DM NAX™

Audio-over-IP Distribution Platform

Product Manual

Crestron Electronics, Inc.

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

Crestron product development software is licensed to Crestron dealers and Crestron Service Providers (CSPs) under a limited nonexclusive, nontransferable Software Development Tools License Agreement. Crestron product operating system software is licensed to Crestron dealers, CSPs, and end-users under a separate End-User License Agreement. Both of these Agreements can be found on the Crestron website at www.crestron.com/legal/software_license_agreement.

The product warranty can be found at www.crestron.com/warranty.

The specific patents that cover Crestron products are listed at www.crestron.com/legal/patents.

Certain Crestron products contain open source software. For specific information, visit www.crestron.com/opensource.

Contents

Overview 1
Features 1
Products 2
DM-NAX-8ZSA 2
Physical Description 2
Applications 6
DM-NAX-16AIN 12
Physical Description 12
Application 15
Specifications 16
Installation 17
Configuration 18
DM-NAX-8ZSA 19
Web Interface Configuration 19
Action 22
Status 27
Settings 30
Security 62
802.1x Configuration 71
Access the Web Interface With the Crestron Toolbox™ Application 73
DM-NAX-16AIN 74
Web Interface Configuration 74
Action 77
Status 82
Settings 85
Security 94
802.1x Configuration 103
Access the Web Interface With the Crestron Toolbox™ Application 105
Resources 106
Crestron Support and Training 106
Programmer and Developer Resources 106
Product Certificates 106

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 via the AES67 Compatibility Mode enabled in Dante Controller.

Features

- **Scalability**: DM NAX systems can scale to meet any demand. DM NAX supports up to 32 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-8ZSA on page 2
- DM-NAX-16AIN on page 12

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.

Voltage triggers corresponding to the 4 stereo line-level analog outputs can be used to power connected external amplifiers on and off. The DM-NAX-8ZSA supports Synchronized Control to manage a large network of DM NAX devices from a single interface.

The DM-NAX-8ZSA supports Amazon Connected Speakers.

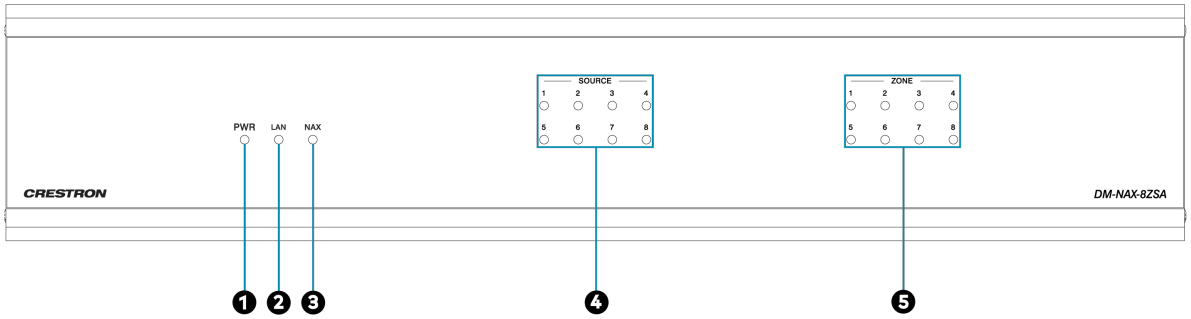
For installation information, refer to the DM-NAX-8ZSA Quick Start.

Physical Description

The following sections provide information about the connectors, controls, and indicators that are available on the DM-NAX-8ZSA device.

Front Panel

The following illustration shows the front panel of the DM-NAX-8ZSA.



❶ **PWR:** (1) LED, indicates operating power is supplied; illuminates amber while booting, white when powered on, red when in standby (no audio or LAN connection), and off when no power is supplied.

❷ **LAN:** (1) LED, illuminates white when the amplifier is connected to a network with a valid IP address, and off when the device is not connected to a network or the IP address is invalid.

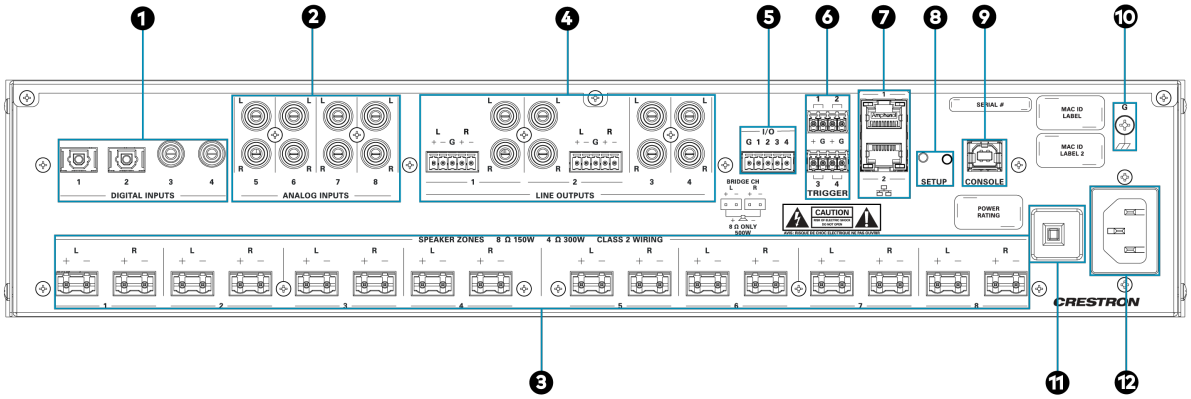
❸ **NAX:** (1) LED, illuminates white when the AoIP is ready to pass and the unit's PTP clock is synced, and off when there is no AoIP is passing to or from an amplifier and/or PTP is not synced.

❹ **SOURCE:** (8) LEDs, illuminates white when a signal is detected on the specified input/source, red when there is clipping on an analog input or bitstream audio detected on a digital input, and off when there is no signal detected on the specified input/source.

❺ **ZONE:**(8) LEDs, illuminates white when there is audio output on the indicated zone, red when clipping or a fault is detected on the zone output due to overcurrent, over temperature, or low voltage.

Rear Panel

The following illustration shows the rear panel of the DM-NAX-8ZSA.



1. **DIGITAL INPUTS:** (2) JIS F05 female TOSLINK® optical fiber connectors, S/PDIF optical digital audio inputs;
   (2) RCA female; S/PDIF coaxial digital audio inputs; Input Impedance: 75 Ω

2. **ANALOG INPUTS:** (8) RCA female comprising (4) unbalanced stereo line-level audio inputs; Input Impedance: 10000 Ω;
   Maximum Input Level: 2 Vrms

3. **SPEAKER OUTPUTS:** (16) 2-pin 7.62 mm detachable terminal block; Balanced/unbalanced stereo line-level audio outputs,
   Output Impedance: 4 Ω/8 Ω;
   Maximum Output Level: 150 W single-ended at 8 Ω, 300 W single-ended at 4 Ω, with zones bridgeable up to 500 W at 8 Ω.

4. **LINE OUTPUTS:** (8) RCA connectors, female; Comprise (4) unbalanced line-level stereo audio outputs (mirror corresponding speaker outputs pair 1 – 4);
   Output Impedance: 100 Ω; Maximum Output Level: 2 Vrms;
   (2) 5-pin 3.5mm detachable terminal blocks; Balanced stereo line-level audio outputs (mirror corresponding unbalanced RCA output pairs 1 – 2);
   Output Impedance: 150 Ω; Maximum Output Level: 4 Vrms

5. **I/O Port:** (1) single 5-pin Phoenix block that comprises four I/O ports, and a shared ground

6. **TRIGGER:** (2) 4-pin Phoenix connectors for all outputs;
   The triggers correspond to the respective LINE OUTPUTS 1-4 and will drive the individual eight zone amplifiers whenever a signal is routed to the respective line output.

❼ **Ethernet 1:** (1) 8-pin RJ-45 connector, female;
100BASE-TX/1000BASE-T Ethernet port;
Green LED indicates Ethernet link status;
Flashing amber LED indicates Ethernet activity

Ethernet 2: (1) 8-pin RJ-45 connector, female;
100BASE-TX/1000BASE-T Ethernet port;
Green LED indicates Ethernet link status;
Flashing amber LED indicates Ethernet activity

❽ **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;
Press and hold the **SETUP** button with power disconnected then connect the power supply and continue to hold **SETUP** button for 30 seconds will perform a factory restore;
(1) LED, illuminates red when the button is pressed, flashes red when reset has been initiated

❾ **CONSOLE:** (1) Standard USB 2.0 Type B connector, female

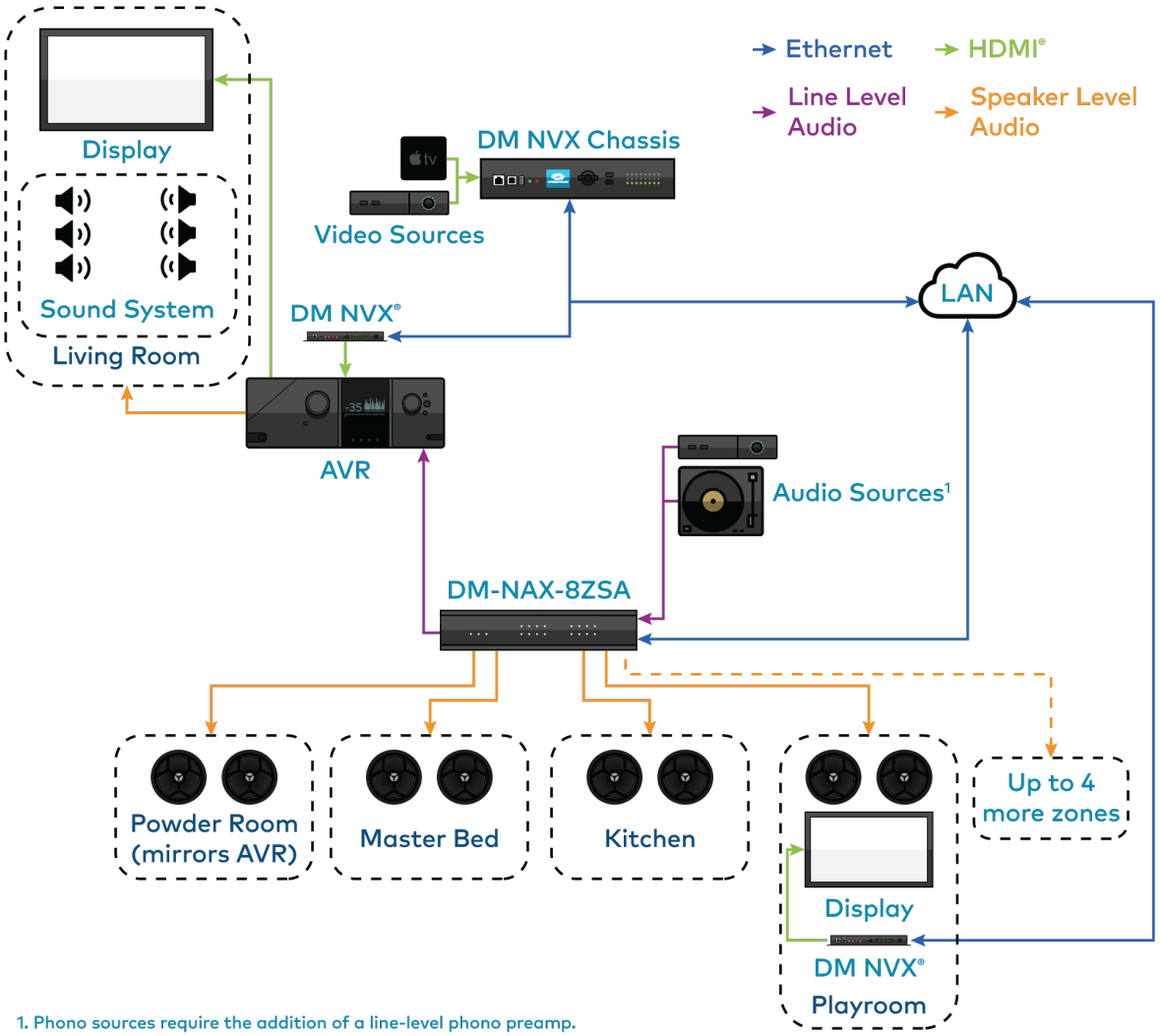
❿ **GROUND:** 6-32 screw, chassis ground lug

⓫ **10A Fuse:** 10 A Fuse

⓬ **POWER OUTLET:** (1) 100-240V~50/60Hz Universal AC; IEC 60320 C14 Main power inlet, mates with removable power cord (included)

Applications

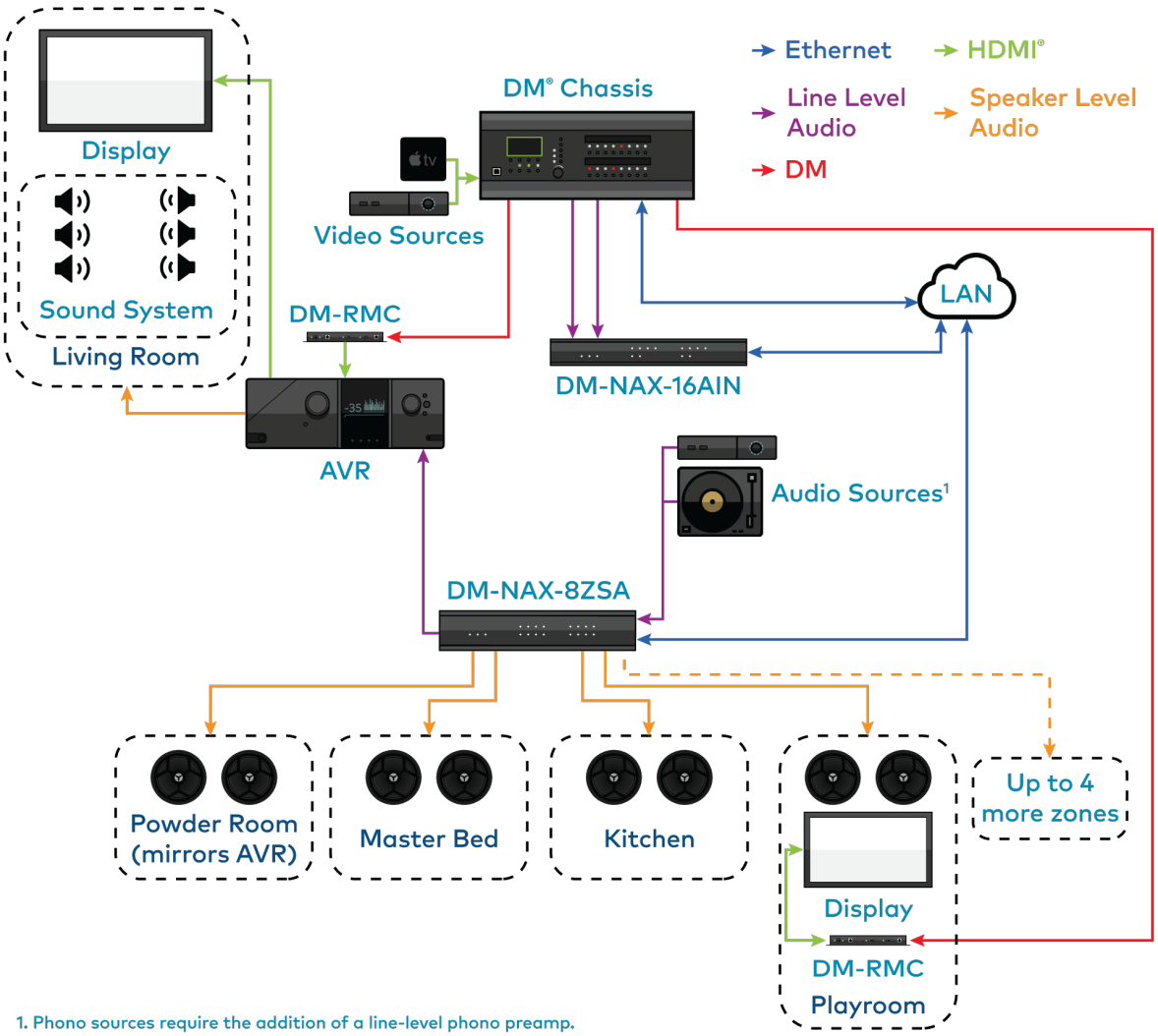
This section shows DM-NAX-8ZSA device in multizone applications.



1. Phono sources require the addition of a line-level phono preamp.

This application diagram shows the following setup:

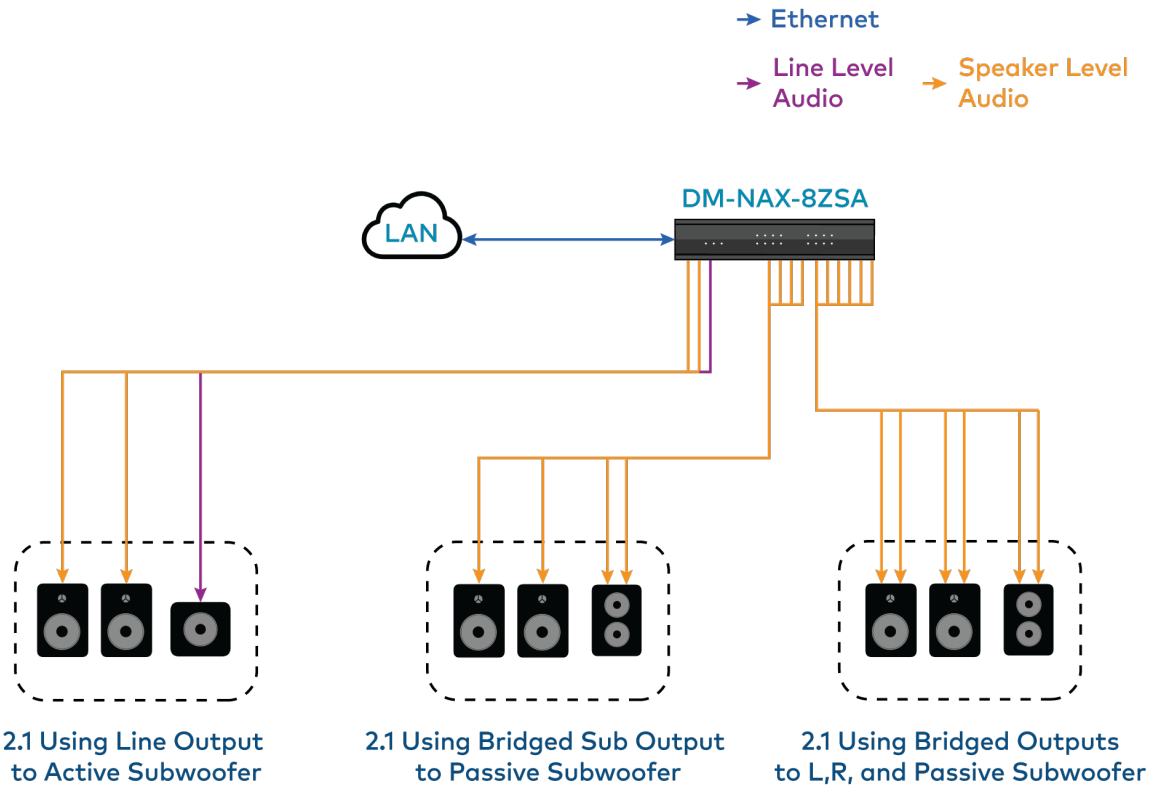
- Up to eight zones of amplification and audio distribution
- Local line level input
- Local line level output to an Audio Video Receiver (AVR) mirroring a zone of amplification
- Available DM NVX audio streams to route audio from video sources to non-video zones
- Available music streaming services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



1. Phono sources require the addition of a line-level phono preamp.

This application diagram shows the following setup:

- 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



This application diagram shows different 2.1 configurations and how they affect the zone count of an DM-NAX-8ZSA. By default, a zone comprises two speaker outputs (a left and a right).

- The 2.1 configuration at the left of the diagram comprises two speaker outputs, with an additional line output that feeds the subwoofer.

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

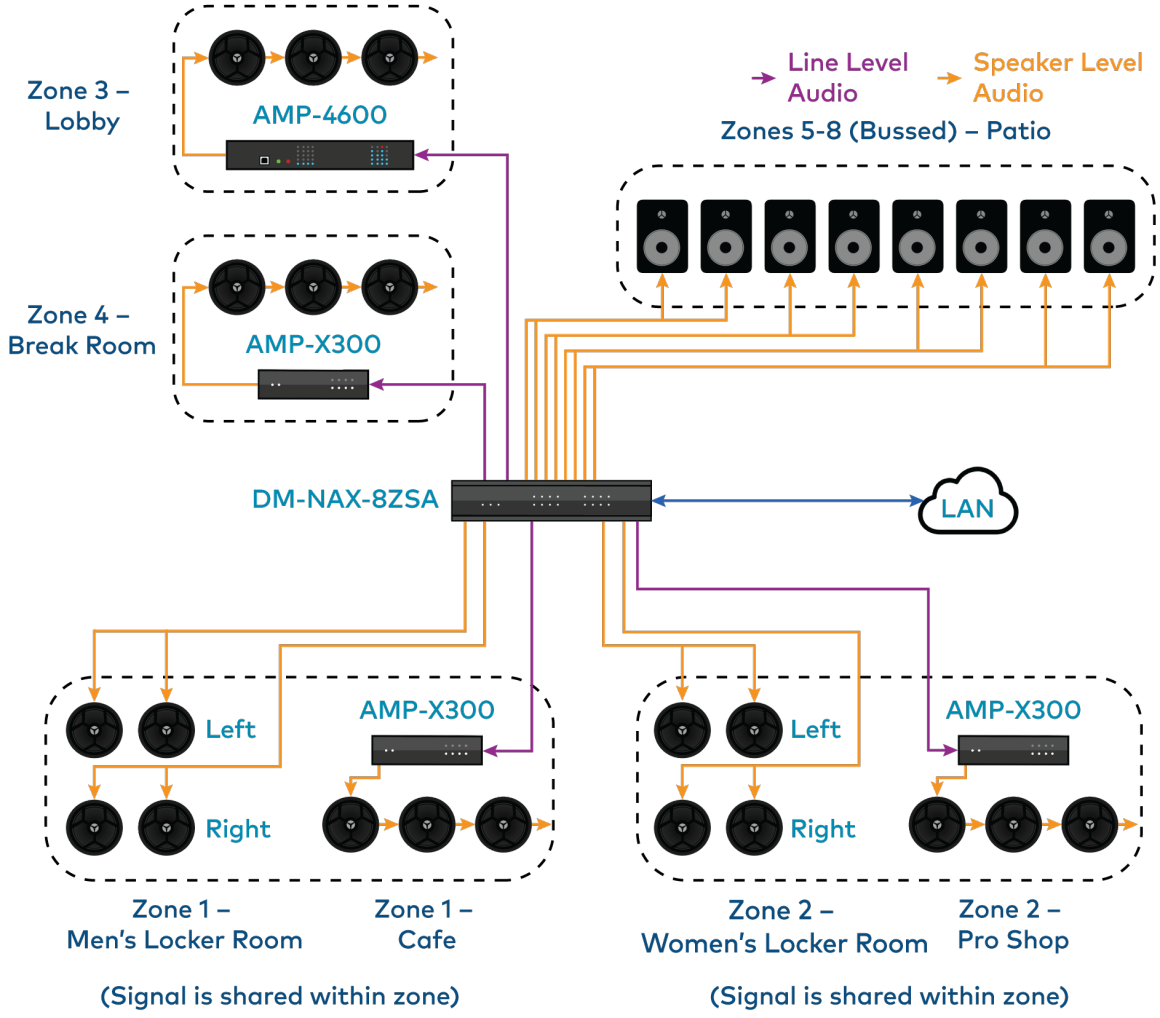
- The middle configuration (2.1 bridged sub) comprises four speaker outputs - two left and right and two for the bridged sub.

  > **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 8 as there is no speaker output pair 9.

- The right configuration (bridged 2.1) comprises six speaker outputs - two for the bridged left, two for the bridged right, and two for the bridged sub.

  > **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.

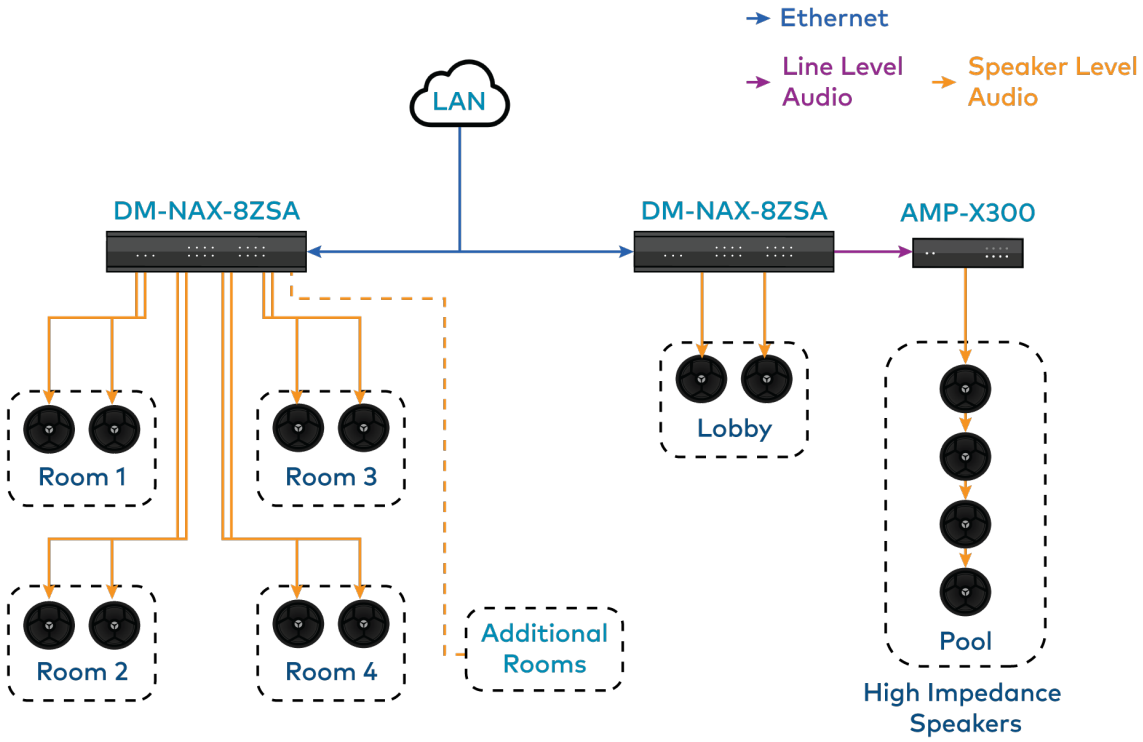


This application diagram shows the following setup:

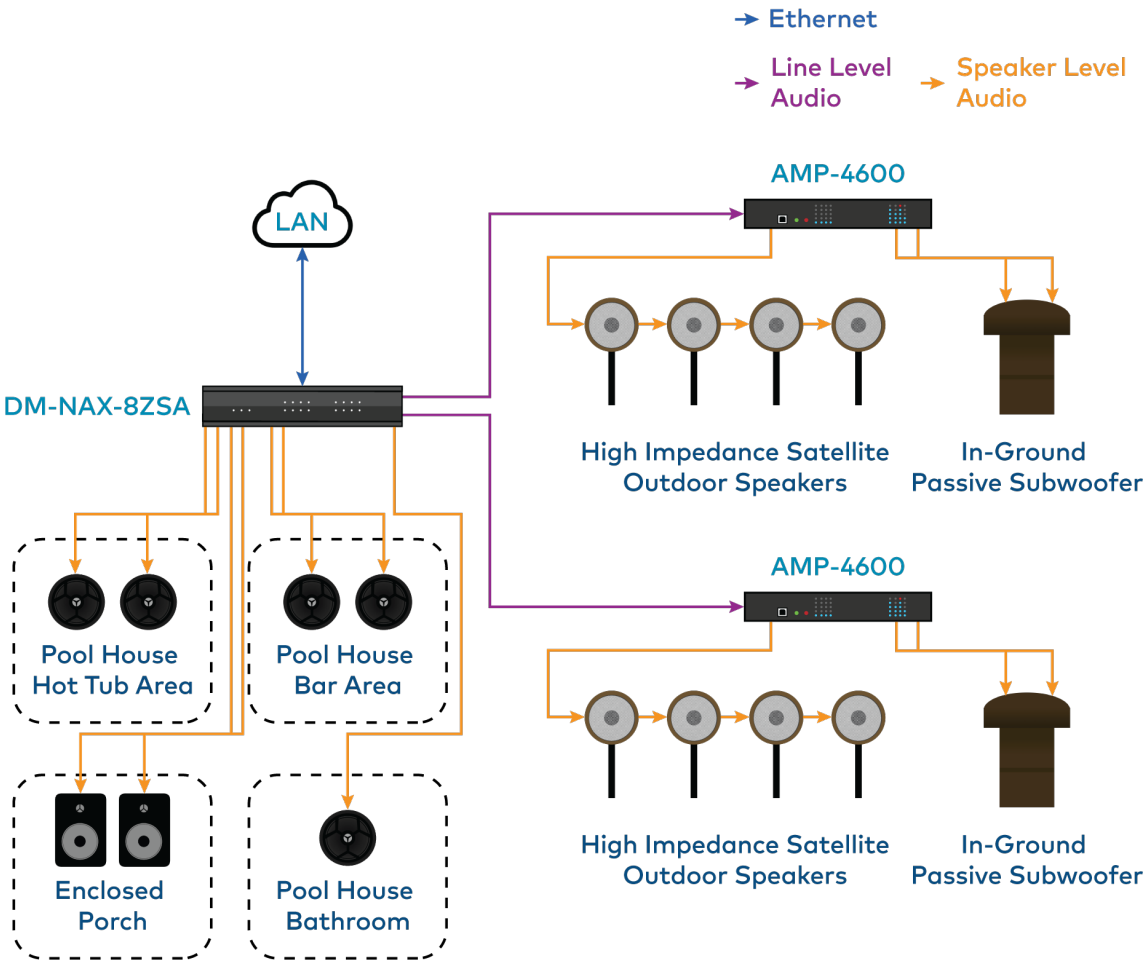
- Mirrored zones (Zone 1 and Zone 2 each have two rooms receiving the same audio signal)
- Parallel wiring of low impedance speakers in two Locker Room areas

> **NOTE:** This is a parallel wiring of 8 Ω speakers for a total supported load of 4 Ω per channel. Parallel wiring lowers the effective impedance of the connected loads, so make sure the speakers impedance matches the supported impedance levels from the DM-NAX-8ZSA.

