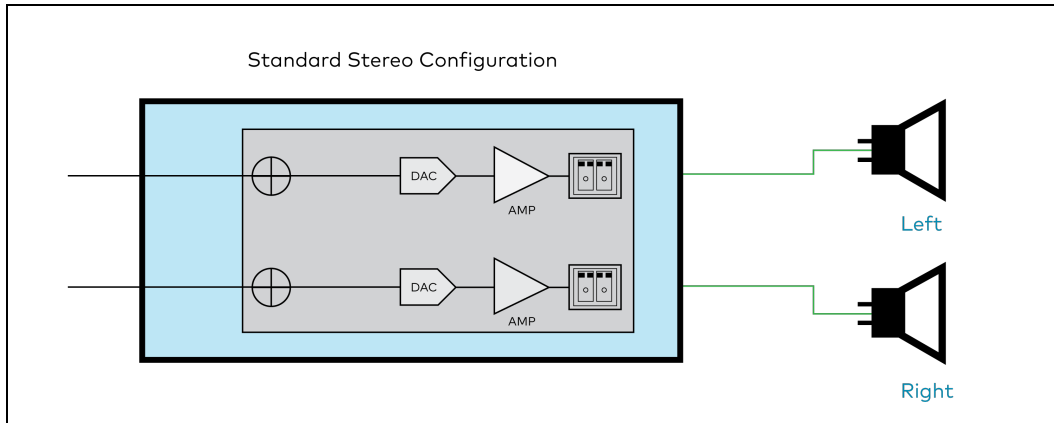
The screenshot shows a configuration window titled "Stereo / Mono (Autosaved)". Inside the window, there are two radio buttons: "Stereo" (which is selected) and "Mono". Below these, there is a label "Zone Configuration" followed by a dropdown menu currently set to "Standard".

1. Select either **Stereo** or **Mono**.

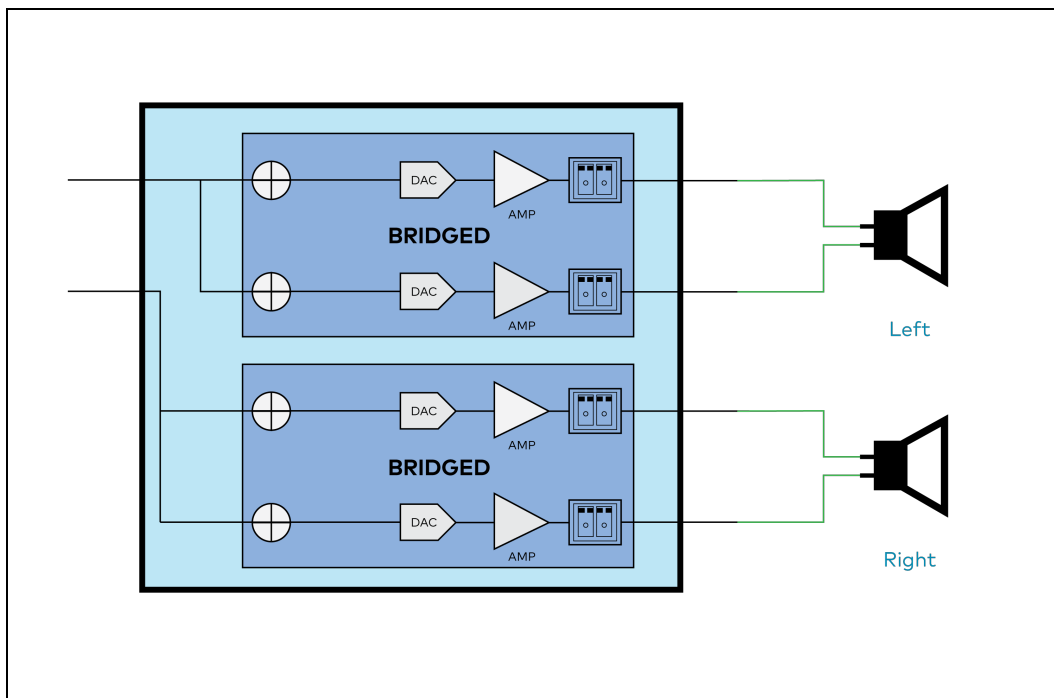
2. Select the zone configuration from the **Zone Configuration** drop-down. The available values are **Standard**, **Bridged**, **Bridged Sub 2.1**, and **Bridged Mono**. Refer to the diagrams below for the output signal flow applied in each configuration.

NOTE: The **Stereo/Mono** field is disabled for the Bridge Mono, and Bridged Sub 2.1 zone configurations.

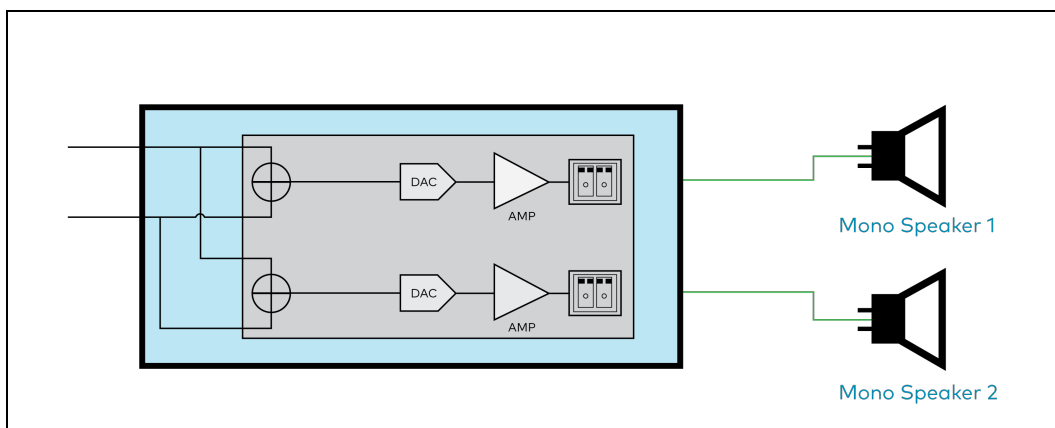
Stereo - Standard



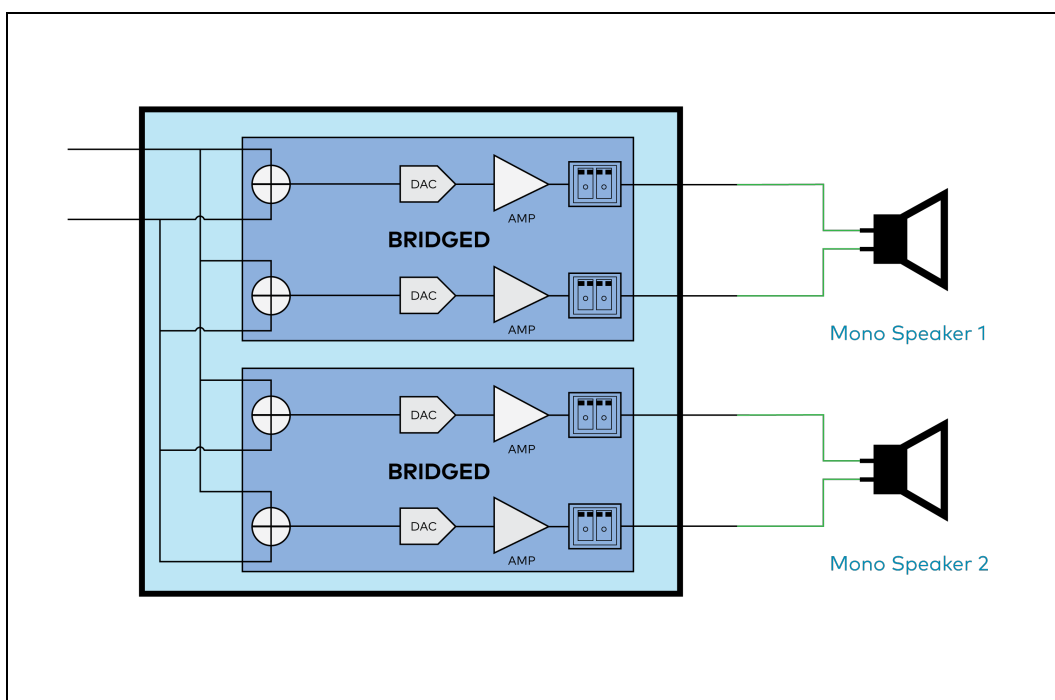
Stereo - Bridged



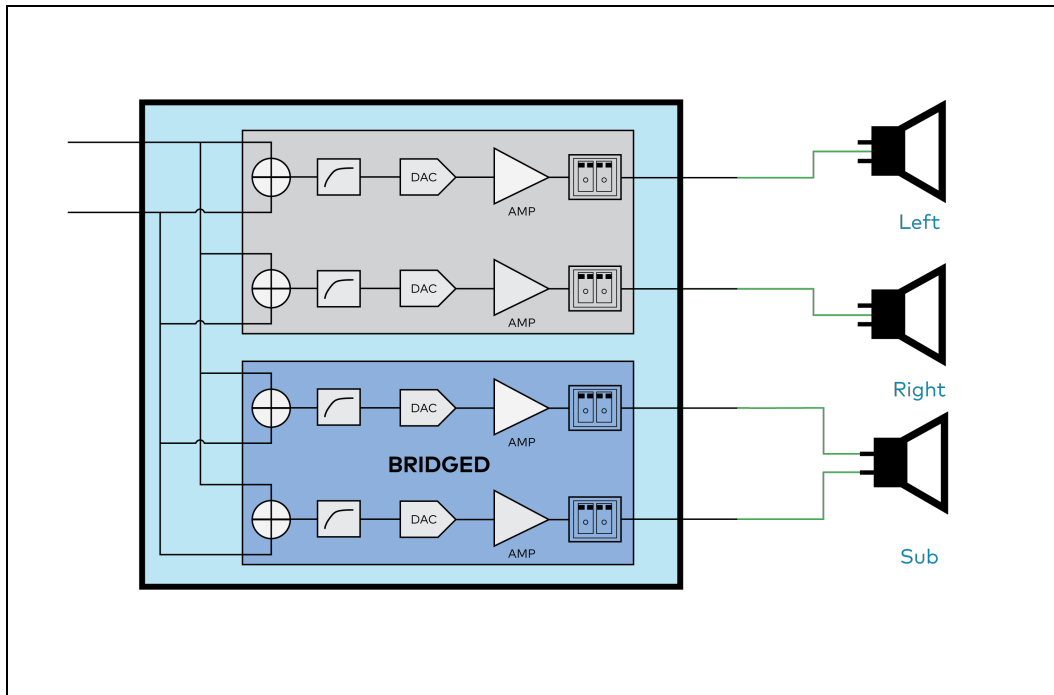
Mono - Standard



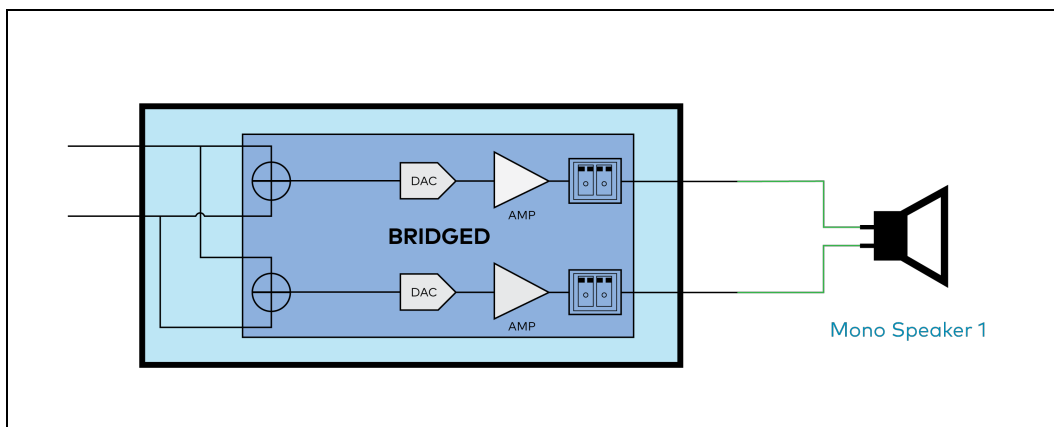
Mono - Bridged



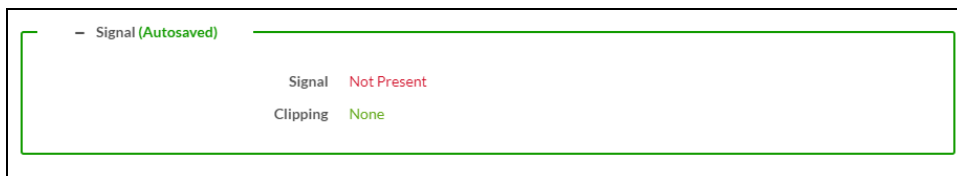
Bridged Sub 2.1



Bridged Mono



Signal

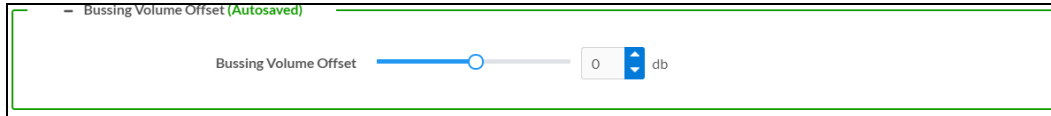


The **Signal** section is a read-only field that displays the **Signal** and **Clipping** status of the zone output.

- 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

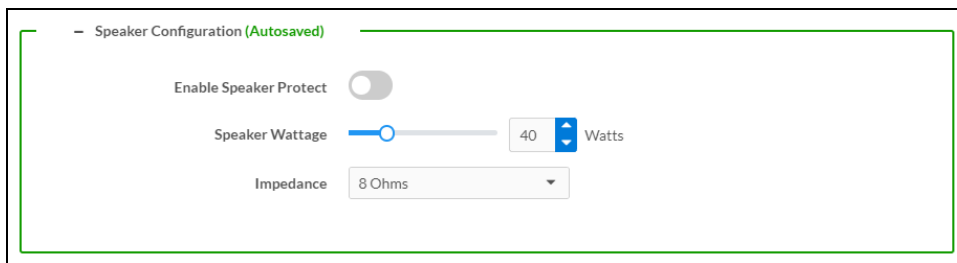


Bussing Volume Offset is an additional level compensation applied to the zone relative to any other zones it is grouped with via the **Bussing** feature.

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. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
- Manually enter a value in the **Bussing Volume Offset** field.

Speaker Configuration



1. Set the **Enable Speaker Protect** toggle to the right position to enable speaker protection for the zone output. Set the toggle to the left position to disable speaker protection. By default, **Enable Speaker Protect** is set to the left position.
2. To set the maximum output wattage, do one of the following:
 - Move the **Speaker Wattage** slider to the right to increase or to the left to decrease the maximum peak amplifier wattage that can be output to the speaker.
 - Use the **Watts** arrows to increase or decrease the maximum peak amplifier wattage that can be output to the speaker. Values range from 5 W to 150 W, adjustable in increments of 1 W.
 - Manually enter a value in the **Speaker Wattage** field.
3. Select the impedance of the speaker on a selected zone from the **Impedance** drop-down. Values are **4 Ohms**, **8 Ohms**, and **Bridged**.

Configure Speaker Profile

The DM-NAX-AMP-X300 has a library of built-in speaker profiles that contain equalizer, speaker protection, and impedance settings specific to Crestron and third-party speaker models. Custom

speaker profiles can also be generated and loaded to the DM-NAX-AMP-X300. The **Configure Speaker Profile** field is used to apply these speaker profiles to a given zone of the DM NAX device.

NOTE: Applying a speaker profile on a zone will overwrite the existing **Speaker Configuration** and **Equalizer** settings for that zone.

Configure Speaker Profile

Applied Manufacturer

Applied Model

Global Filter

	Model ↑↓	Manufacturer ↑↓
<input type="radio"/>	SAROS IC4	Crestron
<input type="radio"/>	CI200QR	Crestron
<input type="radio"/>	SAROS IC14	Crestron
<input type="radio"/>	Air SR8	Crestron
<input type="radio"/>	Air LS4	Crestron

1 of 16

Apply

In the **Global Filter** field, enter the speaker's model name to search for its associated profile. Any speaker profiles matching the search criteria are displayed.

To apply a speaker profile:

1. Select a speaker profile.
2. Select **Apply**.

The equalizer, impedance, and speaker protection settings of the zone are updated as per the applied speaker profile.

After applying a speaker profile, the **Speaker Configuration** and **Equalizer** settings for the zone can still be edited. The **Configure Speaker Profile** section will display a notification if these settings were altered after the speaker profile was applied.

 **Profile settings have been locally altered**

Speaker/Faults

Speaker / Faults (Autosaved)

DC Offset Fault

None

Over Current Fault

None

Clipping Detected

None

Over or Under Voltage

None

Over Temperature

None

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.

Line Out

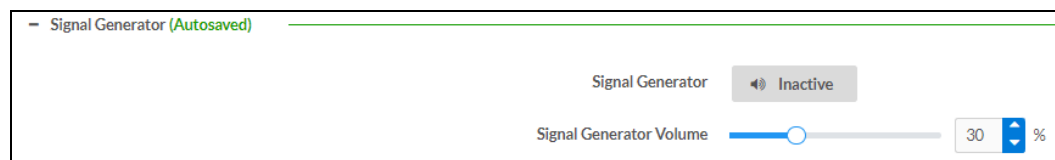


Line Out Volume controls the volume level of the corresponding line-level output on the DM NAX device. The Line Out Volume is only applied when **Line Out EQ Bypass** is enabled.

1. To set the line out volume, do one of the following:
 - Move the **Line Out Volume** slider to the right to increase or to the left to decrease the line out volume.
 - Use the arrows to increase or decrease the line out volume. Values range from 0 to 100, adjustable in increments of 1. This range in dB is -80 dB to 20 dB.
 - Manually enter a value in the **Line Out Volume** field.
2. Set the **Line Out EQ Bypass** toggle to the right position to have the line-level output signal bypass the zone's equalizer settings. Set the toggle to the left position to have the line-level output signal pass through the zone's equalizer. By default, **Line Out EQ Bypass** is disabled.

NOTE: When the **Line Out EQ Bypass** setting is disabled, the line-level output's level will mirror the speaker output's **Zone** volume control. This allows for a variable signal level in applications where the line-level output is connected to an uncontrolled device such as powered speakers. If the **Line Out EQ Bypass** setting is enabled, the **Line Out Volume** slider can be used to set a fixed level for the line-level output. This level will not be affected by the speaker output **Zone** volume controls, making this configuration better suited to applications where the line output is connected to a controlled amplifier with its own level adjustment.

Signal Generator



The DM-NAX-AMP-X300 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.

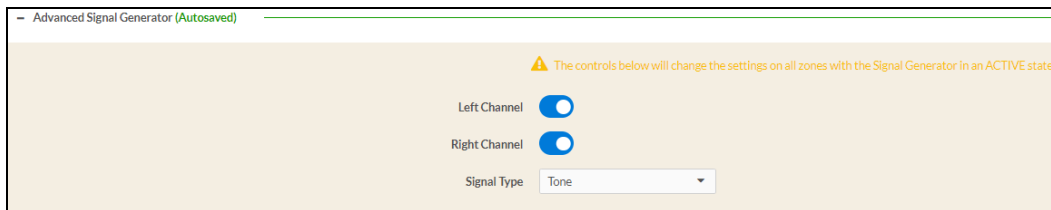
1. To route the signal generator to the zone output, select **Signal Generator** so that it displays **Active** and is highlighted in blue. To unroute the signal generator on the zone output, select **Signal Generator** so that it displays **Inactive** and is highlighted in grey. By default, the signal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

NOTES:

- There is only one signal generator built-in to the DM NAX device. Each zone has its own button 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.
- The **Signal Generator Volume** control 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. 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. Values range from 0 to 100, adjustable in increments of 1.
 - 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 DM NAX 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.

1. 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.
2. 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.
3. Select an audio test signal type from the **Signal Type** drop-down. 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

Band	Band01	Band02	Band03	Band04	Band05	Band06
Gain						
Type	EQ	EQ	EQ	EQ	EQ	EQ
Frequency	32	64	125	250	500	1000
Bandwidth	0.33	0.33	0.33	0.33	0.33	0.33
Bypass						
Actions	Reset	Reset	Reset	Reset	Reset	Reset

Each zone output of the DM-NAX-AMP-X300 has a dedicated ten-band equalizer that can be fully customized to tune the zone 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.

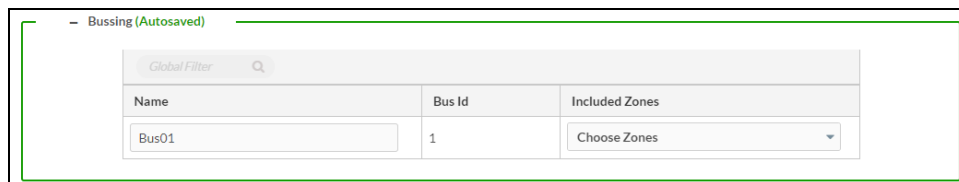
NOTE: When **Speaker EQ Enabled** is disabled, all equalizer bands are bypassed. This is a quick way to perform A/B testing of the entire EQ curve.

2. With the **Speaker EQ Enabled** toggle in the right position, configure the equalizer bands.
 - a. To set a band's gain, do one of the following:
 - Move the **Gain** slider up to increase or down to decrease the gain.
 - Use the arrows to increase or decrease the gain. Values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Gain** field.

- b. Select a filter type from the **Type** drop-down. 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. To set the center frequency, do one of the following:
- Use the arrows to increase or decrease the frequency. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. 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. To set the bandwidth, do one of the following:
- Use the arrows to increase or decrease the bandwidth. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave.
 - 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.

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

Bussing



The screenshot shows a web interface titled "Bussing (Autosaved)". It features a search bar labeled "Global Filter" with a magnifying glass icon. Below the search bar is a table with three columns: "Name", "Bus Id", and "Included Zones". The table contains one row with the following data: "Bus01" in the Name column, "1" in the Bus Id column, and "Choose Zones" in the Included Zones column. The "Included Zones" column has a dropdown arrow next to the text.

Name	Bus Id	Included Zones
Bus01	1	Choose Zones

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,

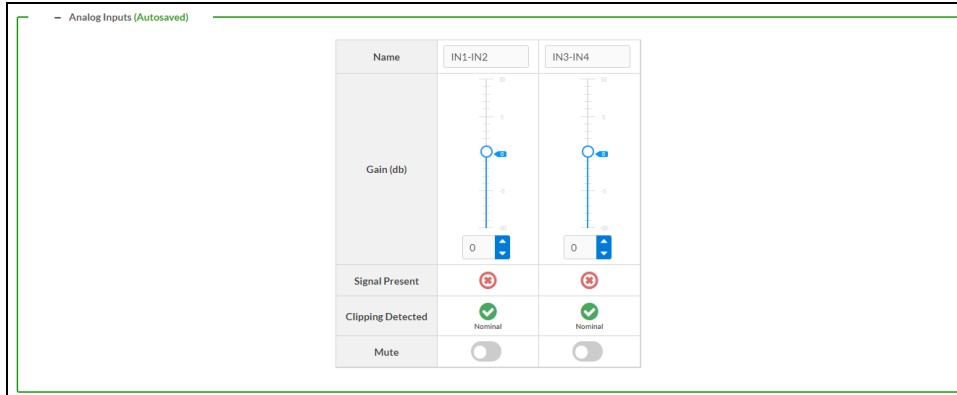
when the source or volume for one zone in the bus is adjusted, all other zones in that bus receive the same adjustment. You can create a single output bus on the DM-NAX-AMP-X300.

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.

Inputs

The **Inputs** section is used to configure the **Name**, **Compensation**, and **Mute** attributes of the available analog, digital, and media streaming inputs on the DM-NAX-AMP-X300.



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

Monitor the device's input signals using the indicators in the **Signal Present** and **Clipping Detected** rows:

- **Signal Presence** indicates whether or not a signal is detected in that zone.
- **Clipping Detected** indicates if the signal is **Clipping** or **Nominal** (non-clipping).

NAX Streams

Each local input of the DM-NAX-AMP-X300 can be made available as a DM NAX audio-over-IP stream.

The DM-NAX-AMP-X300 also supports parallel DM NAX streams for each zone output, enabling an additional transmit stream per output to mirror all routes and DSP settings of its respective zone. These parallel streams enable control of the audio signal to third-party uncontrolled AES67 devices receiving audio from the DM-NAX-AMP-X300.

NOTES:

- Under the **Transmitters** section (see [Configure Transmitters](#)), the last two listed transmitters are dedicated to parallel zone outputs.
- To configure the DSP settings, refer to [Zone Settings](#).

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

AMP-X300

▼ Status Settings Security 802.1x Configuration

System Setup

Commissioning

Output Channels

Input Channels

NAX Streams

Device is Master PTP Clock Source: No

Master Clock Status: 00107fffe40615

PTP Priority: 254

+ Transmitters (Autosaved)

+ Receivers (Autosaved)

- **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 DM-NAX-AMP-X300 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**: This 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 DM-NAX-AMP-X300 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 Transmitters

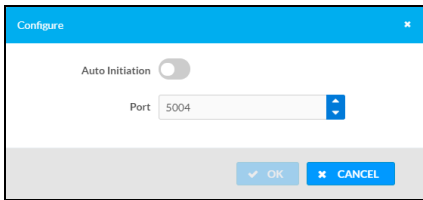
Transmitters (Autosaved)

Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
IN1-IN2	Stream01	239.8.0.2	Stream01c4.42.68.18.54.47	Stream Started	▶ □ ⚙
IN3-IN4	Stream02	239.8.0.3	Stream02c4.42.68.18.54.47	Stream Started	▶ □ ⚙

To configure a DM NAX transmit stream:

1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.









3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon  in the **Actions** column. The **Configure** dialog appears:




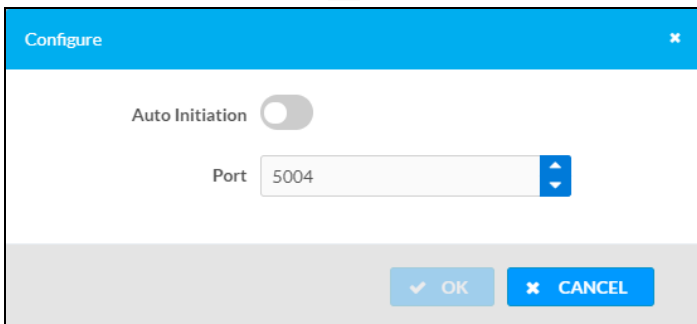
The **Configure** dialog box has a blue header with a close button. It contains an **Auto Initiation** toggle switch, a **Port** field with the value 5004 and a spinner, and **OK** and **CANCEL** buttons at the bottom.

5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

Configure Receivers

Receivers (Autosaved)					
Zone Name	Stream	Current Stream Address	Requested Stream Address	Status	Actions
Zone_Amp1	Stream01	0.0.0.0	0.0.0.0 	Stream Stopped	  
Zone_Amp2	Stream02	0.0.0.0	0.0.0.0 	Stream Stopped	  

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 configure icon  in the **Actions** column. The **Configure** dialog appears:



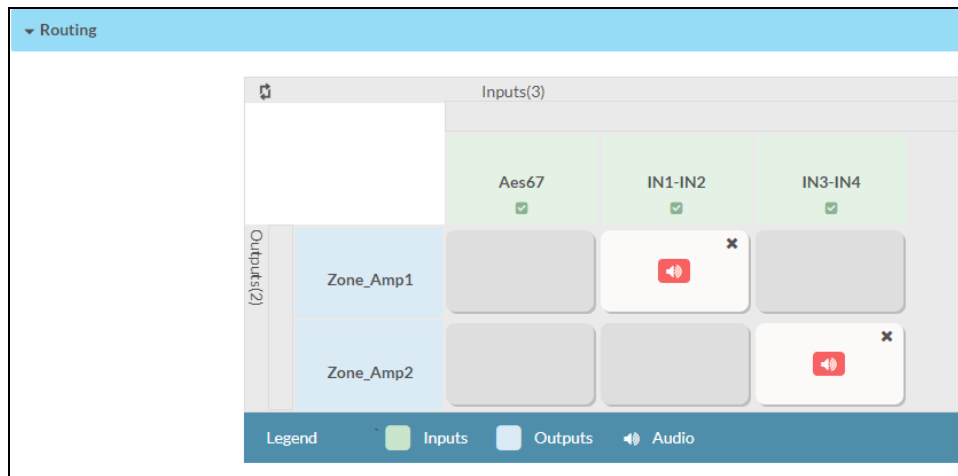
The **Configure** dialog box is identical to the one shown in step 4, with the **Auto Initiation** toggle and **Port** field (5004) visible.

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. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Routing

The **Routing** section is used to route a local input or AES67 stream to a zone on the DM-NAX-AMP-X300.

NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).

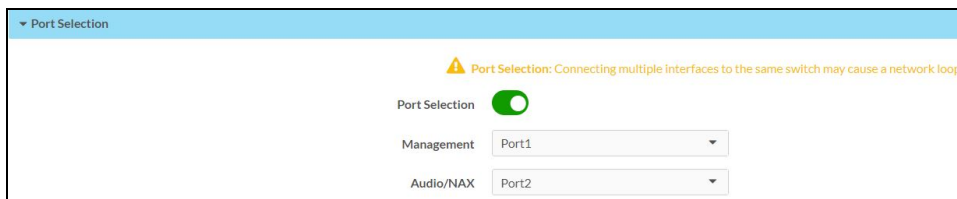


- To route an input to a zone, select the box in the routing matrix where the zone's row overlaps the corresponding input's column. Once a route is made, appears.
- To break a given route select or .
- To route a single input to all zones, select the icon under the input's name.

Use the arrows (or) at the top of the matrix to change pages to view all available inputs.

Port Selection

The **Port Selection** feature allows the device's internal network traffic to be managed and segregated based on traffic type. Internal VLANs are used to segment device management and streaming service traffic to a separate physical device Ethernet port than audio-over-IP streaming traffic. With **Port Selection** enabled on all DM NAX devices on a network, DM NAX and AES67 network traffic can be physically separated from the control network onto a dedicated audio network.



To configure **Port Selection**:

1. Set the **Port Selection** toggle to the right position to enable **Port Selection**. Set the toggle to the left position to disable **Port Selection**. By default, **Port Selection** is disabled.

NOTE: **Port1** and **Port2** correspond to the Ethernet adapters labeled **1** and **2** on the rear panel of the DM-NAX-AMP-X300, respectively.

2. With **Port Selection** enabled:
 - a. Select an Ethernet port from the **Management** drop-down to designate which Ethernet port on the rear panel of the device will handle network traffic relating to device configuration and the device's connection to a control system.

NOTE: The Management port determines your connection to the web interface. Changing the port value can result in losing your connection to the device via the web interface.

- b. Select an Ethernet port from the **Audio/NAX** drop-down to designate which Ethernet port on the rear panel of the device will handle audio-over-IP streaming network traffic.
3. Select **Save** changes to apply the new settings.

NOTE: Making changes to **Port Selection** settings will require a reboot.

Security

Select the **Security** tab to configure security for users and groups and to allow different levels of access to the DM-NAX-AMP-X300 functions. By default, security is disabled.

The screenshot shows the 'Security' tab selected in the top navigation bar. Below the navigation bar, there is a 'Security' section with a dropdown menu for 'SSL Mode' set to 'OFF'. Below this, there is a 'Current User' tab selected, showing details for the 'admin1' user. The details include: Name: admin1, Access Level: Administrator, Active Directory User: No, and Groups: Administrators. A blue button labeled 'Change Current User Password' is located at the bottom left of the 'Current User' section.

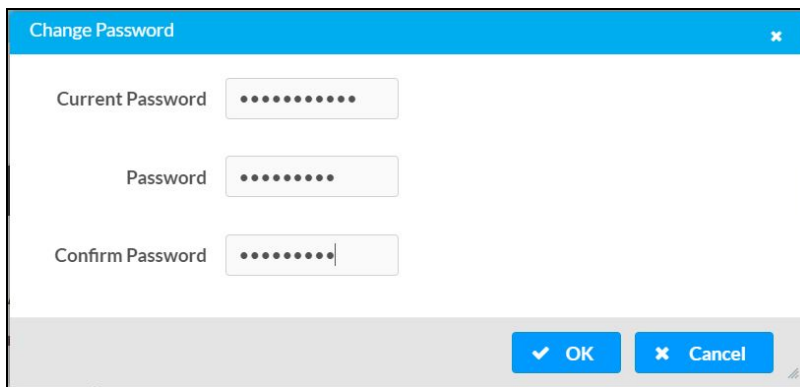
Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down, to specify whether to use encryption. By default, SSL Mode is set to **OFF**.

Current User

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

The screenshot shows the 'Current User' tab selected in the top navigation bar. Below the navigation bar, there is a 'Current User' section showing details for the 'admin1' user. The details include: Name: admin1, Access Level: Administrator, Active Directory User: No, and Groups: Administrators. A blue button labeled 'Change Current User Password' is located at the bottom left of the 'Current User' section.

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.

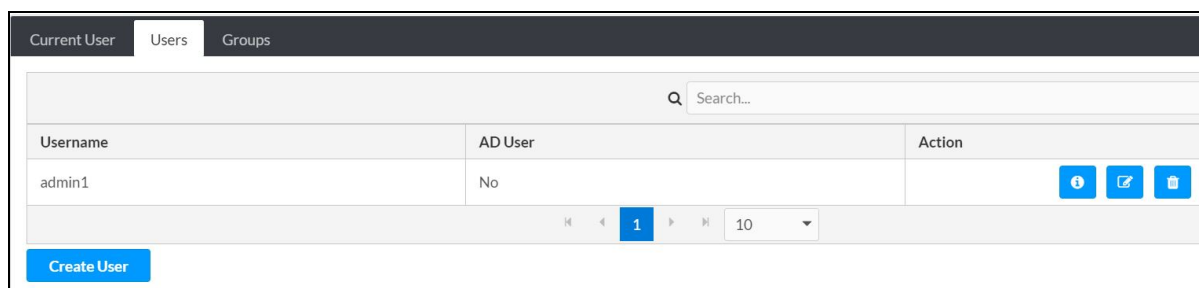


A dialog box titled "Change Password" with a close button (X) in the top right corner. It contains three password input fields: "Current Password", "Password", and "Confirm Password". Each field is represented by a text box with dots for masked characters. At the bottom right, there are two buttons: "OK" with a checkmark icon and "Cancel" with an X icon.

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.



The "Users" tab interface shows a table of users. At the top, there are tabs for "Current User", "Users", and "Groups". Below the tabs is a search bar labeled "Search...". The table has three columns: "Username", "AD User", and "Action". The first row shows "admin1" as the username, "No" as the AD User status, and three action icons (info, edit, delete). At the bottom left is a "Create User" button. At the bottom right, there are navigation arrows and a page number "1" in a blue box, followed by a drop-down menu showing "10".

Username	AD User	Action
admin1	No	[Info] [Edit] [Delete]

Use the **Search Users** 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 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 **Users** tab.
2. In the **Create User** dialog, enter the following:

Create User

Name: test

Active Directory User: ☐

Password:

Confirm Password:

Groups: Administrators

OK Cancel

- 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.
- Enter a password in the **Password** field; re-enter the same password in the **Confirm Password** field.
- 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.

- 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 DM-NAX-AMP-X300, or add the Active Directory group(s) that they are a member of to the DM-NAX-AMP-X300.

To add an Active Directory user.

- Select **Create User**.
- In the **Create User** dialog, enter the following.

Create User

Name: Connects\test

Active Directory User: ☒

Groups: Connects


OK Cancel

- 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

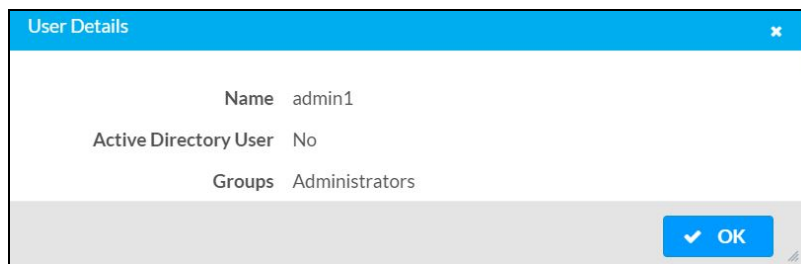
Select the trashcan icon  in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

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

Update User

Name

admin1

Active Directory User

☐

Password


Confirm Password

Groups

Administrators

OK

Cancel

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

Current UserUsersGroups

Search...

Group Name	AD Group	Access Level	Action
Administrators	No	Administrator	 
Connects	No	Connect	 
Operators	No	Operator	 
Programmers	No	Programmer	 
Users	No	User	 

1

10

Create Group

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 to the right of the navigation arrows.

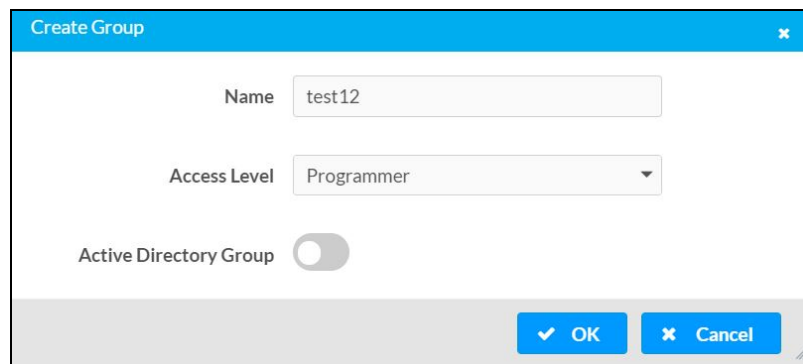
Existing groups are displayed in a table and the following information is provided for each group:

- **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 🗑 selected group.

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

Create Local Group

A screenshot of the 'Create Group' dialog box. It has a blue title bar with the text 'Create Group' and a close button. The dialog contains three fields: 'Name' with the text 'test12', 'Access Level' with a dropdown menu showing 'Programmer', and 'Active Directory Group' with a toggle switch that is currently turned off. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.

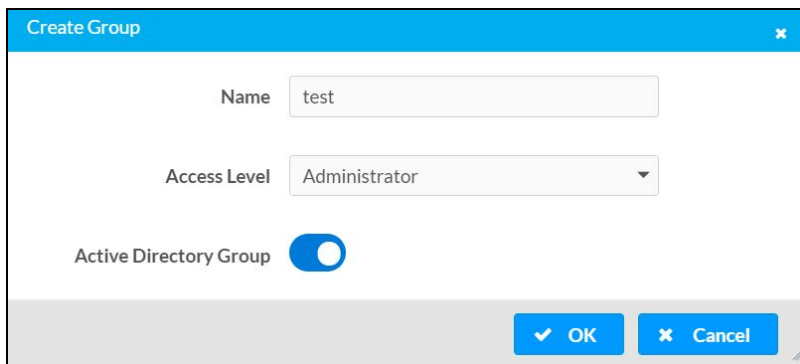
1. Select **Create Group**.
2. In the **Create Group** dialog, enter the following:
 - a. Enter the group name in the **Name** field.
 - b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

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



The 'Create Group' dialog box has a blue header with the title 'Create Group' and a close button. It contains three input fields: 'Name' with the value 'test', 'Access Level' with a dropdown menu showing 'Administrator', and 'Active Directory Group' with a toggle switch that is turned on. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'x' icon.


Once the group is added, all members of that group will have access to the DM-NAX-AMP-X300.

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.
3. 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.

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

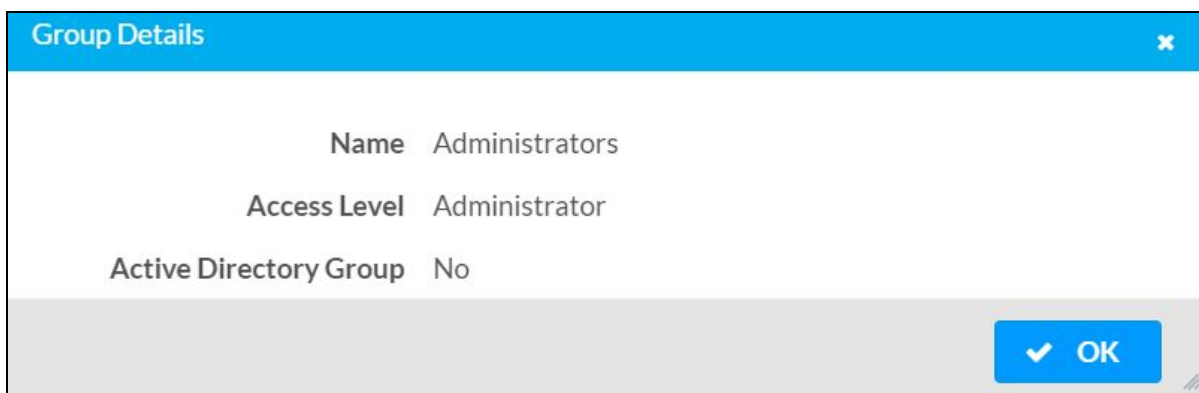
Delete a Group

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.



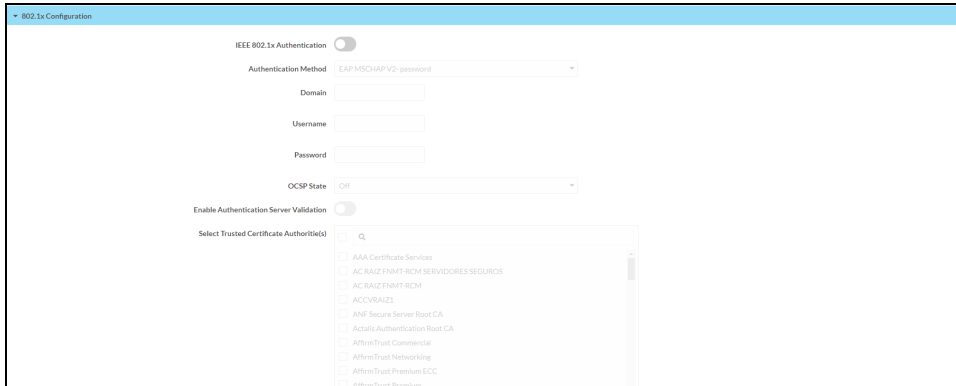
The 'Group Details' dialog box has a blue header with the title 'Group Details' and a close button. It displays three rows of information: 'Name' with the value 'Administrators', 'Access Level' with the value 'Administrator', and 'Active Directory Group' with the value 'No'. At the bottom right, there is an 'OK' button with a checkmark icon.

- **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 DM-NAX-AMP-X300 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.



Configure DM-NAX-AMP-X300 for 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 the **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 Authority(ies)** 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.

DM-NAX-AUD-IO

This section describes how to configure the DM-NAX-AUD-IO.

Web Interface Configuration

The DM-NAX-2XLRI-1G web interface allows you to view status information and configure network and device settings.

Access the Web Interface

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

- [Access the Web Interface with a Web Browser on page 496](#)
- [Access the Web Interface With Crestron Toolbox™ Software on page 498](#)

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

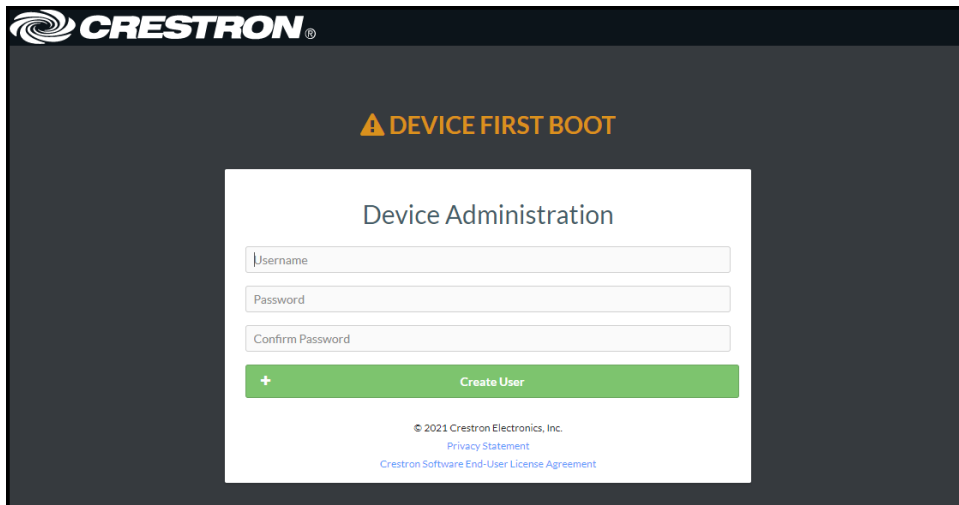
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later
	Firefox® web browser, version 31 and later
	Internet Explorer web browser, version 11 and later
	Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later
	Chrome 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 DM-NAX-AUD-IO into a web browser.

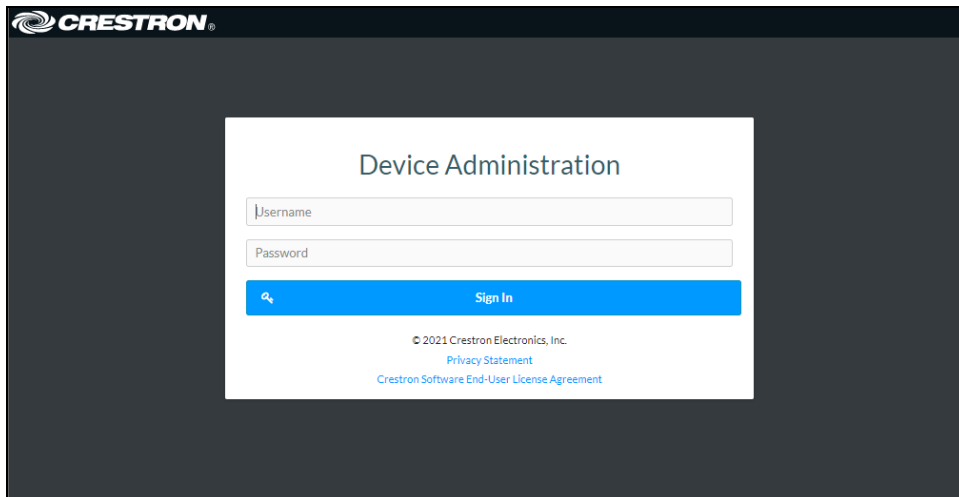
NOTE: To obtain the IP address, use the **Device Discovery Tool** in Crestron Toolbox™ software or an IP scanner application.

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.



The screenshot shows the Crestron logo at the top left. Below it, a yellow warning triangle icon is followed by the text "DEVICE FIRST BOOT". In the center, there is a white box titled "Device Administration". Inside this box, there are three input fields: "Username", "Password", and "Confirm Password". Below these fields is a green button with a white plus icon and the text "Create User". At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

- d. Select **Create User**. The Device Administration page appears.




The screenshot shows the same Crestron logo at the top left. Below it, the "DEVICE FIRST BOOT" message is no longer present. The white box titled "Device Administration" still contains the "Username" and "Password" input fields. Below these fields is a blue button with a white magnifying glass icon and the text "Sign In". At the bottom of the white box, the same small text is present: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Select **Sign In**.

Access the Web Interface With Crestron Toolbox™ Software

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

1. Open Crestron Toolbox software.
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 DM-NAX-AUD-IO 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.

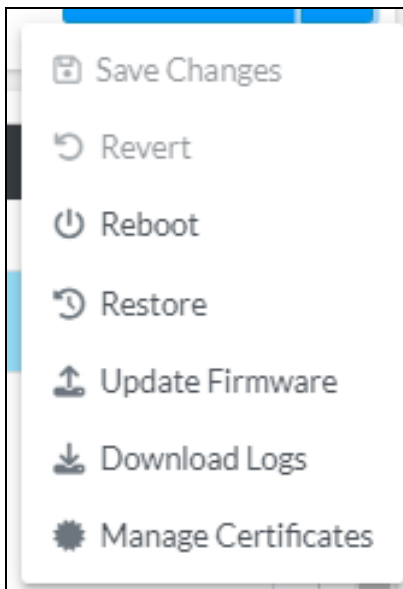
NOTE: If there is security software running on the computer, a security alert might be displayed when Crestron Toolbox software attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, select the device.
4. Enter the device credentials in the **Authentication Required** dialog that opens, then select **Log In**.
5. Select **Web Configuration**.

Action

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

- [Save Changes on page 499](#)
- [Revert on page 499](#)
- [Reboot on page 500](#)
- [Restore to Factory Default Settings on page 500](#)
- [Update Firmware on page 501](#)
- [Download Logs on page 501](#)
- [Manage Certificates on page 502](#)



Save Changes

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

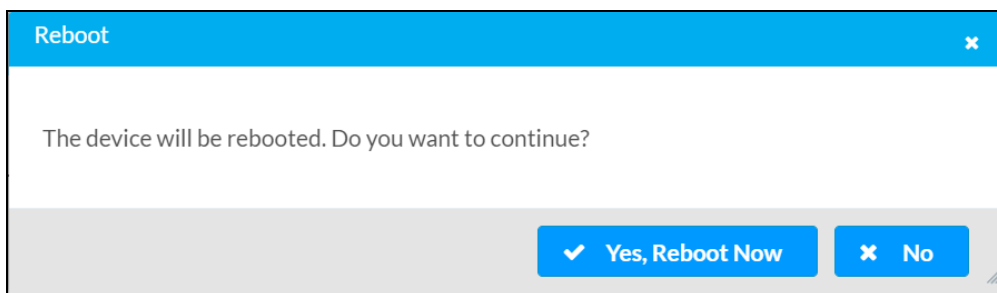
Revert

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

Reboot

Certain changes to the settings may require the DM-NAX-AUD-IO to be rebooted to take effect. To reboot the device:

1. Select **Reboot** in the **Action** menu. The **Confirmation** message box appears.



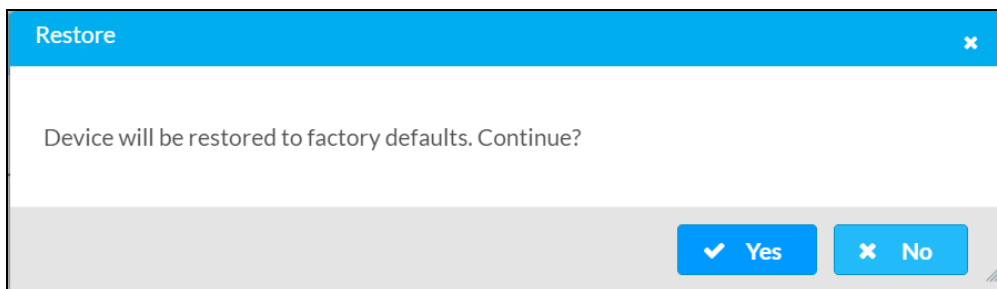
2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears. Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

CAUTION: This procedure should only be performed to recover an unresponsive device. Performing the **Restore** procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before proceeding, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

1. Select **Restore** in the **Action** menu to restore the settings of the DM-NAX-AUD-IO to factory defaults.

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.



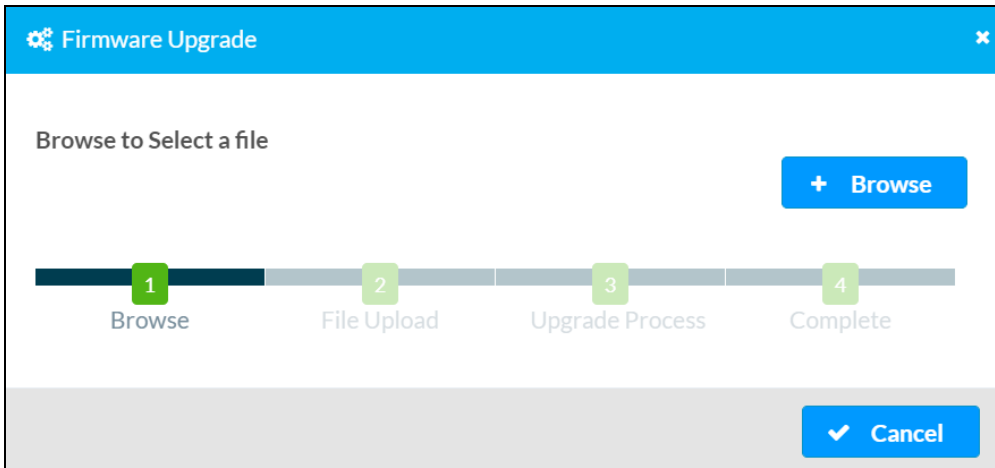
2. Select **Yes** in the **Confirmation** dialog to restore the DM-NAX-AUD-IO to factory settings. Select **No** to cancel the restore operation.

A dialog is displayed again, indicating that the restore process was successful and that the device rebooted.

You can also restore to factory settings by pressing and holding the **SETUP** button on the rear panel of the device with power disconnected then connect the power supply and continue to hold **SETUP** button for 30 seconds.

Update Firmware

1. Select **Update Firmware** in the **Action** menu.
2. In the **Firmware Upgrade** dialog, 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** dialog.
4. Select **Load** and wait for the progress bar to complete and for **OK** to become selectable.
5. Select **OK**. The device with new firmware can now be accessed.

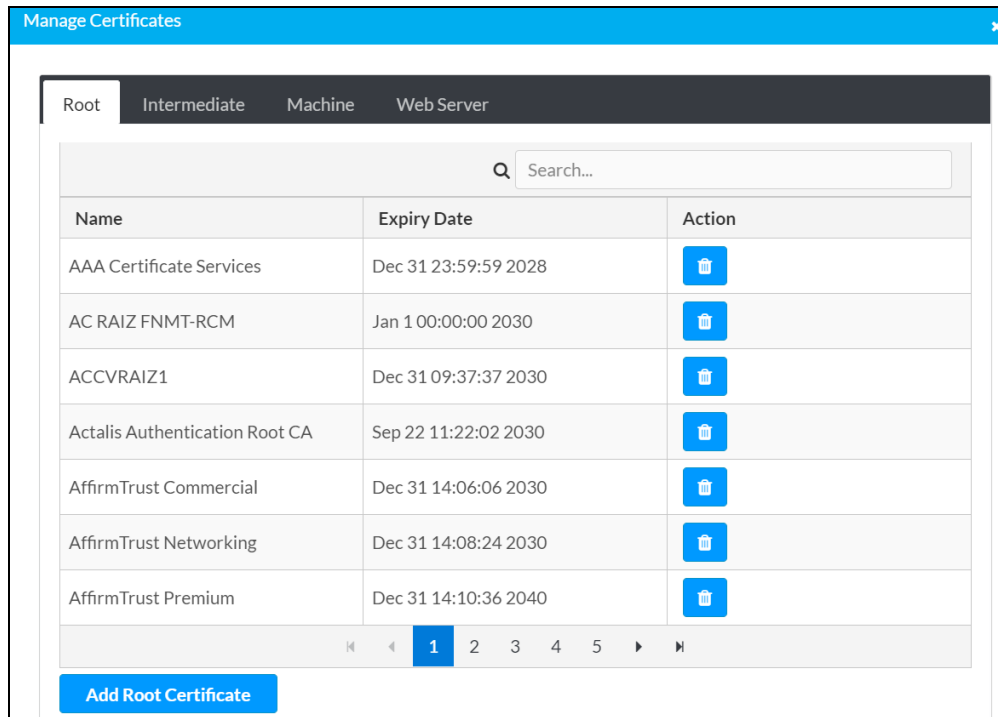
Download Logs

Select **Download Logs** in the **Action** menu to download the device message logs for diagnostic purposes.

The log file is downloaded to the Downloads folder of the PC.

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 **Action** menu. The following certificate tabs are displayed:

- **Root:** The Root certificate is used by the DM-NAX-AUD-IO to validate the network's authentication server. The DM-NAX-AUD-IO 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 DM-NAX-AUD-IO. 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, 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.

