Introduction

N-Able is a software utility designed for use in the configuration, operation, and troubleshooting of your SVSI AV equipment. This tutorial provides information on the following:

N-Able Installation/Equipment Discovery

The steps provided in this section assume that the AV equipment is already physically connected to the network, the network is correctly set up, and the wireless adapter on your computer is turned off.

Step 1: Load N-Able onto the host computer.

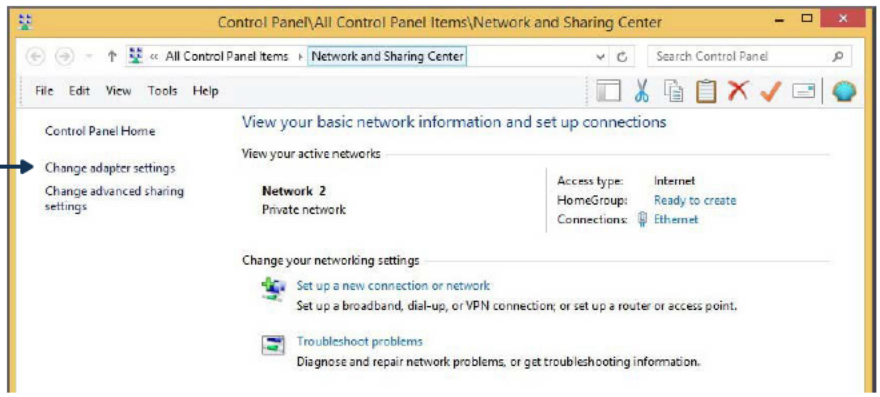
From your host computer, download and install N-Able using one of the following links:
PC version - N-Able PC Version Here
Mac version - N-Able Mac Version Here

Step 2: Set up the host computer.

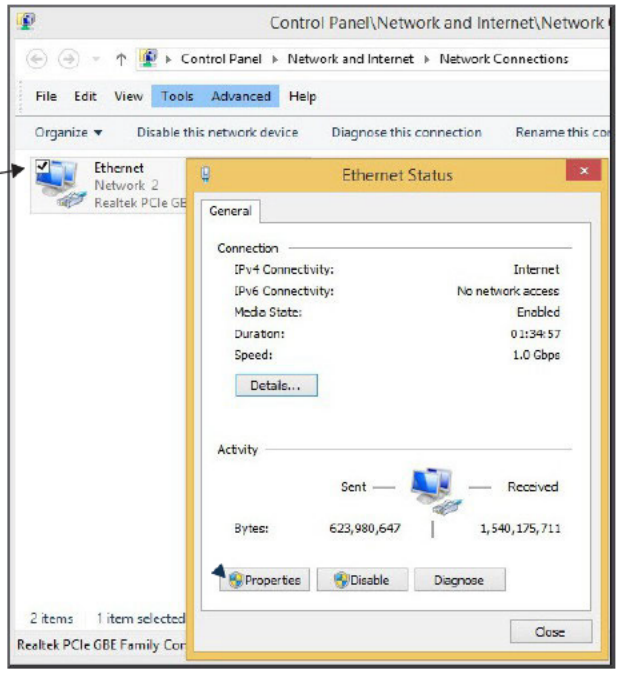
Before beginning installation, you will need to make some changes to the computer running N-Able. To communicate with the SVSI equipment, your devices must be on the same subnet as the host computer. N-Series devices are shipped in DHCP mode with a default IP address of 169.254.xxx.xxx.
These steps show how the above is accomplished in a Microsoft Windows environment.

1. From the **Start** menu, select **Control Panel > Network and Sharing Center.**

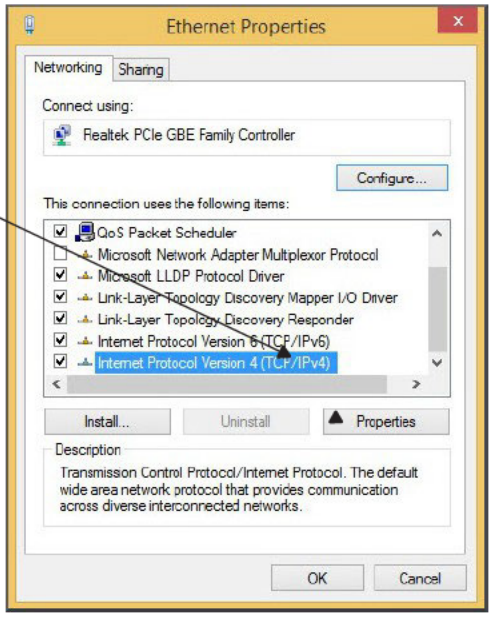
2. Select **Change adapter settings.**



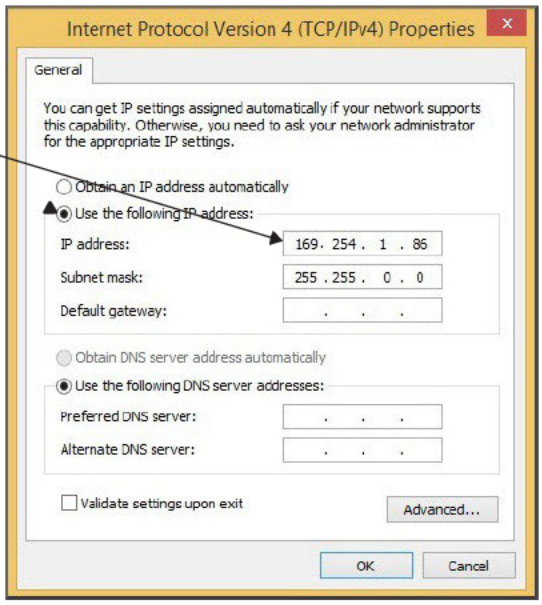
3. Double-click the wired interface to your AV network, and then click the **Properties** button.