- Using the line outputs of the DM-NAX-8ZSA to feed high-impedance amplifiers (AMP-X300s and AMP-4600) for long speaker runs
- Bussing to multiple zones to feed a large group of low-impedance speakers with the same signal and shared controls



This application diagram shows a commercial setup using casting service streaming applications. For example, in a hotel, each room can receive a cast from a third-party device. The Lobby and Pool zones can exist on another DM-NAX-8ZSA unit that is on the same LAN or on a separate VLAN or WAP to cast to/control those zones.



This application diagram shows zones using only the line outputs. Line outputs 1 and 2 feed high impedance amplifiers driving speakers for large outdoor spaces and speaker zone outputs 5-8 feed low-impedance indoor spaces without overlap of signals. The LAN cloud shows that any individual applications can exist as part of a large DM NAX system.

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.

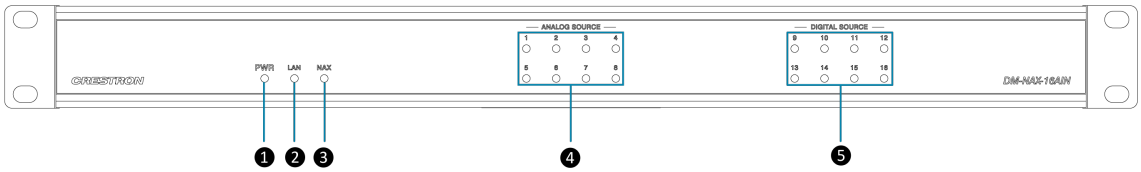
For installation information, refer to the DM-NAX-16AIN Quick Start.

Physical Description

The following sections provide information about the connectors, controls, and indicators that are available on the DM-NAX-16AIN device.

Front Panel

The following illustration shows the front panel of the DM-NAX-16AIN.



1. **PWR:** (1) LED, indicates operating power is supplied; illuminates amber while booting, white when powered on, red when in standby (no audio or LAN connection), and off when no power is supplied.

2. **LAN:** (1) LED, illuminates white when the device is connected to a network with a valid IP address, and off when the device is not connected to a network or the IP address is invalid.

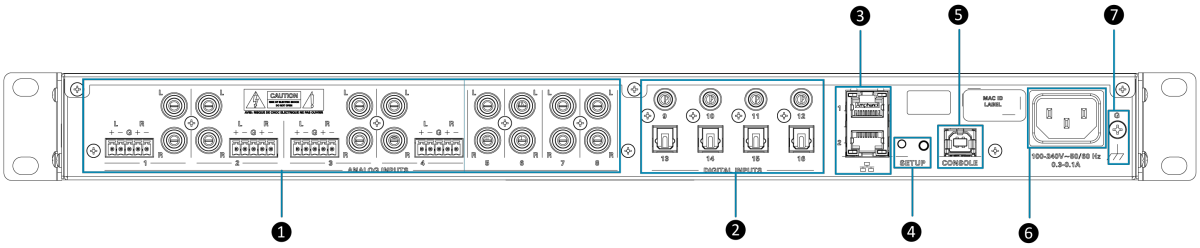
3. **NAX:** (1) LED, illuminates white when the AoIP is ready to pass and the unit's PTP clock is synced, and off when there is no AoIP is passing to or from the device and/or PTP is not synced.

4. **ANALOG SOURCE:** (8) LEDs, illuminates white when a signal is detected on the specified input/source, red when there is clipping on an analog input and off when there is no signal detected on the specified input/source.

❺ **DIGITAL SOURCE:** (8) LEDs, illuminates white when a signal is detected on the specified input/source, red when there is bitstream audio detected on a digital input, and off when there is no signal detected on the specified input/source.

Rear Panel

The following illustration shows the rear panel of the DM-NAX-16AIN.



❶ **ANALOG INPUTS:** (8) RCA female comprising (4) unbalanced stereo line-level audio inputs;
(4) 5-pin phoenix balanced connector;
Input Impedance: 10000 Ω;
Maximum Input Level: 2 Vrms

❷ **DIGITAL INPUTS:** (4) JIS F05 female TOSLINK® optical fiber connectors, S/PDIF optical digital audio inputs;
(4) RCA female; S/PDIF coaxial digital audio inputs;
Input Impedance: 75 Ω

❸ **Ethernet 1:** (1) 8-pin RJ-45 connector, female;
100BASE-TX/1000BASE-T Ethernet port;
Green LED indicates Ethernet link status;
Flashing amber LED indicates Ethernet activity

Ethernet 2: (1) 8-pin RJ-45 connector, female;
100BASE-TX/1000BASE-T Ethernet port;
Green LED indicates Ethernet link status;
Flashing amber LED indicates Ethernet activity

❹ **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;
Press and hold the **SETUP** button with power disconnected then connect the power supply and continue to hold **SETUP** button for 30 seconds will perform a factory restore;
(1) LED, illuminates red when the button is pressed, flashes red when reset has been initiated

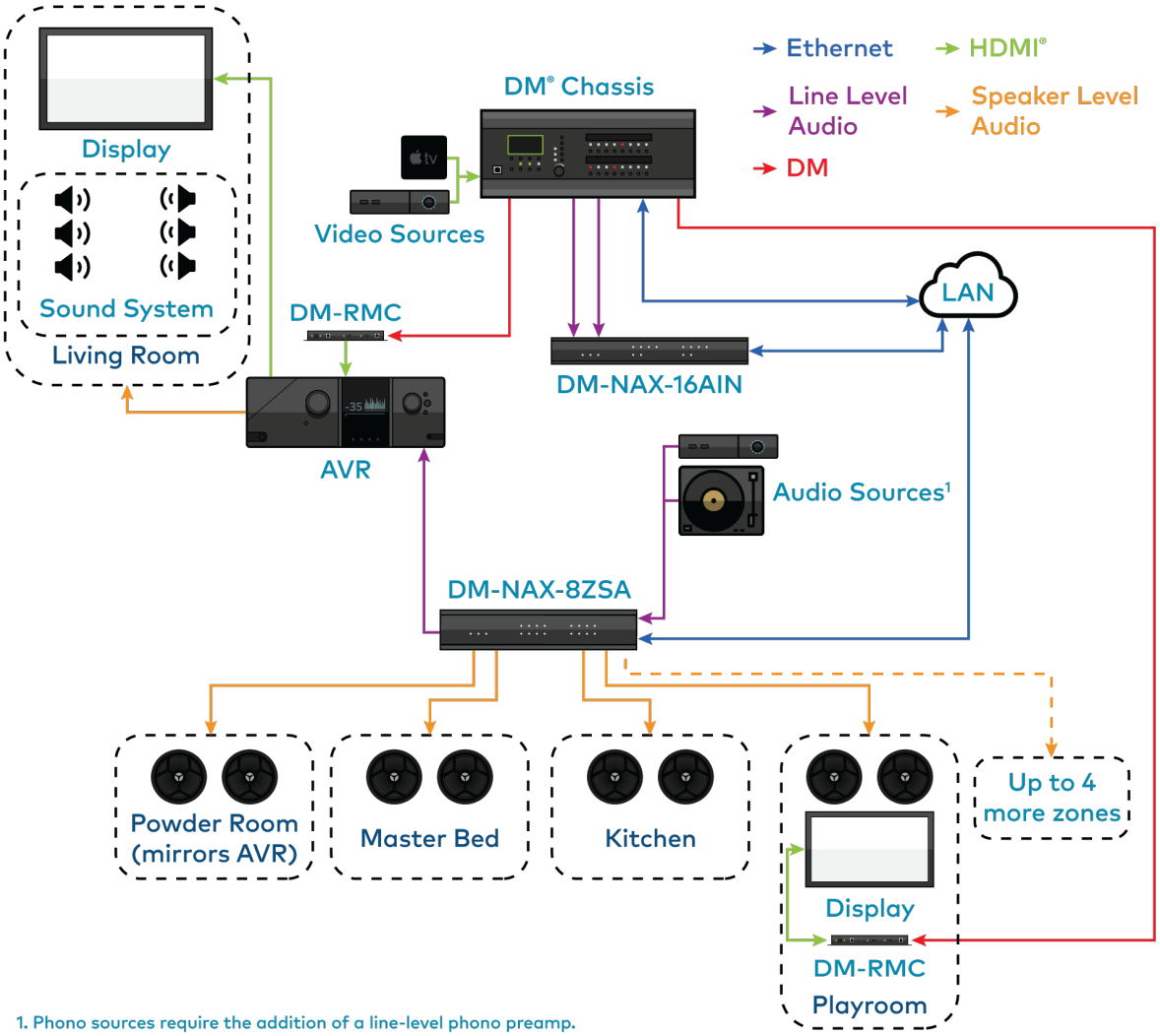
❺ **CONSOLE:** (1) Standard USB 2.0 Type B connector, female

❻ **POWER INLET:** (1) 100-240V~50/60Hz Universal AC; IEC 60320 C14 Main power inlet, mates with removable power cord (included)

❼ **GROUND:** 6-32 screw, chassis ground lug 11

Application

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



1. Phono sources require the addition of a line-level phono preamp.

This application diagram shows the following setup:

- 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

Specifications

To view the product's specification, refer to the below-listed specification sheets:

Crestron AoIP Solution	Product Specification Sheet
• DM-NAX-8ZSA	• Specification Sheet
• DM-NAX-16AIN	• Specification Sheet

Installation

To install the Crestron DM NAX solution, follow the respective link to the Quick Start guide for instructions.

Crestron AoIP Solution	Quick Start Guide
• DM-NAX-8ZSA	• Quick Start
• DM-NAX-16AIN	• Quick Start

Configuration

The following products can be configured:

- DM-NAX-8ZSA on page 19
- DM-NAX-16AIN on page 74

DM-NAX-8ZSA

This section describes how to configure 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 20
- Access the Web Interface With the Crestron Toolbox™ Application on page 73

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

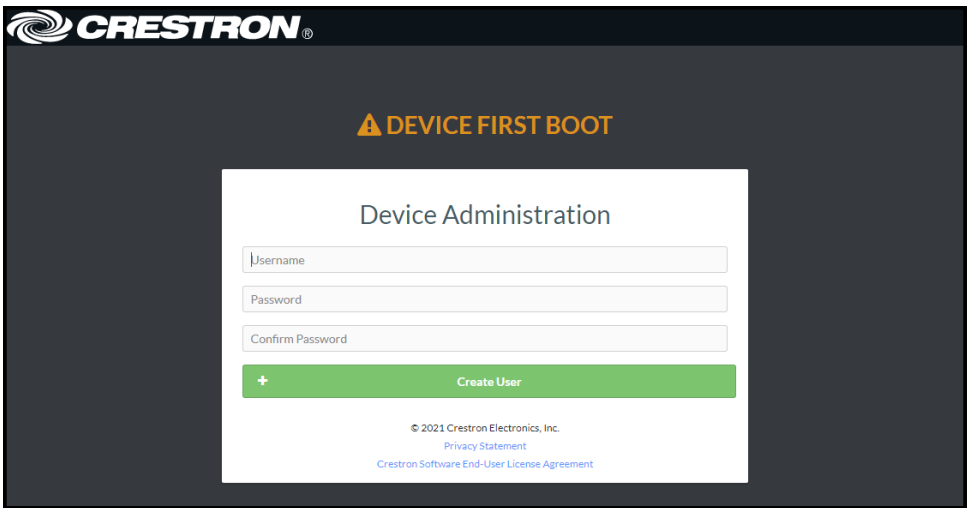
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later Firefox® web browser, version 31 and later Internet Explorer web browser, version 11 and later Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later Chrome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

Access the Web Interface with a Web Browser

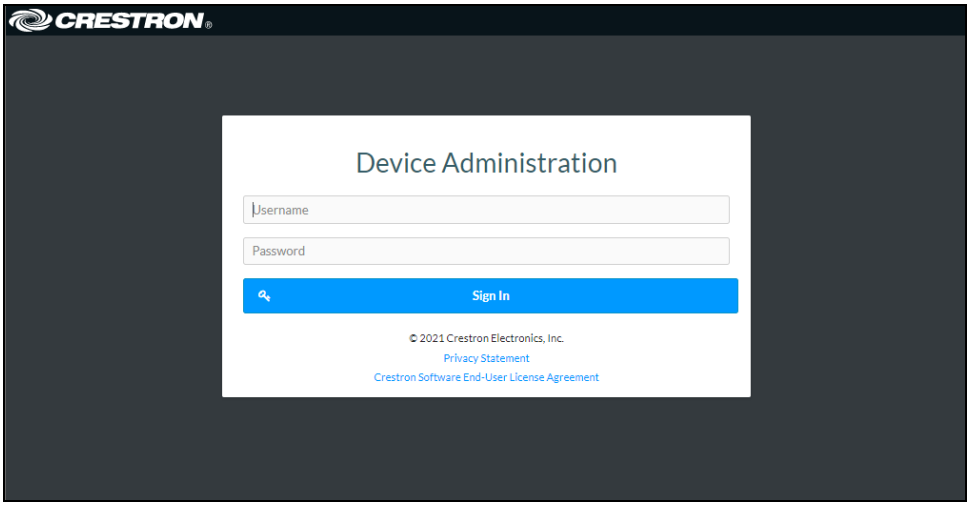
1. Enter the IP address of the DM-NAX-8ZSA into a web browser.

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

2. If you are creating a user account for the first time, do the following; otherwise, skip to step 3.
   a. Enter a username in the **Username** field.
   b. Enter a password in the **Password** field.
   c. Re-enter the same password in the **Confirm Password** field.



   d. Click **Create User**. The Device Administration page appears.

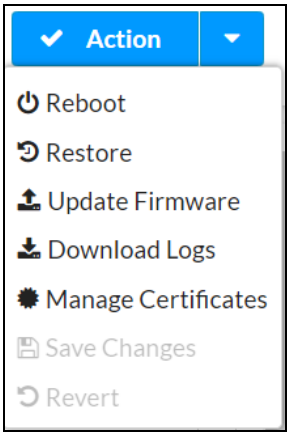


3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Click **Sign In**.

Action

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

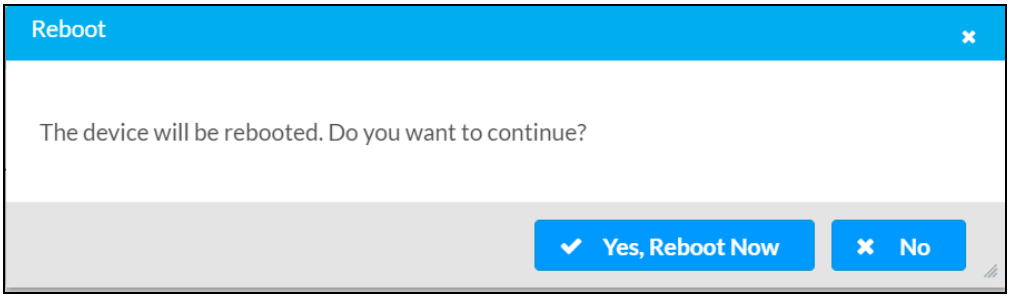
- Reboot
- Restore
- Update Firmware
- Download Logs
- Manage Certificates
- Save Changes
- Revert



Reboot the DM-NAX-8ZSA

Certain changes to the settings may require the DM-NAX-8ZSA to be rebooted to take effect. To reboot the device, do the following:

1. Click **Reboot** in the **Actions** drop-down menu. The **Confirmation** message box appears.

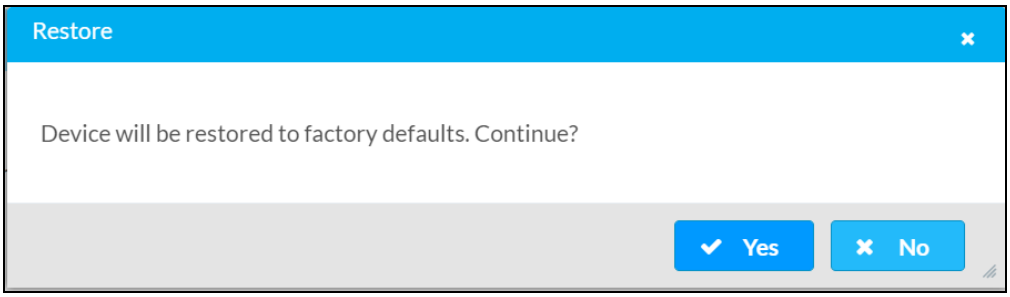


2. Click **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears. Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

1. Click **Restore** in the **Actions** drop-down 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.



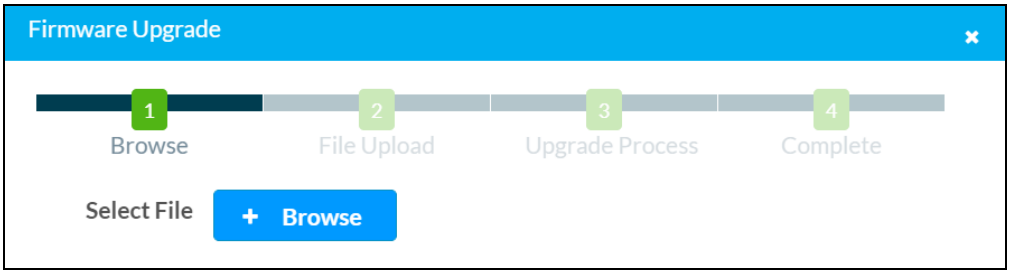
2. Click **Yes** in the **Confirmation** dialog to restore the DM-NAX-8ZSA to factory settings. Click **No** to cancel the restore operation.

   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. Click **Update Firmware** in the **Actions** drop-down menu.
2. In the **Firmware Upgrade** dialog, click **+ Browse**.



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

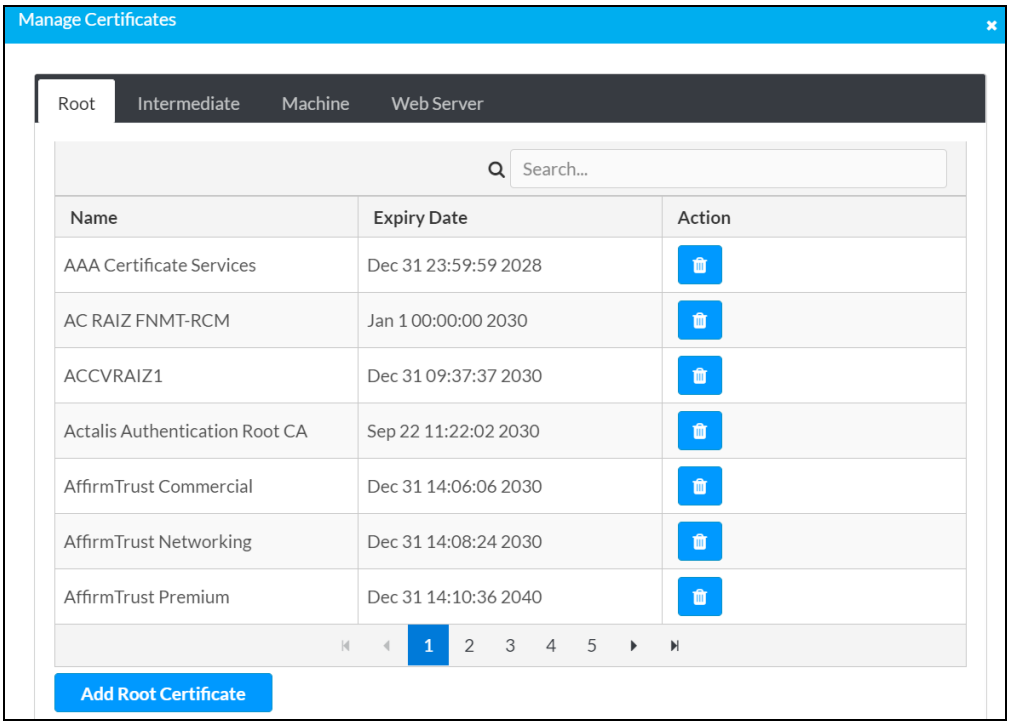
Download Logs

1. Click **Download Logs** in the **Actions** drop-down 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.



1. Click **Manage Certificates** in the **Actions** drop-down 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. Click the corresponding certificate tab.
2. Click the **Add Root Certificate** button.
3. Click the **+ Browse** button.
4. Locate and select the file, and then click the **Open** button.

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

5. Click **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. Click the corresponding certificate tab.
2. Click the trashcan button ( ) in the **Actions** column to delete the certificate.
3. Click **Yes** when prompted to delete the certificate or **No** to cancel the deletion.

Save Changes

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

Revert

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

Status

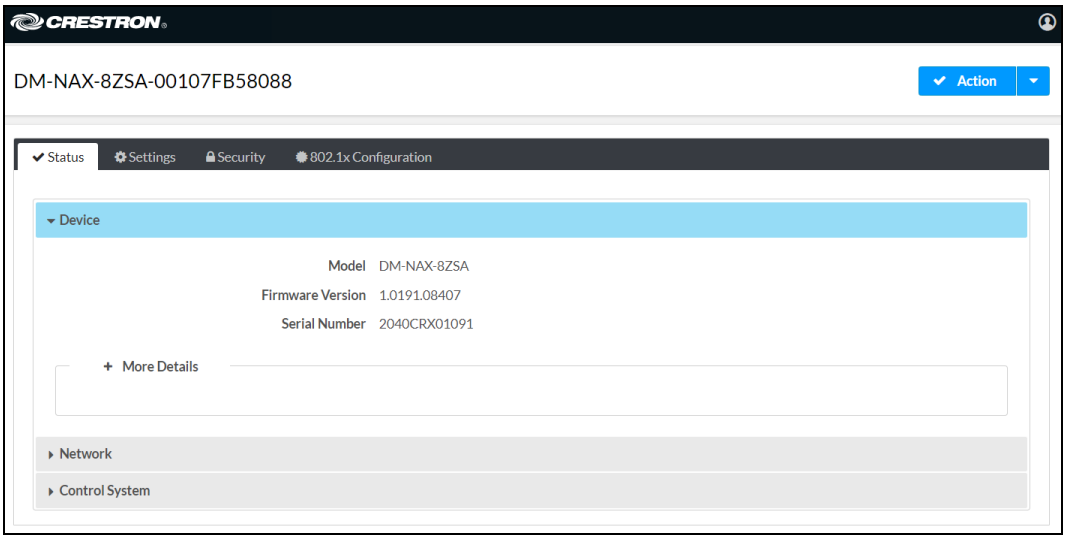
The **Status** tab is the first page displayed when opening the interface of the DM-NAX-8ZSA. It displays general information about the DM-NAX-8ZSA (such as Model Name, Firmware Version, and Serial Number), current network settings (such as Host Name and IP Address, etc.), and input and output ports' current status.

The Status tab can be accessed at any time by clicking the **Status** tab of the DM-NAX-8ZSA interface.

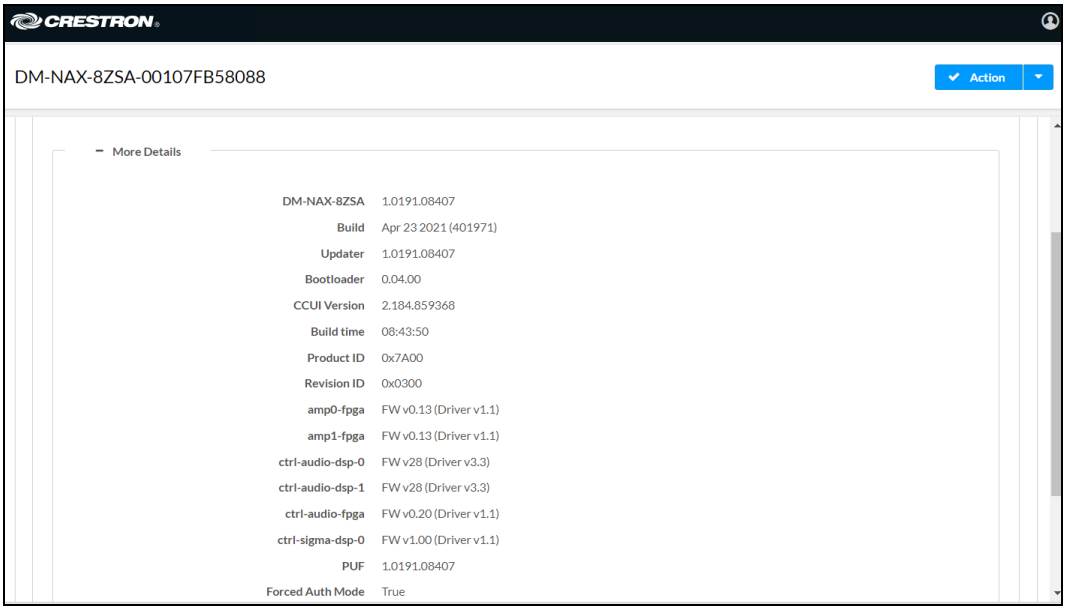
Information displayed on the **Status** tab is organized into different sections.

Device

The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-8ZSA.

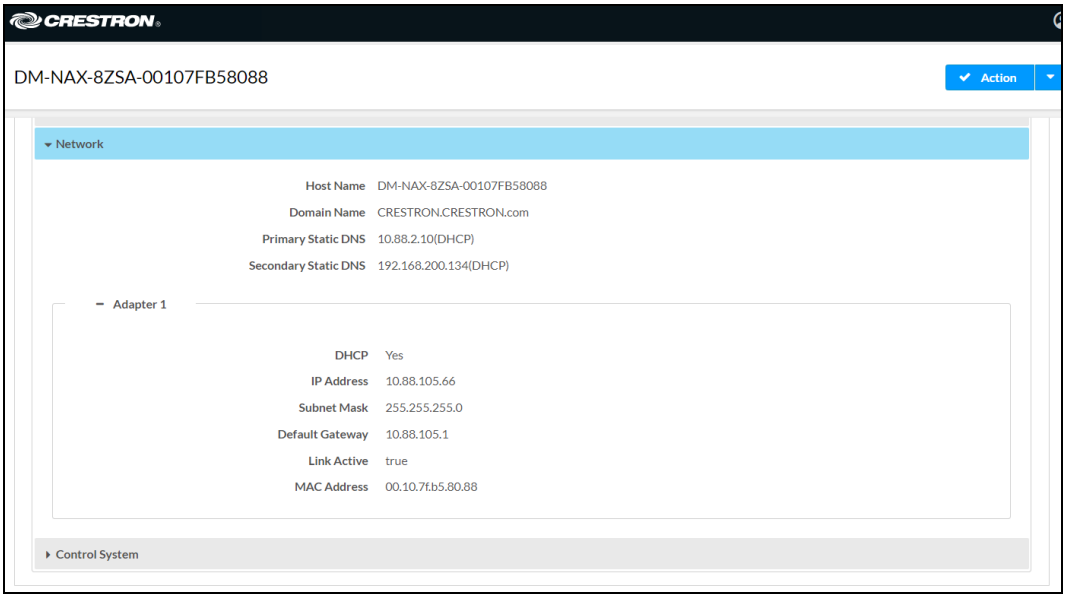


Click **+ More Details** to review additional information about the DM-NAX-8ZSA.