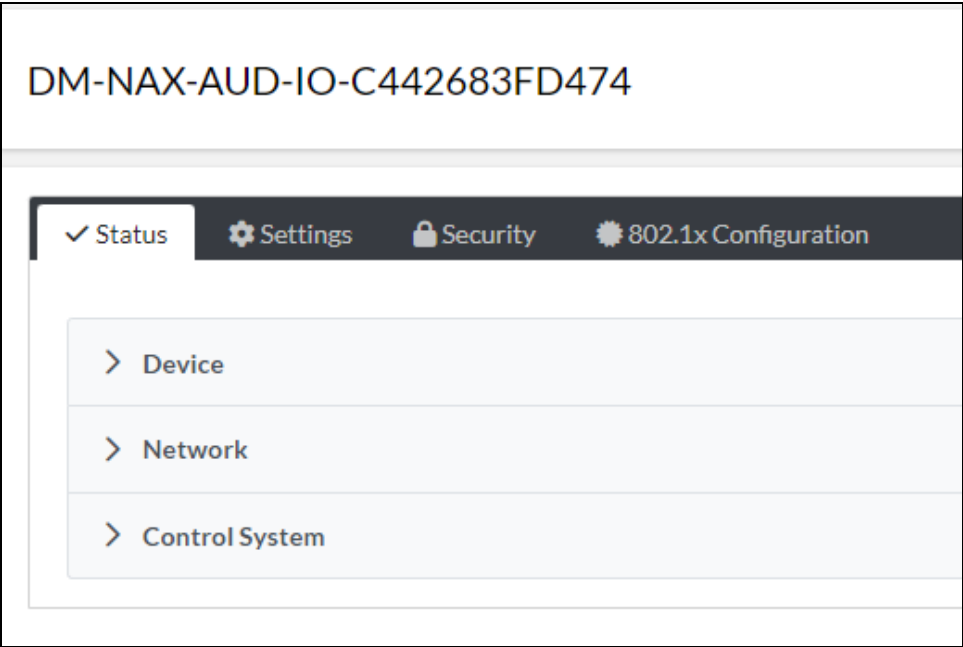
To Delete Certificates

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 DM-NAX-AUD-IO. It displays general information about the DM-NAX-AUD-IO (such as **Model Name**, **Firmware Version**, and **Serial Number**), current network settings (such as **Host Name** and **IP Address**, etc.), and input and output ports' current status.

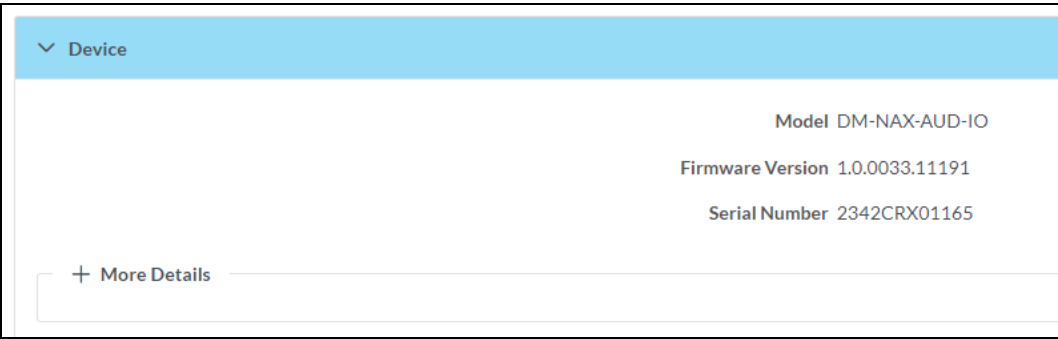
The **Status** page can be accessed at any time by selecting the **Status** tab of the DM-NAX-AUD-IO interface.



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

Device

The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-AUD-IO.



Select **+ More Details** to review additional information about the DM-NAX-AUD-IO.

— More Details	
DM-NAX-AUD-IO	1.0.0033.11191
Build	Feb 13 2024 (531246)
Updater	1.0.0033.11191
Bootloader	1.00.00
CCUI Version	1.1327.1
XIOSDK	3.8.2
IoTSDK	1.11.0
Build time	11:19:07
Product ID	0x7A08
Revision ID	0x0100
HDCP2X-SKE	
HDCP2X-SKE	HDCP2X-SKE [v9.0000.00000, #FFFFFFFF]
PRE-BOOT	[v9.0000.00000]
BOOTLOADER	[v9.0000.00000]
ctrl-audio-dsp-0	FW v11 (Driver v4.00)
ctrl-extclk-in-pps	Driver v1.1
ctrl-prod-info	Driver v3.0
PUF	1.0.0033.11191
Forced Auth Mode	True

Network

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

▼ Network	
Hostname	DM-NAX-AUD-IO-C442683FD474
Domain Name	CRESTRON.CRESTRON.com
DNS Servers	10.64.5.10(DHCP)
— Adapter 1	
DHCP	On
IP Address	10.64.68.171
Subnet Mask	255.255.255.0
Default Gateway	10.64.68.1
Link Active	true
MAC Address	c4.42.68.3f.d4.74

NOTE: By default, the host name of the DM-NAX-AUD-IO consists of the model name followed by the MAC address of the device. For example, DM-NAX-AUD-IO-00107FB58088.

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

Control System

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

Control System

Encrypt Connection ON

IP Table

IP ID	Room Id	IP Address/Hostname	Type	Server Port	Connection	Status
C		DIN-AP4-R- C442681A3F36	Peer	41796	Gway	ONLINE

- **Encrypt Connection:** Displays **ON** or **OFF**.
- **IP ID:** Displays the currently used IP ID of the DM-NAX-AUD-IO.
- **IP Address/Hostname:** Displays the IP address or hostname of the control system.
- **Room ID:** Displays the room ID.
- **Status:** Displays **OFFLINE** or **ONLINE**.

Settings

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

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

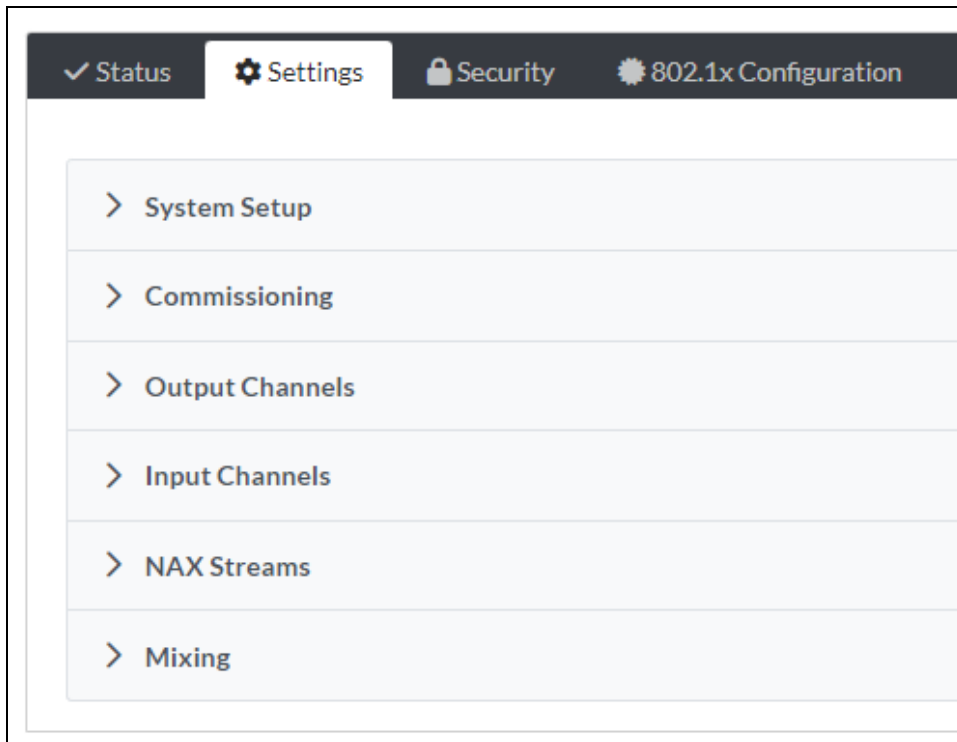
This section provides the following information:

- [Commercial Mode on page 508](#)
- [Residential Mode on page 527](#)

Commercial Mode

This section provides the following information:

- [System Setup on page 508](#)
- [Commissioning on page 513](#)
- [Output Channels on page 514](#)
- [Input Channels on page 521](#)
- [DM NAX Streams on page 522](#)
- [Mixing on page 525](#)



System Setup

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

System Setup

Date/Time Auto Update Network Control System Cloud Settings Device Modes

— Date/Time

Synchronization

Time Synchronization ☒

[Synchronize Now](#)

NTP Time Servers

<input type="checkbox"/>	Address	Port	Authentication Method	Authentication Key	Key ID
<input type="checkbox"/>	pool.ntp.org	123	None	*****	0

[+ Add](#) [- Remove](#)

Configuration

Time Zone (UTC-05:00) Eastern Time (US & Can)

Date 02/27/2024

Time 17:14

Date/Time

Use the **Date/Time** tab to configure the date and time settings of the DM-NAX-AUD-IO.

— Date/Time

Synchronization

Time Synchronization ☒

[Synchronize Now](#)

NTP Time Servers

<input type="checkbox"/>	Address	Port	Authentication Method	Authentication Key	Key ID
<input type="checkbox"/>	pool.ntp.org	123	None	*****	0

[+ Add](#) [- Remove](#)

Configuration

Time Zone (UTC-05:00) Eastern Time (US & Can)

Date 02/21/2024

Time 12:40

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

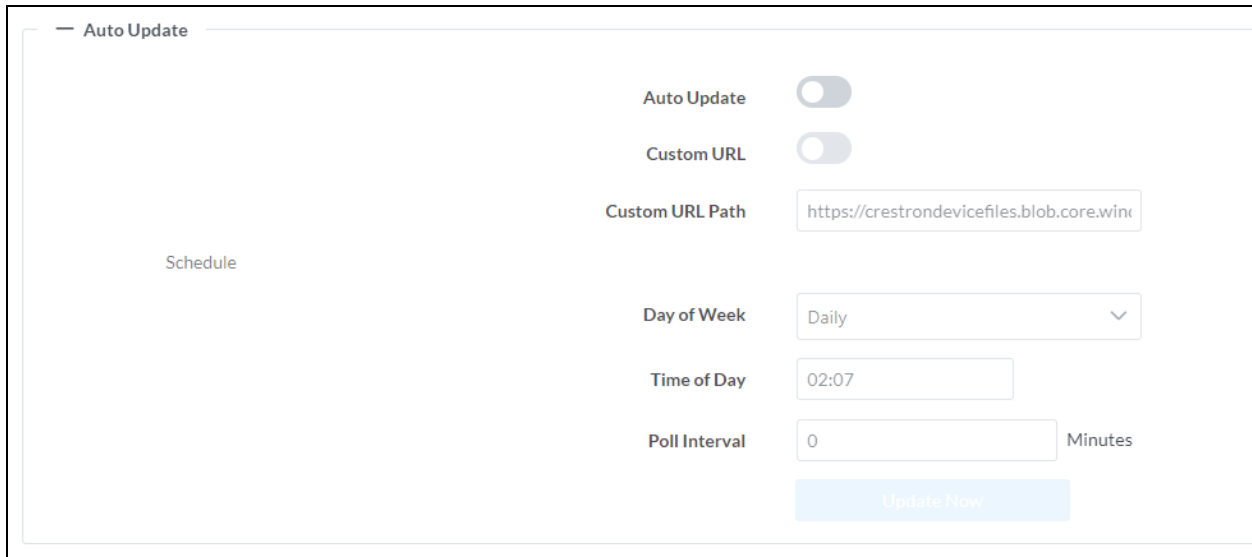
1. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-AUD-IO can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.

The screenshot shows a web interface for configuring the 'Auto Update' feature. On the left, there is a sidebar with a 'Schedule' link. The main area contains several settings: 'Auto Update' and 'Custom URL' are both toggle switches currently in the 'off' position. Below 'Custom URL' is a text field for 'Custom URL Path' containing the URL 'https://crestrondevicefiles.blob.core.wini'. Further down, there is a 'Day of Week' dropdown menu set to 'Daily', a 'Time of Day' text field set to '02:07', and a 'Poll Interval' text field set to '0' with a 'Minutes' label to its right. At the bottom right of the main area is a blue button labeled 'Update Now'.

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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** tab contains network-related settings for the DM-NAX-AUD-IO, including the **Hostname**, **Domain**, **Primary Static DNS**, and **Secondary Static DNS**.

System Setup

Date/Time Auto Update **Network** Control System Cloud Settings Device Modes

Network

Adapter 1

Hostname * DM-NAX-AUD-IO-C442683FD474

Domain CRESTRON.CRESTRON.com

Primary Static DNS 10.64.5.10(DHCP)

Secondary Static DNS 192.168.200.133(DHCP)

DHCP Enabled ☒

IP Address 10.64.68.171

Subnet Mask 255.255.255.0

Default Gateway 10.64.68.1

NOTE: By default, the hostname of the DM-NAX-AUD-IO consists of the model name followed by the MAC address of the device. For example, DM-NAX-AUD-IO-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTE: DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-AUD-IO is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When **DHCP** is enabled (default setting), the IP address of the DM-NAX-AUD-IO 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 DM-NAX-AUD-IO.
 - **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

Control System Username

chdevice

Control System Password

Encrypt Connection

IP Table

<input type="checkbox"/>	IP ID	IP Address/Hostname	Room Id
<input type="checkbox"/>	C	DIN-AP4-R-C442681A3F36	Room Id

+ Add

× Remove

1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-AUD-IO in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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

Date/Time

Auto Update

Network

Control System

Cloud Settings

Device Modes

Cloud Settings

Cloud Configuration Service Connection

Set the **Cloud Settings** toggle to the right position to enable or to the left to disable cloud settings. This specifies whether the DM-NAX-AUD-IO can communicate with the XiO Cloud® platform.

Device Modes

Use the **Device Modes** tab to configure the **Application Mode** of the DM-NAX-AUD-IO.

Date/Time

Auto Update

Network

Control System

Cloud Settings

Device Modes

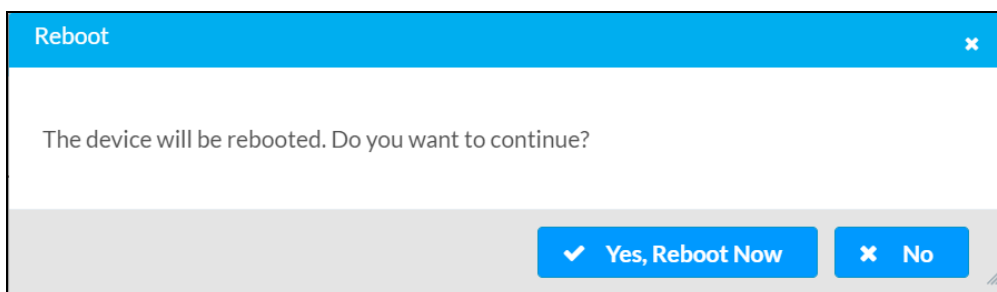
Device Modes (Autosaved)

Application Mode

Commercial (Advanced)

Application Mode determines which options and controls are available.

- Select **Residential (Standard)** or **Commercial (Advanced)**. A **Reboot** confirmation message box appears.

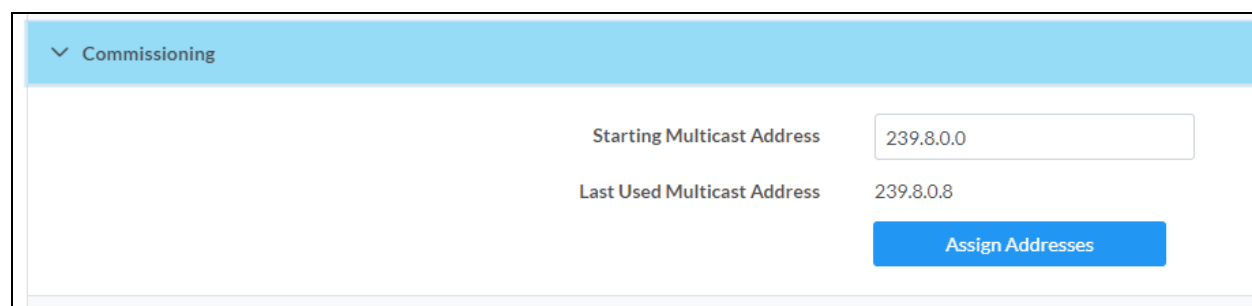


- Select **Yes, Reboot Now** to reboot the device into the selected mode. The **Reboot** message box appears.
- Wait for the device reboot to complete before attempting to reconnect to the device.

By default, the DM-NAX-AUD-IO is set to **Commercial (Advanced)** mode.

Commissioning

The **Commissioning** section provides a quick way to automatically assign multicast addresses to the device's internal audio-over-IP stream transmitters.



Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-AUD-IO a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.255.255.254.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

Output Channels

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

Output Channels

Zones (Autosaved)

Global Filter

Name	LineOutLeft	LineOutRight	StreamOut1Ch1	StreamOut1Ch2
Volume (%)	<div><div></div><div>30</div></div>	<div><div></div><div>30</div></div>	<div><div></div><div>80</div></div>	<div><div></div><div>80</div></div>
Signal Presence				
Signal Level	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>
Mute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
Action	<div><div></div><div>Edit</div></div>	<div><div></div><div>Edit</div></div>	<div><div></div><div>Edit</div></div>	<div><div></div><div>Edit</div></div>

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

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.

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.

To configure the zone volume, do one of the following:

- Move the **Volume** slider up to increase or down to decrease the zone volume.
- Use the **%** arrows to increase or decrease the zone volume. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

To mute all audio output from a zone, select its respective **Mute**. To unmute the zone, select **Muted**.
Select **Edit** to view additional **Zone** and **Output** options.




Zone Settings




To configure the settings for an output channel, select **Edit**. The **Edit Zone** window appears.

DM-NAX-AUD-IO-C442683FD474 > Zones
LineOutLeft

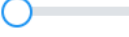


▼ Zone

— Tone (Autosaved)

Bass  0   db

Treble  0   db

— Delay (Autosaved)

Delay Time(ms)  0   ms

> Output

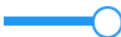


Zone




Select **Zone** to access the settings for **Tone** and **Delay**.

DM-NAX-AUD-IO-C442683FD474 > Zones
LineOutLeft




▼ Zone

— Tone (Autosaved)

Bass  0   db

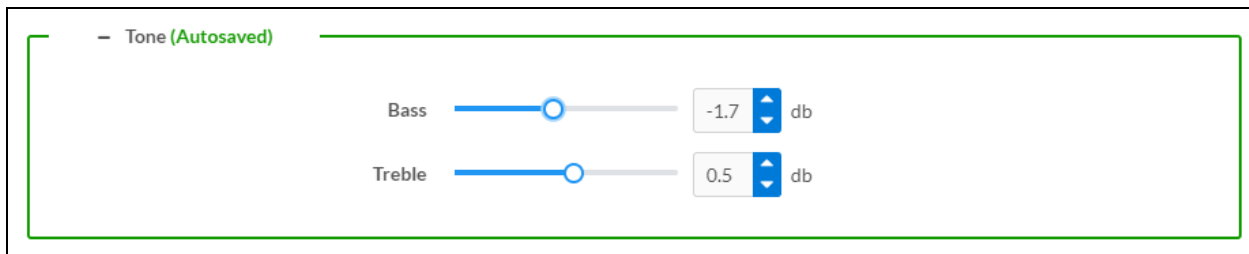
Treble  0   db

— Delay (Autosaved)

Delay Time(ms)  0   ms

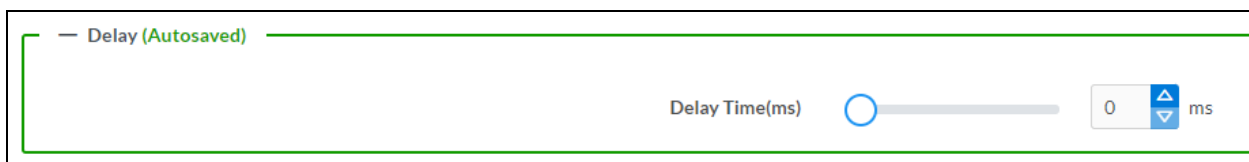
> Output

Tone



- **Bass:** 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.
 - Use the **db** arrows to increase or decrease the bass level. Values range from -12 dB to 12 dB, adjustable in increments of .1 dB.
 - Manually enter a value in the **Bass** field.
- **Treble:** 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.
 - Use the **db** arrows to increase or decrease the treble level. Values range from -12 dB to 12 dB, adjustable in increments of .1 dB.
 - Manually enter a value in the **Treble** field.

Delay



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. Values range from 0 ms to 85 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

NOTE: The delay feature is only available on the line level output channels.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume**, **Signal**, and the output Equalizer.

Output

Minimum / Maximum (Autosaved)

Minimum
0 %

Maximum
100 %

Default
30 %

Signal
Not Present

Clipping
None

Minimum/Maximum Volume

Minimum / Maximum (Autosaved)

Minimum
0 %

Maximum
100 %

Default
30 %

- 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. Values range from 0 to 50%, adjustable in increments of 1%.
 - Manually enter a value in the **Minimum** field.
- 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. Values range from 70 to 100%, adjustable in increments of 1%.
 - 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. 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. Values range from 0 to 50%, adjustable in increments of 1%.
 - 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.

Signal

— Signal (Autosaved)

Signal

Not Present

Clipping

None

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.

Equalizer Settings

— Equalizer Settings (Autosaved)

Speaker EQ Enabled ☒

Band	Band01	Band02	Band03	Band04	Band05	Band06	Band07	Band08	Band09	Band10	
Gain	<div><div></div></div> <div>0</div>	<div><div></div></div> <div>0</div>	<div><div></div></div> <div>0</div>	<div><div></div></div> <div>0</div>	<div><div></div></div> <div>0</div>	<div><div></div></div> <div>0</div>	<div><div></div></div> <div>0</div>	<div><div></div></div> <div>0</div>	<div><div></div></div> <div>0</div>	<div><div></div></div> <div>0</div>	<div><div></div></div> <div>0</div>
Type	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	
Frequency	32	64	125	250	500	1000	2000	4000	8000	16000	
Bandwidth	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	
Bypass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Actions	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	

Each output channel of the DM-NAX-AUD-IO has a dedicated ten-band equalizer that can be fully customized to tune the zone 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.

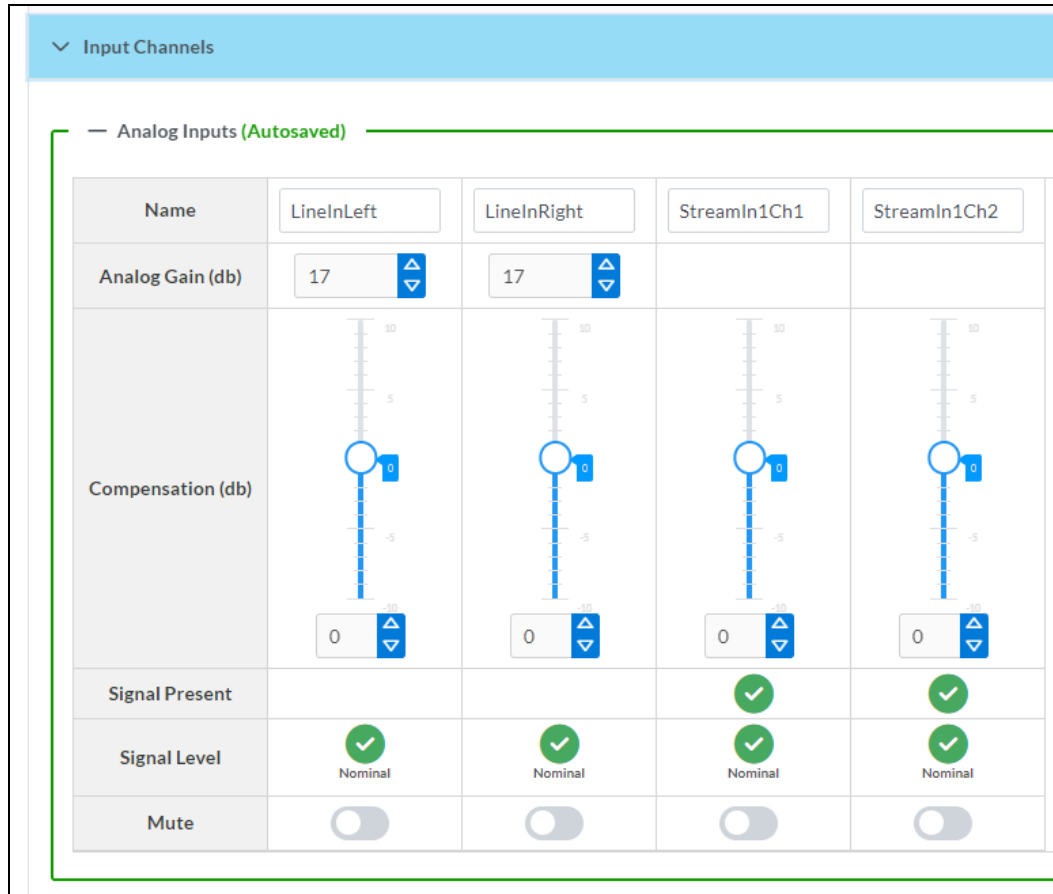
2. With the **Speaker EQ Enabled** toggle in the right position, configure the equalizer bands.
 - a. To set a band's gain, do one of the following:
 - Move the **Gain** slider up to increase or down to decrease the gain.
 - Use the arrows to increase or decrease the gain. Values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Gain** field.
 - b. Select a filter type from the **Type** drop-down. 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. To set the center frequency, do one of the following:
 - Use the arrows to increase or decrease the frequency. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. 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. To set the bandwidth, do one of the following:
 - Use the arrows to increase or decrease the bandwidth. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave.
 - 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.

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

Input Channels

The **Input Channels** section is used to configure the **Name**, **Compensation**, and **Mute** attributes of the front panel line inputs on the DM-NAX-AUD-IO.



Input Channels					
— Analog Inputs (Autosaved)					
Name	LineInLeft	LineInRight	StreamIn1Ch1	StreamIn1Ch2	
Analog Gain (db)	17	17			
Compensation (db)					
Signal Present					
Signal Level					
Mute					

Configure Inputs

1. If needed, enter a friendly name for each input in its **Name** field.
2. To set an analog gain value for a given input, use the **db** arrows to increase or decrease the gain. Values range from 0 dB to 60 dB, adjustable in increments of 1 dB.
3. To set a level compensation adjustment for a given input, do one of the following:
 - Move the **Compensation** slider up to increase or down to decrease the level compensation. Compensation increases or decreases the level of the incoming audio signal on any of the physical inputs on the device's rear panel.
 - Use the **db** arrows to increase or decrease the compensation. Values range from -10 dB to 10 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Compensation** field.
4. To mute the signal from the corresponding input, set the **Mute** toggle to the right. To disable the mute, set the **Mute** toggle to the left. By default, **Mute** is disabled.

Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- ## DM NAX Streams

Select **NAX Streams** to expand the tab and display the following information.

▼ NAX Streams

This Device is the Leader PTP Clock Source

No

PTP Clock Leader MAC Address

00:10:71:9c:1fe9

PTP Priority

254

⬆️⬇️⬆️

— Transmitters (Autosaved) —

Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
StreamOut1Ch1	Stream01	0.0.0.0	Stream01c4.42.68.3fb8.ac	Stream Stopped	▶️ ◻️ ⚙️


— Receivers (Autosaved) —

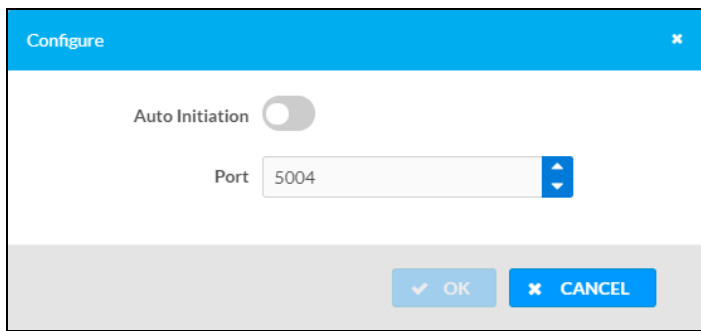
Zone Name	Stream	Current Stream Address	Requested Stream Address	Status	Actions
StreamIn1Ch1	Stream01	0.0.0.0	0.0.0.0 🔍	Stream Stopped	▶️ ◻️ ⚙️

- **Device is Leader PTP Clock Source** indicates whether the DM NAX device's PTP clock is the leader clock on the network. **Yes** will be displayed in green when the local DM-NAX-AUD-IO's clock 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 is currently acting as the leader clock.
- **PTP Priority**: This 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 DM-NAX-AUD-IO 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 Transmitters


To configure the DM NAX transmit stream:

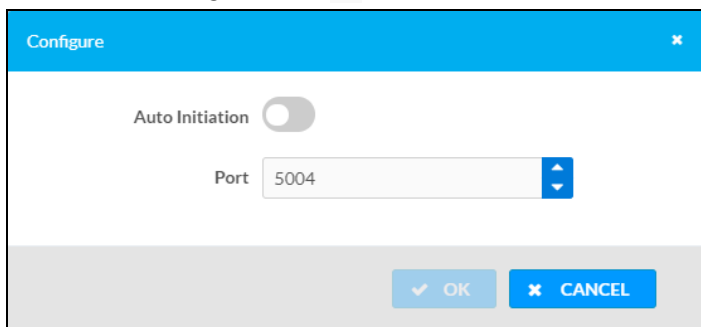
1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon  in the **Actions** column. The **Configure** dialog appears:



5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

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 configure icon  in the **Actions** column. The **Configure** dialog appears:



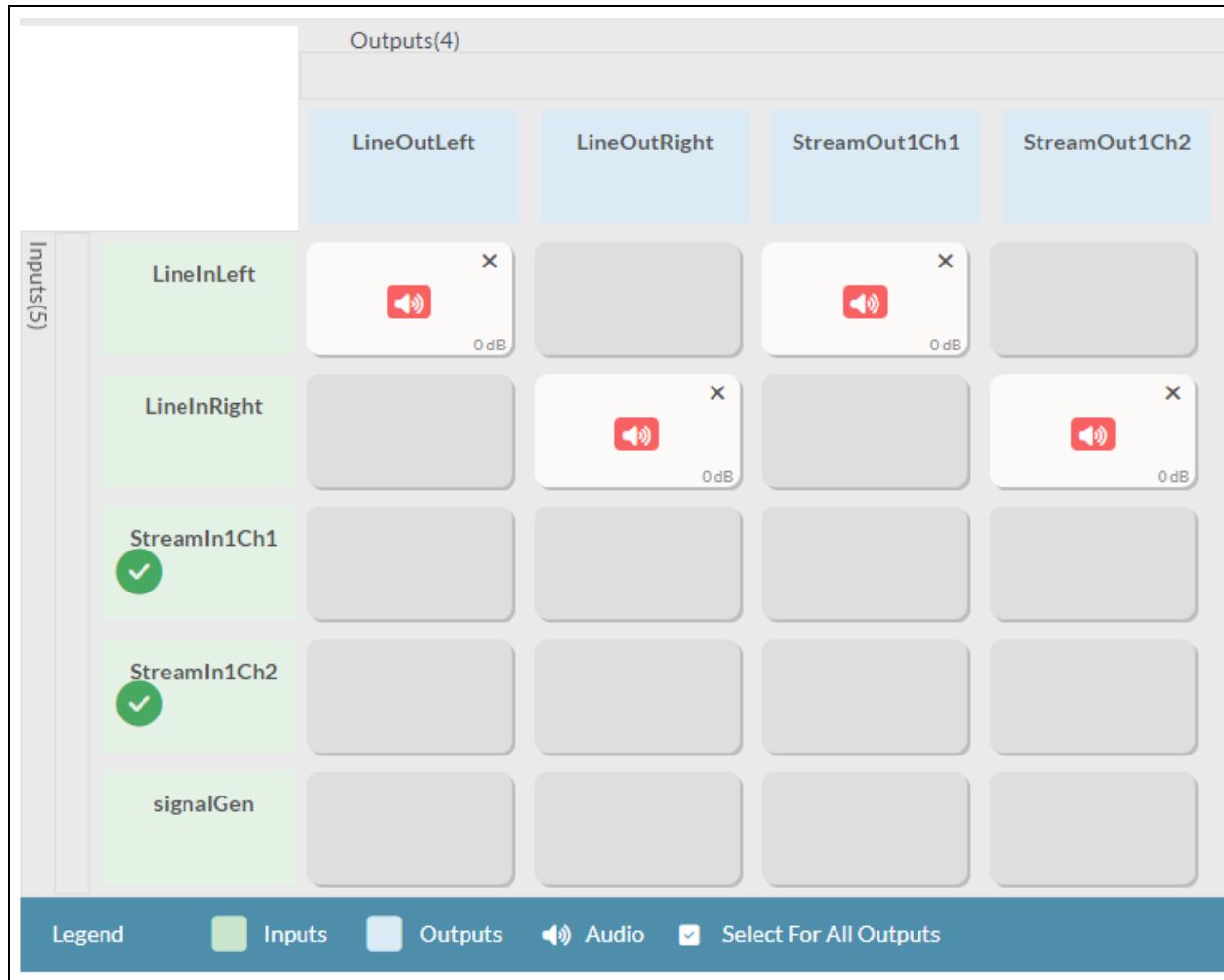
3. Set the **Auto Initiation** toggle to the right position to enable auto initiation. Set the toggle to the left position to disable auto initiation.
 - If **Auto Initiation** is enabled, the stream will begin automatically when the receiver subscribes to the transmitter.
 - If **Auto Initiation** is disabled, the stream will not begin until it is manually initiated.

4. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.




Mixing

The **Mixing** matrix is used to route a local input or AES67 stream to an output on the DM-NAX-AUD-IO.

NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).

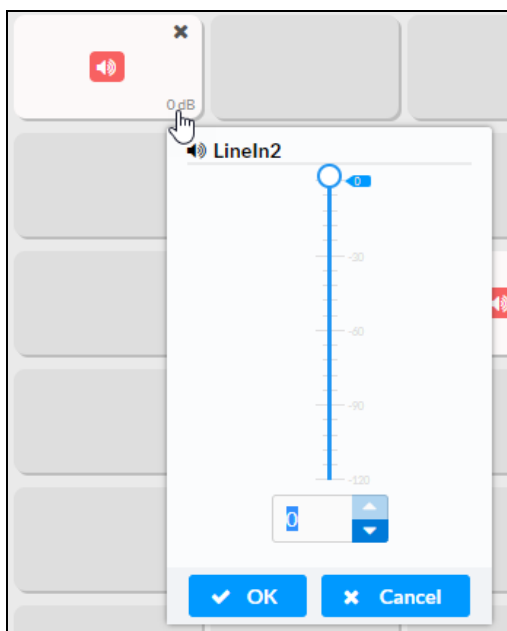


To route inputs to outputs on the device:

- 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 .

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, then do one of the following:

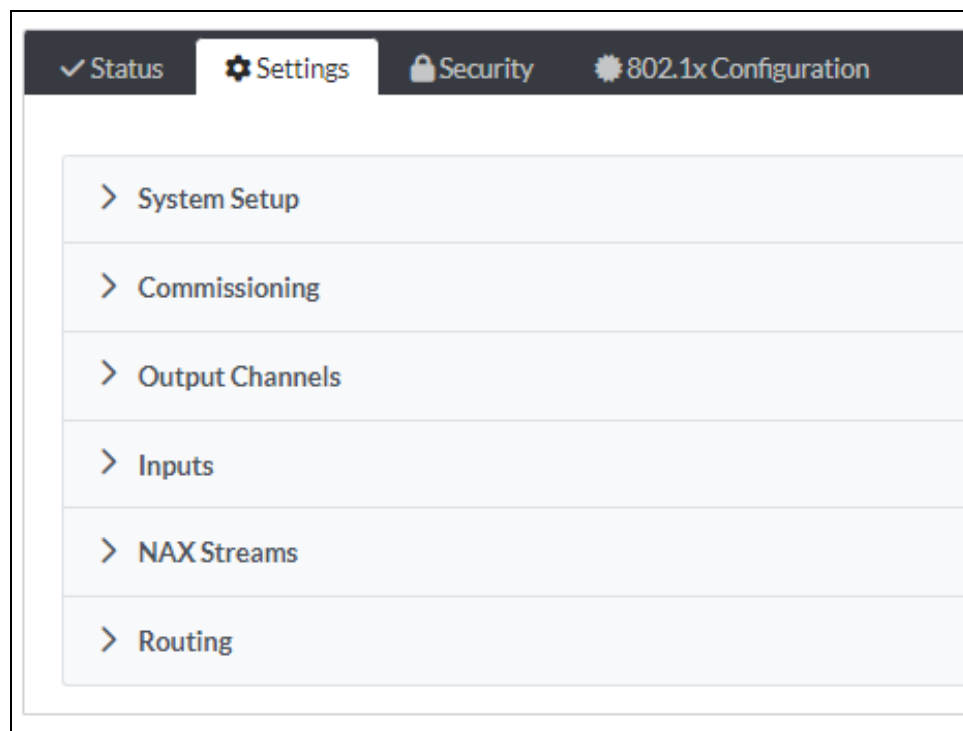
- Move the slider up to increase or down to decrease the mix level.
- Use the arrows to increase or decrease the mix level.
- Manually enter a value in the field.



Residential Mode

This section provides the following information:

- [System Setup on page 527](#)
- [Commissioning on page 532](#)
- [Output Channels on page 533](#)
- [Inputs on page 540](#)
- [NAX Streams on page 541](#)
- [Routing on page 544](#)



System Setup

The **System Setup** section displays information about the **Date/Time**, **Auto Update**, **Network**, **Control System**, **Cloud Settings**, and **Device Modes**.

Date/Time

Use the **Date/Time** section to configure the date and time settings of the DM-NAX-AUD-IO.

System Setup

Date/Time Auto Update Network Control System Cloud Settings Device Modes

Date/Time

Synchronization

Time Synchronization ☒

[Synchronize Now](#)

NTP Time Servers

<input type="checkbox"/>	Address	Port	Authentication Method	Authentication Key	Key ID
<input type="checkbox"/>	pool.ntp.org	123	None	*****	0

[+ Add](#) [- Remove](#)

Configuration

Time Zone (UTC-05:00) Eastern Time (US & Can) ▼

Date 02/21/2024

Time 11:49

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. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-AUD-IO 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 automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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 DM-NAX-AUD-IO, including the Hostname, Domain, Primary Static DNS, and Secondary Static DNS.

The screenshot shows the 'System Setup' interface with the 'Network' tab selected. Under the 'Adapter 1' subheading, the following settings are visible:

Field	Value
Hostname *	DM-NAX-AUD-IO-C442683FD474
Domain	CRESTRON.CRESTRON.com
Primary Static DNS	10.64.5.10(DHCP)
Secondary Static DNS	192.168.200.133(DHCP)
DHCP Enabled	<input checked="" type="checkbox"/>
IP Address	10.64.68.171
Subnet Mask	255.255.255.0
Default Gateway	10.64.68.1

NOTE: By default, the host name of the DM-NAX-AUD-IO consists of the model name followed by the MAC address of the device. For example, DM-NAX-AUD-IO-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTE: DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-AUD-IO is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the DM-NAX-AUD-IO 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 DM-NAX-AUD-IO.
 - **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

System Setup

Date/Time Auto Update Network **Control System** Cloud Settings Device Modes

Control System

IP Table

Encrypt Connection

<input type="checkbox"/>	IP ID	IP Address/Hostname	Room Id
No records found			

+ Add X Remove

1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-AUD-IO in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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

Cloud Settings

Cloud Configuration Service Connection ☒

Set the **Cloud Settings** toggle to the right position to enable or to the left to disable cloud settings. This specifies whether the DM-NAX-AUD-IO can communicate with the XiO Cloud® platform.

Device Modes

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

- **Application Mode:** The Application Mode determines which options and controls are available.
 - Select **Residential (Standard)** or **Commercial (Advanced)**. A **Reboot** confirmation message box appears.

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

Commissioning

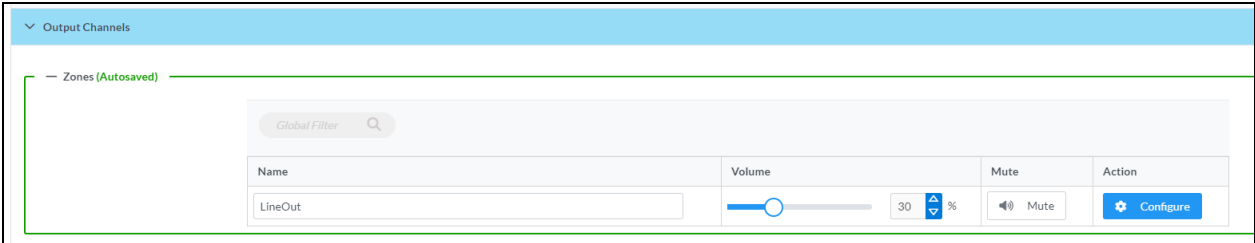
The **Commissioning** section provides a quick way to automatically assign multicast addresses to the device's internal audio-over-IP stream transmitters.

Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-AUD-IO a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.127.255.254.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

Output Channels

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.

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. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

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

Zone Settings

To configure zone settings, select **Configure** ( **Configure**). The **Edit Zone** window appears.

Zone

Select **Zone** to access the settings for **Tone**, **Balance**, and **Delay**.

DM-NAX-AUD-IO-C442683FD474 > Zones

LineOut

Zone

Tone (Autosaved)

Tone Profile

Off

Bass

0

db

Treble

0

db

Night Mode

Off

Balance (Autosaved)

Left / Right

0

%

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.

- To select a tone profile preset for the zone, select an option from the **Tone Profile** drop-down. The available options are **Off**, **Classical**, **Jazz**, **Pop**, **Rock**, and **Spoken Word**. By default, **Off** is selected.
- Bass:** 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.
 - Use the **db** arrows to increase or decrease the bass level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Bass** field.
- Treble:** 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.
 - Use the **db** arrows to increase or decrease the treble level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Treble** field.
- To enable the loudness setting on the zone output, slide the **Loudness** switch to the right. To disable loudness, slide the **Loudness** switch to 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. The available options are **Off**, **Low**, **Medium**, and **High**. By default, **Off** is selected.

Balance

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. 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.

Delay

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. Values range from 0 ms to 85 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume**, **Stereo/Mono**, **Signal**, **Bussing**, **Volume Offset**, **Signal Generator**, and **Equalizer Settings**.

Output

Minimum / Maximum (Autosaved)

Minimum

0

%

Maximum

100

%

Default

30

%

Stereo / Mono (Autosaved)

Stereo / Mono

Stereo

Mono

Zone Configuration

Standard

Signal (Autosaved)

Signal

Not Present

Minimum/Maximum Volume

Minimum / Maximum (Autosaved)

Minimum

0

%

Maximum

100

%

Default

30

%

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. Values range from 0 to 50%, adjustable in increments of 1%.
- Manually enter a value in the **Minimum** field.

2. 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. Values range from 70 to 100%, adjustable in increments of 1%.
- 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. 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. Values range from 0 to 50%, adjustable in increments of 1%.
- 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.

Stereo/Mono

— Stereo / Mono (Autosaved)

Stereo / Mono ☒ Stereo ☐ Mono

Zone Configuration Standard

Select either **Stereo** or **Mono**. If **Stereo** is selected, both output channels can have independent audio content. If **Mono** is selected, both output channels receive the same audio content.

Signal

— Signal (Autosaved)

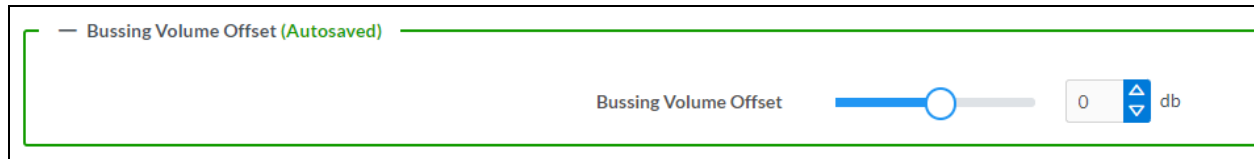
Signal Not Present

Clipping None

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

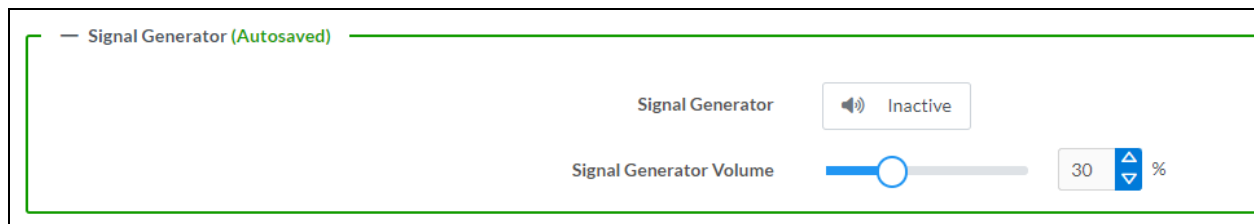


Bussing Volume Offset is an additional level compensation applied to the zone relative to any other zones it is grouped with via the **Bussing** feature.

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. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
- Manually enter a value in the **Bussing Volume Offset** field.

Signal Generator







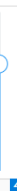





The DM-NAX-AUD-IO has a built-in signal generator that allows an integrator to send an audio signal to the output for testing purposes.

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.
2. 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. Values range from 0 to 100, adjustable in increments of 1.
 - Manually enter a value in the **Signal Generator Volume** field.

Equalizer Settings

Equalizer Settings (Autosaved)

Speaker EQ Enabled ☒

Band	Band01	Band02	Band03	Band04	Band05	Band06	Band07	Band08	Band09	Band10
Gain	 0	 0	 0	 0	 0	 0	 0	 0	 0	 0
Type	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ
Frequency	32	64	125	250	500	1000	2000	4000	8000	16000
Bandwidth	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Bypass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Actions	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset

The zone output of the DM-NAX-AUD-IO has a dedicated ten-band equalizer that can be fully customized to tune the zone 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. With the **Speaker EQ Enabled** toggle in the right position, configure the equalizer bands.
 - a. To set a band's gain, do one of the following:
 - Move the **Gain** slider up to increase or down to decrease the gain.
 - Use the arrows to increase or decrease the gain. Values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Gain** field.

- b. Select a filter type from the **Type** drop-down. 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. To set the center frequency, do one of the following:
- Use the arrows to increase or decrease the frequency. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. 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. To set the bandwidth, do one of the following:
- Use the arrows to increase or decrease the bandwidth. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave.
 - 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.

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

Inputs

The **Inputs** section is used to configure the **Name**, **Compensation**, and **Mute** attributes of the available analog, digital, and media streaming inputs on the DM-NAX-AUD-IO.

The screenshot shows a software interface for configuring inputs. A blue header bar contains a dropdown arrow and the text 'Inputs'. Below it, a green-bordered section titled 'Analog Inputs (Autosaved)' contains a table with the following rows:

Name	LineIn
Gain (db)	<div> <div>10</div> <div>5</div> <div>0</div> <div>-5</div> <div>-10</div> </div>
Signal Present	
Clipping Detected	<div> <div>✓</div> <div>Nominal</div> </div>
Mute	<div> <div>○</div> </div>

Configure Inputs

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

Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- **Signal Presence** indicates whether or not a signal is detected in that zone.
- **Clipping Detected** indicates if the signal is **Clipping** or **Nominal** (non-clipping).

NAX Streams

The two local line level input channels of the DM-NAX-AUD-IO can be made available as a DM NAX audio-over-IP stream.

Select **NAX Streams** to expand the tab and display the following information.

▼ NAX Streams

This Device is the Leader PTP Clock Source

No

PTP Clock Leader MAC Address

00:1d:c1:12:16:68

PTP Priority

254

⬆️⬇️⬆️


— Transmitters (Autosaved)

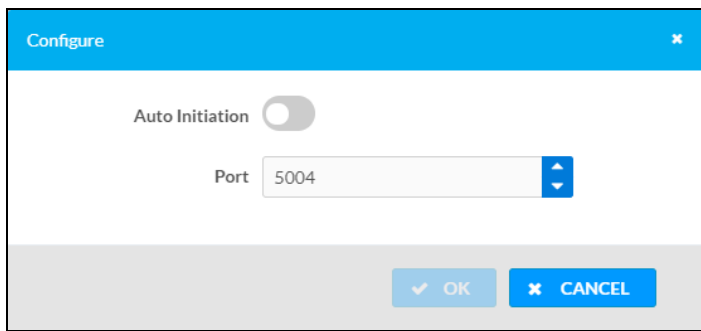
Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
LineIn	Stream01	239.69.19.1	Stream01-AUD-I/O	Stream Started	▶️🔍⚙️

— Receivers (Autosaved)

Zone Name	Stream	Current Stream Address	Requested Stream Address	Status	Actions
LineOut	Stream01	239.69.190.168	239.69.190.168 🔍	Stream Started	▶️🔍⚙️


Configure Transmitters

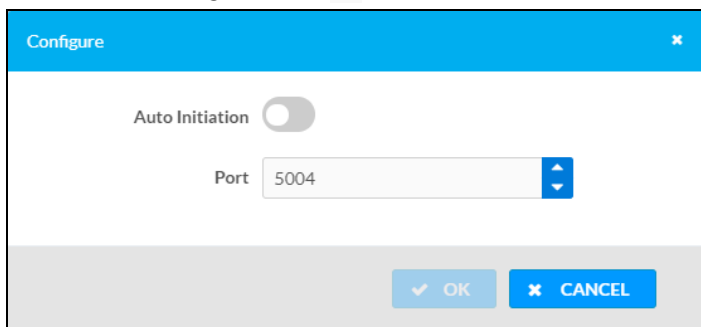
1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon  in the **Actions** column. The **Configure** dialog appears:



5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

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 configure icon  in the **Actions** column. The **Configure** dialog appears:



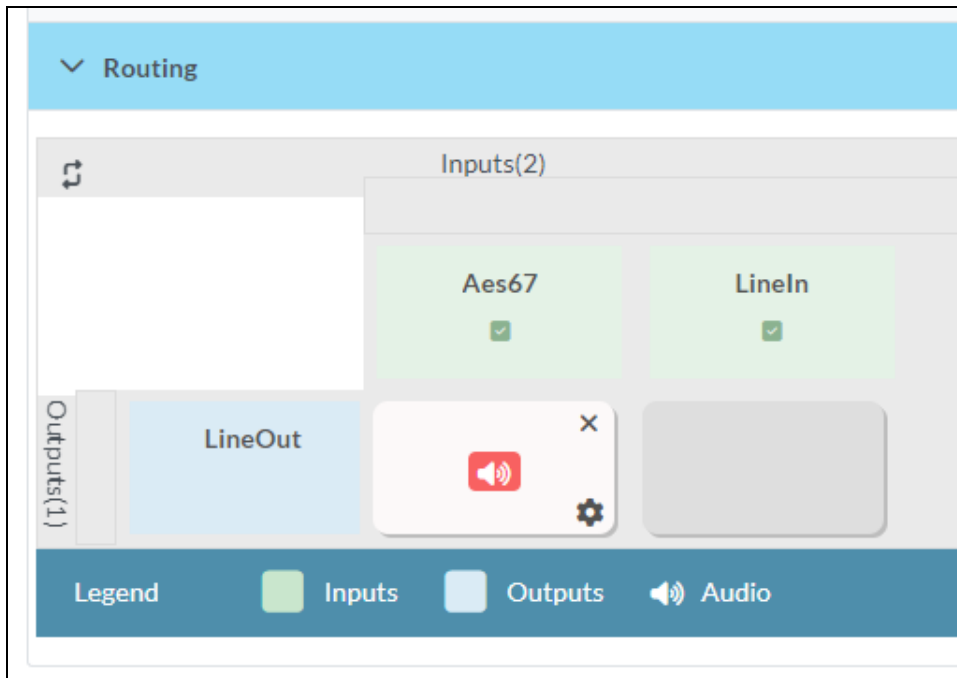
3. Set the **Auto Initiation** toggle to the right position to enable auto initiation. Set the toggle to the left position to disable auto initiation.
 - If **Auto Initiation** is enabled, the stream will begin automatically when the receiver subscribes to the transmitter.
 - If **Auto Initiation** is disabled, the stream will not begin until it is manually initiated.

4. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Routing

The **Routing** section is used to route a local input or AES67 stream to a Zone on the DM-NAX-AUD-IO.

NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).



- To route an input to a zone, select the box in the routing matrix where the zone's row overlaps the corresponding input's column. Once a route is made, appears.
- To break a given route select or .
- To route a single input to all zones, select the icon under the input's name.

Security

Select the **Security** tab to configure security for users and groups and to allow different levels of access to the DM-NAX-AUD-IO functions. By default, security is disabled.

✓ Status

⚙ Settings

🔒 Security

⚙ 802.1x Configuration

▼ Security

SSL Mode

Encrypt

▼

SSL Authentication

Username *

chdevice

Password *

Confirm Password *

Current User

Users

Groups

Name

admin

Access Level

Administrator

Active Directory User

No

Groups

Administrators

Change Current User Password

Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down, 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.

Current User

Users

Groups

Name

admin

Access Level

Administrator

Active Directory User

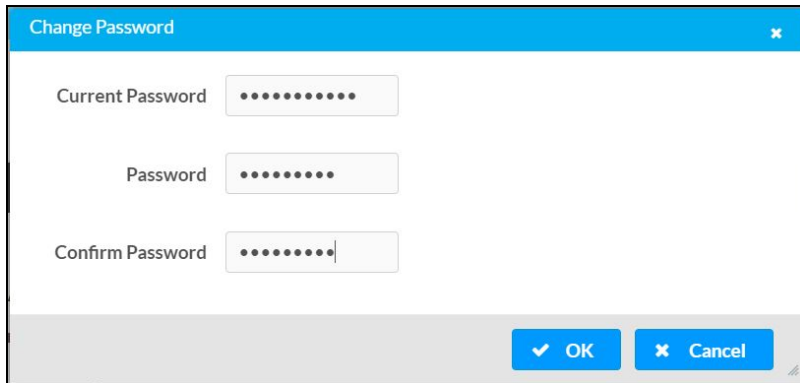
No

Groups

Administrators

Change Current User Password

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.

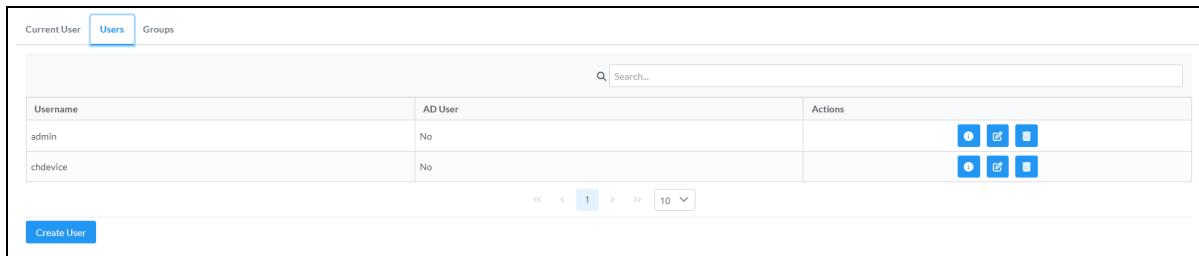


The image shows a 'Change Password' dialog box with a blue header bar containing the title and a close button. It contains three text input fields: 'Current Password', 'Password', and 'Confirm Password', each with a masked password (dots). At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.

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.



The image shows the 'Users' tab interface. At the top, there are tabs for 'Current User', 'Users' (selected), and 'Groups'. Below the tabs is a search bar labeled 'Search...'. A table displays a list of users with columns for 'Username', 'AD User', and 'Actions'. The table contains two rows: 'admin' and 'chdevice', both with 'No' in the 'AD User' column. The 'Actions' column for each row contains three icons: a plus sign, a document, and a trash can. Below the table is a pagination control showing '1' of 10 items, with left and right arrows. A 'Create User' button is located at the bottom left.

