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Product Manual

DM-NAX-XSP

DM NAX® 8K Smart Display Controller and Network Audio Encoder/Decoder with eARC Support

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: M202116001

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Contents

Overview

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

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

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

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

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

eARC Support

The HDMI output of the DM-NAX-XSP supports Enhanced Audio Return Channel (eARC) connectivity, allowing audio to be extracted from a connected display and transmitted over the network as a DM NAX AoIP stream. Extracting audio from the display via the eARC connection means only a single cable is required for video and bidirectional audio. This connection also allows local audio content from the display (such as smart TV streaming applications) to be encoded as streams available to an AoIP audio distribution system.

Surround Sound and Downmixing

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

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

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

CEC Control

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

Audio-over-IP

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

Specifications

Product specifications for the DM-NAX-XSP are provided below.

Product Specifications

Audio

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

Video

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

Connectors

Ethernet 1	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port; PoE+ PD (powered device) port, IEEE 802.3at Type 2 PoE+ Class 4 (25.5 W) compliant
Ethernet 2	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port
HDMI IN	(1) HDMI Type A connector, female; HDMI digital video/audio input
HDMI OUT	(1) HDMI Type A connector, female; HDMI digital video/audio output, pass-through from **HDMI IN**; eARC audio return support
COM	(1) 3-pin 3.5 mm detachable terminal block; Bidirectional RS-232 port; Up to 115.2k baud, hardware and software handshaking support
IR	(1) 2-pin 3.5 mm detachable terminal block; IR output up to 1.1 MHz; 1-way serial TTL (0-5 V) up to 19200 baud
RELAY	(1) 4-pin 3.5 mm detachable terminal blocks; Comprises (2) normally open, isolated relays; Rated 1A, 30VAC/VDC; MOV arc suppression across contacts
G	(1) 6-32 screw; Chassis ground lug

IN	(1) 2-pin 3.5 mm detachable terminal block; Programmable digital input; Input Voltage Range: 0-24VDC, referenced to GND; Logic Threshold: 2.5VDC nominal with 1V hysteresis band; Pull-up Resistor: 2.2k Ω

Communications

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

Controls and Indicators

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

Power

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

Environmental

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

Construction

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

Dimensions

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

Weight

1.82 lb (0.83 kg)

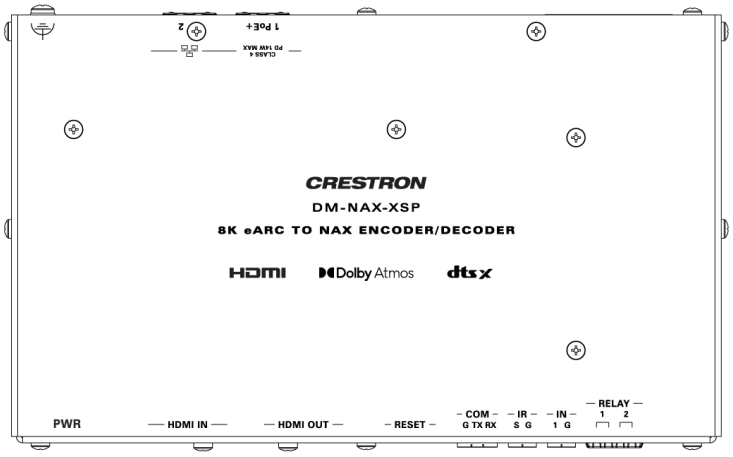
Compliance

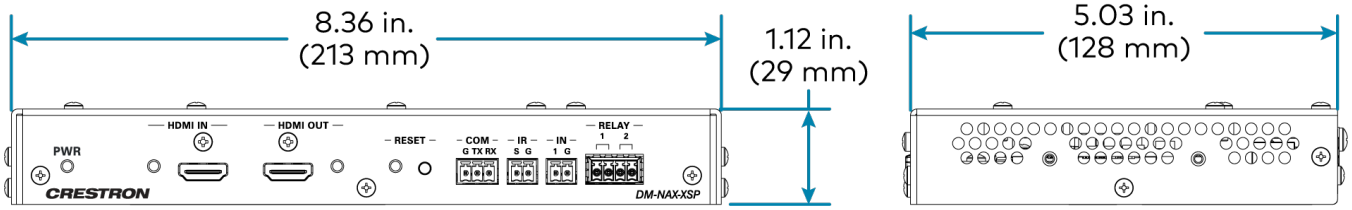
Regulatory Model: M202116001

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

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

Dimension Drawings





Application Diagrams

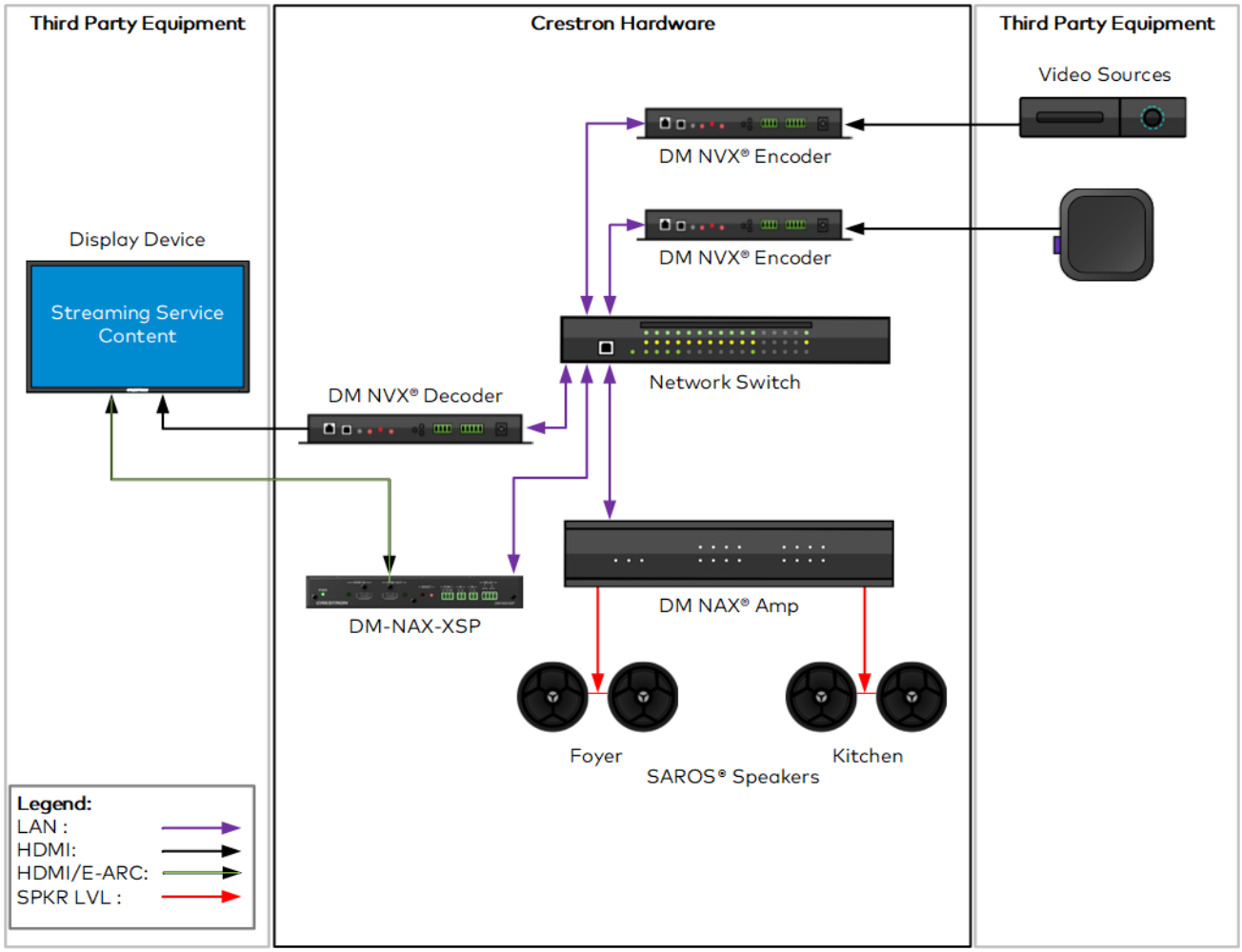
The following application diagrams cover examples of projects utilizing the DM-NAX-XSP eARC and Audio-over-IP capabilities.

Downmixing eARC Audio to Other DM NAX® Devices

In this scenario, the DM-NAX-XSP extracts surround sound audio from the display via eARC, downmixes it using the built-in DSP, and distributes a 2-channel stream to any number of zones on a DM NAX amplifier.

- The DM NVX® decoder at the display can receive either video source.
- The built-in streaming apps on the display can access cloud-based video content.
- Audio from either type of content (DM NVX A/V-over-IP or cloud-based) is received by the DM-NAX-XSP for extraction onto the Audio-over-IP network.

This setup is ideal for multi-room distribution of audio from cloud-based streaming services on the display.

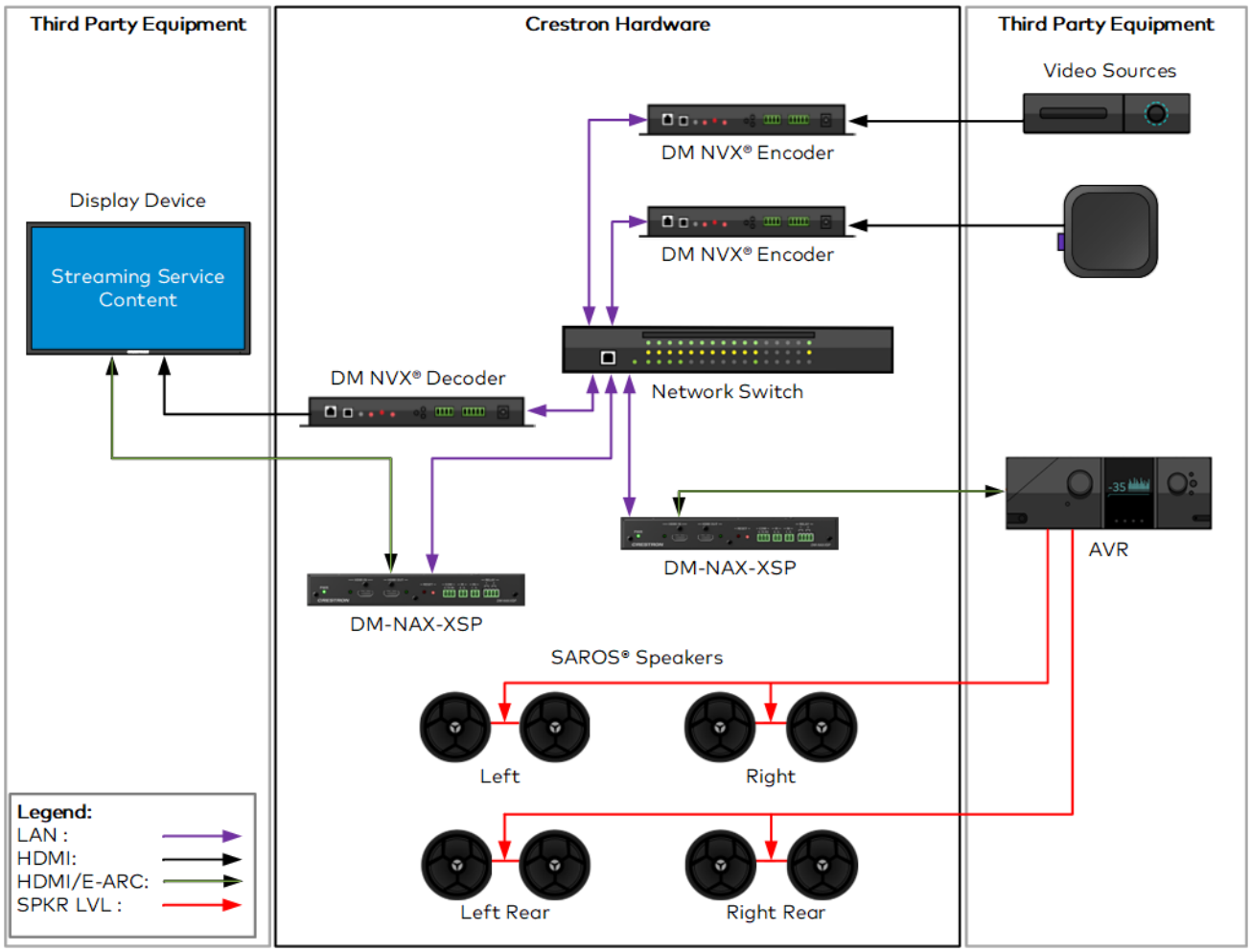


Preserving Surround Sound to Other DM-NAX-XSP Devices

In this scenario, the DM-NAX-XSP extracts surround sound audio from the display via eARC and sends it to another DM-NAX-XSP via the device's BTS stream functionality.

- The DM NVX® decoder at the display can receive either video source.
- The built-in streaming apps on the display can access cloud-based video content.
- Audio from either type of content (DM NVX A/V-over-IP or cloud-based) is received by the DM-NAX-XSP for extraction onto the Audio-over-IP network.
- Surround audio formats are preserved via the DM-NAX-XSP device's BTS stream, and an AVR distributes the surround channels to a surround sound speaker system.

This setup is ideal for extension of surround sound audio from cloud-based streaming services on the display to an AVR or home theater system over the network.


Third Party Equipment
Crestron Hardware
Third Party Equipment
Video Sources
DM NVX® Encoder
DM NVX® Encoder
Display Device
Streaming Service Content
DM NVX® Decoder
Network Switch
AVR
DM-NAX-XSP
DM-NAX-XSP
SAROS® Speakers
Left
Right
Left Rear
Right Rear
Legend:
LAN :
HDMI:
HDMI/E-ARC:
SPKR LVL :

Installation

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

In the Box

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

Install the Device

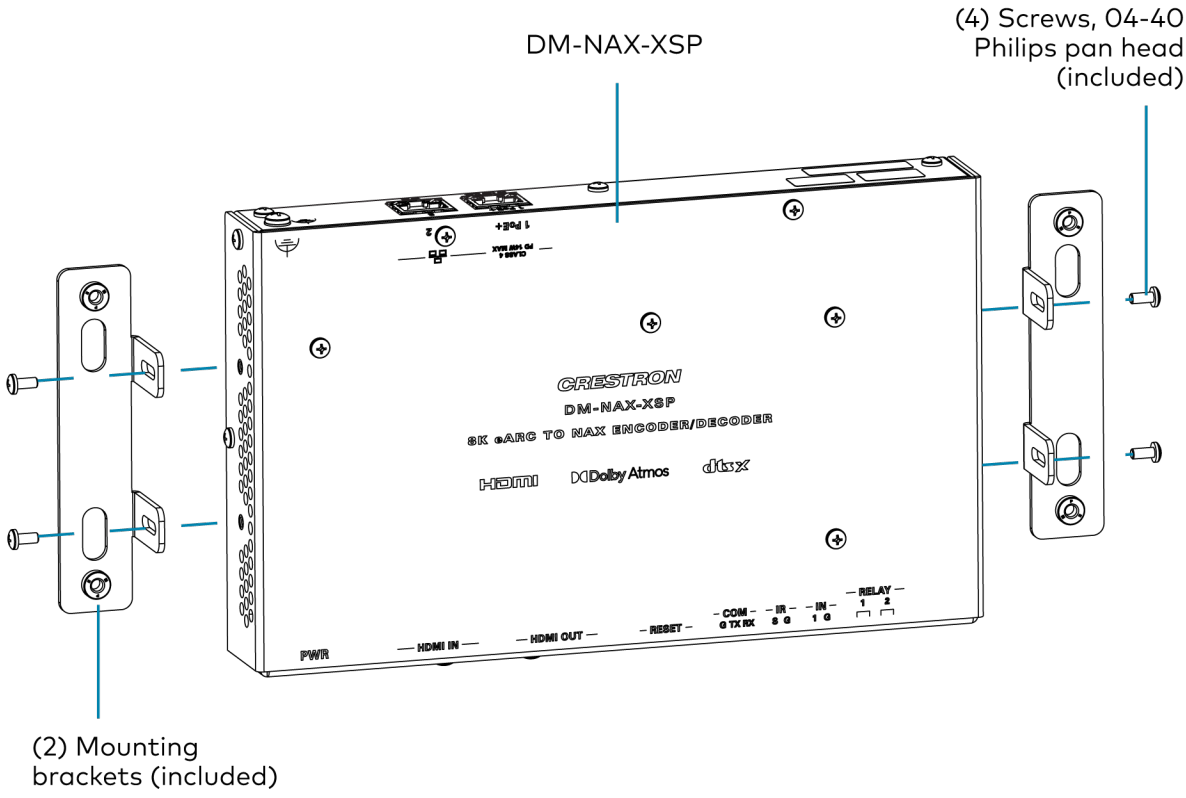
Refer to the Safety Instructions (Doc. 6607) prior to installation.

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

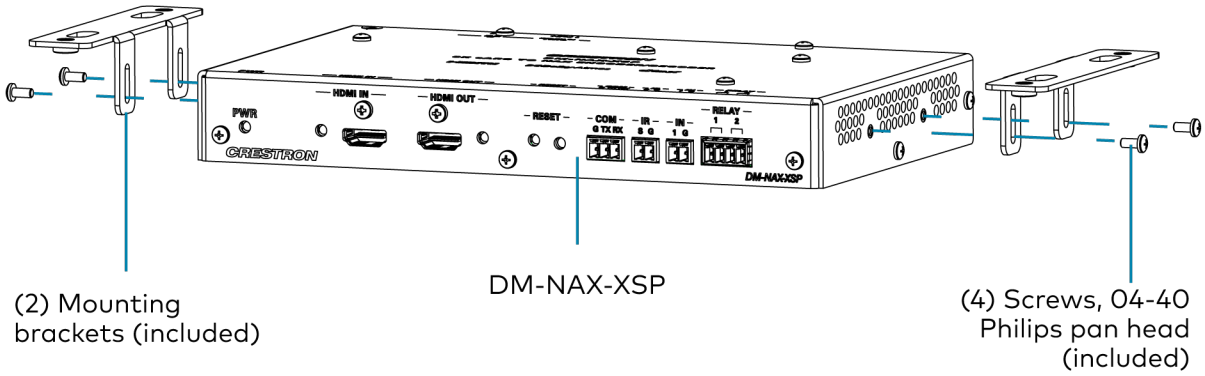
Connect the Mounting Brackets

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

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



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



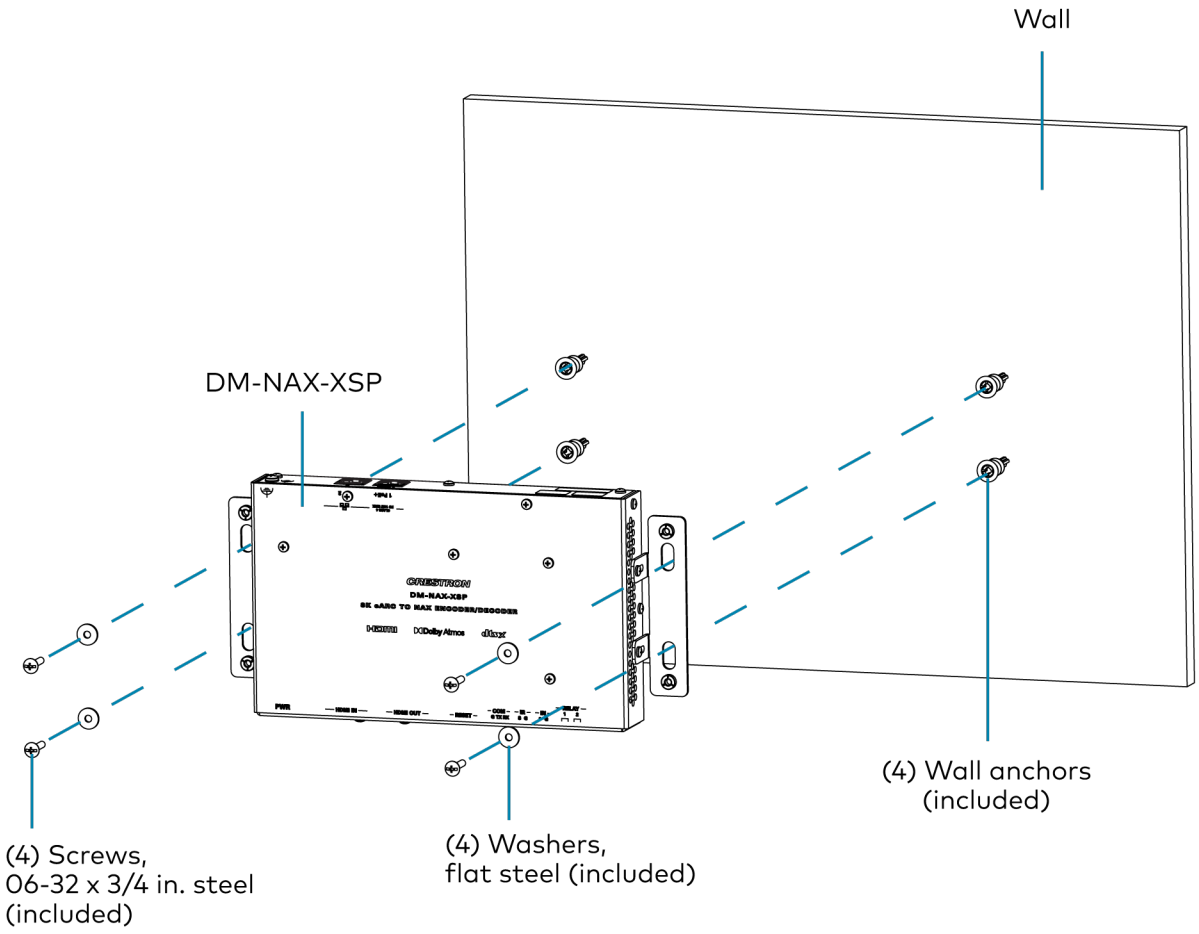
(2) Mounting brackets (included)