4. Scroll down in the list to the **Internet Protocol Version 4 (TCP/IPv4)** option. Highlight it and click the **Properties** button.



5. Enable the **Use the following IP address** option, and enter the static IP address provided to you by your network administrator.



NOTE: *If the computer does not need Internet access, you can simply enter a unique 169.254.xxx.xxx IP address with a 255.255.0.0 subnet mask. Contact your network administrator if you are unsure of how to configure the existing network. SVSI units will not self-assign in the 169.254.0.xxx range.*

NOTE: *If the computer has a statically-assigned IP address, click the Advanced button. Then click Add to enter a unique 169.254.xxx.xxx address with a subnet of 255.255.0.0.*

Step 3: Discover units on the network.

Open N-Able and then follow the steps in FIG. 1.

1. Select the **Unit Management** tab.
2. Click the **Auto Discover** button (if the table has not already populated itself with the installed units).

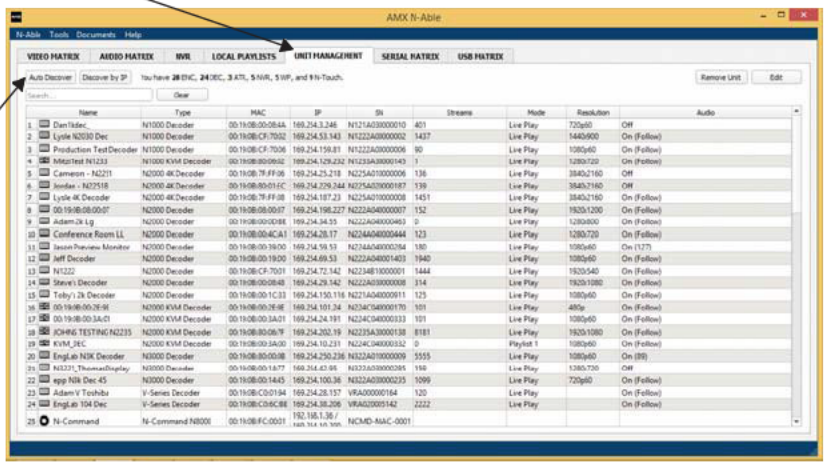


FIG. 1 Unit Management Page

NOTE: *When an NVR is first discovered, you are prompted to choose a product series to associate it with (N1000, N2000, N3000, N2400). This "locks" the NVR into a mode compatible with the selected series. FIG. 2 shows how the mode can be changed if needed.*

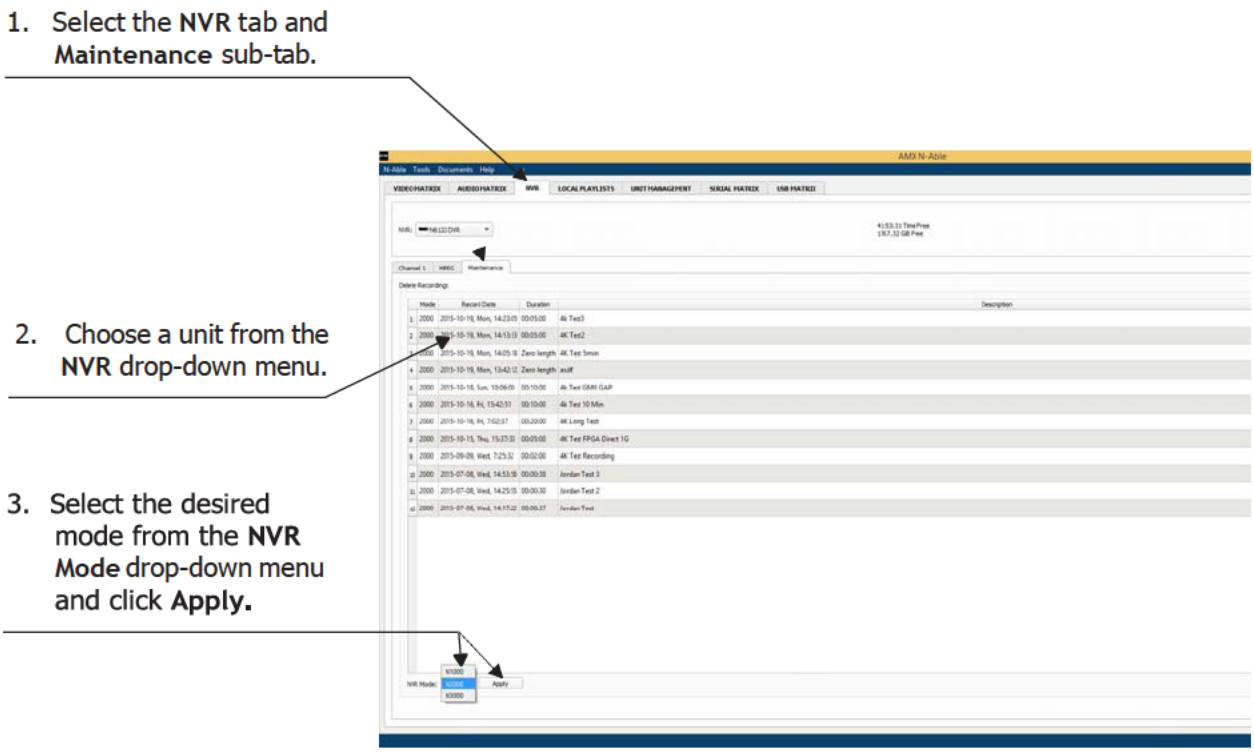


FIG. 2 Changing NVR Mode

Initial Encoder and Decoder Configuration

This section describes some configuration basics for SVSI Encoders and Decoders using N-Able. More detailed configuration options are provided in the documentation specific to each product series (N1000, N2000, N2300, N2400, N3000, etc.)—access product documentation by visiting our website.