Username	AD User	Actions
admin	No	[Icons]
chdevice	No	[Icons]

Use the **Search Users** 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 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.

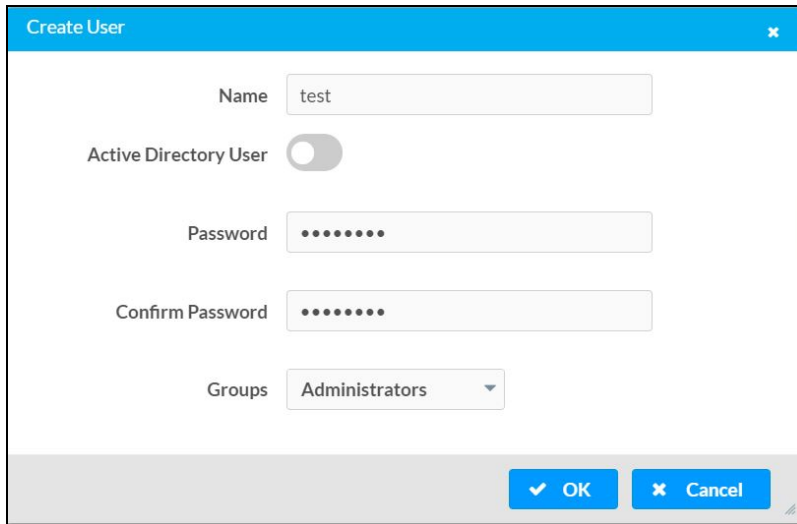
- **Username:** Displays the name of the user.
- **AD User:** Displays whether the user requires authentication using Active Directory.

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 **Users** 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.

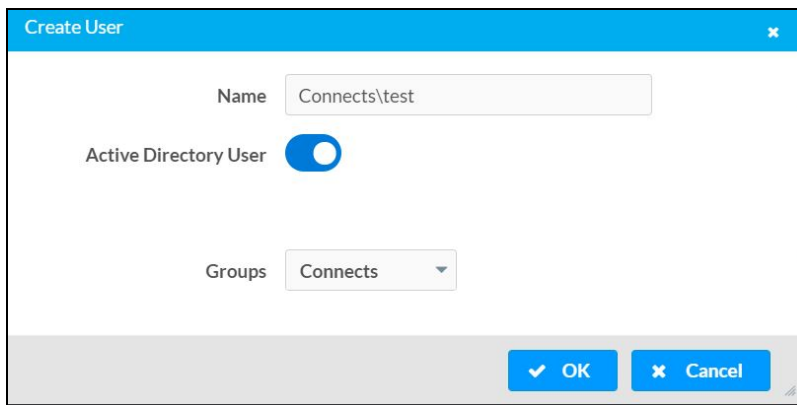
Add an Active Directory User

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 DM-NAX-AUD-IO, or add the Active Directory group(s) that they are a member of to the DM-NAX-AUD-IO.

To add an Active Directory user.

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




The 'Create User' dialog box has a blue title bar with the text 'Create User' and a close button. It contains three main sections: a 'Name' field with the text 'Connects\test', an 'Active Directory User' toggle switch that is turned on, and a 'Groups' dropdown menu with 'Connects' selected. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'x' icon.

- 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

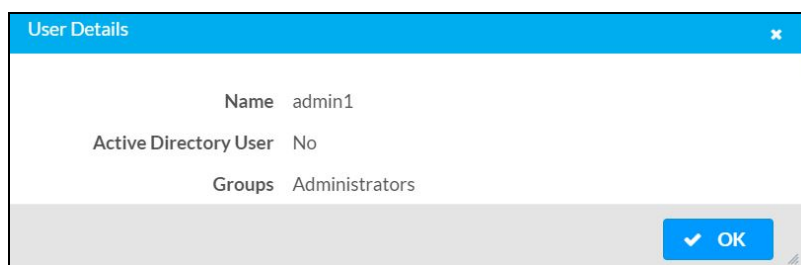
Select the trashcan icon  in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

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.



The 'User Details' dialog box has a blue title bar with the text 'User Details' and a close button. It displays three rows of information: 'Name' with the value 'admin1', 'Active Directory User' with the value 'No', and 'Groups' with the value 'Administrators'. At the bottom right, there is an 'OK' button with a checkmark icon.

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

Update User Details

Update User

Name

admin1

Active Directory User

☐

Password


Confirm Password

Groups

Administrators

OK

Cancel

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

Current User

Users

Groups

Search...

Group Name	AD Group	Access Level	Actions
Administrators	No	Administrator	 
Connects	No	Connect	 
Operators	No	Operator	 
Programmers	No	Programmer	 
Users	No	User	 

1

10

Create Group

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 to the right of the navigation arrows.

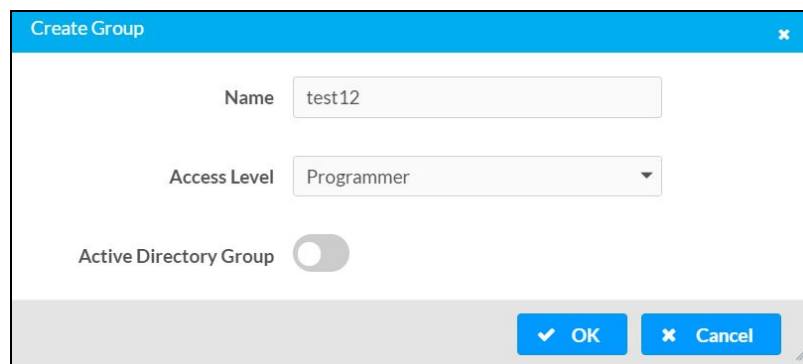
Existing groups are displayed in a table and the following information is provided for each group:

- **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 🗑 selected group.

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

Create Local Group



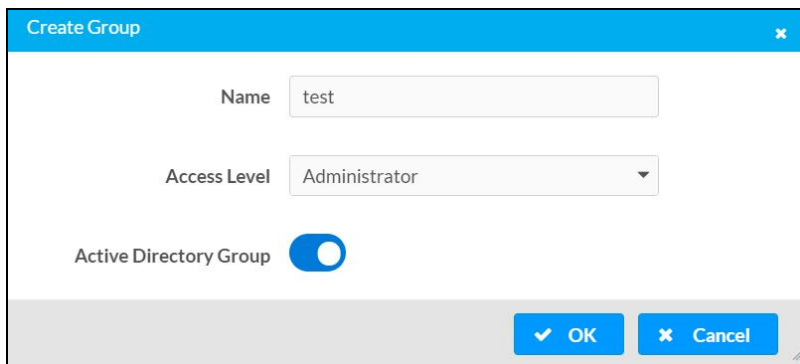
1. Select **Create Group**.
2. In the **Create Group** dialog, enter the following:
 - a. Enter the group name in the **Name** field.
 - b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

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



The **Create Group** dialog box has a blue title bar with a close button. It contains three fields: a text box for **Name** with the value "test", a dropdown for **Access Level** with "Administrator" selected, and a toggle for **Active Directory Group** which is currently turned on. At the bottom right are **OK** and **Cancel** buttons.


Once the group is added, all members of that group will have access to the DM-NAX-AUD-IO.

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.
3. 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.


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

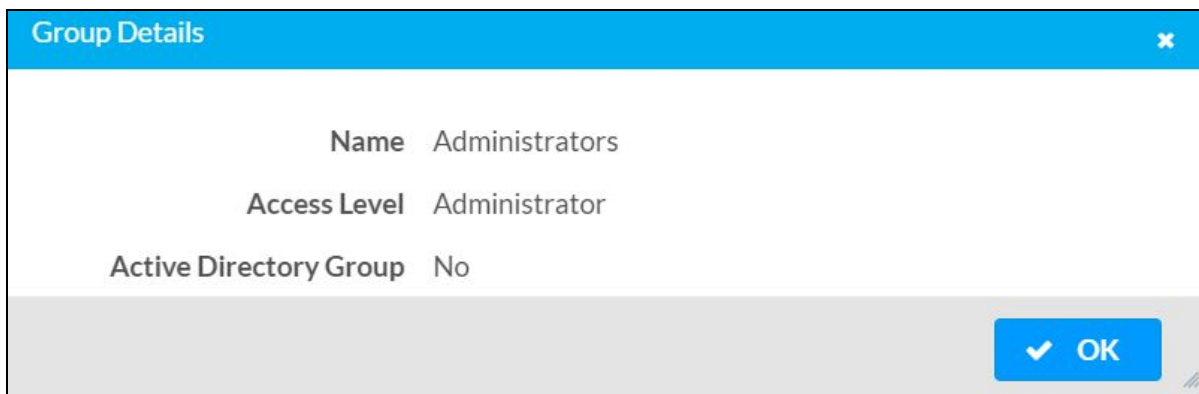
Delete a Group

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.



The **Group Details** dialog box has a blue title bar with a close button. It displays three rows of information: **Name** Administrators, **Access Level** Administrator, and **Active Directory Group** No. At the bottom right is an **OK** button.

- **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 DM-NAX-AUD-IO 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.

IEEE 802.1X Authentication ☒

Authentication Method: EAP MSCHAP V2- password

Domain: secure12

Username: admin

Password:

Enable Authentication Server Validation ☒

Select Trusted Certificate Authority(ies)

Trusted Certificate Authority	Selected
AAA Certificate Services	<input checked="" type="checkbox"/>
AC RAIZ FNMT-RCM	<input type="checkbox"/>
ACCVRAIZ1	<input type="checkbox"/>
Actalis Authentication Root CA	<input type="checkbox"/>
AffirmTrust Commercial	<input checked="" type="checkbox"/>
AffirmTrust Networking	<input type="checkbox"/>
AffirmTrust Premium ECC	<input type="checkbox"/>
AffirmTrust Premium	<input checked="" type="checkbox"/>
Amazon Root CA 1	<input type="checkbox"/>
Amazon Root CA 2	<input type="checkbox"/>
Amazon Root CA 3	<input checked="" type="checkbox"/>
Amazon Root CA 4	<input type="checkbox"/>
Atos TrustedRoot 2011	<input type="checkbox"/>
Autoridad de Certificacion Firmaprofesional CIF A62634068	<input type="checkbox"/>
Baltimore CyberTrust Root	<input type="checkbox"/>

Configure DM-NAX-AUD-IO for 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 the **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. 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-AUD-IO.

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.

5. If required, type the domain name of the network in the **Domain** field.
6. 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.

DM-NAX-AUD-USB

This section describes how to configure the DM-NAX-AUD-USB.

Web Interface Configuration

The DM-NAX-2XLRI-1G web interface allows you to view status information and configure network and device settings.

Access the Web Interface

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

- [Access the Web Interface with a Web Browser on page 556](#)
- [Access the Web Interface With Crestron Toolbox™ Software on page 558](#)

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

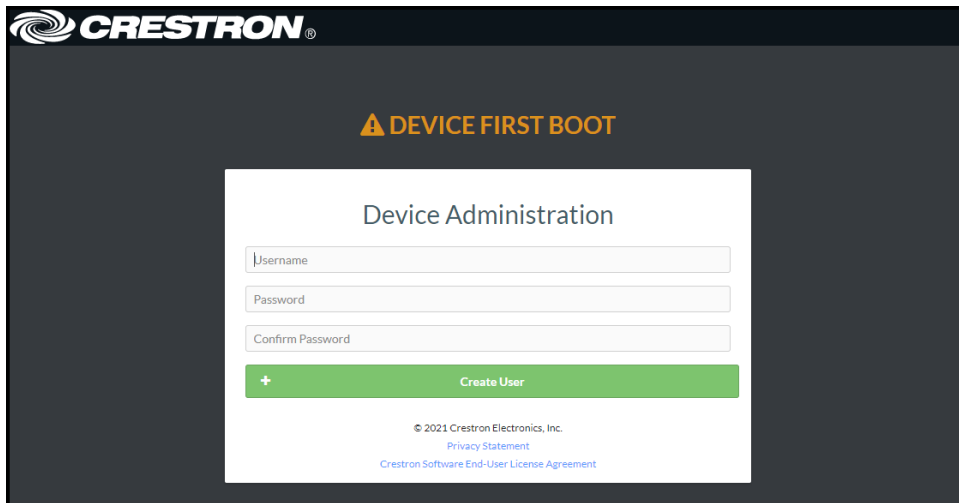
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later
	Firefox® web browser, version 31 and later
	Internet Explorer web browser, version 11 and later
	Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later
	Chrome 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 DM-NAX-AUD-USB into a web browser.

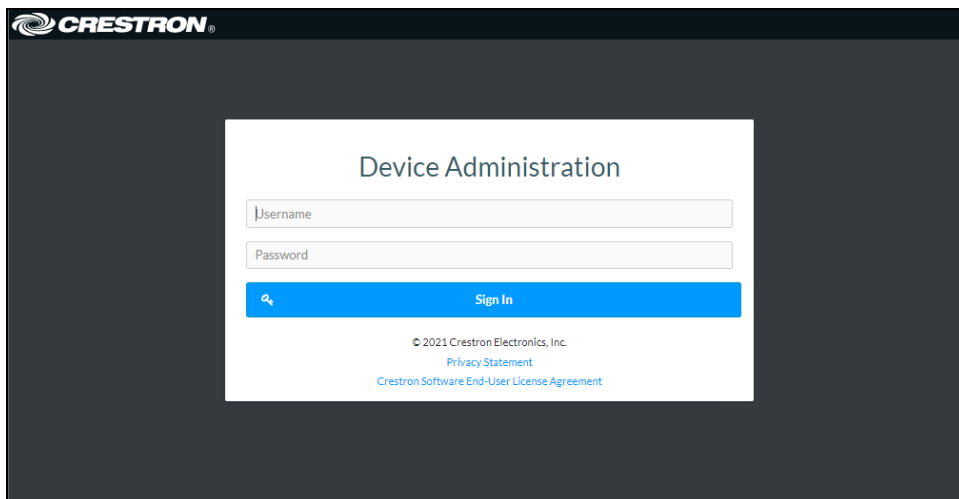
NOTE: To obtain the IP address, use the **Device Discovery Tool** in Crestron Toolbox™ software or an IP scanner application.

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.



The screenshot shows the Crestron logo at the top left. Below it, a yellow warning triangle icon is followed by the text "DEVICE FIRST BOOT". In the center, there is a white box titled "Device Administration". Inside this box, there are three input fields: "Username", "Password", and "Confirm Password". Below these fields is a green button with a white plus sign and the text "Create User". At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

- d. Select **Create User**. The Device Administration page appears.




The screenshot shows the Crestron logo at the top left. In the center, there is a white box titled "Device Administration". Inside this box, there are two input fields: "Username" and "Password". Below these fields is a blue button with a white magnifying glass icon and the text "Sign In". At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Select **Sign In**.

Access the Web Interface With Crestron Toolbox™ Software

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

1. Open Crestron Toolbox software.
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 DM-NAX-AUD-USB 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.

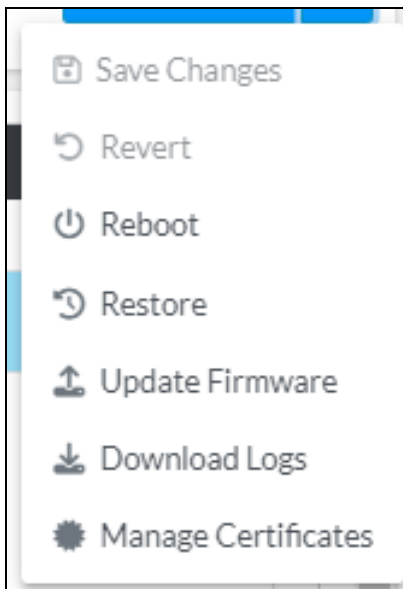
NOTE: If there is security software running on the computer, a security alert might be displayed when Crestron Toolbox software attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, select the device.
4. Enter the device credentials in the **Authentication Required** dialog that opens, then select **Log In**.
5. Select **Web Configuration**.

Action

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

- [Save Changes on page 559](#)
- [Revert on page 559](#)
- [Reboot on page 560](#)
- [Restore to Factory Default Settings on page 560](#)
- [Update Firmware on page 561](#)
- [Download Logs on page 561](#)
- [Manage Certificates on page 562](#)



Save Changes

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

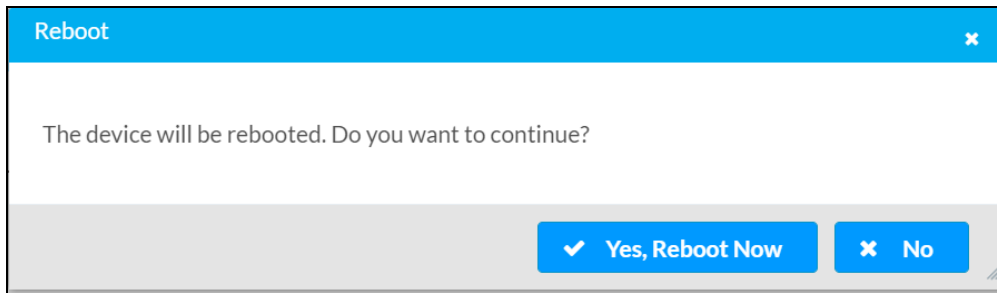
Revert

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

Reboot

Certain changes to the settings may require the DM-NAX-AUD-USB to be rebooted to take effect. To reboot the device:

1. Select **Reboot** in the **Action** menu. The **Confirmation** message box appears.



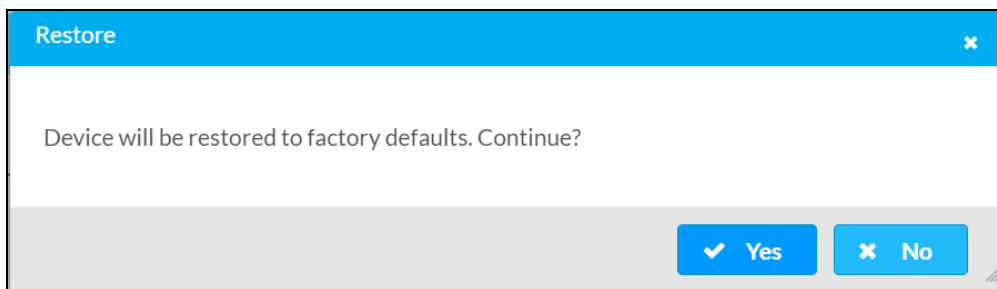
2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears.
Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

CAUTION: This procedure should only be performed to recover an unresponsive device. Performing the **Restore** procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before proceeding, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

1. Select **Restore** in the **Action** menu to restore the settings of the DM-NAX-AUD-USB to factory defaults.

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.



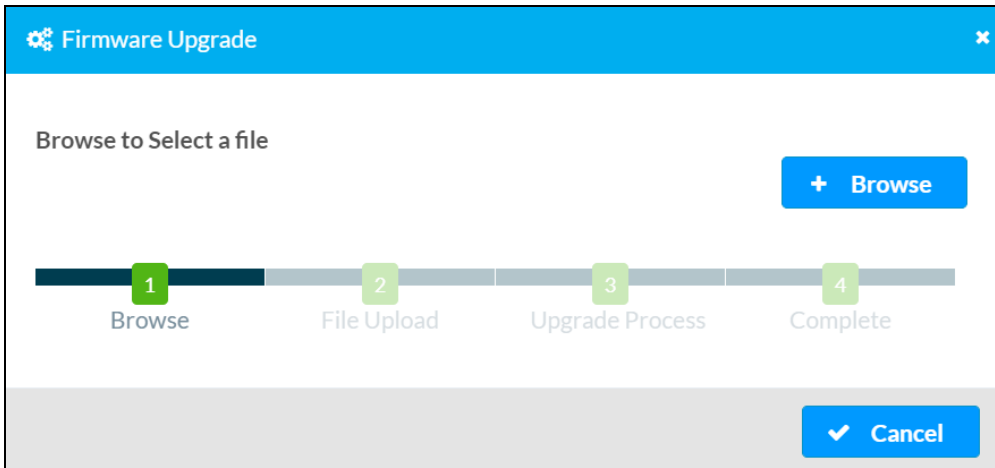
2. Select **Yes** in the **Confirmation** dialog to restore the DM-NAX-AUD-USB to factory settings.
Select **No** to cancel the restore operation.

A dialog is displayed again, indicating that the restore process was successful and that the device rebooted.

You can also restore to factory settings by pressing and holding the **SETUP** button on the rear panel of the device with power disconnected then connect the power supply and continue to hold **SETUP** button for 30 seconds.

Update Firmware

1. Select **Update Firmware** in the **Action** menu.
2. In the **Firmware Upgrade** dialog, 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** dialog.
4. Select **Load** and wait for the progress bar to complete and for **OK** to become selectable.
5. Select **OK**. The device with new firmware can now be accessed.

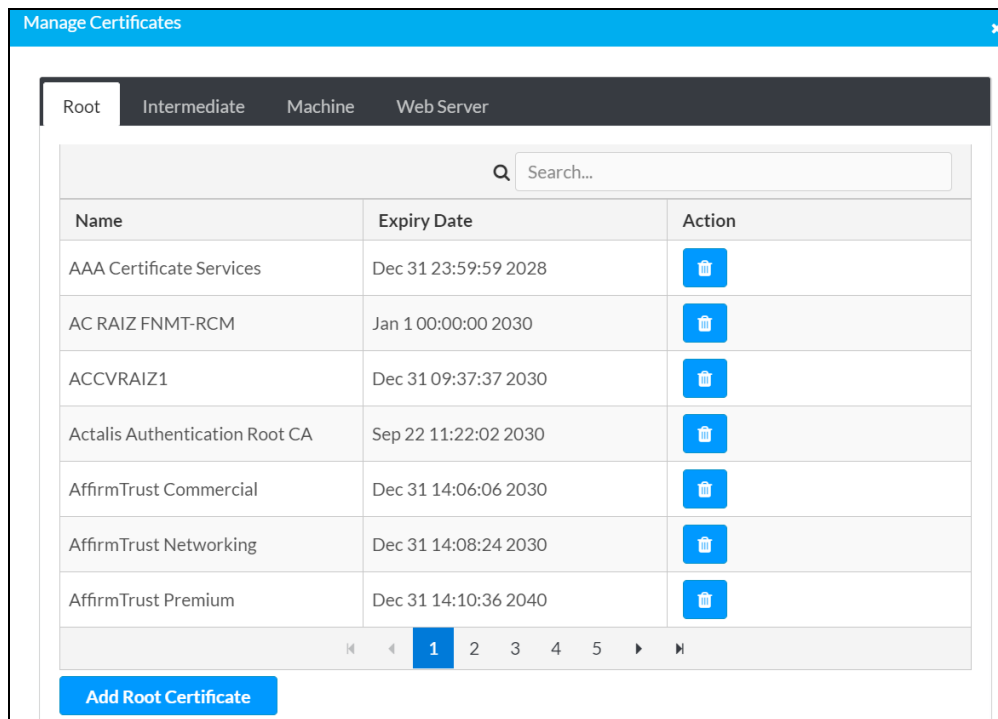
Download Logs

Select **Download Logs** in the **Action** menu to download the device message logs for diagnostic purposes.

The log file is downloaded to the Downloads folder of the PC.

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 **Action** menu. The following certificate tabs are displayed:

- **Root:** The Root certificate is used by the DM-NAX-AUD-USB to validate the network's authentication server. The DM-NAX-AUD-USB 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 DM-NAX-AUD-USB. 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, 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.

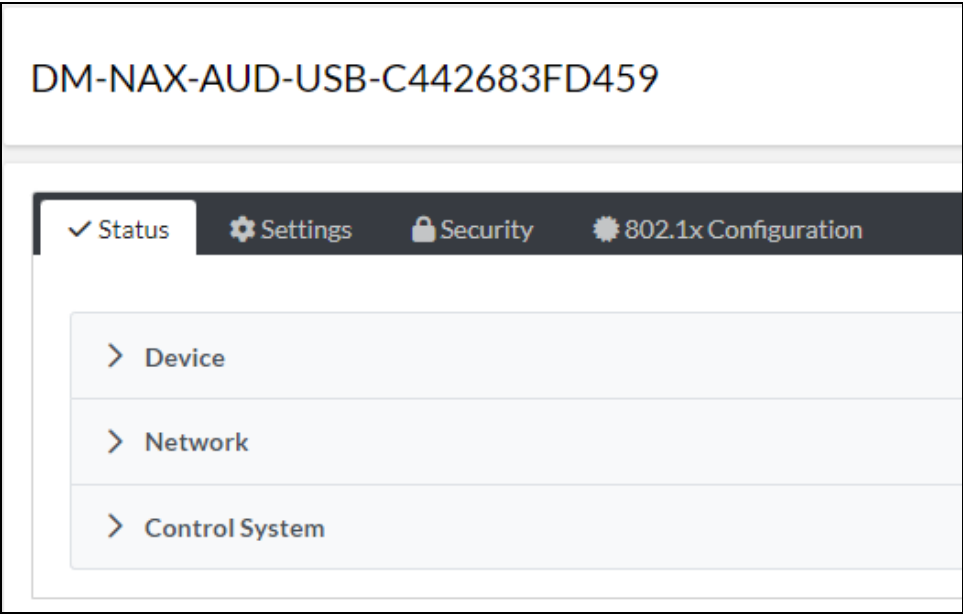
To Delete Certificates

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 DM-NAX-AUD-USB. It displays general information about the DM-NAX-AUD-USB (such as **Model Name**, **Firmware Version**, and **Serial Number**), current network settings (such as **Host Name** and **IP Address**, etc.), and input and output ports' current status.

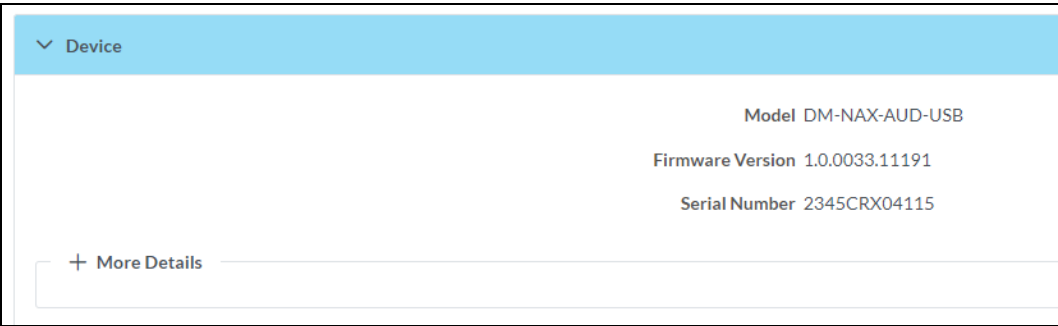
The **Status** page can be accessed at any time by selecting the **Status** tab of the DM-NAX-AUD-USB interface.



Information displayed on the **Status** tab is organized into different sections.

Device

The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-AUD-USB.



Select **+ More Details** to review additional information about the DM-NAX-AUD-USB.

— More Details	
DM-NAX-AUD-USB	1.0.0033.11191
Build	Feb 13 2024 (531246)
Updater	1.0.0033.11191
Bootloader	1.00.00
CCUI Version	1.1327.1
XIOSDK	3.8.2
IoTSDK	1.11.0
Build time	11:19:07
Product ID	0x7A0A
Revision ID	0x0100
HDCP2X-SKE	
HDCP2X-SKE	HDCP2X-SKE [v9.0000.00000,#FFFFFFFF]
PRE-BOOT	[v9.0000.00000]
BOOTLOADER	[v9.0000.00000]
ctrl-audio-dsp-0	FW v11 (Driver v4.00)
ctrl-extclk-in-pps	Driver v1.1
ctrl-prod-info	Driver v3.0
PUF	1.0.0033.11191
Eng Debug Mode	True
Forced Auth Mode	True

Network

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

▼ Network	
Hostname DM-NAX-AUD-USB-C442683FD459	
Domain Name CRESTRON.CRESTRON.com	
DNS Servers 10.64.5.10(DHCP)	
— Adapter 1	
DHCP	On
IP Address	10.64.68.176
Subnet Mask	255.255.255.0
Default Gateway	10.64.68.1
Link Active	true
MAC Address	c4.42.68.3f.d4.59

NOTE: By default, the host name of the DM-NAX-AUD-USB consists of the model name followed by the MAC address of the device. For example, DM-NAX-AUD-USB-00107FB58088.

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

Control System

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

Control System

Encrypt Connection ON

IP Table

IP ID	Room Id	IP Address/Hostname	Type	Server Port	Connection	Status
C		DIN-AP4-R- C442681A3F36	Peer	41796	Gway	ONLINE

- **Encrypt Connection:** Displays **ON** or **OFF**.
- **IP ID:** Displays the currently used IP ID of the DM-NAX-AUD-USB.
- **IP Address/Hostname:** Displays the IP address or hostname of the control system.
- **Room ID:** Displays the room ID.
- **Status:** Displays **OFFLINE** or **ONLINE**.

Settings

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

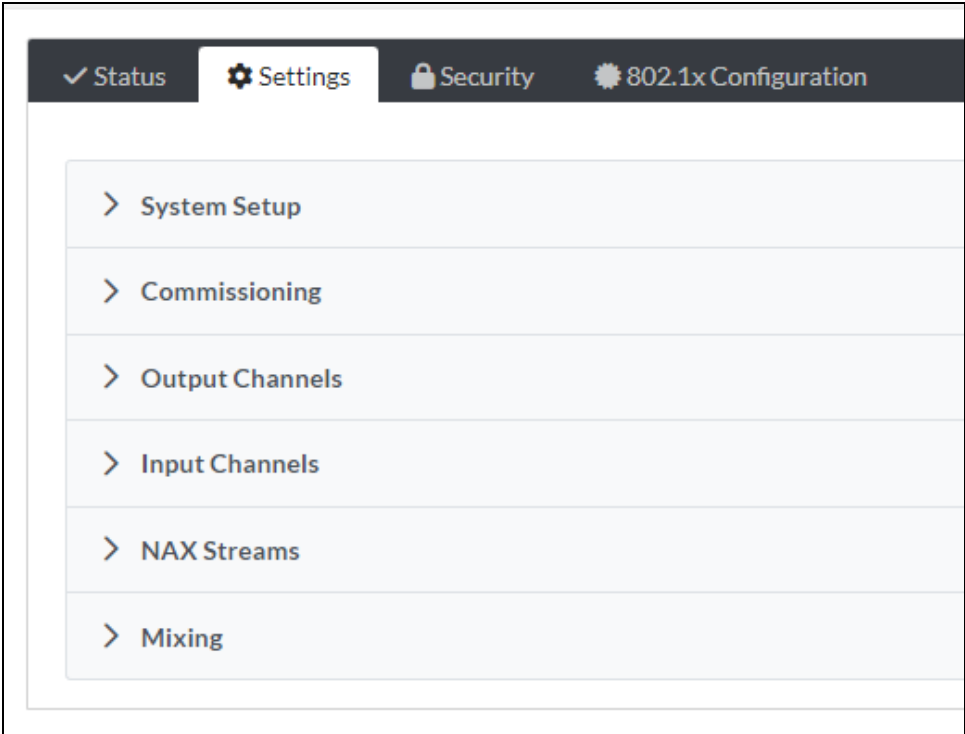
Many options in the **Settings** page are exclusive to a specific device mode: Residential or Commercial. The DM-NAX-AUD-USB is in Commercial mode by default.

This section provides the following information:

- [Commercial Mode on page 568](#)
- [Residential Mode on page 587](#)

Commercial Mode

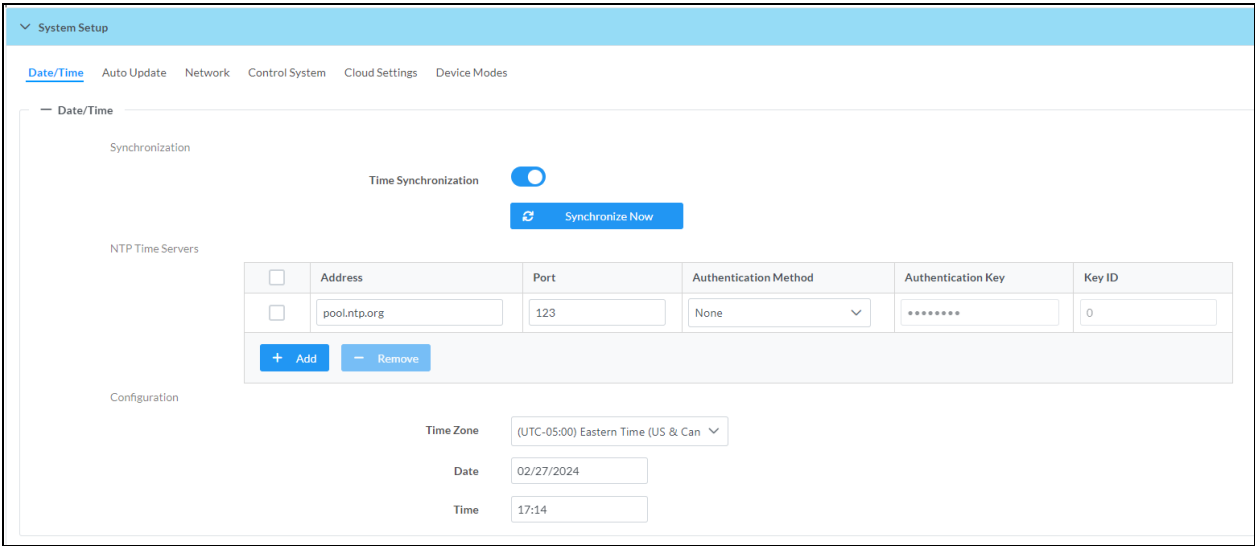
The **Settings** page enables you to configure the DM-NAX-AUD-USB settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the DM-NAX-AUD-USB interface.



Settings available on the **Settings** page are organized into different sections.

System Setup

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




Date/Time

Use the **Date/Time** tab to configure the date and time settings of the DM-NAX-AUD-USB.

— Date/Time



Synchronization

Time Synchronization ☒

 Synchronize Now

NTP Time Servers

<input type="checkbox"/>	Address	Port	Authentication Method	Authentication Key	Key ID
<input type="checkbox"/>	pool.ntp.org	123	None	*****	0

 Add  Remove

Configuration

Time Zone (UTC-05:00) Eastern Time (US & Can) ▾

Date 02/21/2024

Time 12:40

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

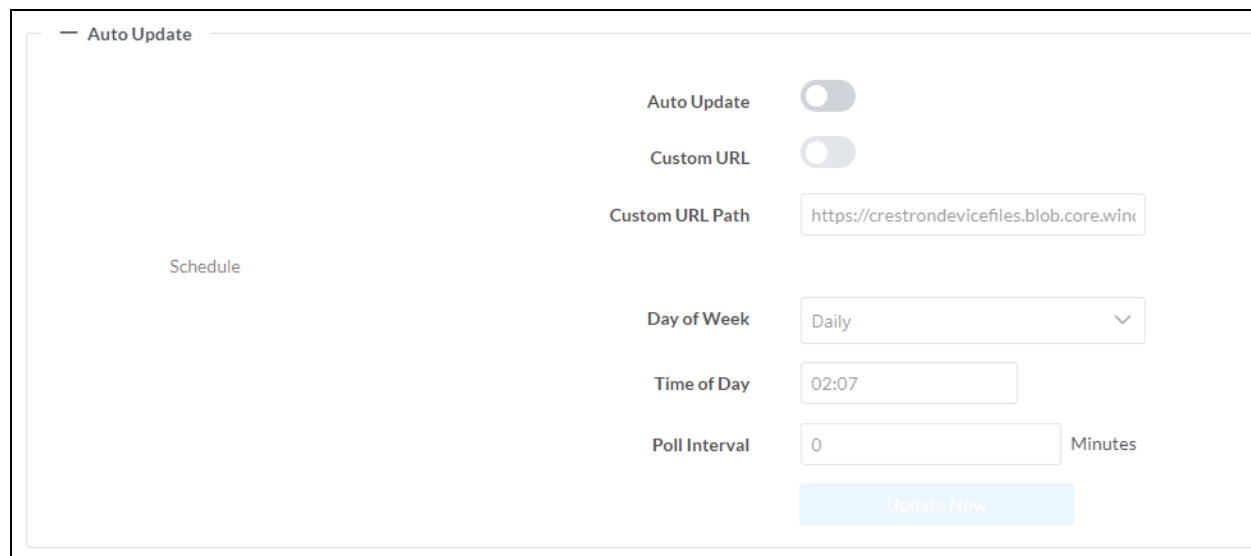
1. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-AUD-USB can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.

The screenshot shows a web interface for configuring the 'Auto Update' feature. On the left, there is a sidebar with a 'Schedule' link. The main area contains several settings: 'Auto Update' and 'Custom URL' are both toggle switches currently in the 'off' position. Below 'Custom URL' is a text field for 'Custom URL Path' containing the URL 'https://crestrondevicefiles.blob.core.win'. Further down, there is a 'Day of Week' dropdown menu set to 'Daily', a 'Time of Day' text field set to '02:07', and a 'Poll Interval' text field set to '0' with a 'Minutes' label to its right. At the bottom right of the main area is a blue button labeled 'Update Now'.

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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** tab contains network-related settings for the DM-NAX-AUD-USB, including the **Hostname**, **Domain**, **Primary Static DNS**, and **Secondary Static DNS**.

System Setup

Date/Time Auto Update **Network** Control System Cloud Settings Device Modes

Network

Adapter 1

Hostname * DM-NAX-AUD-USB-C442683FD459

Domain CRESTRON.CRESTRON.com

Primary Static DNS 10.64.5.10(DHCP)

Secondary Static DNS 192.168.200.133(DHCP)

DHCP Enabled ☒

IP Address 10.64.68.176

Subnet Mask 255.255.255.0

Default Gateway 10.64.68.1

NOTE: By default, the hostname of the DM-NAX-AUD-USB consists of the model name followed by the MAC address of the device. For example, DM-NAX-AUD-USB-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTE: DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-AUD-USB is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When **DHCP** is enabled (default setting), the IP address of the DM-NAX-AUD-USB 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 DM-NAX-AUD-USB.
 - **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

Control System Username:

Control System Password:

Encrypt Connection

IP Table

<input type="checkbox"/>	IP ID	IP Address/Hostname	Room Id
<input type="checkbox"/>	C	DIN-AP4-R-C442681A3F36	<input type="text" value="Room Id"/>

+ Add **X Remove**

1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-AUD-USB in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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

Date/Time Auto Update Network Control System Cloud Settings Device Modes

Cloud Configuration Service Connection ☒

Set the **Cloud Settings** toggle to the right position to enable or to the left to disable cloud settings. This specifies whether the DM-NAX-AUD-USB can communicate with the XiO Cloud® platform.

Device Modes

Use the **Device Modes** tab to configure the **Application Mode** of the DM-NAX-AUD-USB.

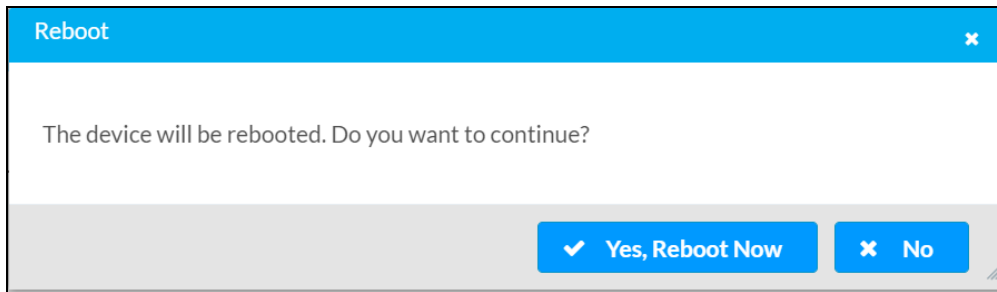
Date/Time Auto Update Network Control System Cloud Settings Device Modes

Device Modes (Autosaved)

Application Mode

Application Mode determines which options and controls are available.

- Select **Residential (Standard)** or **Commercial (Advanced)**. A **Reboot** confirmation message box appears.

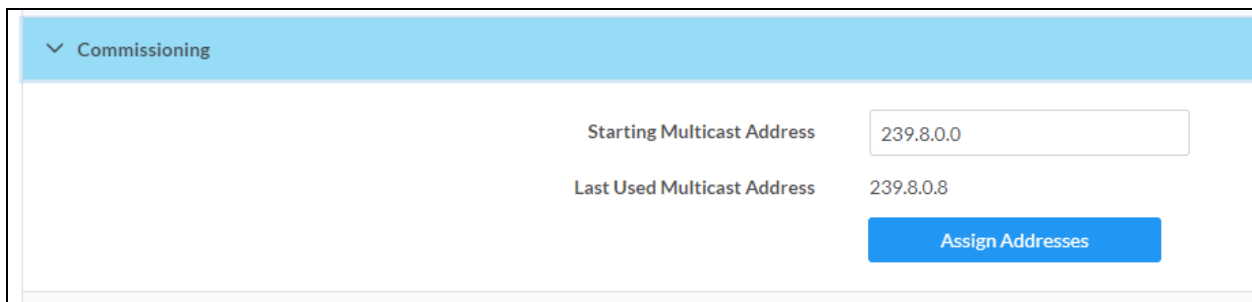


- Select **Yes, Reboot Now** to reboot the device into the selected mode. The **Reboot** message box appears.
- Wait for the device reboot to complete before attempting to reconnect to the device.

By default, the DM-NAX-AUD-USB is set to **Commercial (Advanced)** mode.

Commissioning

The **Commissioning** section provides a quick way to automatically assign multicast addresses to the device's internal audio-over-IP stream transmitters.

A screenshot of the 'Commissioning' section in a web interface. The section has a blue header with a dropdown arrow and the text 'Commissioning'. Below the header, there are two labels: 'Starting Multicast Address' and 'Last Used Multicast Address'. The 'Starting Multicast Address' is followed by a text input field containing '239.8.0.0'. The 'Last Used Multicast Address' is followed by the text '239.8.0.8'. At the bottom right, there is a blue button with the text 'Assign Addresses'.

Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-AUD-USB a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.255.255.254.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

Output Channels

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

Output Channels

Zones (Autosaved)

Global Filter

Name	LineOutLeft	LineOutRight	USBOutLeft	USBOutRight	StreamOut1Ch1	StreamOut1Ch2	StreamOut2Ch1	StreamOut2Ch2
Volume (%)	<div><div></div><div>79</div></div>	<div><div></div><div>79</div></div>	<div><div></div><div>79</div></div>	<div><div></div><div>79</div></div>	<div><div></div><div>80</div></div>	<div><div></div><div>80</div></div>	<div><div></div><div>79</div></div>	<div><div></div><div>79</div></div>
Signal Presence								
Signal Level	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>	<div><div></div><div>Nominal</div></div>
Mute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
Action	<div><div></div><div>Edit</div></div>	<div><div></div><div>Edit</div></div>	<div><div></div><div>Edit</div></div>	<div><div></div><div>Edit</div></div>	<div><div></div><div>Edit</div></div>	<div><div></div><div>Edit</div></div>	<div><div></div><div>Edit</div></div>	<div><div></div><div>Edit</div></div>

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

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.

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.

To configure the zone volume, do one of the following:

- Move the **Volume** slider up to increase or down to decrease the zone volume.
- Use the **%** arrows to increase or decrease the zone volume. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

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

Select **Edit** to view additional **Zone** and **Output** options.

Zone Settings

To configure the settings for an output channel, select **Edit**. The **Edit Zone** window appears.

▼ Zone

— Tone (Autosaved)

Bass

0

▲▼

db

Treble

0

▲▼

db

— Delay (Autosaved)

Delay Time(ms)

0

▲▼

ms

> Output

Zone

Select **Zone** to access the settings for **Tone** and **Delay**.

▼ Zone

— Tone (Autosaved)

Bass

0

▲▼

db

Treble

0

▲▼

db

— Delay (Autosaved)

Delay Time(ms)

0

▲▼

ms

> Output

Tone

— Tone (Autosaved)

Bass

-1.7

▲▼

db

Treble

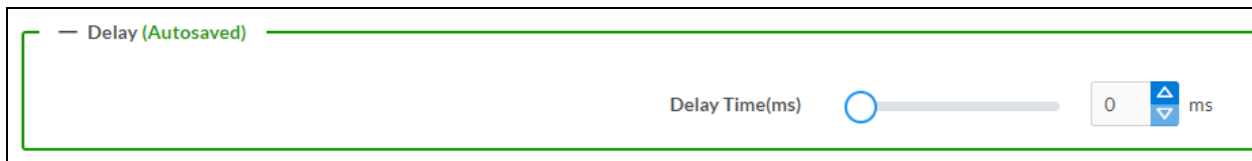
0.5

▲▼

db

- **Bass:** 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.
 - Use the **db** arrows to increase or decrease the bass level. Values range from -12 dB to 12 dB, adjustable in increments of .1 dB.
 - Manually enter a value in the **Bass** field.
- **Treble:** 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.
 - Use the **db** arrows to increase or decrease the treble level. Values range from -12 dB to 12 dB, adjustable in increments of .1 dB.
 - Manually enter a value in the **Treble** field.

Delay



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. Values range from 0 ms to 85 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

NOTE: The delay feature is only available on the line level output channels.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume**, **Signal**, and the output **Equalizer**.

Output

Minimum / Maximum (Autosaved)

Minimum

0

%

Maximum

100

%

Default

79

%

Signal (Autosaved)

Signal

Not Present

Clipping

None

Equalizer Settings (Autosaved)

Speaker EQ Enabled

Minimum/Maximum Volume

Minimum / Maximum (Autosaved)

Minimum

0

%

Maximum

100

%

Default

30

%

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. Values range from 0 to 50%, adjustable in increments of 1%.
- Manually enter a value in the **Minimum** field.

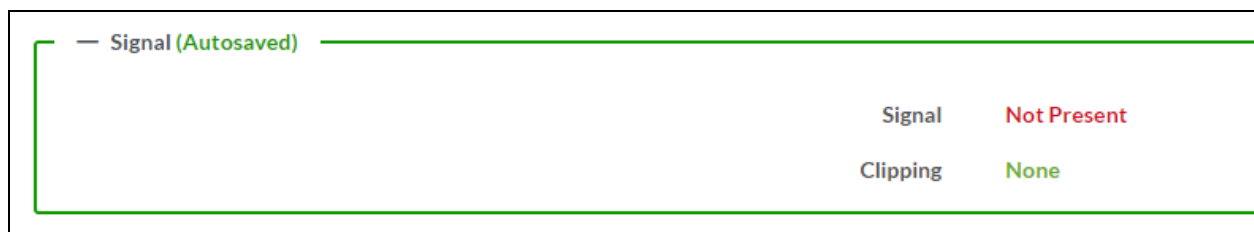
2. To set the maximum volume of the zone, do one of the following:
- Move the **Maximum** slider to the right to increase or to the left to decrease the maximum volume.
 - Use the **%** arrows to increase or decrease the maximum volume. Values range from 70 to 100%, adjustable in increments of 1%.
 - 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. 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. Values range from 0 to 50%, adjustable in increments of 1%.
 - 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.

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.

Equalizer Settings

Equalizer Settings (Autosaved)

Speaker EQ Enabled ☒

Band	Band01	Band02	Band03	Band04	Band05	Band06	Band07	Band08	Band09	Band10
Gain	 0	 0	 0	 0	 0	 0	 0	 0	 0	 0
Type	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ
Frequency	32	64	125	250	500	1000	2000	4000	8000	16000
Bandwidth	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Bypass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Actions	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset

Each output channel of the DM-NAX-AUD-USB has a dedicated ten-band equalizer that can be fully customized to tune the zone 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. With the **Speaker EQ Enabled** toggle in the right position, configure the equalizer bands.
 - a. To set a band's gain, do one of the following:
 - Move the **Gain** slider up to increase or down to decrease the gain.
 - Use the arrows to increase or decrease the gain. Values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Gain** field.

- b. Select a filter type from the **Type** drop-down. 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. To set the center frequency, do one of the following:
- Use the arrows to increase or decrease the frequency. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. 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. To set the bandwidth, do one of the following:
- Use the arrows to increase or decrease the bandwidth. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave.
 - 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.

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

The **Input Channels** section is used to configure the **Name**, **Compensation**, and **Mute** attributes of the front panel inputs on the DM-NAX-AUD-USB.

Configure Inputs

- Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- ## DM NAX Streams

The local inputs of the DM-NAX-AUD-USB can be made available as DM NAX audio-over-IP streams. Two network stream transmitters are available on the device. One transmitter will encode the local unbalanced line level input, and the other will encode the USB input audio.

Select **NAX Streams** to expand the tab and display the following information.

NAX Streams

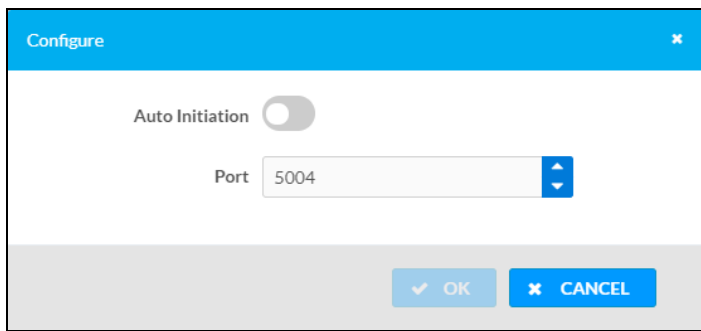
This Device is the Leader PTP Clock SourceNo
PTP Clock Leader MAC Address00:1d:c1:12:16:68
PTP Priority254

Transmitters (Autosaved)

Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
StreamOut1Ch1	Stream01	239.69.18.1	Stream01-AUD-USB	Stream Started	▶ □ ⚙️
StreamOut2Ch1	Stream02	239.69.18.2	Stream02-AUD-USB	Stream Started	▶ □ ⚙️


Receivers (Autosaved)

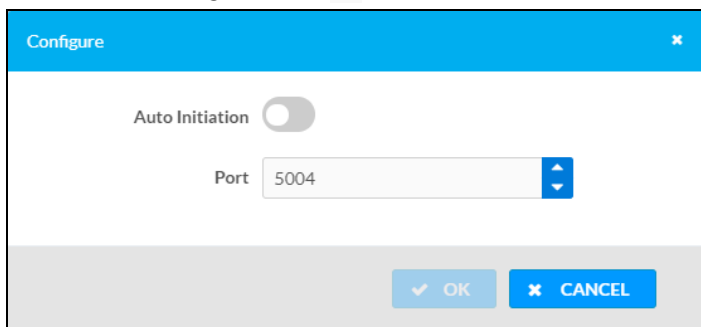
Zone Name	Stream	Current Stream Address	Requested Stream Address	Status	Actions
StreamIn1Ch1	Stream01	239.69.2.1	239.69.2.1 🔍	Stream Started	▶ □ ⚙️
StreamIn2Ch1	Stream02	239.69.61.139	239.69.61.139 🔍	Stream Started	▶ □ ⚙️



5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

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 configure icon  in the **Actions** column. The **Configure** dialog appears:



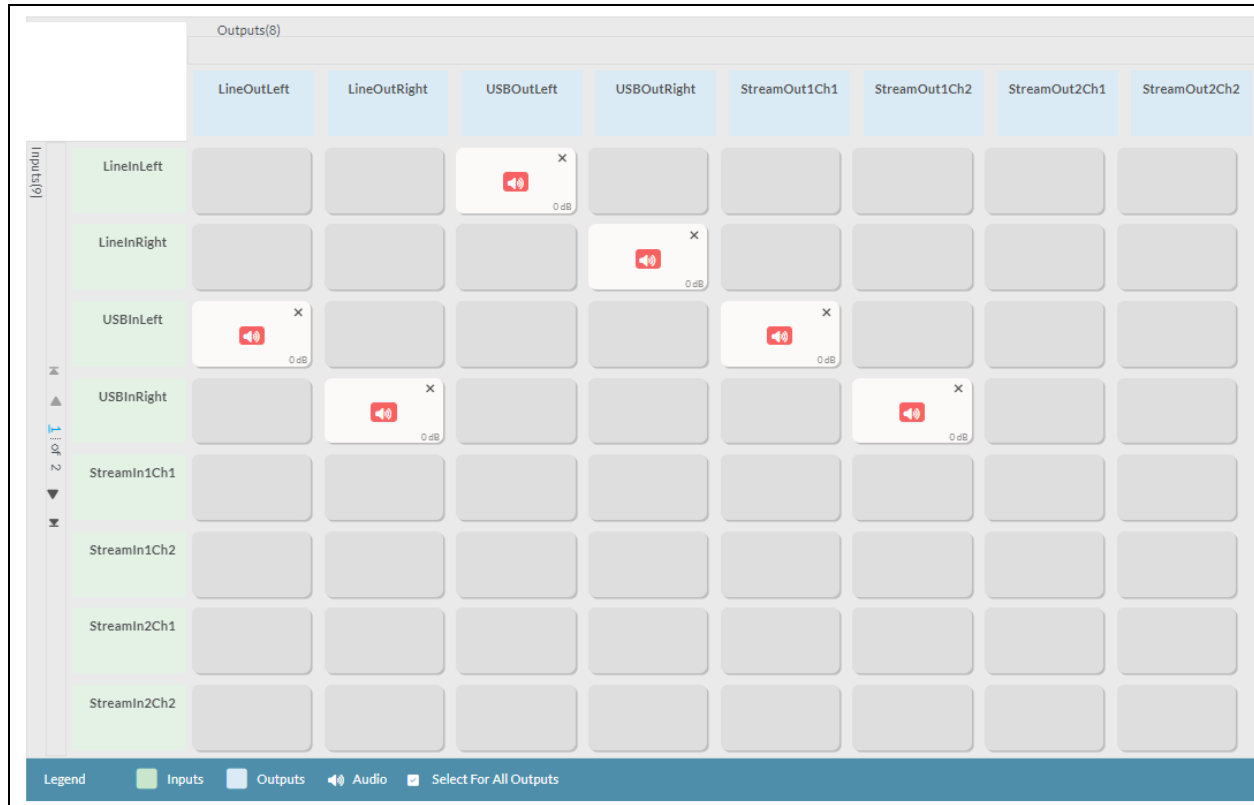
3. Set the **Auto Initiation** toggle to the right position to enable auto initiation. Set the toggle to the left position to disable auto initiation.
 - If **Auto Initiation** is enabled, the stream will begin automatically when the receiver subscribes to the transmitter.
 - If **Auto Initiation** is disabled, the stream will not begin until it is manually initiated.

4. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Mixing

The **Mixing** matrix is used to route a local input or AES67 stream to an output on the DM-NAX-AUD-USB.

NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).

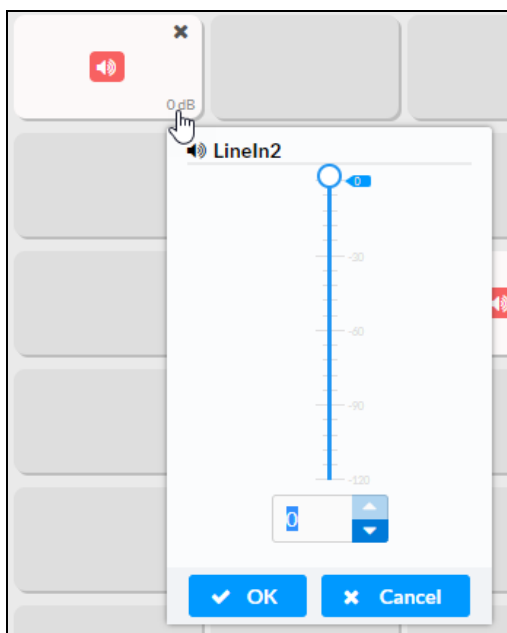


To route inputs to outputs on the device:

- 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.
- Use the arrows (or) at the left of the matrix to change pages to view all available inputs.
- To break a given route select or .