DM-NAX-XSP

(4) Screws, 04-40 Philips pan head (included)

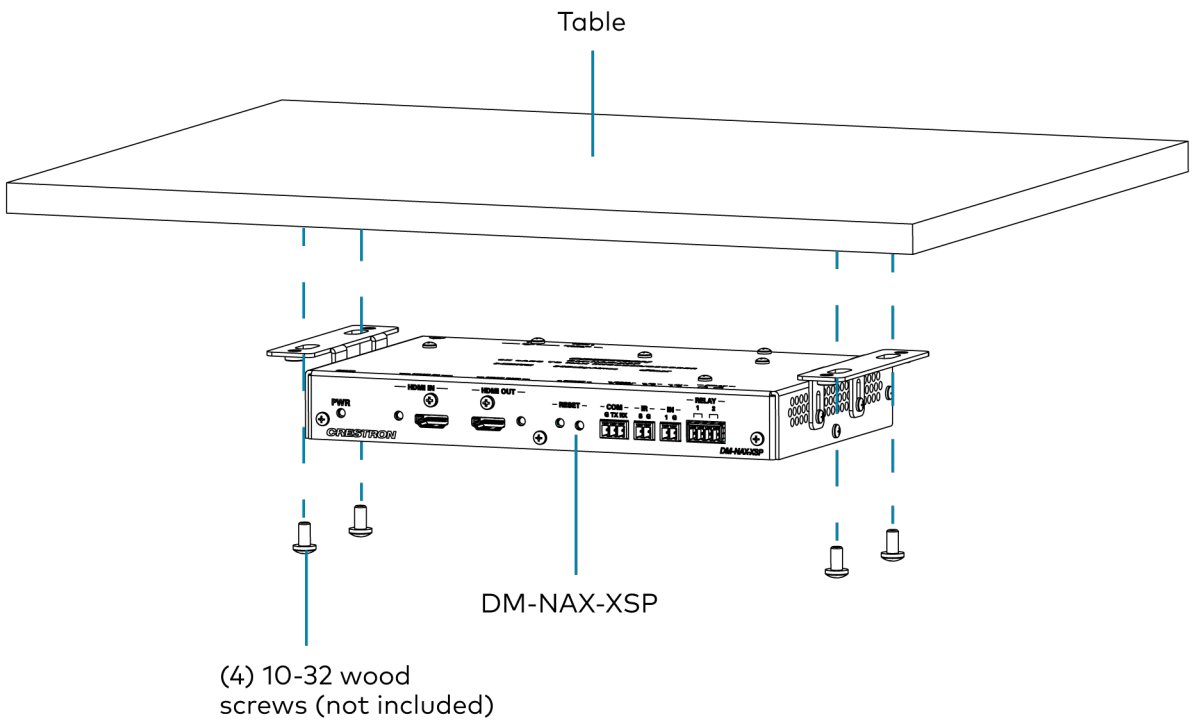
Mount to a Wall

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



Mount under a Table

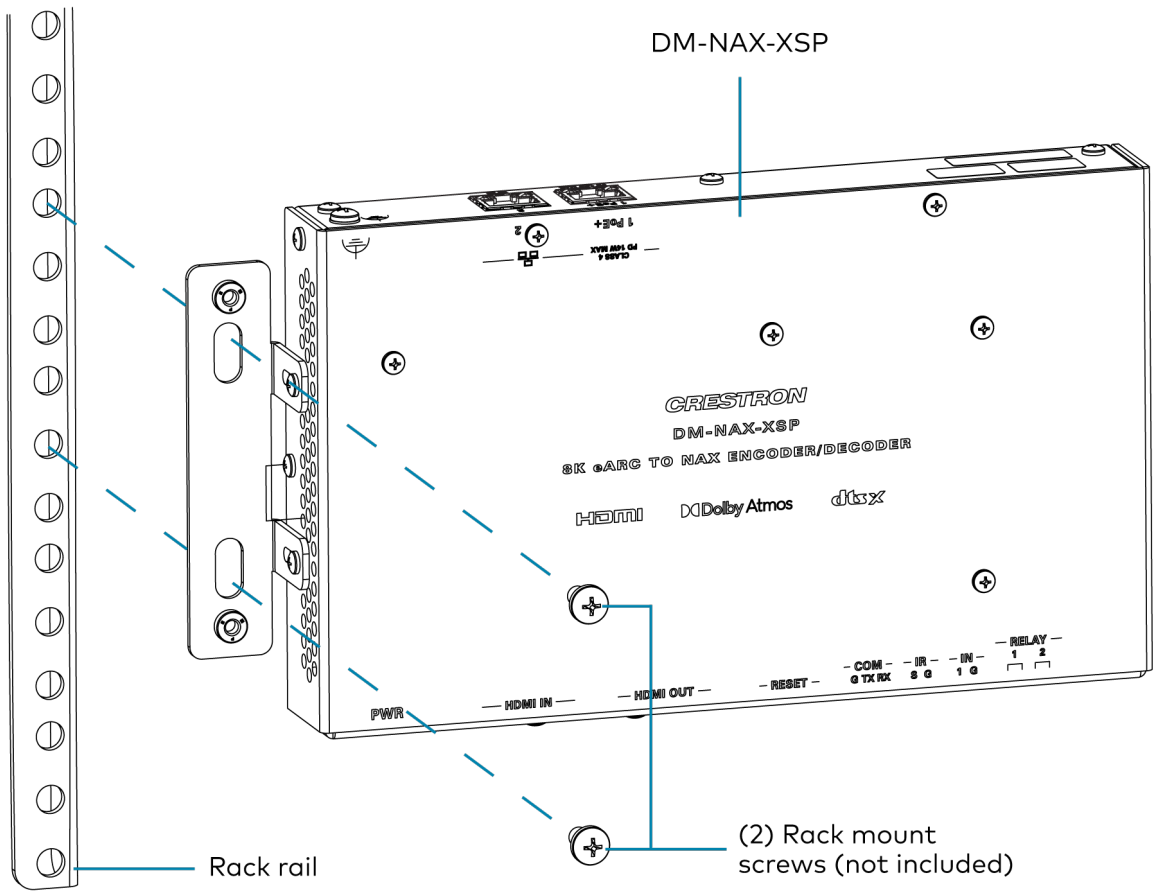
To mount the device under a table, use four 10-32 Philips pan head wood screws (not included).



Install on a Rack Rail

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

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



Rack Mounting Safety Precautions

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

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

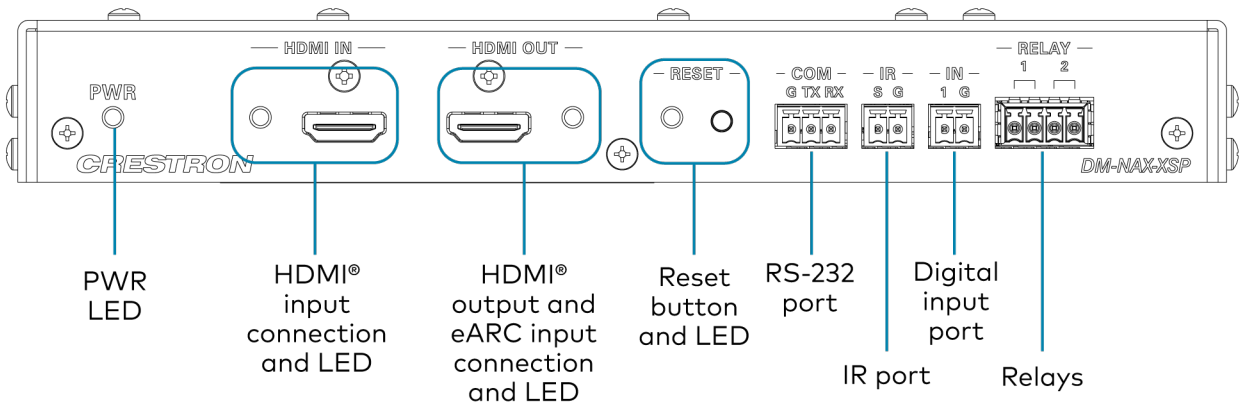
Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

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

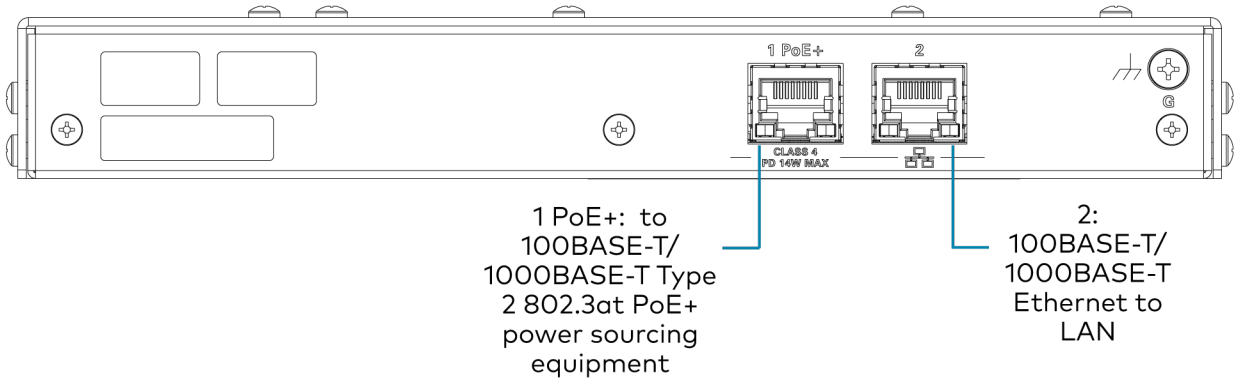
Connect the Device

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

Front Panel



Rear Panel



Observe the LED Indicators

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

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

Reset the Device

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

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

Network Reset

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

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

Factory Restore

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

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

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

Configuration

This section describes how to configure the DM-NAX-XSP.

Web Interface Configuration

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

Access the Web Interface

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

- Access the Web Interface with a Web Browser on page 20
- Access the Web Interface With the Crestron Toolbox™ Application on page 66

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

Operating System and Supported Web Browsers

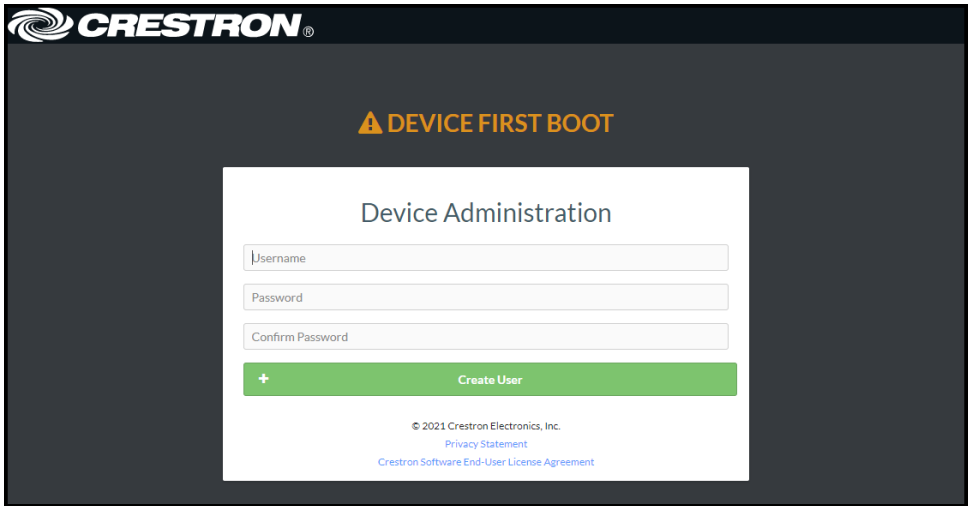
OPERATING SYSTEM	SUPPORTED WEB BROWSERS
Windows® operating system	Chrome™ web browser, version 31 and later Firefox® web browser, version 31 and later Internet Explorer web browser, version 11 and later Microsoft Edge web browser
macOS® operating system	Safari® web browser, version 6 and later Chrome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

Access the Web Interface with a Web Browser

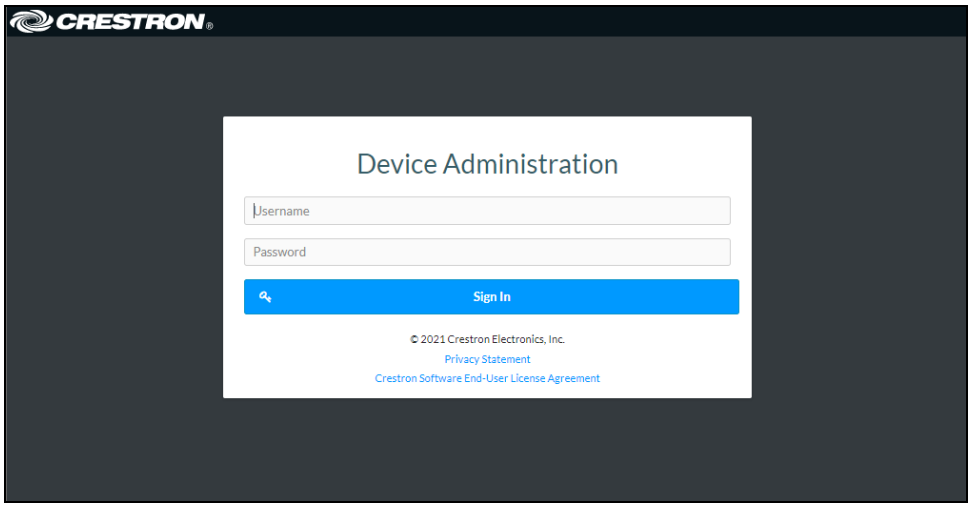
1. Enter the IP address of the DM-NAX-XSP into a web browser.

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

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



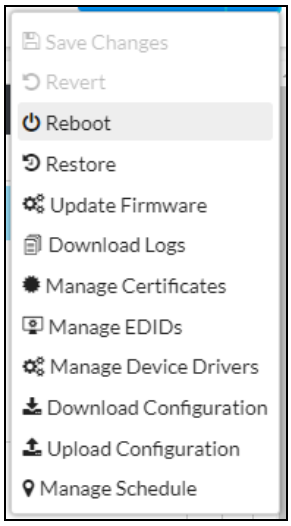
   d. Select **Create User**. The Device Administration page appears.



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

Action

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



Save Changes

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

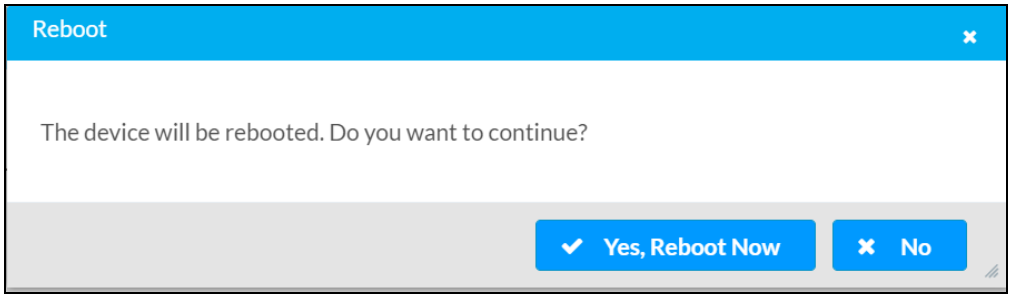
Revert

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

Reboot

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

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

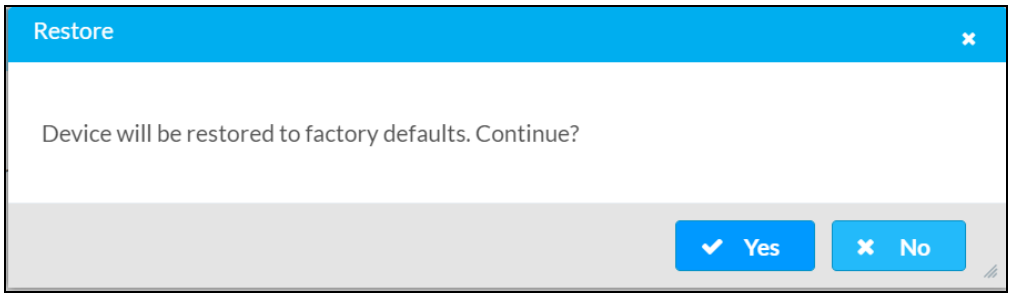


2. Select **Yes, Reboot Now** to reboot the device. The **Reboot** message box appears.
   Wait for the device reboot to complete before attempting to reconnect to the device.

Restore to Factory Default Settings

1. Select **Restore** in the **Action** drop-down menu to restore the settings of the DM-NAX-XSP to factory defaults.

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



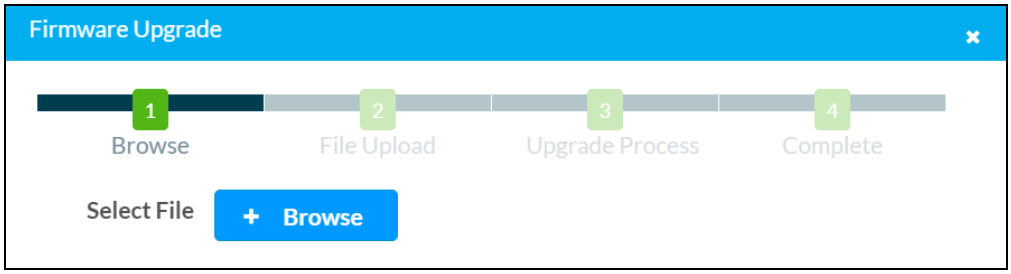
2. Select **Yes** in the **Confirmation** dialog to restore the DM-NAX-XSP to factory settings. Select **No** to cancel the restore operation.

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

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

Update Firmware

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



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

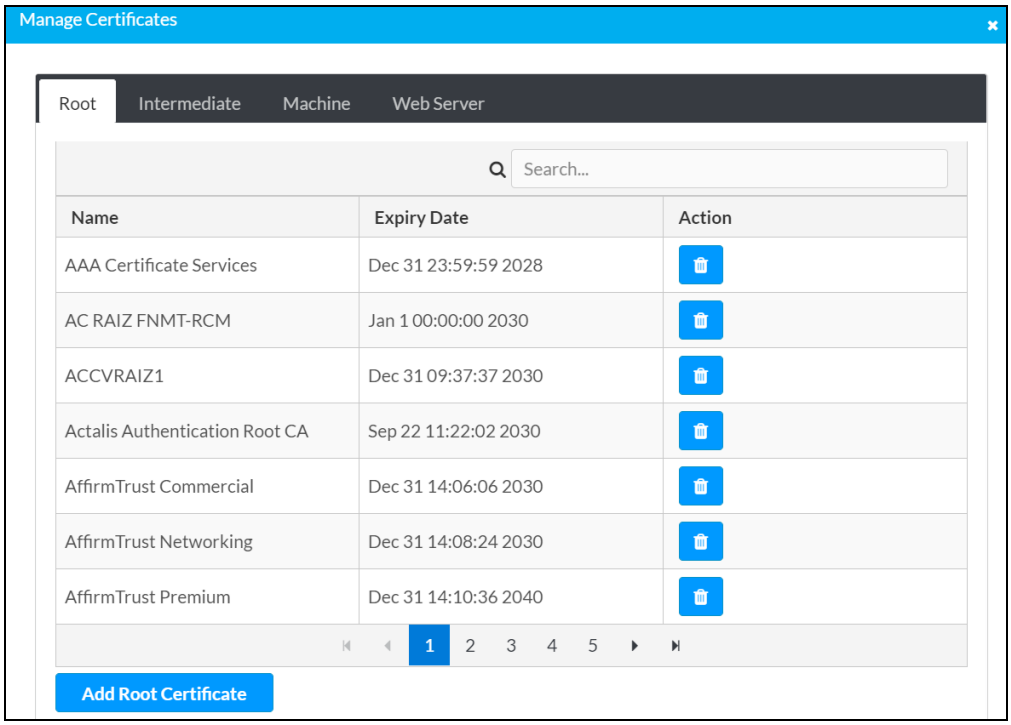
Download Logs

Select **Download Logs** in the **Action** 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** window to add, remove, and manage certificates used in 802.1x and other protected networks.