Network

The **Network** section displays network-related information about the DM-NAX-8ZSA, including the Hostname, Domain Name, and DNS Servers.



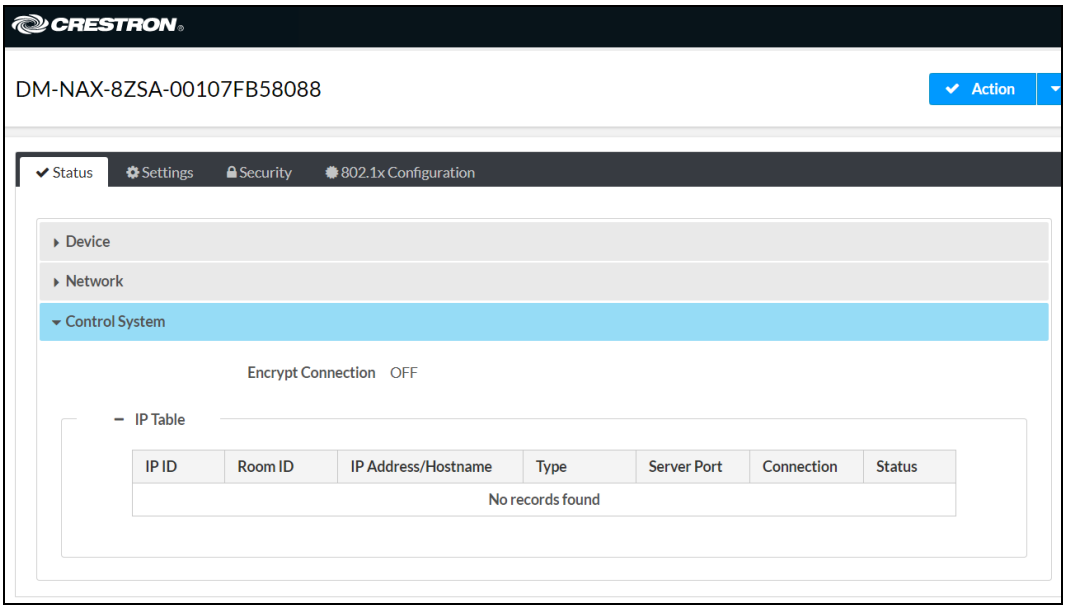
> **NOTE:** By default, the host name of the DM-NAX-8ZSA consists of the model name followed by the MAC address of the device. For example, DM-NAX-8ZSA-00107FB58088.

Click **+ Adapter 1** to display an expanded section that shows additional information. If **+ Adapter 1** is selected, click **- Less** details 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.

Control System

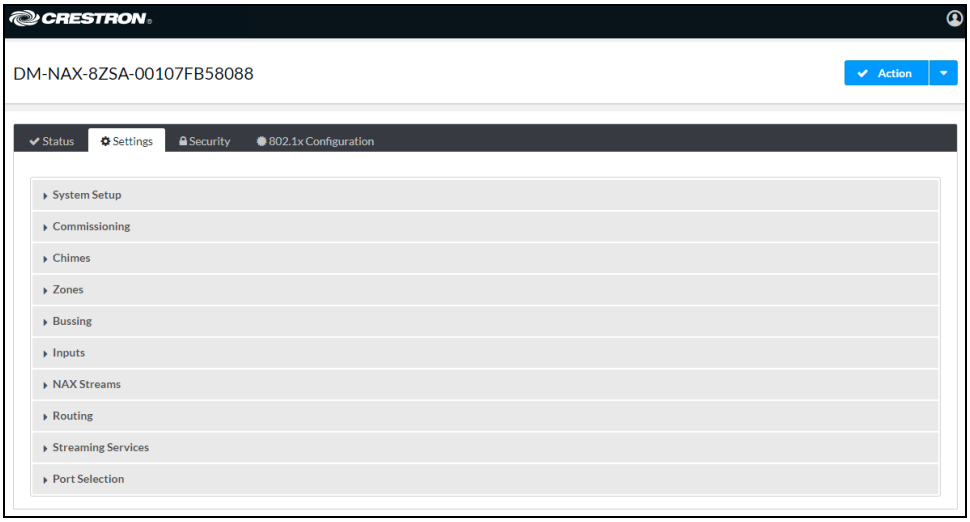
The **Control System** section displays connection information, consisting of the following:



- **Encrypt Connection**: ON or OFF
- **IP ID**: Reports the currently used IP ID of the DM-NAX-8ZSA
- **IP Address/Hostname**: The IP address of the control system
- **Room ID**: Displays the room ID
- **Status**: OFFLINE or ONLINE

Settings

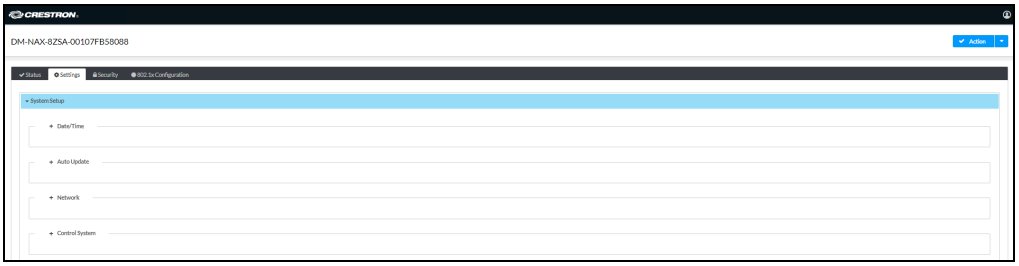
The **Settings** tab enables you to configure the DM-NAX-8ZSA settings. The Settings page can be accessed at any time by clicking the **Settings** tab of the DM-NAX-8ZSA interface.



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

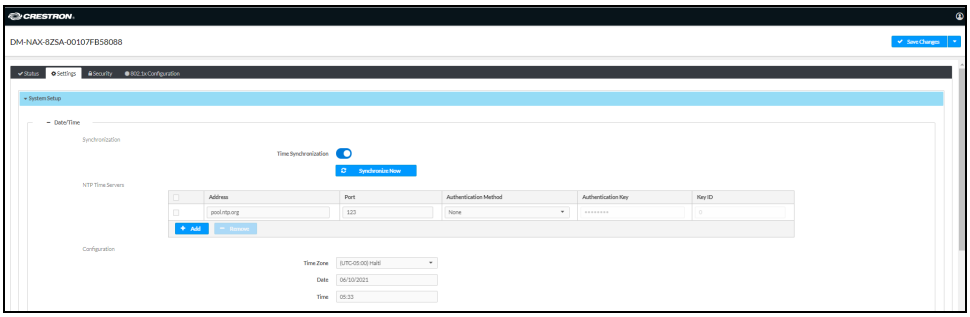
System Setup

The **System Setup** section displays information about the 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. Move the **Time Synchronization** slider to specify whether time synchronization will be enabled (right) or disabled (left). By default, time synchronization is enabled.
2. In the **NTP Time Servers**, enter the URL of the NTP or SNTP server.
3. Click **Synchronize Now** to perform time synchronization between the device's internal clock and the time server.

Time Configuration

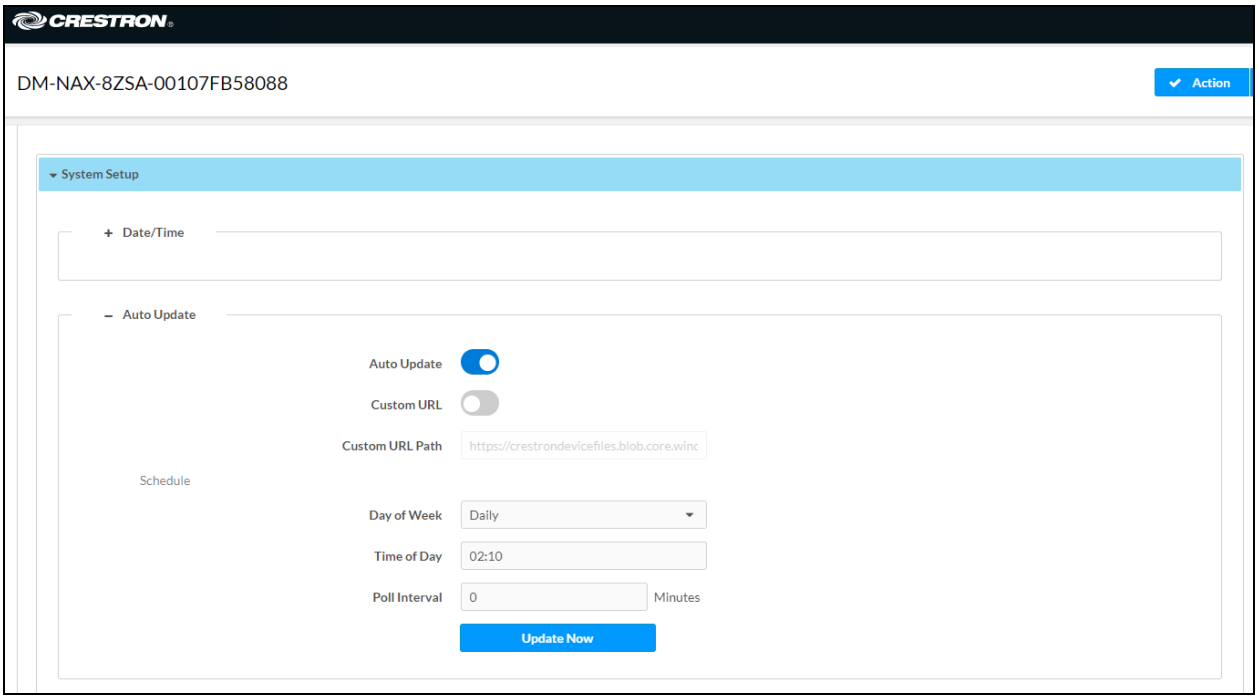
1. Click on the **Time Zone** drop-down menu to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Click the **Save Changes** button to save the settings.

Click **Revert** from the **Actions** drop-down menu to revert to the previous settings without saving.

Auto Update

The DM-NAX-8ZSA can be automatically updated with the latest firmware at scheduled intervals.

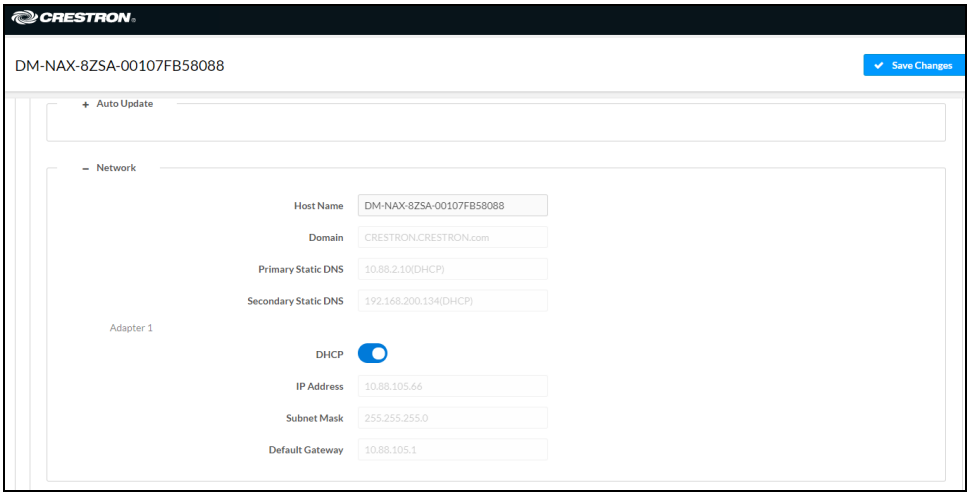


1. Using the Crestron Auto Update Tool, generate a manifest file. The file is placed on an FTP (File Transfer Protocol) or SFTP (Secure File Transfer Protocol) server.
2. To enable auto update, move the **Auto Update** slider to the right position.
3. Define the URL to download the updates by doing either of the following:
    a. Use the default URL to download the updates from the Crestron server.
    b. Use a custom URL. To enable a custom URL, move the **Custom URL** slider to the right position. In the **Custom URL Path** text box, enter the path to the manifest file in the FTP or SFTP URL format.
4. 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.
5. Click **Save Changes**.

Clicking **Update Now** causes the firmware to be updated at the current time; however, the schedule that is set in step 4 above remains in effect.

Network

The **Network** section displays network-related information about the DM-NAX-8ZSA, including the Host Name, Domain, Primary Static DNS, and Secondary Static DNS.



> **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.

Adapter 1

Displays DHCP, IP Address, Subnet Mask, and Default Gateway.

> **NOTE:** The **+ Adapter 2** option appears when the dual Ethernet ports on the DM-NAX-8ZSA are set to isolate traffic.

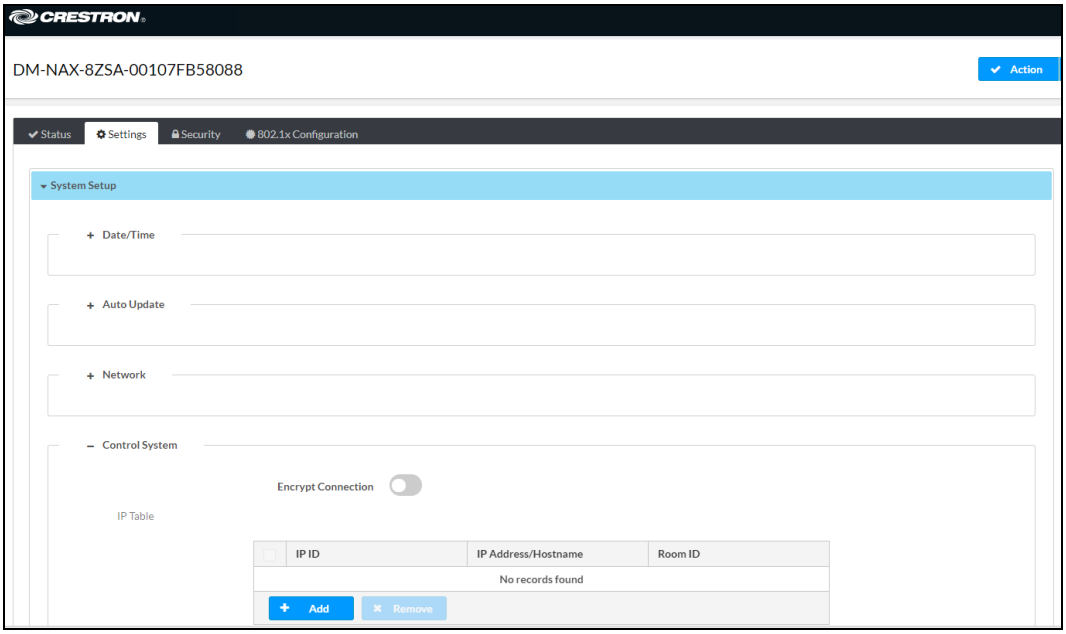
Configure DHCP

Set the **DHCP** slider to enabled (right) or disabled (left) to specify 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) for a predetermined period of time.
- **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, click **Save Changes**.

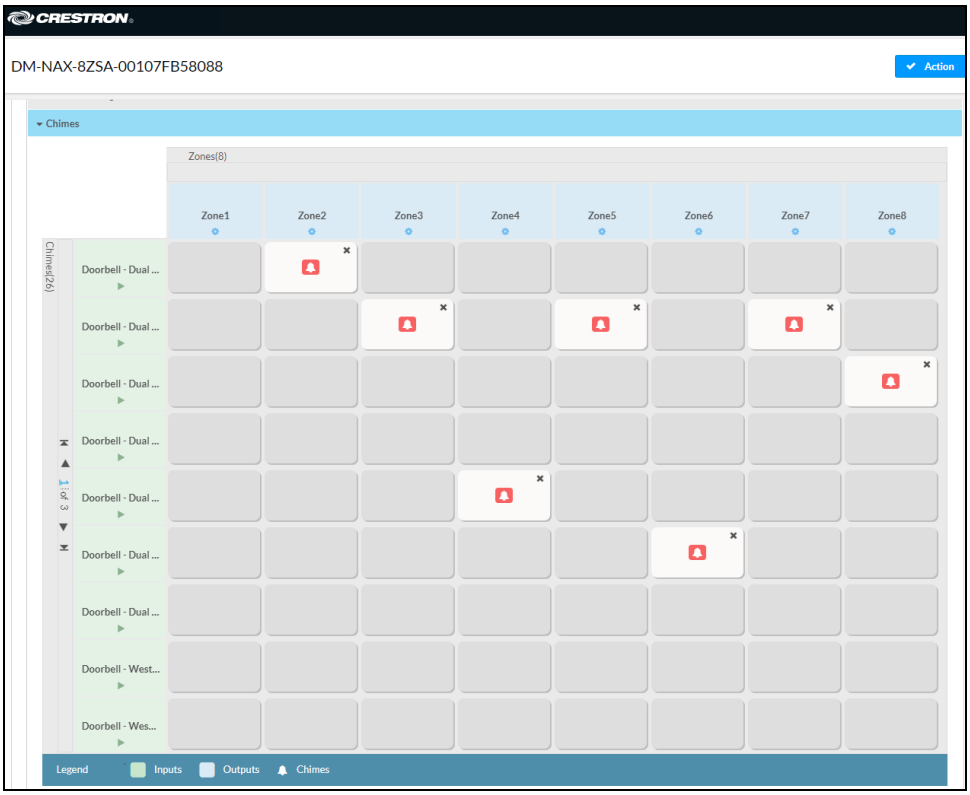
Control System



1. Move the **Encrypt Connection** slider to specify whether the encryption will be enabled (right) or disabled (left). By default, Encrypt Connection is enabled.
2. Enter the username in the **Control System Username** field.
3. Enter the password in the **Control System Password** field.
4. Enter the Room ID in the **Room ID** field.
5. Enter the IP ID of the DM-NAX-8ZSA in the **IP ID** field.
6. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
7. Click the **Save Changes** button to save the new entries. The Control System Save message box appears, indicating that the control system settings were saved successfully. Click the **Revert** button to revert to the previous settings without saving.

Chimes

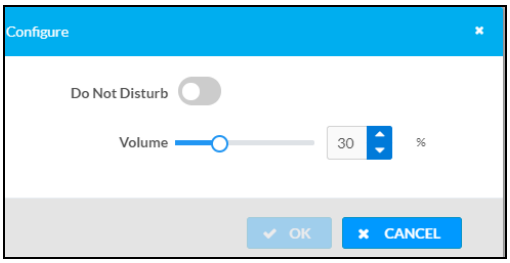
The **Chimes** section allows the built-in chime files to be assigned to any of the output zones on the device.



Click the cells corresponding to the desired Zones for playback of that specific chime sound. You can select multiple chimes for the same zone. The maximum supported chime length is 10 seconds. To view all available chimes, use arrows ▲ or ▼ at the left of the matrix to change pages.

To configure the chime volume of a zone:

1. Click the ⚙ icon corresponding to the zone. The Configure dialog appears.



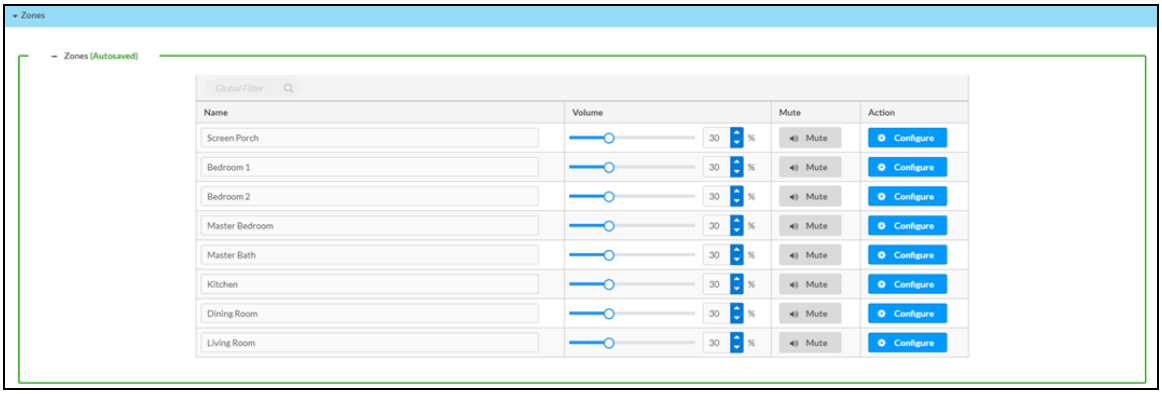
2. To set the volume, do one of the following:
    - Move the **Volume** slider to the right to increase or to the left to decrease the chime volume.
    - Click the % arrows to increase or decrease the chime volume. Values range from 0 to 100%, adjustable in increments of 1%.
    - Manually enter a value in the **Volume** field.

    > **NOTE:** The set volume is independent of the zone volume control.

3. To mute the chime sound, move the **Do Not Disturb** slider to the right. To unmute the chime sound, move the **Do Not Disturb** slider to the left.
4. Click **OK** to apply the new settings.

Zones

The **Zones** section enables configuration of the zones settings.

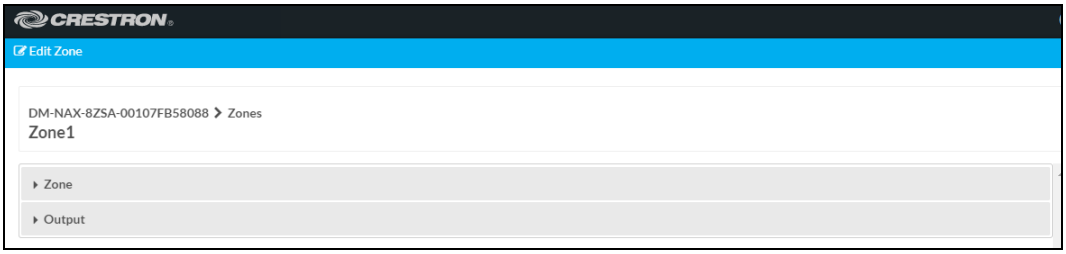


To configure the zone volume:

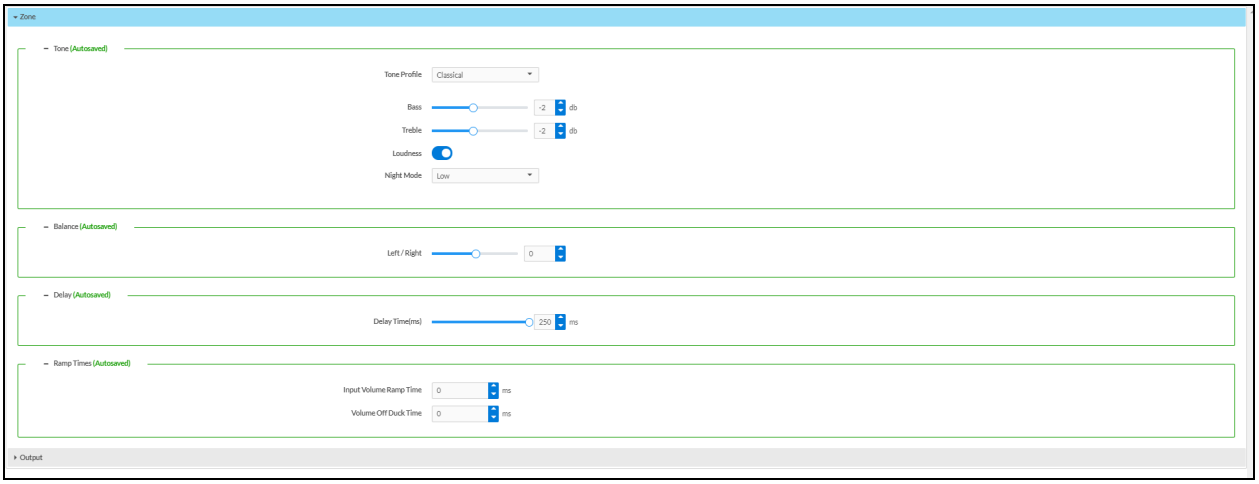
1. If needed, edit the name of the zone in the **Name** field.
2. To set the zone volume, do one of the following:
    - Move the **Volume** slider to the right to increase or to the left to decrease the zone volume.
    - Click the % arrows to increase or decrease the zone volume. Values range from 0 to 100%, adjustable in increments of 1%.
    - Manually enter a value in the **Volume** field.
3. To mute the zone sound, click the **Mute** button. To unmute the zone sound, click the **Muted** button.

Zone Settings

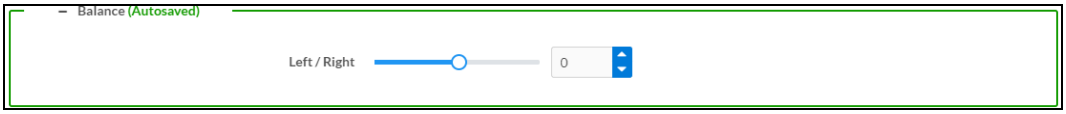
To configure zone settings, click the configure button (Configure). The **Edit Zone** window appears.



Click **Zone** to configure **Tone (Autosaved)**, **Balance (Autosaved)**, and **Delay (Autosaved)**.

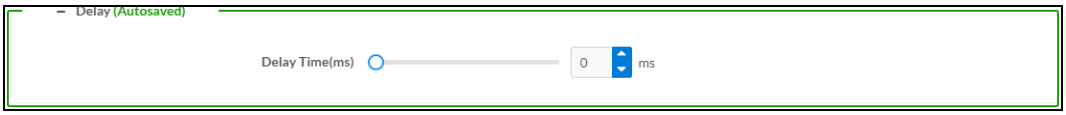


Configure Balance (Autosaved)



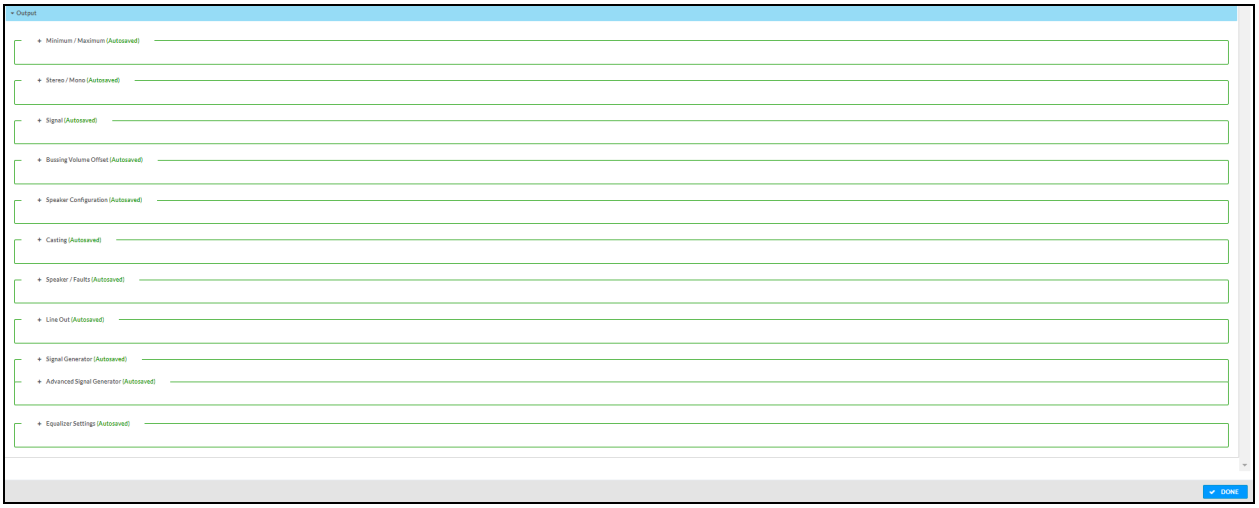
1. To set the balance, do one of the following:
    - Move the **Balance** slider to the right to increase or to the left to decrease the balance.
    - Click the arrows to increase or decrease the balance. Values range from -50 to 50, adjustable in increments of 1.
    - Manually enter a value in the **Balance** field.

Configure Delay (Autosaved)

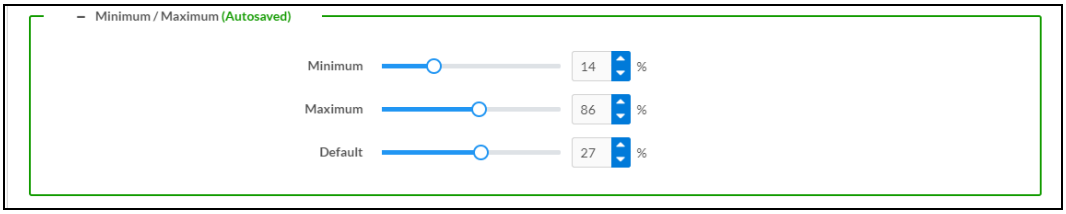


1. To set the delay, do one of the following:
    - Move the **Delay** slider to the right to increase or to the left to decrease the delay.
    - Click the **ms** arrows to increase or decrease the delay. Values range from 0 ms to 250 ms, adjustable in increments of 1 ms.
    - Manually enter a value in the **Delay** field.