NOTE: *For information on how to quickly make basic configuration changes to multiple units using comma-separate value (CSV) files, refer to the section* CSV File Use.

Encoder Setup

1. In N-Able, select the **Video Matrix** tab.
2. Select the series sub-tab (**N1000**, **N2000**, **N2300, N2400**, **N3000**) for the Encoder you wish to configure.
3. Find your Encoder in the list. For new units, the name defaults to the MAC address (which is printed on the front or bottom panel of the unit). See FIG. 3.

Encoders are listed across the top of the page.

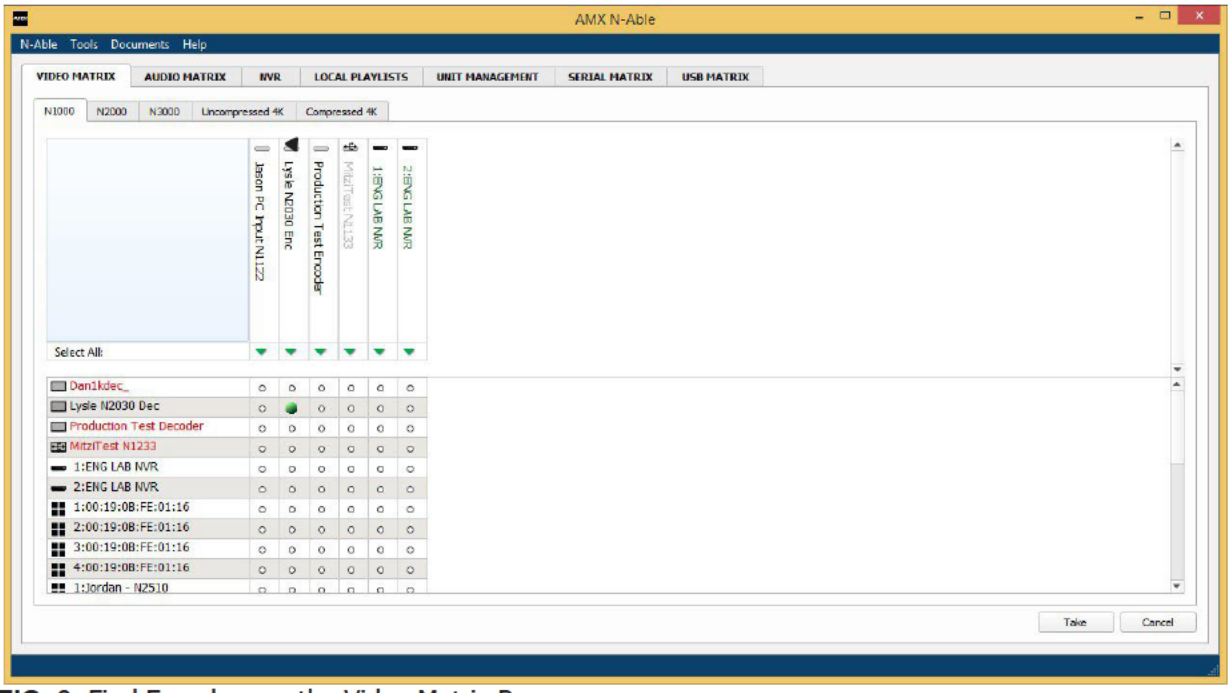


FIG. 3 Find Encoders on the Video Matrix Page

NOTE: *If using multiple Encoders in your set up, it is important to plug in and configure one Encoder at a time. All Encoders come pre-configured to use stream 1. As you add Encoders to the network, you will need to set them up to use different streams. If N-Able detects two Encoders with the same stream number assignment, a warning will display. The notification will give the option to auto-assign a new stream number to the encoder.*

4. Double-click the Encoder name to bring up its **Settings** page.

5. Make the changes suggested in FIG. 4.

6. Repeat these steps until all Encoders are configured correctly.

Change the **Device Name** to something user-friendly. More descriptive names help you organize and manage the SVSI system efficiently. Names based on the unit's location and function are very useful (e.g., **CR201-HDMI** for Conference Room 201, HDMI input). Keep in mind the matrices are organized alphanumerically.

Use the **Network Setup** section to choose the Encoder's **IP Mode** and (when in **STATIC** mode) to set up a new **IP address, Netmask,** and **Gateway address.** Click **Trial Save** to initially save IP address changes. Once you log in to the unit using the new address, you will be able to confirm and accept the changes permanently

Enter a **Stream** number that is unique to all other Encoders on the network.

Slide the **Image Quality** and **Motion Quality** sliders all the way to the right. This ensures the highest image quality. Adjust sliders if you need to lower Encoder bandwidth use.