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

- **Root**: The Root certificate is used by the DM-NAX-XSP to validate the network's authentication server. The DM-NAX-XSP has a variety of Root certificates, self-signed by trusted CAs (Certificate Authorities) preloaded into the device. Root certificates must be self-signed.
- **Intermediate**: The Intermediate store holds non self-signed certificates that are used to validate the authentication server. These certificates will be provided by the network administrator if the network does not use self-signed Root certificates.
- **Machine**: The machine certificate is an encrypted PFX file that is used by the authentication server to validate the identity of the DM-NAX-XSP. The machine certificate will be provided by the network administrator, along with the certificate password. For 802.1x, only one machine certificate can reside on the device.
- **Web Server**: The Web Server certificate is a digital file that contains information about the identity of the web server.

To Add Certificates

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

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

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

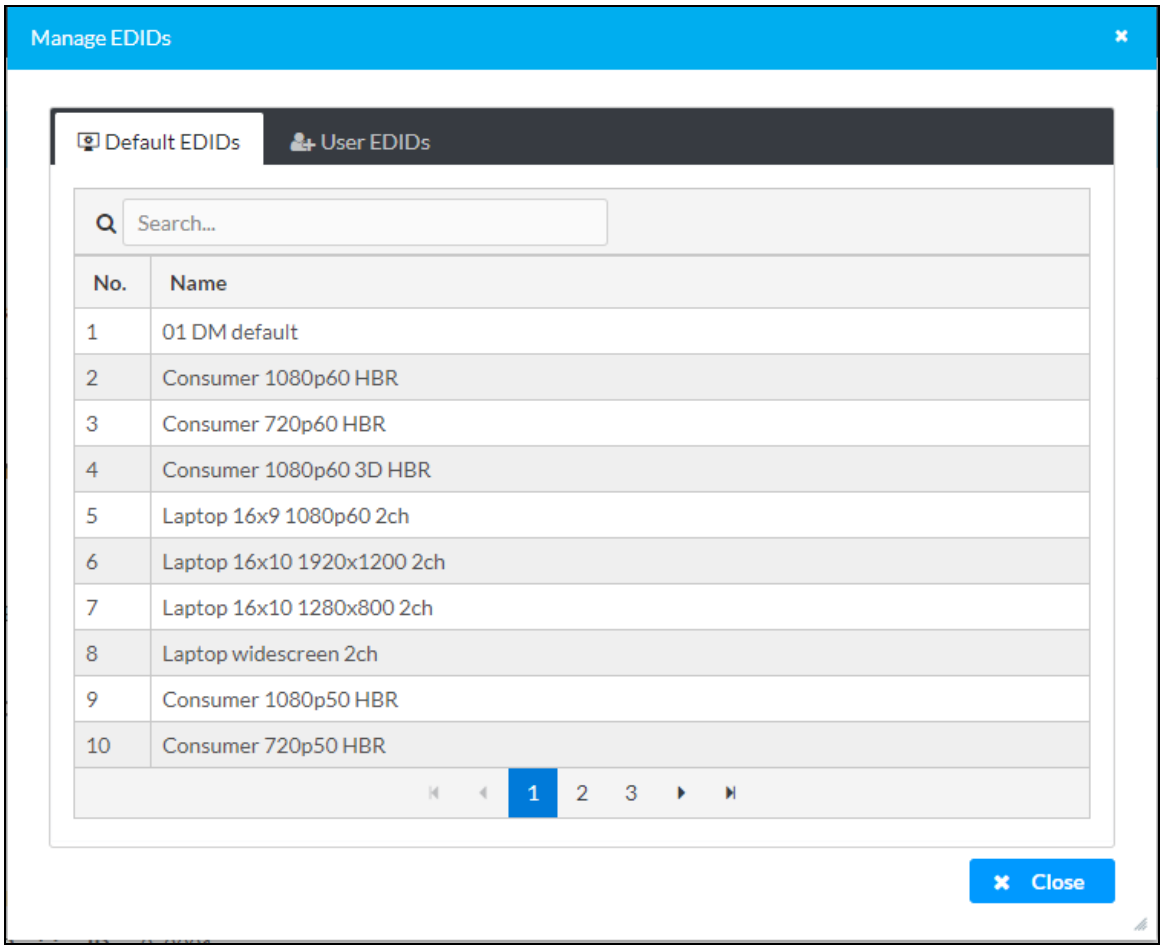
The certificate is now available for selection and can be loaded to the device.

To Delete Certificates

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

Manage EDIDs

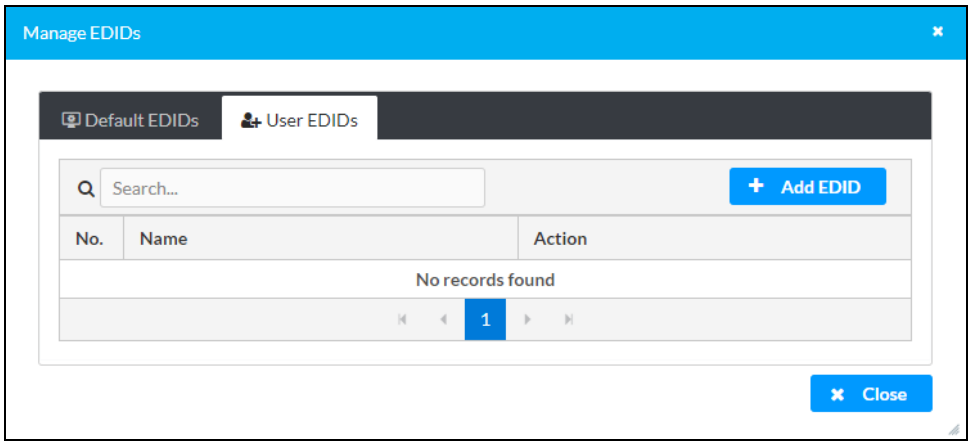
Use the **Manage EDIDs** window to add, remove, or browse which EDIDs are available for the HDMI input/output of the DM-NAX-XSP.



Select the **Manage EDIDs** entry in the **Action** drop-down menu. The **Manage EDIDs** window appears.

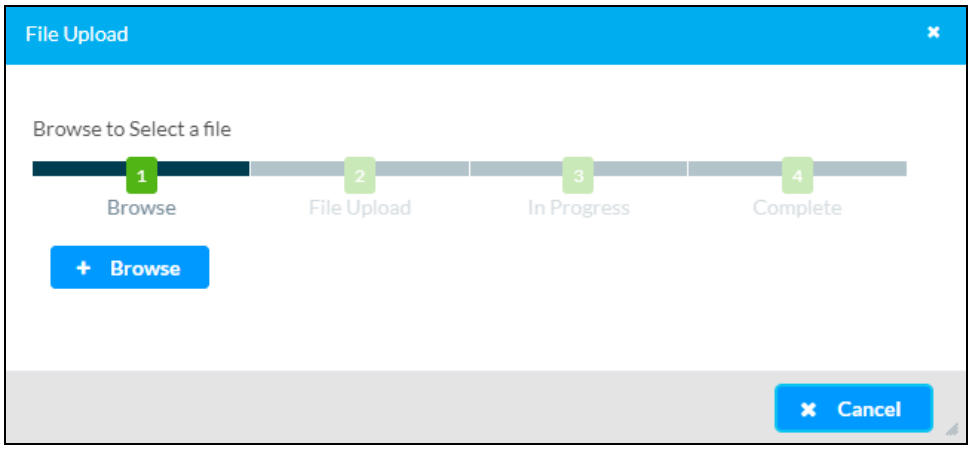
- The default tab that will open in this window is the **Default EDIDs** tab. This tab is read only, and provides a list of all default EDIDs available on the DM-NAX-XSP as part of the device firmware. Use the **Search...** text entry field to filter the list of EDIDs by name. Default EDIDs cannot be removed from the device.

- The second tab available in this window is the **User EDIDs** tab. By default, the table will populate with **No records found**. To add or remove custom EDID files:

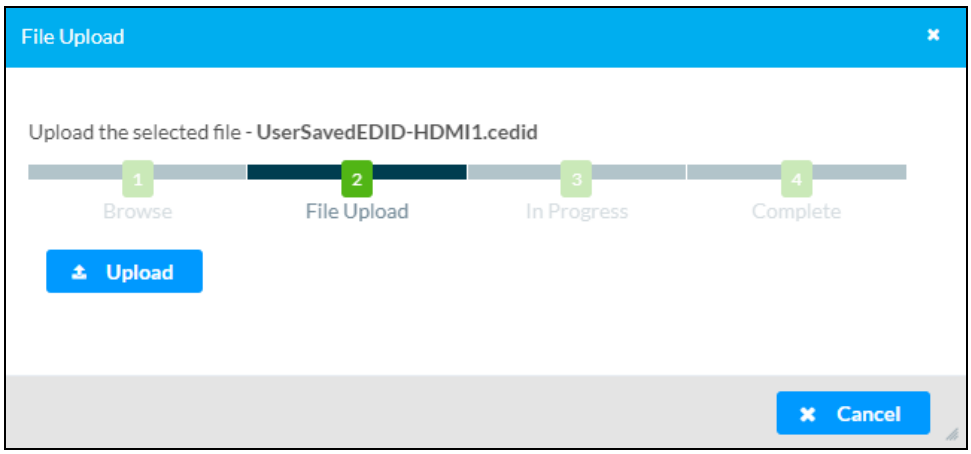


1. Select **Add EDID** at the top right of the table.
2. The **File Upload** screen will appear. Browse for a .cedid file, then select **Upload** to upload it to the DM-NAX-XSP.

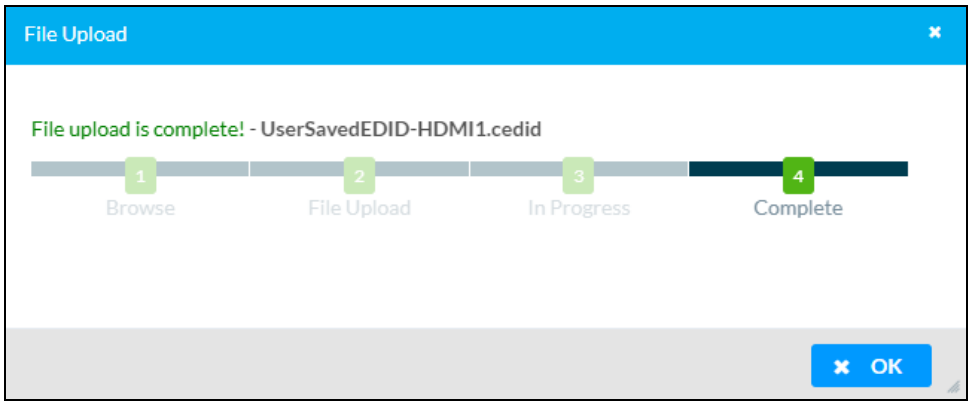
Browse and select a .cedid file



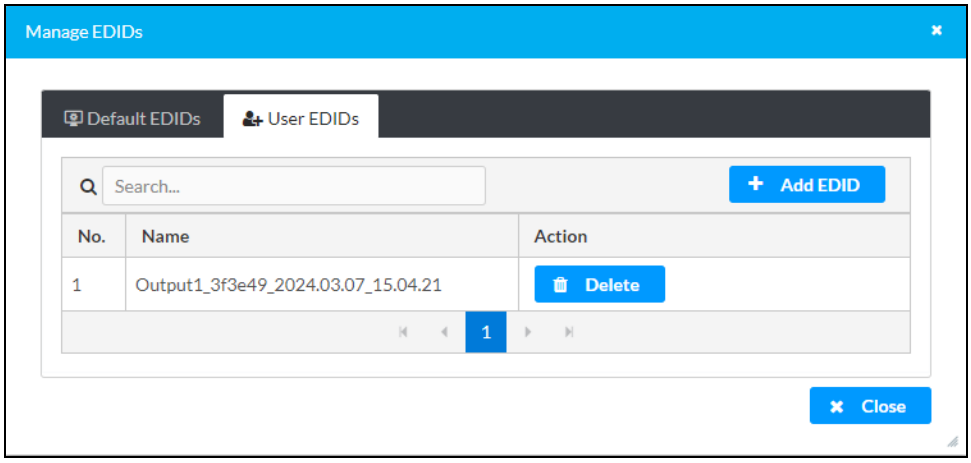
Upload the file



Wait for the file to upload to complete, then select OK

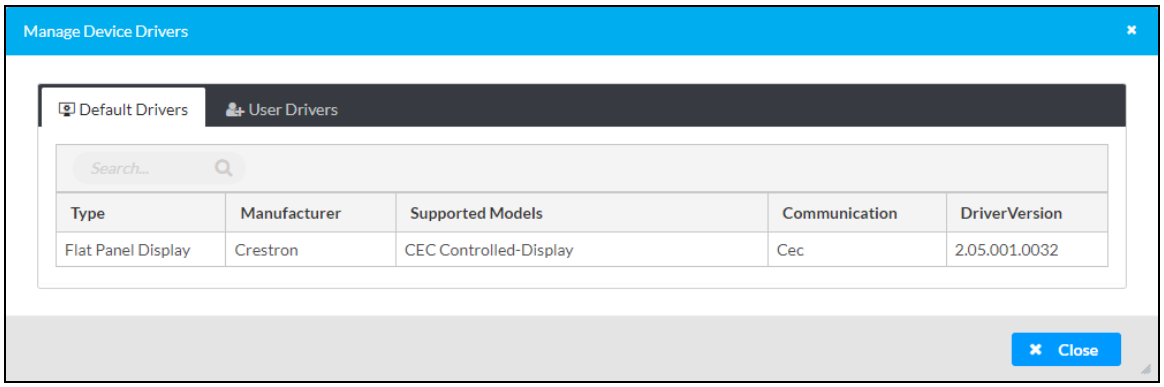


3. Select **OK** to return to the **Manage EDIDs** window. The uploaded custom EDID will now be displayed in the table. To remove a custom EDID, select **Delete** in its table row.



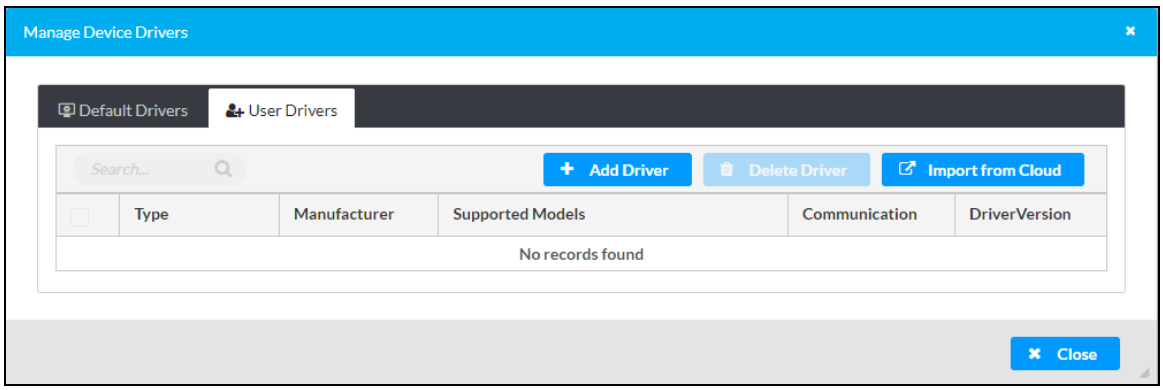
Manage Device Drivers

Use the **Manage Device Drivers** window to add, remove, or browse which drivers are available for controlling displays connected to the DM-NAX-XSP.

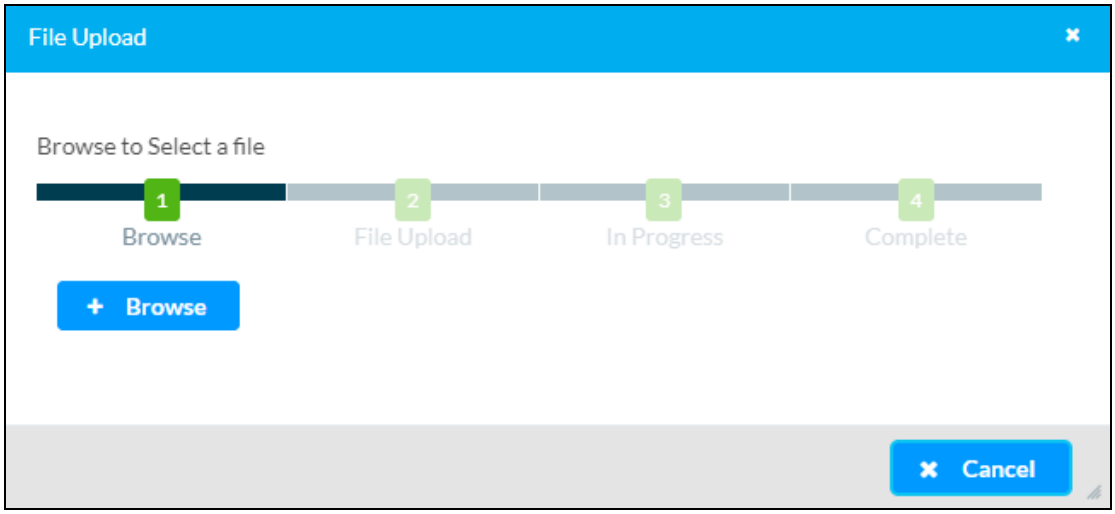


Select **Manage Device Drivers** in the **Action** drop-down menu. The **Manage Device Drivers** window appears:

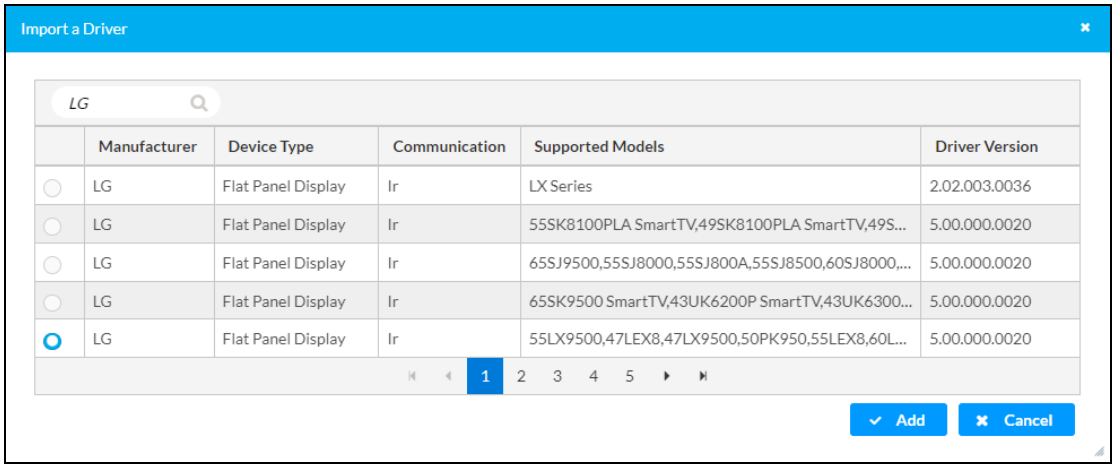
- The default tab that will open in this window is the **Default Drivers** tab. This tab is read only, and provides a list of all default drivers available on the DM-NAX-XSP as part of the device firmware. Use the **Search...** text entry field to filter the list of drivers by name. Default drivers cannot be removed from the device.
- The second tab available in this window is the **User Drivers** tab. By default, the table will populate with **No records found**. To add or remove custom driver files:



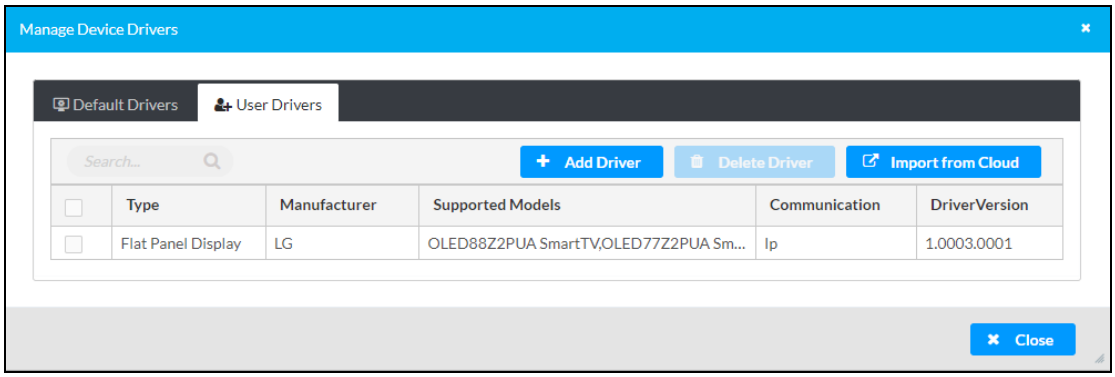
1. Select either **Add Driver** or **Import from Cloud** at the top right of the table.
   - Selecting **Add Driver** opens a window for uploading a custom .pkg driver file that was created from the Device Learner utility in Crestron Toolbox software. Browse for a .pkg file and upload it to the DM-NAX-XSP.