Click **Output** to configure **Minimum/Maximum (Autosaved)**, **Stereo/Mono (Autosaved)**, **Signal (Autosaved)**, **Bussing Volume Offset (Autosaved)**, **Speaker Configuration (Autosaved)**, **Casting Autosaved**, **Speaker/Faults (Autosaved)**, **Line Out (Autosaved)**, **Signal Generator (Autosaved)**, **Advanced Signal Generator (Autosaved)**, and **Equalizer Settings (Autosaved)**.



Configure Minimum/Maximum Volume (Autosaved)



1. To set the minimum volume, do one of the following:
    - Move the **Minimum** slider to the right to increase or to the left to decrease the minimum volume.
    - Click 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, do one of the following:
    - Move the **Maximum** slider to the right to increase or to the left to decrease the maximum volume.
    - Click 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 the minimum and maximum volume are configured, the volume and default volume control reflects a percentage value of that range (the range from minimum to maximum).

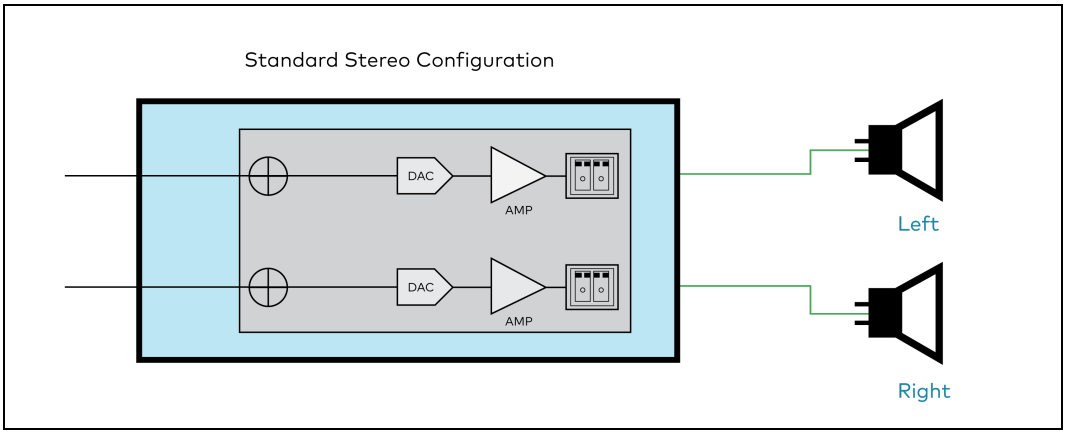
3. To set the default volume, do one of the following:
    - Move the **Default** slider to the right to increase or to the left to decrease the default volume.
    - Click the **%** arrows to increase or decrease the default volume. Values range from 0 to 50%, adjustable in increments of 1%.
    - Manually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

Configure Stereo/Mono (Autosaved)

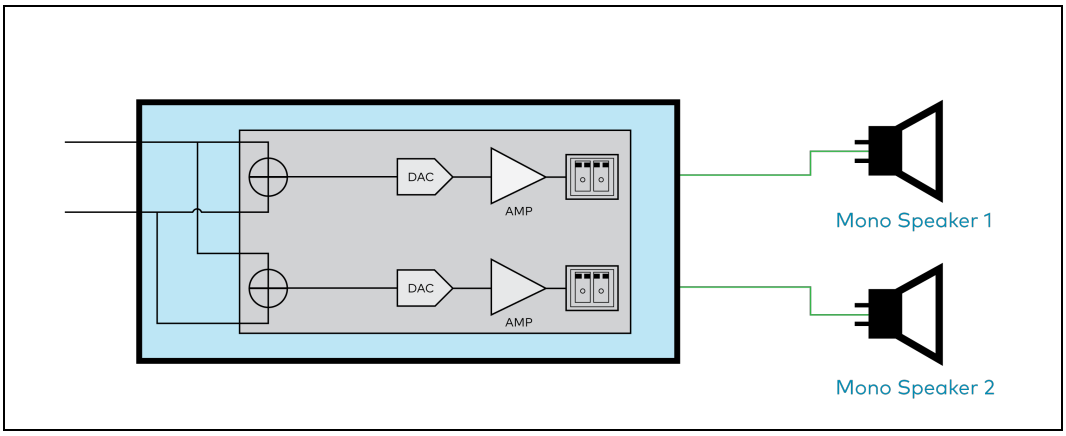
1. Select either **Stereo** or **Mono** from the **Stereo/Mono** field.
2. Select the zone configuration from the **Zone Configuration** drop-down menu. Values are **Standard**, **Bridged**, **Bridged 2.1**, **Bridged Sub 2.1**, and **Bridged Mono**.

> **NOTE:** The **Stereo/Mono** field is disabled for the Bridge Mono, Bridged 2.1, and Bridged Sub 2.1 zone configurations.

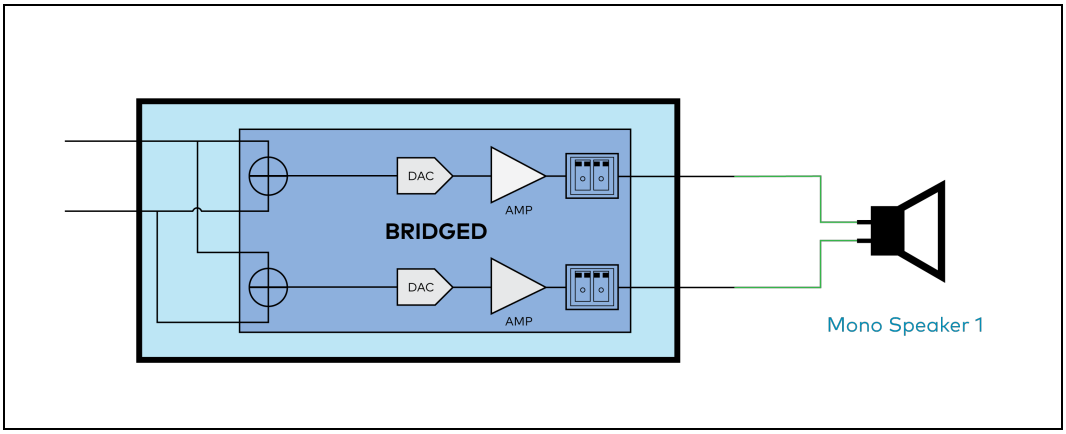
Stereo - Standard



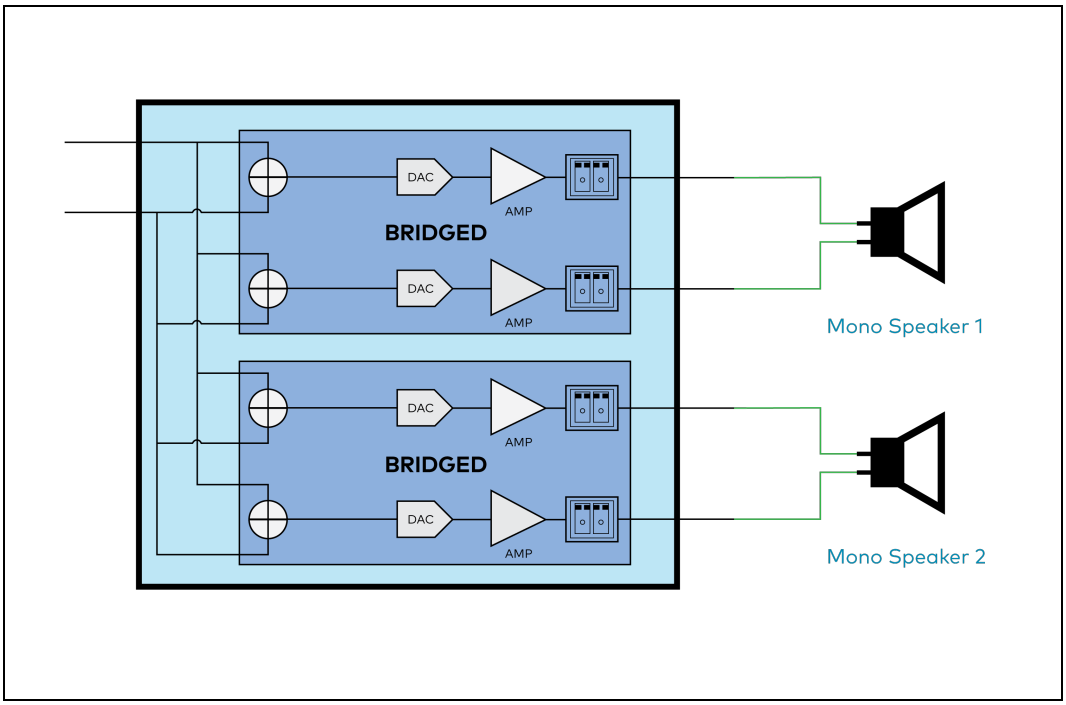
Mono - Standard



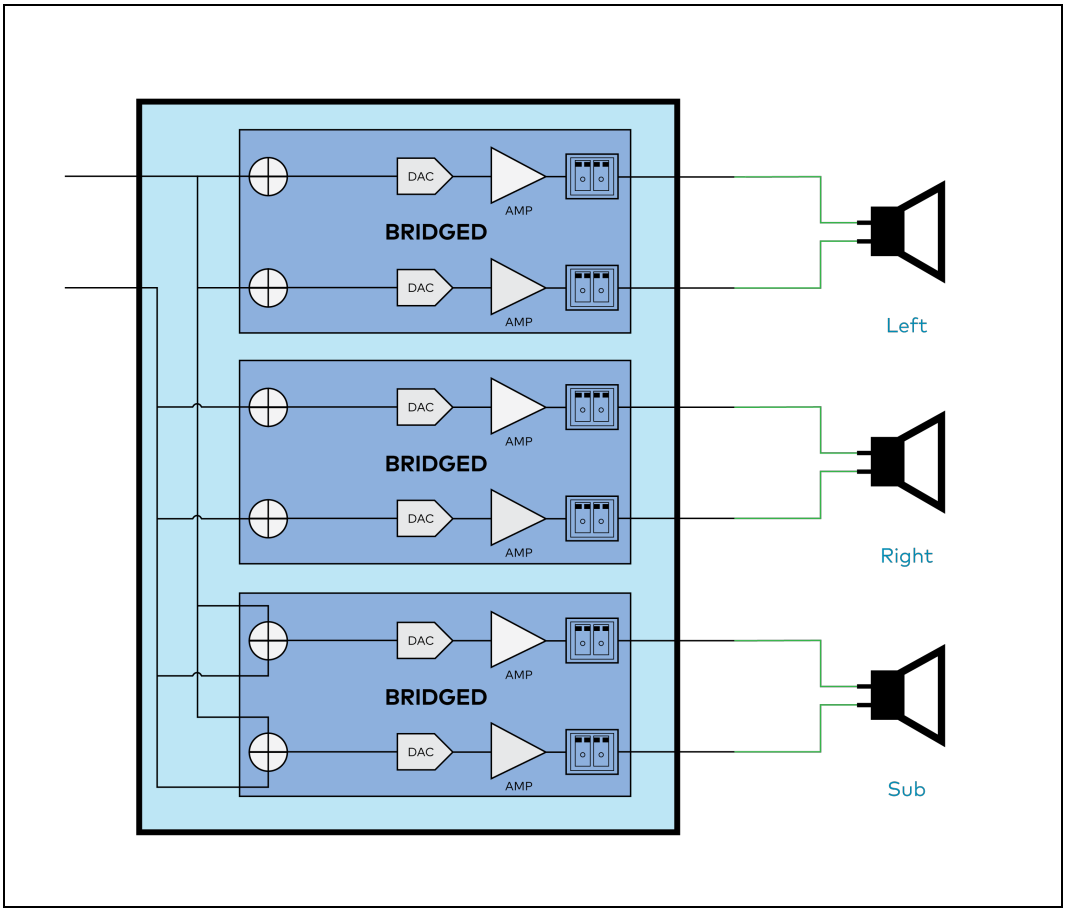
Bridged Mono



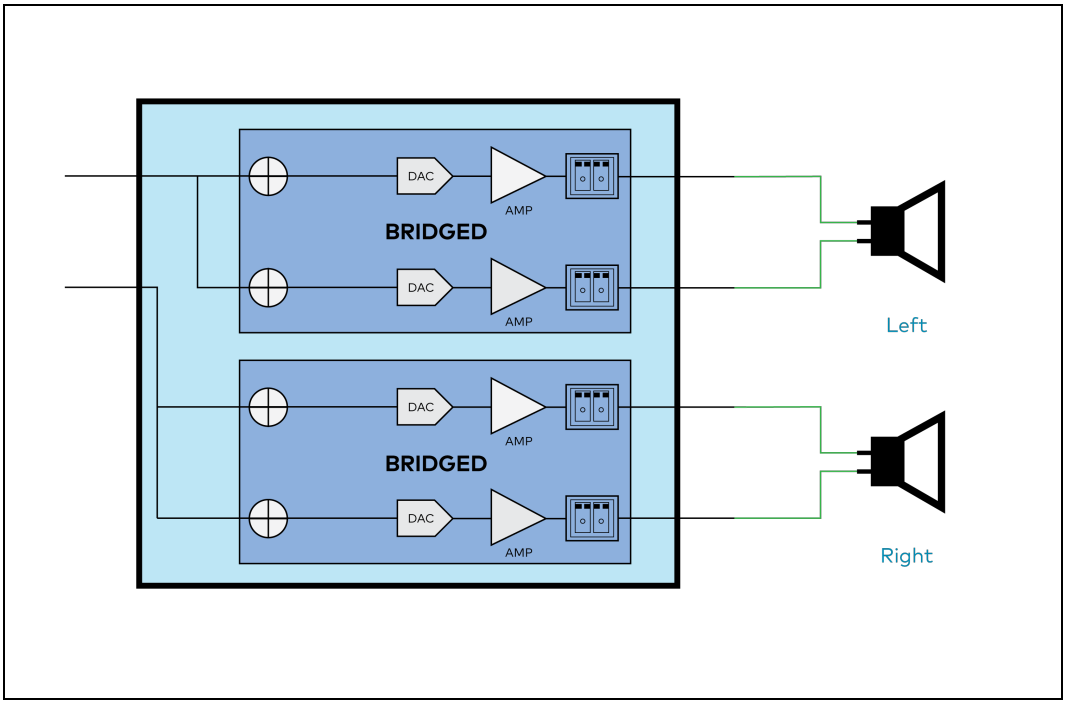
Mono - Bridged



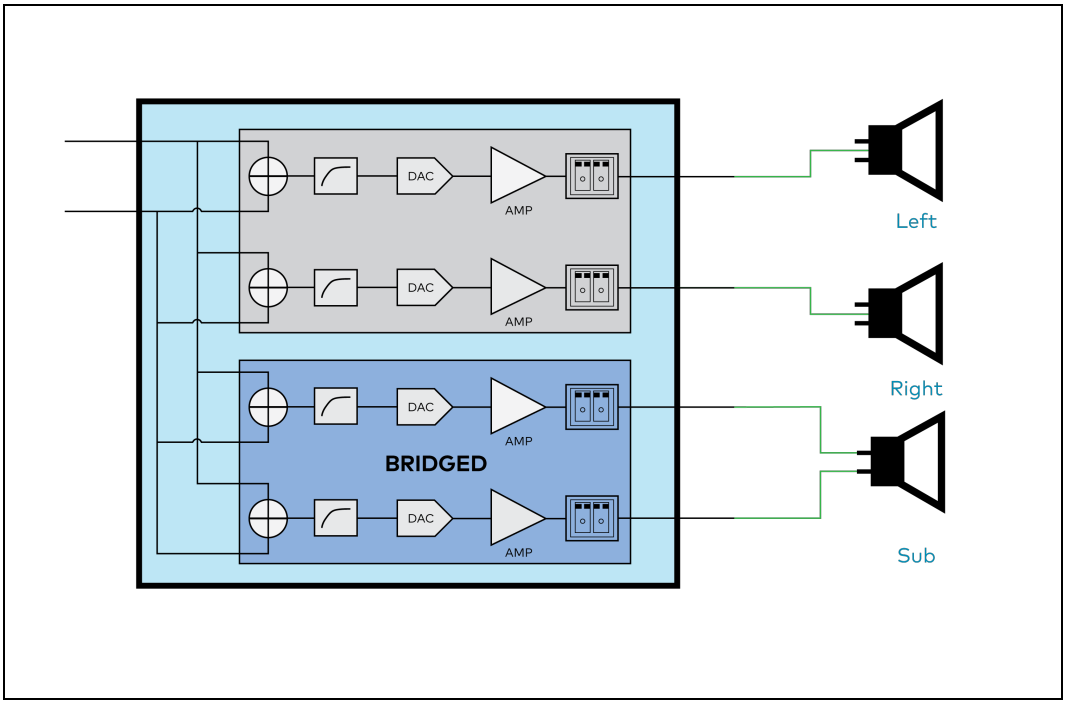
Bridged 2.1


DAC
AMP
BRIDGED
DAC
AMP
Left
DAC
AMP
BRIDGED
DAC
AMP
Right
DAC
AMP
BRIDGED
DAC
AMP
Sub

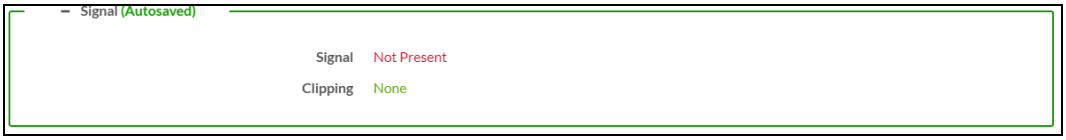
Stereo - Bridged



Bridged Sub 2.1



Signal (Autosaved)



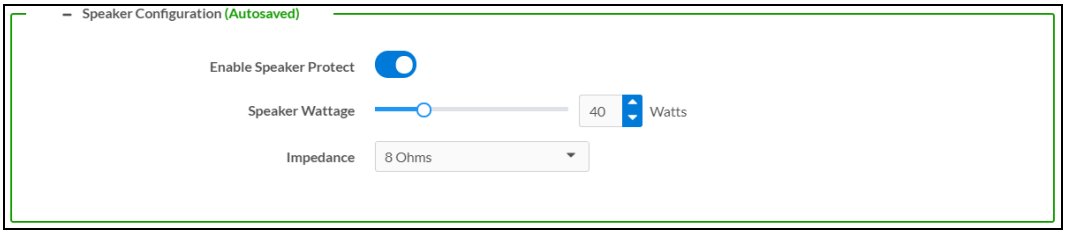
The **Signal (Autosaved)** section displays the **Signal** and **Clipping** status.

- If the signal is present but not clipping, then the **Signal** status changes to **Present** in green and **Clipping** status changes to **None** in green.
- If both signal and clipping are present, then the **Signal** status changes to **Present** in green and **Clipping** status changes to **Present** in red.
- If there is no signal or clipping, then the **Signal** status changes to **Not Present** in red and **Clipping** status changes to **None** in green.

Configure Bussing Volume Offset (Autosaved)

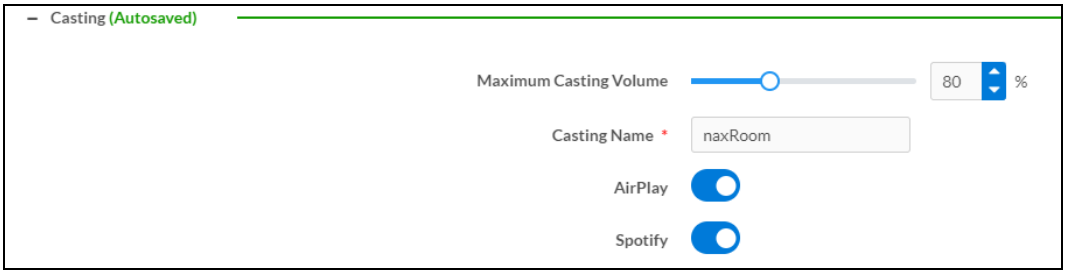
1. To set the bussing volume offset, do one of the following:
    - Move the **Bussing Volume Offset** slider to the right to increase or to the left to decrease the bussing volume offset.
    - Click the **db** arrows to increase or decrease the bussing volume offset. Values range from -12 db to 12 db, adjustable in increments of 1 db.
    - Manually enter a value in the **Bussing Volume Offset** field.

Speaker Configuration (Autosaved)



1. To prevent the delivered power from exceeding the speaker's power rating, move the **Enable Speaker Protect** slider to the right position. To disable the enable speaker protect, move the slider to the left position. By default, **Enable Speaker Protect** is disabled.
2. To set the speaker wattage, do one of the following:
    - Move the **Speaker Wattage** slider to the right to increase or to the left to decrease the amplifier wattage send to the speaker.
    - Click the **Watts** arrows to increase or decrease the amplifier wattage send to the speaker. Values range from 5 Watts to 150 Watts, adjustable in increments of 1 watt.
    - 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 menu. Values are **4 Ohms**, **8 Ohms**, and **Bridged**.

Casting (Autosaved)



Casting is used to enable or disable streaming services, as well as set the casting volume and name.

To configure Casting:

1. The maximum casting volume is an alternate (to the maximum volume set in the Configure Minimum/Maximum Volume (Autosaved) on page 39) setting applied to the zone 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 volume.
    - Click 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 is set higher than the maximum volume, the maximum casting volume is automatically adjusted to equal the maximum volume to protect the user from setting too high a volume.

2. A custom casting name (for example, Zone 1) must be entered that will be displayed in the list of available casting destinations when initiating a stream. Enter a zone in the **Casting Name** field.

    > **NOTE**: Ensure that the **Casting Name** field is populated as any field with an asterisk (*) is mandatory.

    Once AirPlay®/Spotify Connect™ is enabled, the casting zone name will be displayed as available on the casting device.

To enable Apple AirPlay®:

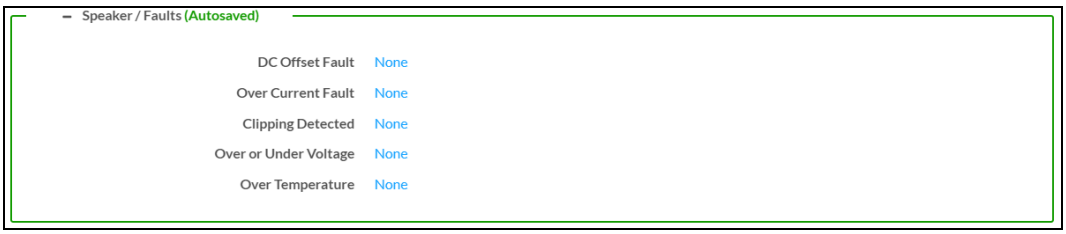
1. Move the **AirPlay** slider to the right to enable AirPlay.

To enable Spotify Connect™:

1. Move the **Spotify** slider to the right to enable Spotify.

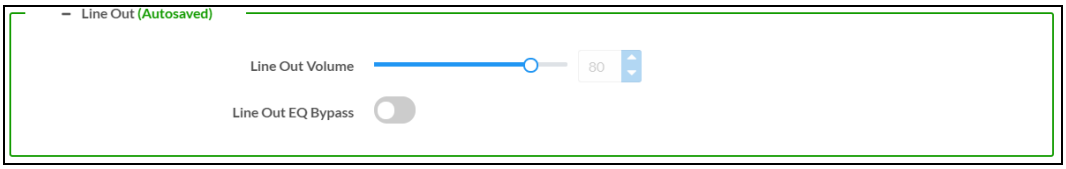
To stream media from an iOS device or Spotify app to a speaker zone in your distributed audio system, refer to the DM-NAX-8ZSA Quick Start.

Speaker/Faults (Autosaved)



The Speaker/Faults section displays the status of **DC Offset Fault**, **Over Current Fault**, **Clipping Detected**, **Over or Under Voltage**, and **Over Temperature**. If a fault is detected, then it displays **Fault Detected**, otherwise it displays **None**.

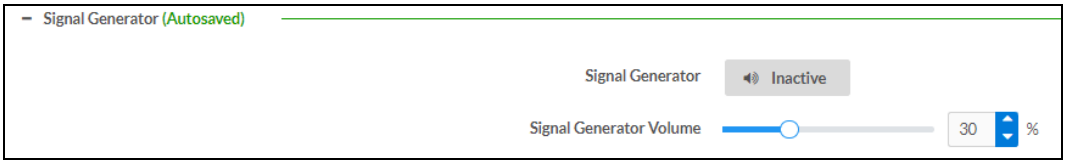
Configure Line Out (Autosaved)



1. **Line Out Volume** controls the volume level of the individual Line Outputs. 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.
   - Click the arrows to increase or decrease the line out volume. Values range from 0 to 100, adjustable in increments of 1. Range in db is -80 db to 20 db.
   - Manually enter a value in the **Line Out Volume** field.
2. To enable the line out EQ bypass, move the **Line Out EQ Bypass** slider to the right position. To disable the line out EQ bypass, move the slider to the left position. By default, **Line Out EQ Bypass** is disabled.

> **NOTE:** When the **Line Out EQ Bypass** setting is disabled, the Line Out level will match the Volume set for the Zone. If the **Line Out EQ Bypass** setting is enabled, the **Line Out Volume** slider can be used to set a level for the Line Output that will not be affected by the speaker output Volume controls.

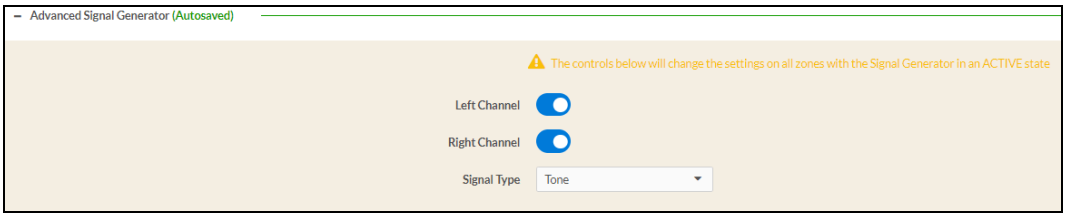
Configure Signal Generator (Autosaved)



The signal generator is a troubleshooting function that allows an integrator to send an audio test signal out to the selected zone to check output functionality.

1. To enable the Signal Generator output, click the **Signal Generator Inactive** button. To disable the Signal Generator output, click the **Signal Generator Active** button. By default, Signal Generator is disabled.
2. To set the signal generator volume, do one of the following:
    - Move the **Signal Generator Volume** slider right to increase or left to decrease the volume.
    - Click 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.

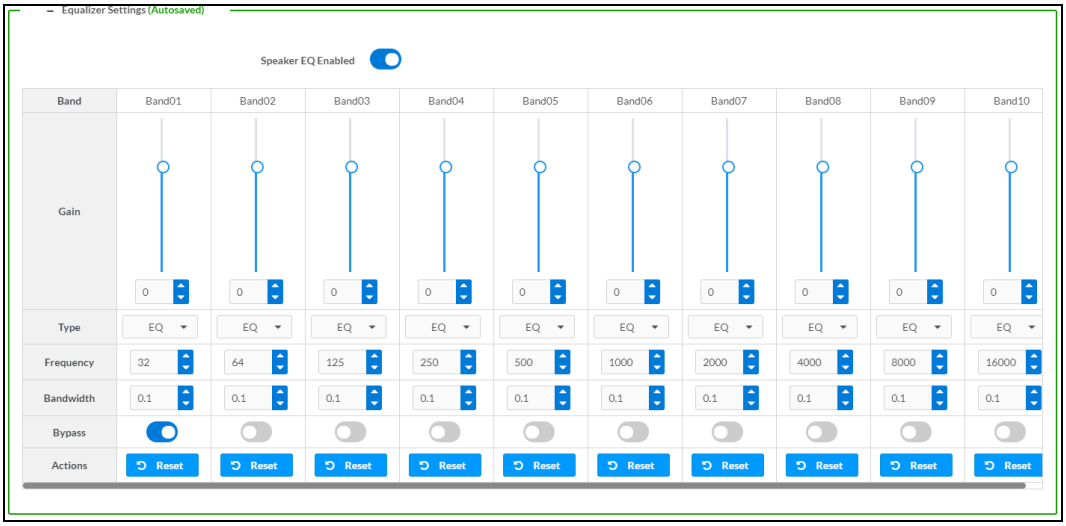
Configure Advanced Signal Generator (Autosaved)



The advanced signal generator controls can be set to output audio test signals to all device zones. The signal type can be set, and the left/right channels can be enabled/disabled to pass the signal generator output.