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, then do one of the following:

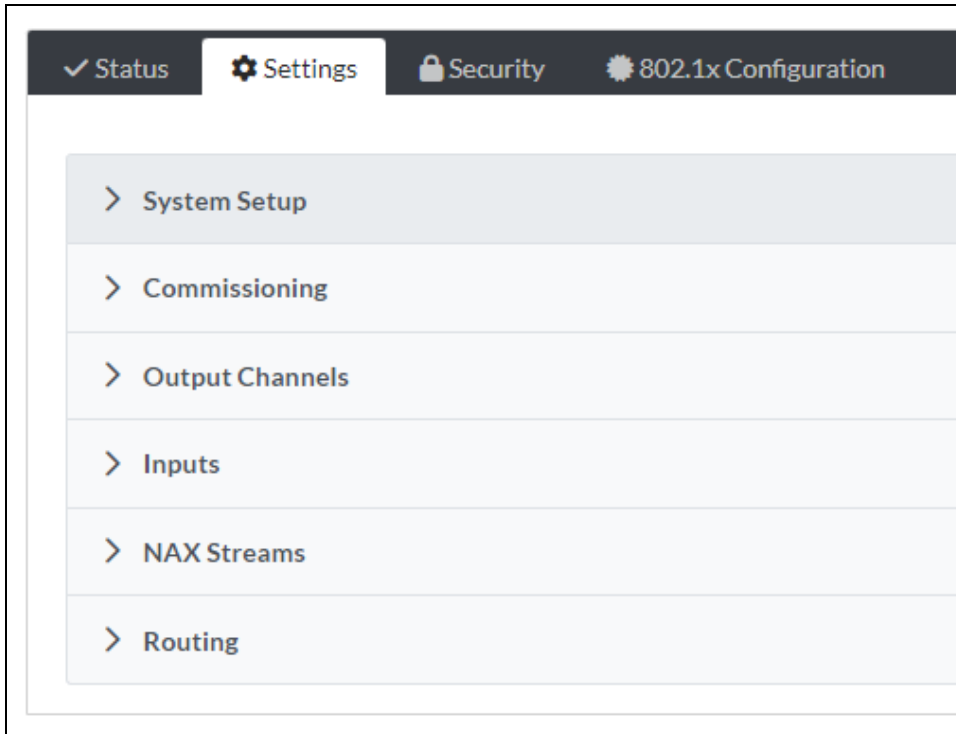
- Move the slider up to increase or down to decrease the mix level.
- Use the arrows to increase or decrease the mix level.
- Manually enter a value in the field.



Residential Mode

This section provides the following information:

- [System Setup on page 587](#)
- [Commissioning on page 592](#)
- [Output Channels on page 593](#)
- [Inputs on page 600](#)
- [NAX Streams on page 601](#)
- [Routing on page 604](#)



System Setup

The **System Setup** section displays information about the **Date/Time**, **Auto Update**, **Network**, **Control System**, **Cloud Settings**, and **Device Modes**.

Date/Time

Use the **Date/Time** section to configure the date and time settings of the DM-NAX-AUD-USB.

System Setup

Date/Time
Auto Update
Network
Control System
Cloud Settings
Device Modes

Date/Time

Synchronization

Time Synchronization

Synchronize Now

NTP Time Servers

	Address	Port	Authentication Method	Authentication Key	Key ID
<input type="checkbox"/>	pool.ntp.org	123	None	*****	0

+ Add
- Remove

Configuration

Time Zone
(UTC-05:00) Eastern Time (US & Can)

Date
02/21/2024

Time
11:49

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. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-AUD-USB can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.

The screenshot shows the 'System Setup' interface with the 'Auto Update' tab selected. The 'Auto Update' toggle is turned on. The 'Custom URL' toggle is turned off. The 'Custom URL Path' text box contains the URL 'https://crestrondevicefiles.blob.core.win'. The 'Day of Week' dropdown is set to 'Daily'. The 'Time of Day' text box contains '02:25'. The 'Poll Interval' text box contains '0' with a 'Minutes' label. An 'Update Now' button is at the bottom right.

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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 DM-NAX-AUD-USB, including the Hostname, Domain, Primary Static DNS, and Secondary Static DNS.

System Setup

Date/Time

Auto Update

Network

Control System

Cloud Settings

Device Modes

Network

Adapter 1

Hostname *

DM-NAX-AUD-USB-C442683FD459

Domain

CRESTRON.CRESTRON.com

Primary Static DNS

10.64.5.10(DHCP)

Secondary Static DNS

192.168.200.133(DHCP)

DHCP Enabled

IP Address

10.64.68.176

Subnet Mask

255.255.255.0

Default Gateway

10.64.68.1

NOTE: By default, the host name of the DM-NAX-AUD-USB consists of the model name followed by the MAC address of the device. For example, DM-NAX-AUD-USB-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

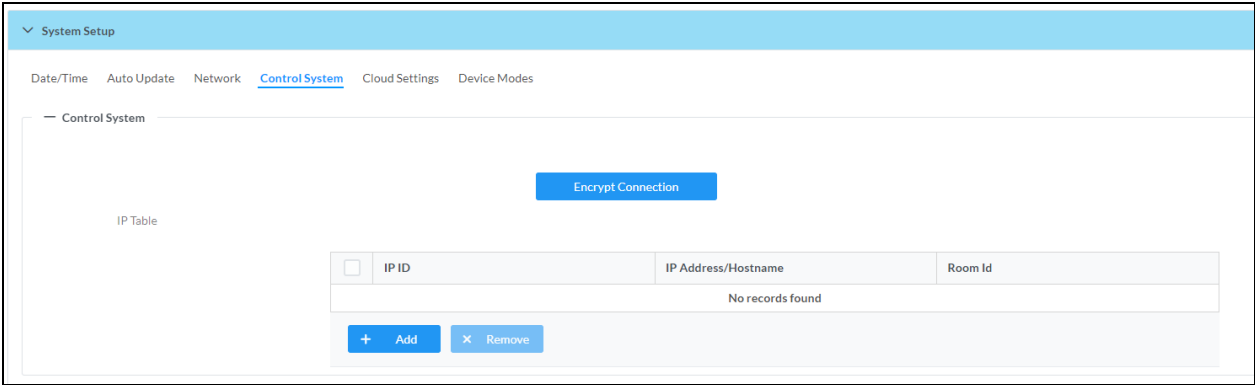
NOTE: DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-AUD-USB is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the DM-NAX-AUD-USB 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 DM-NAX-AUD-USB.
 - **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.
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-AUD-USB in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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 the right position to enable or to the left to disable cloud settings. This specifies whether the DM-NAX-AUD-USB can communicate with the XiO Cloud® platform.

Device Modes

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

- **Application Mode:** The Application Mode determines which options and controls are available.
 - Select **Residential (Standard)** or **Commercial (Advanced)**. A **Reboot** confirmation message box appears.

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

Commissioning

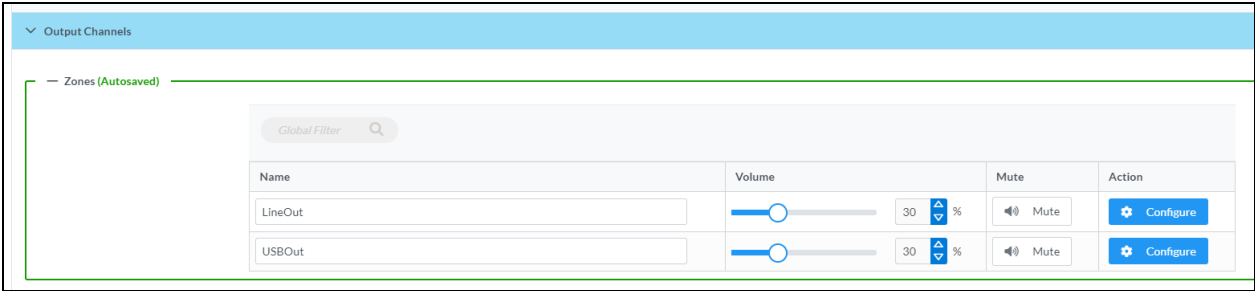
The **Commissioning** section provides a quick way to automatically assign multicast addresses to the device's internal audio-over-IP stream transmitters.

Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-AUD-USB a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.127.255.254.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

Output Channels

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.

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. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

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

Zone Settings

To configure zone settings, select **Configure** ( **Configure**). The **Edit Zone** window appears.

Zone

Select **Zone** to access the settings for **Tone**, **Balance**, and **Delay**.

DM-NAX-AUD-IO-C442683FD474 > Zones

LineOut

Zone

Tone (Autosaved)

Tone Profile

Off

Bass

0

db

Treble

0

db

Night Mode

Off

Balance (Autosaved)

Left / Right

0

%

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.

- To select a tone profile preset for the zone, select an option from the **Tone Profile** drop-down. The available options are **Off**, **Classical**, **Jazz**, **Pop**, **Rock**, and **Spoken Word**. By default, **Off** is selected.
- Bass:** 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.
 - Use the **db** arrows to increase or decrease the bass level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Bass** field.
- Treble:** 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.
 - Use the **db** arrows to increase or decrease the treble level. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
 - Manually enter a value in the **Treble** field.
- To enable the loudness setting on the zone output, slide the **Loudness** switch to the right. To disable loudness, slide the **Loudness** switch to 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. The available options are **Off**, **Low**, **Medium**, and **High**. By default, **Off** is selected.

Balance

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. 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.

Delay

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. Values range from 0 ms to 85 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

NOTE: The delay feature is only available on the line level output channels.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume**, **Stereo/Mono**, **Signal**, **Bussing**, **Volume Offset**, **Signal Generator**, and **Equalizer Settings**.

Output

Minimum / Maximum (Autosaved)

Minimum

0

%

Maximum

100

%

Default

30

%

Stereo / Mono (Autosaved)

Stereo / Mono

Stereo

Mono

Zone Configuration

Standard

Signal (Autosaved)

Signal

Not Present

Minimum/Maximum Volume

Minimum / Maximum (Autosaved)

Minimum

0

%

Maximum

100

%

Default

30

%

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. Values range from 0 to 50%, adjustable in increments of 1%.
- Manually enter a value in the **Minimum** field.

2. 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. Values range from 70 to 100%, adjustable in increments of 1%.
- 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. 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. Values range from 0 to 50%, adjustable in increments of 1%.
- 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.

Stereo/Mono

Stereo / Mono (Autosaved)

Stereo / Mono ☒ Stereo ☐ Mono

Zone Configuration Standard

Select either **Stereo** or **Mono**. If **Stereo** is selected, both output channels can have independent audio content. If **Mono** is selected, both output channels receive the same audio content.

Signal

Signal (Autosaved)

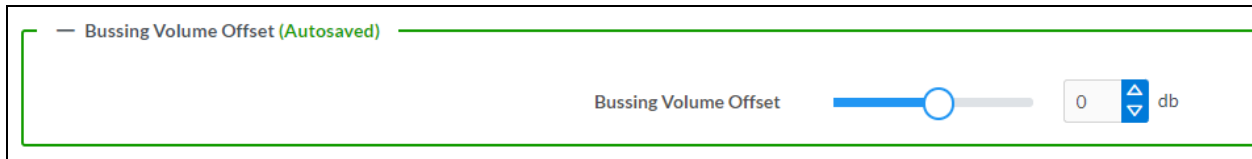
Signal Not Present

Clipping None

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

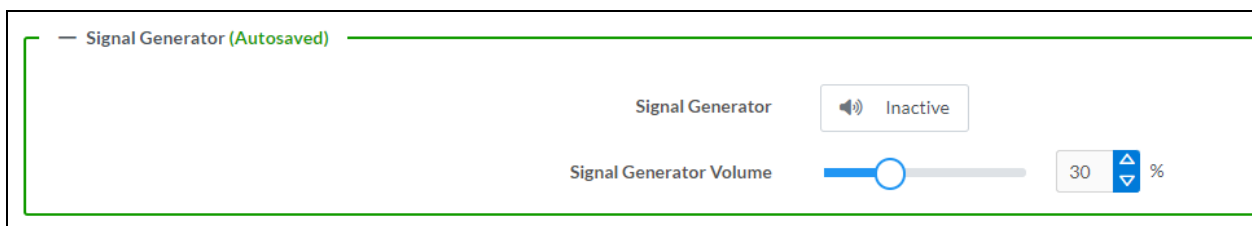


Bussing Volume Offset is an additional level compensation applied to the zone relative to any other zones it is grouped with via the **Bussing** feature.

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. Values range from -12 dB to 12 dB, adjustable in increments of 1 dB.
- Manually enter a value in the **Bussing Volume Offset** field.

Signal Generator







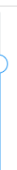





The DM-NAX-AUD-USB has a built-in signal generator that allows an integrator to send an audio signal to the output for testing purposes.

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.
2. 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. Values range from 0 to 100, adjustable in increments of 1.
 - Manually enter a value in the **Signal Generator Volume** field.

Equalizer Settings

Equalizer Settings (Autosaved)

Speaker EQ Enabled ☒

Band	Band01	Band02	Band03	Band04	Band05	Band06	Band07	Band08	Band09	Band10
Gain	 0	 0	 0	 0	 0	 0	 0	 0	 0	 0
Type	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ	EQ
Frequency	32	64	125	250	500	1000	2000	4000	8000	16000
Bandwidth	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Bypass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Actions	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset	Reset

The zone output of the DM-NAX-AUD-USB has a dedicated ten-band equalizer that can be fully customized to tune the zone 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. With the **Speaker EQ Enabled** toggle in the right position, configure the equalizer bands.
 - a. To set a band's gain, do one of the following:
 - Move the **Gain** slider up to increase or down to decrease the gain.
 - Use the arrows to increase or decrease the gain. Values range from -40 dB to 20 dB, adjustable in increments of 0.1 dB.
 - Manually enter a value in the **Gain** field.

- b. Select a filter type from the **Type** drop-down. 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. To set the center frequency, do one of the following:
- Use the arrows to increase or decrease the frequency. Values range from 20 Hz to 20 kHz, adjustable in increments of 1 Hz. 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. To set the bandwidth, do one of the following:
- Use the arrows to increase or decrease the bandwidth. Values range from 0.1 octaves to 4.0 octaves, adjustable in increments of 0.1 octave.
 - 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.

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

Inputs

The **Inputs** section is used to configure the **Name**, **Compensation**, and **Mute** attributes of the available analog, digital, and media streaming inputs on the DM-NAX-AUD-USB.

Inputs	
Analog Inputs (Autosaved)	
Name	LineIn USBIn
Gain (db)	<div> <div>10</div> <div>5</div> <div>0</div> <div>-5</div> <div>-10</div> </div> <div>0</div>
Signal Present	
Clipping Detected	<div>✓</div> <div>Nominal</div>
Mute	<div>○</div>

Configure Inputs

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

Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- **Signal Presence** indicates whether or not a signal is detected in that zone.
- **Clipping Detected** indicates if the signal is **Clipping** or **Nominal** (non-clipping).

NAX Streams

The two local inputs of the DM-NAX-AUD-USB can be made available as DM NAX audio-over-IP streams.

Select **NAX Streams** to expand the tab and display the following information.

NAX Streams

This Device is the Leader PTP Clock Source

No

PTP Clock Leader MAC Address

00:1d:c1:12:16:68

PTP Priority

254


Transmitters (Autosaved)

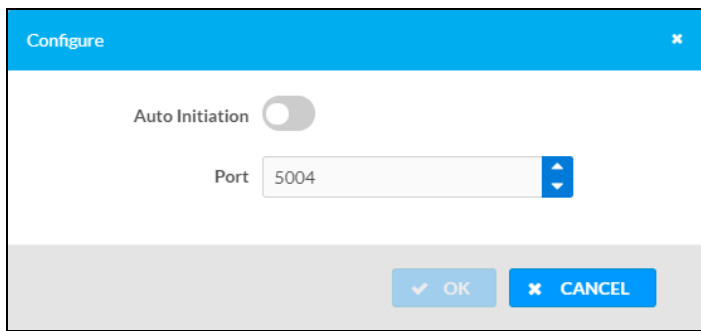
Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
LineIn	Stream01	239.69.18.1	Stream01-AUD-USB	Stream Started	▶ ■ ⚙️
USBIn	Stream02	239.69.18.2	Stream02-AUD-USB	Stream Started	▶ ■ ⚙️

Receivers (Autosaved)

Zone Name	Stream	Current Stream Address	Requested Stream Address	Status	Actions
LineOut	Stream01	239.69.2.1	239.69.2.1 🔍	Stream Started	▶ ■ ⚙️
USBOut	Stream02	239.69.61.139	239.69.61.139 🔍	Stream Started	▶ ■ ⚙️


Configure Transmitters

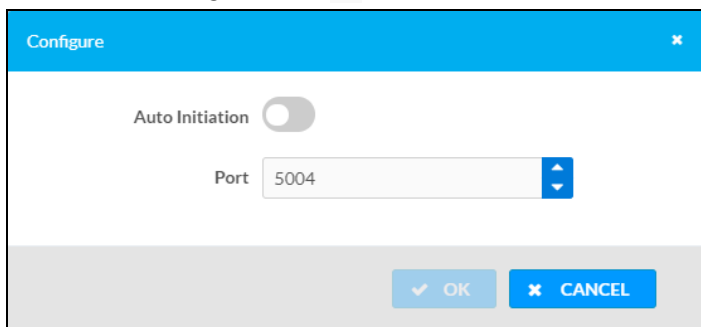
1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon  in the **Actions** column. The **Configure** dialog appears:



5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

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 configure 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. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Routing

The **Routing** section is used to route a local input or AES67 stream to a zone on the DM-NAX-AUD-USB.

NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).



- To route an input to a zone, select the box in the routing matrix where the zone's row overlaps the corresponding input's column. Once a route is made, appears.
- To break a given route select or .
- To route a single input to all zones, select the icon under the input's name.

Security

Select the **Security** tab to configure security for users and groups and to allow different levels of access to the DM-NAX-AUD-USB functions. By default, security is disabled.

✓ Status

⚙ Settings

🔒 Security

⚙ 802.1x Configuration

▼ Security

SSL Mode

Encrypt

▼

SSL Authentication

Username *

chdevice

Password *

Confirm Password *

Current User

Users

Groups

Name

admin

Access Level

Administrator

Active Directory User

No

Groups

Administrators

Change Current User Password

Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down, 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.

Current User

Users

Groups

Name

admin

Access Level

Administrator

Active Directory User

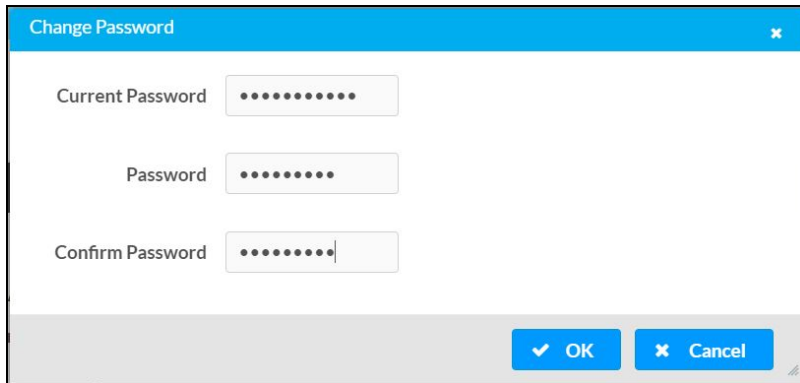
No

Groups

Administrators

Change Current User Password

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.

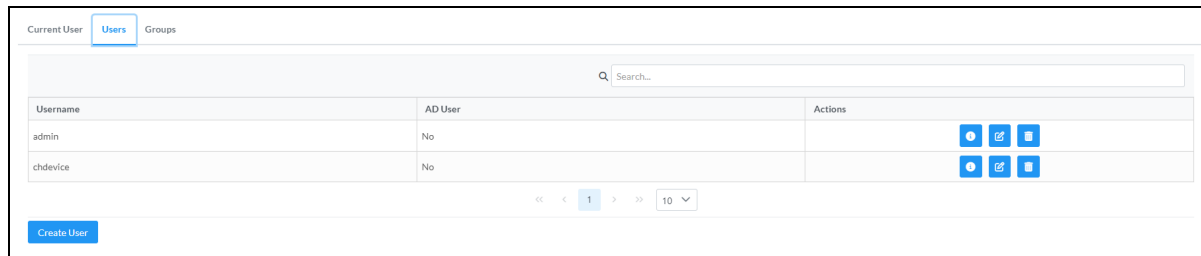


The image shows a 'Change Password' dialog box with a blue header bar. It contains three text input fields: 'Current Password', 'Password', and 'Confirm Password'. Each field is filled with dots representing masked characters. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.

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.



The image shows the 'Users' tab interface. At the top, there are three tabs: 'Current User', 'Users' (selected), and 'Groups'. Below the tabs is a search bar labeled 'Search...'. Underneath is a table with three columns: 'Username', 'AD User', and 'Actions'. The table lists two users: 'admin' and 'chdevice', both with 'AD User' status set to 'No'. The 'Actions' column for each user contains three icons: a plus sign, a document, and a trash can. At the bottom left is a 'Create User' button. At the bottom center, there are navigation arrows and a page number '1'. At the bottom right, there is a drop-down menu showing '10'.

Use the **Search Users** 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 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.

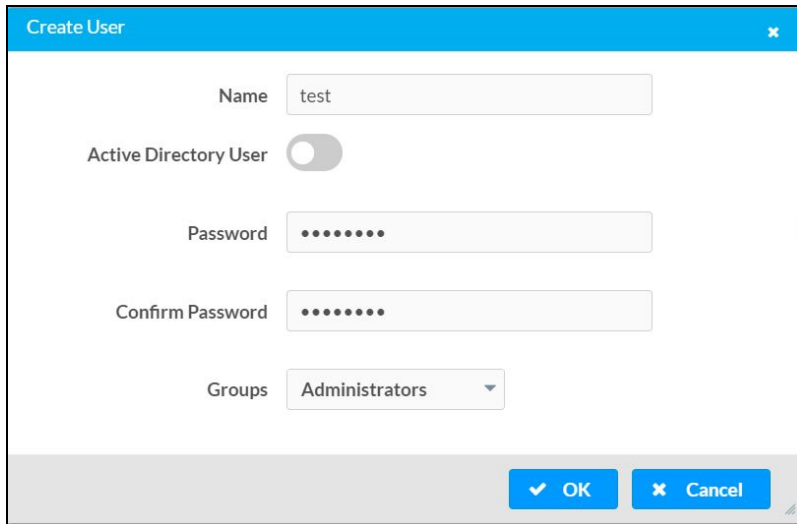
- **Username:** Displays the name of the user.
- **AD User:** Displays whether the user requires authentication using Active Directory.

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 **Users** 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.

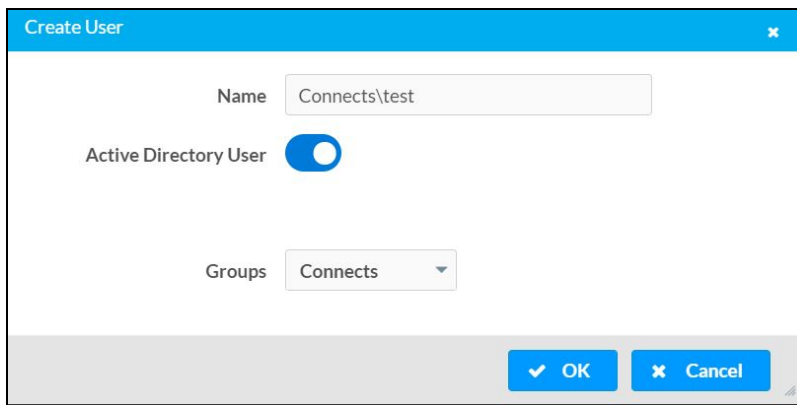
Add an Active Directory User

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 DM-NAX-AUD-USB, or add the Active Directory group(s) that they are a member of to the DM-NAX-AUD-USB.

To add an Active Directory user:

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




The 'Create User' dialog box has a blue title bar with the text 'Create User' and a close button. It contains three main sections: a 'Name' field with the text 'Connects\test', an 'Active Directory User' toggle switch that is turned on, and a 'Groups' dropdown menu with 'Connects' selected. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'x' icon.

- 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

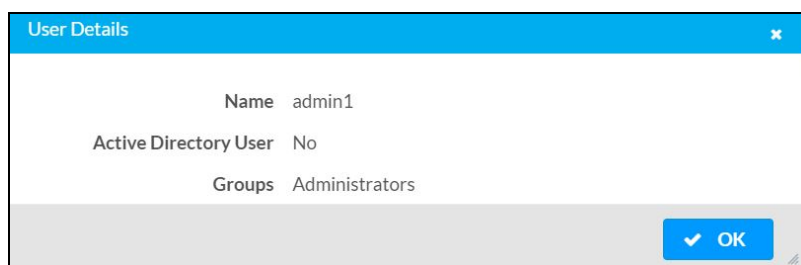
Select the trashcan icon  in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

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.



The 'User Details' dialog box has a blue title bar with the text 'User Details' and a close button. It displays three pieces of information: 'Name' with the value 'admin1', 'Active Directory User' with the value 'No', and 'Groups' with the value 'Administrators'. At the bottom right, there is an 'OK' button with a checkmark icon.

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

Update User Details

Update User

Name

admin1

Active Directory User

☐

Password


Confirm Password

Groups

Administrators

OK

Cancel

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

Current User

Users

Groups

Search...

Group Name	AD Group	Access Level	Actions
Administrators	No	Administrator	 
Connects	No	Connect	 
Operators	No	Operator	 
Programmers	No	Programmer	 
Users	No	User	 

<<

<

1

>

>>

10

▼

Create Group

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 to the right of the navigation arrows.

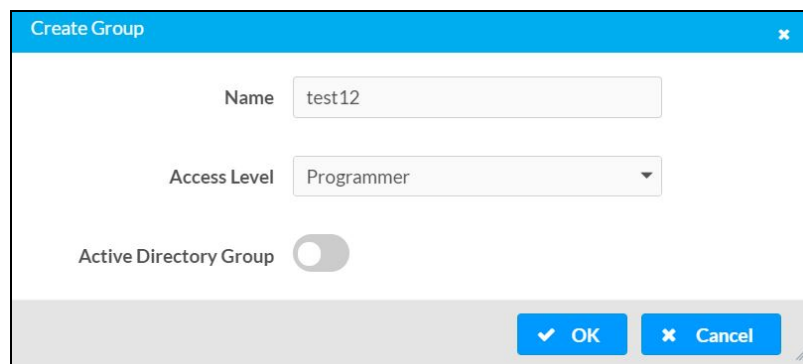
Existing groups are displayed in a table and the following information is provided for each group:

- **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 🗑 selected group.

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

Create Local Group



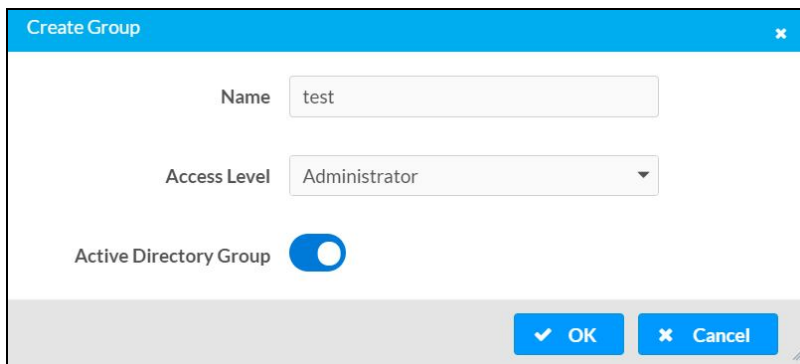
1. Select **Create Group**.
2. In the **Create Group** dialog, enter the following:
 - a. Enter the group name in the **Name** field.
 - b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

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



The **Create Group** dialog box has a blue header with a close button. It contains three fields: a text box for **Name** with the value "test", a dropdown for **Access Level** with "Administrator" selected, and a toggle for **Active Directory Group** which is turned on. At the bottom right are **OK** and **Cancel** buttons.


Once the group is added, all members of that group will have access to the DM-NAX-AUD-USB.

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.
3. 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.


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

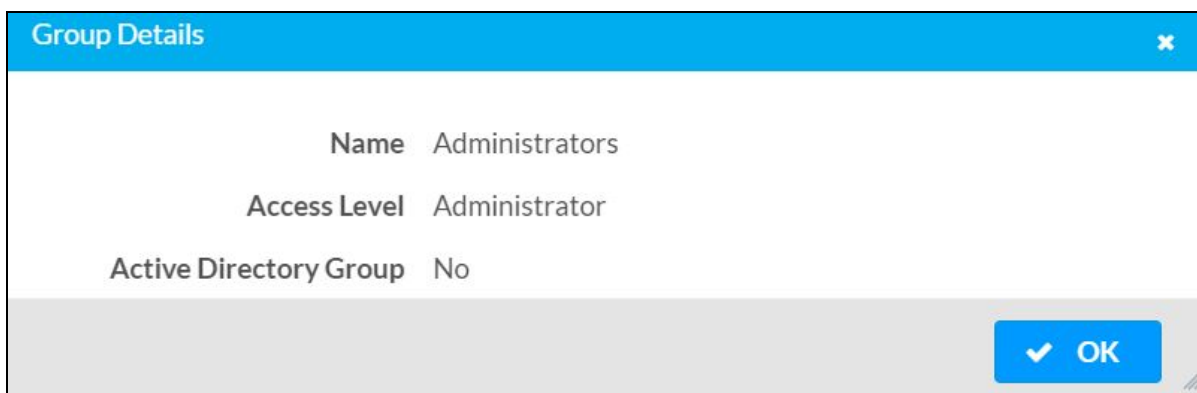
Delete a Group

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.



The **Group Details** dialog box has a blue header with a close button. It displays three rows of information: **Name** Administrators, **Access Level** Administrator, and **Active Directory Group** No. At the bottom right is an **OK** button.

- **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 DM-NAX-AUD-USB 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.

The screenshot shows the '802.1X Configuration' page in a web browser. The page has a top navigation bar with 'Status', 'Settings', 'Security', and '802.1X Configuration'. Below this, there's a section titled '802.1X Configuration'. It includes a toggle for 'IEEE 802.1X Authentication' which is turned on. Underneath, there's a dropdown for 'Authentication Method' set to 'EAP MSCHAP V2- password'. Below that are input fields for 'Domain' (secure12), 'Username' (admin), and 'Password' (masked with dots). There's another toggle for 'Enable Authentication Server Validation' which is also turned on. Below this is a section 'Select Trusted Certificate Authority(s)' with a search bar and a list of certificate authorities. The list includes 'AAA Certificate Services', 'AC RAI2 FNMT-RCM', 'ACCVRAIZ1', 'Actalis Authentication Root CA', 'AffirmTrust Commercial', 'AffirmTrust Networking', 'AffirmTrust Premium ECC', 'AffirmTrust Premium', 'Amazon Root CA 1', 'Amazon Root CA 2', 'Amazon Root CA 3', 'Amazon Root CA 4', 'Atos TrustedRoot 2011', 'Autoridad de Certificacion Firmaprofesional CIF A62634068', and 'Baltimore CyberTrust Root'. The first four are checked.

Configure DM-NAX-AUD-USB for 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 the **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. 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-AUD-USB.

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.

5. If required, type the domain name of the network in the **Domain** field.
6. 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.

DM-NAX-BTIO-1G

This section describes how to configure the DM-NAX-BTIO-1G.

This section provides the following information:

- [Web Interface Configuration](#)
- [Front Panel Menu](#)
- [Access the Web Interface With Crestron Toolbox™ Software](#)
- [Action](#)
- [Status](#)
- [Settings](#)

Web Interface Configuration

The DM-NAX-2XLRI-1G web interface allows you to view status information and configure network and device settings.

Access the Web Interface

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

- [Access the Web Interface with a Web Browser on page 616](#)
- [Access the Web Interface With Crestron Toolbox™ Software on page 626](#)

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

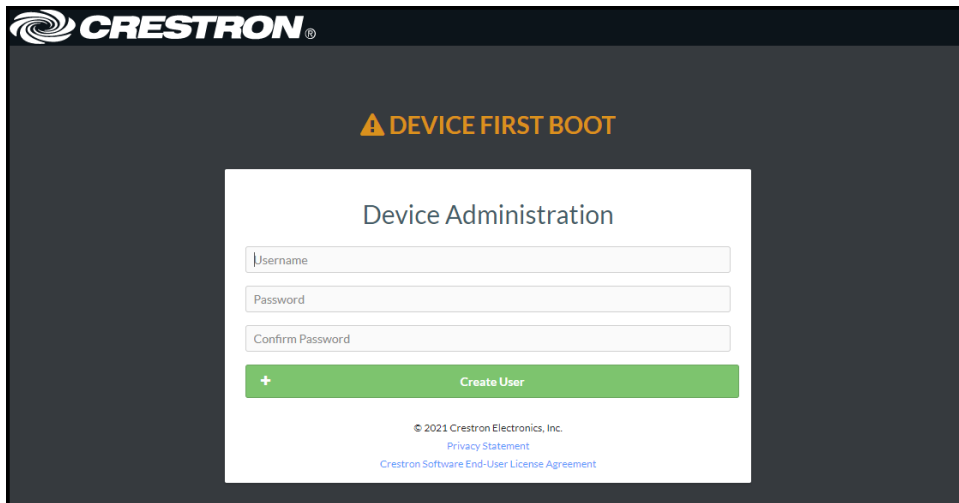
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later
	Firefox® web browser, version 31 and later
	Internet Explorer web browser, version 11 and later
	Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later
	Chrome 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 DM-NAX-BTIO-1G into a web browser.

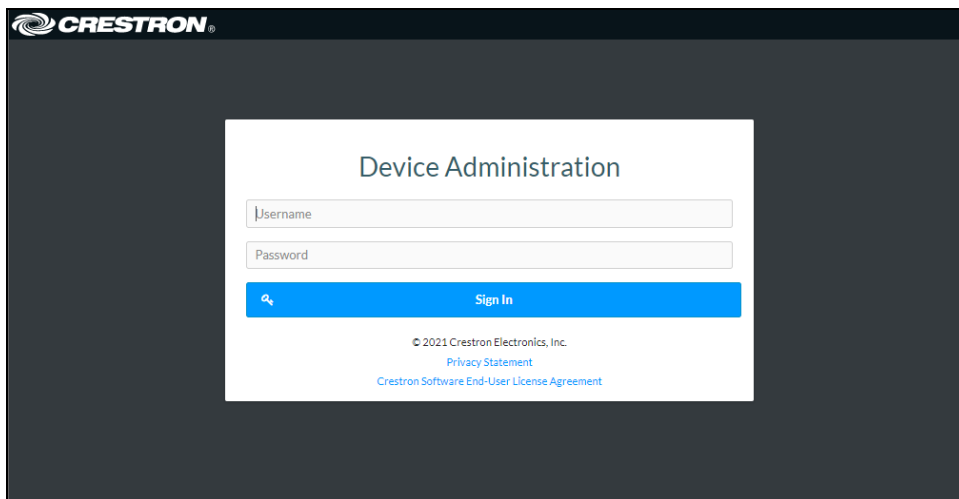
NOTE: To obtain the IP address, access the front panel menu of the wall plate, use the **Device Discovery Tool** in Crestron Toolbox™ software, or an IP scanner application.

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.



The screenshot shows the Crestron logo at the top left. Below it, a yellow warning triangle icon is followed by the text "DEVICE FIRST BOOT". In the center, there is a white box titled "Device Administration". Inside this box, there are three input fields: "Username", "Password", and "Confirm Password". Below these fields is a green button with a white plus sign and the text "Create User". At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

- d. Select **Create User**. The Device Administration page appears.



The screenshot shows the Crestron logo at the top left. In the center, there is a white box titled "Device Administration". Inside this box, there are two input fields: "Username" and "Password". Below these fields is a blue button with a white magnifying glass icon and the text "Sign In". At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".





3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Select **Sign In**.



Front Panel Menu

The DM-NAX-BTIO-1G features an OLED front panel display for basic setup menus and volume control readout.

Using the Front Panel Buttons

The front panel of the DM-NAX-BTIO-1G features four push buttons for device control and menu navigation:

- The **Menu**  button opens the menu from either display standby or the home page. Once the menu is open, this button functions as a select button to select a highlighted menu item.
- The **Bluetooth® Rune**  button puts the device into pairing mode when held during display standby or from any menu page.
- The **Up**  and **Down**  buttons increase and decrease the volume of the connected Bluetooth device (respectively) while the display is in standby or on the home page. Once the menu is open, these buttons navigate up and down the list of menu items, respectively.

NOTE: The **Up**  and **Down**  buttons will require programming to control volume levels when the DM-NAX-BTIO-1G is added to a SIMPL Windows program. Refer to [Knowledge Article 3059](#) for programming information.

The front panel display will enter standby after an interval determined by the **Standby Timeout** setting in the web interface. Refer to [Commercial Mode on page 637](#) or [Residential Mode on page 664](#) for information on configuring **Standby Timeout**. If the display is in standby, pressing any front panel button will wake it.

The front panel menu will differ depending on whether the device is in receive mode or transmit mode. Refer to the following sections depending on which mode the device is in:

- [Front Panel Pages - Receive Mode on page 618](#)
- [Front Panel Pages - Transmit Mode on page 622](#)

Front Panel Pages - Receive Mode

The images in this section are representations of the pages that will appear when the wall plate is in **Receive** mode. The text of the displayed pages will vary depending on settings, connected devices, and active media.

Starting Up

When the device is booting, the front panel display will show a Crestron swirl logo for approximately two minutes, followed by a temporary **STARTING UP** page.

Starting Up Page



Home Page


The home page appears when the wall plate finishes booting, is woken up from standby, or when the menu pages are closed.

If no Bluetooth devices are paired with the wall plate, the home page displays a readout of the current Bluetooth mode (**Receiver**), a Bluetooth Rune logo, and the Bluetooth name by which the device is discoverable.

Sample Home Page - No Device Connected



Pairing Devices

When the **Bluetooth Rune**  button is pressed and held, two pages appear in succession. The first is an instruction to keep holding the button to initiate pairing. Hold the button until the second page appears, which is a status message that the wall plate is now discoverable.

Sample Pairing Page - Hold to Pair



Sample Pairing Page - Discoverable



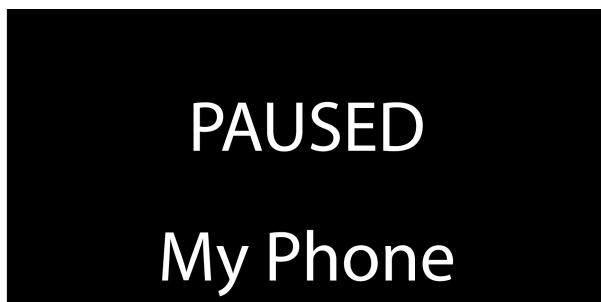
Once pairing is complete, the device will return to the home page.

When a device is paired, the home page will display available metadata from currently playing audio or a message relating to the status of the connected device, as well as the name of the connected device.

Sample Home Page - Ready



Sample Home Page - Paused



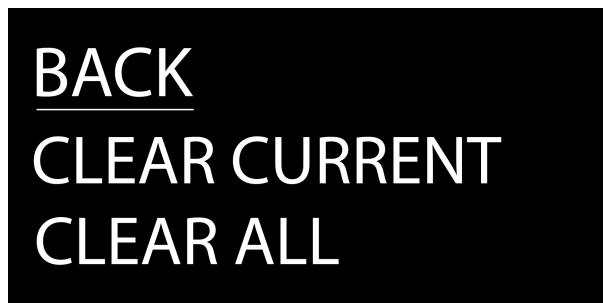
Sample Home Page - Audio Playing



Clearing Devices



Press and hold the **Bluetooth Rune**  and **Down**  buttons simultaneously for 5 seconds to access a menu with functions for clearing paired devices.

Clear Devices Page

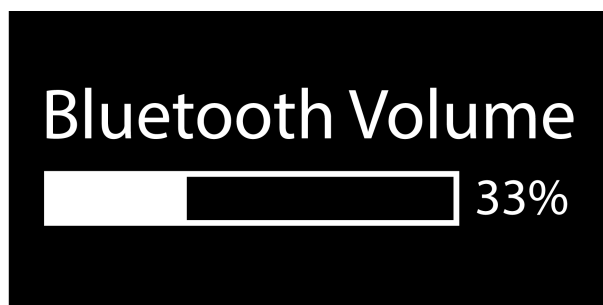


- Select **CLEAR CURRENT** to forget the actively transmitting device.
- Select **CLEAR ALL** to forget all paired devices.
- Select **BACK** to return to the home page.

Volume Control

The volume of the incoming audio is controlled either using the volume buttons on the casting device or the **Up**  and **Down**  buttons on the front panel. When a volume adjustment is made, the **Bluetooth Volume** page is displayed on the front panel.



Sample Bluetooth Volume Page



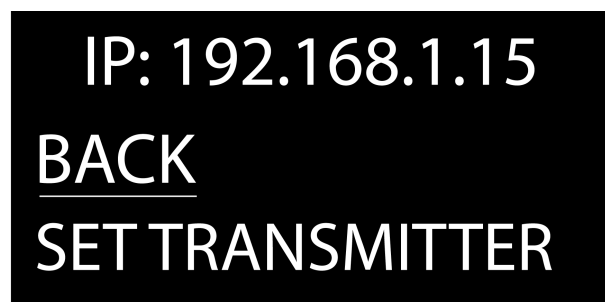
After several seconds of inactivity, the front panel display will return to the home page.

Menu Pages

From the home page, press the **Menu** button  to access the menu pages. Once the menu pages are displayed, the **Menu** button functions as a select button instead.

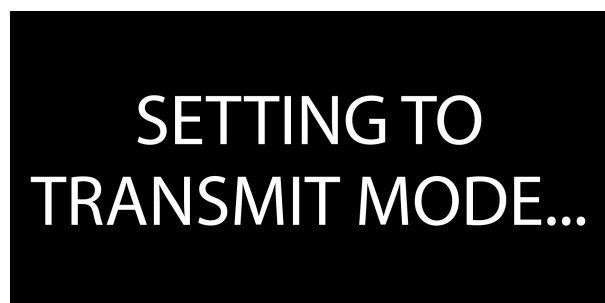
The IP address of the wall plate is displayed at the top of the menu, followed by the available menu functions. The current menu function selection is underlined. Using the **Up**  and **Down**  buttons, choose between **BACK** to return to the home page or **SET TRANSMITTER** to switch the wall plate into transmit mode.

Sample Menu Page



After selecting **SET TRANSMITTER**, a status page is briefly displayed indicating that the device is switching to transmit mode, followed by the temporary **STARTING UP** page.

Setting to Transmit Mode Page



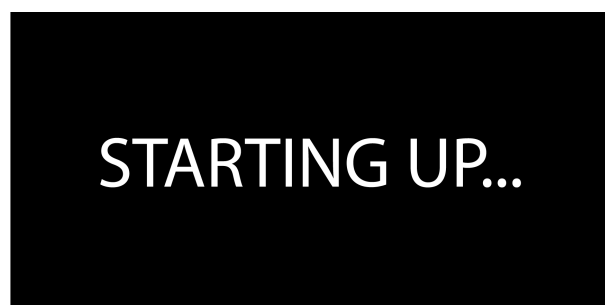
Front Panel Pages - Transmit Mode

The images in this section are representations of the pages that will appear when the wall plate is in **Transmit** mode. The text of the displayed pages will vary depending on settings and connected devices.

Starting Up

When the device is booting, the front panel display will show a Crestron swirl logo for approximately two minutes, followed by a temporary **STARTING UP** page.

Starting Up Page

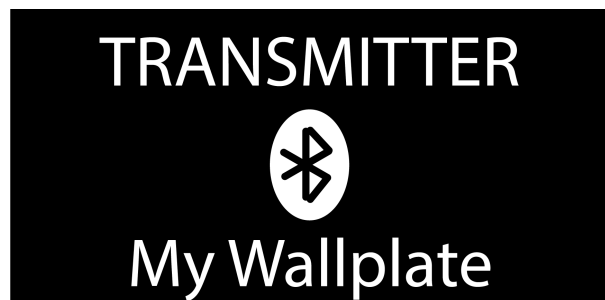


Home Page


The home page appears when the wall plate finishes booting, is woken up from standby, or when the menu pages are closed.

If there is no Bluetooth device paired with the wall plate, the home page displays a readout of the current Bluetooth mode (**Transmitter**), a Bluetooth Rune logo, and the Bluetooth name by which the device is discoverable (or its IP address if no custom name was set).

Sample Home Page - No Device Connected



Pairing Devices




When the **Bluetooth Rune**  button is pressed and held, two pages appear in succession. The first is an instruction to keep holding the button to initiate pairing discovery. After several seconds, the second page is a list of all discovered sink devices.


Sample Pairing Page - Hold to Pair



Sample Pairing Page - Discovered Devices



Use the **Up**  and **Down**  buttons on the front panel to highlight a device from the list. There may be additional discovered devices beyond the first two results. Continue pressing the **Down**  button to scroll to additional discovered devices at the end of the list.

Once the desired device is highlighted, press the **Menu** button  to select the device and initiate pairing. A pairing status screen will appear.

Sample Pairing Page - Pairing To Device

PAIRING TO
DEVICE 1

When pairing completes, the device will return to the home page, which now indicates that a device is connected.

Sample Home Page - Connected To Device

Connected To:

DEVICE 1

Any audio signal routed to the Bluetooth output of the DM-NAX-BTIO-1G will be heard at the sink device for as long as they remain connected.

TIP: Use the volume controls built into the sink device to control the playback level of the audio signal.

Clearing Devices

Press and hold the **Bluetooth Rune**  and **Down**  buttons simultaneously for 5 seconds to access a menu with functions for clearing paired devices.



Clear Devices Page

BACK
CLEAR CURRENT
CLEAR ALL

- Select **CLEAR CURRENT** or **CLEAR ALL** to forget the paired device (only one device can be paired while in transmit mode - either menu option will accomplish the same result).
- Select **BACK** to return to the home page.

Menu Pages

From the home page, press the **Menu** button  to access the menu pages. Once the menu pages are displayed, the **Menu** button functions as a select button instead.

The IP address of the wall plate is displayed at the top of the menu, followed by the available menu functions. The current menu function selection is underlined. Using the **Up**  and **Down**  buttons, choose between **BACK** to return to the home page or **SET RECEIVER** to switch the wall plate into receive mode.

Sample Menu Page




After selecting **SET RECEIVER**, a status page is briefly displayed indicating that the device is switching to receive mode, followed by the temporary **STARTING UP** page.

Setting to Receive Mode Page



Access the Web Interface With Crestron Toolbox™ Software

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

1. Open Crestron Toolbox software.
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 DM-NAX-BTIO-1G 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.

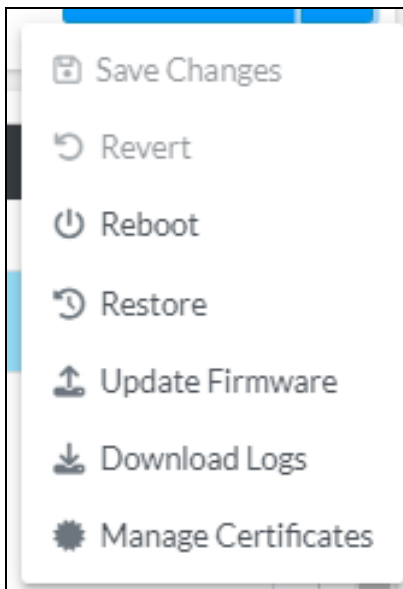
NOTE: If there is security software running on the computer, a security alert might be displayed when Crestron Toolbox software attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, select the device.
4. Enter the device credentials in the **Authentication Required** dialog that opens, then select **Log In**.
5. Select **Web Configuration**.

Action

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

- [Save Changes on page 627](#)
- [Revert on page 627](#)
- [Reboot on page 628](#)
- [Restore to Factory Default Settings on page 628](#)
- [Update Firmware on page 629](#)
- [Download Logs on page 629](#)
- [Manage Certificates on page 630](#)



Save Changes

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

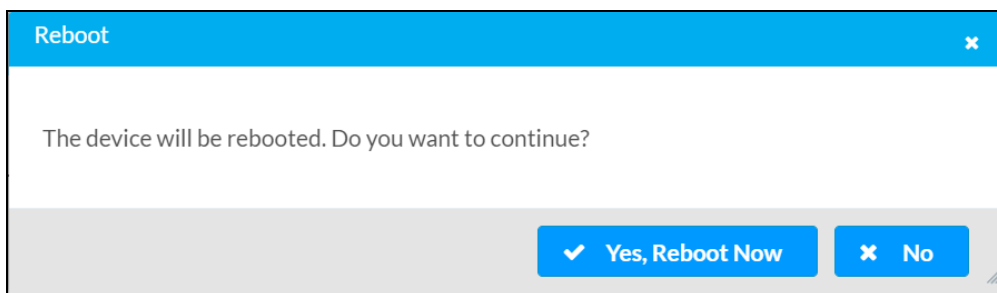
Revert

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

Reboot

Certain changes to the settings may require the DM-NAX-BTIO-1G to be rebooted to take effect. To reboot the device:

1. Select **Reboot** in the **Action** menu. The **Confirmation** message box appears.



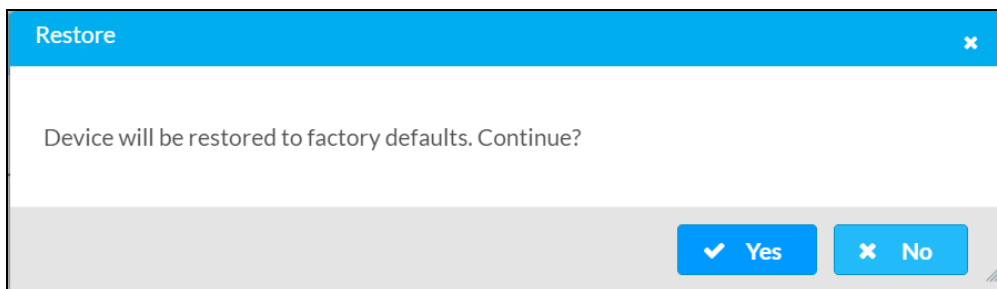
2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears. Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

CAUTION: This procedure should only be performed to recover an unresponsive device. Performing the **Restore** procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before proceeding, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

1. Select **Restore** in the **Action** menu to restore the settings of the DM-NAX-BTIO-1G to factory defaults.

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.



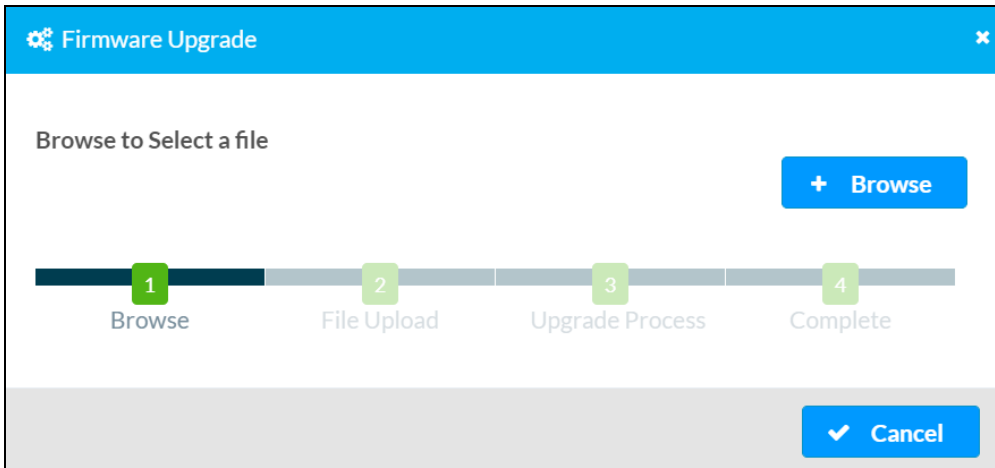
2. Select **Yes** in the **Confirmation** dialog to restore the DM-NAX-BTIO-1G to factory settings. Select **No** to cancel the restore operation.

A dialog is displayed again, indicating that the restore process was successful and that the device rebooted.

You can also restore to factory settings by pressing and holding the **SETUP** button on the rear panel of the device with power disconnected then connect the power supply and continue to hold **SETUP** button for 30 seconds.

Update Firmware

1. Select **Update Firmware** in the **Action** menu.
2. In the **Firmware Upgrade** dialog, select **+ Browse**.



3. Locate and select the desired firmware file, then select **Open**. The selected firmware file name is displayed in the **Firmware Upgrade** dialog.
4. Select **Load** and wait for the progress bar to complete and for **OK** to become selectable.
5. Select **OK**. The device with new firmware can now be accessed.

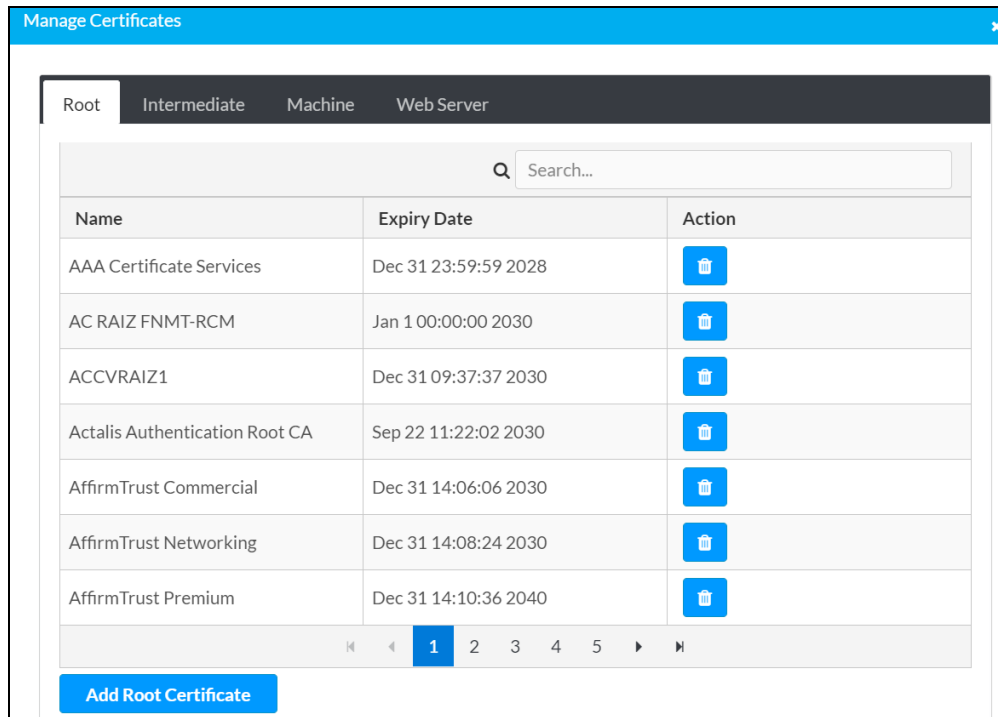
Download Logs

Select **Download Logs** in the **Action** menu to download the device message logs for diagnostic purposes.

The log file is downloaded to the Downloads folder of the PC.

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 **Action** menu. The following certificate tabs are displayed:

- **Root:** The Root certificate is used by the DM-NAX-BTIO-1G to validate the network's authentication server. The DM-NAX-BTIO-1G 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 DM-NAX-BTIO-1G. 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, 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.