   - Selecting **Import from Cloud** opens a window for browsing the Crestron Driver Web Portal. Search the drivers list by manufacturer or model name, select a driver, then select **Add** to download the driver file and add it to the DM-NAX-XSP.



2. Select **OK** to return to the **Manage Drivers** window. The uploaded custom driver will now be displayed in the table. To remove a custom driver, select its row, then select **Delete Driver**.



Download Configuration

Select **Download Configuration** to download a TGZ file containing the settings data for the DM NAX device.

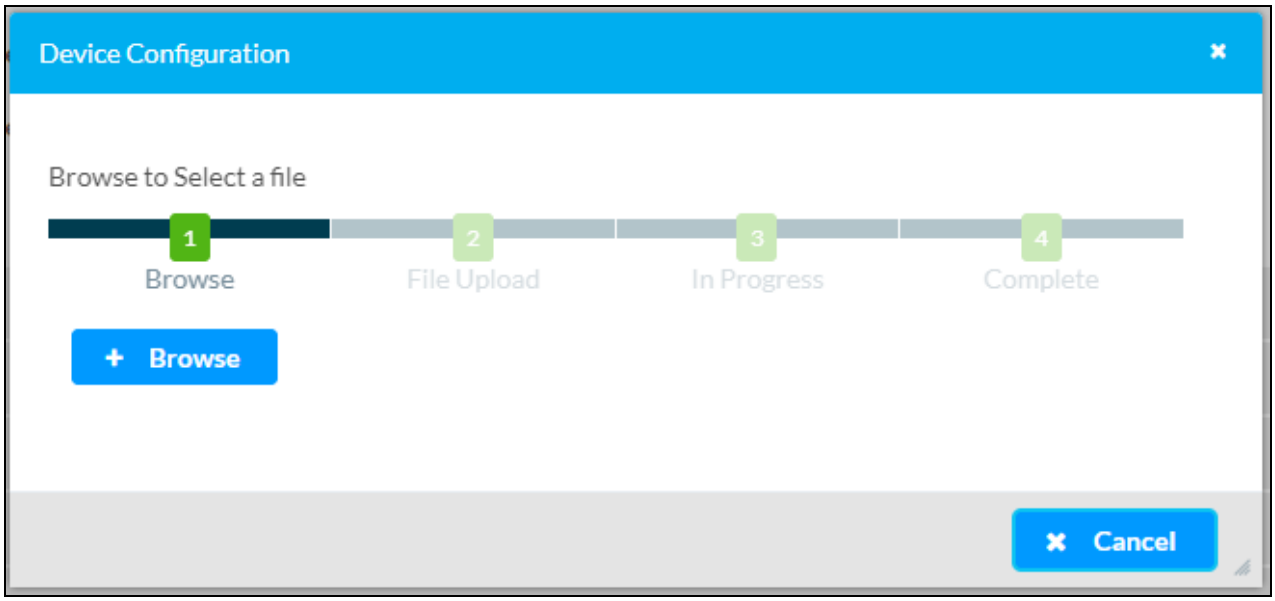
> **NOTE:** Multicast addresses, stream names, and user accounts for accessing the device are not saved in this configuration file.

Upload Configuration

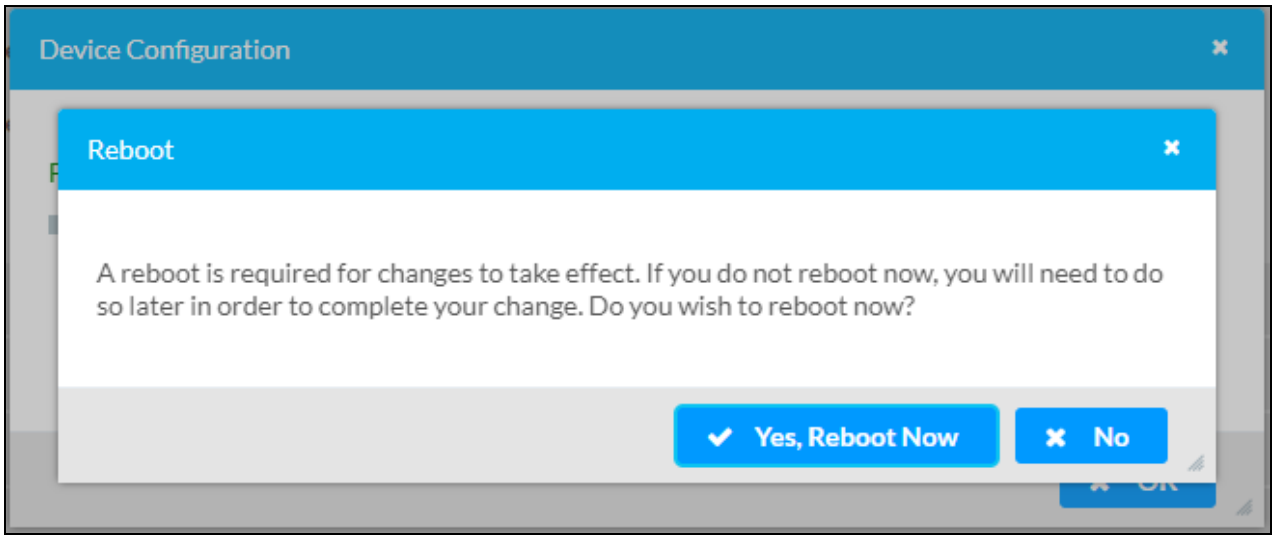
1. Select **Upload Configuration** to upload a TGZ file that will overwrite the current settings of the DM NAX device with a saved configuration.

   > **CAUTION:** Be sure to load a TGZ file for the same DM NAX device type while using the Load Configuration feature. For example, if loading a TGZ file to a DM-NAX-XSP, be sure that the TGZ file originated from a DM-NAX-XSP.

2. Select **Browse** to navigate to the desired TGZ file in your file browser. Select the file, then select **Open**.



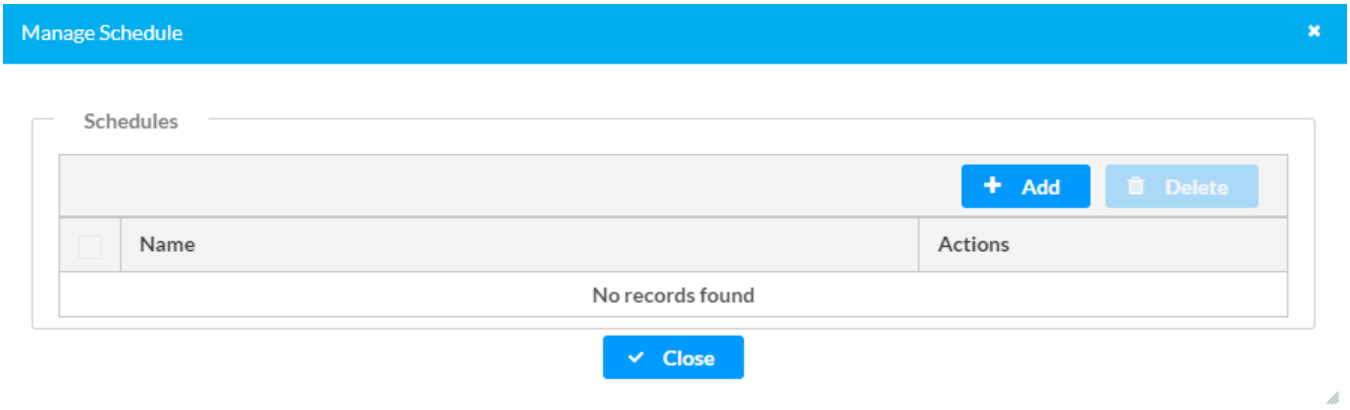
3. Select **Upload** to begin the file upload process. A progress bar will indicate the status of the configuration file upload.
4. Once the upload is complete, the device will require a reboot. Select **Yes, Reboot Now** to begin the reboot, or select **No** to return to the web UI.



> **NOTE:** Any changes made after the configuration file upload, but before a device reboot, may be overwritten when the device is rebooted.

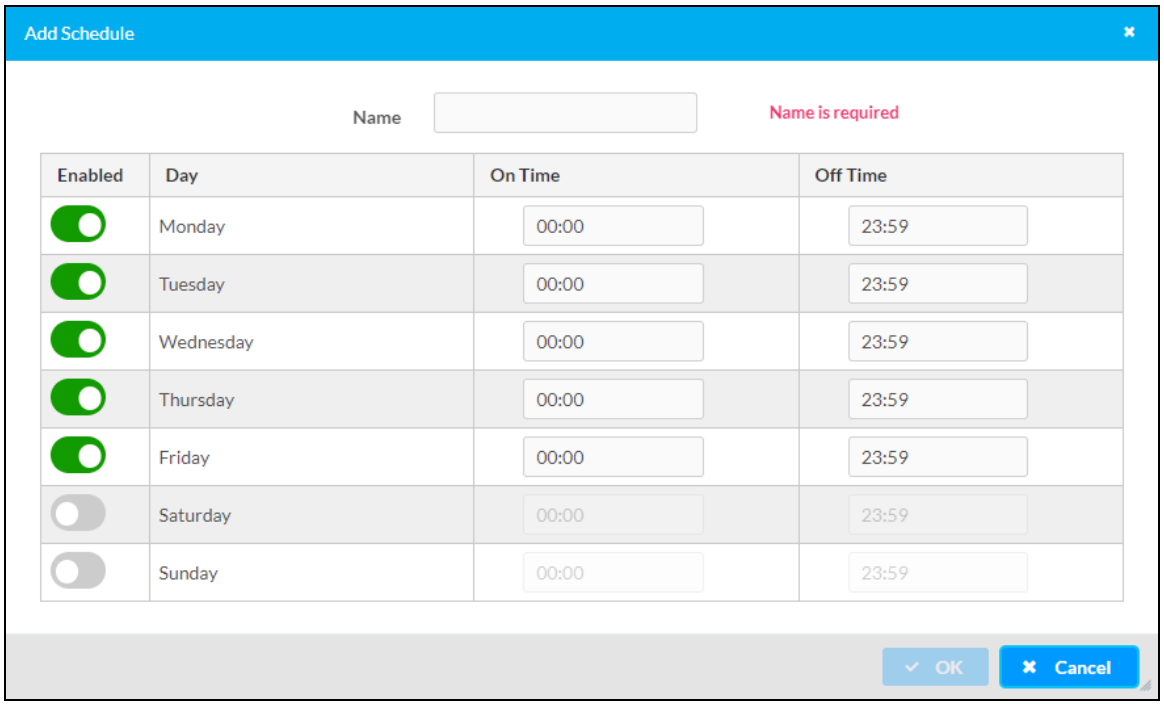
Manage Schedule

Use the **Manage Schedule** window to add, edit, or remove schedules that can be used to power on or off connected displays.



Select **Manage Schedules** in the **Action** drop-down menu. The **Manage Schedules** window appears. By default, the table will populate with **No records found**. To add a schedule:

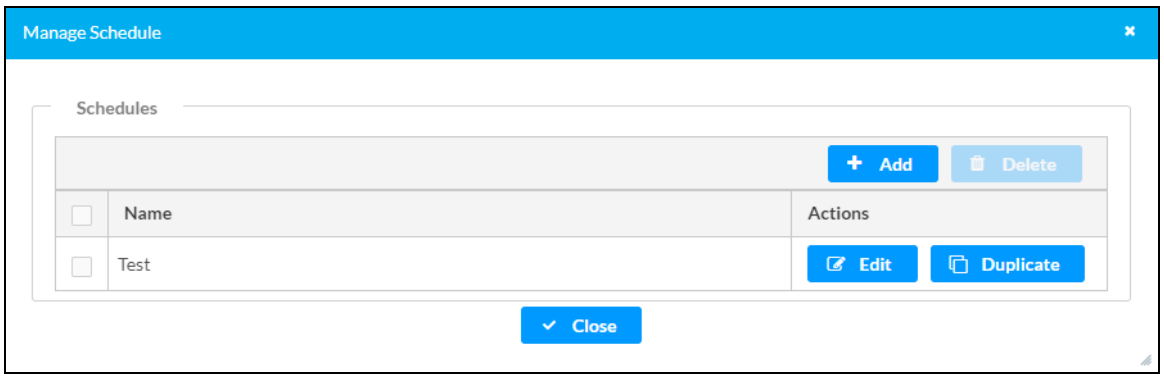
1. Select **Add** at the top right of the table. A window for creating a custom schedule appears.
2. Enter a name for the schedule in the **Name** text field at the top of the window.



3. Enable or disable ach day of the week.
4. Set an hour range for each enabled day.
5. Set an **On Time** value to determine when the power on command will be sent to the connected display.

6. Set an **Off Time** value to determine when the power off command will be sent to the connected display.
7. Select **OK** to return to the **Manage Schedules** window. The custom schedule will now be displayed in the table.

   Select **Duplicate** to duplicate the schedule or select **Edit** to edit it.

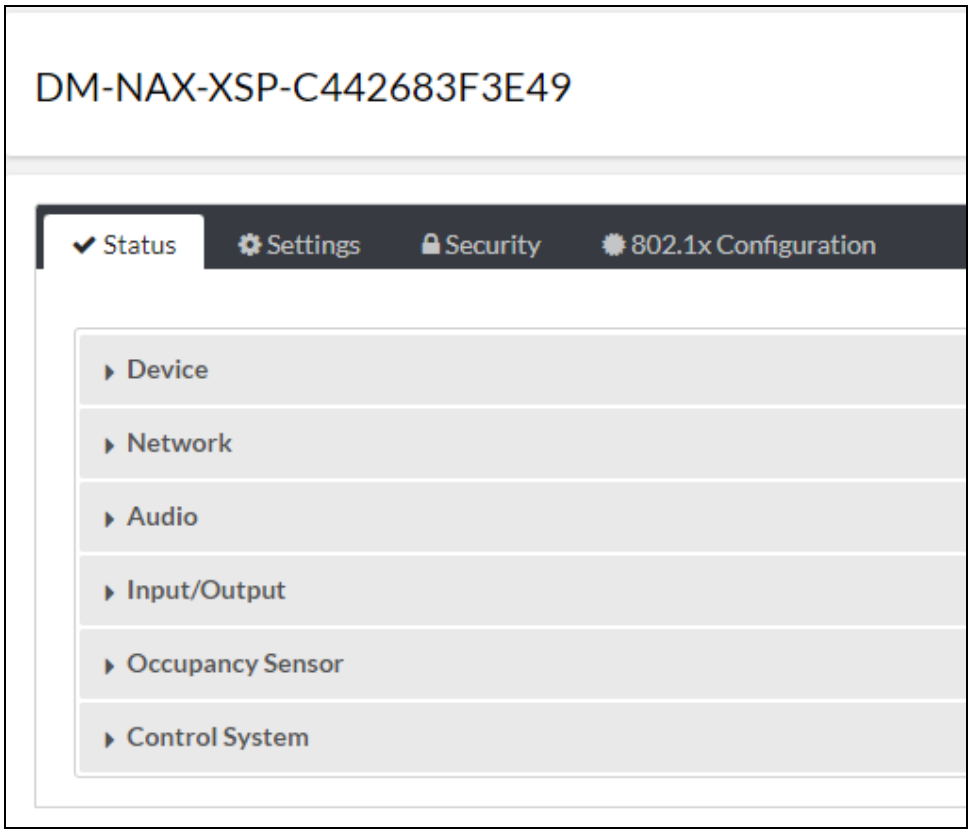


To delete a schedule, select its row, then select **Delete**.

Status

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

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

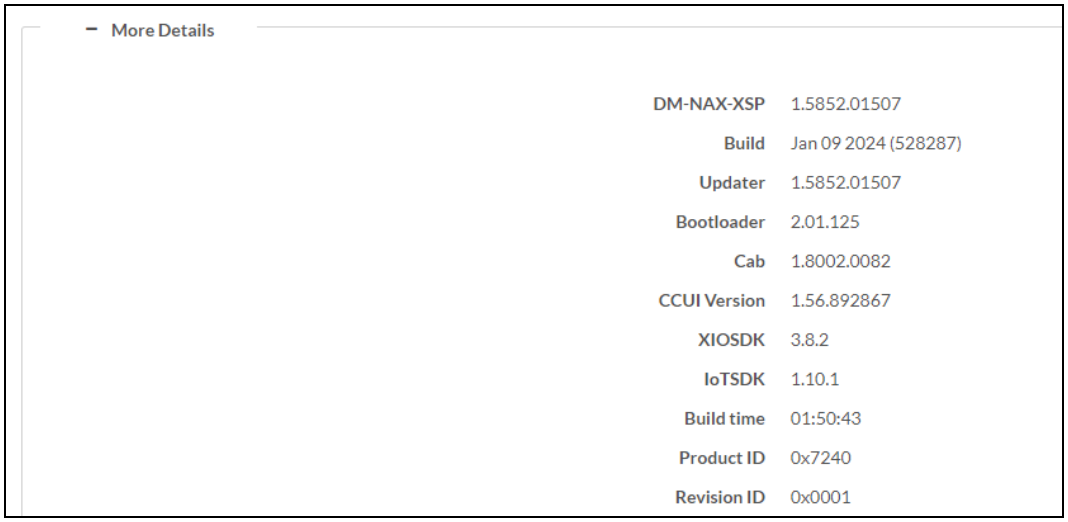


Information displayed on the **Status** tab is organized into different sections.

Device

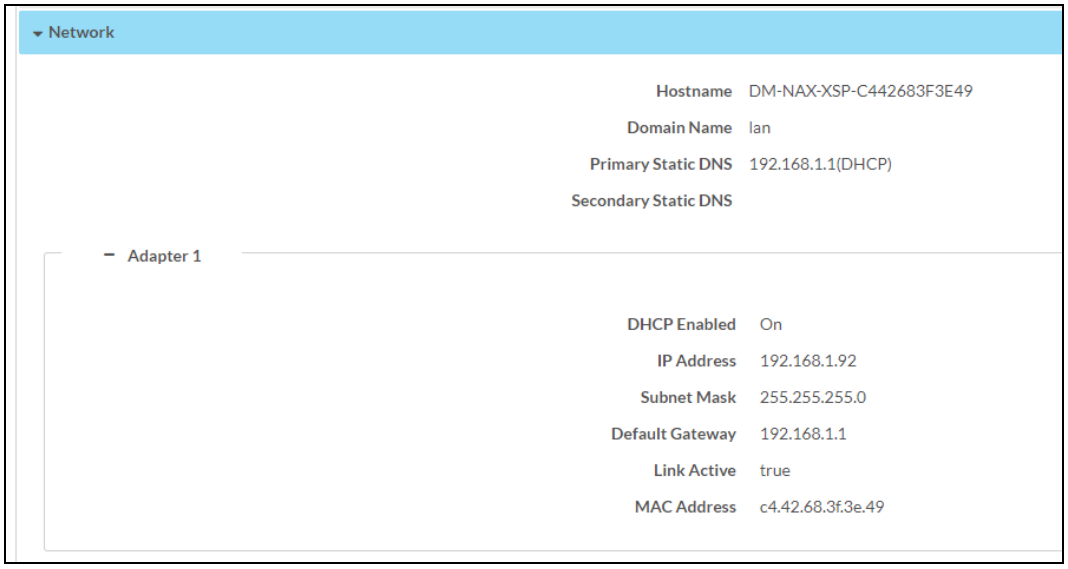
The **Device** section displays the **Model**, **Firmware Version**, and **Serial Number** of the DM-NAX-XSP.