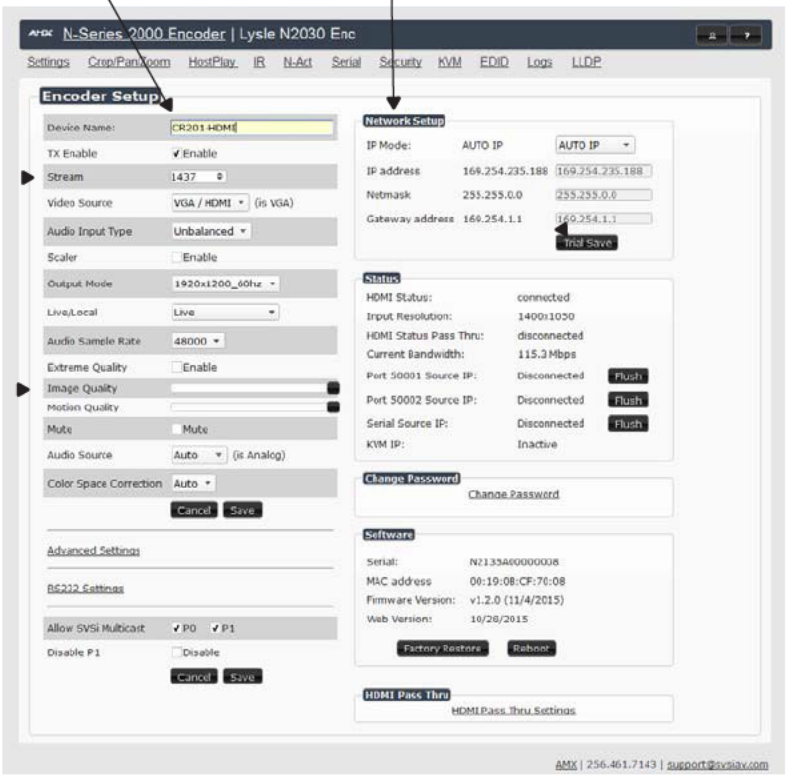


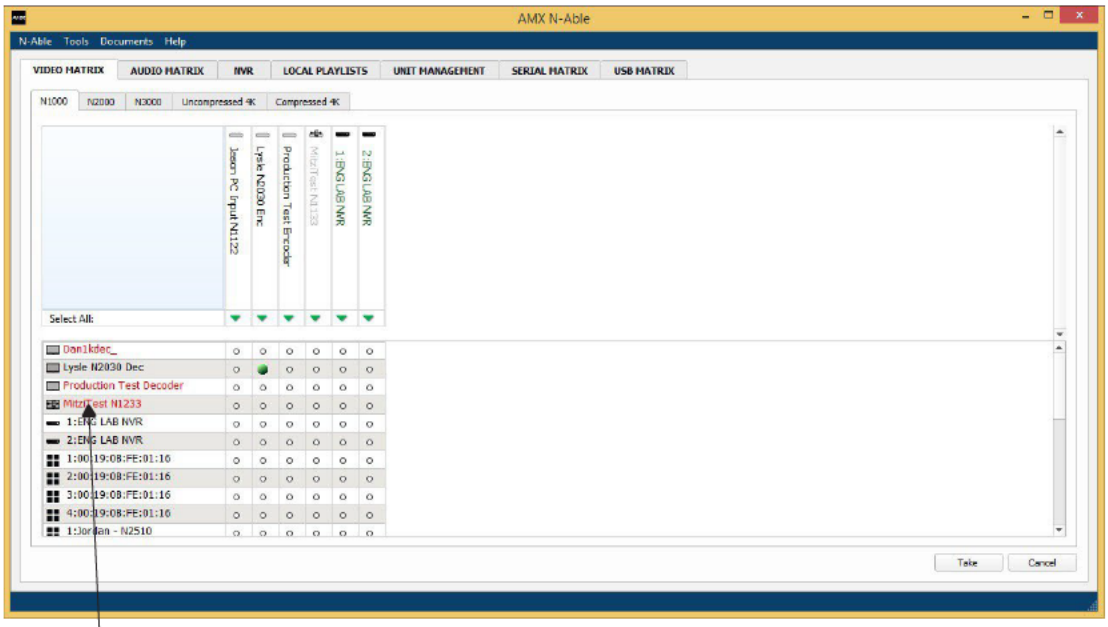
FIG. 4 Encoder Settings Page

NOTE: *To better understand the Stream setting, think of Encoders more like a channel on a cable box rather than a traditional AV Matrix. Each Encoder must have a unique stream number, just like every channel must have a unique channel number (e.g., Food Network and HGTV cannot both be on channel 201). We recommend setting Stream to a number higher than 10 and less than 32,512 (it is required that the number be less than 32,512).*

NOTE: *Copy-protected content cannot be transmitted by SVSI's Networked AV products as shipped from the factory. Navigate to Tools> HDCP Settings to enable the encoder to support HDCP content. Navigate to Tools > HDCP Settings. Once the secondary window opens, select "Allow CPC," then choose the encoders listed and press "Acknowledge." A message will appear and need to be agreed to for each encoder where HDCP will be allowed.*

Decoder Setup

1. In N-Able, select the **Video Matrix** tab.
2. Select the **Video Matrix** series sub-tab (**N1000**, **N2000**, **N2300, N2400**, **N3000**) for the Decoder you wish to configure.
3. Find your Decoder in the list. For new units, the name defaults to the MAC address (which is printed on the front or bottom panel of the unit). See FIG. 5.



Decoders are listed down the left side of the page.

FIG. 5 Find Decoders on the Video Matrix Page

4. Double-click the Decoder name to bring up its **Settings** page.
5. Make the changes suggested in FIG. 6.
6. Repeat these steps until all Decoders are configured correctly.