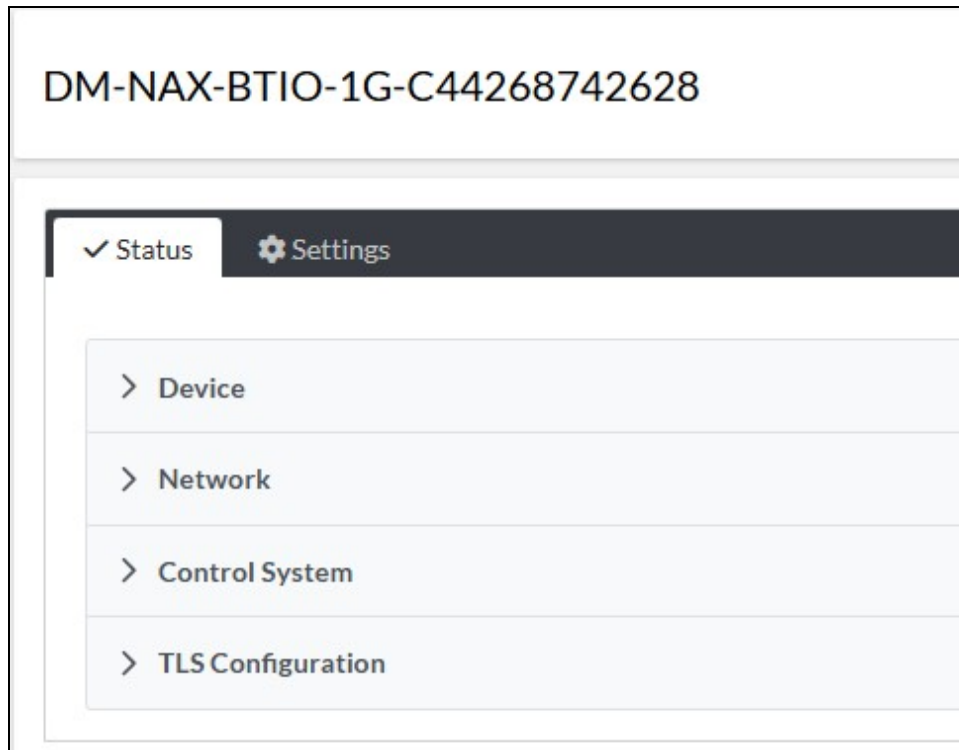
To Delete Certificates

1. Select the corresponding certificate tab.
2. Select the delete 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 DM-NAX-BTIO-1G. It displays general information about the DM-NAX-BTIO-1G , current network settings, the device's connection to a Crestron control system, and TLS configuration.

The **Status** page can be accessed at any time by selecting the **Status** tab of the DM-NAX-BTIO-1G interface.



Information displayed on the **Status** tab is organized into different accordions:

- [Device on page 632](#)
- [Network on page 633](#)
- [Control System on page 634](#)
- [TLS Configuration on page 634](#)

Device

The **Device** accordion displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-BTIO-1G.

Device

Model

DM-NAX-BTIO-1G

Firmware Version

1.0.0033.11191

Serial Number

2346CRX00386

+ More Details

Select **+ More Details** to review additional information about the DM-NAX-BTIO-1G.

More Details

DM-NAX-BTIO-1G

1.0.0033.11191

Build

Feb 13 2024 (531246)

Updater

1.0.0033.11191

Bootloader

1.00.00

CCUI Version

1.1327.1

XIOSDK

3.8.2

IoTSDK

1.11.0

Build time

11:19:07

Product ID

0x7A09

Revision ID

0x0200

HDCP2X-SKE

HDCP2X-SKE

HDCP2X-SKE [v9.0000.00000,#FFFFFFFFF]

PRE-BOOT

[v9.0000.00000]

BOOTLOADER

[v9.0000.00000]

ctrl-extelkin-pps

Driver v1.1

ctrl-prod-info

Driver v3.0

ctrl-io-bt

FW v2.0.98

PUF

1.0.0033.11191

Forced Auth Mode

True

Network

The **Network** accordion displays network-related information about the DM-NAX-BTIO-1G, including the **Hostname**, **Domain Name**, and **DNS Servers**.

Network

Hostname

DM-NAX-BTIO-1G-C442683FC7EA

Domain Name

CRESTRON.CRESTRON.com

DNS Servers

10.64.5.10(DHCP)

Adapter 1

DHCP

On

IP Address

10.64.68.175

Subnet Mask

255.255.255.0

Default Gateway

10.64.68.1

Link Active

true

MAC Address

c4.42.68.3f.c7.ea

NOTE: By default, the host name of the DM-NAX-BTIO-1G consists of the model name followed by the MAC address of the device. For example, DM-NAX-BTIO-1G-00107FB58088.

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

Control System

The **Control System** accordion displays connection information, consisting of the following:

Control System

Encrypt Connection

ON

IP Table

IP ID	Room Id	IP Address/Hostname	Type	Server Port	Connection	Status
C		DIN-AP4-R-C442681A3F36	Peer	41796	Gway	ONLINE

- **Encrypt Connection:** Displays **ON** or **OFF**.
- **IP ID:** Displays the currently used IP ID of the DM-NAX-BTIO-1G.
- **IP Address/Hostname:** Displays the IP address or hostname of the control system.
- **Room ID:** Displays the room ID.
- **Status:** Displays **OFFLINE** or **ONLINE**.

TLS Configuration

The **TLS Configuration** accordion contains information about the current TLS settings of the DM-NAX-BTIO-1G.

▼ TLS Configuration

Settings

The **Settings** page enables configuration of the DM-NAX-BTIO-1G settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the DM-NAX-BTIO-1G interface.

Many options in the **Settings** page are exclusive to a specific device mode: Residential or Commercial. The DM-NAX-BTIO-1G is in Commercial mode by default.

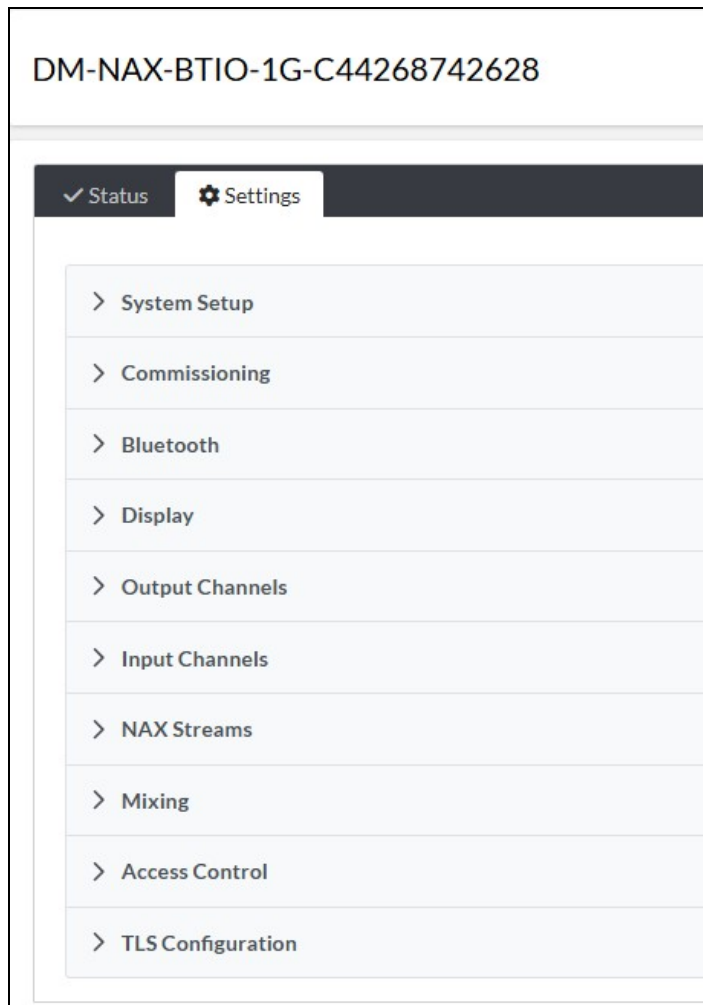
This section provides the following information:

- [Commercial Mode on page 637](#)
- [Residential Mode on page 664](#)

Commercial Mode

The **Settings** page enables you to configure the DM-NAX-BTIO-1G settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the DM-NAX-BTIO-1G interface. The following accordions are available within the **Settings** tab:

- [System Setup on page 638](#)
- [Commissioning on page 644](#)
- [Bluetooth on page 645](#)
- [Display on page 648](#)
- [Output Channels on page 649](#)
- [Input Channels on page 653](#)
- [DM NAX Streams on page 653](#)
- [Mixing on page 656](#)
- [Access Control on page 657](#)
- [TLS Configuration on page 662](#)



System Setup

The **System Setup** accordion contains settings for **Date/Time**, **Auto Update**, **Network**, **Control System**, **Cloud Settings**, **Device Modes**, and **802.1X Configuration**.

System Setup

Date/Time

Auto Update

Network

Control System

Cloud Settings

Device Modes

802.1x Configuration

Date/Time

Synchronization

Time Synchronization

Synchronize Now

NTP Time Servers

	Address	Port	Authentication Method	Authentication Key	Key ID
<div></div>	pool.ntp.org	123	None	*****	0

+ Add

- Remove

Configuration

Time Zone

(UTC-05:00) Eastern Time (US & Can)

Date

11/06/2025

Time

16:36

Date/Time

Use the **Date/Time** tab to configure the date and time settings of the DM-NAX-BTIO-1G.

Date/Time

Synchronization

Time Synchronization

Synchronize Now

NTP Time Servers

	Address	Port	Authentication Method	Authentication Key	Key ID
<div></div>	pool.ntp.org	123	None	*****	0

+ Add

- Remove

Configuration

Time Zone

(UTC-05:00) Eastern Time (US & Can)

Date

02/21/2024

Time

12:40

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

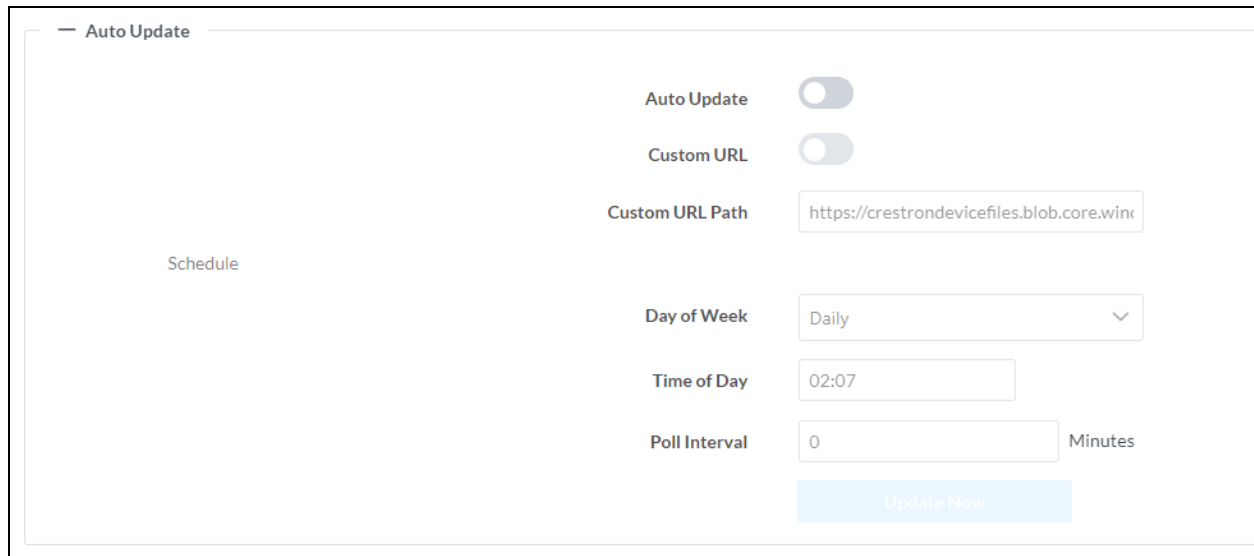
1. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-BTIO-1G can automatically check for and install firmware updates at scheduled intervals via the **Auto Update** feature.



The screenshot shows the 'Auto Update' configuration page. On the left, there is a 'Schedule' section with a blue arrow icon. On the right, there are several settings: 'Auto Update' and 'Custom URL' are both toggle switches in the 'off' position. Below 'Custom URL' is a text field for 'Custom URL Path' containing the URL 'https://crestrondevicefiles.blob.core.winc'. Further down are three more settings: 'Day of Week' is a dropdown menu set to 'Daily'; 'Time of Day' is a text field set to '02:07'; and 'Poll Interval' is a text field set to '0' with a 'Minutes' label to its right. At the bottom right of the settings area is a blue button labeled 'Update Now'.

1. Set the **Auto Update** toggle to the right position to enable automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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** tab contains network-related settings for the DM-NAX-BTIO-1G, including the **Hostname**, **Domain**, **Primary Static DNS**, and **Secondary Static DNS**.

The screenshot shows the 'System Setup' menu with the 'Network' tab selected. The 'Network' subheading is active. The settings are as follows:

Field	Value
Hostname *	DM-NAX-BTIO-1G-C44268742628
Domain	lan
Primary Static DNS	192.168.1.1(DHCP)
Secondary Static DNS	
DHCP Enabled	<input checked="" type="checkbox"/>
IP Address	192.168.1.215
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1

Adapter 1

NOTE: By default, the hostname of the DM-NAX-BTIO-1G consists of the model name followed by the MAC address of the device. For example, DM-NAX-BTIO-1G-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTE: DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-BTIO-1G is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the DM-NAX-BTIO-1G 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 DM-NAX-BTIO-1G.

- **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

The screenshot shows the 'Control System' configuration page. At the top, there's a 'System Setup' header with a dropdown arrow. Below it, a navigation bar includes 'Date/Time', 'Auto Update', 'Network', 'Control System' (which is highlighted), 'Cloud Settings', 'Device Modes', and '802.1x Configuration'. The main content area is titled 'Control System' and contains an 'IP Table' section. This section has a table with three columns: 'IP ID', 'IP Address/Hostname', and 'Room Id'. The table is currently empty, displaying 'No records found'. Below the table are two buttons: a blue '+ Add' button and a grey 'X Remove' button.

1. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-BTIO-1G in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
2. 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.

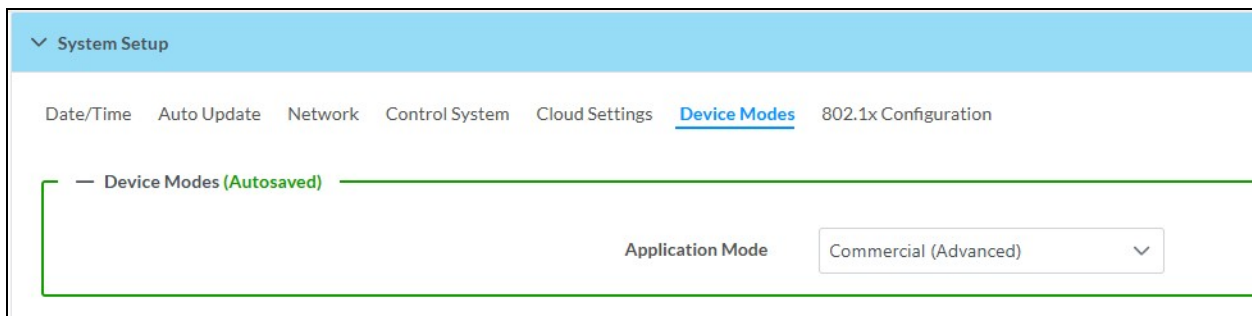
Cloud Settings

The screenshot shows the 'Cloud Settings' configuration page. At the top, there's a 'System Setup' header with a dropdown arrow. Below it, a navigation bar includes 'Date/Time', 'Auto Update', 'Network', 'Control System', 'Cloud Settings' (which is highlighted), 'Device Modes', and '802.1x Configuration'. The main content area is titled 'Cloud Settings' and contains a single toggle switch labeled 'Cloud Configuration Service Connection'. The toggle is currently turned on (blue).

Set the **Cloud Settings** toggle to the right position to enable or to the left to disable cloud settings. This specifies whether the DM-NAX-BTIO-1G can communicate with the XiO Cloud® platform.

Device Modes

Use the **Device Modes** tab to configure the **Application Mode** of the DM-NAX-BTIO-1G.



System Setup

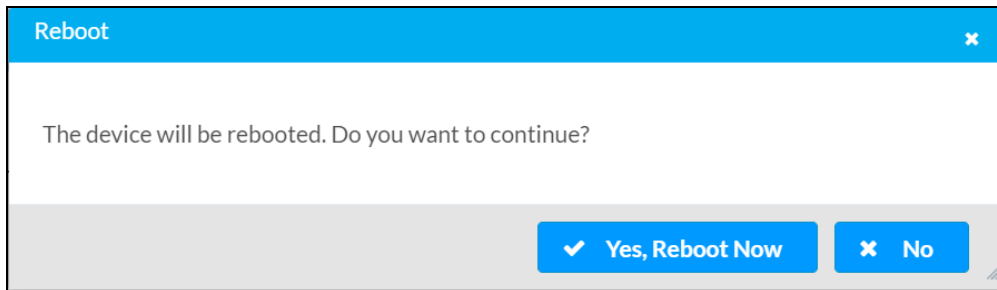
Date/Time Auto Update Network Control System Cloud Settings Device Modes 802.1x Configuration

Device Modes (Autosaved)

Application Mode Commercial (Advanced) ▼

Application Mode determines which options and controls are available.

- Select **Residential (Standard)** or **Commercial (Advanced)**. A **Reboot** confirmation message box appears.



Reboot

The device will be rebooted. Do you want to continue?

✓ Yes, Reboot Now No

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

By default, the DM-NAX-BTIO-1G is set to **Commercial (Advanced)** mode.

NOTE: Bluetooth wireless audio modes are adjusted from the Bluetooth accordion. Refer to [Bluetooth](#) on page 645.

802.1X Configuration

The screenshot shows the '802.1X Configuration' page within the 'System Setup' menu. The page has a light blue header with 'System Setup' and a navigation bar with links: 'Date/Time', 'Auto Update', 'Network', 'Control System', 'Cloud Settings', 'Device Modes', and '802.1X Configuration' (which is highlighted). Below the navigation bar, the page title '802.1X Configuration' is displayed. The main configuration area includes: a toggle for 'IEEE 802.1X Authentication' (currently off); a dropdown for 'Authentication Method' set to 'EAP MSCHAP V2- password'; input fields for 'Domain', 'User Name', and 'Password' (masked with dots); a toggle for 'Disable Trust List Verification' (currently on); a section titled 'Select Trusted Certificate Authoritie(s) *' with a list of checkboxes for various certificate services (AAA Certificate Services, AC RAIZ FNMT-RCM, AC RAIZ FNMT-RCM, ACCVRAIZ1, ANF Secure Server Root CA, Actalis Authentication Root CA, AffirmTrust Commercial); and a dropdown for 'OCSP Verification' set to 'Off'.

The DM-NAX-BTIO-1G 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 on the DM-NAX-BTIO-1G:

1. Set the **IEEE 802.1X Authentication** toggle to enabled. This will enable all remaining options in the **802.1X Configuration** tab.
2. Select an option from the **Authentication Method** drop-down: **EAP-TLS Certificate** or **EAP-MSCHAP V2 Password** according to a network administrator's direction.
3. Do one of the following:
 - If **EAP-TLS Certificate** was selected: Select **Manage Certificates** from the **Action** menu to upload the required machine certificate. The machine certificate is an encrypted file that will be supplied by a network administrator along with a certificate password.

- If **EAP-MSCHAP V2 Password** was selected: Enter a username and password supplied by a network administrator into the **Username** and **Password** fields. This method does not require the use of a machine certificate, only credentials.
4. If required, enter the domain name of the network in the **Domain** field.
 5. Set the **Disable Trust List Verification** toggle to the left to enable the **Select Trusted Certificate Authoritie(s)** list or set it to the right to disable the list.

The **Select Trusted Certificate Authoritie(s)** list contains signed Trusted Certificate Authorities (CAs) preloaded into the DM-NAX-BTIO-1G. Select the check box next to each CA whose certificate can be used for server validation, as specified by a 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** function in the **Action** menu.

6. Select either **Off** (default) or **Use Remote Server** from the OSCP Verification drop-down as directed by a network administrator.

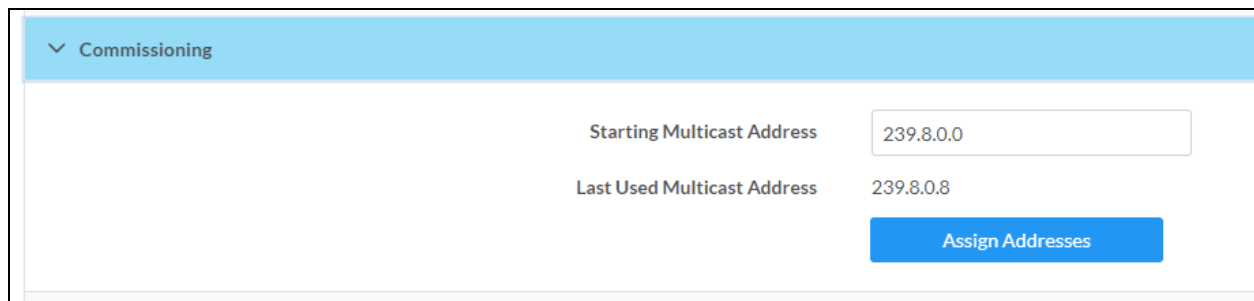
When **Use Remote Server** is selected, additional status fields for **OSCP Required** and **OSCP Stapling Required** will appear.

NOTE: This setting is repeated in the **TLS Configuration** accordion at the bottom of the **Settings** tab.

Once the 802.1X settings are configured as desired, select **Save Changes** to save the changes to the device and reboot it. Select **Revert** from the **Action** menu to cancel any changes.

Commissioning

The **Commissioning** section provides a quick way to automatically assign multicast addresses to the device's internal audio-over-IP stream transmitters.



Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-BTIO-1G a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.255.255.254.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

Bluetooth

The **Bluetooth** section provides settings for the internal Bluetooth radio of the DM-NAX-BTIO-1G. These settings are divided up into two tabs, labeled **Main** and **Advanced**.

Main Bluetooth Settings

Bluetooth

Main Advanced

Main (Autosaved)

Please wait at least 30 seconds after changing modes before attempting to configure any other Bluetooth settings

Bluetooth Name IP: 192.168.1.215

Bluetooth Enable ☒

Bluetooth Mode Transmitter

Pairing Active ☐

Paired Devices

Name	Status	Actions
Bose Revolve SoundLink	Disconnected	

To configure the settings in the **Main** tab of the Bluetooth settings section:




- Enter a custom name for the DM-NAX-BTIO-1G in the **Bluetooth Name** text field. This is the name that will be displayed on source devices (such as smartphones) that discover the DM-NAX-BTIO-1G as a receiving device. Most sink devices (such as headphones) will read this name out once the DM-NAX-BTIO-1G successfully pairs.

TIP: Set the **Bluetooth Name** before connecting devices to simplify the discovery process. Changing the name after devices are connected will temporarily disconnect them from the DM-NAX-BTIO-1G.

- Set the **Bluetooth Enable** toggle to the right to allow Bluetooth wireless audio casting to or from the DM-NAX-BTIO-1G. Set the **Bluetooth Enable** toggle to the left to disable Bluetooth wireless audio.

NOTE: While Bluetooth audio is disabled on the device, some applications that scan for Bluetooth devices may still be able to detect the DM-NAX-BTIO-1G. These applications will not be able to connect to the DM-NAX-BTIO-1G or cast audio to it while Bluetooth audio is disabled.

- Set the **Pairing Active** toggle to the right position to enable pairing mode, allowing Bluetooth devices to pair to the DM-NAX-BTIO-1G. Set the **Pairing Active** toggle to the left to disable pairing mode.

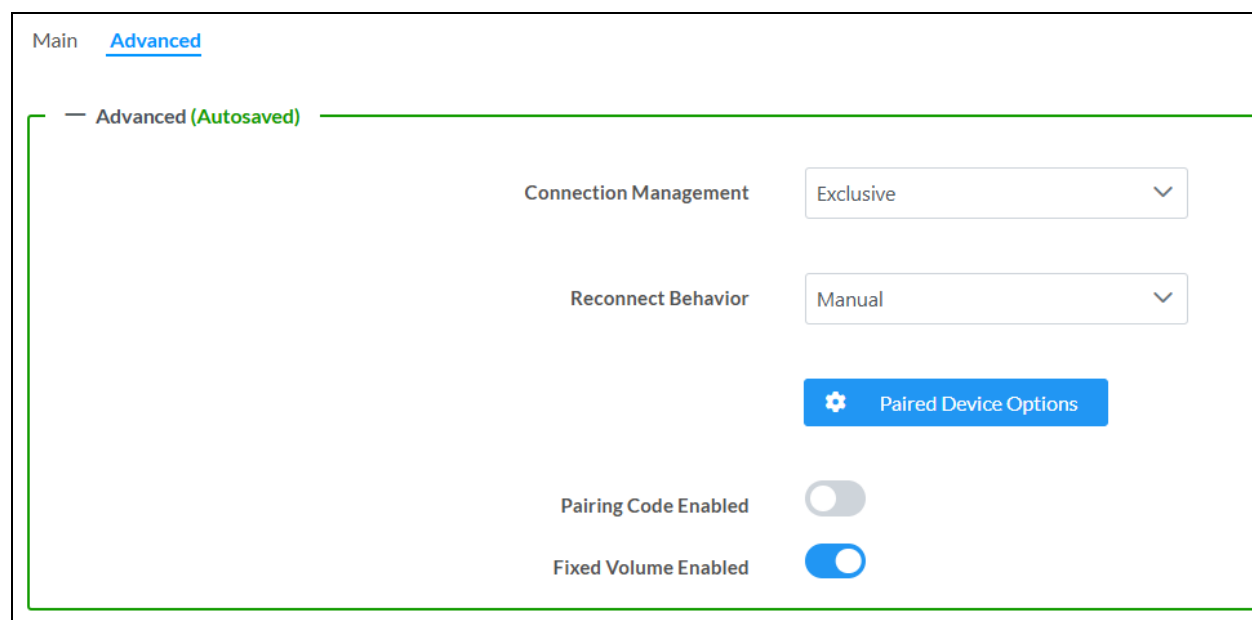
- Select **Receiver** or **Transmitter** from the **Bluetooth Mode** drop-down to determine whether the DM-NAX-BTIO-1G will operate as a Bluetooth wireless audio receiver or transmitter:
 - In **Receiver** mode, the DM-NAX-BTIO-1G can receive wireless stereo audio signals from Bluetooth enabled source devices such as smart phones or laptops.
 - In **Transmitter** mode, the DM-NAX-BTIO-1G can transmit a wireless stereo audio signal to a Bluetooth enabled sink device such as a speaker or a pair of headphones.
- The **Paired Devices** table displays the name and status of all remembered Bluetooth devices that were previously paired with the DM-NAX-BTIO-1G.
 - In **Receiver** mode, the DM-NAX-BTIO-1G can remember up to seven previously paired devices. In **Transmitter** mode, only one device can be paired to the DM-NAX-BTIO-1G.
 - Only one paired Bluetooth device can have a **Connected** status at a time. All other paired devices will display a **Disconnected** status. The **Connected** status indicates which device is currently able to actively cast media to the wall plate.
 - To disconnect a connected device, select the disconnect icon . Disconnected devices can be reconnected by selecting the connect icon .
 - To delete a remembered device from the **Paired Devices** table, select the trashcan icon . Deleted devices must be paired with the DM-NAX-BTIO-1G again in order to reconnect.

Advanced Bluetooth Settings

The **Advanced** tab under the **Bluetooth** accordion will vary depending on whether the device is in **Receiver** or **Transmitter** mode:

- [Advanced Bluetooth Settings - Receiver Mode on page 646](#)
- [Advanced Bluetooth Settings - Transmitter Mode on page 648](#)

Advanced Bluetooth Settings - Receiver Mode



The screenshot displays the 'Advanced' settings for the Bluetooth Receiver Mode. At the top, there are tabs for 'Main' and 'Advanced'. Below the tabs, the settings are organized into a grid:

- Connection Management:** A dropdown menu set to 'Exclusive'.
- Reconnect Behavior:** A dropdown menu set to 'Manual'.
- Paired Device Options:** A blue button with a gear icon.
- Pairing Code Enabled:** A toggle switch that is currently turned off.
- Fixed Volume Enabled:** A toggle switch that is currently turned on.

To configure the settings on the **Advanced** tab of the Bluetooth settings section while in **Receiver** mode:

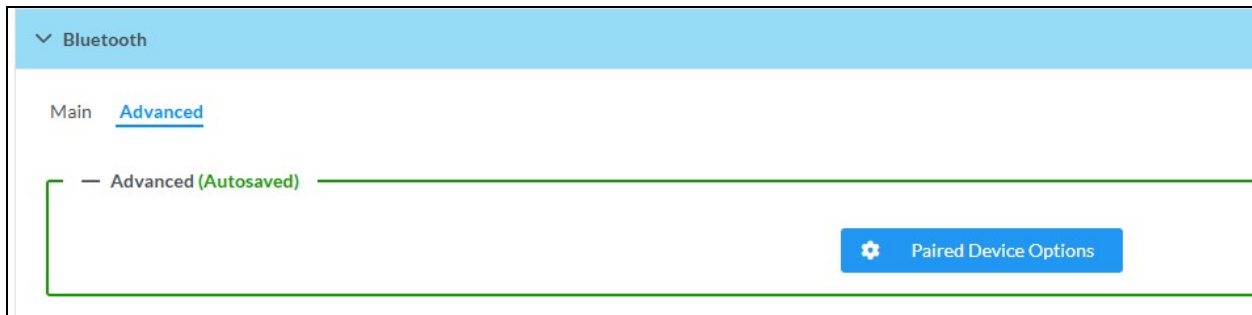
- Select a **Connection Management** option from the drop-down. **Exclusive** mode is selected by default.
 - In **Interrupt** mode, remembered paired devices can reconnect to the DM-NAX-BTIO-1G from their Bluetooth connections list, and will interrupt any currently playing audio. The most recent casting device to select the DM-NAX-BTIO-1G from its Bluetooth list will show a **Connected** status in the **Paired Devices** table, and all other devices will revert to **Disconnected**.
 - In **Exclusive** mode, remembered paired devices cannot be reconnected to the DM-NAX-BTIO-1G from their Bluetooth connections list until the currently **Connected** device is disconnected. The device that is listed as **Connected** in the **Paired Devices** table will remain connected until it is disconnected by programming, from the web interface, or by the casting device itself.
 - **Temporary** mode is the same as **Exclusive** mode, with the added behavior that the DM-NAX-BTIO-1G will forget the currently connected device once it is disconnected.
- Select a **Reconnect Behavior** option from the drop-down. **Manual** is selected by default.
 - **Manual** indicates that any time the Bluetooth casting device is disconnected from the DM-NAX-BTIO-1G, it can only be reconnected by selecting the casting device from the DM NAX device's list of paired devices. This is the recommended setting for any system with multiple paired transmitting devices or multiple DM-NAX-BTIO-1G devices within range of each other.
 - **Automatic** indicates that any remembered paired Bluetooth casting device will reconnect to the DM-NAX-BTIO-1G when it is within the wireless range of the DM NAX device.
- Select **Paired Device Options** to open a **Paired Device Options** window. Select a command from the drop-down, then select **Send** to issue the command to the DM NAX device:
 - **Disconnect All Paired Devices:** Disconnects all currently paired devices from the DM-NAX-BTIO-1G.
 - **Disconnect Inactive Paired Devices:** Disconnects any paired device that is not actively playing any media.
 - **Delete All Paired Devices:** Deletes all currently paired devices from the **Paired Devices** table of the DM-NAX-BTIO-1G.
 - **Delete Inactive Paired Devices:** Disconnects and forgets any paired device that is not actively playing any media.
 - **Delete Connected Devices:** Disconnects and forgets only the current **Connected** device.
- Set the **Pairing Code Enabled** toggle to the right position to enable the pairing code feature. When this is enabled, a pairing code string will populate on both the casting device and the OLED display of the DM-NAX-BTIO-1G during pairing. Confirm that the code matches on each device to complete the pairing process. Set the toggle to the left to disable the pairing code feature. The pairing code feature is disabled by default.

- Set the **Fixed Volume Enabled** toggle to the right to keep the Bluetooth input at a fixed volume level regardless of user input from the wallplate front panel or a paired device.

NOTE: With this enabled, the only volume control for the Bluetooth input is the vertical slider in the **Inputs** section.

Set the toggle to the left to allow user input to change the volume level from the wallplate or paired device.

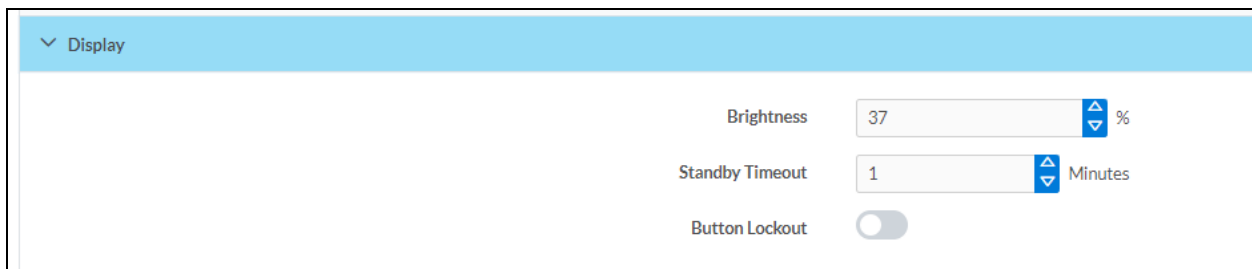
Advanced Bluetooth Settings - Transmitter Mode



While in **Transmitter** mode, the **Advanced** tab of the Bluetooth settings section contains a button labeled **Paired Device Options**. Select the button to open a **Paired Device Options** window. Select a command from the drop-down, then select **Send** to issue the command to the DM NAX device:

- **Disconnect All Paired Devices:** Disconnects all currently paired devices from the DM-NAX-BTIO-1G.
- **Disconnect Inactive Paired Devices:** Disconnects any paired device that is not actively playing any media.
- **Delete All Paired Devices:** Deletes all currently paired devices from the **Paired Devices** table of the DM-NAX-BTIO-1G.
- **Delete Inactive Paired Devices:** Disconnects and forgets any paired device that is not actively playing any media.
- **Delete Connected Devices:** Disconnects and forgets only the current **Connected** device.

Display



The **Display** section contains settings that affect the front panel OLED display of the DM-NAX-BTIO-1G.

- To adjust the display brightness:
 - Use the **%** arrows to increase or decrease the brightness. Values range from 0 to 100%, adjustable in increments of 1%.
 - Manually enter a percentage value in the **Brightness** text field.
- To adjust the display standby timeout:
 - Use the **Minutes** arrows to increase or decrease the brightness. The default timeout value is one minute.
 - Manually enter a value in the **Standby Timeout** text field.
- Set the **Button Lockout** toggle to the right to lock out the front panel buttons on the DM-NAX-BTIO-1G. Set the **Button Lockout** toggle to the left to disable the lockout.

Output Channels

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

Output Channels

Zones (Autosaved)

Global Filter

Name	LineOutLeft	LineOutRight	BTOutLeft	BTOutRight	StreamOut1Ch1	StreamOut1Ch2	StreamOut2Ch1	StreamOut2Ch2
Volume (%)	<div> <div></div> <div>80</div> <div></div> </div>	<div> <div></div> <div>80</div> <div></div> </div>	<div> <div></div> <div>80</div> <div></div> </div>	<div> <div></div> <div>80</div> <div></div> </div>	<div> <div></div> <div>80</div> <div></div> </div>	<div> <div></div> <div>80</div> <div></div> </div>	<div> <div></div> <div>80</div> <div></div> </div>	<div> <div></div> <div>80</div> <div></div> </div>
Signal Presence								
Signal Level	<div> <div></div> <div>Nominal</div> </div>	<div> <div></div> <div>Nominal</div> </div>	<div> <div></div> <div>Nominal</div> </div>	<div> <div></div> <div>Nominal</div> </div>	<div> <div></div> <div>Nominal</div> </div>	<div> <div></div> <div>Nominal</div> </div>	<div> <div></div> <div>Nominal</div> </div>	<div> <div></div> <div>Nominal</div> </div>
Mute	<div> <div></div> </div>	<div> <div></div> </div>	<div> <div></div> </div>	<div> <div></div> </div>	<div> <div></div> </div>	<div> <div></div> </div>	<div> <div></div> </div>	<div> <div></div> </div>
Action	<div> <div></div> <div>Edit</div> </div>	<div> <div></div> <div>Edit</div> </div>	<div> <div></div> <div>Edit</div> </div>	<div> <div></div> <div>Edit</div> </div>	<div> <div></div> <div>Edit</div> </div>	<div> <div></div> <div>Edit</div> </div>	<div> <div></div> <div>Edit</div> </div>	<div> <div></div> <div>Edit</div> </div>

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

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.

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.

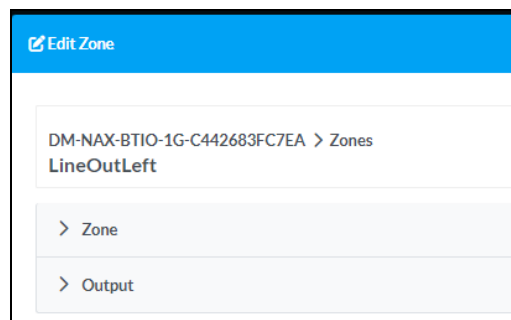
To configure the zone volume, do one of the following:

- Move the **Volume** slider up to increase or down to decrease the zone volume.
- Use the **%** arrows to increase or decrease the zone volume. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

To mute all audio output from a zone, select its respective **Mute**. To unmute the zone, select the **Muted**. Select **Edit** to view additional **Zone** and **Output** options.

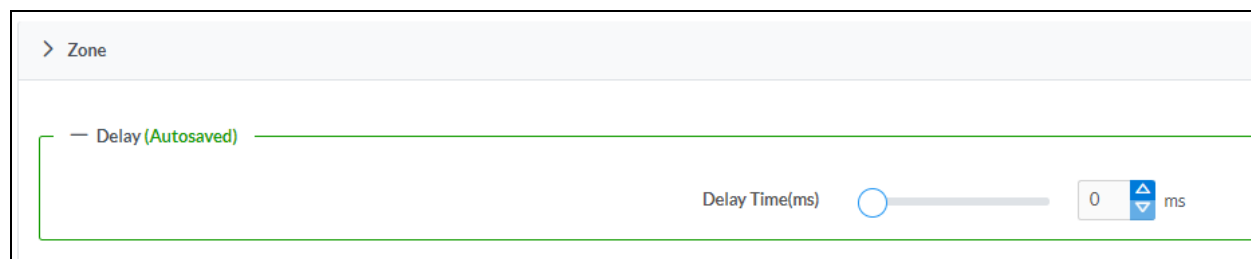
Zone Settings

To configure the settings for an output channel, select **Edit**. The **Edit Zone** window appears.

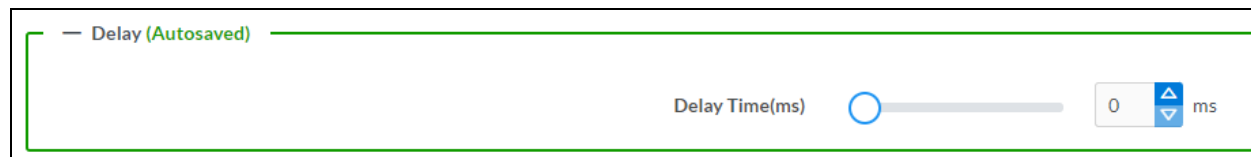


Zone

Select **Zone** to access the settings for **Delay**.



Delay (Line Outputs Only)



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. Values range from 0 ms to 85 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

NOTE: The delay feature is only available on the line level output channels.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume** and **Signal**.

> Output

Minimum / Maximum (Autosaved)

Minimum

0 %

Maximum

100 %

Default

80 %

Signal (Autosaved)

Signal

Not Present

Clipping

None

Minimum/Maximum Volume

Minimum / Maximum (Autosaved)

Minimum

0 %

Maximum

100 %

Default

30 %

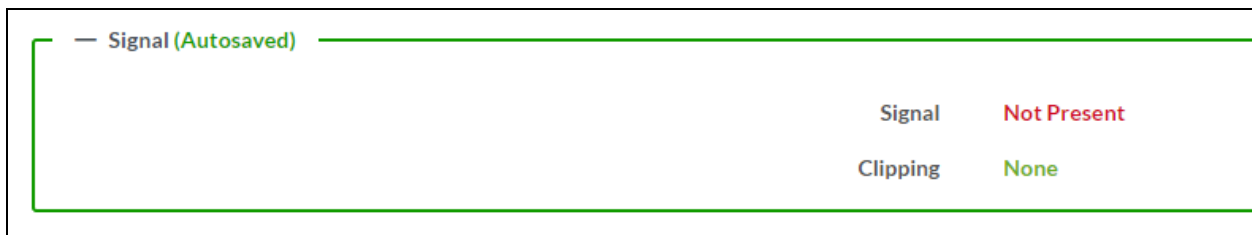
- To set the minimum volume of the zone, do one of the following:
 - Move the **Minimum** slider to the right to increase or to the left to decrease the minimum volume.
 - Use the **%** arrows to increase or decrease the minimum volume. Values range from 0 to 50%, adjustable in increments of 1%.
 - Manually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

Signal



Signal	Not Present
Clipping	None

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.

Input Channels

The **Input Channels** section is used to configure the **Name**, **Compensation**, and **Mute** attributes of the audio inputs of the DM-NAX-BTIO-1G.

Name	LineInLeft	LineInRight	BTInLeft	BTInRight	StreamIn1Ch1	StreamIn1Ch2	StreamIn2Ch1	StreamIn2Ch2
Compensation (db)								
Signal Present					✓	✓		
Signal Level	✓ Nominal	✓ Nominal	✓ Nominal	✓ Nominal	✓ Nominal	✓ Nominal	✓ Nominal	✓ Nominal
Mute	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Configure Inputs

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

Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- **Signal Presence** indicates whether or not a signal is detected in that zone.
- **Clipping Detected** indicates if the signal is **Clipping** or **Nominal** (non-clipping).


DM NAX Streams

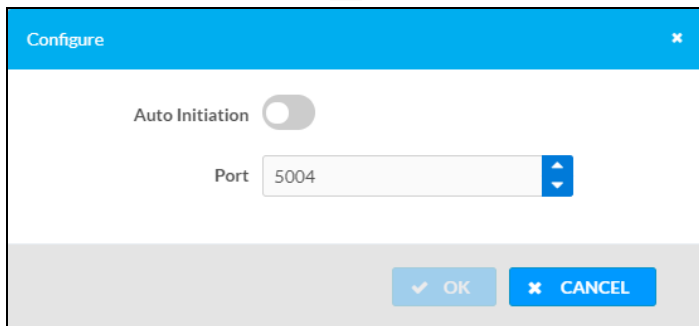
The local inputs of the DM-NAX-BTIO-1G can be made available as DM NAX audio-over-IP streams. Two network stream transmitters are available on the device. One transmitter will encode the local unbalanced line level input, and the other will encode the Bluetooth input audio.

Select **NAX Streams** to expand the tab and display the following information.

5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

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 configure icon  in the **Actions** column. The **Configure** dialog appears:

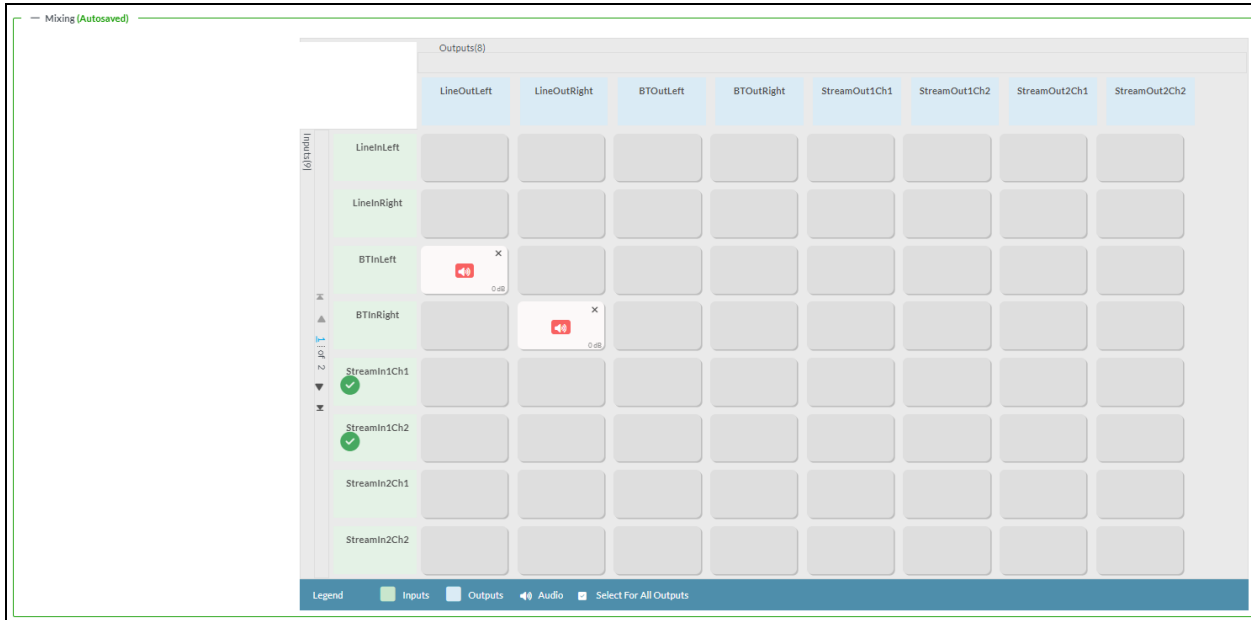
The image shows a 'Configure' dialog box with a blue header bar containing the title 'Configure' and a close button (X). The main area is white and contains two settings: 'Auto Initiation' with a toggle switch currently in the 'off' position, and 'Port' with a text input field containing '5004' and a blue spinner button to its right. At the bottom of the dialog, there is a grey bar with two buttons: 'OK' with a checkmark icon and 'CANCEL' with an X icon.

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. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Mixing

The **Mixing** matrix is used to route a local input or AES67 stream to an output on the DM-NAX-BTIO-1G.

NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).

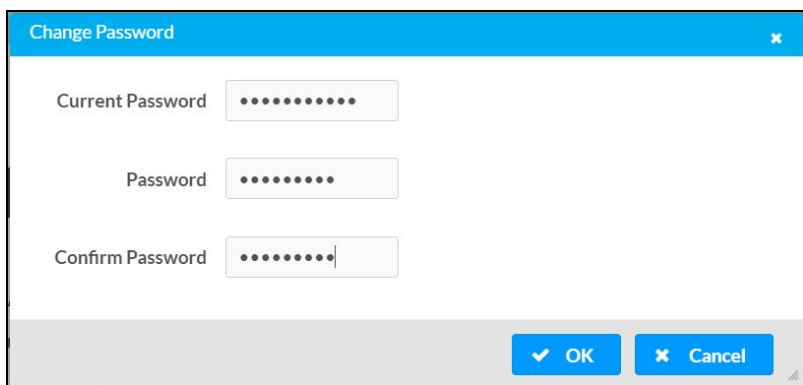


To route inputs to outputs on the device:

- 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.
- Use the arrows (or) at the left of the matrix to change pages to view all available inputs.
- To break a given route select or .

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, then 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.

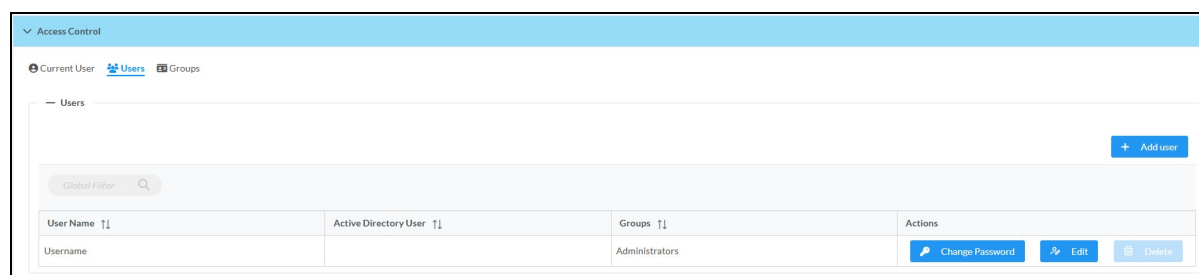


A dialog box titled "Change Password" with a close button (X) in the top right corner. It contains three password input fields: "Current Password", "Password", and "Confirm Password". Each field is represented by a text box with dots for the password characters. At the bottom right, there are two buttons: "OK" with a checkmark icon and "Cancel" with an X icon.

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 them.



The "Users" management interface within the "Access Control" section. It features a "Current User" tab, a "Users" tab (which is active), and a "Groups" tab. Below the tabs is a "Users" section with a "Global Filter" search bar and a "+ Add user" button. A table displays user information with columns: "User Name", "Active Directory User", "Groups", and "Actions". The first row shows "Username", "Active Directory User", "Administrators", and action buttons: "Change Password", "Edit", and "Delete".

User Name	Active Directory User	Groups	Actions
Username	Active Directory User	Administrators	Change Password Edit Delete

Use the **Search Users** 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 to the right of the navigation arrows.

Information about existing users is displayed in table format, with the following details provided for each user:

- **Username:** Displays the name of the user.
- **Active Directory User:** Displays whether the user requires authentication using Active Directory.
- **Groups:** Displays any groups the user has been added to.

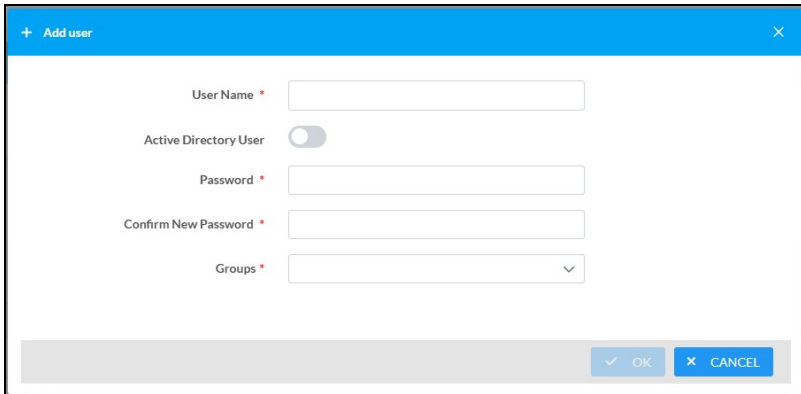
Select the corresponding icon in the **Actions** column to change a given user's password, edit their account information, or delete their account.

To create a new user, select **Add user**.

Create a New Local User

To create a new local user account for the DM-NAX-BTIO-1G:

1. Select **Add user** in the **Users** tab.
2. In the **Add 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.

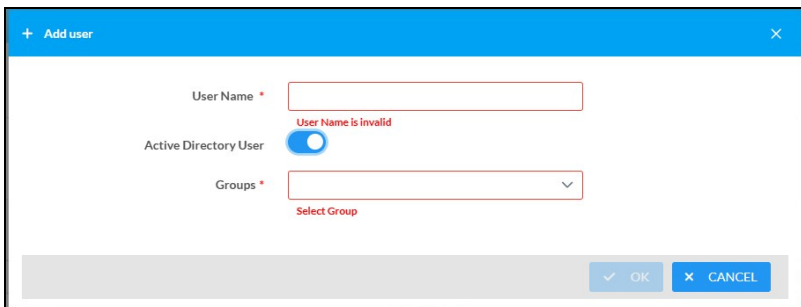
Add an Active Directory User

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 DM-NAX-BTIO-1G, or add the Active Directory group(s) that they are a member of to the DM-NAX-BTIO-1G.

To add an Active Directory user.

1. Select **Add 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

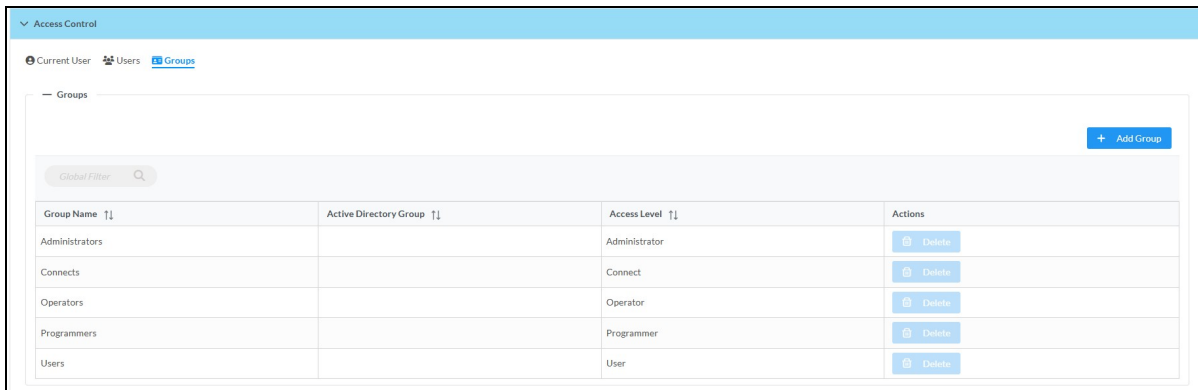
Select the trashcan icon  in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.






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.

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



Group Name	Active Directory Group	Access Level	Actions
Administrators		Administrator	 Delete
Connects		Connect	 Delete
Operators		Operator	 Delete
Programmers		Programmer	 Delete
Users		User	 Delete

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.

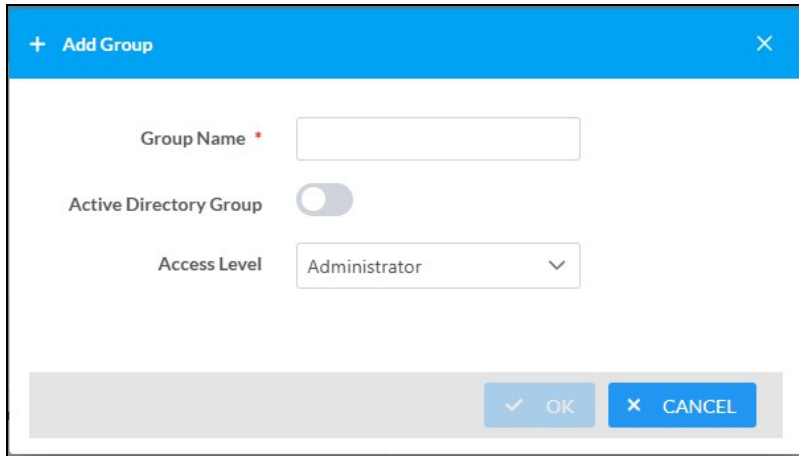
Additionally, each page can be set to display 5, 10, or 20 groups by using the drop-down to the right of the navigation arrows.

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

- **Group Name:** Displays the name of the group.
- **Active Directory 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 **Add Group** in the **Groups** tab to create new group.

Create Local Group



The screenshot shows the 'Add Group' dialog box. It has a blue header with a plus icon and the text 'Add Group', and a close button (X) in the top right corner. The main area contains three fields: 'Group Name' with a red asterisk and an empty text box; 'Active Directory Group' with a disabled toggle switch; and 'Access Level' with a dropdown menu showing 'Administrator'. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'CANCEL' with an X icon.

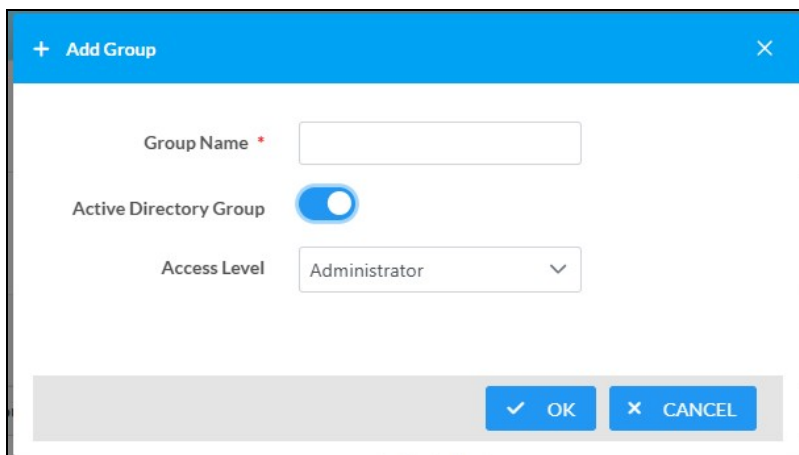
1. Select **Add group**.
2. In the **Add group** dialog, enter the following:
 - a. Enter the group name in the **Name** field.
 - b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

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



The screenshot shows the 'Add Group' dialog box. It has a blue header with a plus icon and the text 'Add Group', and a close button (X) in the top right corner. The main area contains three fields: 'Group Name' with a red asterisk and an empty text box; 'Active Directory Group' with an enabled toggle switch; and 'Access Level' with a dropdown menu showing 'Administrator'. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'CANCEL' with an X icon.