Select **+ More Details** to review additional information about the DM-NAX-XSP.



Network

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



NOTE: By default, the host name of the DM-NAX-XSP consists of the model name followed by the MAC address of the device. For example, DM-NAX-XSP-C442683F3E49.

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

NOTE: The **+ Adapter 2** option appears when the Ethernet ports on the DM-NAX-XSP are set to isolate traffic using the Port Selection feature.

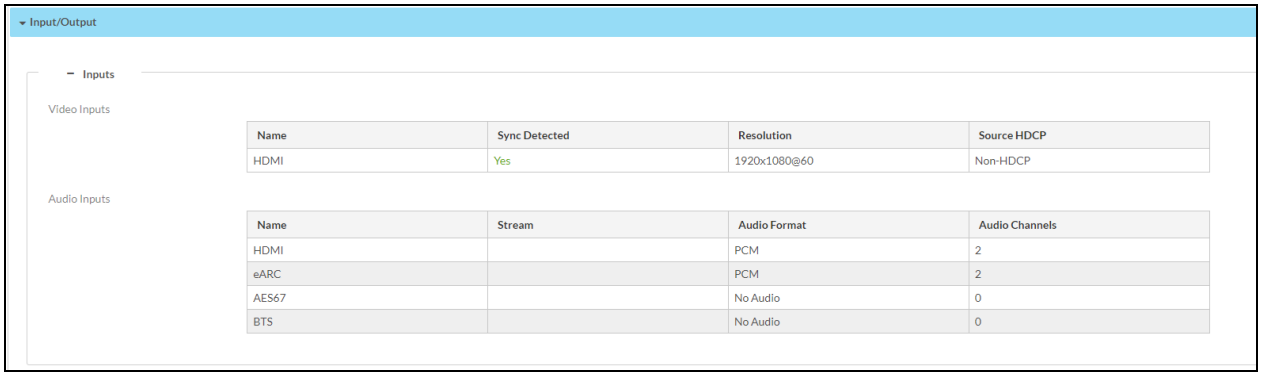
Audio

The **Audio** section displays details about the active audio source of the DM-NAX-XSP.

Information is only populated in this section for whichever audio input is selected as the active audio source. The active audio source is determined by the **Input / Output Selection** section of the **Settings** tab, or by commands issued by a control system.

Input/Output

The Input/Output section displays information on the available AV inputs and outputs of the DM-NAX-XSP.

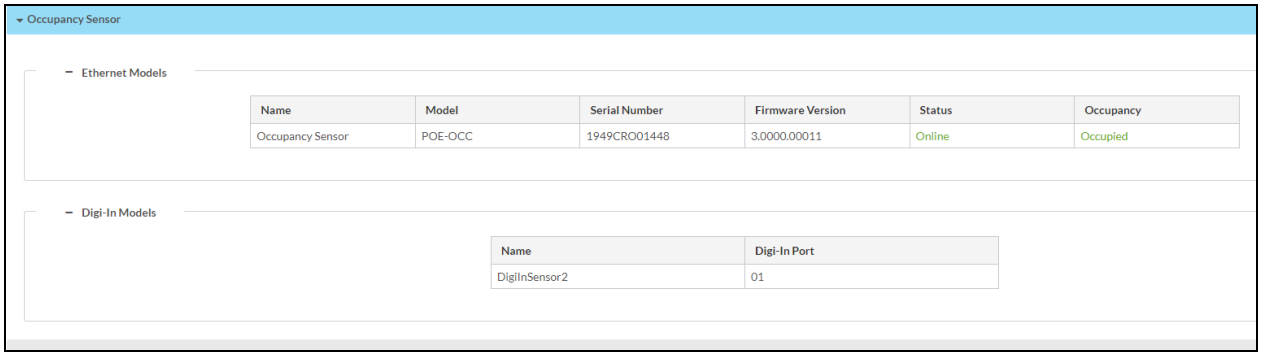


In the **Video Inputs** table, the **Sync Detected** status for the HDMI input displays whether or not a source is connected to the HDMI input. If sync is detected and a signal is passing, the **Resolution** and **Source HDCP** fields will also populate with information about the video signal.

In the **Audio Inputs** table, each available audio input on the device has a row. the **Stream**, **Audio Format**, and **Audio Channels** columns will each populate with information about the audio signal for a given input when an audio signal is detected.

Occupancy Sensor

The **Occupancy Sensor** section displays information on any occupancy sensors paired with the DM-NAX-XSP.

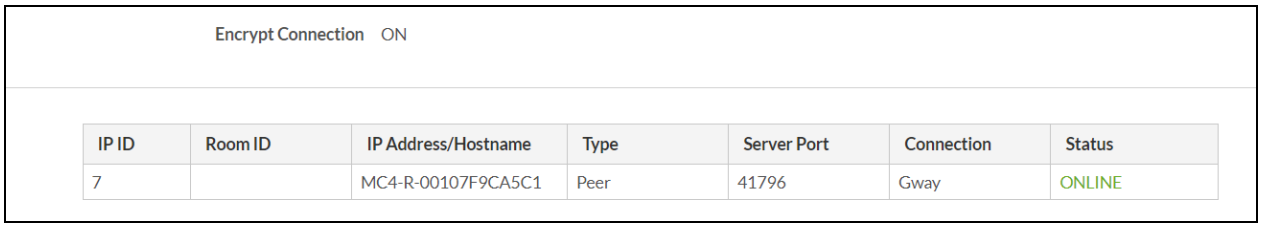


Occupancy sensors can be paired with the device using the **Occupancy Sensor** section of the **Settings** tab.

The Ethernet Models table displays the **Name**, **Model**, **Serial Number**, and **Firmware Version** of any paired IP based occupancy sensors. The **Status** field will either read **Online** or **Offline**. The **Occupancy** field will either read **Occupied** or **Vacant**. The **Name** field is populated with the friendly name entered while pairing the occupancy sensor, while the other fields populate based on information pulled from the occupancy sensor. Up to three IP based occupancy sensors can be paired with the DM-NAX-XSP.

Control System

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

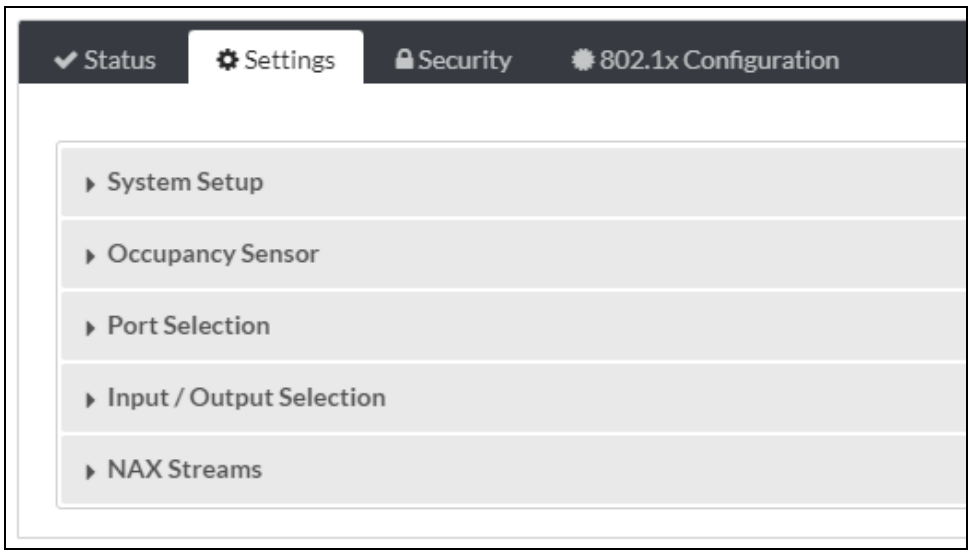


- **Encrypt Connection**: Reports **ON** or **OFF**
- **IP ID**: Reports the currently used IP ID of the DM-NAX-XSP
- **Room ID**: Reports the room ID
- **IP Address/Hostname**: Reports the IP address or hostname of the control system
- **Type**: Reports the type of IP table entry the device holds in the control system's table; the DM-NAX-XSP will always report as a **Peer** entry in the control system's table
- **Server Port**: Reports the port number for the connection to the control system
- **Connection**: Reports the type of connection the device is using to communicate with the control system; the DM-NAX-XSP will always report a **Gway** connection
- **Status**: Reports **OFFLINE** or **ONLINE**.

Settings

This section provides the following information:

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



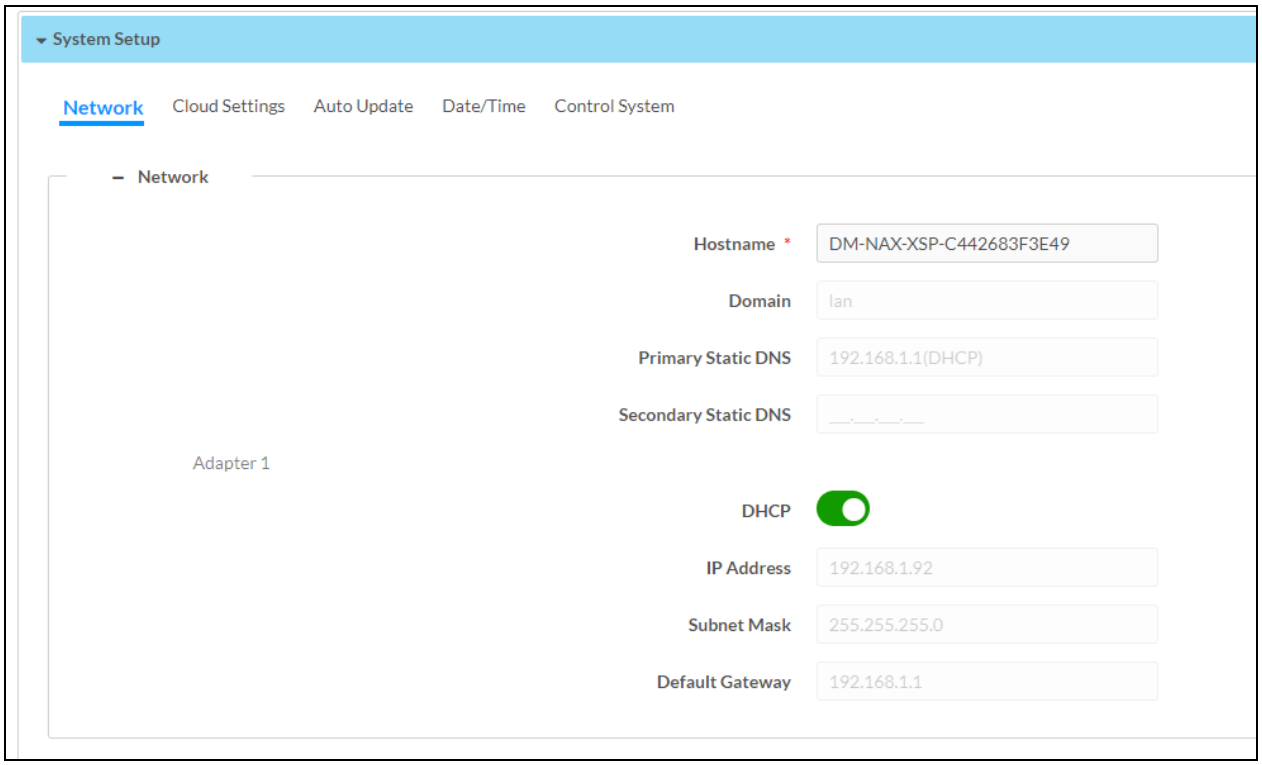
Settings available on the **Settings** tab are organized into different sections.

System Setup

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

Network

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



NOTE: By default, the hostname of the DM-NAX-XSP consists of the model name followed by the MAC address of the device. For example, DM-NAX-XSP-C442683F3E49.

Adapter 1

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

NOTES:

- An **+ Adapter 2** option only appears when the Ethernet ports on the DM-NAX-XSP are set to isolate traffic using the Port Selection feature. The settings for Adapter 2 are identical to those available for Adapter 1.
- Internal processes of DM NAX devices use IP addresses in the 10.10.10.*xxx* range. This IP range should be avoided when addressing DM NAX devices to prevent conflicts with these internal addresses.

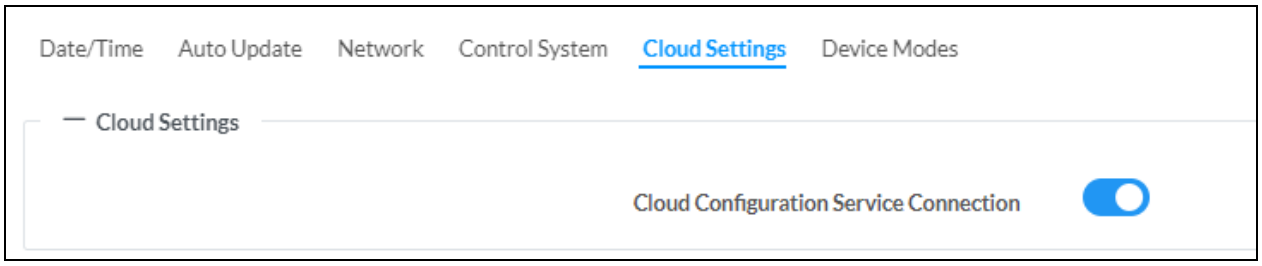
Set the **DHCP** toggle to enabled (right) or disabled (left) to specify whether the IP address of the DM-NAX-XSP is to be assigned by a DHCP (Dynamic Host Configuration Protocol) server.

- **Enabled**: When **DHCP** is enabled (default setting), the IP address of the DM-NAX-XSP is automatically assigned by a DHCP server on the local area network (LAN).
- **Disabled**: When **DHCP** is disabled, manually enter information in the following fields:
  - **Primary Static DNS**: Enter a primary DNS IP address.
  - **Secondary Static DNS**: Enter a secondary DNS IP address.

- **IP Address**: Enter a unique IP address for the DM-NAX-XSP.
- **Subnet Mask**: Enter the subnet mask that is set on the network.
- **Default Gateway**: Enter the IP address that is to be used as the network's gateway.

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

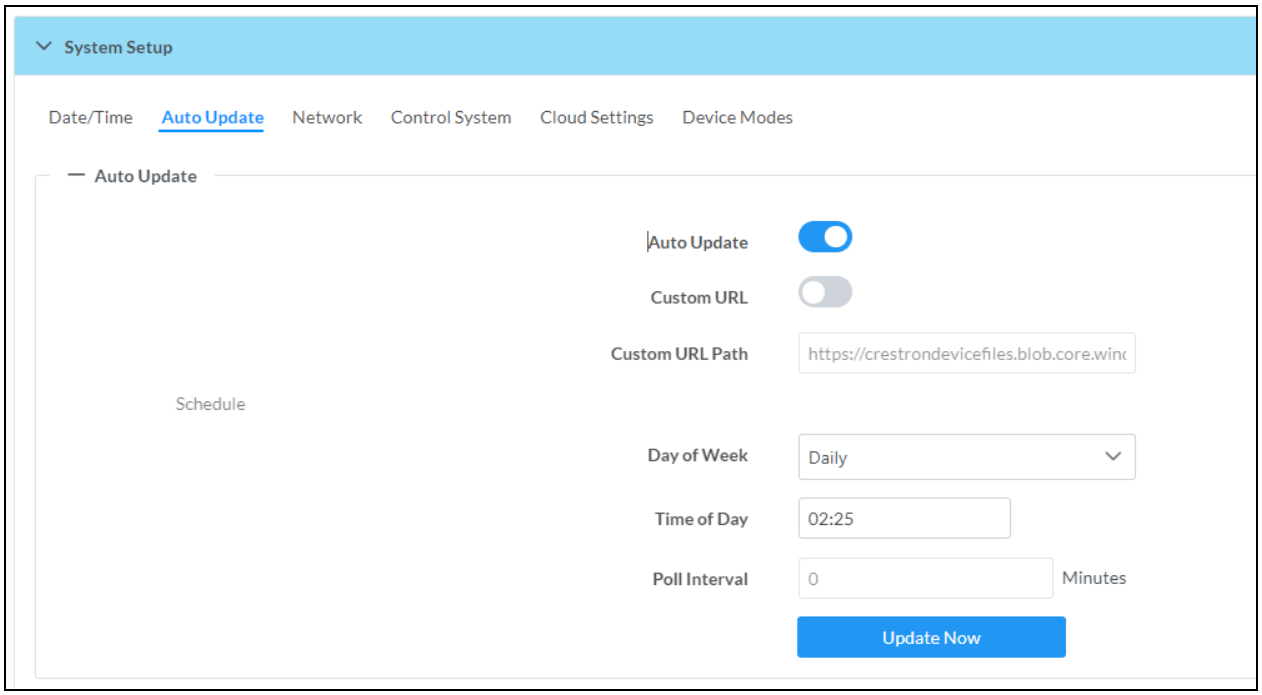
Cloud Settings



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

Auto Update

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



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

a. Use the default URL to download the updates from the Crestron server.

b. Use a custom URL. Set the **Custom URL** toggle to the right position to enable a custom URL. In the **Custom URL Path** text box, enter the path to a custom manifest file in the FTP or SFTP URL format. Use the Crestron Auto Update Tool to generate a custom manifest file, then store the file on an FTP (File Transfer Protocol) or SFTP (Secure File Transfer Protocol) server.

3. Set a schedule for the automatic firmware update by doing either of the following:

   a. Select the desired **Day of Week** and **Time of Day** (24-hour format) values.

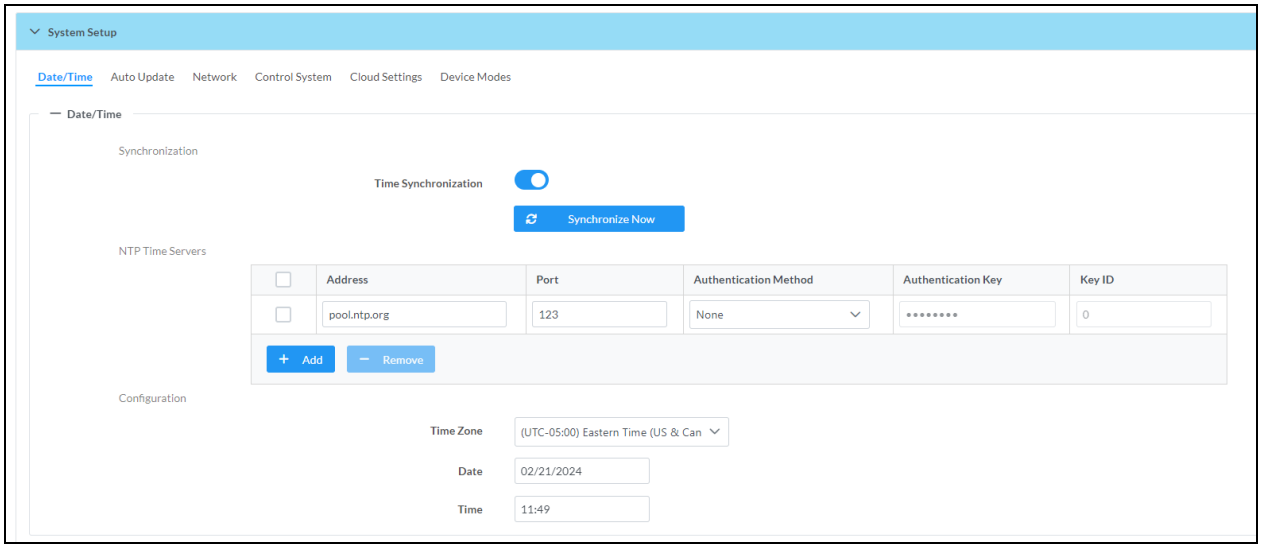
   b. Set the **Poll Interval** by entering a value from **60** to **65535** minutes. A value of **0** disables the Poll Interval.