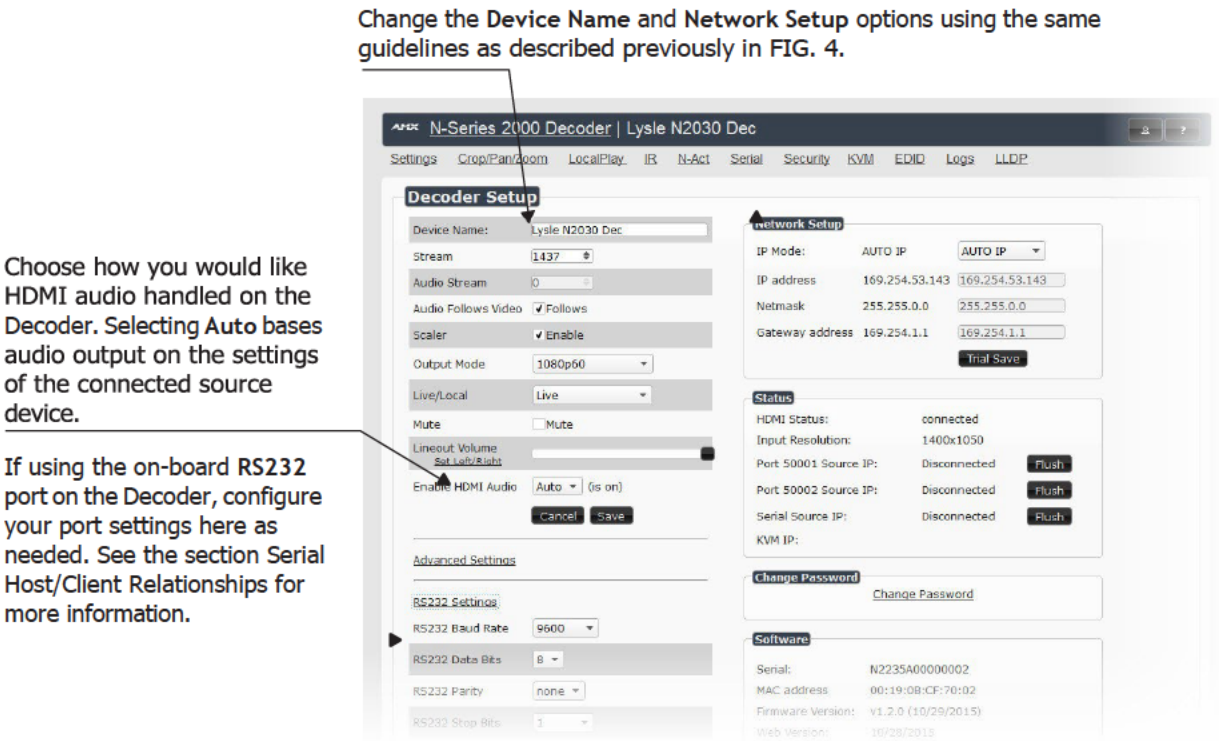


FIG. 6 Decoder Settings Page

TIP: *If you changed the IP addresses of the Encoders and Decoder to something other than the default, you need to reconfigure your computer's IP Address accordingly.*

Decoder to Encoder Assignments

For the most part, once the initial setup is complete, you will primarily manage and configure the Decoders. To better understand, think of Encoders as radio stations and Decoders as car radios. The Encoders are supplying the streams and, using the Decoders, you can "tune in" to the Stream you want. This section shows you how to easily route video from an Encoder to a Decoder.

1. Start by attaching a video source to an available Encoder.
2. On the Encoder's **Settings** page, verify that the **Live/Local** option is set to **Live** play mode. See FIG. 7. Play mode choices are described in more detail in TABLE 1.