Once the group is added, all members of that group will have access to the DM-NAX-BTIO-1G.


1. Select **Add group**.
2. In the **Add 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.
3. 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.

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

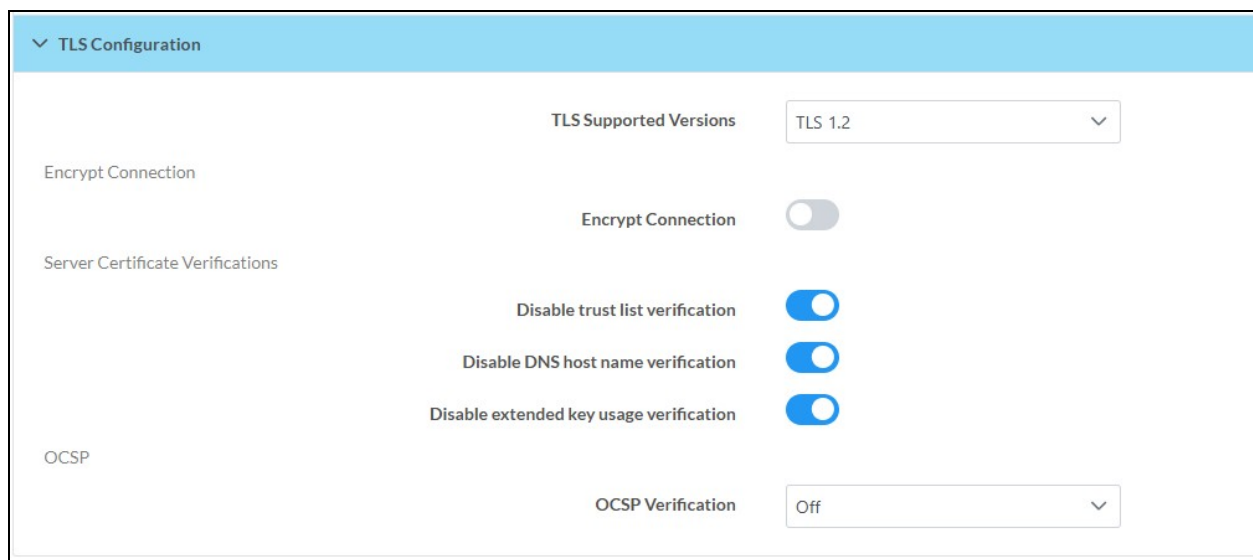
Delete a Group

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.

TLS Configuration

Select the **TLS Configuration** accordion to adjust Transport Layer Security (TLS) settings for the DM-NAX-BTIO-1G.



Configure the following TLS settings as required by the network administrator:

- Select a TLS version from the TLS Supported Versions drop-down from **TLS 1.2**, **TLS 1.2 & TLS 1.3**, and **TLS 1.3**.
- Set the **Encrypt Connection** toggle to the right to use TLS to encrypt the connection between the DM NAX device and a Crestron control system. Set the toggle to the left to keep this connection unencrypted.
- Set the **Disable trust list verification** toggle to the right to disable trust list verification. Set this toggle to the left to allow trust list verification.

- Set the **Disable DNS host name verification** toggle to the right to disable DNS host name verification. Set this toggle to the left to allow DNS host name verification.
- Set the **Disable extended key usage verification** toggle to the right to disable extended key usage verification. Set this toggle to the left to allow extended key usage verification.
- Select either **Off** (default) or **Use Remote Server** from the OSCP Verification drop-down as directed by a network administrator.

When **Use Remote Server** is selected, additional status fields for **OSCP Required** and **OSCP Stapling Required** will appear.

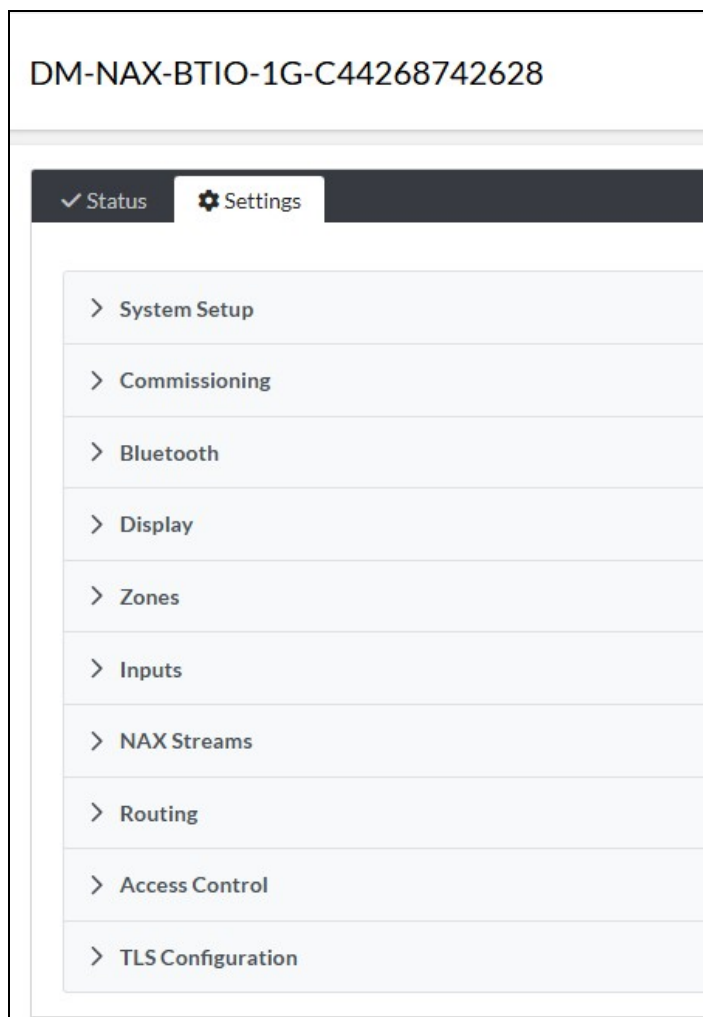
NOTE: This setting is repeated in the **802.1X** tab within the **System Setup** accordion at the top of the **Settings** tab.

Select **Save Changes** to save the new settings or select **Revert** from the **Action** menu to discard these changes.

Residential Mode

The **Settings** page enables you to configure the DM-NAX-BTIO-1G settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the DM-NAX-BTIO-1G interface. The following accordions are available within the **Settings** tab:

- [System Setup on page 664](#)
- [Commissioning on page 671](#)
- [Bluetooth on page 671](#)
- [Display on page 675](#)
- [Zones on page 676](#)
- [Inputs on page 681](#)
- [NAX Streams on page 682](#)
- [Routing on page 684](#)



System Setup

The **System Setup** accordion contains settings for **Date/Time**, **Auto Update**, **Network**, **Control System**, **Cloud Settings**, **Device Modes**, and **802.1X Configuration**.

Date/Time

Use the **Date/Time** section to configure the date and time settings of the DM-NAX-BTIO-1G.

The screenshot shows the 'Date/Time' configuration page. At the top, there's a 'System Setup' header with a dropdown arrow. Below it, a navigation bar includes 'Date/Time' (active), 'Auto Update', 'Network', 'Control System', 'Cloud Settings', 'Device Modes', and '802.1x Configuration'. The main content area is titled 'Date/Time' and contains three sections: 'Synchronization', 'NTP Time Servers', and 'Configuration'. In the 'Synchronization' section, there's a 'Time Synchronization' toggle switch set to the right (enabled) and a 'Synchronize Now' button. The 'NTP Time Servers' section features a table with columns: 'Address', 'Port', 'Authentication Method', 'Authentication Key', and 'Key ID'. A single entry is shown with 'poolntp.org' as the address, '123' as the port, 'None' as the authentication method, '*****' as the key, and '0' as the key ID. Below the table are '+ Add' and '- Remove' buttons. The 'Configuration' section includes a 'Time Zone' dropdown menu set to '(UTC-05:00) Eastern Time (US & Can)', a 'Date' field with '11/06/2025', and a 'Time' field with '16:36'.

	Address	Port	Authentication Method	Authentication Key	Key ID
<input type="checkbox"/>	poolntp.org	123	None	*****	0

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. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Auto Update

The DM-NAX-BTIO-1G 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 automatic updates.
2. Define the URL to download the updates by doing either of the following:
 - a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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 DM-NAX-BTIO-1G, including the Hostname, Domain, Primary Static DNS, and Secondary Static DNS.

System Setup

Date/Time
Auto Update
Network
Control System
Cloud Settings
Device Modes
802.1x Configuration

Network

Adapter 1

Hostname *

DM-NAX-BTIO-1G-C44268742628

Domain

lan

Primary Static DNS

192.168.1.1(DHCP)

Secondary Static DNS

DHCP Enabled

☒

IP Address

192.168.1.215

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

NOTE: By default, the host name of the DM-NAX-BTIO-1G consists of the model name followed by the MAC address of the device. For example, DM-NAX-BTIO-1G-00107FB58088.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTE: DM NAX devices' internal processes use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts.

Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-BTIO-1G is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When DHCP is enabled (default setting), the IP address of the DM-NAX-BTIO-1G 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 DM-NAX-BTIO-1G.
 - **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**.

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Control System

The screenshot shows the 'Control System' configuration page. At the top, there's a blue header with 'System Setup' and a dropdown arrow. Below it, a navigation bar includes 'Date/Time', 'Auto Update', 'Network', 'Control System' (highlighted), 'Cloud Settings', 'Device Modes', and '802.1x Configuration'. The main content area is titled 'Control System' and contains an 'IP Table' section. This section has a table with three columns: 'IP ID', 'IP Address/Hostname', and 'Room Id'. The table is currently empty, showing 'No records found'. Below the table are two buttons: '+ Add' and 'x Remove'.

1. Select **+ Add** to add an IP table entry to the **IP Table**.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-BTIO-1G in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
2. 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

The screenshot shows the 'Cloud Settings' configuration page. At the top, there's a blue header with 'System Setup' and a dropdown arrow. Below it, a navigation bar includes 'Date/Time', 'Auto Update', 'Network', 'Control System', 'Cloud Settings' (highlighted), 'Device Modes', and '802.1x Configuration'. The main content area is titled 'Cloud Settings' and contains a toggle switch labeled 'Cloud Configuration Service Connection'. The toggle is currently turned on (to the right).

Set the **Cloud Settings** toggle to the right position to enable or to the left to disable cloud settings. This specifies whether the DM-NAX-BTIO-1G can communicate with the XiO Cloud® platform.

Device Modes

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

The screenshot shows the 'System Setup' interface with a light blue header. Below the header is a navigation bar with links: Date/Time, Auto Update, Network, Control System, Cloud Settings, **Device Modes** (highlighted in blue), and 802.1x Configuration. The main content area is titled 'Device Modes (Autosaved)' and contains a section for 'Application Mode' with a dropdown menu currently set to 'Residential (Standard)'.

- **Application Mode:** The Application Mode determines which options and controls are available.
 - Select **Residential (Standard)** or **Commercial (Advanced)**. A **Reboot** confirmation message box appears.

The screenshot shows a 'Reboot' dialog box with a blue title bar and a close button (X). The main text reads: 'The device will be rebooted. Do you want to continue?'. At the bottom, there are two buttons: '✓ Yes, Reboot Now' and '✗ No'.

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

802.1X Configuration

The screenshot shows the '802.1X Configuration' page within the 'System Setup' menu. The page has a light blue header with the 'System Setup' label and a navigation bar with tabs: 'Date/Time', 'Auto Update', 'Network', 'Control System', 'Cloud Settings', 'Device Modes', and '802.1X Configuration'. The main content area is titled '802.1X Configuration' and contains the following settings:

- IEEE 802.1X Authentication:** A toggle switch that is currently turned off.
- Authentication Method:** A dropdown menu showing 'EAP MSCHAP V2- password'.
- Domain:** An empty text input field.
- User Name:** An empty text input field.
- Password:** A text input field with masked characters (dots).
- Disable Trust List Verification:** A toggle switch that is currently turned on.
- Select Trusted Certificate Authoritie(s):** A list of certificate authorities with checkboxes. The list includes: AAA Certificate Services, AC RAIZ FNMT-RCM SERVIDORES SEGUROS, AC RAIZ FNMT-RCM, ACCVRAIZ1, ANF Secure Server Root CA, Actalis Authentication Root CA, and AffirmTrust Commercial. A search bar is at the top of the list.
- OCSP Verification:** A dropdown menu showing 'Off'.

The DM-NAX-BTIO-1G 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 on the DM-NAX-BTIO-1G:

1. Set the **IEEE 802.1X Authentication** toggle to enabled. This will enable all remaining options in the **802.1X Configuration** tab.
2. Select an option from the **Authentication Method** drop-down: **EAP-TLS Certificate** or **EAP-MSCHAP V2 Password** according to a network administrator's direction.
3. Do one of the following:
 - If **EAP-TLS Certificate** was selected: Select **Manage Certificates** from the **Action** menu to upload the required machine certificate. The machine certificate is an encrypted file that will be supplied by a network administrator along with a certificate password.

- If **EAP-MSCHAP V2 Password** was selected: Enter a username and password supplied by a network administrator into the **Username** and **Password** fields. This method does not require the use of a machine certificate, only credentials.
4. If required, enter the domain name of the network in the **Domain** field.
 5. Set the **Disable Trust List Verification** toggle to the left to enable the **Select Trusted Certificate Authoritie(s)** list or set it to the right to disable the list.

The **Select Trusted Certificate Authoritie(s)** list contains signed Trusted Certificate Authorities (CAs) preloaded into the DM-NAX-BTIO-1G. Select the check box next to each CA whose certificate can be used for server validation, as specified by a 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** function in the **Action** menu.

6. Select either **Off** (default) or **Use Remote Server** from the OSCP Verification drop-down as directed by a network administrator.

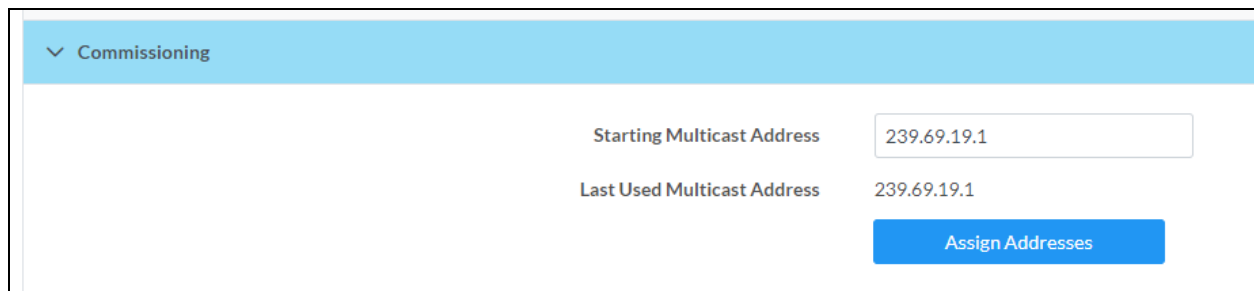
When **Use Remote Server** is selected, additional status fields for **OSCP Required** and **OSCP Stapling Required** will appear.

NOTE: This setting is repeated in the **TLS Configuration** accordion at the bottom of the **Settings** tab.

Once the 802.1X settings are configured as desired, select **Save Changes** to save the changes to the device and reboot it. Select **Revert** from the **Action** menu to cancel any changes.

Commissioning

The **Commissioning** section provides a quick way to automatically assign multicast addresses to the device's internal audio-over-IP stream transmitters.



Select **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-BTIO-1G a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range for **Starting Multicast Address** is 239.8.0.0 to 239.127.255.254.

NOTE: This will begin transmitting multicast traffic on your network. Refer to [Audio-over-IP Network Design on page 739](#) for details on proper audio-over-IP network management.

Bluetooth

The **Bluetooth** section provides settings for the internal Bluetooth radio of the DM-NAX-BTIO-1G. These settings are divided up into two tabs, labeled **Main** and **Advanced**.

Main Bluetooth Settings

Bluetooth

Main Advanced

Main (Autosaved)

Please wait at least 30 seconds after changing modes before attempting to configure any other Bluetooth settings

Bluetooth Name IP: 192.168.1.215

Bluetooth Enable ☒

Bluetooth Mode Transmitter

Pairing Active ☐

Paired Devices

Name	Status	Actions
Bose Revolve SoundLink	Disconnected	

To configure the settings in the **Main** tab of the Bluetooth settings section:




- Enter a custom name for the DM-NAX-BTIO-1G in the **Bluetooth Name** text field. This is the name that will be displayed on source devices (such as smartphones) that discover the DM-NAX-BTIO-1G as a receiving device. Most sink devices (such as headphones) will read this name out once the DM-NAX-BTIO-1G successfully pairs.

TIP: Set the **Bluetooth Name** before connecting devices to simplify the discovery process. Changing the name after devices are connected will temporarily disconnect them from the DM-NAX-BTIO-1G.

- Set the **Bluetooth Enable** toggle to the right to allow Bluetooth wireless audio casting to or from the DM-NAX-BTIO-1G. Set the **Bluetooth Enable** toggle to the left to disable Bluetooth wireless audio.

NOTE: While Bluetooth audio is disabled on the device, some applications that scan for Bluetooth devices may still be able to detect the DM-NAX-BTIO-1G. These applications will not be able to connect to the DM-NAX-BTIO-1G or cast audio to it while Bluetooth audio is disabled.

- Set the **Pairing Active** toggle to the right position to enable pairing mode, allowing Bluetooth devices to pair to the DM-NAX-BTIO-1G. Set the **Pairing Active** toggle to the left to disable pairing mode.
- Select **Receiver** or **Transmitter** from the **Bluetooth Mode** drop-down to determine whether the DM-NAX-BTIO-1G will operate as a Bluetooth wireless audio receiver or transmitter:
 - In **Receiver** mode, the DM-NAX-BTIO-1G can receive wireless stereo audio signals from Bluetooth enabled source devices such as smart phones or laptops.
 - In **Transmitter** mode, the DM-NAX-BTIO-1G can transmit a wireless stereo audio signal to a Bluetooth enabled sink device such as a speaker or a pair of headphones.

- The **Paired Devices** table displays the name and status of all remembered Bluetooth devices that were previously paired with the DM-NAX-BTIO-1G.
 - In **Receiver** mode, the DM-NAX-BTIO-1G can remember up to seven previously paired devices. In **Transmitter** mode, only one device can be paired to the DM-NAX-BTIO-1G.
 - Only one paired Bluetooth device can have a **Connected** status at a time. All other paired devices will display a **Disconnected** status. The **Connected** status indicates which device is currently able to actively cast media to the wall plate.
 - To disconnect a connected device, select the disconnect icon . Disconnected devices can be reconnected by selecting the connect icon .
 - To delete a remembered device from the **Paired Devices** table, select the trashcan icon . Deleted devices must be paired with the DM-NAX-BTIO-1G again in order to reconnect.

Advanced Bluetooth Settings

The **Advanced** tab under the **Bluetooth** accordion will vary depending on whether the device is in **Receiver** or **Transmitter** mode:

- [Advanced Bluetooth Settings - Receiver Mode on page 673](#)
- [Advanced Bluetooth Settings - Transmitter Mode on page 675](#)

Advanced Bluetooth Settings - Receiver Mode

Main
[Advanced](#)


— Advanced (Autosaved) —

Connection Management

Exclusive

Reconnect Behavior

Manual



Pairing Code Enabled

☐

Fixed Volume Enabled

☒

To configure the settings on the **Advanced** tab of the Bluetooth settings section:

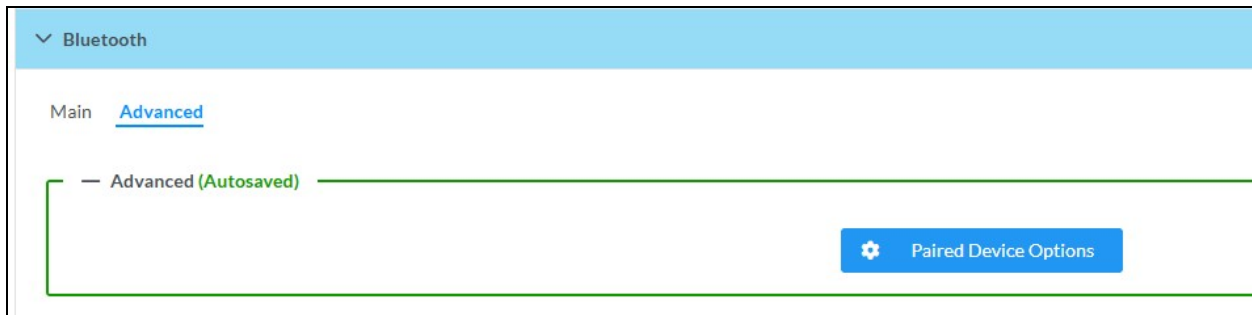
- Select a **Connection Management** option from the drop-down. **Exclusive** mode is selected by default.
 - In **Interrupt** mode, remembered paired devices can reconnect to the DM-NAX-BTIO-1G from their Bluetooth connections list, and will interrupt any currently playing audio. The most recent casting device to select the DM-NAX-BTIO-1G from its Bluetooth list will show a **Connected** status in the **Paired Devices** table, and all other devices will revert to **Disconnected**.
 - In **Exclusive** mode, remembered paired devices cannot be reconnected to the DM-NAX-BTIO-1G from their Bluetooth connections list until the currently **Connected** device is disconnected. The device that is listed as **Connected** in the **Paired Devices** table will remain connected until it is disconnected by programming, from the web interface, or by the casting device itself.
 - **Temporary** mode is the same as **Exclusive** mode, with the added behavior that the DM-NAX-BTIO-1G will forget the currently connected device once it is disconnected.
- Select a **Reconnect Behavior** option from the drop-down. **Manual** is selected by default.
 - **Manual** indicates that any time the Bluetooth casting device is disconnected from the DM-NAX-BTIO-1G, it can only be reconnected by selecting the casting device from the DM NAX device's list of paired devices. This is the recommended setting for any system with multiple paired transmitting devices or multiple DM-NAX-BTIO-1G devices within range of each other.
 - **Automatic** indicates that any remembered paired Bluetooth casting device will reconnect to the DM-NAX-BTIO-1G when it is within the wireless range of the DM NAX device.
- Select **Paired Device Options** to open a **Paired Device Options** window. Select a command from the drop-down, then select **Send** to issue the command to the DM NAX device.
 - **Disconnect All Paired Devices:** Disconnects all currently paired devices from the DM-NAX-BTIO-1G.
 - **Disconnect Inactive Paired Devices:** Disconnects any paired device that is not actively playing any media.
 - **Delete All Paired Devices:** Deletes all currently paired devices from the **Paired Devices** table of the DM-NAX-BTIO-1G.
 - **Delete Inactive Paired Devices:** Deletes any paired device that is not actively playing any media.
 - **Deleted Connected Devices:** Deletes only the current **Connected** device.
- Set the **Pairing Code Enabled** toggle to the right position to enable the pairing code feature. When this is enabled, a pairing code string will populate on both the casting device and the OLED display of the DM-NAX-BTIO-1G during pairing. Confirm that the code matches on each device to complete the pairing process. Set the toggle to the left to disable the pairing code feature. The pairing code feature is disabled by default.

- Set the **Fixed Volume Enabled** toggle to the right to keep the Bluetooth input at a fixed volume level regardless of user input from the wallplate front panel or a paired device.

NOTE: With this enabled, the only volume control for the Bluetooth input is the vertical slider in the **Inputs** section.

Set the toggle to the left to allow user input to change the volume level from the wallplate or paired device.

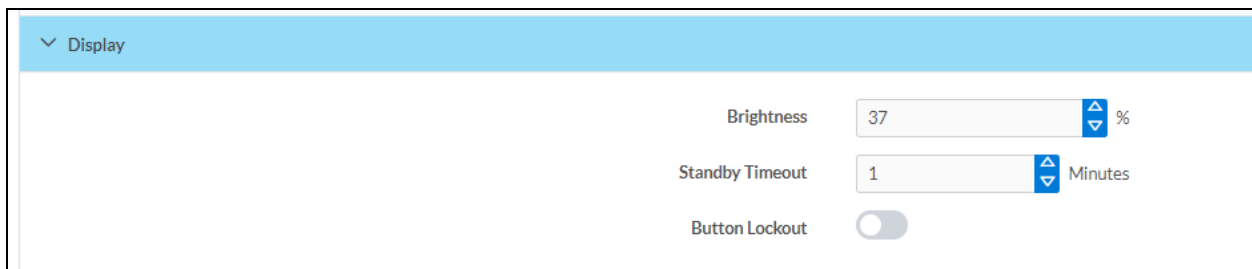
Advanced Bluetooth Settings - Transmitter Mode



While in **Transmitter** mode, the **Advanced** tab of the Bluetooth settings section contains a button labeled **Paired Device Options**. Select the button to open a **Paired Device Options** window. Select a command from the drop-down, then select **Send** to issue the command to the DM NAX device.

- **Disconnect All Paired Devices:** Disconnects all currently paired devices from the DM-NAX-BTIO-1G.
- **Disconnect Inactive Paired Devices:** Disconnects any paired device that is not actively playing any media.
- **Delete All Paired Devices:** Deletes all currently paired devices from the **Paired Devices** table of the DM-NAX-BTIO-1G.
- **Delete Inactive Paired Devices:** Disconnects and forgets any paired device that is not actively playing any media.
- **Delete Connected Devices:** Disconnects and forgets only the current **Connected** device.

Display

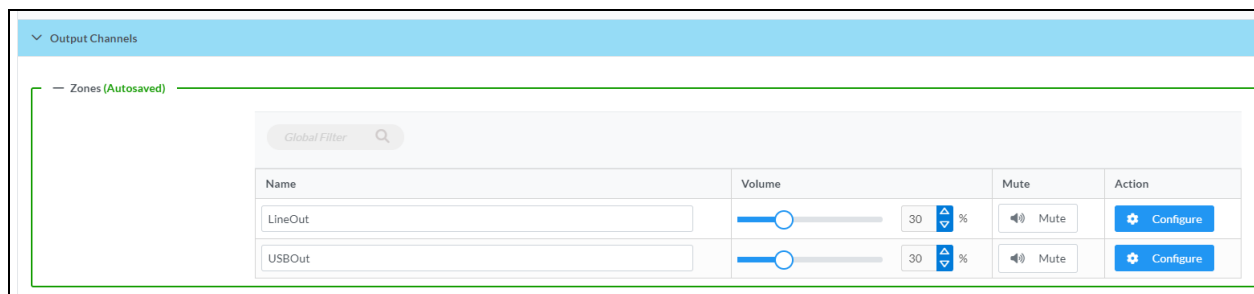


The **Display** section contains settings that affect the front panel OLED display of the DM-NAX-BTIO-1G.

- To adjust the display brightness:
 - Use the **%** arrows to increase or decrease the brightness. Values range from 0 to 100%, adjustable in increments of 1%.
 - Manually enter a percentage value in the **Brightness** text field.
- To adjust the display standby timeout:
 - Use the **Minutes** arrows to increase or decrease the brightness. The default timeout value is one minute.
 - Manually enter a value in the **Standby Timeout** text field.
- Set the **Button Lockout** toggle to the right to lock out the front panel buttons on the DM-NAX-BTIO-1G. Set the **Button Lockout** toggle to the left to disable the lockout.

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.

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. Values range from 0 to 100%, adjustable in increments of 1%.
- Manually enter a value in the **Volume** field.

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

Zone Settings

To configure zone settings, select **Configure** (). The **Edit Zone** window appears.

Zone

Select **Zone** to access the settings for **Balance** and **Delay**.

DM-NAX-BTIO-1G-C442683FC7EA > Zones

LineOut

Zone

Balance (Autosaved)

Left / Right

0

%

Delay (Autosaved)

Delay Time(ms)

0

ms

Output

Balance

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. 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.

Delay (Line Output Only)

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. Values range from 0 ms to 85 ms, adjustable in increments of 1 ms.
- Manually enter a value in the **Delay Time(ms)** field.

NOTE: The delay feature is only available on the line level output channels.

Output

Select **Output** to access the settings for **Minimum/Maximum Volume**, **Stereo/Mono**, and **Signal**.

Output

Minimum / Maximum (Autosaved)

Minimum

0

%

Maximum

100

%

Default

30

%

Stereo / Mono (Autosaved)

Stereo / Mono

Stereo

Mono

Zone Configuration

Standard

Signal (Autosaved)

Signal

Not Present

Minimum/Maximum Volume

Minimum / Maximum (Autosaved)

Minimum

0

%

Maximum

100

%

Default

30

%

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. Values range from 0 to 50%, adjustable in increments of 1%.
- Manually enter a value in the **Minimum** field.

2. 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. Values range from 70 to 100%, adjustable in increments of 1%.
- 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. 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. Values range from 0 to 50%, adjustable in increments of 1%.
- 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.

Stereo/Mono

— Stereo / Mono (Autosaved)

Stereo / Mono ☒ Stereo ☐ Mono

Zone Configuration Standard

Select either **Stereo** or **Mono**. If **Stereo** is selected, both output channels can have independent audio content. If **Mono** is selected, both output channels receive the same audio content.

Signal

— Signal (Autosaved)

Signal Not Present

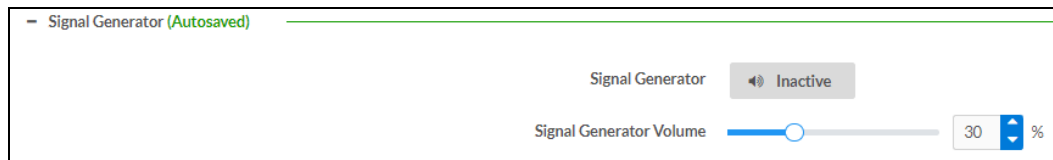
Clipping None

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.

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

Signal Generator



The DM-NAX-BTIO-1G has a built-in signal generator that allows an integrator to send an audio signal to the output to test functionality.

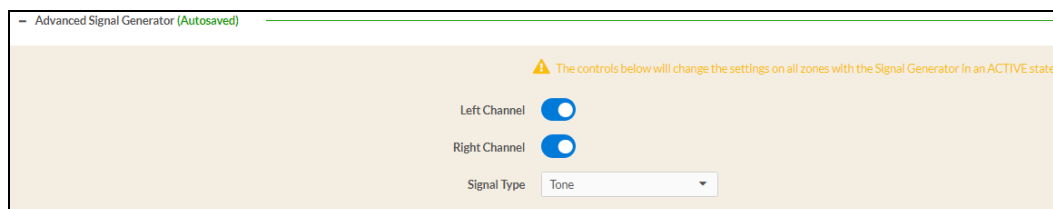
1. To route the signal generator to the zone output, select **Signal Generator** so that it displays **Active** and is highlighted in blue. To unroute the signal generator on the zone output, select **Signal Generator** so that it displays **Inactive** and is highlighted in grey. By default, the signal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

NOTES:

- There is only one signal generator built-in to the DM NAX device. Each zone has its own button 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.
- The **Signal Generator Volume** control is a local control that does not affect the signal generator's volume on the other zone output. Only the settings under **Advanced Signal Generator** are applied to both zones of the DM NAX device.

2. 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. Values range from 0 to 100, adjustable in increments of 1.
 - 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 to both zones of the DM NAX 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.





1. 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.
2. 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.
3. Select an audio test signal type from the **Signal Type** drop-down. The available signal types are:
 - **Tone**: Generates a 1 kHz sine wave tone.
 - **Pink Noise**: Generates pink noise.
 - **White Noise**: Generates white noise.

Inputs

The **Inputs** section is used to configure the **Name**, **Compensation**, and **Mute** attributes of the available analog, digital, and media streaming inputs on the DM-NAX-BTIO-1G.

Inputs

— Analog Inputs (**Autosaved**) —

Name	LineIn	BTIn
Gain (db)	 <input type="text" value="0"/>	 <input type="text" value="0"/>
Signal Present		
Clipping Detected	 Nominal	 Nominal
Mute	<input type="checkbox"/>	<input type="checkbox"/>

Configure Inputs

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

Monitor the device's input signals using the text indicators in the **Signal Present** and **Clipping Detected** columns:

- **Signal Presence** indicates whether or not a signal is detected in that zone.
- **Clipping Detected** indicates if the signal is **Clipping** or **Nominal** (non-clipping).

NAX Streams

The two local inputs of the DM-NAX-BTIO-1G can be made available as DM NAX audio-over-IP streams.

Select **NAX Streams** to expand the tab and display the following information.

NAX Streams

This Device is the Leader PTP Clock Source **No**

PTP Clock Leader MAC Address 00:1d:c1:12:16:68

PTP Priority 254

Transmitters (Autosaved)

Audio Source	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
LineIn	Stream01	239.69.17.1	Stream01-BTIO	Stream Started	▶ ◻ ⚙
BTIn	Stream02	239.69.17.2	Stream02-BTIO	Stream Started	▶ ◻ ⚙


Receivers (Autosaved)

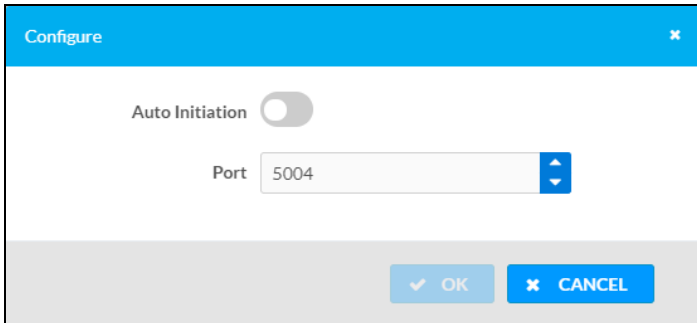
Zone Name	Stream	Current Stream Address	Requested Stream Address		Status	Actions
LineOut	Stream01	239.69.190.168	239.69.190.168	Q	Stream Started	▶ ◻ ⚙
BTOut	Stream02	239.69.2.1	239.69.2.1	Q	Stream Started	▶ ◻ ⚙

- **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 DM-NAX-BTIO-1G 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**: This 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 DM-NAX-BTIO-1G 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 Transmitters

To configure a DM NAX transmit stream:

1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, like a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon  in the **Actions** column. The **Configure** dialog appears:

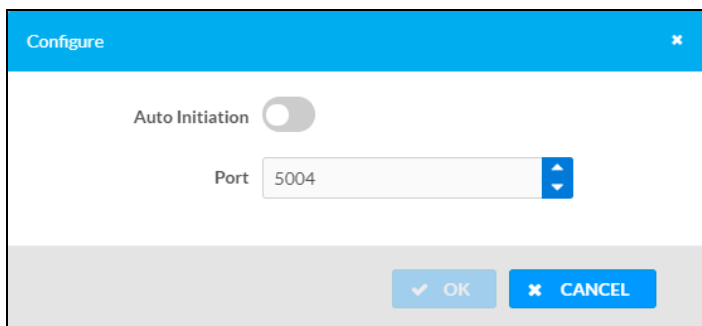
A screenshot of a 'Configure' dialog box. It has a blue header bar with the title 'Configure' and a close button (X). The main area is white and contains a toggle switch for 'Auto Initiation' which is currently turned off. Below it is a 'Port' field with a text input showing '5004' and a spinner control with up and down arrows. At the bottom, there is a grey bar containing two buttons: 'OK' with a checkmark icon and 'CANCEL' with an X icon.

5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the 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. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

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 configure icon  in the **Actions** column. The **Configure** dialog appears:



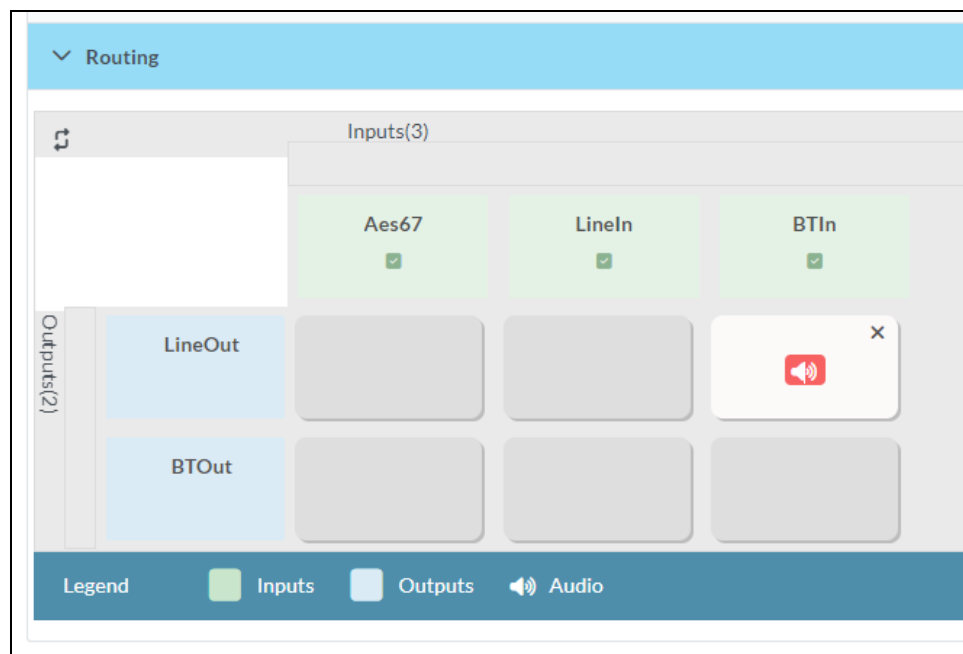
The **Configure** dialog box has a blue header with the title "Configure" and a close button. It contains a toggle switch for "Auto Initiation" which is currently turned off. Below it is a "Port" field with a text input showing "5004" and a spinner control. At the bottom are two buttons: "OK" with a checkmark icon and "CANCEL" with an 'X' icon.





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. To set the 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. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Routing

The **Routing** section is used to route a local input or AES67 stream to a zone on the DM-NAX-BTIO-1G.

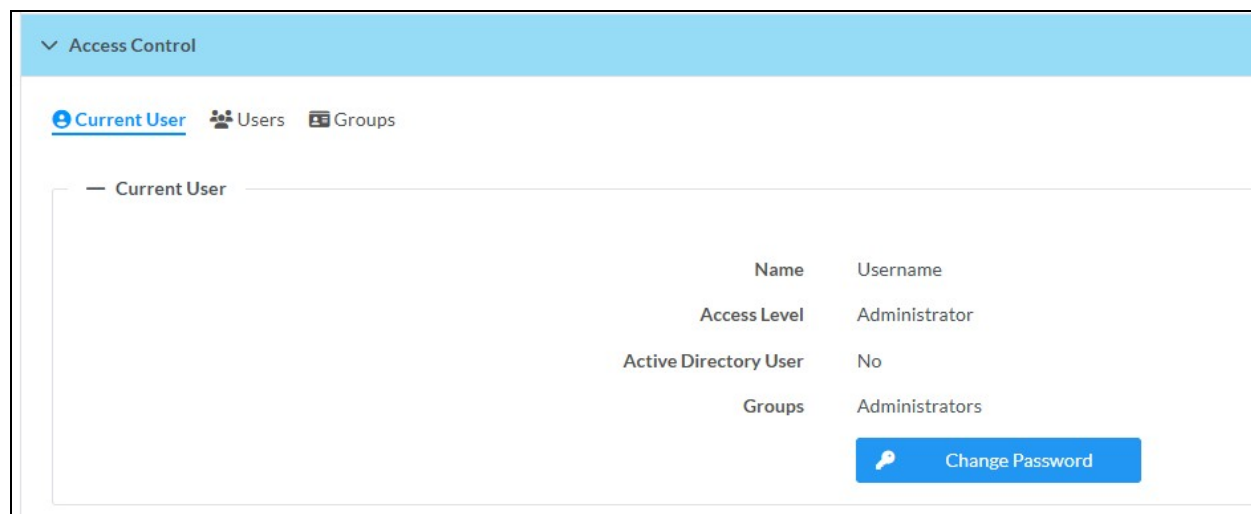
NOTE: To receive an AES67 stream from a Dante device, refer to [Knowledge Article 1001151](#).



- To route an input to a zone, select the box in the routing matrix where the zone's row overlaps the corresponding input's column. Once a route is made,  appears.
- To break a given route select  or .
- To route a single input to all zones, select the  icon under the input's name.

Access Control

Select the **Access Control** accordion to configure security settings for users and groups, and to allow different levels of access to the DM-NAX-BTIO-1G functions.



The screenshot shows the 'Access Control' section with a light blue header. Below the header, there are three tabs: 'Current User' (selected), 'Users', and 'Groups'. The 'Current User' tab displays a form with the following fields:

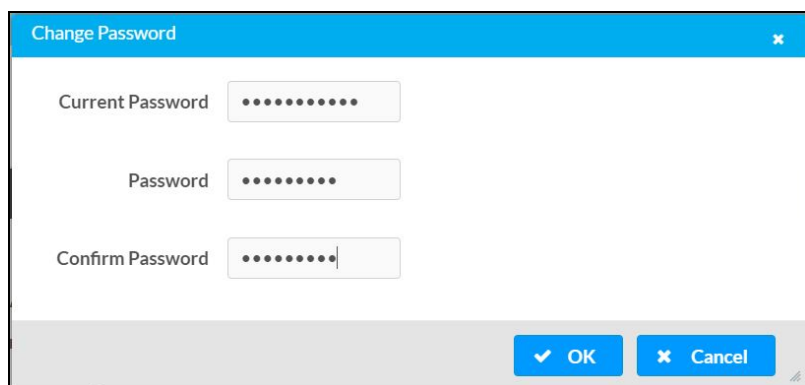
Name	Username
Access Level	Administrator
Active Directory User	No
Groups	Administrators

At the bottom right of the form is a blue button with a key icon and the text 'Change Password'.

Current User

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

1. Select **Change Password** to create 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.



The screenshot shows a 'Change Password' dialog box with a blue header and a close button (X) in the top right corner. The dialog contains three password input fields, each with a masked password (dots):

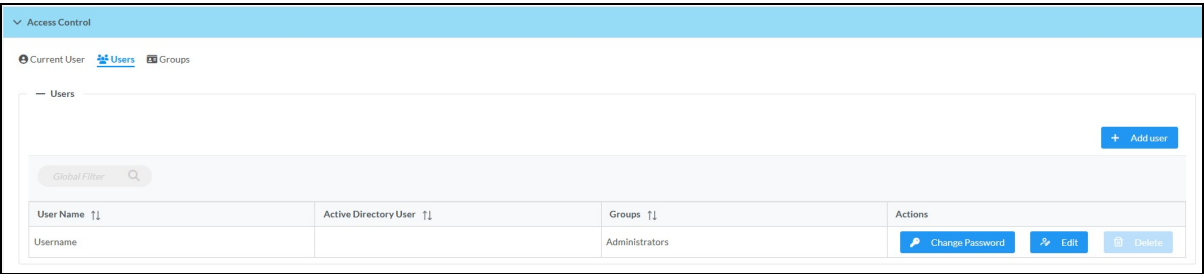
- Current Password
- Password
- Confirm Password

At the bottom of the dialog are two buttons: a blue 'OK' button with a checkmark icon and a grey 'Cancel' button with an X icon.

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 them.



Use the **Search Users** 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 to the right of the navigation arrows.

Information about existing users is displayed in table format, with the following details provided for each user:

- **Username:** Displays the name of the user.
- **Active Directory User:** Displays whether the user requires authentication using Active Directory.
- **Groups:** Displays any groups the user has been added to.

Select the corresponding icon in the **Actions** column to change a given user's password, edit their account information, or delete their account.

To create a new user, select **Add user**.

Create a New Local User

To create a new local user account for the DM-NAX-BTIO-1G:

1. Select **Add user** in the **Users** tab.
2. In the **Add user** dialog, enter the following:

A screenshot of the 'Add user' dialog box. The dialog has a blue header bar with a '+' icon and the text 'Add user', and a close button (X) on the right. The main area contains five fields: 'User Name' with a red asterisk and a text input field; 'Active Directory User' with a toggle switch; 'Password' with a red asterisk and a text input field; 'Confirm New Password' with a red asterisk and a text input field; and 'Groups' with a red asterisk and a dropdown menu. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'CANCEL' with an X icon.

- 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.

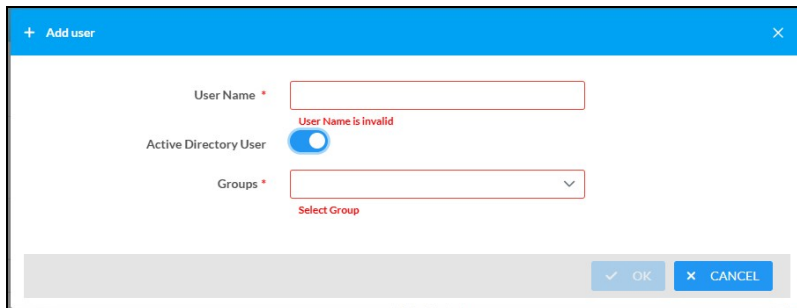
Add an Active Directory User

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 DM-NAX-BTIO-1G, or add the Active Directory group(s) that they are a member of to the DM-NAX-BTIO-1G.

To add an Active Directory user.

1. Select **Add 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

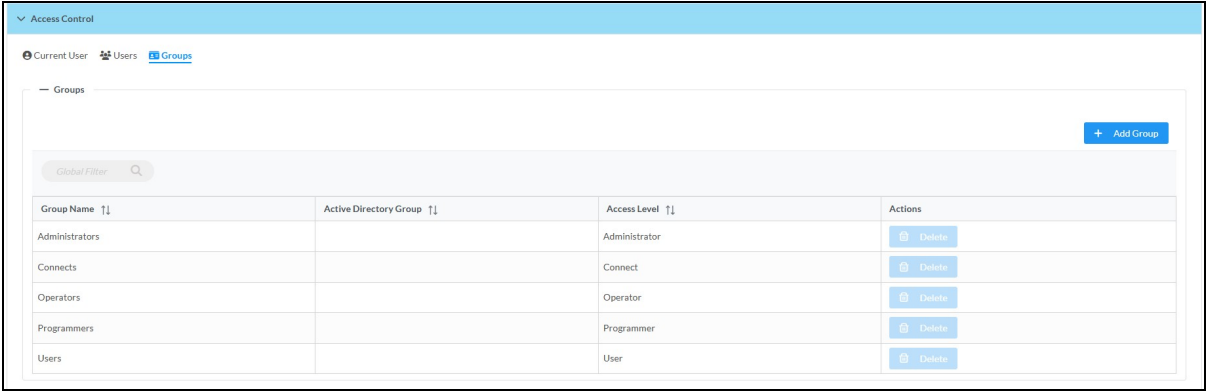
Select the trashcan icon  in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

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.

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 Groups** 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.

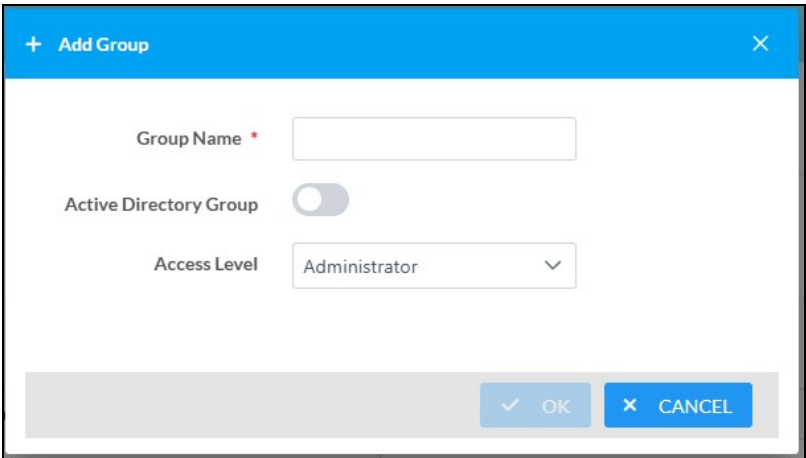
Additionally, each page can be set to display 5, 10, or 20 groups by using the drop-down to the right of the navigation arrows.

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

- **Group Name:** Displays the name of the group.
- **Active Directory 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 **Add Group** in the **Groups** tab to create new group.

Create Local Group



1. Select **Add group**.
2. In the **Add group** dialog, enter the following:
 - a. Enter the group name in the **Name** field.
 - 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 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 DM-NAX-BTIO-1G.

1. Select **Add group**.
2. In the **Add 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.
3. 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.

4. 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.

TLS Configuration

Select the **TLS Configuration** accordion to adjust Transport Layer Security (TLS) settings for the DM-NAX-BTIO-1G.

▼ TLS Configuration

TLS Supported Versions: TLS 1.2

Encrypt Connection: ☐

Server Certificate Verifications

Disable trust list verification: ☒

Disable DNS host name verification: ☒

Disable extended key usage verification: ☒

OCSP

OCSP Verification: Off

Configure the following TLS settings as required by the network administrator:

- Select a TLS version from the TLS Supported Versions drop-down from **TLS 1.2**, **TLS 1.2 & TLS 1.3**, and **TLS 1.3**.
- Set the **Encrypt Connection** toggle to the right to use TLS to encrypt the connection between the DM NAX device and a Crestron control system. Set the toggle to the left to keep this connection unencrypted.
- Set the **Disable trust list verification** toggle to the right to disable trust list verification. Set this toggle to the left to allow trust list verification.
- Set the **Disable DNS host name verification** toggle to the right to disable DNS host name verification. Set this toggle to the left to allow DNS host name verification.
- Set the **Disable extended key usage verification** toggle to the right to disable extended key usage verification. Set this toggle to the left to allow extended key usage verification.
- Select either **Off** (default) or **Use Remote Server** from the OSCP Verification drop-down as directed by a network administrator.

When **Use Remote Server** is selected, additional status fields for **OSCP Required** and **OSCP Stapling Required** will appear.

NOTE: This setting is repeated in the **802.1X** tab within the **System Setup** accordion at the top of the **Settings** tab.

Select **Save Changes** to save the new settings or select **Revert** from the **Action** menu to discard these changes.

DM-NAX-XSP

This section describes how to configure the DM-NAX-XSP.

Web Interface Configuration

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

Access the Web Interface

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

- [Access the Web Interface with a Web Browser on page 692](#)
- [Access the Web Interface With Crestron Toolbox™ Software on page 694](#)

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

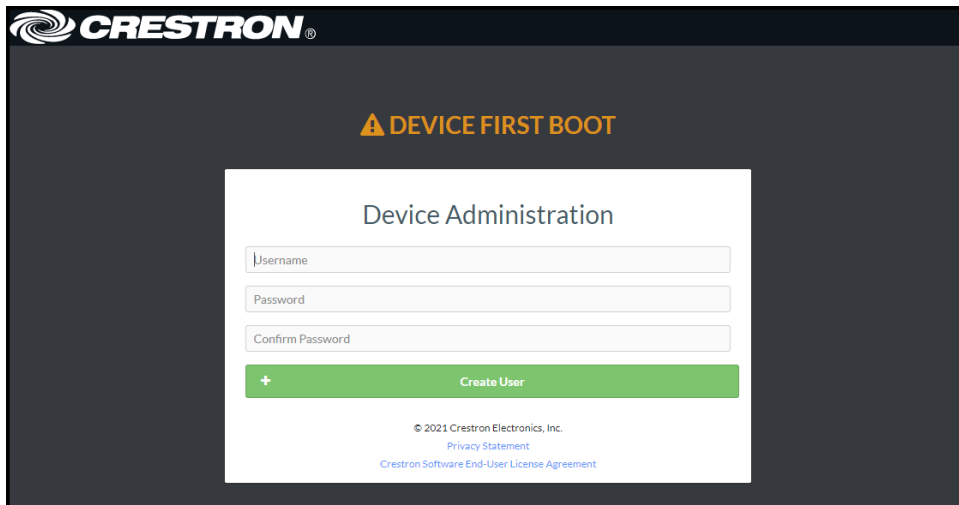
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later
	Firefox® web browser, version 31 and later
	Internet Explorer web browser, version 11 and later
	Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later
	Chrome 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 DM-NAX-XSP into a web browser.

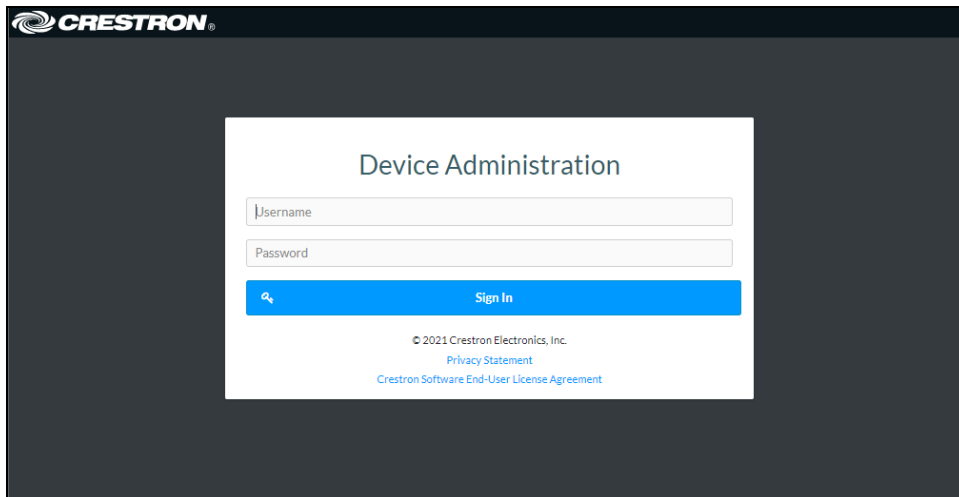
NOTE: To obtain the IP address, use the **Device Discovery Tool** in Crestron Toolbox™ software or an IP scanner application.

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.



The screenshot shows the Crestron logo at the top left. In the center, there is a yellow warning triangle icon followed by the text "DEVICE FIRST BOOT". Below this, a white box titled "Device Administration" contains three input fields: "Username", "Password", and "Confirm Password". A green button with a plus icon and the text "Create User" is positioned below the input fields. At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

- d. Select **Create User**. The Device Administration page appears.



The screenshot shows the Crestron logo at the top left. In the center, a white box titled "Device Administration" contains two input fields: "Username" and "Password". A blue button with a magnifying glass icon and the text "Sign In" is positioned below the input fields. At the bottom of the white box, there is small text: "© 2021 Crestron Electronics, Inc.", "Privacy Statement", and "Crestron Software End-User License Agreement".

3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Select **Sign In**.

Access the Web Interface With Crestron Toolbox™ Software

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

1. Open Crestron Toolbox software.
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 DM-NAX-XSP 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.

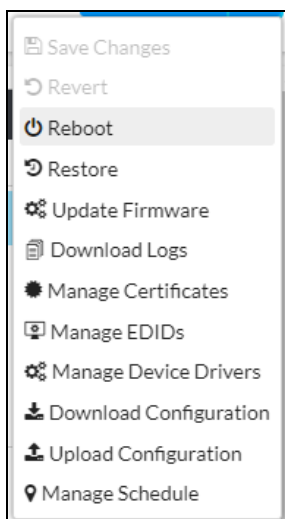
NOTE: If there is security software running on the computer, a security alert might be displayed when Crestron Toolbox software attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, select the device.
4. Enter the device credentials in the **Authentication Required** dialog that opens, then select **Log In**.
5. Select **Web Configuration**.