1. To enable the left channel, move the **Left Channel** slider to the right position. To disable the left channel, move the slider to the left position. By default, **Left Channel** is enabled.
2. To enable the right channel, move the **Right Channel** slider to the right position. To disable the right channel, move the slider to the left position. By default, **Right Channel** is enabled.
3. Select the audio test signal type from the **Signal Type** drop-down menu. Selections are:
    - **Tone**: Generates a 1kHz sine wave.
    - **Pink Noise**: Generates pink noise.
    - **White Noise**: Generates white noise.

Configure Equalizer Settings (Autosaved)



1. Move the **Speaker EQ Enabled** slider to the right position to enable the speaker EQ. Move the slider to the left position to disable the speaker EQ.

   > **NOTE:** When the **Speaker EQ Enabled** is disabled, all bands of the equalizer will be bypassed to allow for A/B testing of the entire EQ curve.

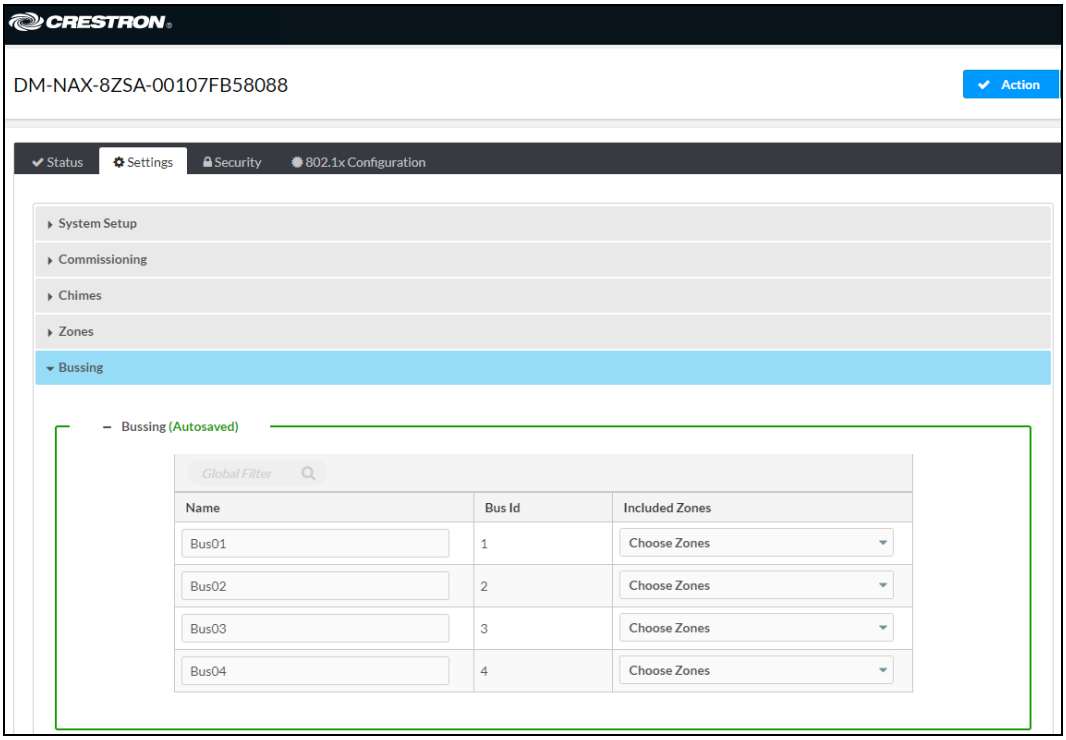
2. With the **Speaker EQ Enabled** slider in the right position, do the following to set Band01 to Band10:
   a. To set the gain, do one of the following:
      - Move the **Gain** slider up to increase or down to decrease the gain.
      - Click the arrows to increase or decrease the gain. Values range from -40 to 20, adjustable in increments of 0.1.
      - Manually enter a value in the **Gain** field.
   b. Select the type from the **Type** drop-down menu. Values are **EQ**, **Notch**, **TrebleShelf**, **BassShelf**, **LowPass**, and **HighPass**.
   c. To set the frequency, do one of the following:
      - Click the arrows to increase or decrease the frequency. Values range from 20Hz to 20kHz, adjustable in increments of 1Hz.
      - Manually enter a value in the **Frequency** field.
   d. To set the bandwidth, do one of the following:
      - Click 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 EQ at a time for a more granular A/B testing of a single filter. To enable the bypass, move the **Bypass** slider to the right position. To disable the bypass, move the slider to the left position. By default, **Bypass** is disabled.

Click **Done** to return to the **Settings** tab of the web user interface or click **Reset** to reset the band configuration.

Bussing

Bussing assigns the selected zones to a 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, the other zones in that bus follow. You can create four bus zones on the device.



Configure Bussing

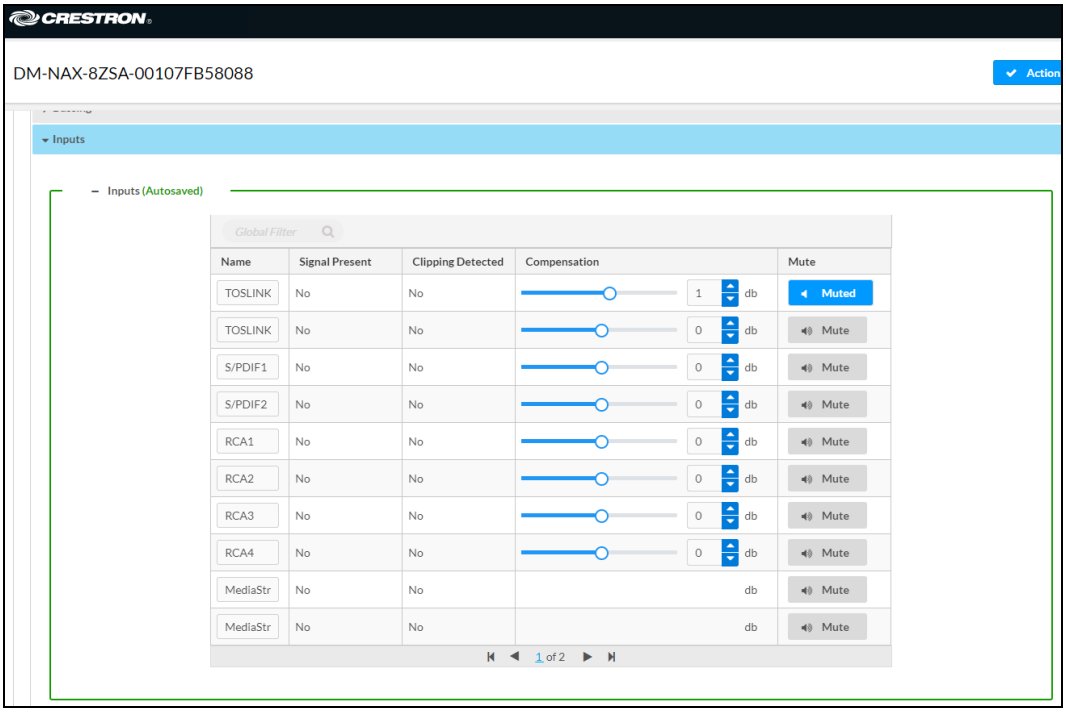
1. If needed, edit the name of the bus in the **Name** field.
2. Select the zone from the **Included Zones** drop-down menu. Values are **Zone1**, **Zone2**, **Zone3**, **Zone4**, **Zone5**, **Zone6**, **Zone7**, and **Zone8**.

> **NOTE:** Each zone can be a member of only one Bus.

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-8ZSA.

A total of 16 inputs are spread across an array of connectors. Only the first 8 inputs are related to physical connectors. The last 8 inputs are the media players for music/media streaming services.



Configure Inputs

1. If needed, edit the name of the input in the **Name** field.
2. To set the compensation, do one of the following:
   - Move the **Compensation** slider to the right to increase or to the left to decrease the compensation.
     Compensation increases the level of the high and low frequencies. Compensation is used while listening to low-volume levels to compensate because as the loudness of audio decreases, the ear's lower sensitivity to extreme high and low frequencies may cause these signals to fall below the hearing threshold.
   - Click 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, click the **Mute** button. To disable the mute, click the **Muted** button. By default, **Mute** is disabled.

Monitor the input signal using **Signal Present** and **Clipping Detected**. Use ▶ at the bottom of the matrix to view the Media streamers.

DM NAX Streams

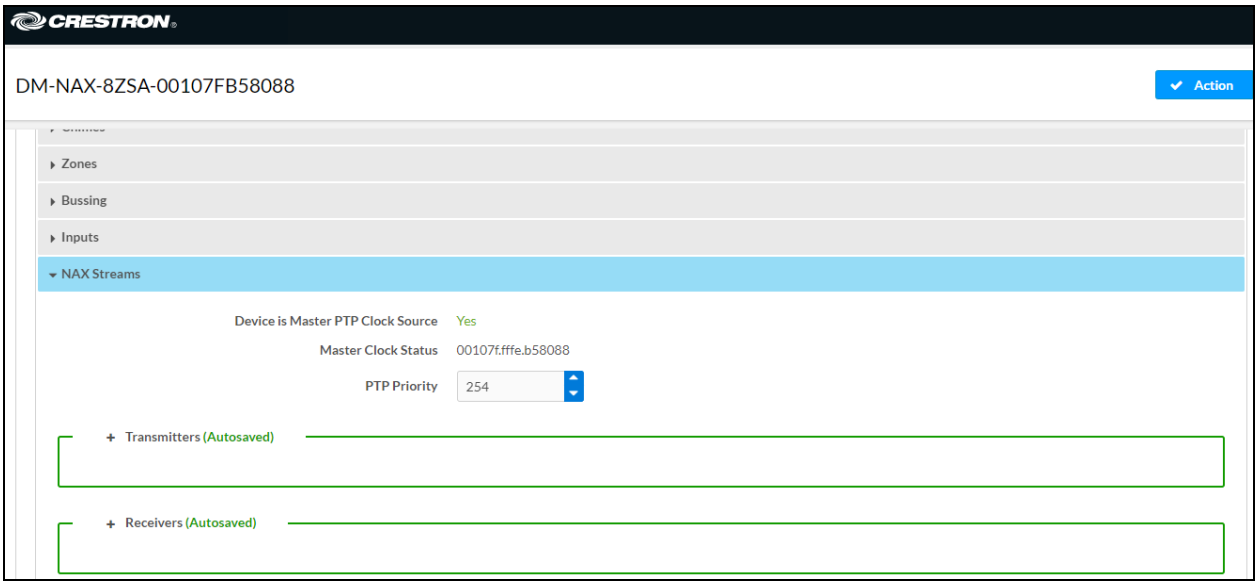
DM NAX audio over IP supports the AES67 standard. AES67 support allows an audio source to be transmitted as an AES67 source.

The DM-NAX-8ZSA supports parallel zone output, enabling additional NAX/AES67 transmit streams to mirror all DSP settings of a given zone output. The parallel zone output enables management of a third-party uncontrolled AES67 receiving device on the same network.

> **NOTE:** Under the **Transmitters** section (see Configure Transmitters), the last eight listed transmitters are dedicated to parallel zone outputs.

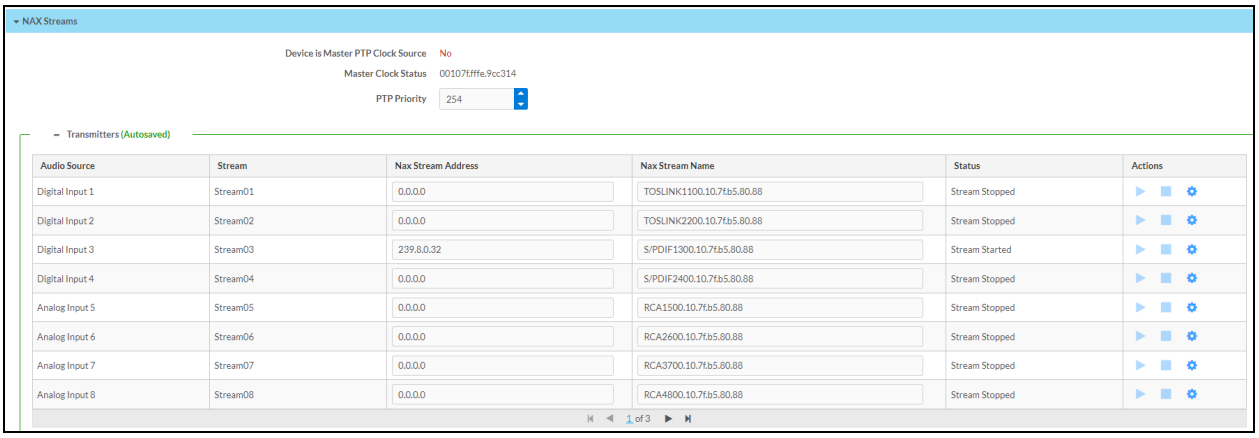
To configure the DSP settings, see Zone Settings.

Click **NAX Streams** to display the following information.



- **Device is Master PTP Clock Source** indicates whether the device is the master for PTP on the network. **Yes** will be displayed in green when the local DM-NAX-8ZSA is the PTP clock master and **No** will be displayed in red when another PTP clock on the network is operating as the master clock.
- **Master Clock Status** displays the Master Clock ID of the device on the network that acts as the Master Clock.
- **PTP Priority**: This sets the priority of the device over other DM NAX devices. Set a value between 1 and 255. The default setting is 254 so that the DM-NAX-8ZSA will only operate as clock master if no other PTP master is present on the network.

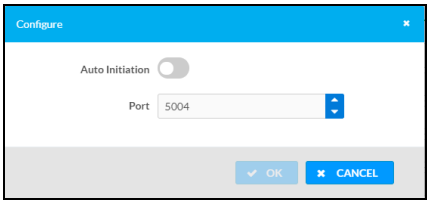
Configure Transmitters



NOTE: To configure the transmitter banks not shown on the first page, click the ▶ icon to display the next eight transmitters.

To configure a DM NAX transmit stream for any of the available inputs, do the following.

1. Enter a validated 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, as it is associated with the Multicast/NAX Stream Address by other NAX or AES67 devices.
3. **Status** indicates whether the stream is active or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Click the configure button (⚙) in the **Actions** column. The **Configure** dialog appears.

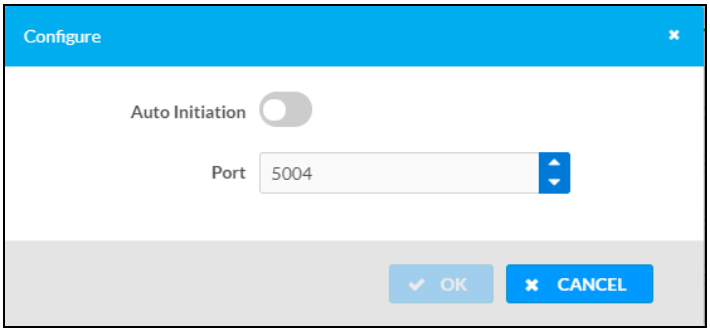


5. To enable auto initiation, move the **Auto Initiation** slider to the right position. To disable auto initiation, move the slider to the left position.
   - If Auto Initiation is enabled for the input, the stream will begin automatically, and will be available as a Multicast stream on your network at the specified address.
   - If Auto Initiation is disabled for the input, the stream will not begin until it is manually initiated.
6. To set the port number, do one of the following:
   - Click the arrows to increase or decrease the port number.
   - Manually enter a port number in the **Port** field. The default port number is 5004.
7. Click **OK** to save or click **Cancel** to cancel the changes.

Configure Receivers

Click **Receivers** to display the following information:

1. Enter the multicast address of a transmitting stream to connect the receiver in the **Requested Stream Address** field.
2. Click the configure button ( ) in the **Actions** column. The **Configure** dialog appears.

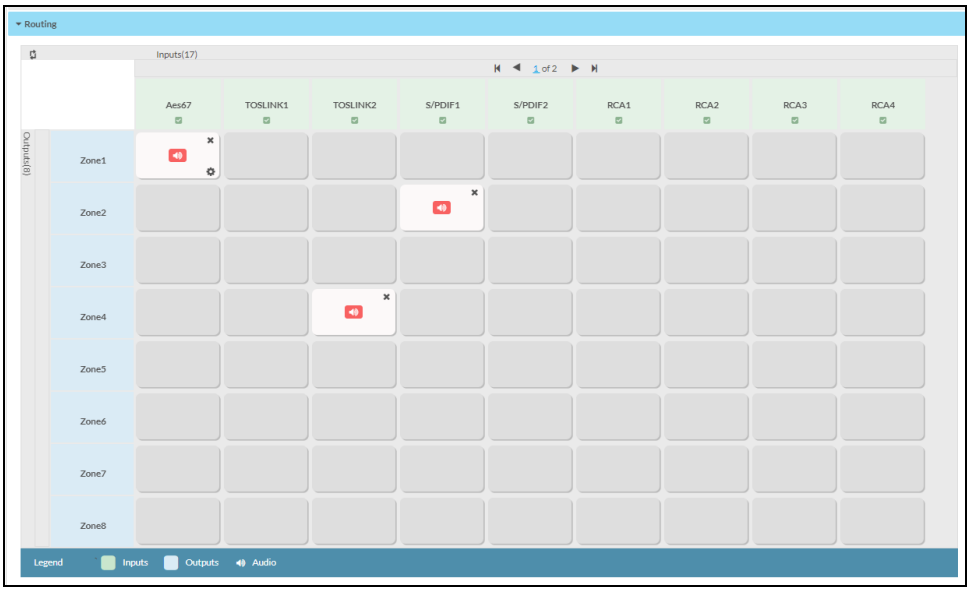


3. To enable auto initiation, move the **Auto Initiation** slider to the right position. To disable auto initiation, move the slider to the left position.
    - If Auto Initiation is enabled, the stream will begin automatically, and will be available as a Multicast stream on your network at the specified address.
    - 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:
    - Click the arrows to increase or decrease the port number.
    - Manually enter a port number in the **Port** field. The default port number is 5004.
5. Click **OK** to save or click **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-8ZSA..

> **NOTE:** To receive an AES67 stream from Dante devices, see OLH 1001151.



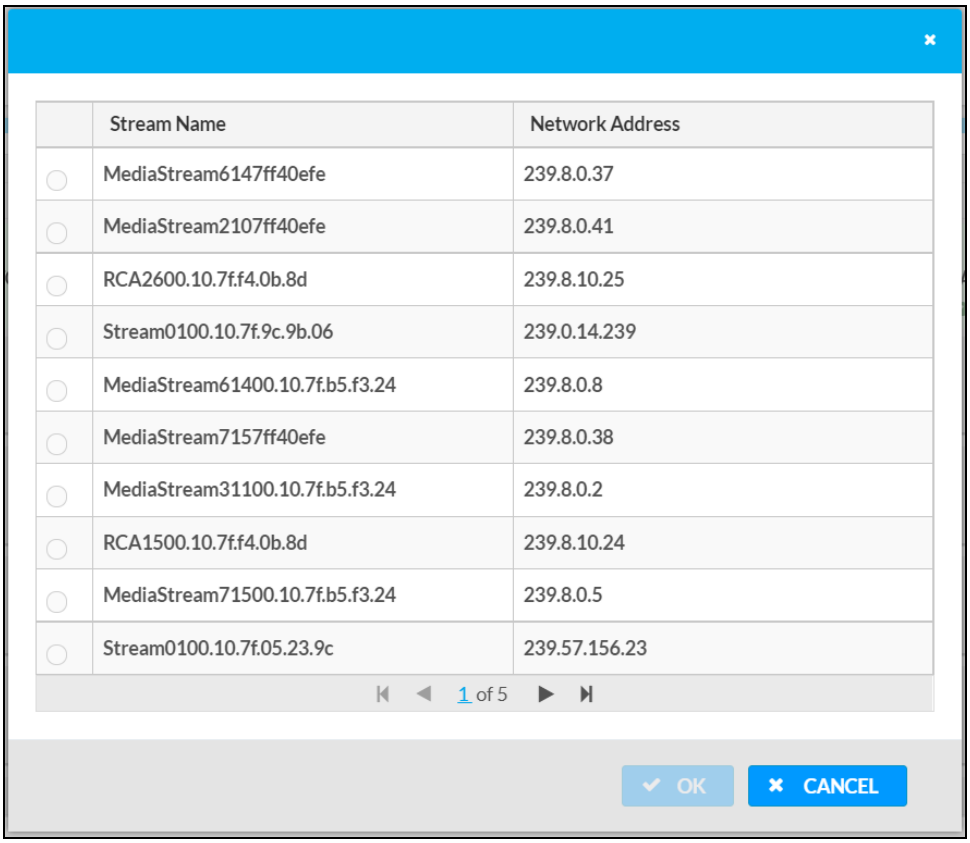
To route an input to the zones, click the box under the name of the corresponding input.

To route inputs to zones on the device:

- Click the cells corresponding to the desired zone 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 Zone corresponding to that row in the matrix.
- Use arrows ◀ or ▶ at the top of the matrix to change pages to view all available inputs.
- To break a given route click or ✖.

To select a specific NAX/AES67 stream when AES67 is selected as the source for a Zone, do the following:

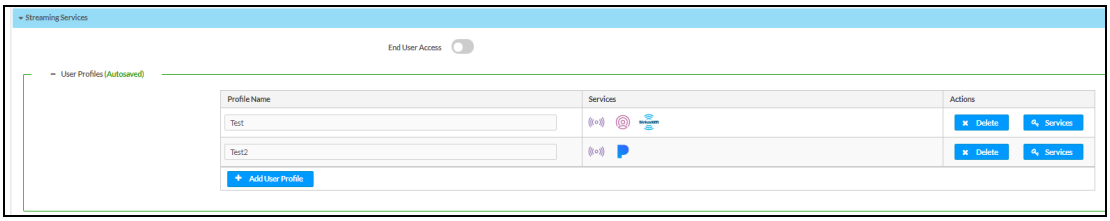
- Click ⚙ to display the list of streams available and select the desired stream to be routed to the specific zone.



- Click **OK** to save or click **Cancel** to cancel the changes.
- To route a single input to all the zones, click on the Input ✅ icon.

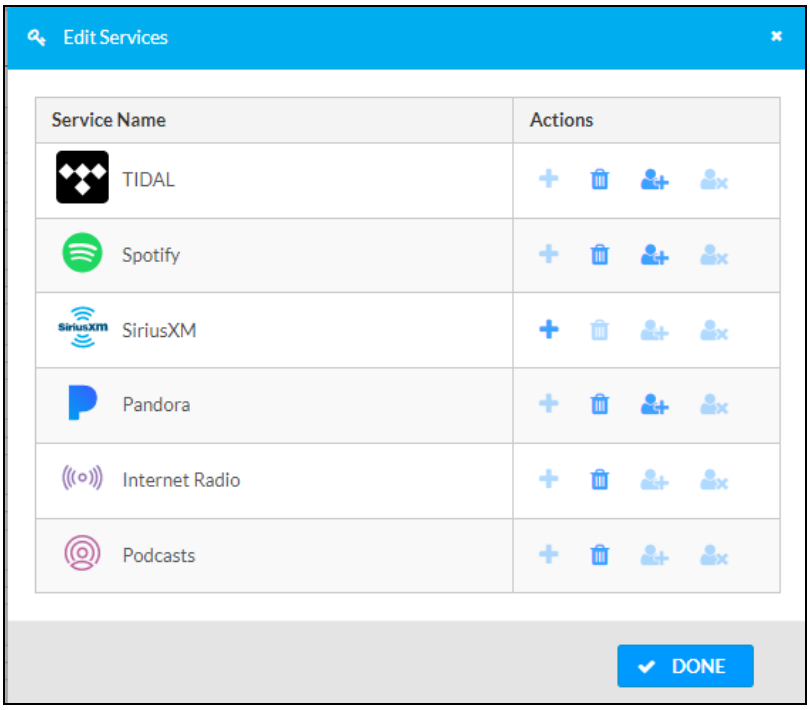
Streaming Services

Profiles can be created with discrete credentials to enable multiple users access to media streaming services without interfering with other users' recommendations, favorites, or playlists.



To configure Streaming Services:

1. To enable end user access, move the **End User Access** slider to the right position. To disable end user access, move the slider to the left position. By default, **End User Access** is disabled.
2. Click the **+ Add User Profile** button to create a new user profile.
3. Enter a name in the **Profile Name** field. Click **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.
4. Click **Services** on the **Action** column and an **Edit Services** window appears.



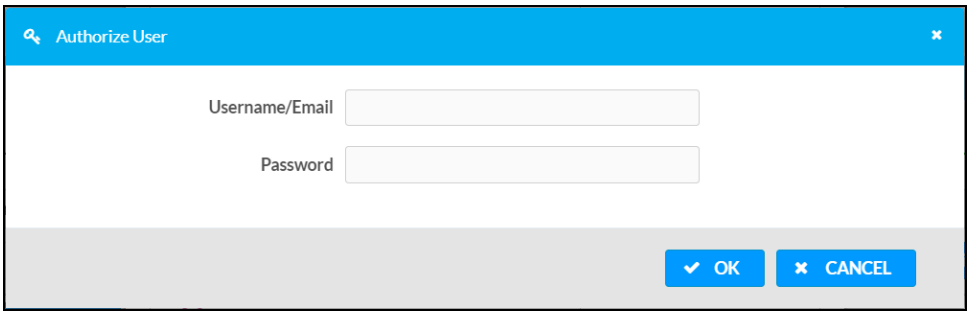
5. Select from the available Streaming Services: **TIDAL™**, **Spotify Connect™**, **SiriusXM®**, **Pandora®**, **Internet Radio**, and **Podcasts**.
6. Click + or 🗑 to add or delete the desired streaming services for each user profile.

User Authentication

User authentication is required for TIDAL, SiriusXM and Pandora. Click to authorize the user.

To authenticate SiriusXM streaming:

1. Enter the user credentials and click **OK**.



To authenticate TIDAL streaming:

1. Click on the link to log in to the TIDAL portal.

> **NOTE:** The link is valid for one minute. After one minute, the link expires, and the **Authorize URL** is shown as blank. The user needs to be reauthorized.

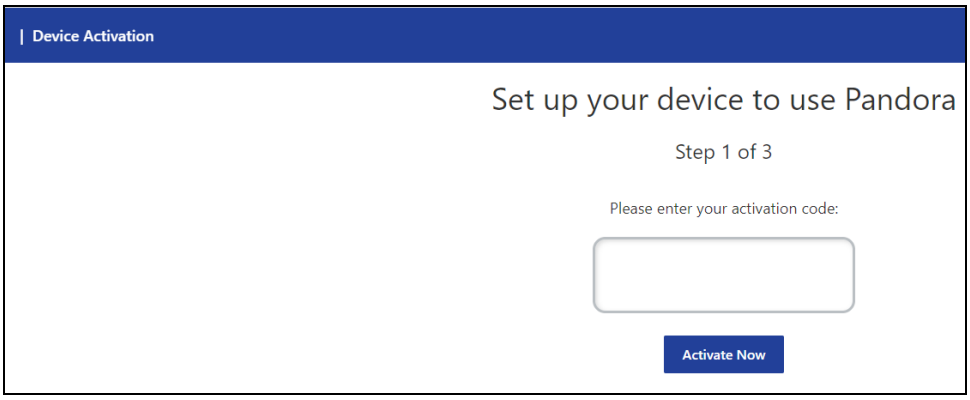
2. Click **DONE** to return to **Streaming Services**.

To authenticate Pandora streaming:

1. Copy the activation code by clicking the icon.
2. Click 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 user needs to be reauthorized.

3. Paste the activation code in the **Please enter your activation code** field and click **Activate Now**.



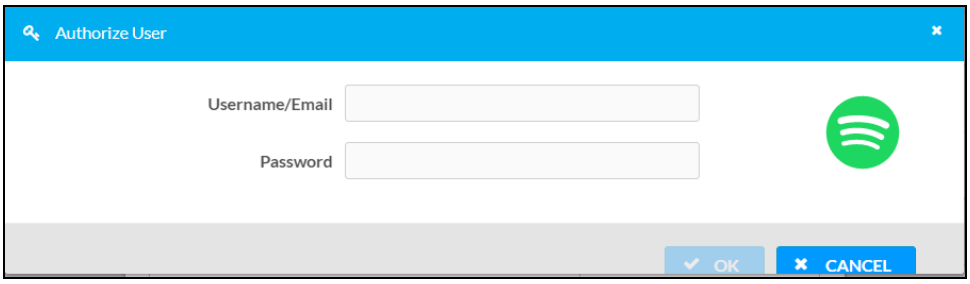
4. Log in to the Pandora account.
5. Click **DONE** to return to **Streaming Services**.