4. Select **Save Changes**.

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

Date/Time

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



Time Synchronization

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

Time Configuration

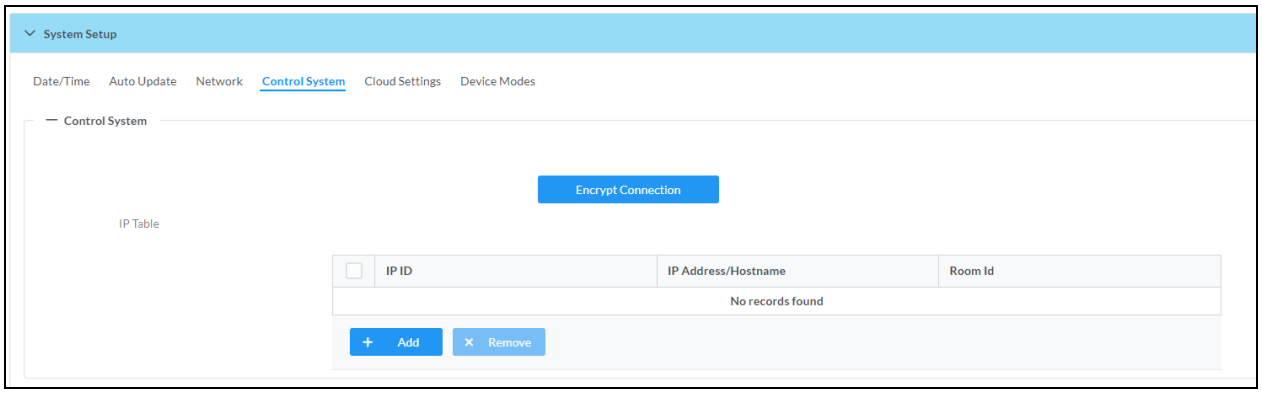
1. Open the **Time Zone** drop-down menu to select the applicable time zone.
2. In the **Date** field, enter the current date.

3. In the **Time (24hr Format)** field, enter the current time in 24-hour format.

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

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

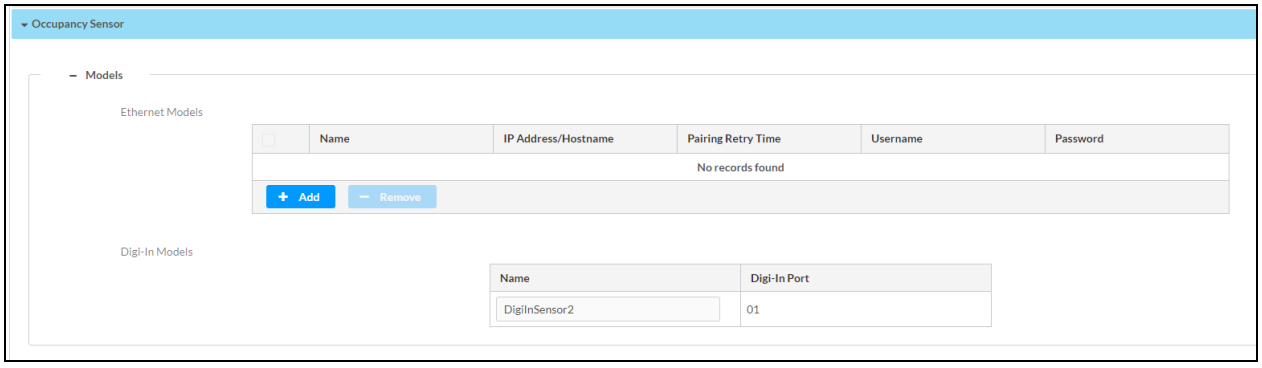
Control System



1. Select **Encrypt Connection** to navigate to the **Security** tab to configure encryption settings.
   a. Enter the username in the **Control System Username** field.
   b. Enter the password in the **Control System Password** field.
2. Select + Add to add an IP table entry to the IP Table.
   a. Enter the Room ID in the **Room ID** field.
   b. Enter the IP ID of the DM-NAX-XSP in the **IP ID** field.
   c. Enter the IP address or hostname of the control system in the **IP Address/Hostname** field.
3. Select **Save Changes** to save the new entries. The **Control System Save** message box appears, indicating that the control system settings were saved successfully. Select **Revert** to revert to the previous settings without saving.

Occupancy Sensor

Use the **Occupancy Sensor** section to pair up to three Ethernet based and one digital input based occupancy sensor.



The **Ethernet Models** table contains all settings for pairing Ethernet based occupancy sensors.

To pair an Ethernet occupancy sensor:

1. Select **Add**.
2. Enter a friendly name for the occupancy sensor in the **Name** text field.
3. Enter the IP address or hostname of the occupancy sensor in the **IP Address/Hostname** field.
4. Select a **Pairing Retry Time** from the drop-down menu. The options are from one to five minutes. If the DM-NAX-XSP loses connection to the occupancy sensor, this interval will determine how often it attempts to reconnect to the sensor.
5. Enter the credentials of the occupancy sensor in the **Username** and **Password** fields.

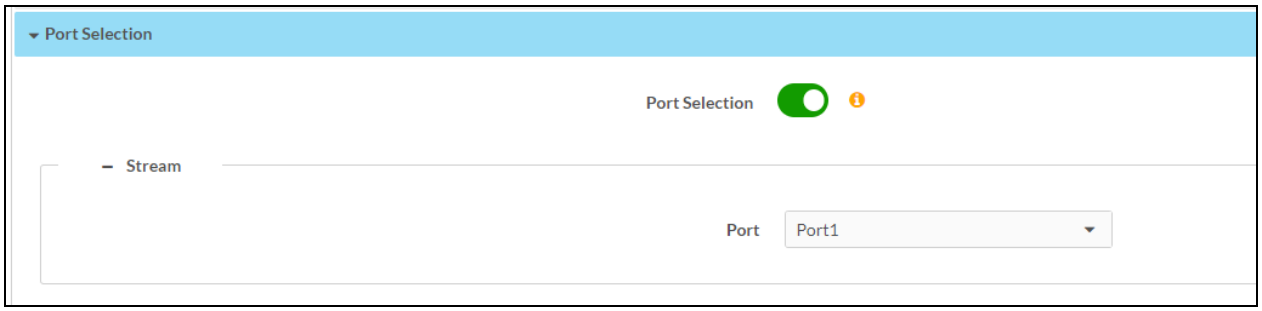
To remove an Ethernet occupancy sensor:

1. Select the check box in the leftmost column to select the occupancy sensor.
2. Select **Remove**.

The **Digi-In Models** table is used to name the digital input based occupancy sensor connected to the **IN** port of the DM-NAX-XSP. Enter a friendly name for the occupancy sensor in the **Name** text field.

Port Selection

The **Port Selection** feature allows the device's internal network traffic to be managed and segregated based on traffic type. Internal VLANs are used to segment the device's management and streaming service traffic to a separate Ethernet port from the audio-over-IP streaming traffic. With **Port Selection** enabled on all DM NAX devices on a network, DM NAX and AES67 network traffic can be physically separated from the control network onto a dedicated audio network.



To configure **Port Selection**:

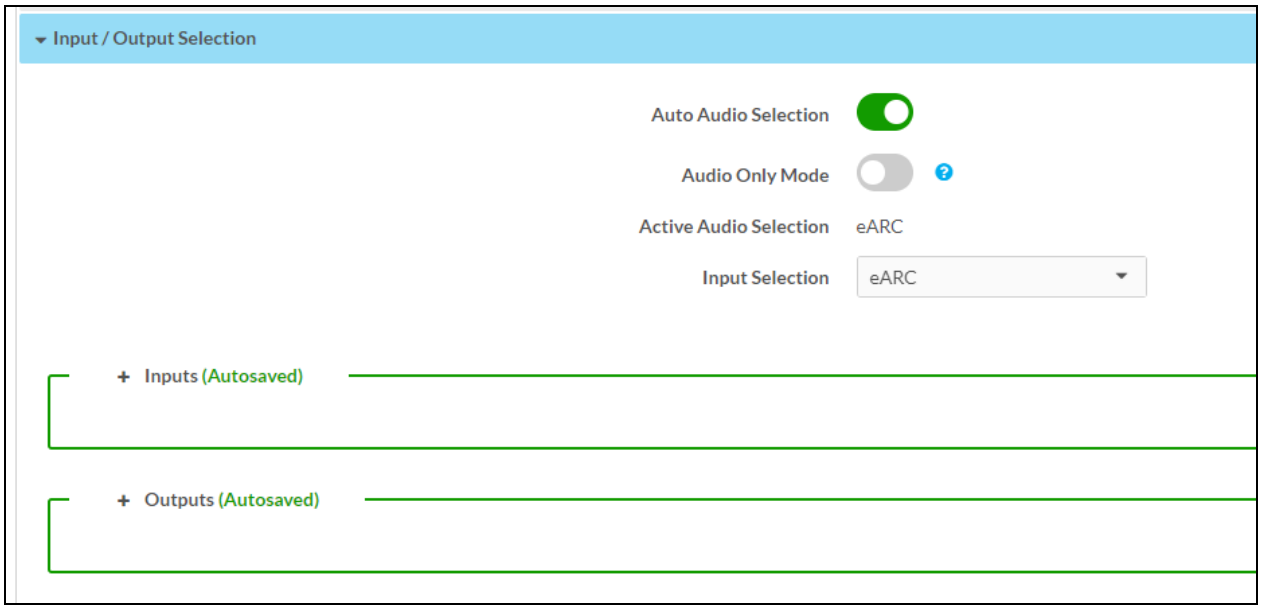
1. Set the **Port Selection** toggle to the right position to enable Port Selection. Set the toggle to the left position to disable Port Selection. By default, **Port Selection** is disabled.

   > **NOTE:** Ports 1 and 2 correspond to the Ethernet adapters labeled **1** and **2** on the rear panel of the DM-NAX-XSP, respectively.

2. With **Port Selection** enabled, select an Ethernet port from the **Stream** drop-down menu to designate which Ethernet port will handle audio-over-IP streaming network traffic.
3. Select **Save Changes**to apply the new settings.

   > **NOTE:** Making changes to **Port Selection** settings will require a reboot.

Input / Output Selection



The **Auto Audio Selection** setting determines whether the active audio input of the DM-NAX-XSP is driven automatically by signal detection, or driven manually by either the **Input Selection** drop-down menu or programming.

- Set the **Auto Audio Selection** toggle to the right to enable Auto Audio Selection. Set the toggle to the left to disable Auto Audio Selection. Auto Audio Selection is enabled by default.

Audio Only Mode allows the DM-NAX-XSP to be used exclusively as an audio encoder without requiring an active video signal on the HDMI input. With Audio Only Mode enabled, the HDMI output can maintain A/V sync with the connected display and continue to receive (e)ARC audio without passing video content.

- Set the **Audio Only Mode** toggle to the right to enable Audio Only Mode. Set the toggle to the left to disable Audio Only Mode. Audio Only Mode is disabled by default.

Active Audio Selection is a read only field that indicates which of the audio inputs of the DM-NAX-XSP is currently selected and transmitting audio via the DM NAX and BTS Audio-over-IP (AoIP) streams.

The **Input Selection** drop-down selects an active audio source for the DM-NAX-XSP to transmit via the DM NAX and BTS AoIP streams. If **Auto Audio Selection** is enabled, this setting will override it and will set a new **Active Audio Selection**. The available options for **Input Selection** are **None**, **HDMI**, **eARC**, **AES67**, and **BTS**.

Surround Sound Audio

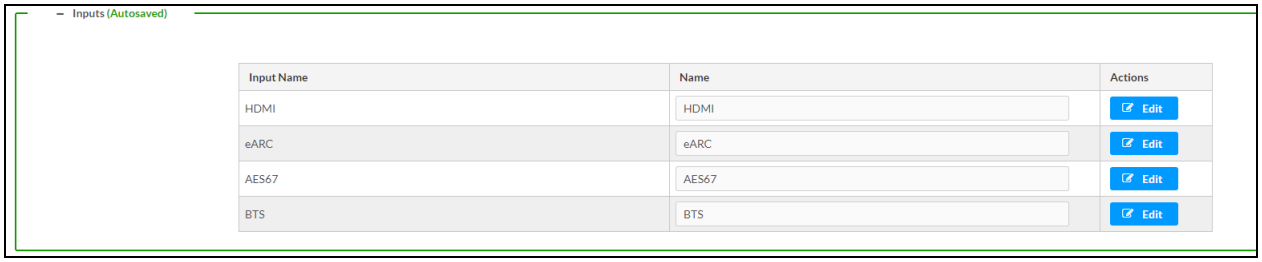
The DM-NAX-XSP supports lossless transport of surround sound audio signals (including Dolby® TrueHD, Dolby Atmos®, DTS HD®, and DTS:X® audio signals) and up to 8 channels of uncompressed linear PCM. The DM-NAX-XSP can receive both multichannel and 2-channel downmix signals from another DM-NAX-XSP, allowing either signal to be selected at the HDMI output. The EDID selected at the HDMI output and the EDID of the HDMI sink device will determine which surround sound audio

formats can be sent to the sink device. To configure surround sound audio, set a compatible EDID using the **Manage EDIDs** function from the **Action** menu.

The DM-NAX-XSP can also receive an incoming multichannel surround sound audio signal from the local HDMI input or the eARC path of the HDMI output. Surround sound audio from the local HDMI connections can then be transmitted over the network to another DM-NAX-XSP via the **BTS** stream, or downmixed to stereo and transmitted to any other DM NAX device via the **AES67** stream. The DM-NAX-XSP can distribute both the **BTS** and **AES67** streams simultaneously over the network, allowing either signal to be selected at any receiver on the network.

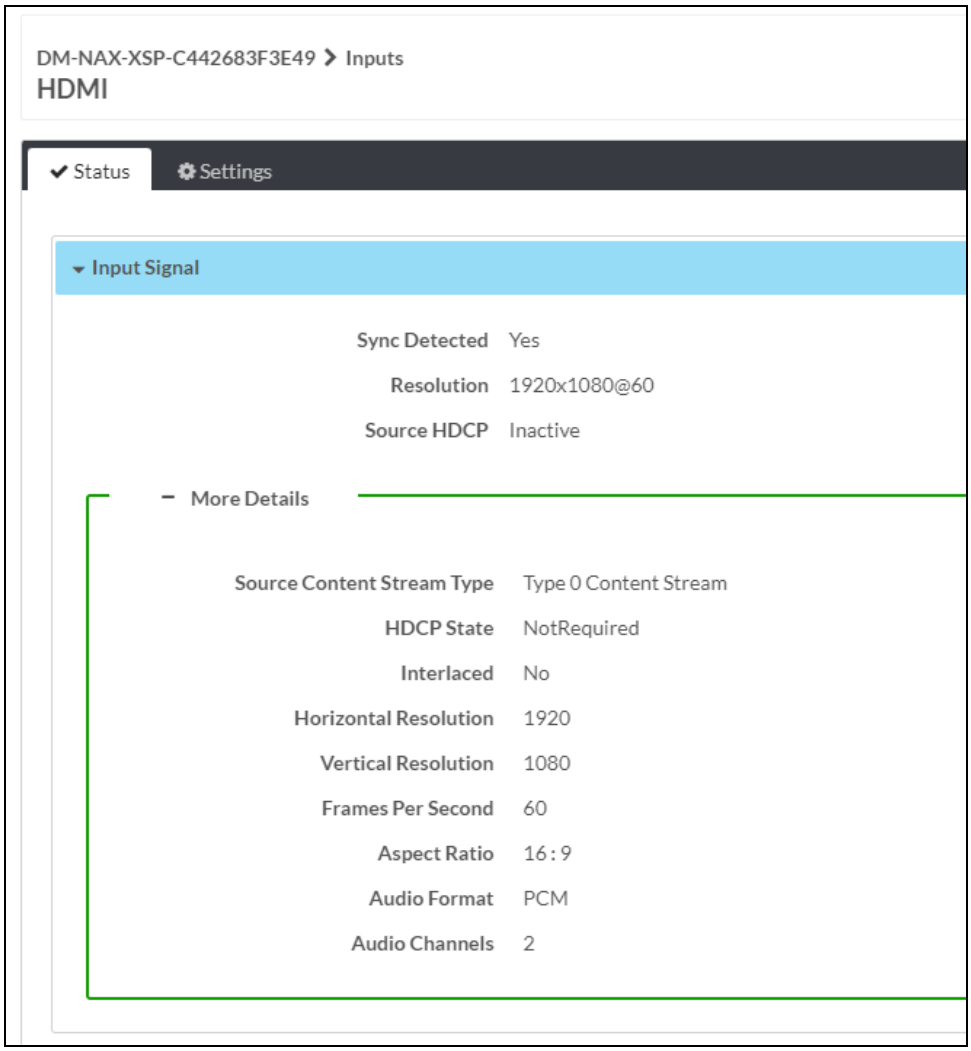
Inputs

The **Inputs** subsection provides a table of the available inputs on the DM-NAX-XSP, with settings to rename or edit the inputs.



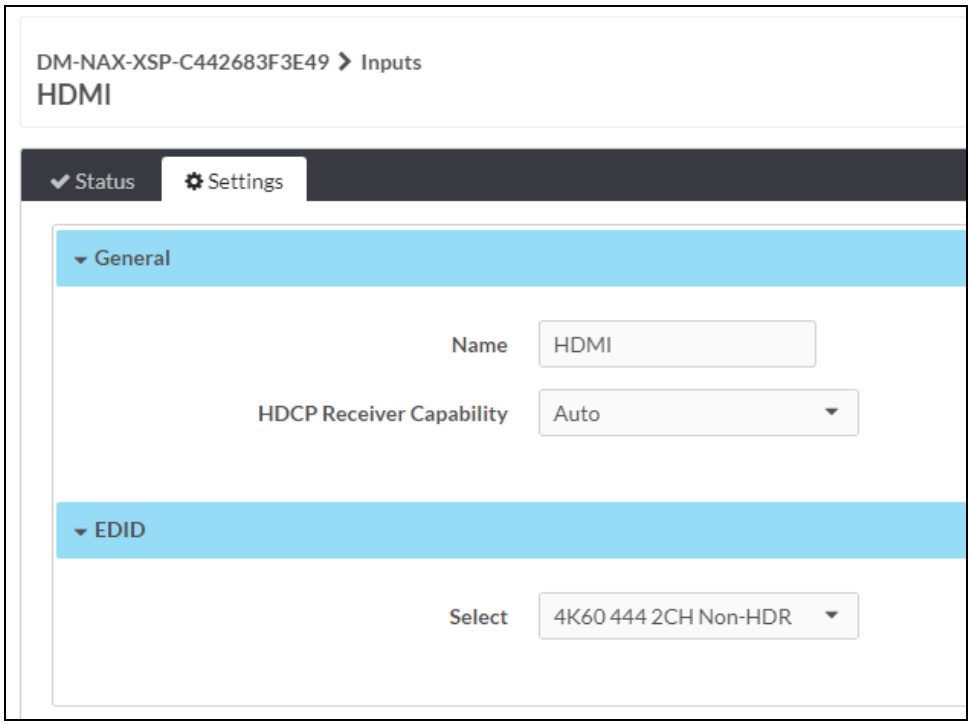
Enter a friendly name for each input in the **Name** text fields.

To view the status and available settings for an input, select **Edit**.



All four inputs have a read only **Status** tab that shows video and audio information for the connected source. Video status fields are only populated for the HDMI and eARC inputs, and will show **N/A** for the AES67 and BTS inputs.

The HDMI input has an additional **Settings** tab that includes settings for HDCP capabilities and applying an EDID.