Action

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

- [Save Changes on page 695](#)
- [Revert on page 695](#)
- [Reboot on page 696](#)
- [Restore to Factory Default Settings on page 696](#)
- [Update Firmware on page 697](#)
- [Download Logs on page 697](#)
- [Manage Certificates on page 697](#)
- [Manage EDIDs on page 699](#)
- [Manage Device Drivers on page 701](#)
- [Download Configuration on page 704](#)
- [Upload Configuration on page 704](#)
- [Manage Schedule on page 706](#)



Save Changes

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

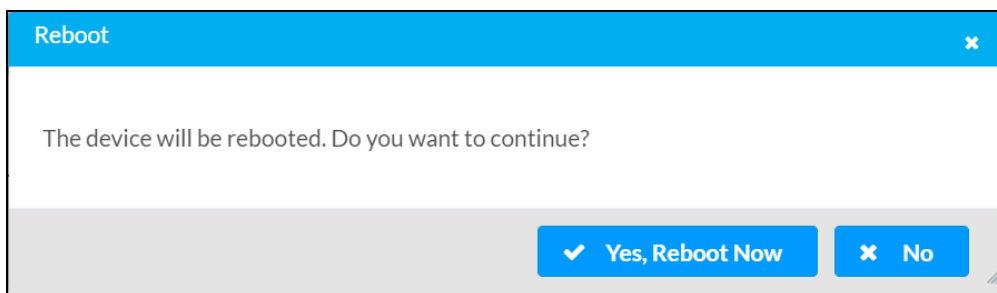
Revert

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

Reboot

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

1. Select **Reboot** in the **Action** menu. The **Confirmation** message box appears.



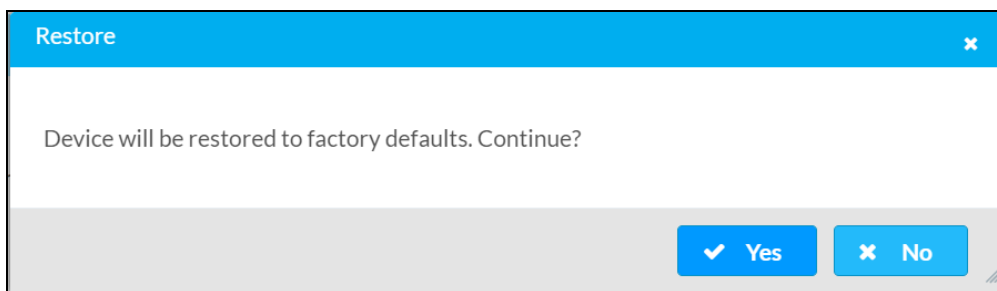
2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears. Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

CAUTION: This procedure should only be performed to recover an unresponsive device. Performing the **Restore** procedure will clear certain device settings that cannot be recovered once the procedure is complete. Before proceeding, please contact Crestron True Blue Support via phone, email or chat as described at www.crestron.com/support.

1. Select **Restore** in the **Action** menu to restore the settings of the DM-NAX-XSP to factory defaults.

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.



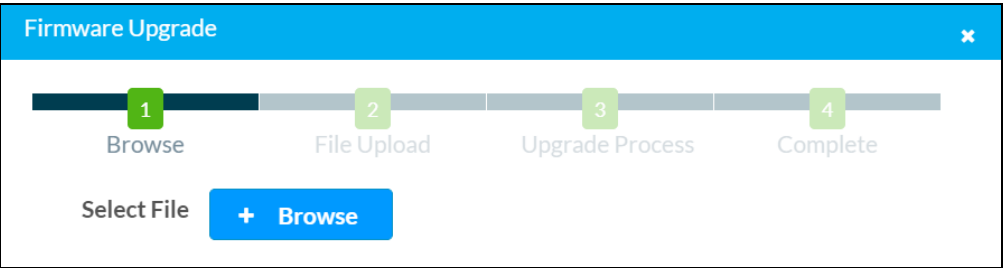
2. Select **Yes** in the **Confirmation** dialog to restore the DM-NAX-XSP to factory settings. Select **No** to cancel the restore operation.

A dialog is displayed again, indicating that the restore process was successful and that the device rebooted.

You can also restore to factory settings by pressing and holding the **RESET** button on the rear panel of the device with power disconnected then connect the power supply and continue to hold **RESET** button for 30 seconds.

Update Firmware

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



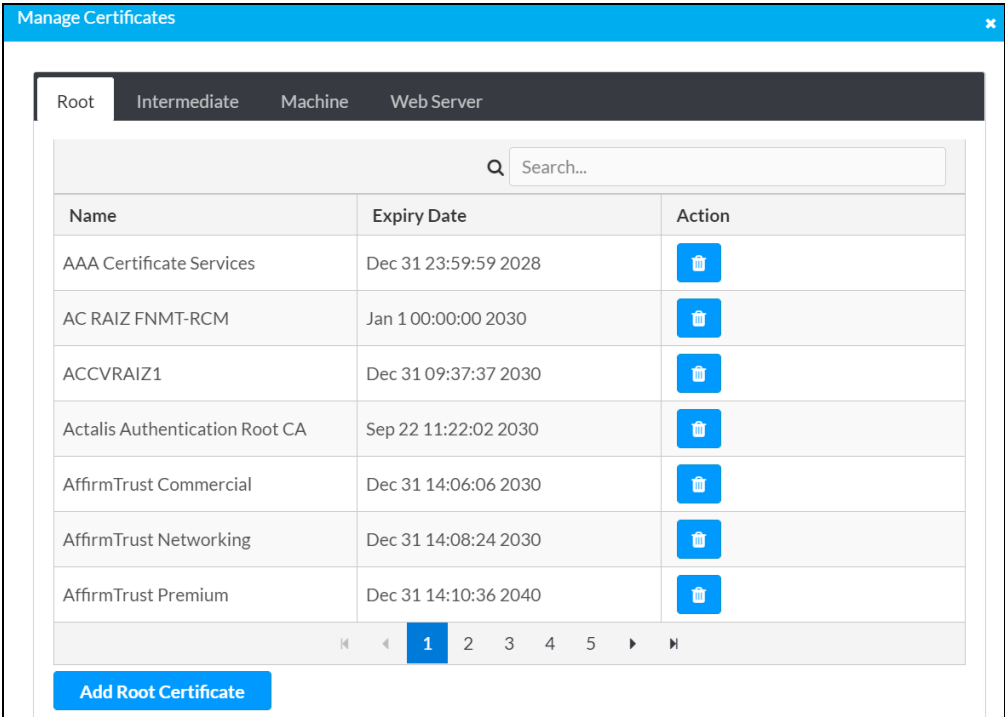
- 3. Locate and select the desired firmware file, then select **Open**. The selected firmware file name is displayed in the **Firmware Upgrade** dialog.
- 4. Select **Load** and wait for the progress bar to complete and for **OK** in the message to become selectable.
- 5. Select **OK**. The device with new firmware can now be accessed.

Download Logs

Select **Download Logs** in the **Action** menu to download the device message logs for diagnostic purposes. The log file is downloaded to the Downloads folder of the PC.

Manage Certificates

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



Select **Manage Certificates** in the **Action** menu. The following certificate tabs are displayed:

- **Root:** The Root certificate is used by the DM-NAX-XSP to validate the network's authentication server. The DM-NAX-XSP 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 DM-NAX-XSP. 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, then select **Open**.

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

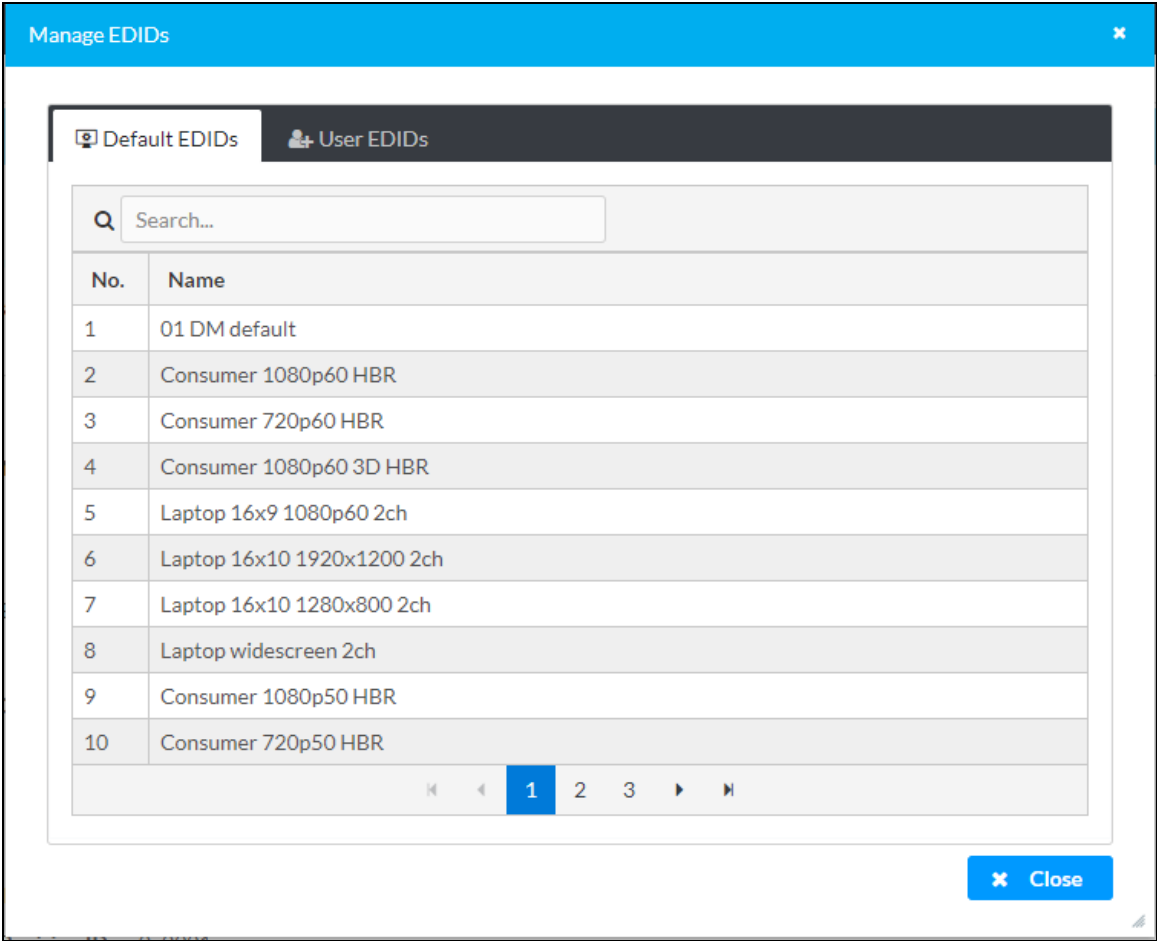
5. Select **OK**. This will add the certificate to the list box, displaying the file name and expiration date. The certificate is now available for selection and can be loaded to the device.

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.

Manage EDIDs

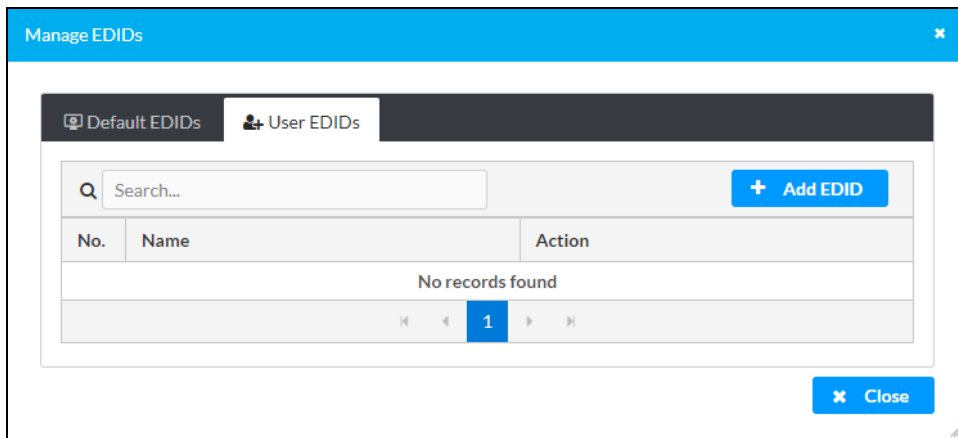
Use the **Manage EDIDs** window to add, remove, or browse which EDIDs are available for the HDMI input/output of the DM-NAX-XSP.



Select the **Manage EDIDs** entry in the **Action** menu. The **Manage EDIDs** window appears.

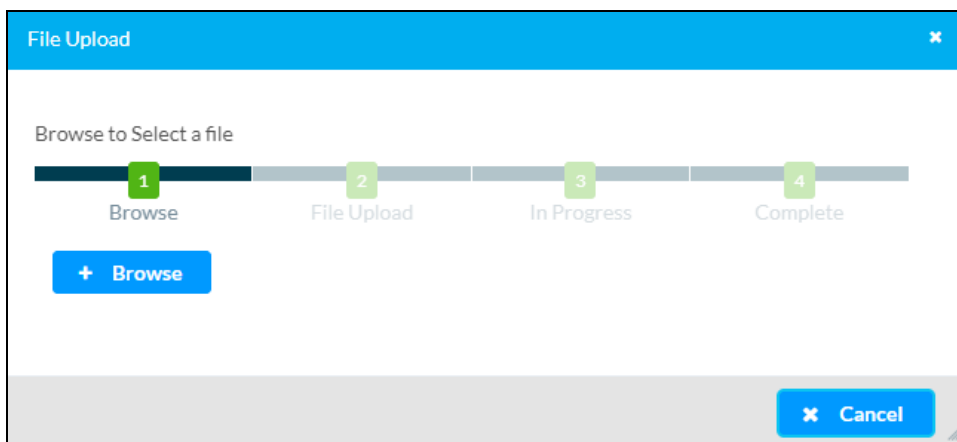
- The default tab that will open in this window is the **Default EDIDs** tab. This tab is read only, and provides a list of all default EDIDs available on the DM-NAX-XSP as part of the device firmware. Use the **Search...** text entry field to filter the list of EDIDs by name. Default EDIDs cannot be removed from the device.

- The second tab available in this window is the **User EDIDs** tab. By default, the table will populate with **No records found**. To add or remove custom EDID files:

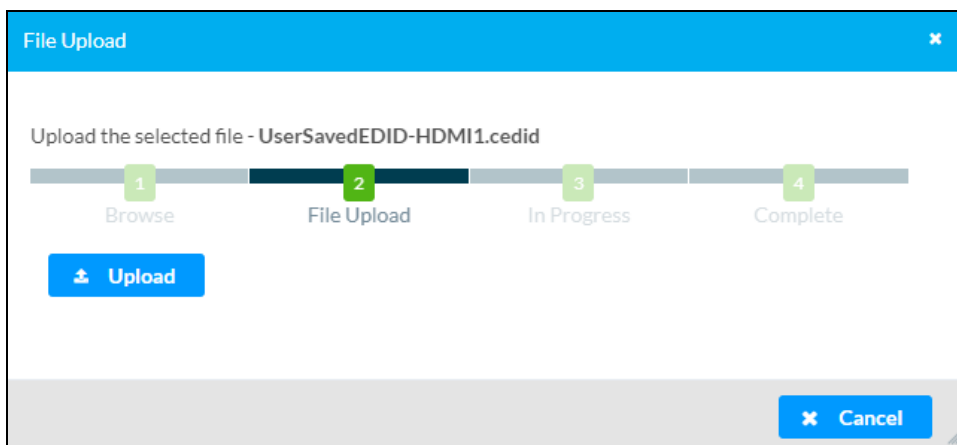


1. Select **Add EDID** at the top right of the table.
2. The **File Upload** screen will appear. Browse for a .cedid file, then select **Upload** to upload it to the DM-NAX-XSP.

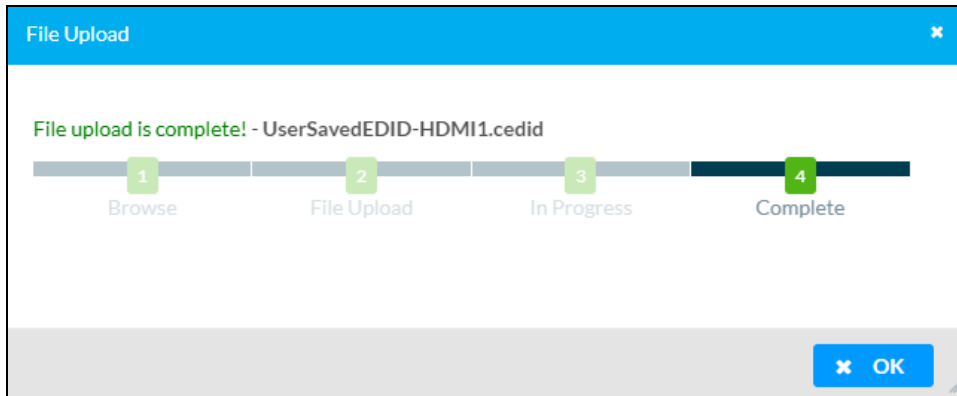
Browse and select a .cedid file



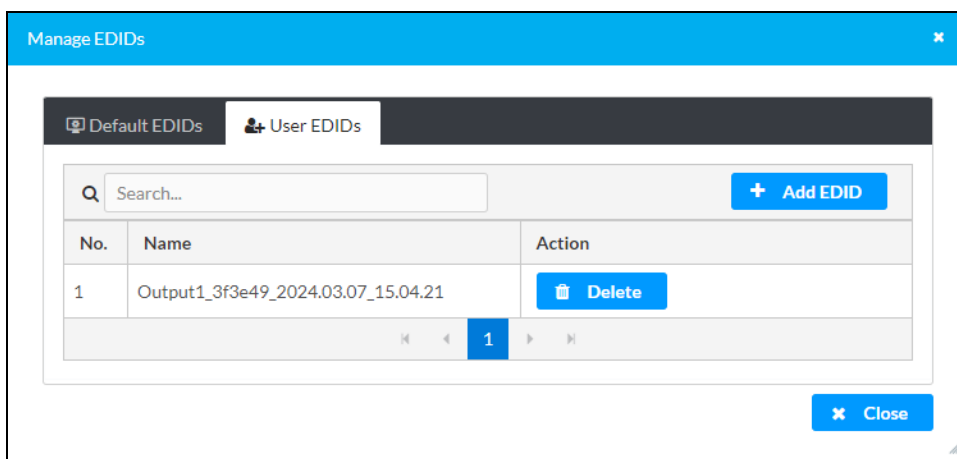
Upload the file



Wait for the file to upload to complete, then select OK

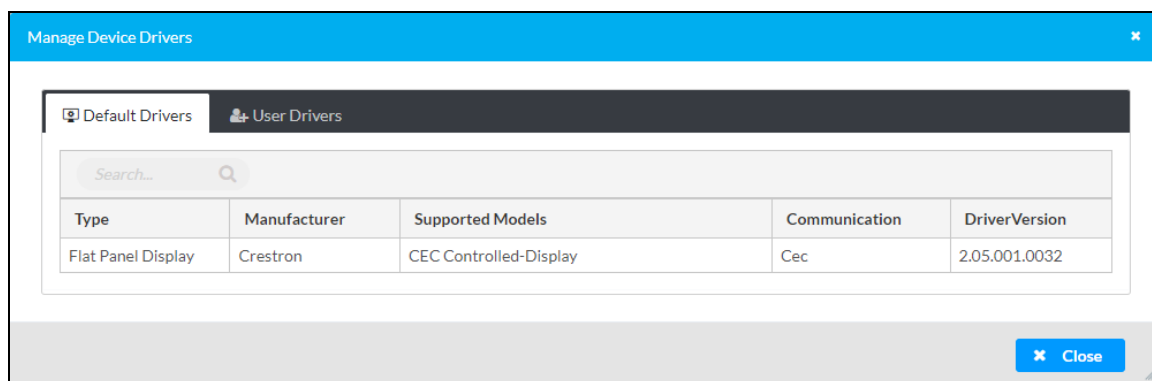


3. Select **OK** to return to the **Manage EDIDs** window. The uploaded custom EDID will now be displayed in the table. To remove a custom EDID, select **Delete** in its table row.



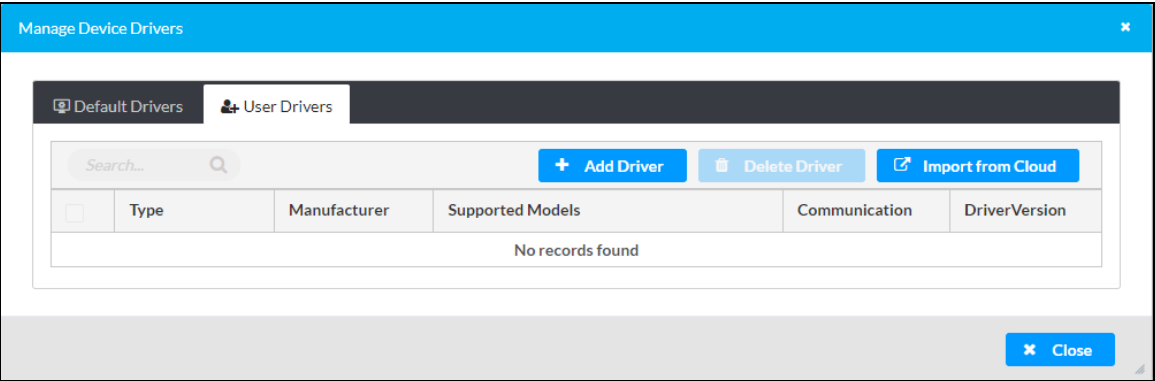
Manage Device Drivers

Use the **Manage Device Drivers** window to add, remove, or browse which drivers are available for controlling displays connected to the DM-NAX-XSP.

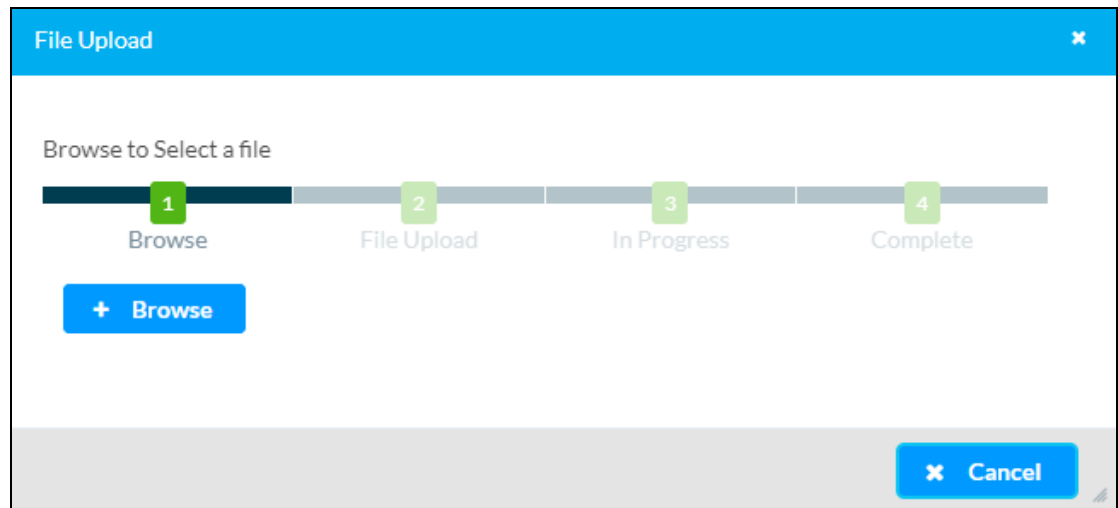


Select **Manage Device Drivers** in the **Action** menu. The **Manage Device Drivers** window appears:

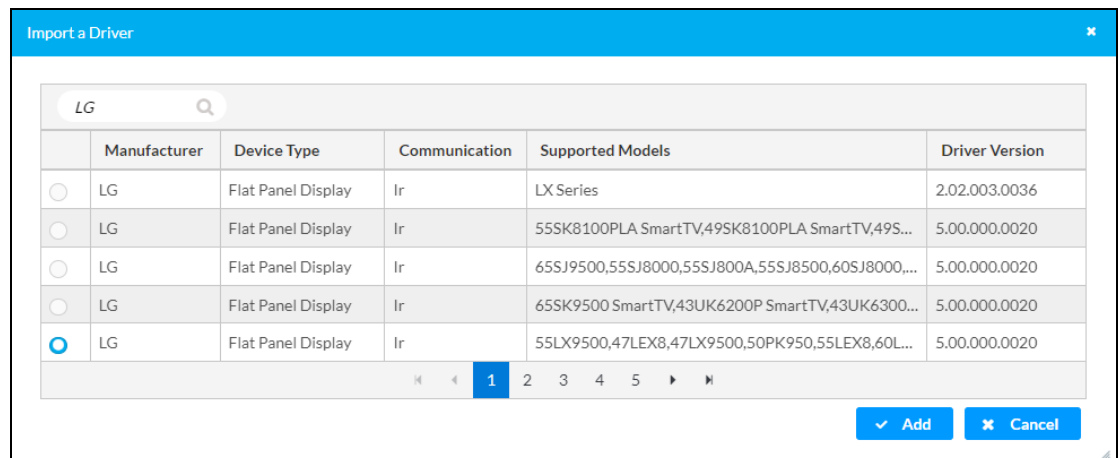
- The default tab that will open in this window is the **Default Drivers** tab. This tab is read only, and provides a list of all default drivers available on the DM-NAX-XSP as part of the device firmware. Use the **Search...** text entry field to filter the list of drivers by name. Default drivers cannot be removed from the device.
- The second tab available in this window is the **User Drivers** tab. By default, the table will populate with **No records found**. To add or remove custom driver files:



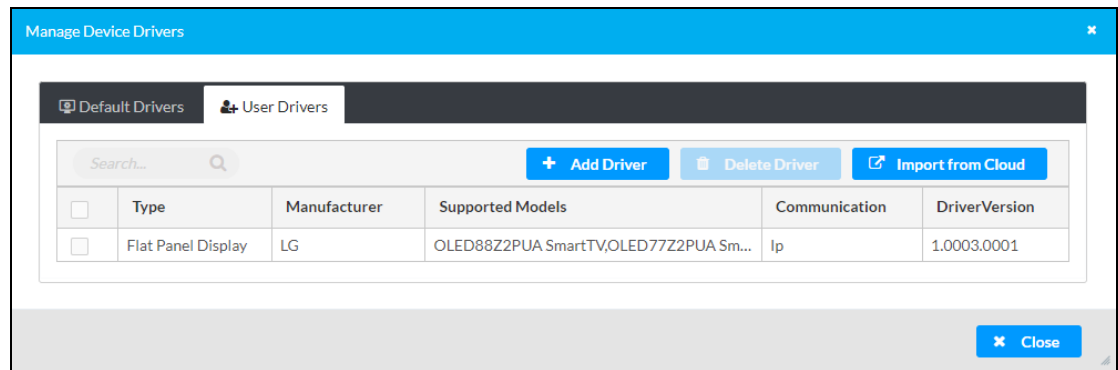
1. Select either **Add Driver** or **Import from Cloud** at the top right of the table.
 - Selecting **Add Driver** opens a window for uploading a custom .pkg driver file that was created from the Device Learner utility in Crestron Toolbox software. Browse for a .pkg file and upload it to the DM-NAX-XSP.



- Selecting **Import from Cloud** opens a window for browsing the [Crestron Driver Web Portal](#). Search the drivers list by manufacturer or model name, select a driver, then select **Add** to download the driver file and add it to the DM-NAX-XSP.



2. Select **OK** to return to the **Manage Drivers** window. The uploaded custom driver will now be displayed in the table. To remove a custom driver, select its row, then select **Delete Driver**.



Download Configuration

Select **Download Configuration** to download a TGZ file containing the settings data for the DM NAX device.

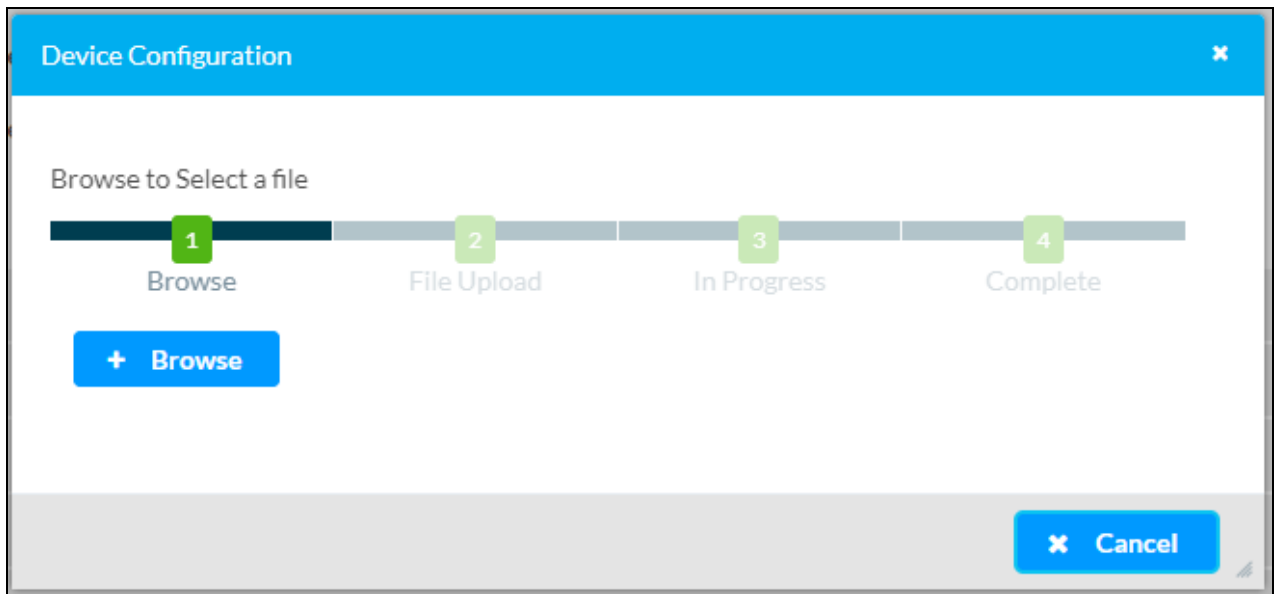
NOTE: Multicast addresses, stream names, and user accounts for accessing the device are not saved in this configuration file.

Upload Configuration

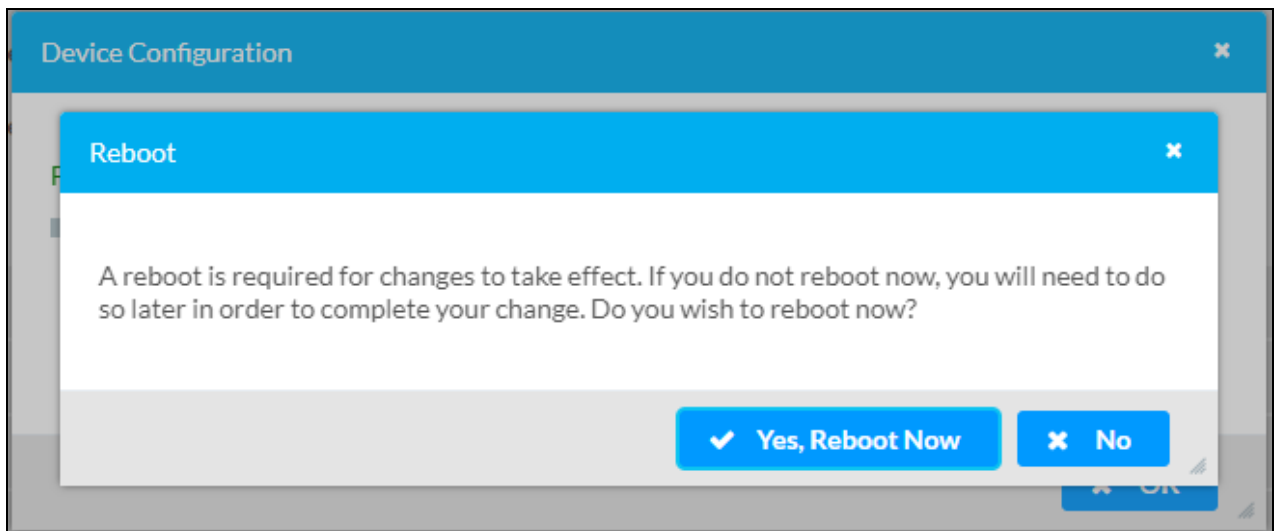
1. Select **Upload Configuration** to upload a TGZ file that will overwrite the current settings of the DM NAX device with a saved configuration.

CAUTION: Be sure to load a TGZ file for the same DM NAX device type while using the Load Configuration feature. For example, if loading a TGZ file to a DM-NAX-XSP, be sure that the TGZ file originated from a DM-NAX-XSP.

2. Select **Browse** to navigate to the desired TGZ file in your file browser. Select the file, then select **Open**.



3. Select **Upload** to begin the file upload process. A progress bar will indicate the status of the configuration file upload.
4. Once the upload is complete, the device will require a reboot. Select **Yes, Reboot Now** to begin the reboot, or select **No** to return to the web UI.



NOTE: Any changes made after the configuration file upload, but before a device reboot, may be overwritten when the device is rebooted.

Manage Schedule

Use the **Manage Schedule** window to add, edit, or remove schedules that can be used to power on or off connected displays.

Manage Schedule

Schedules

+ Add

🗑 Delete

<input type="checkbox"/>	Name	Actions
No records found		

✓ Close

Select **Manage Schedules** in the **Action** menu. The **Manage Schedules** window appears. By default, the table will populate with **No records found**. To add a schedule:

1. Select **Add** at the top right of the table. A window for creating a custom schedule appears.
2. Enter a name for the schedule in the **Name** text field at the top of the window.

Add Schedule

Name

Name is required

Enabled	Day	On Time	Off Time
<input checked="" type="checkbox"/>	Monday	00:00	23:59
<input checked="" type="checkbox"/>	Tuesday	00:00	23:59
<input checked="" type="checkbox"/>	Wednesday	00:00	23:59
<input checked="" type="checkbox"/>	Thursday	00:00	23:59
<input checked="" type="checkbox"/>	Friday	00:00	23:59
<input type="checkbox"/>	Saturday	00:00	23:59
<input type="checkbox"/>	Sunday	00:00	23:59

✓ OK

✕ Cancel

3. Enable or disable each day of the week.
4. Set an hour range for each enabled day.
5. Set an **On Time** value to determine when the power on command will be sent to the connected display.

6. Set an **Off Time** value to determine when the power off command will be sent to the connected display.
7. Select **OK** to return to the **Manage Schedules** window. The custom schedule will now be displayed in the table.

Select **Duplicate** to duplicate the schedule or select **Edit** to edit it.

The screenshot shows a window titled "Manage Schedule" with a close button (X) in the top right corner. Inside the window, there is a section labeled "Schedules" containing a table. Above the table are two buttons: "+ Add" and "Delete". The table has two columns: "Name" and "Actions". There is one row in the table with the name "Test". In the "Actions" column for the "Test" row, there are two buttons: "Edit" and "Duplicate". Below the table is a "Close" button with a checkmark icon.

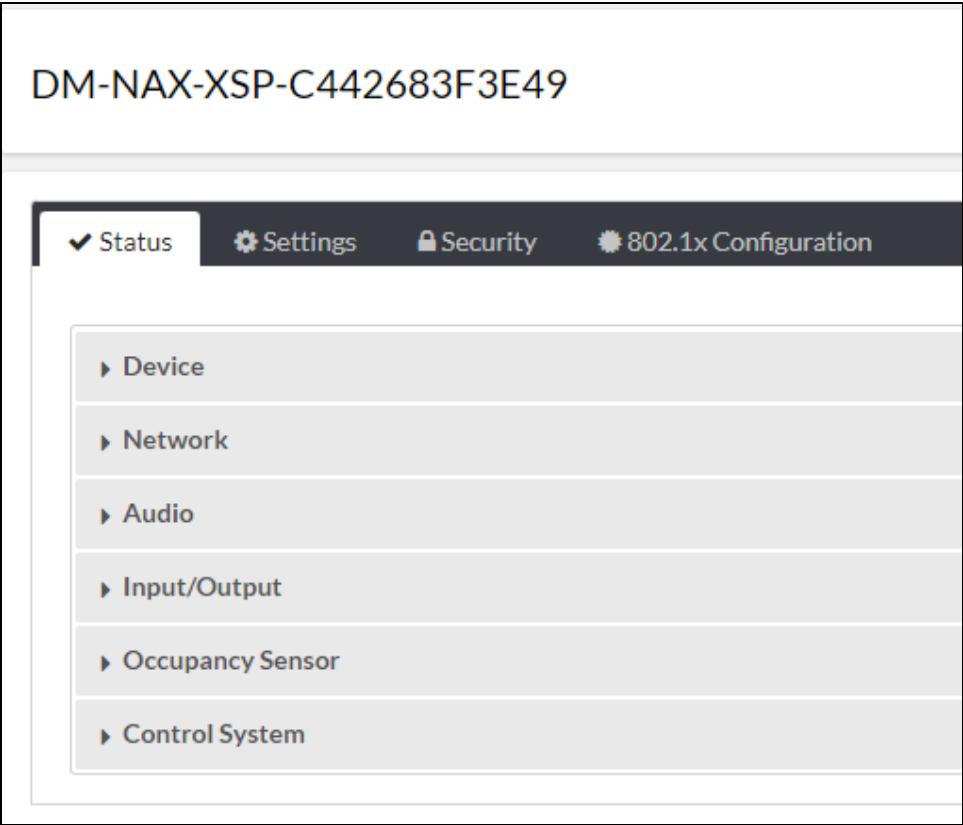
Name	Actions
Test	Edit Duplicate

To delete a schedule, select its row, then select **Delete**.

Status

The **Status** page is the first page displayed when opening the interface of the DM-NAX-XSP. It displays general information about the DM-NAX-XSP (such as **Model Name**, **Firmware Version**, and **Serial Number**), current network settings (such as **Host Name** and **IP Address**, etc.), and input and output ports' current status.

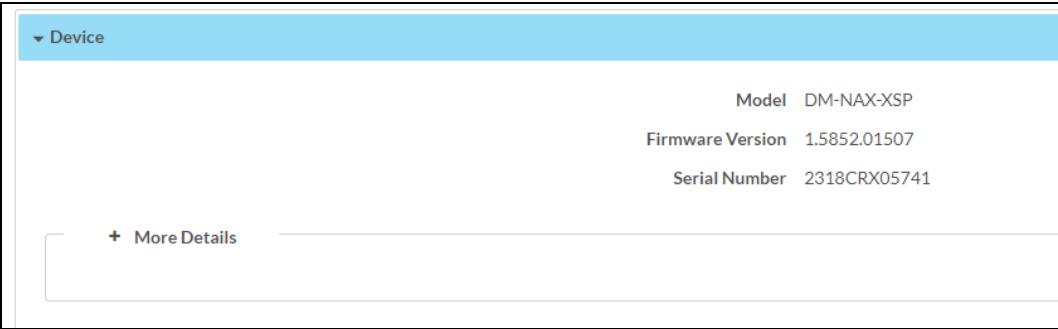
The **Status** page can be accessed at any time by selecting the **Status** tab of the DM-NAX-XSP interface.



Information displayed on the **Status** tab is organized into different sections.

Device

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



Select **+ More Details** to review additional information about the DM-NAX-XSP.

- More Details	
DM-NAX-XSP	1.5852.01507
Build	Jan 09 2024 (528287)
Updater	1.5852.01507
Bootloader	2.01.125
Cab	1.8002.0082
CCUI Version	1.56.892867
XIOSDK	3.8.2
IoTSDK	1.10.1
Build time	01:50:43
Product ID	0x7240
Revision ID	0x0001

Network

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

▼ Network	
Hostname	DM-NAX-XSP-C442683F3E49
Domain Name	lan
Primary Static DNS	192.168.1.1(DHCP)
Secondary Static DNS	
- Adapter 1	
DHCP Enabled	On
IP Address	192.168.1.92
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1
Link Active	true
MAC Address	c4.42.68.3f.3e.49

NOTE: By default, the host name of the DM-NAX-XSP consists of the model name followed by the MAC address of the device. For example, DM-NAX-XSP-C442683F3E49.

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

NOTE: The **+ Adapter 2** option appears when the Ethernet ports on the DM-NAX-XSP are set to isolate traffic using the **Port Selection** feature.

Audio

The **Audio** section displays details about the active audio source of the DM-NAX-XSP.

▼ Audio	
Source	
Signal Type	
DSP Decode Out	No
Channels Out	
Bit Rate Out	Yes
Downmix Out	No
Sample Rate	

Information is only populated in this section for whichever audio input is selected as the active audio source. The active audio source is determined by the **Input / Output Selection** section of the **Settings** tab, or by commands issued by a control system.

Input/Output

The Input/Output section displays information on the available AV inputs and outputs of the DM-NAX-XSP.

▼ Input/Output

Inputs

Video Inputs

Name	Sync Detected	Resolution	Source HDCP
HDMI	Yes	1920x1080@60	Non-HDCP

Audio Inputs

Name	Stream	Audio Format	Audio Channels
HDMI		PCM	2
eARC		PCM	2
AES67		No Audio	0
BTS		No Audio	0

In the **Video Inputs** table, the **Sync Detected** status for the HDMI input displays whether or not a source is connected to the HDMI input. If sync is detected and a signal is passing, the **Resolution** and **Source HDCP** fields will also populate with information about the video signal.

In the **Audio Inputs** table, each available audio input on the device has a row. The **Stream**, **Audio Format**, and **Audio Channels** columns will each populate with information about the audio signal for a given input when an audio signal is detected.

Occupancy Sensor

The **Occupancy Sensor** section displays information on any occupancy sensors paired with the DM-NAX-XSP.

Occupancy Sensor

Ethernet Models

Name	Model	Serial Number	Firmware Version	Status	Occupancy
Occupancy Sensor	POE-OCC	1949CRO01448	3.0000.00011	Online	Occupied

Digi-In Models

Name	Digi-In Port
DigiInSensor2	01

Occupancy sensors can be paired with the device using the **Occupancy Sensor** section of the **Settings** tab.

The Ethernet Models table displays the **Name**, **Model**, **Serial Number**, and **Firmware Version** of any paired IP based occupancy sensors. The **Status** field will either read **Online** or **Offline**. The **Occupancy** field will either read **Occupied** or **Vacant**. The **Name** field is populated with the friendly name entered while pairing the occupancy sensor, while the other fields populate based on information pulled from the occupancy sensor. Up to three IP based occupancy sensors can be paired with the DM-NAX-XSP.

Control System

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

Encrypt Connection ON						
IP ID	Room ID	IP Address/Hostname	Type	Server Port	Connection	Status
7		MC4-R-00107F9CA5C1	Peer	41796	Gway	ONLINE

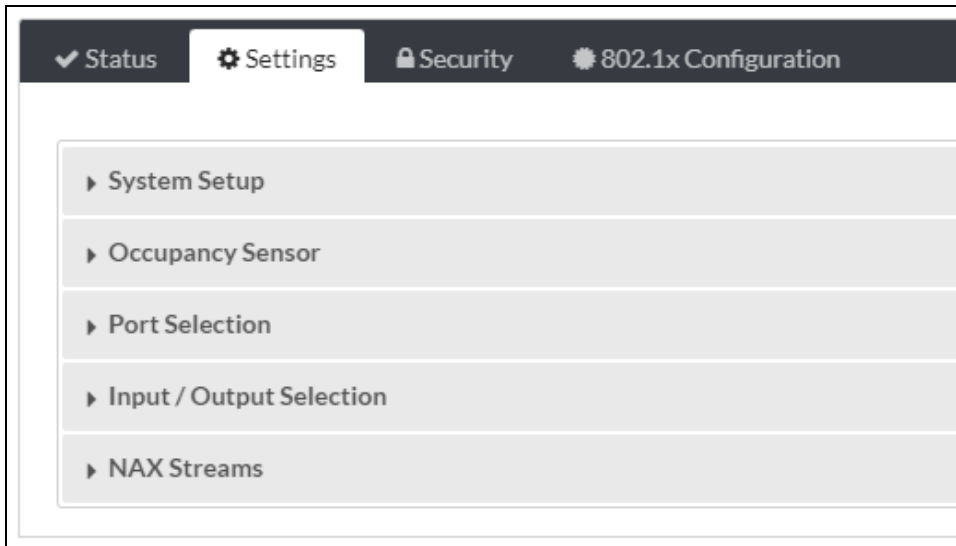
- **Encrypt Connection:** Displays **ON** or **OFF**.
- **IP ID:** Displays the currently used IP ID of the DM-NAX-XSP.
- **Room ID:** Displays the room ID.
- **IP Address/Hostname:** Displays the IP address or hostname of the control system.
- **Type:** Displays the type of IP table entry the device holds in the control system's table; the DM-NAX-XSP will always report as a **Peer** entry in the control system's table.
- **Server Port:** Displays the port number for the connection to the control system.
- **Connection:** Displays the type of connection the device is using to communicate with the control system; the DM-NAX-XSP will always report a **Gway** connection.
- **Status:** Displays **OFFLINE** or **ONLINE**.

Settings

This section provides the following information:

- [System Setup on page 712](#)
- [Occupancy Sensor on page 716](#)
- [Port Selection on page 717](#)
- [Input / Output Selection on page 718](#)
- [DM NAX Streams on page 725](#)

The **Settings** page enables you to configure the DM-NAX-XSP settings. The **Settings** page can be accessed at any time by selecting the **Settings** tab of the DM-NAX-XSP interface.



Settings available on the **Settings** tab are organized into different sections.

System Setup

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

Network

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

▼ System Setup

Network

Cloud Settings

Auto Update

Date/Time

Control System

— Network

Adapter 1

Hostname *

DM-NAX-XSP-C442683F3E49

Domain

lan

Primary Static DNS

192.168.1.1(DHCP)

Secondary Static DNS

DHCP

☒

IP Address

192.168.1.92

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

NOTE: By default, the hostname of the DM-NAX-XSP consists of the model name followed by the MAC address of the device. For example, DM-NAX-XSP-C442683F3E49.

Adapter 1

The **Adapter 1** subheading contains settings for **DHCP**, **IP Address**, **Subnet Mask**, and **Default Gateway** of Ethernet adapter 1 on the rear panel of the device.

NOTES:

- An **+ Adapter 2** option only appears when the Ethernet ports on the DM-NAX-XSP are set to isolate traffic using the **Port Selection** feature. The settings for **Adapter 2** are identical to those available for **Adapter 1**.
- Internal processes of DM NAX devices use IP addresses in the 10.10.10.xxx range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts with these internal addresses.

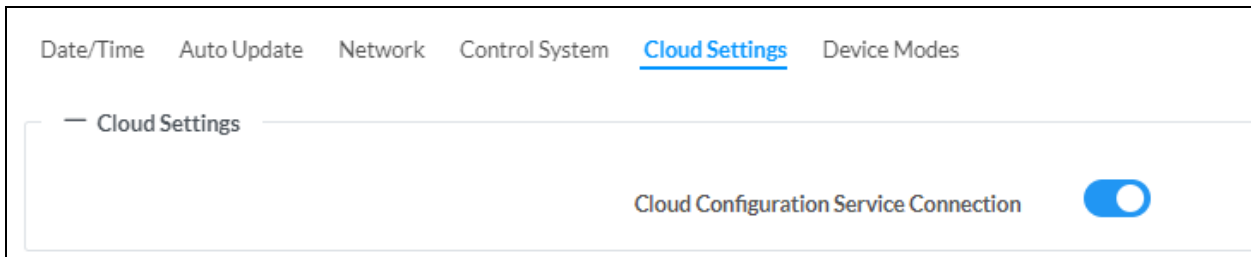
Set the **DHCP** toggle to the right position to enable DHCP or to the left to disable DHCP. This specifies whether the IP address of the DM-NAX-XSP is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled:** When **DHCP** is enabled (default setting), the IP address of the DM-NAX-XSP 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 DM-NAX-XSP.
- **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**.

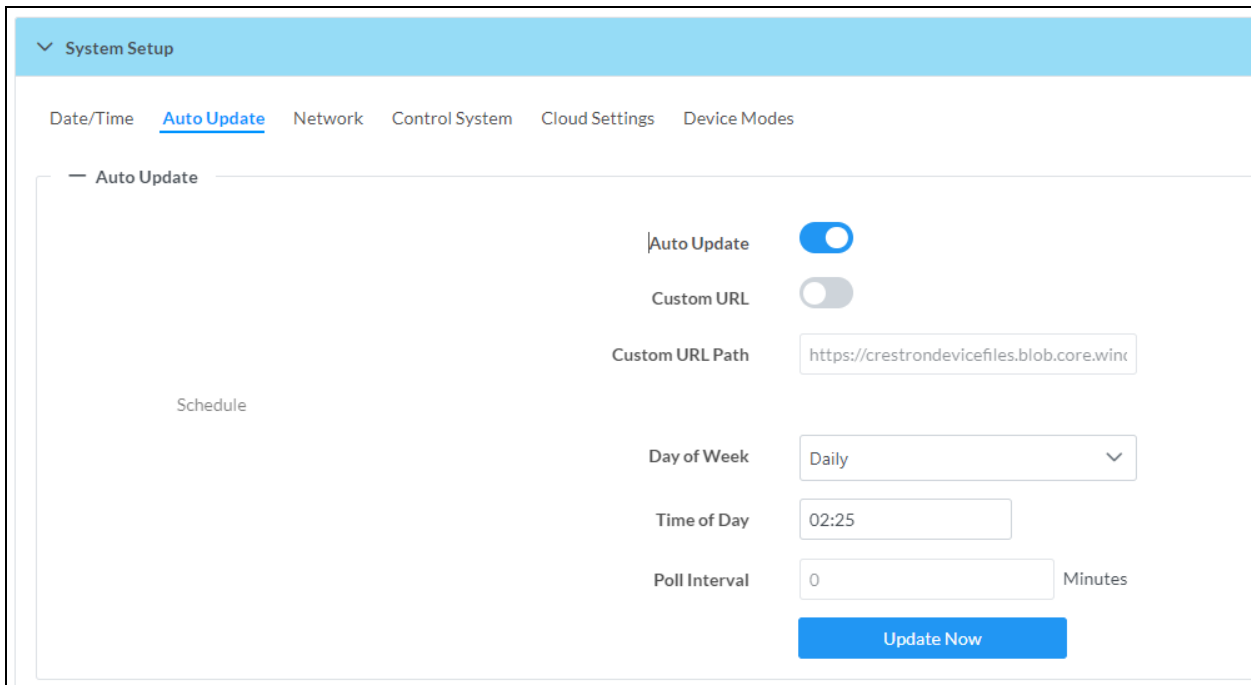
Cloud Settings



Set the **Cloud Settings** toggle to the right position to enable or to the left to disable cloud settings. This specifies whether the DM-NAX-AUD-IO can communicate with the XiO Cloud® platform.

Auto Update

The DM-NAX-XSP 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 automatic updates.
2. Define the URL to download the updates by doing either of the following:

- a. Use the default URL to download the updates from the Crestron server.
 - b. 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:
 - a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.
 - b. 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.

Date/Time

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

The screenshot displays the 'System Setup' interface for the DM-NAX-XSP device, specifically the 'Date/Time' configuration page. The page is divided into several sections:

- System Setup:** The top navigation bar includes 'System Setup', 'Auto Update', 'Network', 'Control System', 'Cloud Settings', and 'Device Modes'.
- Date/Time:** The main section title, with a sub-section 'Date/Time'.
- Synchronization:** A toggle switch for 'Time Synchronization' is set to 'On'. A 'Synchronize Now' button is located below the toggle.
- NTP Time Servers:** A table with columns: Address, Port, Authentication Method, Authentication Key, and Key ID. One server is listed: 'pool.ntp.org' on port '123' with 'None' authentication. There are '+ Add' and '- Remove' buttons below the table.
- Configuration:** A section for setting the device's time. It includes a 'Time Zone' dropdown menu (set to '(UTC-05:00) Eastern Time (US & Can)'), a 'Date' input field (set to '02/21/2024'), and a 'Time' input field (set to '11:49').

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. Open the **Time Zone** drop-down to select the applicable time zone.
2. In the **Date** field, enter the current date.

3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Select **Save Changes** to save the settings.

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

Control System

The screenshot shows the 'Control System' configuration page under the 'System Setup' menu. The page has a light blue header with the title 'Control System'. Below the header, there are tabs for 'Date/Time', 'Auto Update', 'Network', 'Control System' (selected), 'Cloud Settings', and 'Device Modes'. The main content area is titled 'Control System' and contains an 'IP Table' section. At the top of the IP Table section is a blue button labeled 'Encrypt Connection'. Below this is a table with three columns: 'IP ID', 'IP Address/Hostname', and 'Room Id'. The table is currently empty, with the text 'No records found' centered below the headers. At the bottom of the table are two buttons: '+ Add' and 'X Remove'.

1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
 - a. Enter the username in the **Control System Username** field.
 - b. Enter the password in the **Control System Password** field.
2. Select + Add to add an IP table entry to the IP Table.
 - a. Enter the Room ID in the **Room ID** field.
 - b. Enter the IP ID of the DM-NAX-XSP in the **IP ID** field.
 - c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. 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.

Occupancy Sensor

Use the **Occupancy Sensor** section to pair up to three Ethernet based and one digital input based occupancy sensor.

The screenshot shows the 'Occupancy Sensor' configuration page. The page has a light blue header with the title 'Occupancy Sensor'. Below the header, there are tabs for 'Models' (selected) and 'Settings'. The main content area is titled 'Models' and contains two sections: 'Ethernet Models' and 'Digi-In Models'. The 'Ethernet Models' section contains a table with five columns: 'Name', 'IP Address/Hostname', 'Pairing Retry Time', 'Username', and 'Password'. The table is currently empty, with the text 'No records found' centered below the headers. At the bottom of the table are two buttons: '+ Add' and '- Remove'. The 'Digi-In Models' section contains a table with two columns: 'Name' and 'Digi-In Port'. The table has one row with the values 'DigiInSensor2' and '01'.

The **Ethernet Models** table contains all settings for pairing Ethernet-based occupancy sensors.

To pair an Ethernet occupancy sensor:

1. Select **Add**.
2. Enter a friendly name for the occupancy sensor in the **Name** text field.
3. Enter the IP address or hostname of the occupancy sensor in the **IP Address/Hostname** field.
4. Select a **Pairing Retry Time** from the drop-down. The options are from one to five minutes. If the DM-NAX-XSP loses connection to the occupancy sensor, this interval will determine how often it attempts to reconnect to the sensor.
5. Enter the credentials of the occupancy sensor in the **Username** and **Password** fields.

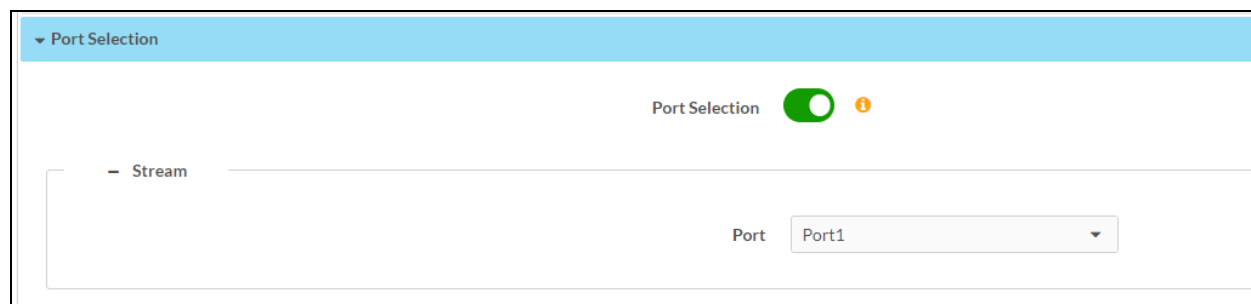
To remove an Ethernet occupancy sensor:

1. Select the check box in the leftmost column to select the occupancy sensor.
2. Select **Remove**.

The **Digi-In Models** table is used to name the digital input based occupancy sensor connected to the **IN** port of the DM-NAX-XSP. Enter a friendly name for the occupancy sensor in the **Name** text field.

Port Selection

The **Port Selection** feature allows the device's internal network traffic to be managed and segregated based on traffic type. Internal VLANs are used to segment the device's management and streaming service traffic to a separate Ethernet port from the audio-over-IP streaming traffic. With **Port Selection** enabled on all DM NAX devices on a network, DM NAX and AES67 network traffic can be physically separated from the control network onto a dedicated audio network.