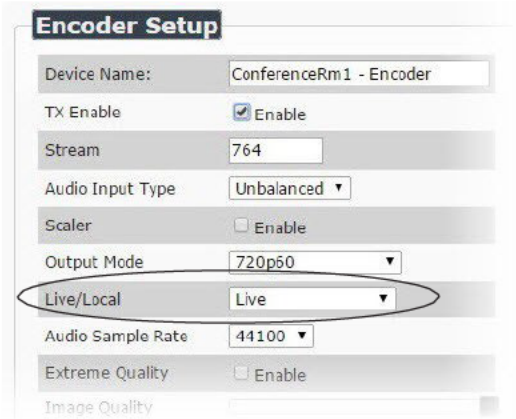
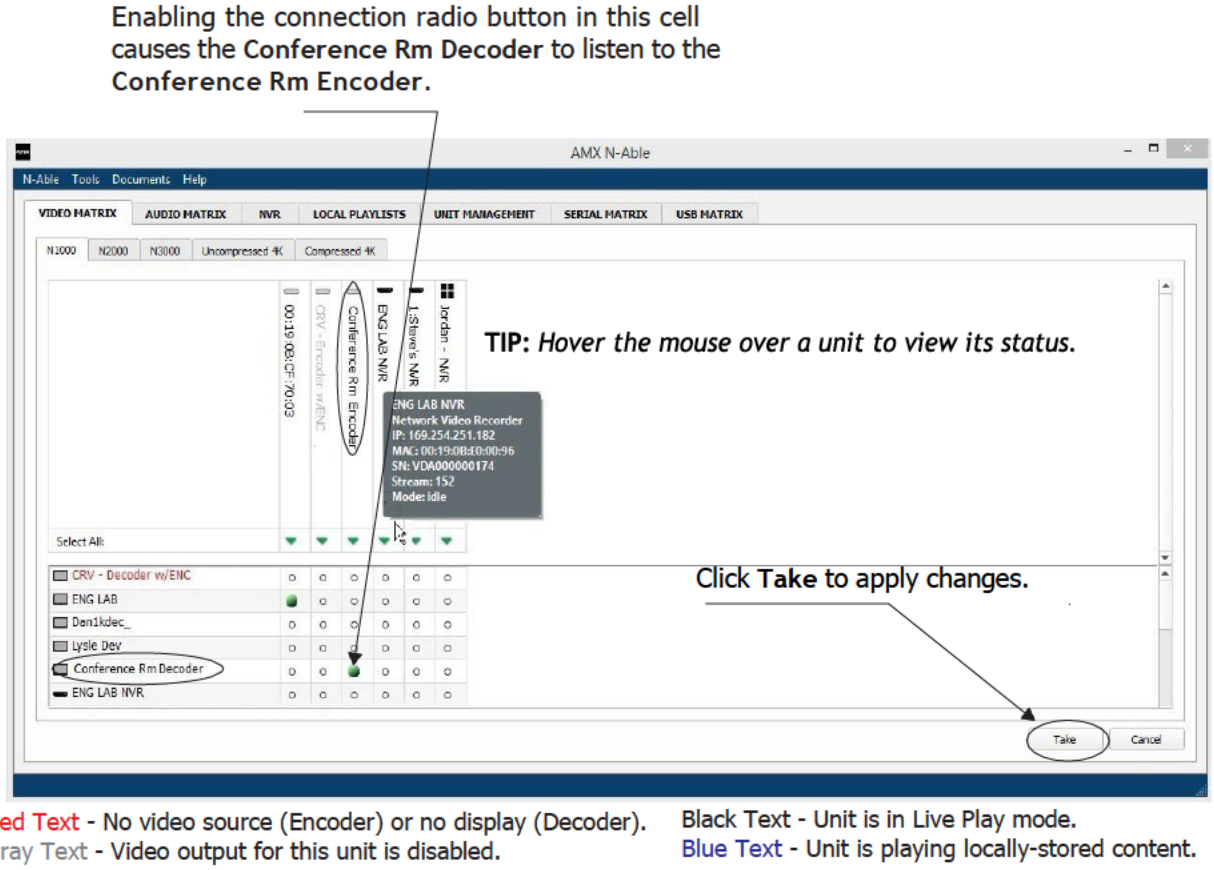


FIG. 7 Set Encoder to Live Play Mode

TABLE 1 Play Modes Available on Encoders and Decoders

Mode	Description
Encoder Live Play	Plays the video coming from the input source (e.g., video camera) connected to the Encoder.
Encoder Host Play	Plays image and audio files stored on the Encoder's on-board memory. These can be used to display a slide-show to multiple Decoders (in a similar fashion to Live Play). Selecting **Host Play** turns off the attached video source's video feed and begins playing the selected slide-show instead.
Decoder Live Play	Plays the live Stream coming from an Encoder.
Decoder Local Play	Same thing as Host Play (for the files stored on the Decoder).

3. Verify the Decoders you are working with are in Live Play mode as well (using their **Settings** pages).
4. To get streams onto a Decoder, use the **Video Matrix** tab to route video from an Encoder to a Decoder by clicking radio button in the common cell on the matrix.
5. Click the **Take** button to accept the routing change. See FIG. 8 for an example.



NOTE: *When a unit is offline (and polling is enabled), the unit's icon changes to a red exclamation mark, the unit name is displayed in red bold text, and the connection radio buttons for that unit turn red. If polling is disabled, press the F5 key to refresh status information.*

FIG. 8 Video Matrix Routing

6. Continue creating Decoder-Encoder routing associations until you have made all of your connections.

TIP: *It can be helpful to first attach all of your Decoders to one Encoder to verify that streaming is working properly.*

CSV File Use

N-Able has the ability to export and import CSV files. Once units are auto-discovered in N-Able, the CSV file can be exported into Excel where parameters such as IP address, subnet mask, gateway, stream number, audio settings, etc. can be configured. To use CSV files for configuration, follow these steps.

1. Make sure you have performed an **Auto Discover** (on the **Unit Management** tab of N-Able) since connecting all of the new units to the network.
2. From N-Able's main menu bar, select **N-Able > Export CSV** as shown in FIG. 9.

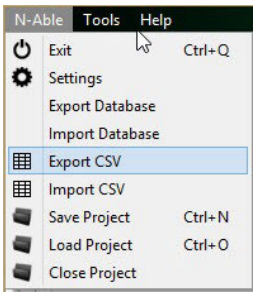


FIG. 9 Export a CSV File

3. Click **Yes** on the pop-up box informing you that a CSV file is about to be generated.

NOTE: *A CSV file editor (e.g., Microsoft Excel) is necessary to proceed.*

4. The folder containing your CSV file is displayed. Double-click the file to open it. FIG. 10 shows an example of a CSV file in Excel.