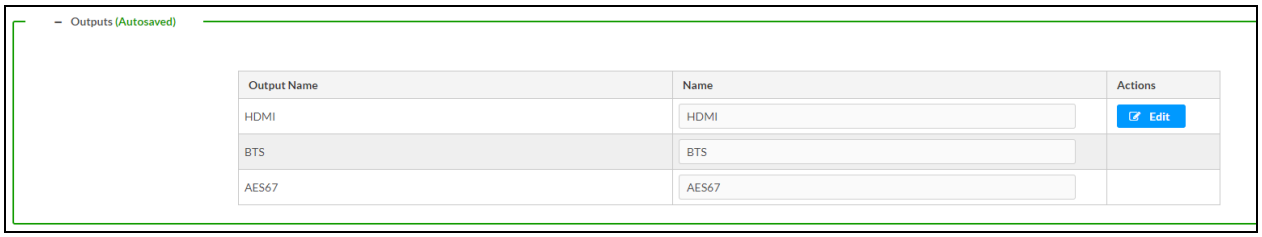
To configure the settings of the HDMI input:

- Enter a friendly name for the HDMI input in the **Name** text field. This will track with the **Name** field from the previous page.
- Use the **HDCP Receiver Capability** drop-down in the **General** section to determine which HDCP keys the HDMI input of the DM-NAX-XSP will present to its source device.
    - With **Auto** selected, the DM-NAX-XSP will attempt to match the HDCP requirements between the connected source and sink devices.
    - With **Disabled** selected, the DM-NAX-XSP will not pass any HDCP protected content to the HDMI output.
    - With **HDCP 1.4** selected, the DM-NAX-XSP will not pass any content protected by an HDCP version higher than 1.4.
    - With **HDCP 2.x** selected, the DM-NAX-XSP will pass all content protected by the latest HDCP 2.x version supported in firmware.
- Use the Select drop-down in the **EDID** section to set an EDID at the HDMI input of the DM-NAX-XSP. To add a custom EDID to this drop-down list, refer to the Action Menu.

Outputs

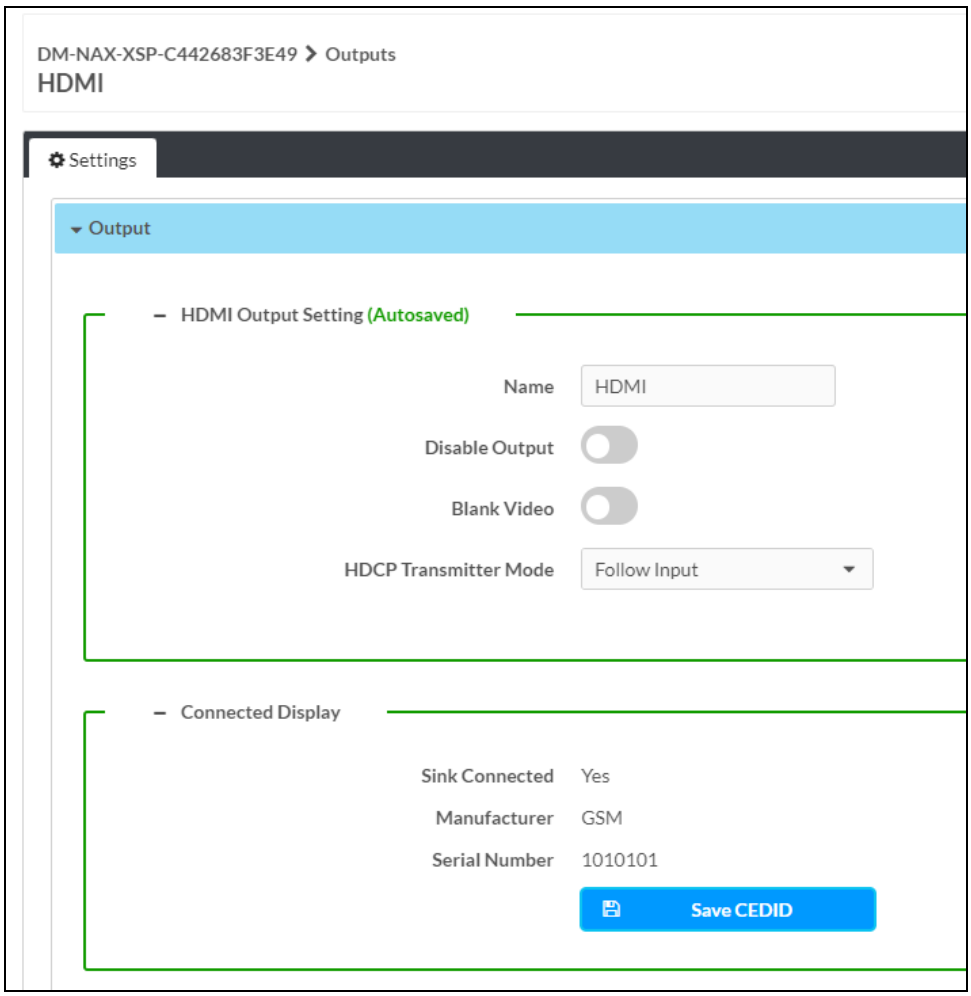
The **Outputs** subsection provides a table of the available outputs on the DM-NAX-XSP, with settings to rename or edit the outputs.

> **NOTE:** Only the HDMI output has an **Edit** option.



Enter a friendly name for each output in the **Name** text fields.

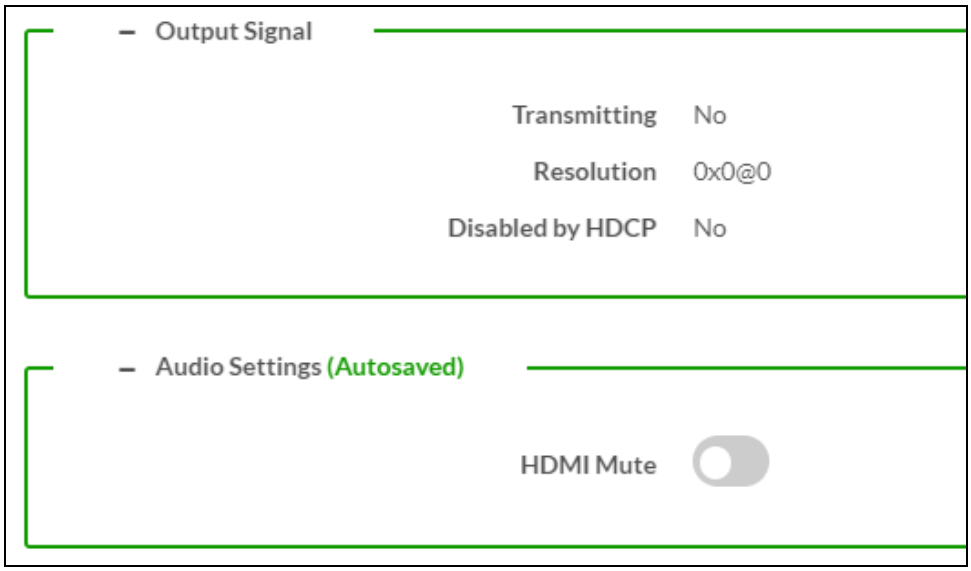
To access the settings of the HDMI output, select **Edit**.



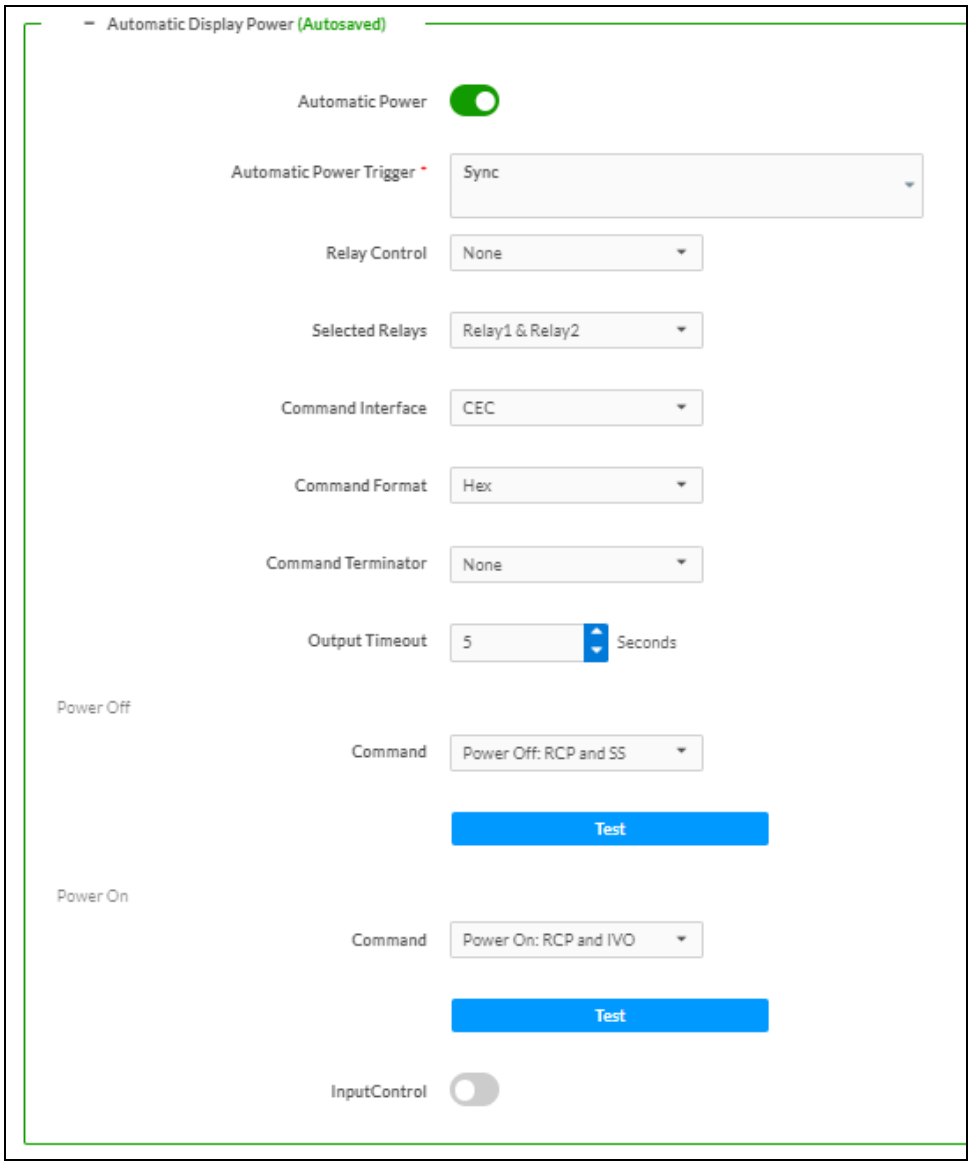
To configure the settings of the HDMI output:

- Enter a friendly name for the output in the **Name** text field. This will track with the **Name** field from the previous page.
- Set the **Disable Output** toggle to the right to disable any video signal from passing to the HDMI output. Set the toggle to the left to pass video signal.
- Set the **Blank Video** toggle to the right to send a black screen to the HDMI output instead of passing the HDMI input signal through. Set the toggle to the left to revert to the HDMI input signal.

- Use the HDCP Transmitter Mode drop-down to determine which HDCP level will be present on the HDMI output of the DM-NAX-XSP.
    - With **Follow Input** selected, the HDMI output signal HDCP level will be the same as the HDMI input signal from the source device.
    - With **Force Highest** selected, the HDMI output signal HDCP level will be set to the highest version supported in firmware. If this level is not supported by the connected display or the HDMI source, the video output will be blanked.
    - With **Never Authenticate** selected, the HDMI output signal will not authenticate HDCP. Any HDCP content from the HDMI input will be blanked.
- The **Connected Display** subsection reads out the connection status, manufacturer, and serial number of the connected display. Select **Save CEDID** to save the EDID of the connected display as a .cedid file. This file can be loaded to the DM-NAX-XSP or other Crestron A/V device.



- The **Output Signal** subsection contains read only fields for the transmission, resolution, and HDCP status of the HDMI output.
- The **Audio Settings** subsection contains a toggle to mute the audio of the HDMI output. Set the **HDMI Mute** toggle to the right to mute the audio on the HDMI output. Set the toggle to the left to unmute the output.

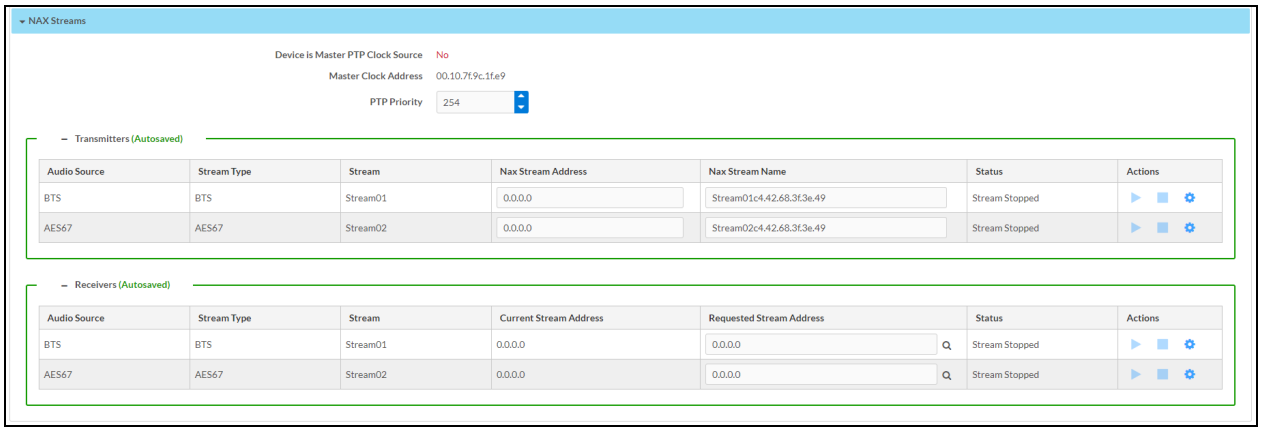

Automatic Display Power (Autosaved)
Automatic Power
Automatic Power Trigger *
Sync
Relay Control
None
Selected Relays
Relay1 & Relay2
Command Interface
CEC
Command Format
Hex
Command Terminator
None
Output Timeout
5
Seconds
Power Off
Command
Power Off: RCP and SS
Test
Power On
Command
Power On: RCP and IVO
Test
InputControl

- The Automatic Display Power subsection contains settings for powering the connected display on or off via either CEC, RS-232, IR, or IP. The settings below **Automatic Power** only appear if its toggle is enabled. Set the toggle to the right to enable it, and to the left to disable it. **Automatic Power** is enabled by default.
    - Select any desired triggers for the power commands to be issued from the **Automatic Power Trigger** drop-down. Any number of the three options - **Sync**, **Occupancy**, and **Schedule** - can be selected.
    - The **Relay Control** and **Selected Relays** drop-downs allow the **RELAY** connectors of the DM-NAX-XSP to trigger additional connected devices when the automatic power command is sent to the display. Select the desired **Relay Control** type from either **Latched/Interlocked** or **Momentary**, depending on the control requirements of the connected device.
    - Use the **Command Interface** drop-down to determine whether the power command is issued via CEC, the **RS-232** connector, the **IR** connector, or via a driver that was loaded to the device. See the Action Menu for more details on loading drivers.
    - If CEC or RS-232 is selected as the command interface, use the **Command Format** drop-down to choose whether the power command is sent as an **ASCII** or **Hex** command. Use the **Command Terminator** drop-down to select any necessary character string to be appended to the end of the power command.
    - If IR is selected as the command interface, use the **IR Settings** subsection to load an IR file specific to the connected display. IR files can be downloaded from the Crestron Driver Web Portal, or created using the Device Learner utility in Crestron Toolbox™ software.
    - Set an **Output Timeout** using the text field or up and down arrows. This determines when the power off command will be sent to the display.
    - Use the **Power Off** and **Power On** subsections to test the power commands.
    - Set the **InputControl** toggle to the right to allow input selection commands to be sent to the connected display. Additional input selection commands can be added or selected in the settings fields that are shown when the toggle is enabled. If CEC or RS-232 is selected as the command interface, the additional input selection commands can be added as text strings in the **Command String** field. If IR is selected as the command interface, the additional commands can be selected from the **Command** drop-down based on any commands included in the IR file.

DM NAX Streams

The local audio sources of the DM-NAX-XSP can be made available as a DM NAX audio-over-IP stream. This includes the HDMI input audio from a local source and the eARC audio from the HDMI output path to the connected display.

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



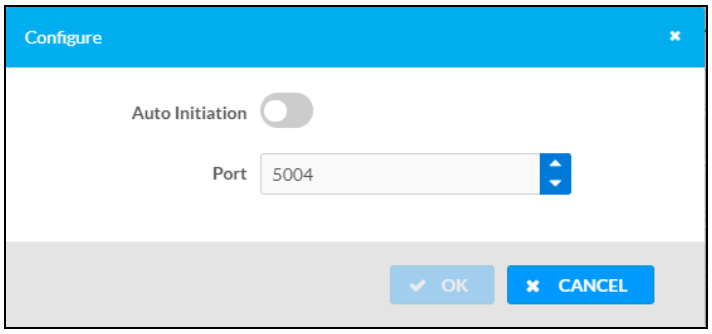
- **Device is Leader PTP Clock Source** indicates whether the DM NAX device's PTP clock is the leader clock on the network. **Yes** will be displayed in green when the local DM-NAX-XSP's clock is the PTP leader clock and **No** will be displayed in red when another PTP clock on the network is operating as the leader clock.
- **Leader Clock Status** displays the Leader Clock ID of the device on the network that is currently acting as the leader clock.
- **PTP Priority**: This sets the priority of the local DM NAX device's PTP clock relative to other clocks on the network. The default setting is 254 (one increment higher than the lowest possible value) so that the DM-NAX-XSP only operates as the leader clock if no other PTP leader is present on the network. Valid values range from 1 to 255.

Configure Transmitters

The DM-NAX-XSP features two main AoIP transmit streams. The first stream listed in the Transmitters list is the **BTS** stream, which is a unique AoIP transmit stream to the DM-NAX-XSP. The **BTS** stream will allow lossless transmission of surround sound audio formats over the network to another DM-NAX-XSP. The second stream is labeled **AES67**, and is a 2-channel AoIP stream that is compatible with all existing DM NAX and DM NVX devices.

To configure a DM NAX transmit stream:

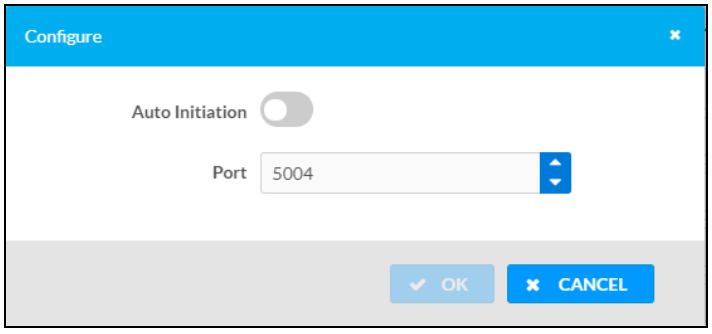
1. Enter a valid multicast address in the **NAX Stream Address** field.
2. Enter a name in the **NAX Stream Name** field by which the stream can be identified. This stream name is associated with the DM NAX stream's multicast address by other DM NAX or AES67 devices, similar to a device hostname that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



5. Set the **Auto Initiation** toggle to the right position to enable auto initiation. Set the toggle to the left position to disable auto initiation.
    - If **Auto Initiation** is enabled for a given stream, the stream will begin transmitting automatically and will be available as a multicast stream on your network at the specified multicast address.
    - If **Auto Initiation** is disabled for the input, the stream will not begin transmitting until it is manually initiated.
6. To set the port number, do one of the following:
    - Use the arrows to increase or decrease the port number in increments of 1.
    - Manually enter a port number in the **Port** field. The default port number for DM NAX streams is 5004.
7. Select **OK** to save or select **Cancel** to cancel the changes.