User Profile Authentication

Spotify Connect supports user profiles. A user profile is used to save or recall presets from a Spotify Connect account. Click to authorize the user profile.

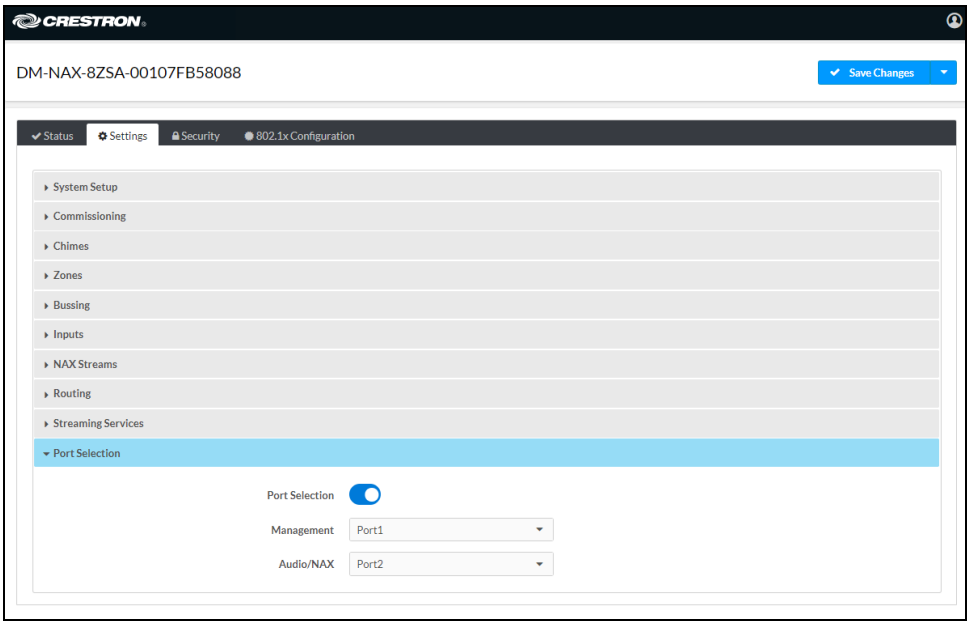
> **NOTE:** While casting, use the same Spotify account to save presets to the user profile.

1. Enter the user profile credentials and click **OK**.



Port Selection

Port selection enables network traffic to be managed and segregated based on traffic type. Internal VLANs are used to route different traffic types to specific external Ethernet ports, and external Ethernet ports can then be assigned to various traffic types. AES67 or Dante audio can be separated from the primary video and control network, resulting in a dedicated audio network.



To configure port selection:

1. To enable the port selection, move the **Port Selection** slider to the right position. To disable the port selection, move the slider to the left position. By default, **Port Selection** is disabled.

   > **NOTE:** Ports 1 and 2 correspond to the Ethernet Adapters 1 and 2 on the rear panel of the DM-NAX-8ZSA, respectively.

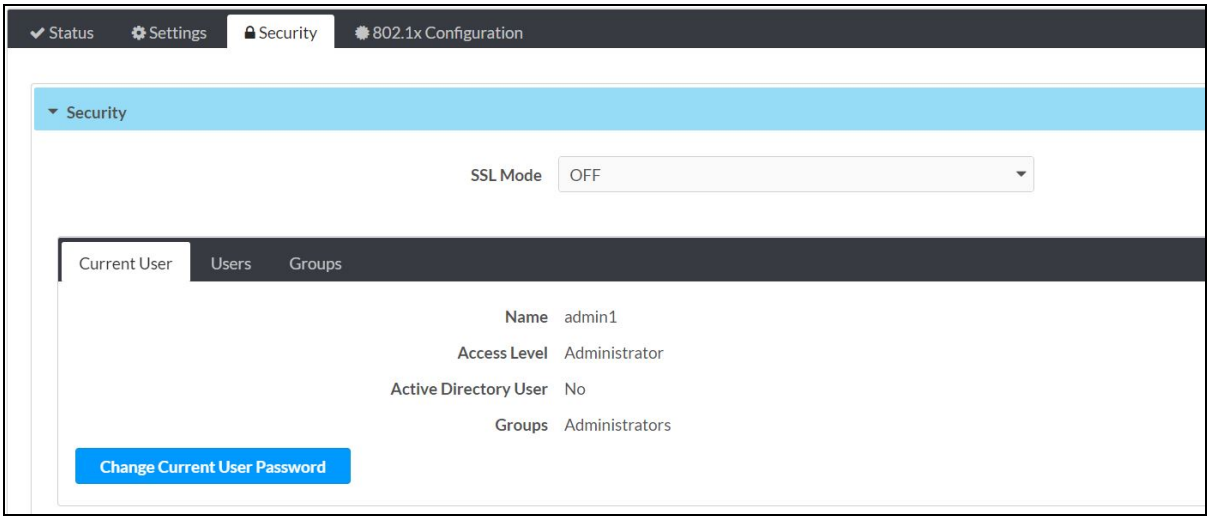
2. With the port selection enabled, select an Ethernet port from the **Management** drop-down menu to assign traffic type.

   > **NOTES:**
   > - To access streaming services, the Management port must be connected to the Internet.
   > - The Management port determines your connection to the web interface. Changing the port value will result in losing your connection to the device via the web interface.

3. With the port selection enabled, select an Ethernet port from the **Audio/NAX** drop-down menu to assign traffic type.
4. Click **Save** changes to apply the new settings.

Security

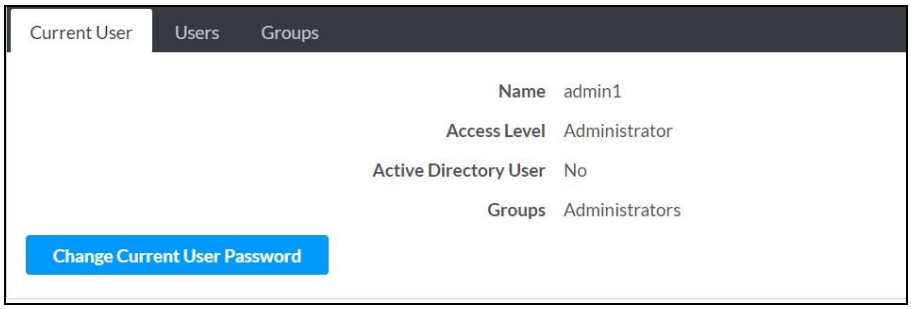
Click the **Security** tab to configure security for users and groups and to allow different levels of access to the DM-NAX-8ZSA functions. By default, security is disabled.



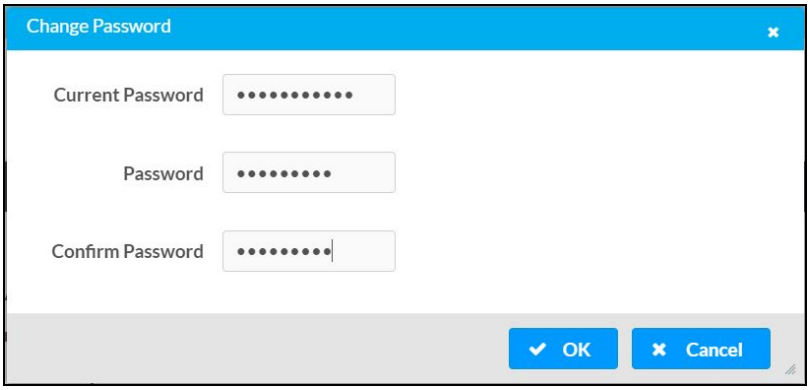
Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down menu, to specify whether to use encryption. By default, SSL Mode is set to **OFF**.

Current User

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



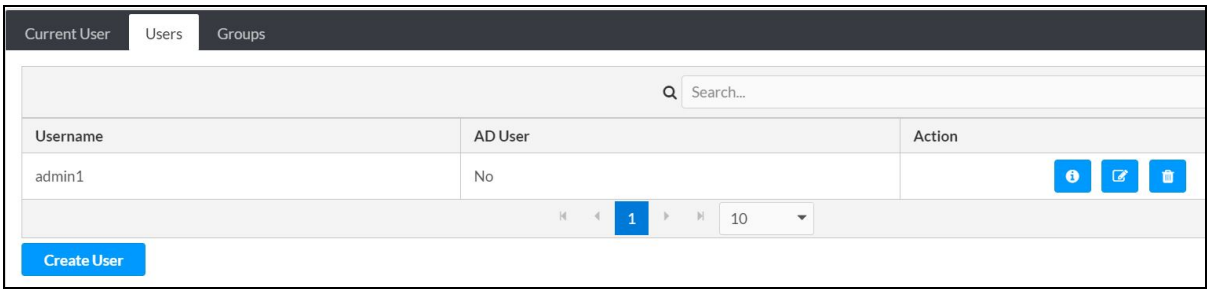
1. Click the **Change Current User Password** button to provide a new password for the current user.
2. In the **Change Password** dialog, enter the current password in the **Current Password** field, the new password in the **Password** field, and then re-enter the same new password in the **Confirm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



3. Click **OK** to save or click **Cancel** to cancel the changes.

Users

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



Use the **Search 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 clicking a page number or by using the left or right arrows at the bottom of the **Users** pane to move forward or backward through the pages.

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

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

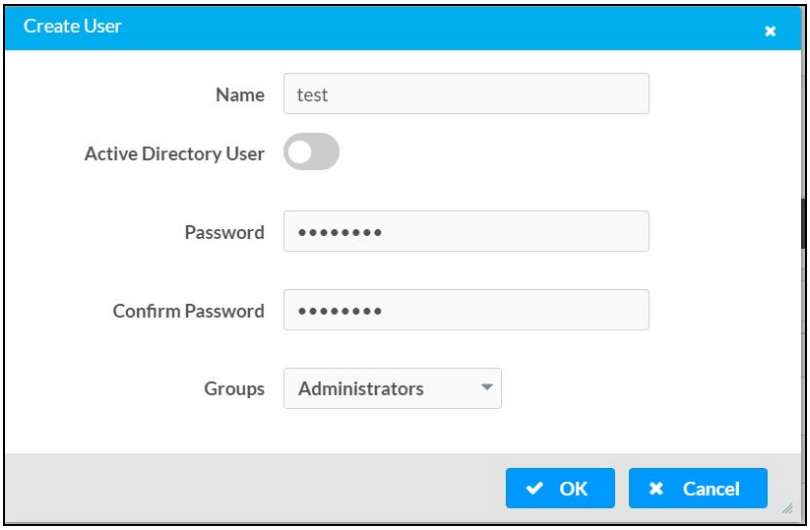
- **Username**: Displays the name of the user.
- **AD User**: Displays whether the user requires authentication using Active Directory.

  Click the corresponding button in the Actions column to view detailed user information or to delete the user.

  To create a new user, click the **Create User** button.

Create a New Local User

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



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

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

3. Click **OK** to save or click **Cancel** to cancel the changes.

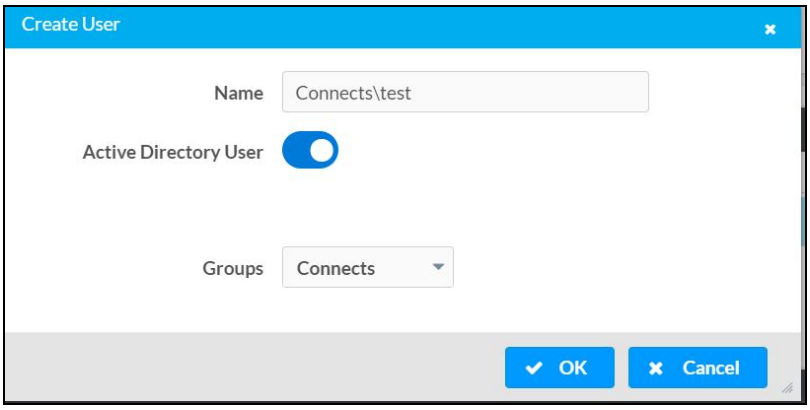
Add an Active Directory User

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.

1. Click the **Create User** button.
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** slider is set to enabled.

3. Click **OK** to save or click **Cancel** to cancel the changes.

Delete User

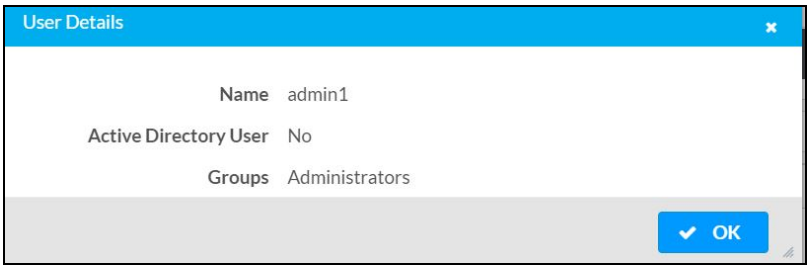
Click the trashcan button ( ) in the **Actions** column to delete the user. Click **Yes** when prompted to delete the user or **No** to cancel the deletion.

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

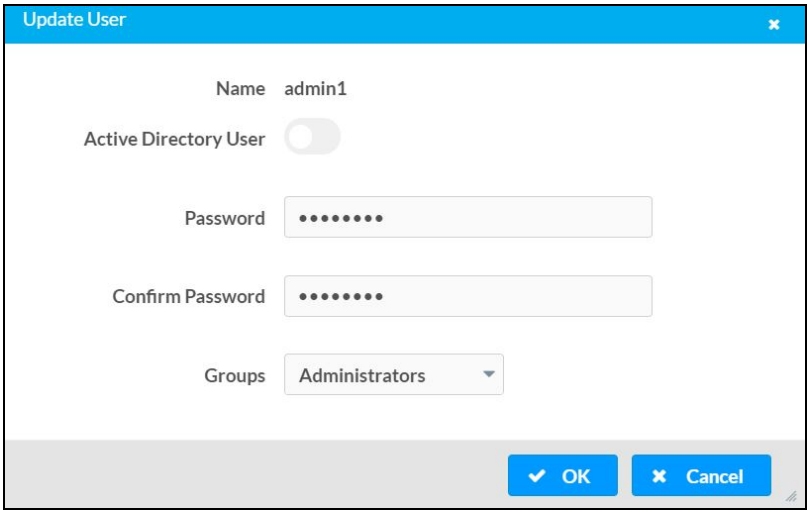
Click the information button ( ) in the **Actions** column to view information for the selected user. The **User Details** dialog displays the following information for the selected user.

- **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.



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

Update User Details



1. Click the edit button ( ) 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. Click **OK** to save or click **Cancel** to cancel the changes.

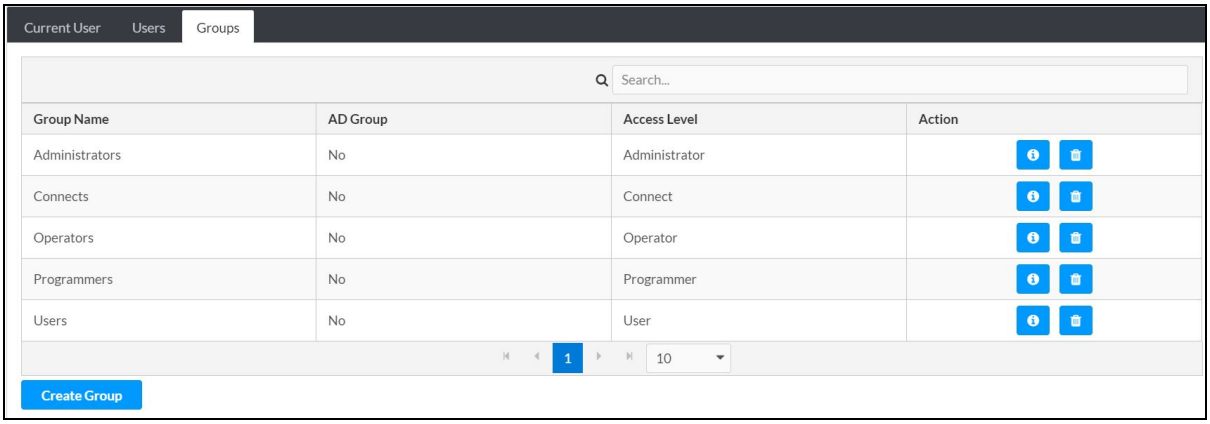
The **Update User** dialog also displays the following read-only information for the selected user.

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

Groups

Click 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 clicking a page number or by using the left or right arrows at the bottom of the Groups pane to move forward or backward through the pages.

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

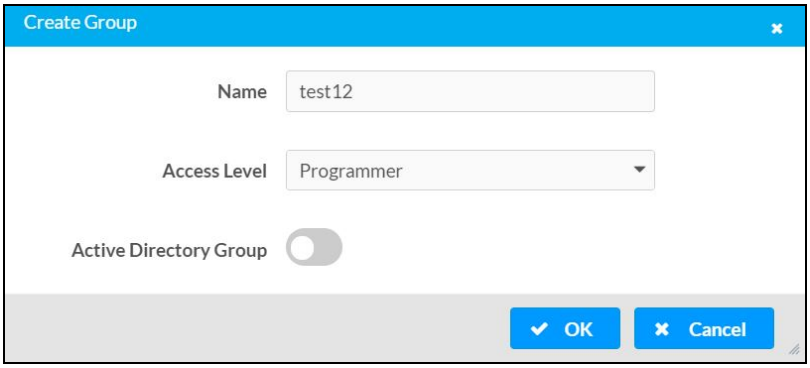
Existing groups are displayed in a table and the following information is provided for each group:

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

Click the corresponding button in the **Actions** column to view detailed group information ( ) or to delete ( ) selected group.

Click on the **Create Group** button in the **Groups** tab to create new group.

Create Local Group



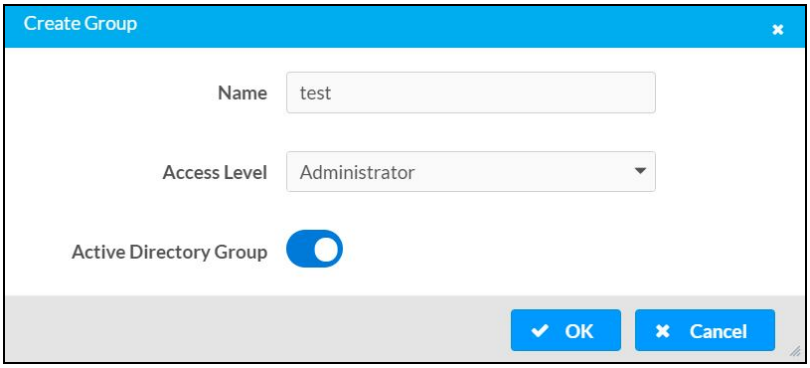
1. Click the **Create Group** button.
2. In the **Create Group** dialog, enter the following:
    a. Enter the group name in the **Name** field.
    b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down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

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

3. Click **OK** to save. Click **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-8ZSA.

1. Click the **Create Group** button.
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** slider is enabled.

4. Click **OK** to save. Click **Cancel** to cancel the changes.

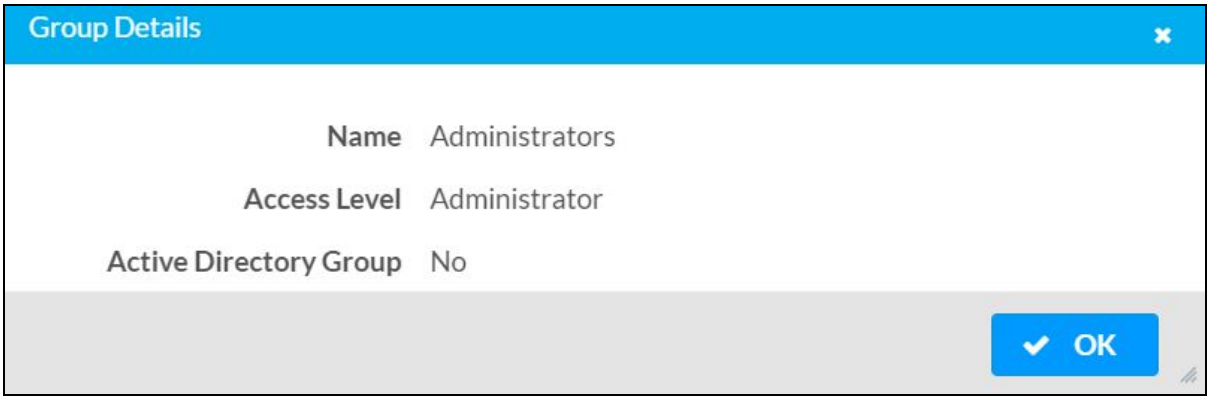
Delete a Group

Click the trashcan button ( ) in the **Actions** column to delete a group. Click **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

Click the information button ( ) in the **Actions** column to view information for the selected group. The **Group Details** dialog lists the following information for the selected group.

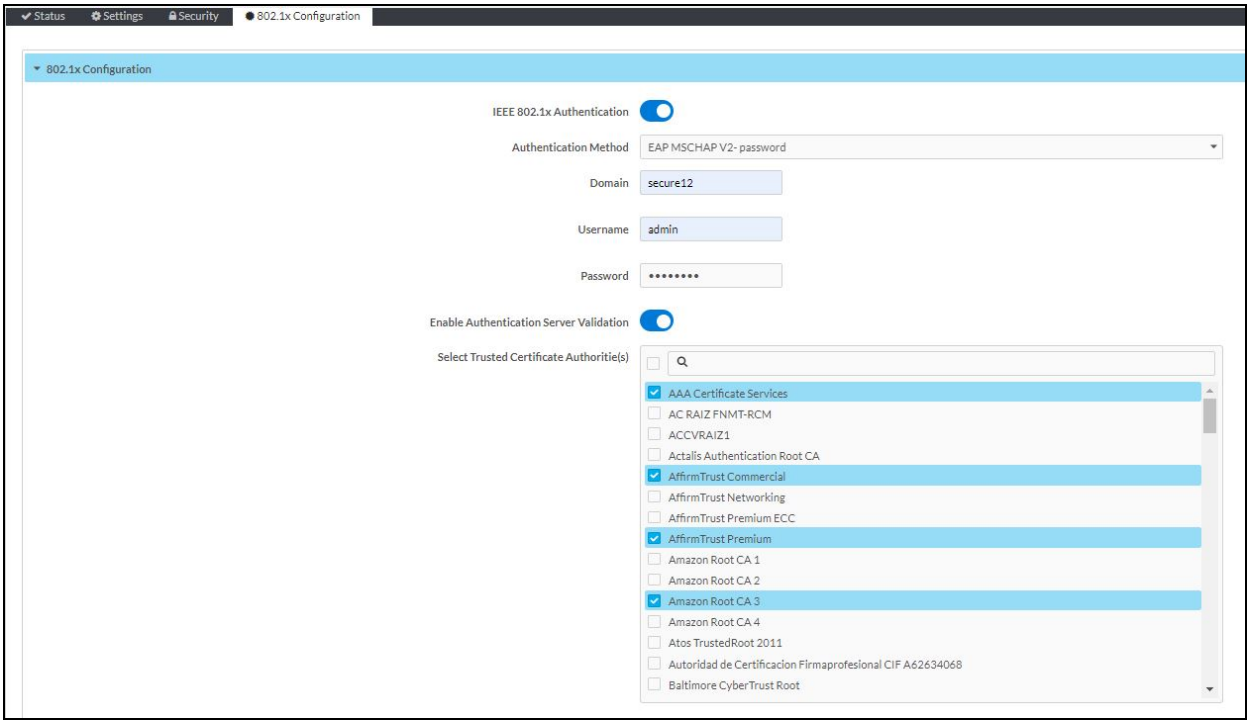


- **Name**: Displays the name of the group.
- **Access Level**: Displays the access level of the group and its users.
- **Active Directory Group**: Displays whether the group is an Active Directory group.

Click **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.



To Configure DM-NAX-8ZSA for 802.1X Authentication

1. Move the **IEEE 802.1X Authentication** slider 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**, click **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, click **Save Changes** to save the changes to the device and reboot it. Click **Revert** to cancel any changes.

Access the Web Interface With the Crestron Toolbox™ Application

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

1. Open the Crestron Toolbox application.
2. From the **Tools** menu, select **Device Discovery Tool**. You can also access the Device Discovery Tool by clicking the Device Discovery Tool button () 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 the Crestron Toolbox application attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, double-click your device.
4. Enter your credentials in the **Authentication Required** dialog that opens, and then click **Log In**.
5. Click the **Web Configuration** button in the Configuration page displayed on the left side of the Device Discovery Tool.

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 75
- Access the Web Interface With the Crestron Toolbox™ Application on page 105

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

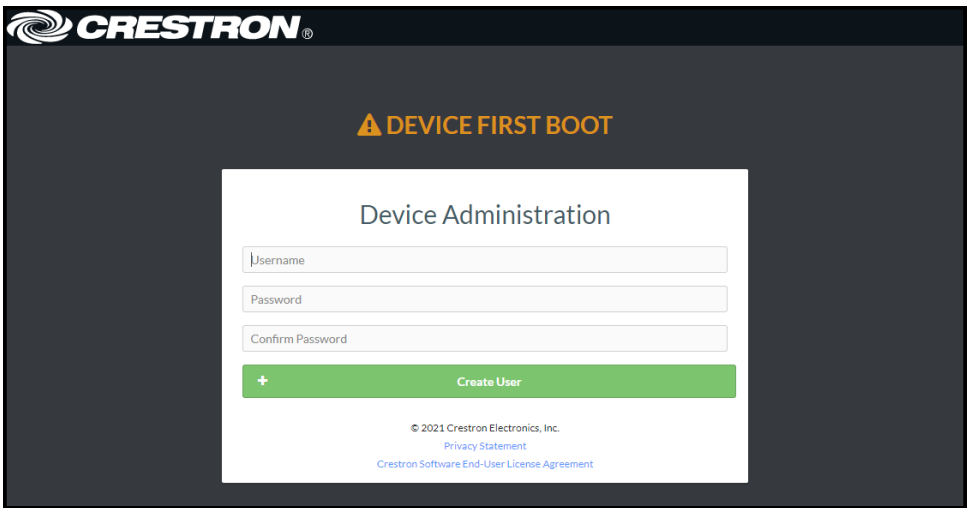
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later Firefox® web browser, version 31 and later Internet Explorer web browser, version 11 and later Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later Chrome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

Access the Web Interface with a Web Browser

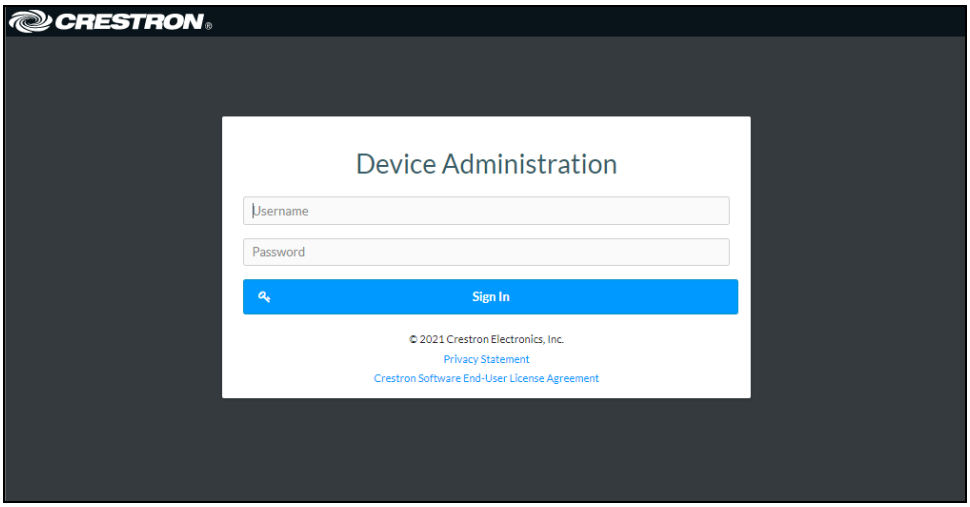
1. Enter the IP address of the DM-NAX-16AIN into a web browser.

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

2. If you are creating a user account for the first time, do the following; otherwise, skip to step 3.
   a. Enter a username in the **Username** field.
   b. Enter a password in the **Password** field.
   c. Re-enter the same password in the **Confirm Password** field.



   d. Click **Create User**. The Device Administration page appears.