To configure **Port Selection**:

1. Set the **Port Selection** toggle to the right position to enable **Port Selection**. Set the toggle to the left position to disable **Port Selection**. By default, **Port Selection** is disabled.

NOTE: Ports 1 and 2 correspond to the Ethernet adapters labeled **1** and **2** on the rear panel of the DM-NAX-XSP, respectively.

2. With **Port Selection** enabled, select an Ethernet port from the **Stream** drop-down to designate which Ethernet port will handle audio-over-IP streaming network traffic.
3. Select **Save Changes** to apply the new settings.

NOTE: Making changes to **Port Selection** settings will require a reboot.

Input / Output Selection

The screenshot shows the 'Input / Output Selection' menu. At the top, there is a blue header bar with the text 'Input / Output Selection'. Below this, there are four settings: 'Auto Audio Selection' with a green toggle switch, 'Audio Only Mode' with a grey toggle switch and a blue question mark icon, 'Active Audio Selection' with a text field showing 'eARC', and 'Input Selection' with a dropdown menu showing 'eARC'. At the bottom, there are two sections: '+ Inputs (Autosaved)' and '+ Outputs (Autosaved)', each followed by a horizontal line.

The **Auto Audio Selection** setting determines whether the active audio input of the DM-NAX-XSP is driven automatically by signal detection, or driven manually by either the **Input Selection** drop-down or programming.

- Set the **Auto Audio Selection** toggle to the right position to enable Auto Audio Selection. Set the toggle to the left to disable Auto Audio Selection. Auto Audio Selection is enabled by default.

Audio Only Mode allows the DM-NAX-XSP to be used exclusively as an audio encoder without requiring an active video signal on the HDMI input. With Audio Only Mode enabled, the HDMI output can maintain A/V sync with the connected display and continue to receive (e)ARC audio without passing video content.

- Set the **Audio Only Mode** toggle to the right position to enable Audio Only Mode. Set the toggle to the left to disable Audio Only Mode. Audio Only Mode is disabled by default.

Active Audio Selection is a read only field that indicates which of the audio inputs of the DM-NAX-XSP is currently selected and transmitting audio via the DM NAX and BTS Audio-over-IP (AoIP) streams.

The **Input Selection** drop-down selects an active audio source for the DM-NAX-XSP to transmit via the DM NAX and BTS AoIP streams. If **Auto Audio Selection** is enabled, this setting will override it and will set a new **Active Audio Selection**. The available options for **Input Selection** are **None**, **HDMI**, **eARC**, **AES67**, and **BTS**.

Surround Sound Audio

The DM-NAX-XSP supports lossless transport of surround sound audio signals (including Dolby® TrueHD, Dolby Atmos®, DTS HD®, and DTS:X® audio signals) and up to 8 channels of uncompressed linear PCM. The DM-NAX-XSP can receive both multichannel and 2-channel downmix signals from another DM-NAX-XSP, allowing either signal to be selected at the HDMI output. The EDID selected at the HDMI output and the EDID of the HDMI sink device will determine which surround sound audio formats can be sent to the sink device. To configure surround sound audio, set a compatible EDID using the **Manage EDIDs** function from the **Action** menu.

The DM-NAX-XSP can also receive a multichannel surround sound audio signal from the local HDMI input or the eARC path of the HDMI output. Surround sound audio from the local HDMI connections can then be transmitted over the network to another DM-NAX-XSP via the **BTS** stream, or downmixed to stereo and transmitted to any other DM NAX device via the **AES67** stream. The DM-NAX-XSP can distribute both the **BTS** and **AES67** streams simultaneously over the network, allowing either signal to be selected at any receiver on the network.

Inputs

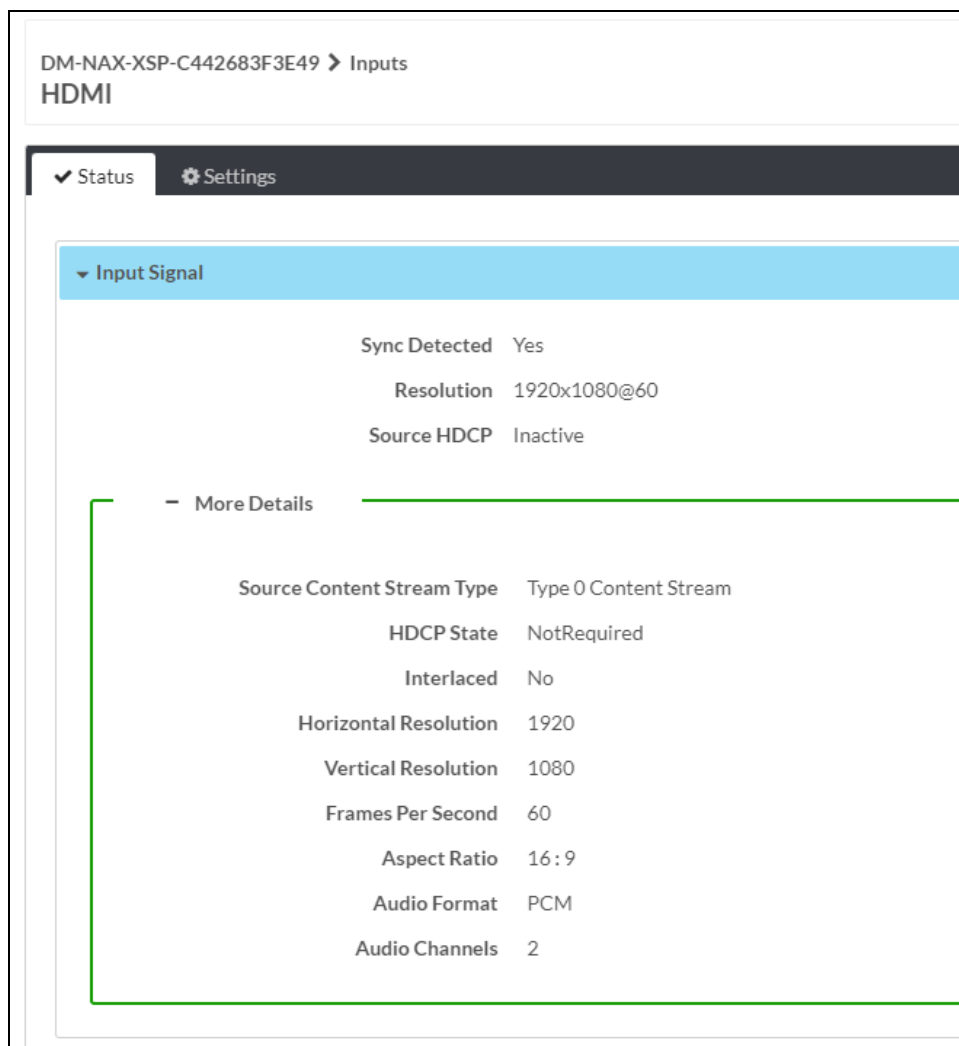
The **Inputs** subsection provides a table of the available inputs on the DM-NAX-XSP, with settings to rename or edit the inputs.

Inputs (Autosaved)

Input Name	Name	Actions
HDMI	<input type="text" value="HDMI"/>	 Edit
eARC	<input type="text" value="eARC"/>	 Edit
AES67	<input type="text" value="AES67"/>	 Edit
BTS	<input type="text" value="BTS"/>	 Edit

Enter a friendly name for each input in the **Name** text fields.

To view the status and available settings for an input, select **Edit**.



All four inputs have a read only **Status** tab that shows video and audio information for the connected source. Video status fields are only populated for the HDMI and eARC inputs, and will show **N/A** for the AES67 and BTS inputs.

The HDMI input has an additional **Settings** tab that includes settings for HDCP capabilities and applying an EDID.

DM-NAX-XSP-C442683F3E49 > Inputs

HDMI

✓ Status

⚙ Settings

▼ General

Name

HDMI

HDCP Receiver Capability

Auto

▼ EDID

Select

4K60 444 2CH Non-HDR

To configure the settings of the HDMI input:

- Enter a friendly name for the HDMI input in the **Name** text field. This will track with the **Name** field from the previous page.
- Use the **HDCP Receiver Capability** drop-down in the **General** section to determine which HDCP keys the HDMI input of the DM-NAX-XSP will present to its source device.
 - With **Auto** selected, the DM-NAX-XSP will attempt to match the HDCP requirements between the connected source and sink devices.
 - With **Disabled** selected, the DM-NAX-XSP will not pass any HDCP protected content to the HDMI output.
 - With **HDCP 1.4** selected, the DM-NAX-XSP will not pass any content protected by an HDCP version higher than 1.4.
 - With **HDCP 2.x** selected, the DM-NAX-XSP will pass all content protected by the latest HDCP 2.x version supported in firmware.
- Use the Select drop-down in the **EDID** section to set an EDID at the HDMI input of the DM-NAX-XSP. To add a custom EDID to this drop-down list, refer to the [Action Menu](#).

Outputs

The **Outputs** subsection provides a table of the available outputs on the DM-NAX-XSP, with settings to rename or edit the outputs.

NOTE: Only the HDMI output has an **Edit** option.

Outputs (Autosaved)		
Output Name	Name	Actions
HDMI	<input type="text" value="HDMI"/>	Edit
BTS	<input type="text" value="BTS"/>	
AES67	<input type="text" value="AES67"/>	

Enter a friendly name for each output in the **Name** text fields.

To access the settings of the HDMI output, select **Edit**.

DM-NAX-XSP-C442683F3E49 > Outputs
HDMI

Settings

▼ Output

HDMI Output Setting (Autosaved)

Name

Disable Output ☐

Blank Video ☐

HDCP Transmitter Mode

Connected Display

Sink Connected Yes

Manufacturer GSM

Serial Number 1010101

Save CEDID

To configure the settings of the HDMI output:

- Enter a friendly name for the output in the **Name** text field. This will track with the **Name** field from the previous page.
- Set the **Disable Output** toggle to the right to disable any video signal from passing to the HDMI output. Set the toggle to the left to pass video signal.
- Set the **Blank Video** toggle to the right to send a black screen to the HDMI output instead of passing the HDMI input signal through. Set the toggle to the left to revert to the HDMI input signal.

- Use the HDCP Transmitter Mode drop-down to determine which HDCP level will be present on the HDMI output of the DM-NAX-XSP.
 - With **Follow Input** selected, the HDMI output signal HDCP level will be the same as the HDMI input signal from the source device.
 - With **Force Highest** selected, the HDMI output signal HDCP level will be set to the highest version supported in firmware. If this level is not supported by the connected display or the HDMI source, the video output will be blanked.
 - With **Never Authenticate** selected, the HDMI output signal will not authenticate HDCP. Any HDCP content from the HDMI input will be blanked.
- The **Connected Display** subsection reads out the connection status, manufacturer, and serial number of the connected display. Select **Save CEDID** to save the EDID of the connected display as a .cedid file. This file can be loaded to the DM-NAX-XSP or other Crestron A/V device.

– Output Signal

Transmitting

No

Resolution

0x0@0

Disabled by HDCP

No

– Audio Settings (Autosaved)

HDMI Mute

☐

- The **Output Signal** subsection contains read only fields for the transmission, resolution, and HDCP status of the HDMI output.
- The **Audio Settings** subsection contains a toggle to mute the audio of the HDMI output. Set the **HDMI Mute** toggle to the right to mute the audio on the HDMI output. Set the toggle to the left to unmute the output.

Automatic Display Power (Autosaved)

Automatic Power ☒

Automatic Power Trigger * Sync

Relay Control None

Selected Relays Relay1 & Relay2

Command Interface CEC

Command Format Hex

Command Terminator None

Output Timeout 5 Seconds

Power Off

Command Power Off: RCP and SS

Test

Power On

Command Power On: RCP and IVO

Test

InputControl ☐

- The Automatic Display Power subsection contains settings for powering the connected display on or off via either CEC, RS-232, IR, or IP. The settings below **Automatic Power** only appear if its toggle is enabled. Set the toggle to the right position to enable it, and to the left to disable it. **Automatic Power** is enabled by default.
 - Select any desired triggers for the power commands to be issued from the **Automatic Power Trigger** drop-down. Any number of the three options - **Sync**, **Occupancy**, and **Schedule** - can be selected.
 - The **Relay Control** and **Selected Relays** drop-downs allow the **RELAY** connectors of the DM-NAX-XSP to trigger additional connected devices when the automatic power command is sent to the display. Select the desired **Relay Control** type from either **Latched/Interlocked** or **Momentary**, depending on the control requirements of the connected device.
 - Use the **Command Interface** drop-down to determine whether the power command is issued via CEC, the **RS-232** connector, the **IR** connector, or via a driver that was loaded to the device. Refer to [Action Menu](#) for more details on loading drivers.
 - If CEC or RS-232 is selected as the command interface, use the **Command Format** drop-down to choose whether the power command is sent as an **ASCII** or **Hex** command. Use the **Command Terminator** drop-down to select any necessary character string to be appended to the end of the power command.
 - If IR is selected as the command interface, use the **IR Settings** subsection to load an IR file specific to the connected display. IR files can be downloaded from the [Crestron Driver Web Portal](#), or created using the Device Learner utility in Crestron Toolbox™ software.
 - Set an **Output Timeout** using the text field or up and down arrows. This determines when the power off command will be sent to the display.
 - Use the **Power Off** and **Power On** subsections to test the power commands.
 - Set the **InputControl** toggle to the right to allow input selection commands to be sent to the connected display. Additional input selection commands can be added or selected in the settings fields that are shown when the toggle is enabled. If CEC or RS-232 is selected as the command interface, the additional input selection commands can be added as text strings in the **Command String** field. If IR is selected as the command interface, the additional commands can be selected from the **Command** drop-down based on any commands included in the IR file.

DM NAX Streams

The local audio sources of the DM-NAX-XSP can be made available as a DM NAX audio-over-IP stream. This includes the HDMI input audio from a local source and the eARC audio from the HDMI output path to the connected display.

Select **NAX Streams** to expand the tab and display the following information.

NAX Streams

Device is Master PTP Clock Source

No

Master Clock Address

00:10:7f:9c:1fa9

PTP Priority

254

Transmitters (Autosaved)

Audio Source	Stream Type	Stream	Nax Stream Address	Nax Stream Name	Status	Actions
BTS	BTS	Stream01	0.0.0.0	Stream01c4.42.68.3f3e.49	Stream Stopped	▶ ◻ ⚙
AES67	AES67	Stream02	0.0.0.0	Stream02c4.42.68.3f3e.49	Stream Stopped	▶ ◻ ⚙

Receivers (Autosaved)

Audio Source	Stream Type	Stream	Current Stream Address	Requested Stream Address	Status	Actions
BTS	BTS	Stream01	0.0.0.0	0.0.0.0	Stream Stopped	▶ ◻ ⚙
AES67	AES67	Stream02	0.0.0.0	0.0.0.0	Stream Stopped	▶ ◻ ⚙

- **Device is Leader PTP Clock Source** indicates whether the DM NAX device's PTP clock is the leader clock on the network. **Yes** will be displayed in green when the local DM-NAX-XSP's clock 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 is currently acting as the leader clock.
- **PTP Priority:** This 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 DM-NAX-XSP only operates as the leader clock if no other PTP leader is present on the network. Valid values range from 1 to 255.

Configure Transmitters


The DM-NAX-XSP features two main AoIP transmit streams. The first stream listed in the Transmitters list is the **BTS** stream, which is a unique AoIP transmit stream to the DM-NAX-XSP. The **BTS** stream will allow lossless transmission of surround sound audio formats over the network to another DM-NAX-XSP. The second stream is labeled **AES67**, and is a 2-channel AoIP stream that is compatible with all existing DM NAX and DM NVX devices.

To configure a DM NAX transmit stream:

1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, similar to a device hostname that resolves to a given IP address.
3. **Status** indicates whether a stream is transmitting or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Select the configure icon ⚙ in the **Actions** column. The **Configure** dialog appears:

5. 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 for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
 - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the port number, do one of the following:
 - Use the arrows to increase or decrease the port number in increments of 1.
 - Manually enter a port number in the **Port** field. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

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 configure 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. To set the port number, do one of the following:
 - Use the arrows to increase or decrease the port number in increments of 1.
 - Manually enter a port number in the **Port** field. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Security

Select the **Security** tab to configure security for users and groups and to allow different levels of access to the DM-NAX-XSP functions. By default, security is disabled.

✓ Status

⚙ Settings

🔒 Security

⚙ 802.1x Configuration

▼ Security

SSL Mode

Encrypt

▼

SSL Authentication

Username *

chdevice

Password *

Confirm Password *

Current User

Users

Groups

Name

admin

Access Level

Administrator

Active Directory User

No

Groups

Administrators

Change Current User Password

Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down, 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.

Current User

Users

Groups

Name

admin

Access Level

Administrator

Active Directory User

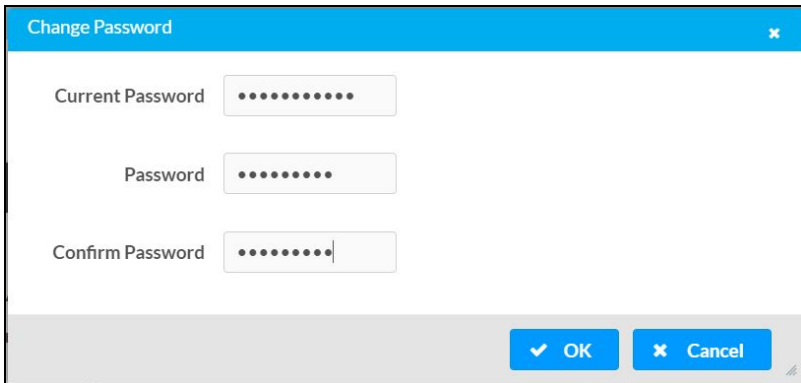
No

Groups

Administrators

Change Current User Password

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.

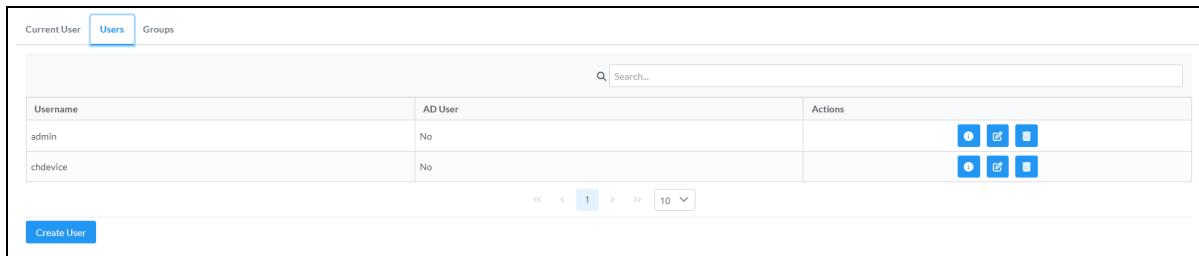


The image shows a 'Change Password' dialog box with a blue header bar containing the title and a close button. It contains three text input fields: 'Current Password', 'Password', and 'Confirm Password', each with a masked password (dots). At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.

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.



The image shows the 'Users' tab interface. At the top, there are tabs for 'Current User', 'Users' (selected), and 'Groups'. Below the tabs is a search bar labeled 'Search...'. A table displays a list of users with columns for 'Username', 'AD User', and 'Actions'. The table contains two rows: 'admin' and 'chdevice', both with 'No' in the 'AD User' column. The 'Actions' column for each row contains three icons: a plus sign, a document, and a trash can. Below the table is a pagination control showing '1' of 10 items, with left and right arrows. A 'Create User' button is located at the bottom left.

Username	AD User	Actions
admin	No	[Icons: Add, Edit, Delete]
chdevice	No	[Icons: Add, Edit, Delete]

Use the **Search Users** 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 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.

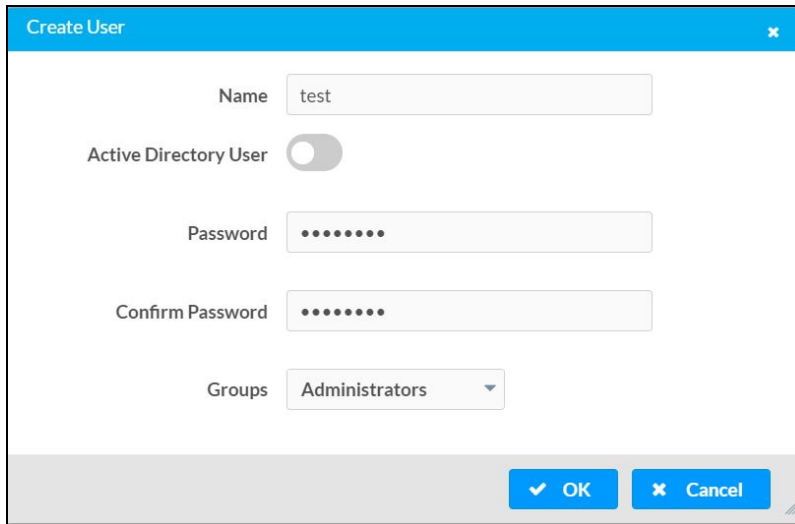
- **Username:** Displays the name of the user.
- **AD User:** Displays whether the user requires authentication using Active Directory.

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 **Users** 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.

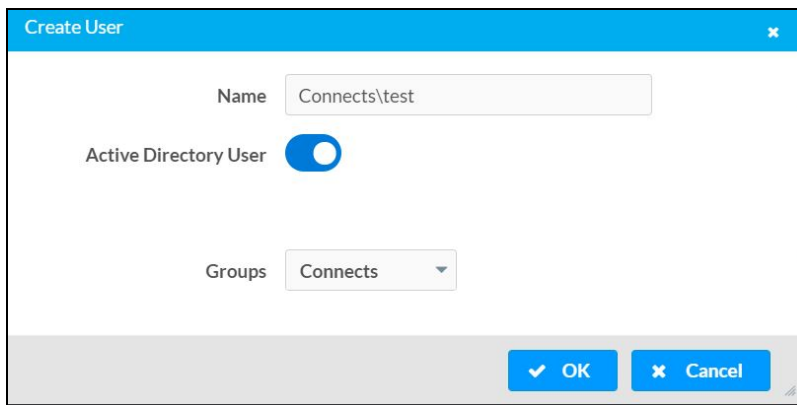
Add an Active Directory User

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 DM-NAX-XSP, or add the Active Directory group(s) that they are a member of to the DM-NAX-XSP.

To add an Active Directory user.

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




The 'Create User' dialog box has a blue title bar with the text 'Create User' and a close button. It contains three main sections: a 'Name' field with the text 'Connects\test', an 'Active Directory User' toggle switch that is turned on, and a 'Groups' dropdown menu with 'Connects' selected. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'x' icon.

- 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

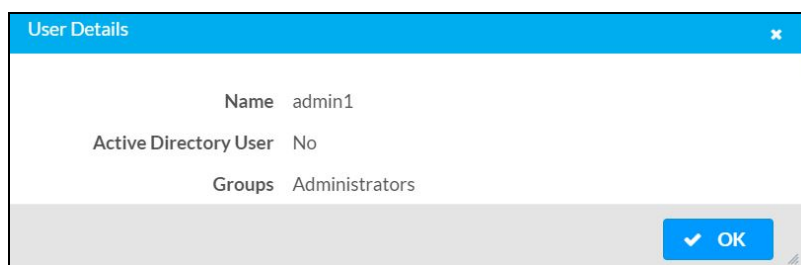
Select the trashcan icon  in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

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.



The 'User Details' dialog box has a blue title bar with the text 'User Details' and a close button. It displays three pieces of information: 'Name' with the value 'admin1', 'Active Directory User' with the value 'No', and 'Groups' with the value 'Administrators'. At the bottom right, there is an 'OK' button with a checkmark icon.

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

Update User Details

Update User

Name

admin1

Active Directory User

☐

Password


Confirm Password

Groups

Administrators

OK

Cancel

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

Current User

Users

Groups

Search...

Group Name	AD Group	Access Level	Actions
Administrators	No	Administrator	 
Connects	No	Connect	 
Operators	No	Operator	 
Programmers	No	Programmer	 
Users	No	User	 

<<

<

1

>

>>

10

▼

Create Group

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 to the right of the navigation arrows.

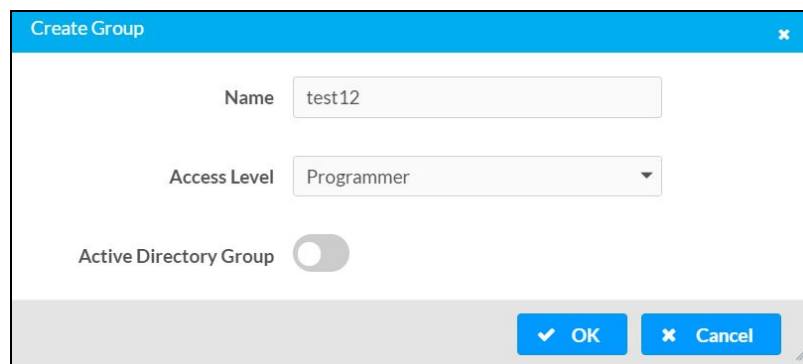
Existing groups are displayed in a table and the following information is provided for each group:

- **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 🗑 selected group.

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

Create Local Group



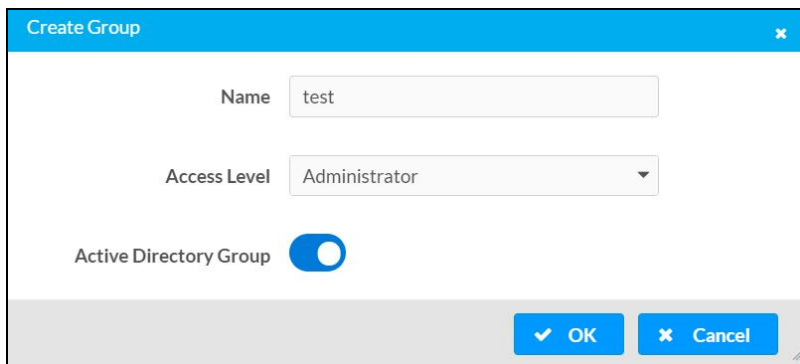
1. Select **Create Group**.
2. In the **Create Group** dialog, enter the following:
 - a. Enter the group name in the **Name** field.
 - b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

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



The 'Create Group' dialog box has a blue title bar with the text 'Create Group' and a close button. It contains three input fields: 'Name' with the value 'test', 'Access Level' with a dropdown menu showing 'Administrator', and 'Active Directory Group' with a toggle switch that is turned on. At the bottom right, there are two buttons: 'OK' with a checkmark icon and 'Cancel' with an 'X' icon.


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

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.
3. 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.


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

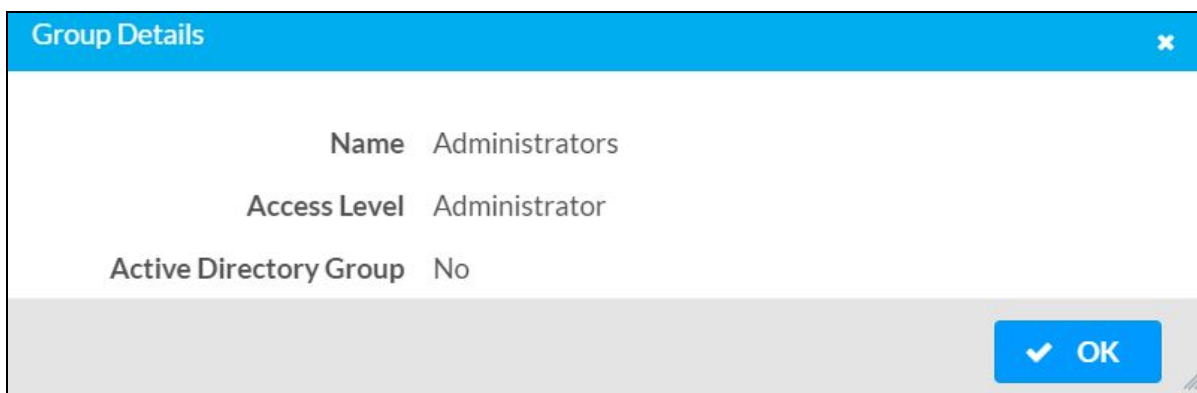
Delete a Group

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.



The 'Group Details' dialog box has a blue title bar with the text 'Group Details' and a close button. It displays three rows of information: 'Name' with the value 'Administrators', 'Access Level' with the value 'Administrator', and 'Active Directory Group' with the value 'No'. At the bottom right, there is a button labeled 'OK' with a checkmark icon.

- **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 DM-NAX-XSP 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.

StatusSettingsSecurity802.1x Configuration

802.1x Configuration

IEEE 802.1x Authentication

Authentication MethodEAP MSCHAP V2- password

Domainsecure12

Usernameadmin

Password*****

Enable Authentication Server Validation

Select Trusted Certificate Authority(s)

☒ AAA Certificate Services

☐ AC RAIZ FNMT-RCM

☐ ACCVRAIZ1

☐ Actalis Authentication Root CA

☒ AffirmTrust Commercial

☐ AffirmTrust Networking

☐ AffirmTrust Premium ECC

☒ AffirmTrust Premium

☐ Amazon Root CA 1

☐ Amazon Root CA 2

☒ Amazon Root CA 3

☐ Amazon Root CA 4

☐ Atos TrustedRoot 2011

☐ Autoridad de Certificacion Firmaprofesional CIF A62634068

☐ Baltimore CyberTrust Root

To Configure DM-NAX-XSP for 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 the **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. 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-XSP.
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.
5. If required, type the domain name of the network in the **Domain** field.
6. 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.

Audio-over-IP Network Design

A Crestron DM NAX® audio-over-IP (AoIP) digital audio distribution system routes and manages local audio sources as well as cloud-based streaming services over standard gigabit Ethernet infrastructure. The DM NAX AoIP platform is based on AES67 standards, and is interoperable with third-party AES67 devices for added flexibility and scalability. DM NAX AoIP network traffic is multicast by design, so careful and thorough network design is critical to a successful deployment. For a proper installation of a DM NAX AoIP audio distribution system, refer to the best practices that follow.

NOTE: Additional content pertaining to systems with DM NVX® AV-over-IP traffic is available in the [DM NVX AV-over-IP System Design Guide](#).

Minimum Network Requirements

Several network switch hardware and firmware features are required in order for an install to successfully support DM NAX AoIP.

- Required network switch features and settings:
 - 1 Gbps port for each connected DM NAX endpoint
 - Non-blocking backplane
 - Layer 3
 - IGMPv2 snooping
 - IGMPv2 Querier
 - Fast-Leave (also known as immediate leave)
- Recommended network switch settings:
 - Layer 3 packet prioritization (DSCP) for Quality of Service (QoS)

NOTE: This should be considered a hard requirement for any systems with mixed DM NAX and DM NVX traffic

- Inter-switch uplink requirements (if needed)
 - Must have sufficient bandwidth for all encoder and decoder traffic to be passed along the uplink (allocate 1 Gbps of traffic per device)

Network Design Overview

DM NAX networks should be designed to isolate traffic on network segments specifically configured to handle DM NAX AoIP and DM NVX A/V-over-IP (AVoIP) traffic. This can be accomplished by using separate infrastructure or Virtual Local Area Networks (VLANs). DM NAX network segments may carry DM NAX multicast streams, DM NAX control, and/or other ancillary traffic.

NOTE: DM NAX devices do not support VLAN tagging, so only DM NAX devices with dual Ethernet ports can be used in conjunction with VLANs to fully isolate DM NAX AoIP traffic from other traffic types on a single network switch.

DM NAX devices with dual Ethernet ports can be configured to isolate network traffic so that one port is designated for control and media player traffic and the other port is designated for AoIP traffic.

- When this **Port Isolation** feature is enabled, connect the control and media player port to the same network segment as the control system. This port will also need Internet access in order to support network streaming services.
- Connect the AoIP port to the network segment that will handle AoIP and AVoIP streams, such as DM NAX audio, AES67 audio, or DM NVX AVoIP streams.

These segments can be handled via VLANs or physically separate switching hardware. If the AoIP traffic is relegated to separate network switches, only the AoIP network switches need to meet the **Minimum Network Requirements** listed above.

Networked AV devices other than DM NAX AoIP devices can be placed on the DM NAX AoIP network segment. The network bandwidth requirements will often be higher in this case, so ensure that the network hardware can support the bandwidth of both platforms. When AV devices such as DM NVX AVoIP endpoints are added to the network, it may be necessary to configure QoS settings such as DSCP priorities on the network switch. Refer to [Quality of Service Configuration on page 742](#) for further information.

A single DM NAX AoIP device can have several network addresses:

- One IP address is required for device control, web configuration, and console access.
- A discrete multicast address is required for each multicast stream transmitting from the device:
 - DM NAX devices will typically have a multicast transmit stream available for each local source and media player on the device, but may also have additional transmit streams called **Parallel Zone Outputs** that mirror the audio signal of the local outputs of the device. For example, the DM-NAX-8ZSA has 8 transmit streams for the local inputs, 8 transmit streams for the local media players, and 8 **Parallel Zone Output** streams, for a total of 24 DM NAX transmit streams, each of which will require its own multicast address. Be sure to account for all available transmit streams of each DM NAX device when allocating multicast address ranges for DM NAX devices.
 - During device configuration, the **Commissioning** function in the web user interface (UI) will automatically assign multicast addresses to the transmit streams in a specified address range. Alternatively, each transmit stream address can be assigned manually via the web UI or custom programming. Duplicate multicast addresses are not permissible, and will cause network collisions and unpredictable behavior at the receiving device. The **Commissioning** function prevents address duplication on a single DM NAX device, and Crestron Home® OS automatically manages multicast addressing on all DM NAX and DM NVX devices in a system to prevent duplicate addresses.

The DM NAX network segment must receive network services, including DNS, DHCP, Active Directory®, PTP, mDNS, and RADIUS services. Coordinate with IT staff to provide access to these services and to create the proper routes for the DM NAX network segment.

Multicast Network Traffic

DM NAX AoIP devices send and receive audio as multicast network traffic. This Internet Group Management Protocol (IGMP) multicast traffic replaces a fixed switching architecture to achieve AoIP audio distribution.

To implement DM NAX devices successfully, first segregate DM NAX traffic away from customer-facing networks with wireless access points and/or Internet access. This can be accomplished either via VLANs or physically-separate switching hardware. In a network segment with multicast traffic, if traffic is not managed, all ports can be flooded by IGMP packets at any time, regardless of whether that traffic was intended to be received by the network device on that port. This leads to interference with network operation and can even be a means of implementing a denial-of-service attack on a network if done maliciously.

To ensure that only traffic between intended multicast senders and multicast receivers is present on a given port, IGMP Snooping must be supported and enabled on the network switch. IGMP Snooping is a feature that enables a network switch to limit multicast traffic only to ports between intended senders and receivers. DM NAX AoIP supports both versions of IGMP snooping: IGMPv2 and IGMPv3.

An IGMP Querier must also be available and enabled to ensure the network switch knows which ports should or should not receive multicast traffic. In a multiswitch topology, the switch with the lowest numerical IP address on the network is typically the default IGMP Querier. Only one IGMP Querier should be enabled and selected on a network. The default leave time for the IGMP Querier (typically 125 seconds) is sufficient for a DM NAX network.

Precision Time Protocol

Precision Time Protocol (PTP) is a clock synchronization protocol that keeps signal clocking aligned throughout a network. This is a crucial component of AoIP audio distribution, since it keeps audio synchronized and transmitting properly between networked audio devices in the system. Many interactions that are part of PTP are extremely time critical, and allow the protocol to achieve submicrosecond accuracy between networked clocks. This also makes PTP traffic extremely sensitive to high-bandwidth traffic if not managed properly.

PTP is multicast traffic, and needs to be able to reach all DM NAX or AES67-capable devices on a network in order to maintain clock synchronization. To keep units synchronized, a single clock in the system is designated as the **PTP Leader Clock**, and all other clocks in the system synchronize to that device's clock. This can be a DM NAX or AES67 AoIP device, or it can be a dedicated clock on the network. The leader clock assignment is decided based on a priority value associated with the clocks on the network:

- DM NAX devices have a default priority of 254, and can be elected as the leader clock only if all other devices on the network have a priority of 254 or 255.
- Any device with a priority value less than 254 would be assigned as the leader clock over a DM NAX device unless the DM NAX device was set to a lower value via the web UI. It is recommended to leave the clock priority value of DM NAX devices at its default value to allow a dedicated PTP clock on the network to be assigned as the leader.

Once a leader clock is selected, all other clocks on the network will be synchronized to that device. In the event that a leader clock becomes inaccessible, a new leader clock will be elected instantly. If network bandwidth becomes saturated and clock synchronization is compromised, noticeable drops in audio quality, broken routes, or audible distortions will occur. If these symptoms are occurring, enable QoS settings on the network switch to preserve consistent clock synchronization and good audio quality.

PTP packets also include a discrete Time To Live (TTL) value. TTL is a value which determines how many network router hops a given packet can traverse before it is discarded by the router. DM NAX PTP packets have a TTL value of 1, meaning the PTP traffic will not survive traversal through a router to another subnet. As a result, all DM NAX traffic must be relegated to a single subnet.

Quality of Service Configuration

Quality of Service (QoS) refers to a suite of features on network switches that are designed to preserve network traffic integrity in the event of compromising circumstances, such as bandwidth saturation. QoS is typically a mechanism of organizing different network traffic types hierarchically, so higher priority traffic has a better chance of being undisturbed by suboptimal network performance (at the expense of lower priority traffic). Configuring QoS can help ensure that time-critical events like PTP clock synchronization between AoIP devices do not fail, even as a network switch handles high utilization rates from surges in traffic bandwidth. Configuring QoS is necessary in VLANs that combine both DM NAX AoIP and DM NVX AVoIP traffic, since constant high-bandwidth traffic will be the standard for most ports on the VLAN.

DM NAX devices tag outgoing traffic with Differentiated Services Code Point (DSCP) headers as shown in the following table:

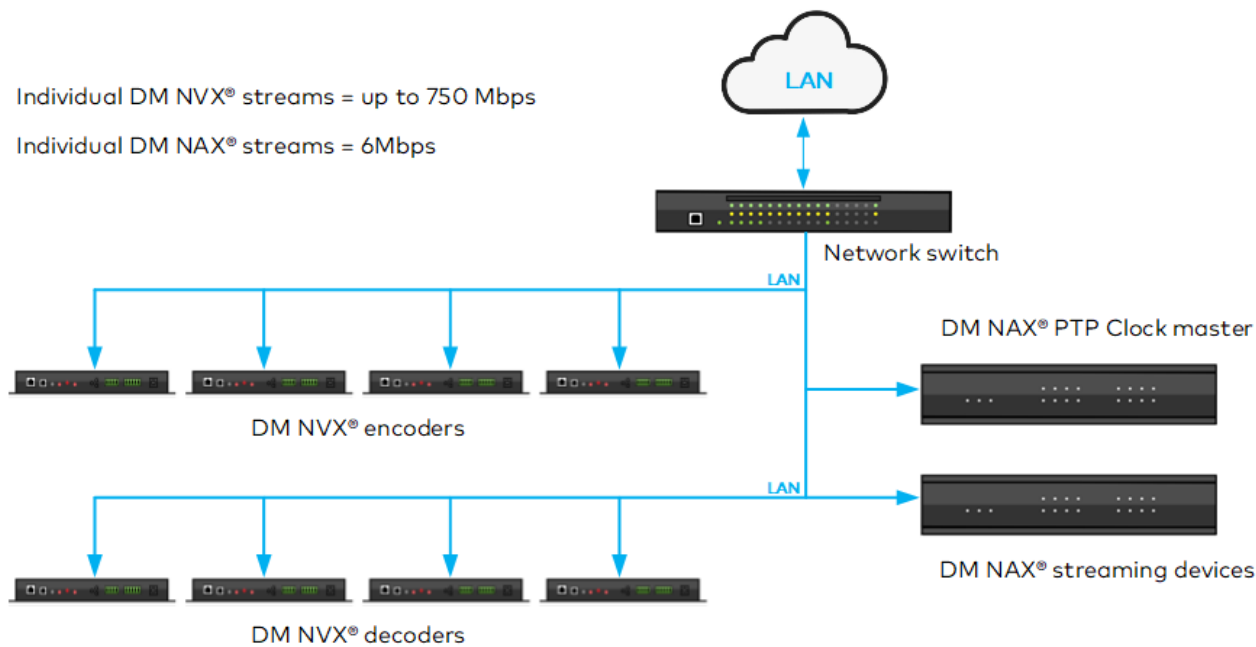
Prioritization	Traffic Type	DSCP Value
Highest	Time-critical PTP events	CS7 (56)
↓	Remaining PTP traffic	CS6 (48)
	Audio	EF (46)
Lowest	Other	BestEffort (0)

NOTES:

- DM NAX traffic is tagged with DSCP values, not 802.1P IP Precedence values.
- These DSCP values vary slightly from the AES67 standard so that DM NAX PTP and audio traffic can more easily be set to higher priorities than the values corresponding to DM NVX video traffic.
- VLAN tagging is not supported on DM NAX devices.

Mixed DM NAX and DM NVX Network Segment

Quality of Service



With the potential for DM NVX, AES67, control, and USB traffic to be passing on individual switch connections in a mixed DM NAX and DM NVX VLAN, any given port may approach or exceed 80% utilization (assuming 1 Gbps ports), at which point QoS can prioritize time-critical PTP negotiations. This prevents leader clock status or synchronization from being interrupted during near network saturation. Without QoS configuration, as port utilization approaches the point of saturation, PTP may no longer remain synchronized and audio signals throughout the network may begin to falter, distort, or cut out

completely. QoS cannot fabricate additional bandwidth for the network switch: in the event of true bandwidth saturation, QoS settings cannot guarantee the timely delivery of high-priority traffic.

Network Topologies

The relationships between network switches and their interconnection define a network's topology. In a topology with multiple interconnected switches, there are two classes of network switches: edge switches and core switches.

- Edge switches are connected via uplinks to other switches and routers, and typically have lower backplane bandwidth or processing power.
- Core switches are switches to which edge switch uplinks connect, aggregating and managing traffic from the network's edge. As such, core switches must have sufficient bandwidth and processing power to manage all network traffic from all connected switches.

Connect devices such as control processors, touch screens, servers, personal computing devices, and DM NAX endpoints directly to network switches. In a large network with multiple layers of switch hierarchy, connect these devices to edge switches.

The following general rules apply for determining nonblocking switch fabric bandwidth:

- The network core must support a fabric bandwidth and uplink speed equal to 1 Gbps multiplied by the lesser of the total number of anticipated encoder endpoints or the total number of anticipated decoder endpoints. DM NAX devices can act as both encoders and decoders simultaneously, while DM NVX devices may only operate as one or the other. Include any USB extenders in the endpoint count as well.
- The network edge must support a fabric bandwidth and uplink speed equal to 1 Gbps multiplied by the greater of the total number of anticipated encoder endpoints or the total number of anticipated decoder endpoints. Include any USB extenders in the endpoint count as well.

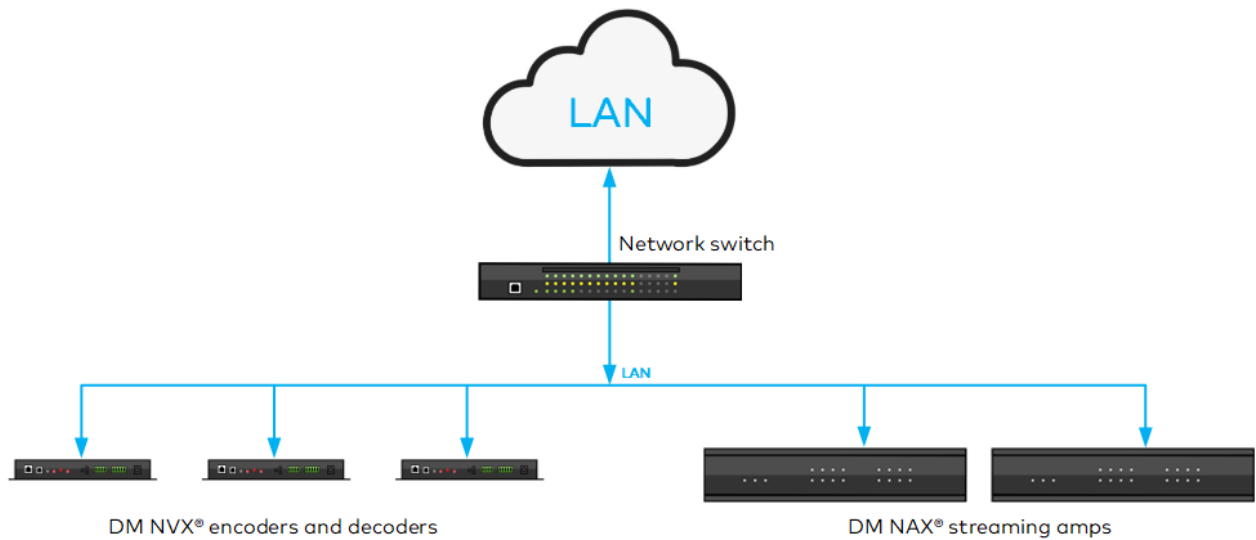
Star

The basic recommended network topology for a DM NAX system is the star topology. Using a fully nonblocking switch, star topology allows any combination of one or more endpoints to connect to any other combination of endpoints.

The network switch in a star topology must support a backplane bandwidth greater than or equal to 1 Gbps multiplied by the total number of anticipated transmitting endpoints or receiving endpoints, whichever is greater.

Star Topology Using a Nonblocking Network Switch

Star Network Using a Nonblocking Switch



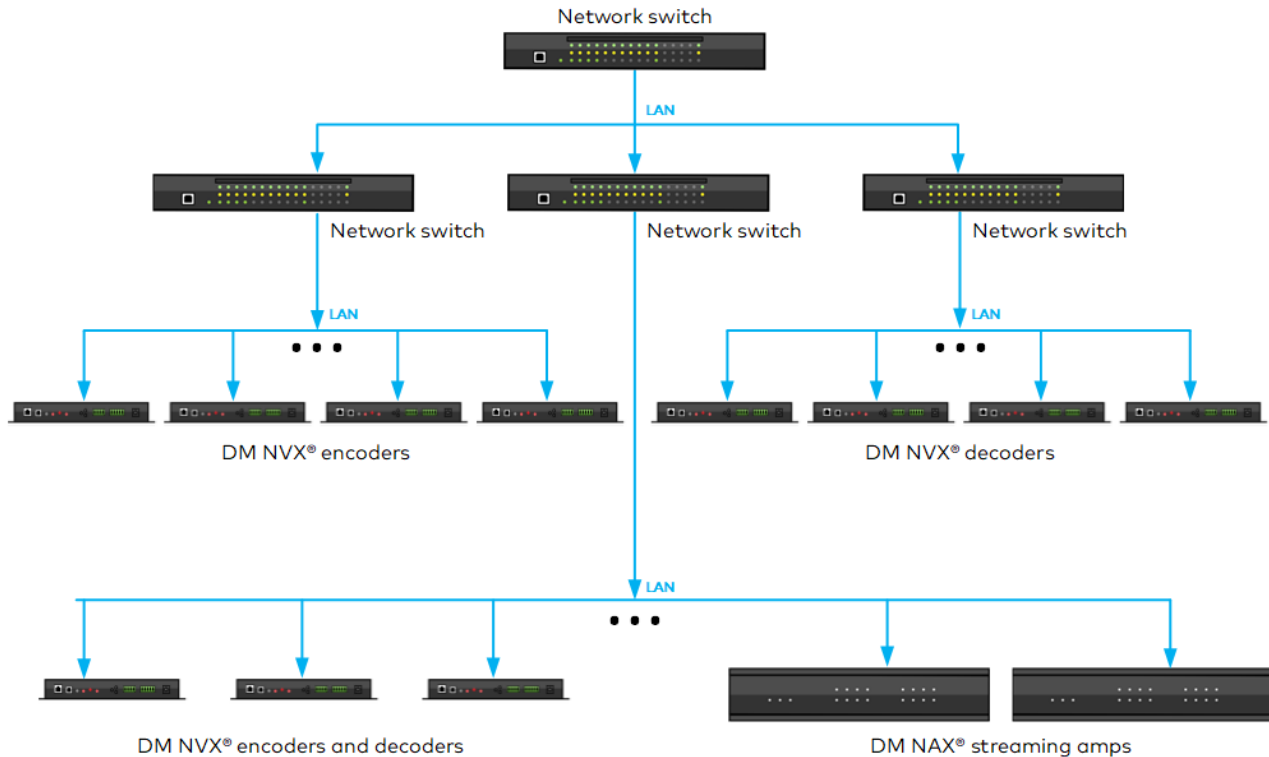
Tree

A tree network is a combination of more than one star network existing on a core switching infrastructure. The tree network allows for failure in one attached star network without widely effecting the others. Configure the network core switch for redundancy and scalability.

In a network with multiple layers of switch hierarchy, always connect DM NAX devices to edge switches. Network edge switches are connected via uplinks to other switches and routers that form the network's core. The core switch fabric and uplinks in a tree topology must support a bandwidth greater than or equal to 1 Gbps multiplied by the total number of anticipated endpoints that will transmit through the core switch.

Each edge switch in a tree topology must support a backplane bandwidth greater than or equal to 1 Gbps multiplied by the total number of anticipated transmitting endpoints or receiving endpoints local to that switch, whichever is greater.

Tree Topology Using Nonblocking Switches on a Core Network



Network Security

Security requires the support of particular capabilities within all devices on the network. DM NAX networks employ:

- 802.1X authentication to ensure that devices on the network have been authorized by the network administration team.
 - Unauthorized devices are prevented from being added to the network and from having access to sensitive content.
- Active Directory services for endpoint administration to ensure that administrative privileges for DM NAX devices can be centrally managed, granted, and revoked when necessary.
- SSL-based Secure Cresnet over IP (SCIP) for control to allow control processors and DM NAX devices to communicate with the intended party device, and that any unauthorized device on the network cannot monitor commands or status.
- SSH-based command-line console access for device configuration and status to protect the device console from access by unauthorized users.

SCIP and SSH-based command-line console access are automatically configured within DM NAX devices and support software. Designs will need to facilitate 802.1X and Active Directory service support within the network.

For additional information about the secure deployment of Crestron products, refer to the [IP Considerations Guidelines for the IT Professional Design Guide](#) and [Knowledge Article 5571](#).

Network Design Considerations

Adhere to these best practices when designing a DM NAX network:

- Use nonblocking Layer 3 switches with port-based QoS at all stages of the design:
 - Ensure sufficient switch fabric bandwidth and port speeds.
- Configure QoS to ensure prioritization of time-critical PTP clock traffic:
 - PTP events are tagged with DSCP values at DM NAX devices so PTP events can successfully pass on the network even at near saturation traffic levels, and clock synchronization is not interrupted between audio devices.
- Enable an IGMP Querier on at least one switch in the DM NAX network.
- Choose an appropriate network topology:
 - Consider the network, including basic functionality and redundancy, as well as whether additional features such as DM NVX video walls or repetitive display signage are necessary.
 - Ensure that network IT staff and network architects are involved in the decision.
- In multiswitch designs, choose switches with sufficient bandwidth at each segment from edge to core to ensure a fully non-blocking design.
- Consult the network switch manufacturer's documentation to confirm that any uplinks are configured properly for multicast traffic.
 - Refer to [Knowledge Article 2948](#) for further considerations when configuring Link Aggregation Groups (LAGs).
- Use Active Directory for network security:
 - Create an Active Directory group responsible for device administration.
 - Add device administrators to the group.
 - Add the group to the DM NAX device via the **Device** tab of the web UI.
- Use a DHCP server with link-layer filtering, and configure the IP addresses of endpoints using DHCP rather than static IP addressing.
 - Using a DHCP server with short lease times, MAC address filtering, and sufficient address space for future needs makes network management simpler.
- Enable IGMP Snooping on the network switch.
 - This is a requirement for all designs, and enables multicast traffic delivery to DM NAX endpoints. Without IGMP Snooping enabled, switches that receive a multicast stream will transmit that stream to all ports simultaneously, which may saturate all network links.
- Use Rapid Spanning Tree Protocol (RSTP) on the network to ensure that network loops are discoverable and to prevent deployment issues.
 - Network management should account for RSTP discovery downtime when changes are made to the network.
- Disable the IGMP proxy function on Crestron control systems on the network that have a built-in router to ensure that DM NAX multicast traffic does not interfere with the control processor.
 - Refer to [Knowledge Article 1001644](#) for instructions on disabling the IGMP proxy function.

- Ensure that multicast IP addresses do not overlap and do not share multicast MAC addresses.
 - Overlapping addresses will cause network collisions and prevent successful operation of the DM NAX network.

System Installation

The installation phase of DM NAX network deployment has its own set of best practices to ensure optimal performance and longevity.

Endpoint Installation

Each DM NAX endpoint has unique installation requirements that vary depending on:

- Quantity of RJ-45 connectors:
 - Single Ethernet port models cannot isolate AoIP and control traffic.
 - Dual Ethernet port models can either share all traffic between both ports or dedicate one port to AoIP traffic, segmenting the remaining traffic to the other port, via the **Port Selection** feature.
- Local I/O capabilities:
 - Some local I/O signal types require close proximity to the connected source or sink.
 - Some signal types, such as unbalanced line-level analog audio, are more susceptible to interference from other devices, especially from AC power lines.
 - Wireless communications such as Bluetooth audio may require unobstructed line-of-sight between transmitter and receiver for optimal performance.
- Amplification, form factor limitations, and channel count requirements.
- Versiport capabilities.

DM NAX devices with dual Ethernet ports can pass the control LAN through to a Crestron touch screen on the secondary Ethernet port when the **Port Selection** feature is disabled.

To minimize required maintenance on an installation:

- Avoid direct access to the endpoint by end users, as they can induce failures or create a security risk due to unauthorized network access.
- Use shielded or unshielded CAT5e (or greater) copper network cable that is properly terminated with an RJ-45 connector and tested for both continuity and throughput.
- Observe the minimum bend radius and maximum pull force of cables to maintain cable integrity.
- Use plenum rated cables in plenum spaces:
 - Fire rated conduit for any fiber or copper cabling used in plenum spaces is also suitable.
- Practice good cable dressing.
- Use descriptive names for endpoints, either through the web UI or Crestron Toolbox™ software; do not rely on default names or the Crestron IP ID.
- Physically secure the endpoint to a fixed point or rack to prevent movement over time.

- Thoroughly document the installation of endpoints, including diagrams, lists, and descriptions to provide detailed information for those who will maintain or upgrade the network.

Network Installation

The success of a DM NAX network installation varies depending on several factors of the physical install, including whether existing network infrastructure is being reused or the location of networking equipment relative to the DM NAX and DM NVX endpoints.

For optimal installation and maintenance of a DM NAX network, adhere to these best practices:

- Use or repurpose existing infrastructure as possible in DM NAX network installation.
- Practice physical security for the network:
 - Secure all network locations (MDF/CDF and IDF down to individual closets) from unauthorized access.
- Disable any unused ports on network switches.
- Use a structured cabling approach, such as those described in the TIA/EIA-568 standard:
 - Include keystones in jacks and patch panels, shielded or unshielded solid copper conductor cable not exceeding 295 ft (90 m), and patch cables not exceeding 33 ft (10 m) to connect between patch panels.
 - Use cable testers to verify the integrity of the installation and capacity for future expansion and backup.
- Use Crestron recommended switch configuration files when possible.
 - Refer to [Knowledge Article 1000314](#) for network switch configuration files that have been shown to meet the minimum requirements for DM NVX deployments; not all of these files have been tested with mixed DM NAX and DM NVX environments. Contact Crestron True Blue Support to confirm if a network switch will support a mixed DM NAX and DM NVX environment.
 - Refer to [Knowledge Article 2836](#) for instructions on configuring NETGEAR® AV network switches to use the built-in DM NAX and DM NVX profiles.
- Configure the routing of any external servers:
 - If non-dedicated DHCP, RADIUS, Active Directory, or other servers are used, ensure that these servers can reach the DM NAX network.
- Thoroughly document all DM NAX network hardware and configurations.

Resources

The following resources are provided for DM NAX®.

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 support.crestron.com/app/certificates.