Configure Receivers

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

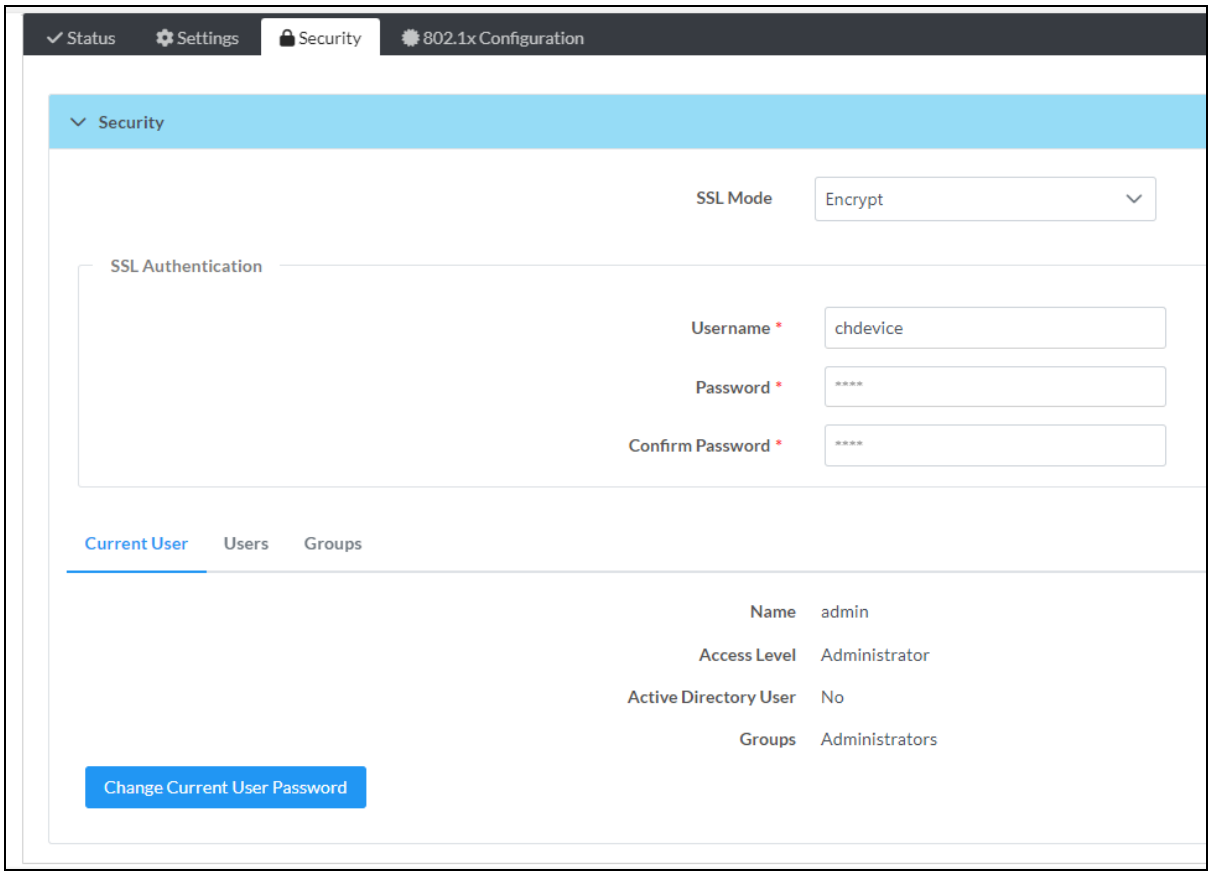


3. Set the **Auto Initiation** toggle to the right position to enable auto initiation. Set the toggle to the left position to disable auto initiation.
    - If **Auto Initiation** is enabled, the stream will begin automatically when the receiver subscribes to the transmitter.
    - If **Auto Initiation**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

4. To set the port number, do one of the following:
    - Use the arrows to increase or decrease the port number in increments of 1.
    - Manually enter a port number in the **Port** field. The default port number is 5004.
5. Select **OK** to save or select **Cancel** to cancel the changes.

Security

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

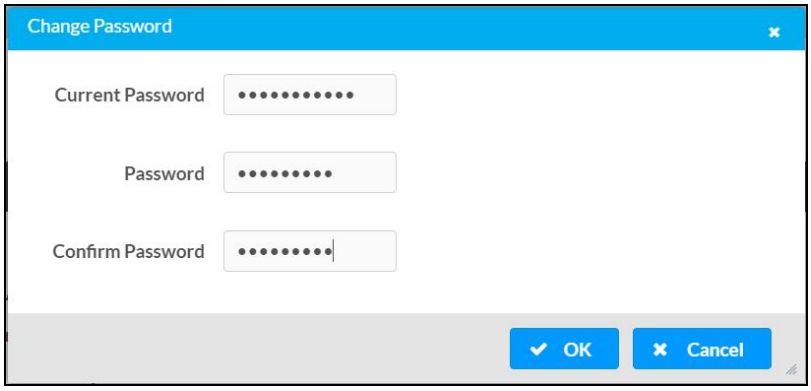


Select **Encrypt and Validate**, **Encrypt**, or **OFF** in the **SSL Mode** drop-down menu, to specify whether to use encryption. By default, SSL Mode is set to **OFF**.

Current User

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

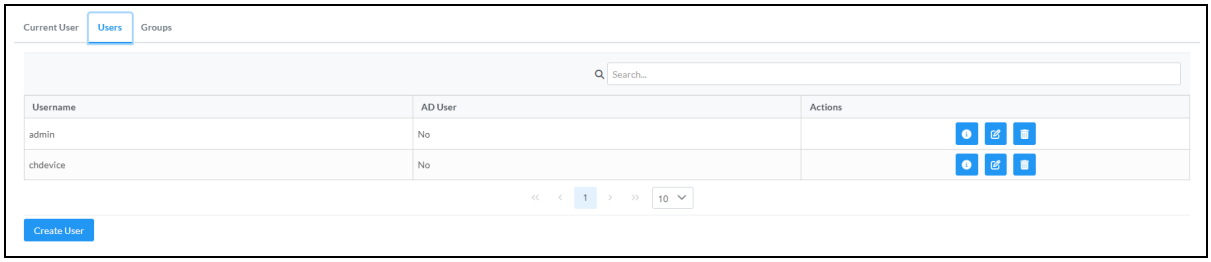
1. Select **Change Current User Password** to provide a new password for the current user.
2. In the **Change Password** dialog, enter the current password in the **Current Password** field, the new password in the **Password** field, and then re-enter the same new password in the **Confirm Password**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



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

Users

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



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

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

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

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

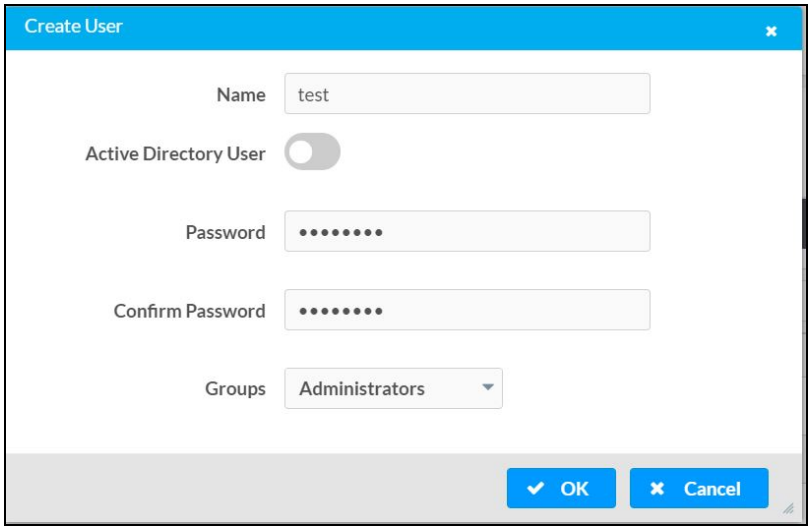
- **Username**: Displays the name of the user.
- **AD User**: Displays whether the user requires authentication using Active Directory.

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

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

Create a New Local User

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



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

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

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

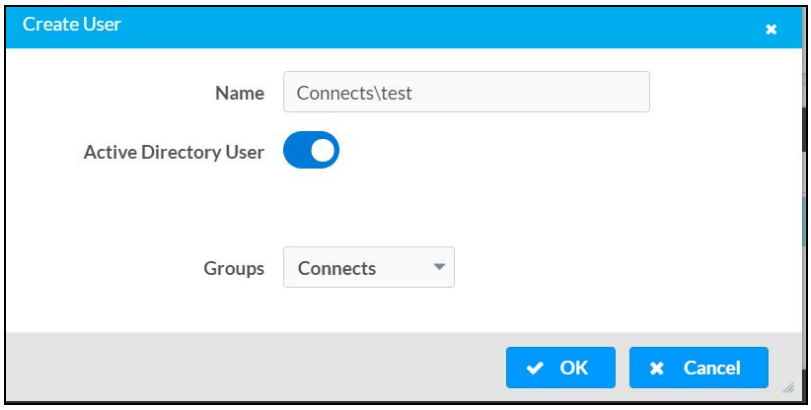
Add an Active Directory User

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

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

To add an Active Directory user.

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



a. Enter a user name in the **Name** field in the format "Domain\UserName", for example "crestronlabs.com\JohnSmith". Valid user names can contain alphanumeric characters (letters a-z, A-Z, numbers 0-9) and the underscore "_" character.

b. Select one or more groups from the **Groups** drop-down list.

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

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

Delete User

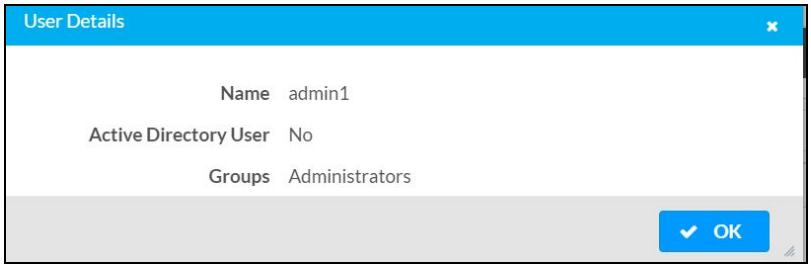
Select the trashcan icon in the **Actions** column to delete the user. Select **Yes** when prompted to delete the user or **No** to cancel the deletion.

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

View User Details

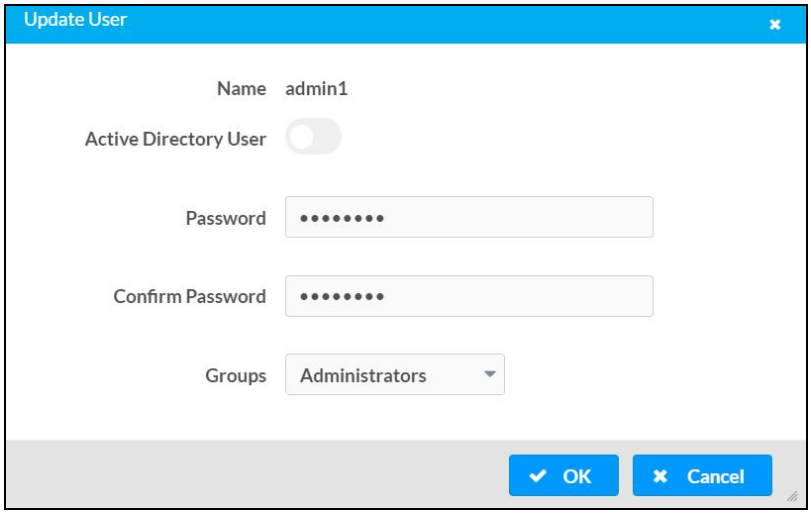
Select the information icon in the **Actions** column to view information for the selected user. The **User Details** dialog displays the following information for the selected user:

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



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

Update User Details



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

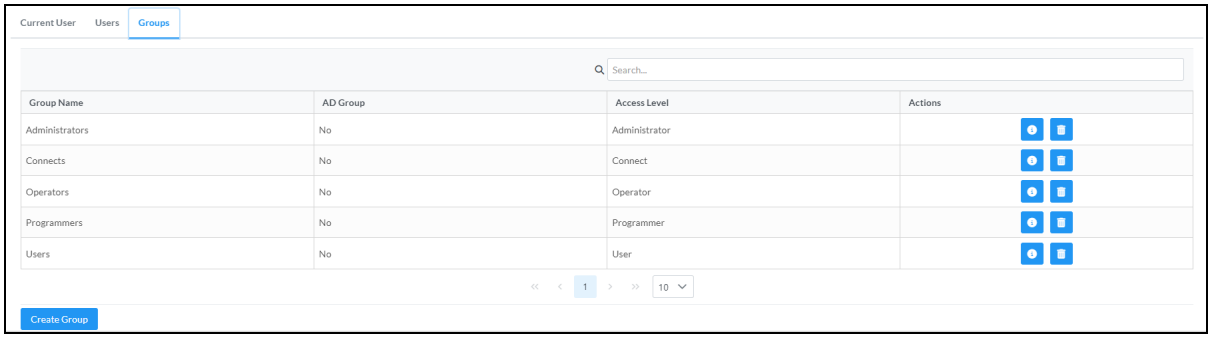
The **Update User** dialog also displays the following read-only information for the selected user.

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

Groups

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

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



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

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

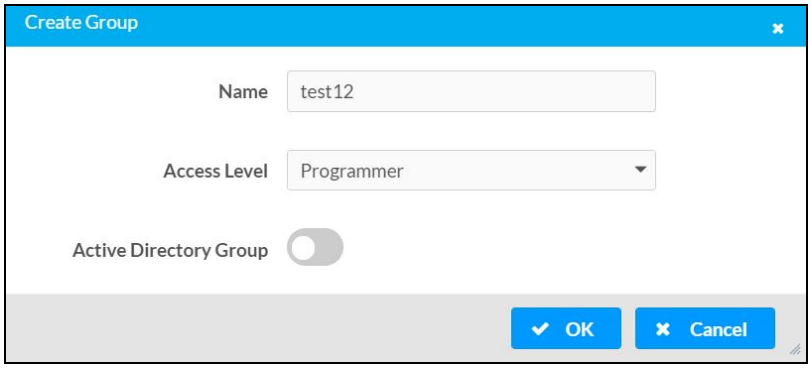
Existing groups are displayed in a table and the following information is provided for each group:

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

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

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

Create Local Group



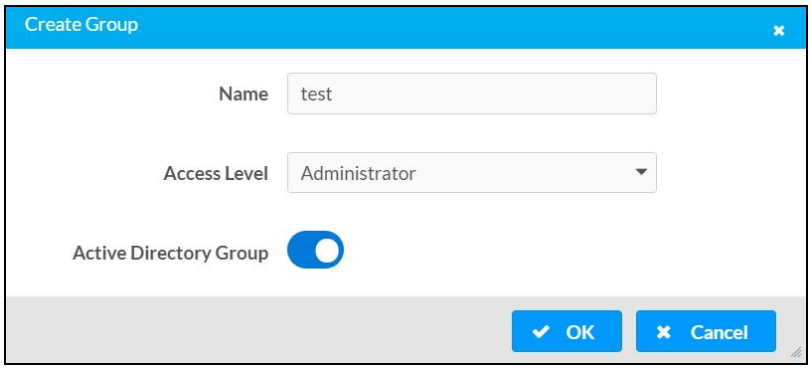
1. Select **Create Group**.
2. In the **Create Group** dialog, enter the following:
   a. Enter the group name in the **Name** field.
   b. Assign the group access level by selecting a predefined access level (Administrator, Connect, Operator, Programmer, User) from the **Access Level** drop-down list.

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

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

Add Active Directory Group

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



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

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

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

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

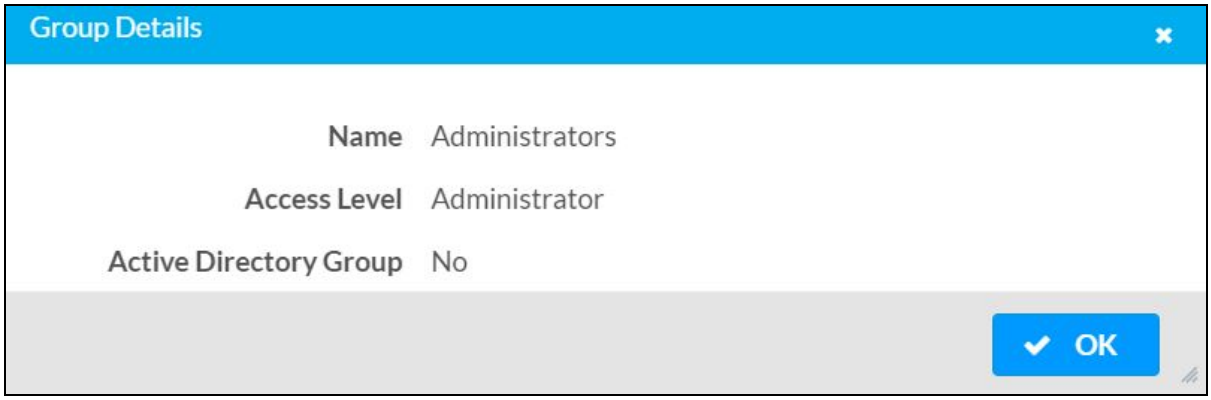
Delete a Group

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

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

View Group Details

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

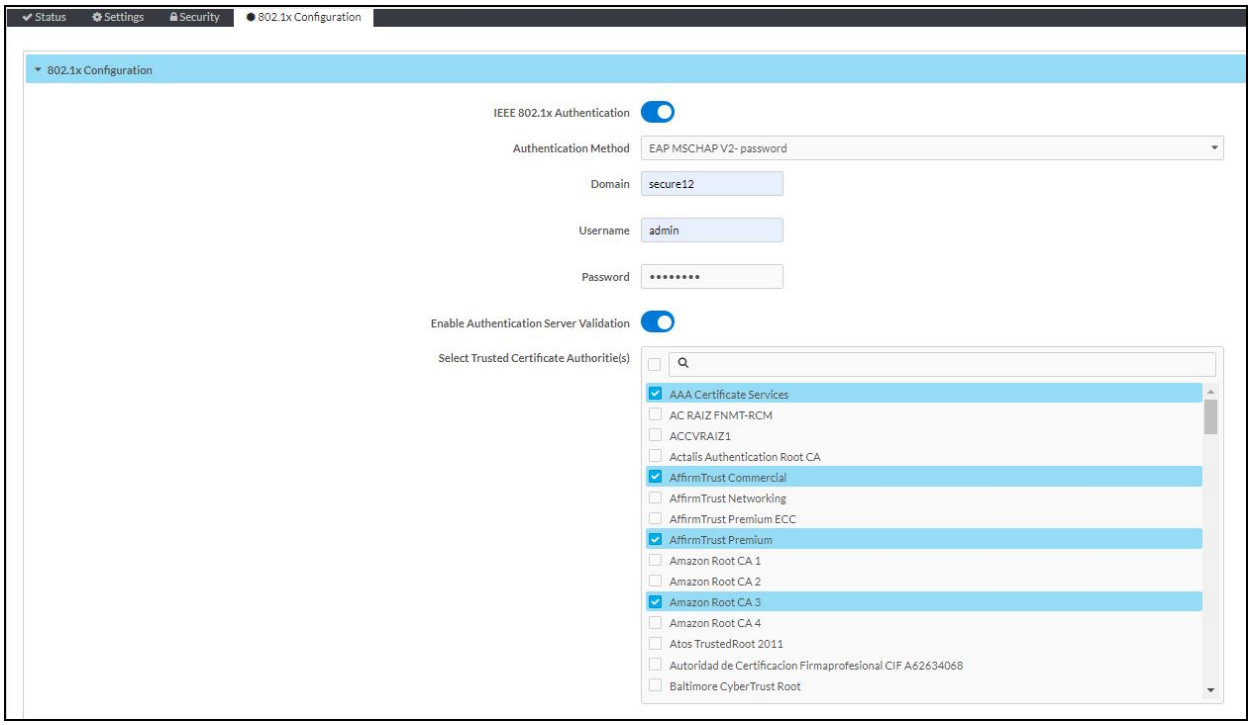


- **Name**: Displays the name of the group.
- **Access Level**: Displays the access level of the group and its users.
- **Active Directory Group**: Displays whether the group is an Active Directory group.

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

802.1x Configuration

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



To Configure DM-NAX-XSP for 802.1X Authentication

1. Set the **IEEE 802.1X Authentication** toggle to enabled. This will enable all options on the 802.1X dialog.
2. Select the **Authentication method**: **EAP-TLS Certificate** or **EAP-MSCHAP V2 Password** according to the network administrator's requirement.
3. Do either one of the following:
   - Select **EAP-TLS Certificate**: Select **Action/Manage Certificates** to upload the required machine certificate. The machine certificate is an encrypted file that will be supplied by the network administrator, along with the certificate password.
   - Select **EAP-MSCHAP V2 Password**: Enter the username and password supplied by the network administrator into the **Username** and **Password** fields. This method does not require the use of a machine certificate, only the user name and password credentials.
4. If you enabled the **Enable Authentication Server Validation** option, this will enable the **Select Trusted Certificate Authoritie(s)** list box which contains signed Trusted Certificate Authorities (CAs) preloaded into the DM-NAX-XSP.

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

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

Access the Web Interface With the Crestron Toolbox™ Application

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

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

   > **NOTE:** If there is security software running on the computer, a security alert might be displayed when 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, select the device.
4. Enter the device credentials in the **Authentication Required** dialog that opens, then select **Log In**.
5. Select **Web Configuration**.

Resources

The following resources are provided for DM-NAX-XSP.

> **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.

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Product Manual — Doc. 9370C
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Specifications subject to
change without notice.