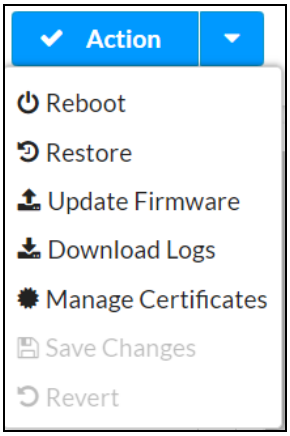


3. Enter the username in the **Username** field.
4. Enter the password in the **Password** field.
5. Click **Sign In**.

Action

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

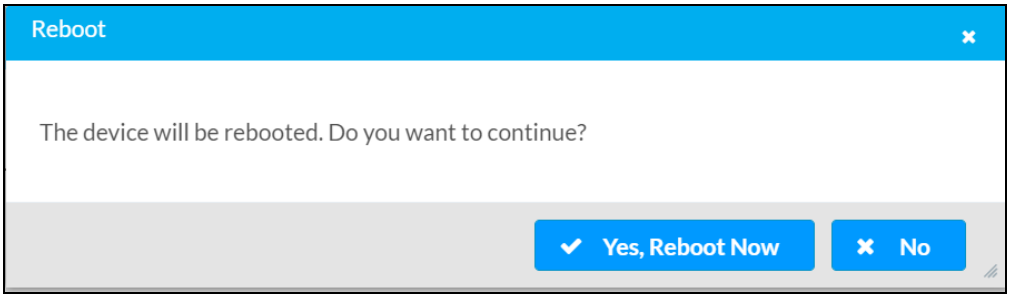
- Reboot
- Restore
- Update Firmware
- Download Logs
- Manage Certificates
- Save Changes
- Revert



Reboot the DM-NAX-16AIN

Certain changes to the settings may require the DM-NAX-16AIN to be rebooted to take effect. To reboot the device, do the following:

1. Click **Reboot** in the **Actions** drop-down menu. The **Confirmation** message box appears.

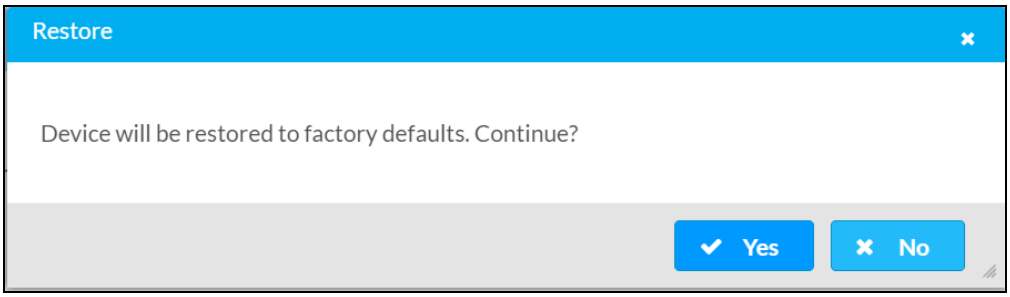


2. Click **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears.
   Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

1. Click **Restore** in the **Actions** drop-down 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.



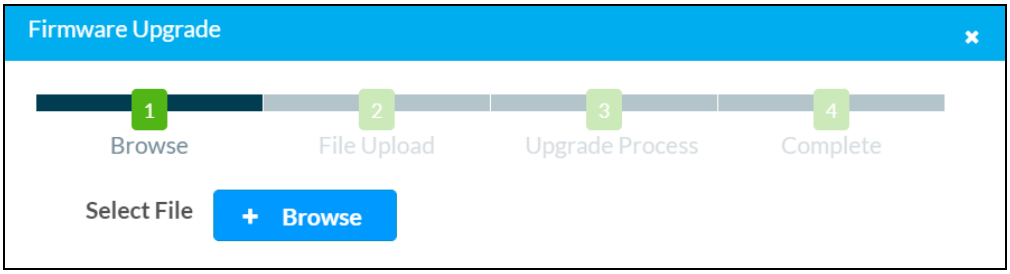
2. Click **Yes** in the **Confirmation** dialog to restore the DM-NAX-16AIN to factory settings. Click **No** to cancel the restore operation.

   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. Click **Update Firmware** in the **Actions** drop-down menu.
2. In the **Firmware Upgrade** dialog, click **+ Browse**.



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

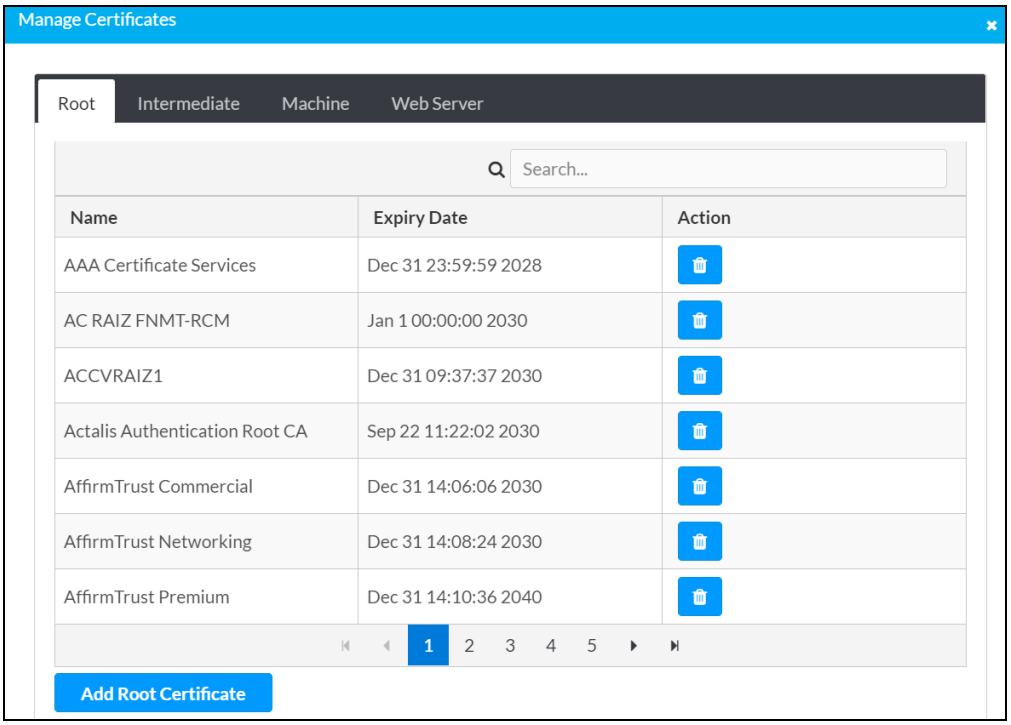
Download Logs

1. Click **Download Logs** in the **Actions** drop-down 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.



1. Click **Manage Certificates** in the **Actions** drop-down 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. Click the corresponding certificate tab.
2. Click the **Add Root Certificate** button.
3. Click the **+ Browse** button.
4. Locate and select the file, and then click the **Open** button.

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

5. Click **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. Click the corresponding certificate tab.
2. Click the trashcan button ( ) in the **Actions** column to delete the certificate.
3. Click **Yes** when prompted to delete the certificate or **No** to cancel the deletion.

Save Changes

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

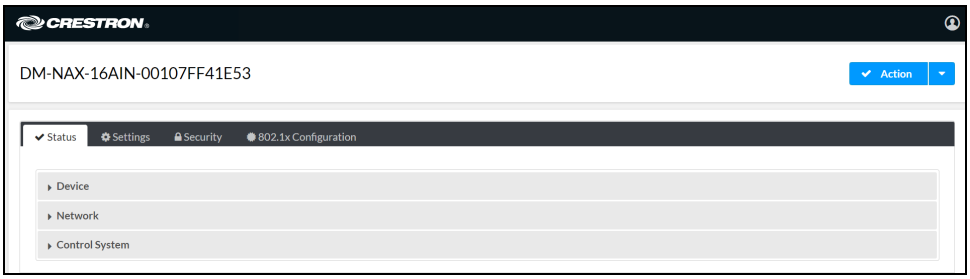
Revert

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

Status

The **Status** tab 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.).

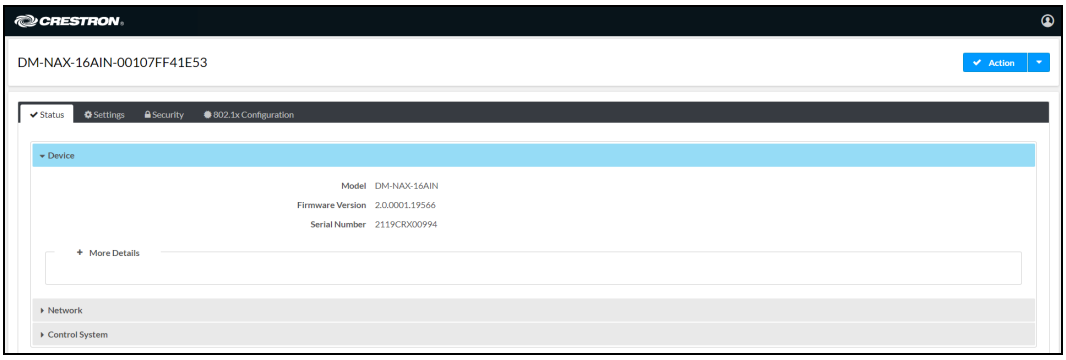
The Status tab can be accessed at any time by clicking the **Status** tab of the DM-NAX-16AIN interface.



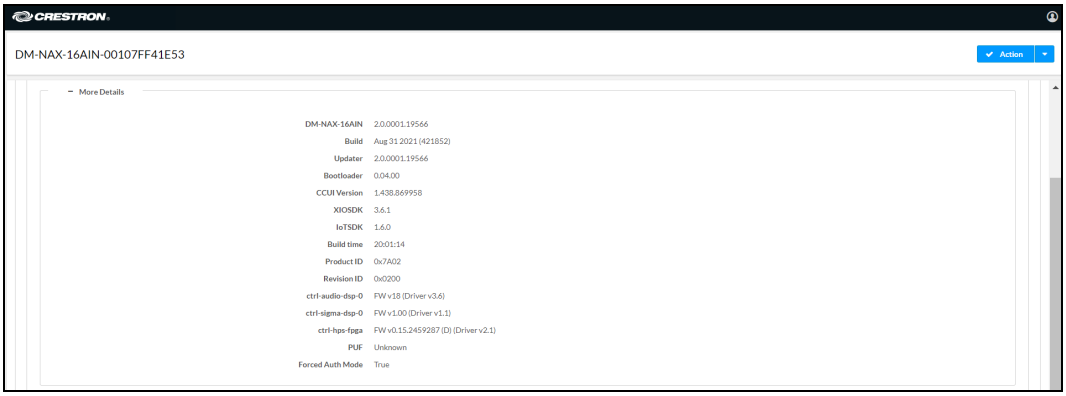
Information displayed on the **Status** tab is organized into different sections.

Device

The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-16AIN.

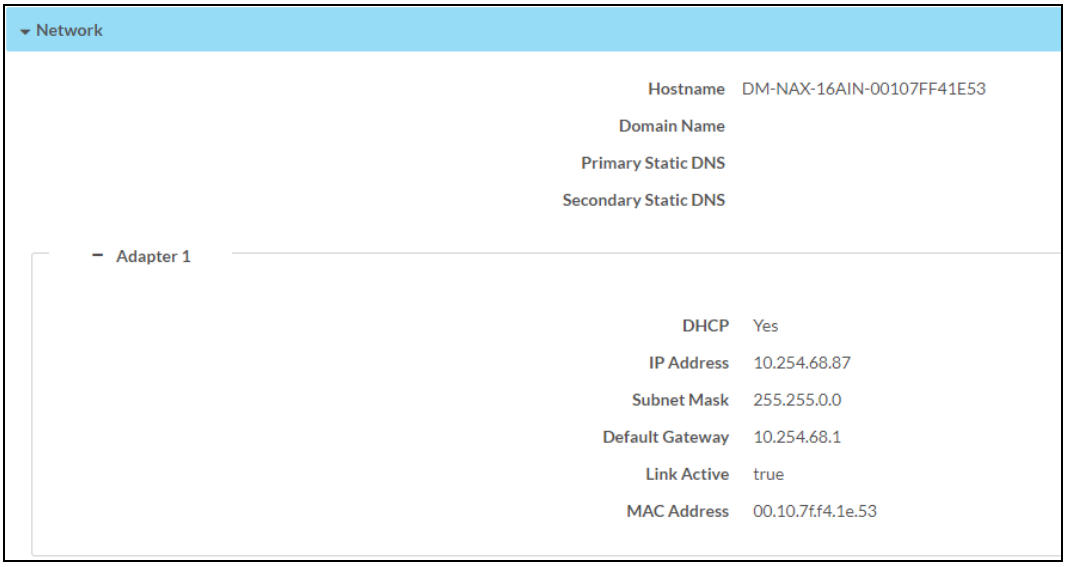


Click **+ More Details** to review additional information about the DM-NAX-16AIN.



Network

The **Network** section displays network-related information about the DM-NAX-16AIN, including the Hostname, Domain Name, and DNS Servers.



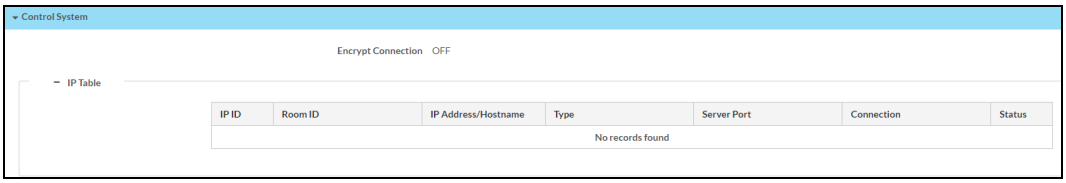
> **NOTE:** By default, the host name of the DM-NAX-16AIN consists of the model name followed by the MAC address of the device. For example, DM-NAX-16AIN-00107FF41E53.

Click **+ Adapter 1** to display an expanded section that shows additional information. If **+ Adapter 1** is selected, click **- Less** details 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.

Control System

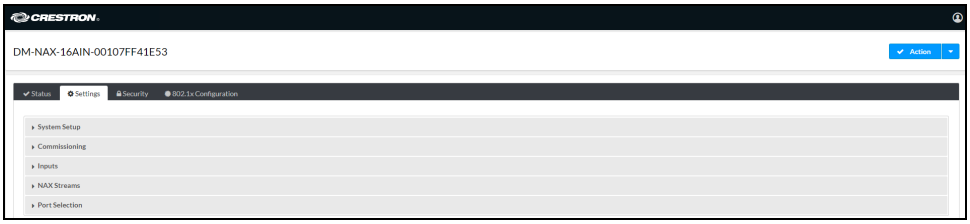
The **Control System** section displays connection information, consisting of the following:



- **Encrypt Connection**: ON or OFF
- **IP ID**: Reports the currently used IP ID of the DM-NAX-16AIN
- **IP Address/Hostname**: The IP address of the control system
- **Room ID**: Displays the room ID
- **Status**: OFFLINE or ONLINE

Settings

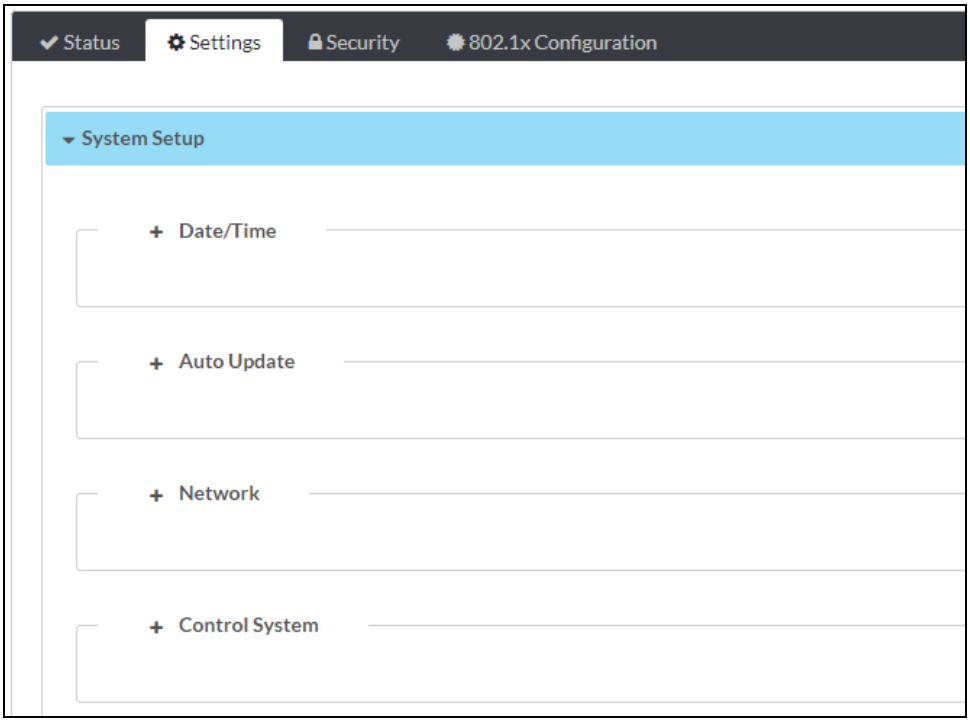
The **Settings** tab enables you to configure the DM-NAX-16AIN settings. The Settings page can be accessed at any time by clicking the **Settings** tab of the DM-NAX-16AIN interface.



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

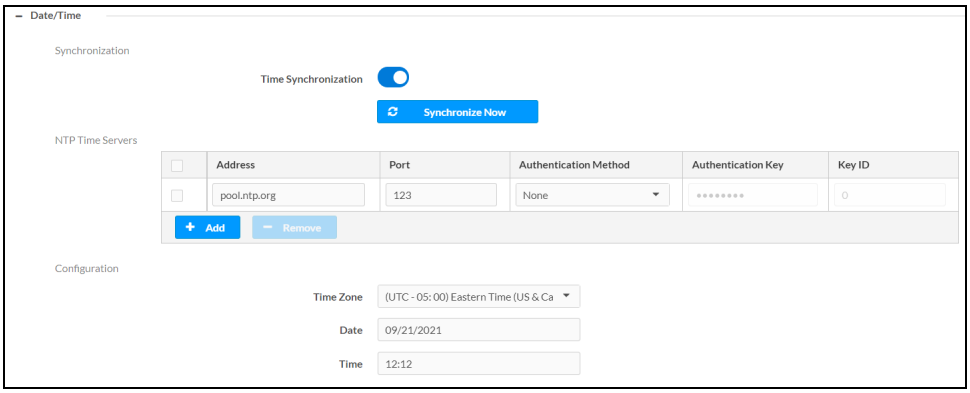
System Setup

The **System Setup** section displays information about the 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.



Time Synchronization

1. Move the **Time Synchronization** slider to specify whether time synchronization will be enabled (right) or disabled (left). By default, time synchronization is enabled.
2. In the **NTP Time Servers**, enter the URL of the NTP or SNTP server.
3. Click **Synchronize Now** to perform time synchronization between the device's internal clock and the time server.

Time Configuration

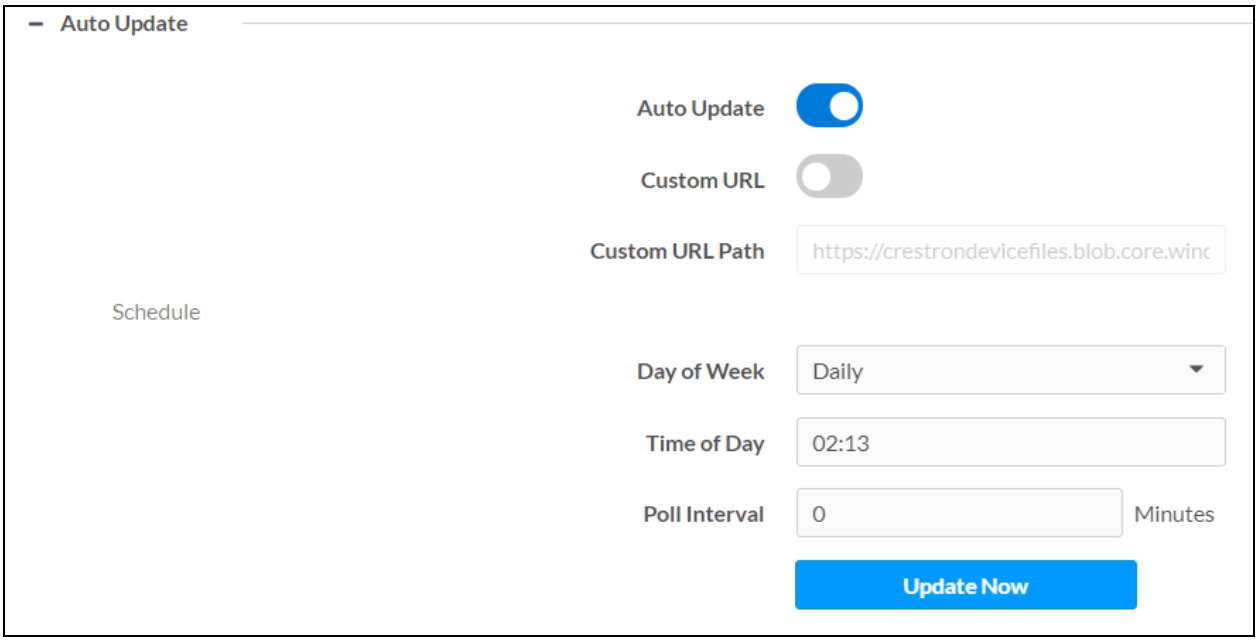
1. Click on the **Time Zone** drop-down menu to select the applicable time zone.
2. In the **Date** field, enter the current date.
3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

Click the **Save Changes** button to save the settings.

Click **Revert** from the **Actions** drop-down menu to revert to the previous settings without saving.

Auto Update

The DM-NAX-16AIN can be automatically updated with the latest firmware at scheduled intervals.

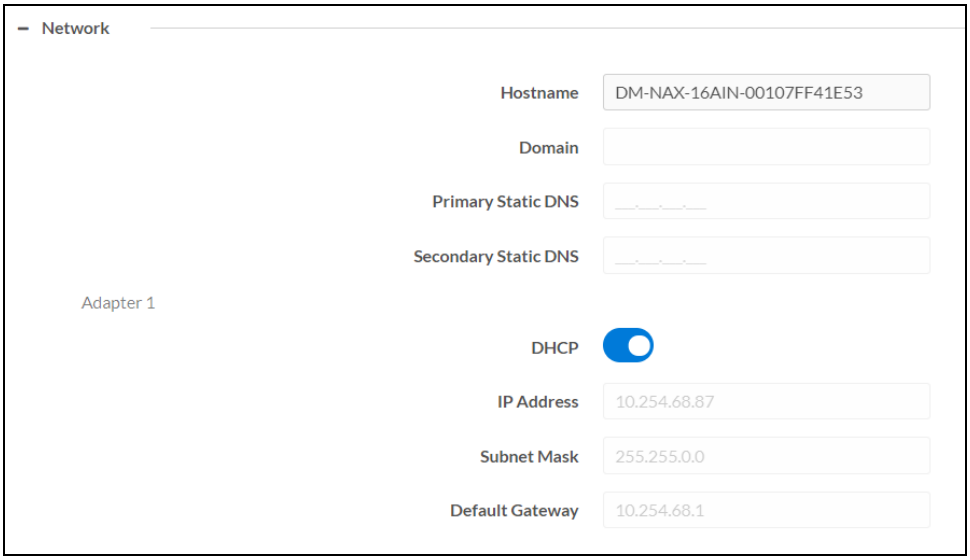


1. Using the Crestron Auto Update Tool, generate a manifest file. The file is placed on an FTP (File Transfer Protocol) or SFTP (Secure File Transfer Protocol) server.
2. To enable auto update, move the **Auto Update** slider to the right position.
3. Define the URL to download the updates by doing either of the following:
    a. Use the default URL to download the updates from the Crestron server.
    b. Use a custom URL. To enable a custom URL, move the **Custom URL** slider to the right position. In the **Custom URL Path** text box, enter the path to the manifest file in the FTP or SFTP URL format.
4. 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.
5. Click **Save Changes**.

Clicking **Update Now** causes the firmware to be updated at the current time; however, the schedule that is set in step 4 above remains in effect.

Network

The **Network** section displays network-related information about the DM-NAX-16AIN, including the Host Name, Domain, Primary Static DNS, and Secondary Static DNS.



> **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.

Adapter 1

Displays DHCP, IP Address, Subnet Mask, and Default Gateway.

> **NOTE:** The **+ Adapter 2** option appears when the dual Ethernet ports on the DM-NAX-16AIN are set to isolate traffic.

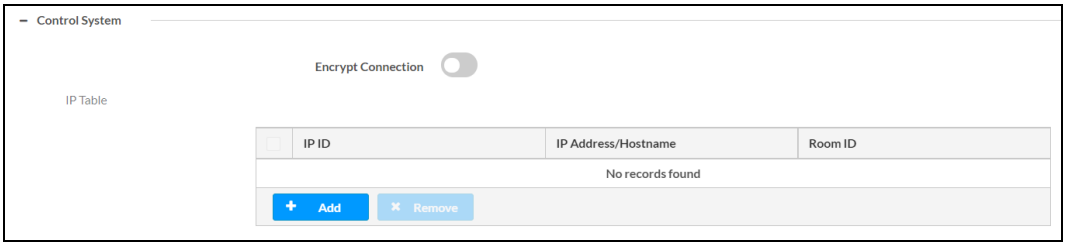
Configure DHCP

Set the **DHCP** slider to enabled (right) or disabled (left) to specify 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) for a predetermined period of time.
- **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, click **Save Changes**.

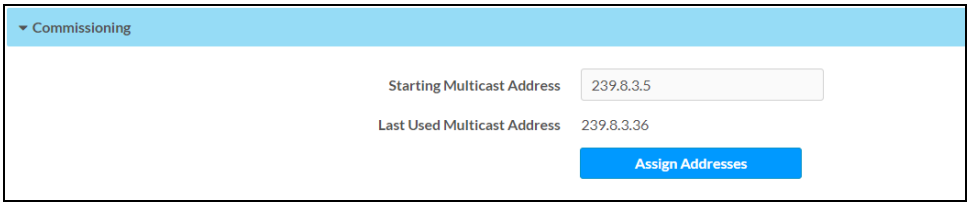
Control System



1. Move the **Encrypt Connection** slider to specify whether the encryption will be enabled (right) or disabled (left). By default, Encrypt Connection is enabled.
2. Enter the username in the **Control System Username** field.
3. Enter the password in the **Control System Password** field.
4. Enter the Room ID in the **Room ID** field.
5. Enter the IP ID of the DM-NAX-16AIN in the **IP ID** field.
6. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
7. Click the **Save Changes** button to save the new entries. The Control System Save message box appears, indicating that the control system settings were saved successfully. Click the **Revert** button to revert to the previous settings without saving.

Commissioning

The **Commissioning** section displays the following information:

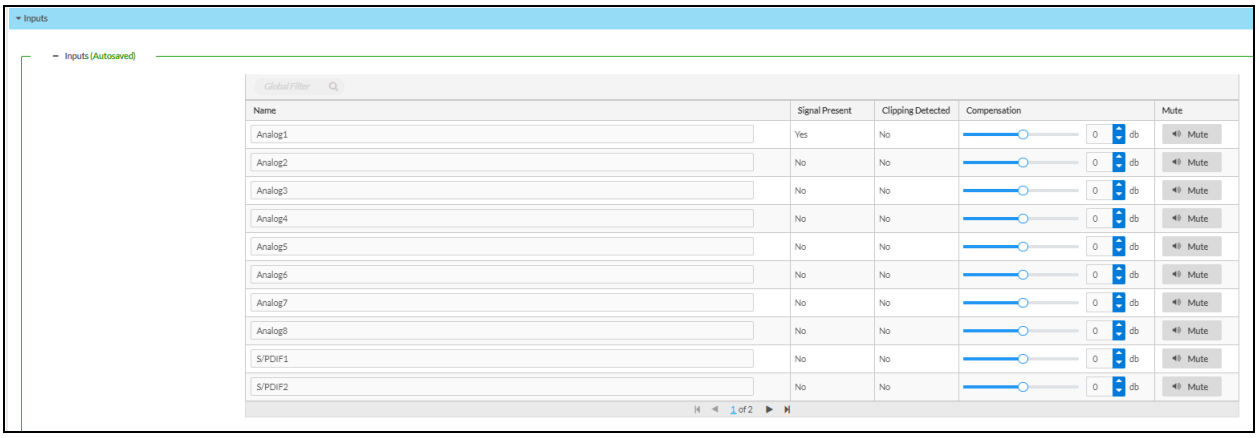


Click **Assign Addresses** to give each DM NAX transmitter in the DM-NAX-16AIN a unique multicast address beginning with the specified **Starting Multicast Address**. The valid range is 239.8.0.0 to 239.127.255.255.

> **NOTE:** This will begin transmitting multicast traffic on your network, refer to the General Network Requirements document for details.