	A	B	C	D	E	F	G	H	I	J	K	L
1	NAME	TYPE	MAC	SN	STREAM	IPMODE	IP	SUBNET	GW	MODE	AUDIOSTR	AUDIOEN
2	Dan1kdec_	N1-DEC	00:19:0B:00:	N121A03000	401	Static IP	169.254.3.	255.255.0.	169.254.1.	Live Play	0	0
3	Lysle N2030 Dec	N1-DEC	00:19:0B:CF:	N1222A0000	1437	Auto IP	169.254.5	255.255.0.	169.254.1.	Live Play	0	1
4	Production Test D	N1-DEC	00:19:0B:CF:	N1222A0000	90	Auto IP	169.254.1	255.255.0.	169.254.1.	Live Play	0	1
5	MitziTest N1233	N1-DEC-KVM	00:19:0B:80:	N1233A3000	1	Auto IP	169.254.1	255.255.0.	169.254.1.	Live Play	0	1
6	Cameron - N2251	N2-DEC-4K	00:19:0B:7F:	N225A01000	136	Auto IP	169.254.2	255.255.0.	169.254.1.	Live Play	0	0
7	Jordan - N2251B	N2-DEC-4K	00:19:0B:80:	N225A02000	139	Auto IP	169.254.2	255.255.0.	169.254.1.	Live Play	0	0
8	Lysle 4K Decoder	N2-DEC-4K	00:19:0B:7F:	N225A01000	1451	Auto IP	169.254.1	255.255.0.	169.254.1.	Live Play	0	1

FIG. 10 Sample CSV File

5. Make configuration changes and then save the file.
6. Select **N-Able > Import CSV** from the main menu bar.

This procedure can be used to configure multiple networked AV devices at the same time. It can also provide valuable diagnostics by allowing you to see the last known device configuration as well as scan the network for new devices (regardless of IP configuration).

Network Troubleshooting

N-Able's built-in **Network Troubleshooter** tests the network for stream connectivity and control port functionality. To access the troubleshooter, click on **Tools > Network Troubleshooter** as shown in FIG. 11.

FIG. 11 Activating the Network Troubleshooter

Follow the directions given in FIG. 12.

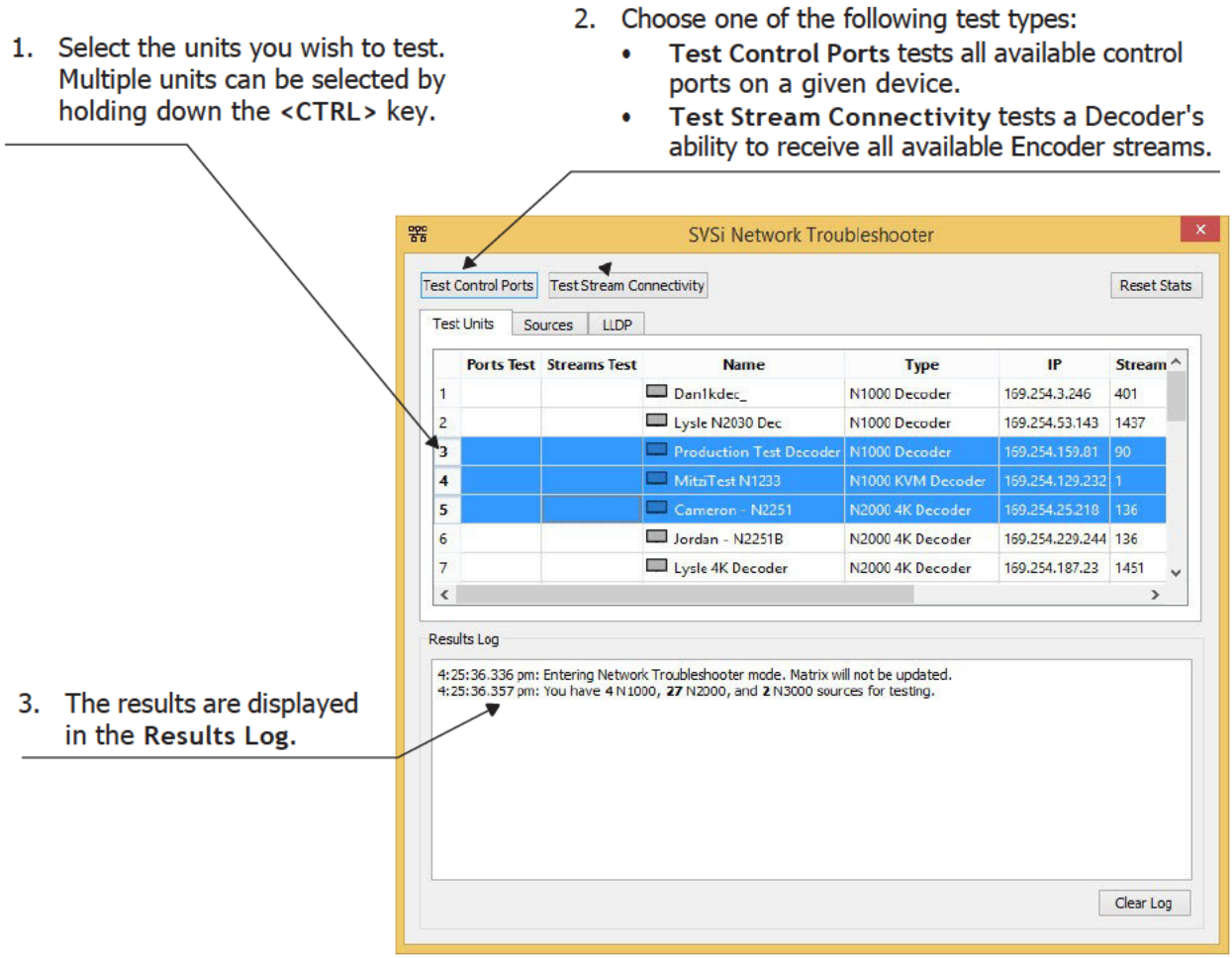


FIG. 12 Troubleshooting the Network

Serial Host/Client Relationships

The **Serial Matrix** is designed to designate a serial pass-through path for taking in/sending out RS232 commands from one device to another. A practical application of this would be taking in serial commands from a camera controller (connected to an Encoder) and sending those commands to the camera itself (connected to a Decoder). You are basically setting a path between two devices for which serial data will pass.