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.



Configure Inputs

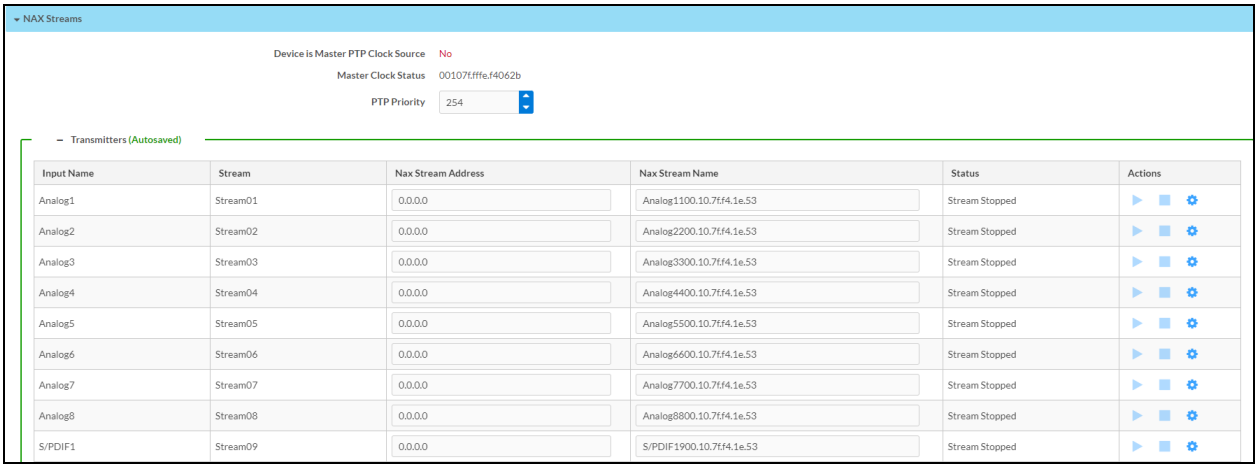
1. If needed, edit the name of the input in the **Name** field.
2. To configure the compensation, do one of the following:
    - Move the **Compensation** slider to the right to increase or to the left to decrease the compensation.
      Compensation increases the level of the high and low frequencies. Compensation is used while listening to low-volume levels to compensate because as the loudness of audio decreases, the ear's lower sensitivity to extreme high and low frequencies may cause these signals to fall below the hearing threshold.
    - Click the **db** arrows to increase or decrease the compensation. Values range from -10 db to 10 db, adjustable in 1 db increments.
    - Manually enter a value in the **Compensation** field.
3. To mute the signal from the corresponding input, click the **Mute** button. To disable the mute, click the **Muted** button. By default, **Mute** is disabled.

Monitor the input signal using **Signal Present** and **Clipping Detected**. Use ▶ at the bottom of the matrix to view the digital inputs.

DM NAX Streams

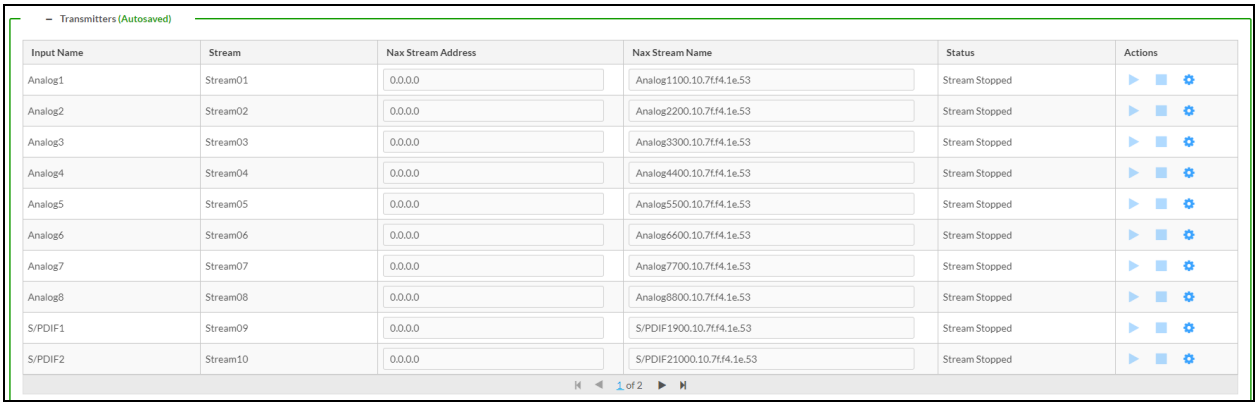
DM NAX AoIP supports the AES67 standard. AES67 support allows an audio source to be transmitted as an AES67 source.

Click **NAX Streams** to display the following information.



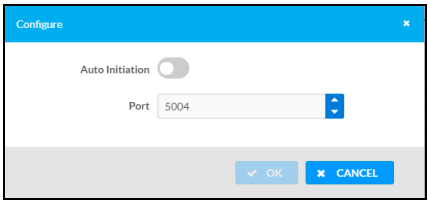
- **Device is Master PTP Clock Source** indicates whether the device is the master for PTP on the network. **Yes** will be displayed in green when the local DM-NAX-16AIN is the PTP clock master and **No** will be displayed in red when another PTP clock on the network is operating as the master clock.
- **Master Clock Status** displays the Master Clock ID of the device on the network that acts as the Master Clock.
- **PTP Priority**: This sets the priority of the device over other DM NAX devices. Set a value between 1 and 255. The default setting is 254 so that the DM-NAX-16AIN will only operate as clock master if no other PTP master is present on the network.

Configure Transmitters



To configure a DM NAX transmit stream for any of the available inputs, do the following.

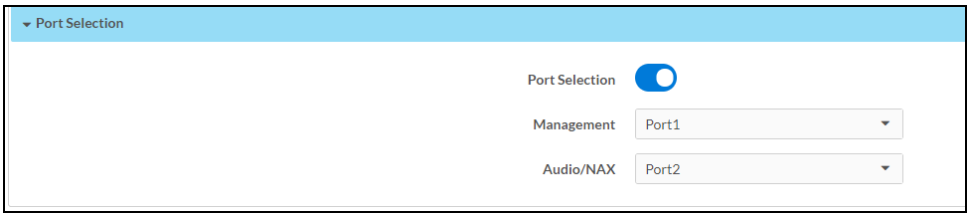
1. Enter a validated Multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified, as it is associated with the Multicast/NAX Stream Address by other NAX or AES67 devices.
3. **Status** indicates whether the stream is active or not. When the stream has started or stopped, the **Status** column will update accordingly.
4. Click the configure button ( ) in the **Actions** column. The **Configure** dialog appears.



5. To enable auto initiation, move the **Auto Initiation** slider to the right position. To disable auto initiation, move the slider to the left position.
    - If Auto Initiation is enabled for the input, the stream will begin automatically, and will be available as a Multicast stream on your network at the specified address.
    - If Auto Initiation is disabled for the input, the stream will not begin until it is manually initiated.
6. To configure the port number, do one of the following:
    - Click the arrows to increase or decrease the port number.
    - Manually enter a port number in the **Port** field. The default port number is 5004.
7. Click **OK** to save or click **Cancel** to cancel the changes.

Port Selection

Port selection enables network traffic to be managed and segregated based on traffic type. Internal VLANs are used to route different traffic types to specific external Ethernet ports, and external Ethernet ports can then be assigned to various traffic types. AES67 or Dante audio can be separated from the primary video and control network, resulting in a dedicated audio network.



To configure port selection:

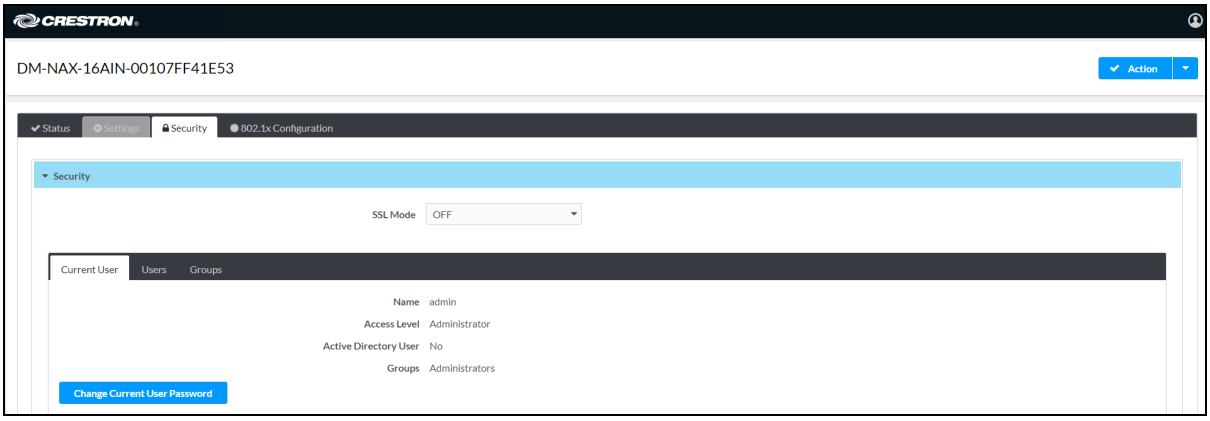
1. To enable the port selection, move the **Port Selection** slider to the right position. To disable the port selection, move the slider to the left position. By default, **Port Selection** is disabled.
2. With the port selection enabled, select an Ethernet port from the **Management** drop-down menu to assign traffic type.

   > **NOTE:** The Management port controls your connection to the web interface. Changing the port value will result in losing your connection to the device via the web interface.

3. With the port selection enabled, select an Ethernet port from the **Audio/NAX** drop-down menu to assign traffic type.
4. Click **Save** changes to apply the new settings.

Security

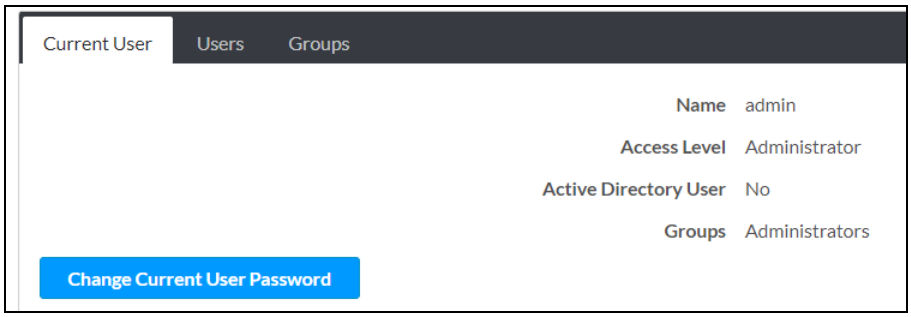
Click the **Security** tab to configure security for users and groups and to allow different levels of access to the DM-NAX-16AIN functions . By default, security is disabled.



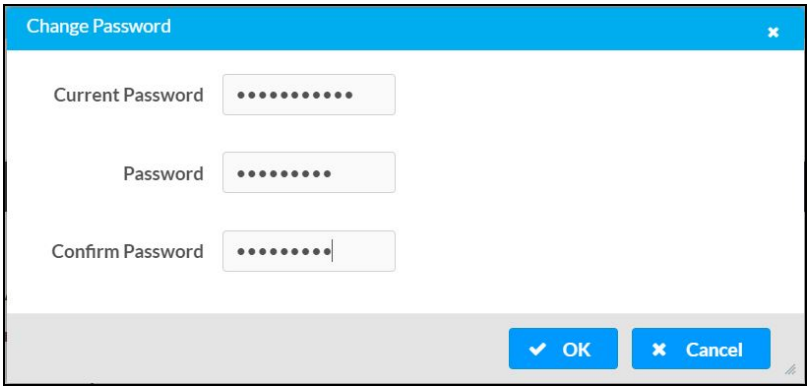
Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down menu, to specify whether to use encryption. By default, SSL Mode is set to **OFF**.

Current User

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



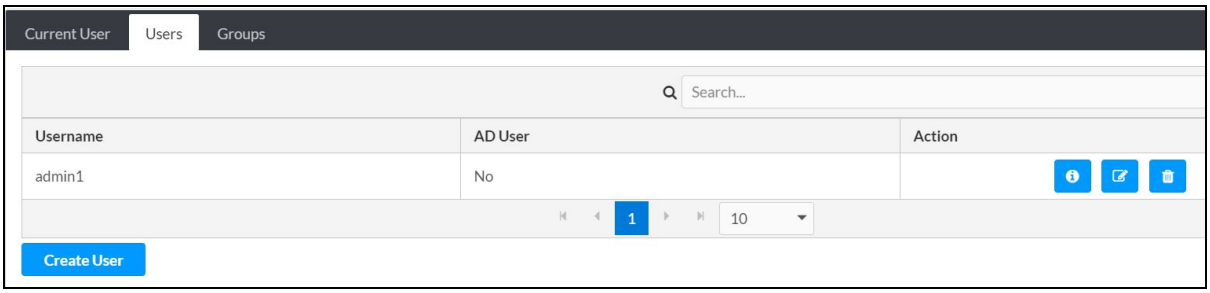
1. Click the **Change Current User Password** button to provide a new password for the current user.
2. In the **Change Password** dialog, enter the current password in the **Current Password** field, the new password in the **Password** field, and then re-enter the same new password in the **Confirm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



3. Click **OK** to save or click **Cancel** to cancel the changes.

Users

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



Use the **Search 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 clicking a page number or by using the left or right arrows at the bottom of the **Users** pane to move forward or backward through the pages.

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

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

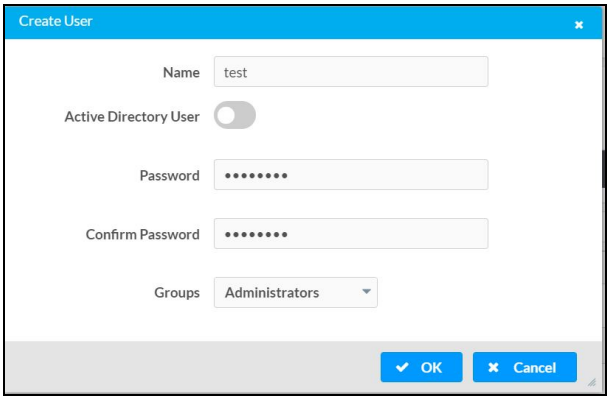
- **Username**: Displays the name of the user.
- **AD User**: Displays whether the user requires authentication using Active Directory.

  Click the corresponding button in the Actions column to view detailed user information or to delete the user.

  To create a new user, click the **Create User** button.

Create a New Local User

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



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

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

3. Click **OK** to save or click **Cancel** to cancel the changes.

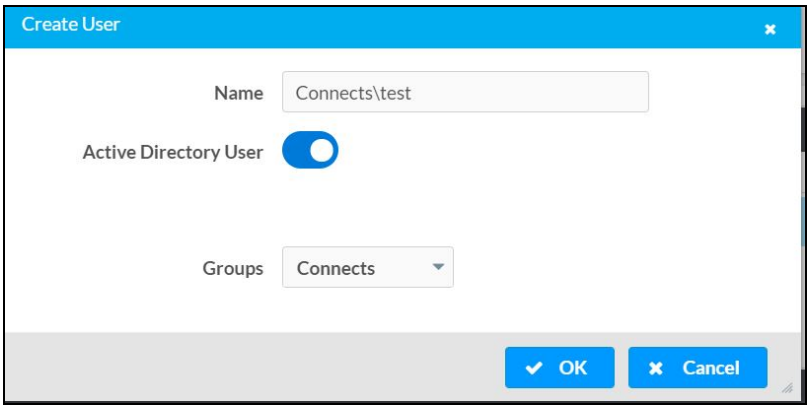
Add an Active Directory User

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. Click the **Create User** button.
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** slider is set to enabled.

3. Click **OK** to save or click **Cancel** to cancel the changes.

Delete User

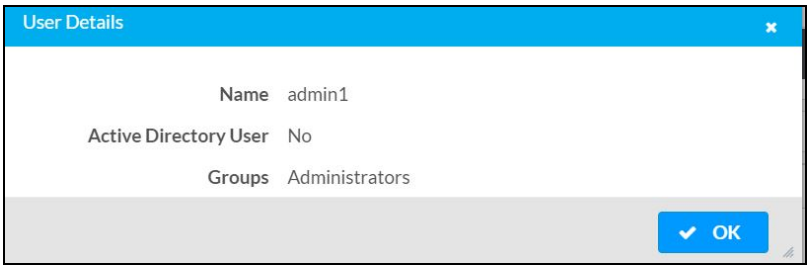
Click the trashcan button ( ) in the **Actions** column to delete the user. Click **Yes** when prompted to delete the user or **No** to cancel the deletion.

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

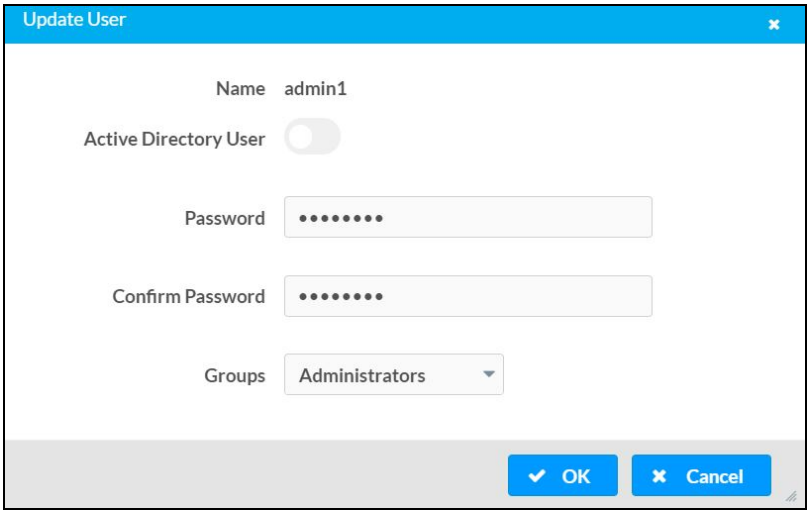
Click the information button ( ) in the **Actions** column to view information for the selected user. The **User Details** dialog displays the following information for the selected user.

- **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.



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

Update User Details



1. Click the edit button ( ) 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. Click **OK** to save or click **Cancel** to cancel the changes.

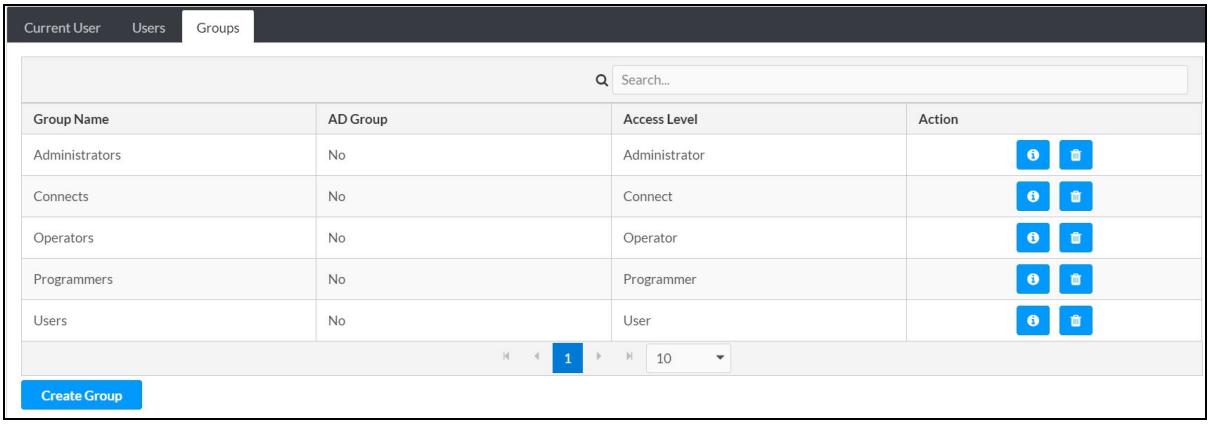
The **Update User** dialog also displays the following read-only information for the selected user.

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

Groups

Click 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 clicking a page number or by using the left or right arrows at the bottom of the Groups pane to move forward or backward through the pages.

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

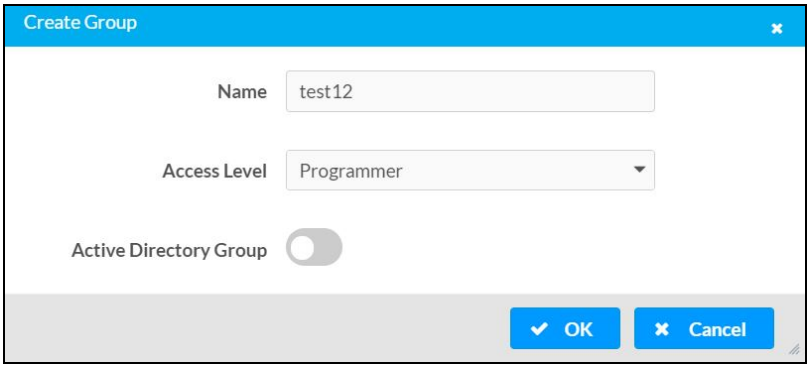
Existing groups are displayed in a table and the following information is provided for each group:

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

Click the corresponding button in the **Actions** column to view detailed group information ( ) or to delete ( ) selected group.

Click on the **Create Group** button in the **Groups** tab to create new group.

Create Local Group



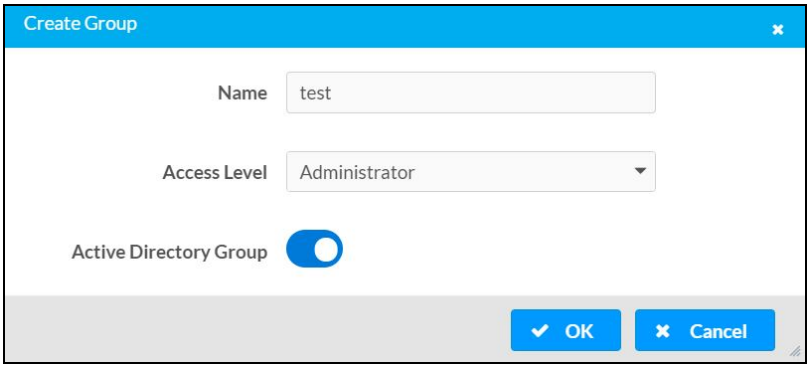
1. Click the **Create Group** button.
2. In the **Create Group** dialog, enter the following:
    a. Enter the group name in the **Name** field.
    b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down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

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

3. Click **OK** to save. Click **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-16AIN.

1. Click the **Create Group** button.
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** slider is enabled.

4. Click **OK** to save. Click **Cancel** to cancel the changes.

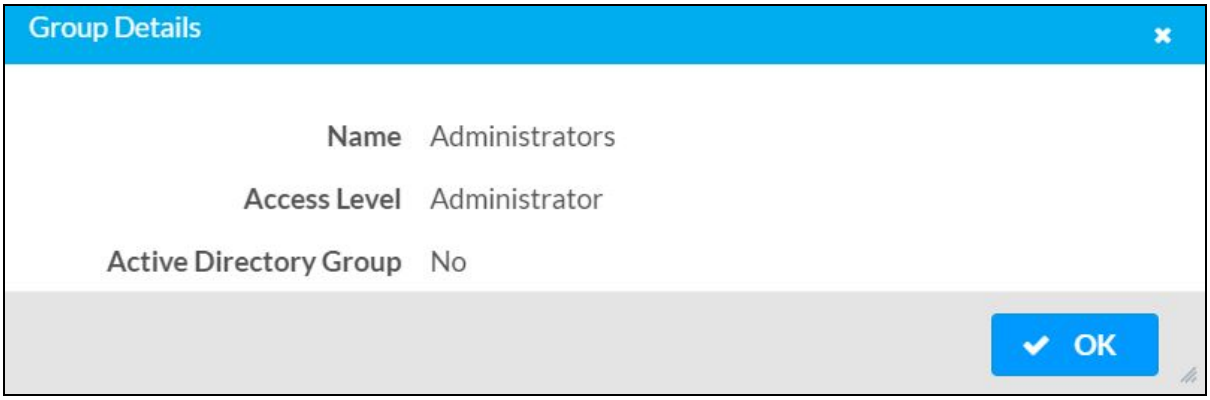
Delete a Group

Click the trashcan button ( ) in the **Actions** column to delete a group. Click **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

Click the information button ( ) in the **Actions** column to view information for the selected group. The **Group Details** dialog lists the following information for the selected group.

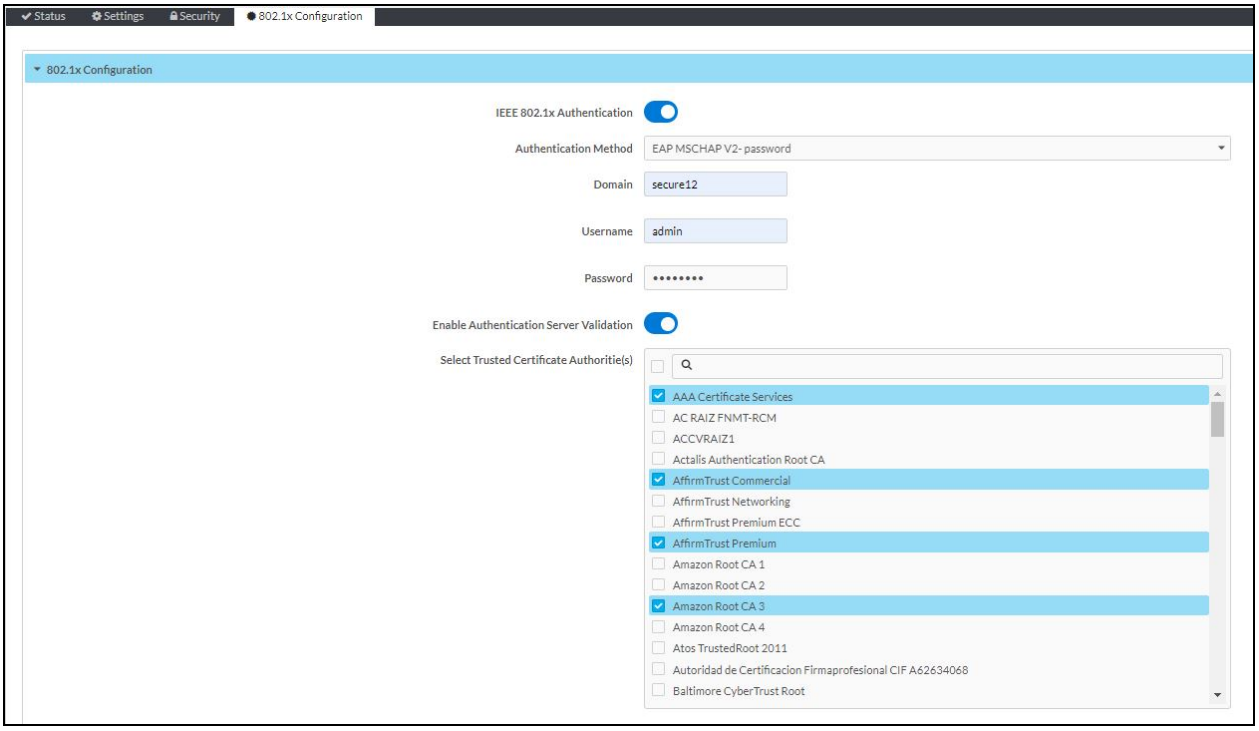


- **Name**: Displays the name of the group.
- **Access Level**: Displays the access level of the group and its users.
- **Active Directory Group**: Displays whether the group is an Active Directory group.

Click **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.



To Configure DM-NAX-16AIN for 802.1X Authentication

1. Move the **IEEE 802.1X Authentication** slider 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**, click **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, click **Save Changes** to save the changes to the device and reboot it. Click **Revert** to cancel any changes.

Access the Web Interface With the Crestron Toolbox™ Application

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

1. Open the Crestron Toolbox application.
2. From the **Tools** menu, select **Device Discovery Tool**. You can also access the Device Discovery Tool by clicking the Device Discovery Tool button () 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 the Crestron Toolbox application attempts to connect to the network. Make sure to allow the connection, so that the Device Discovery Tool can be used.

3. In the Device Discovery Tool list, double-click your device.
4. Enter your credentials in the **Authentication Required** dialog that opens, and then click **Log In**.
5. Click the **Web Configuration** button in the Configuration page displayed on the left side of the Device Discovery Tool.

Resources

The following resources are provided for the 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.

This page is intentionally left blank.

Crestron Electronics, Inc.
15 Volvo Drive, Rockleigh, NJ 07647
Tel: 888.CRESTRON
Fax: 201.767.7656
www.crestron.com

Product Manual — Doc. 9045E
09/26/22
Specifications subject to
change without notice.