To do this, you must first assign a device to be a "Host", which will remove its ability to be used as a normal IP-to-RS232 device. Each Host can only be assigned to a single "client." As such, the **Serial Matrix** is a one-to-one relationship. Follow these steps to configure a device to be a Host:

1. Open the **Settings** page of the Encoder/Decoder you wish to be a Host.
2. Click **Advanced Settings**.
3. Scroll down and check the **Serial Master Enable** box.

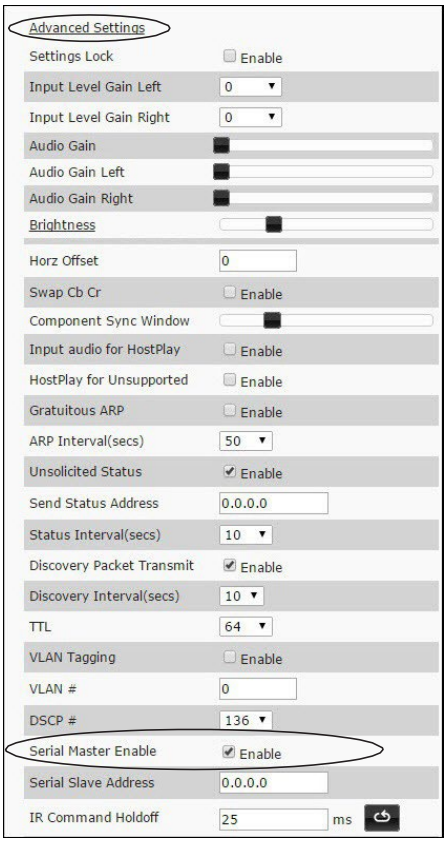
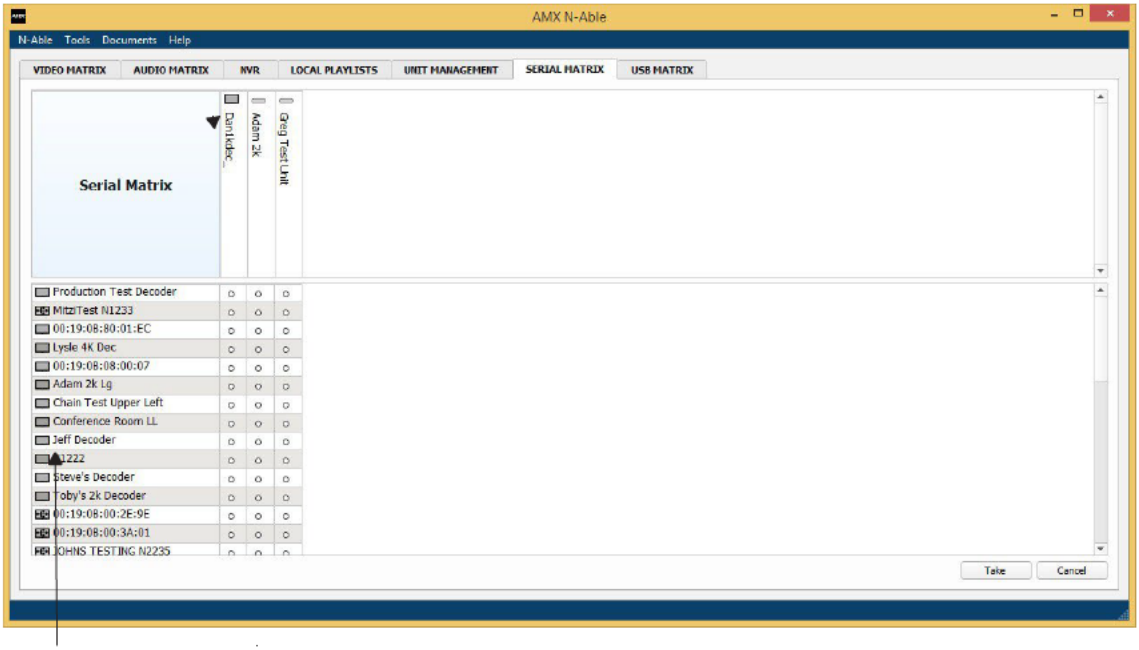


FIG. 13 Enable Host on Settings Page

4. Once you have enabled a device to be a Serial Host, it will be displayed on N-Able's **Serial Matrix** tab.
5. Enable the common cell to assign a host to a client (in the same way that you assigned video streams earlier). See FIG. 14.

Hosts are listed across the top of the page.



Clients are listed down the left side of the page.

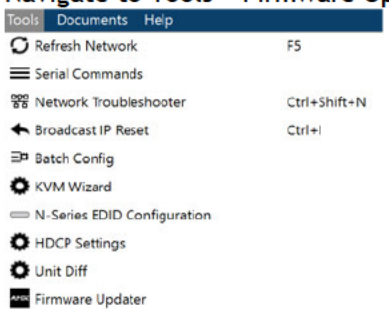
FIG. 14 Serial Matrix Tab

6. Click the **Take** button to activate changes.
7. The two devices can now pass serial data between them.

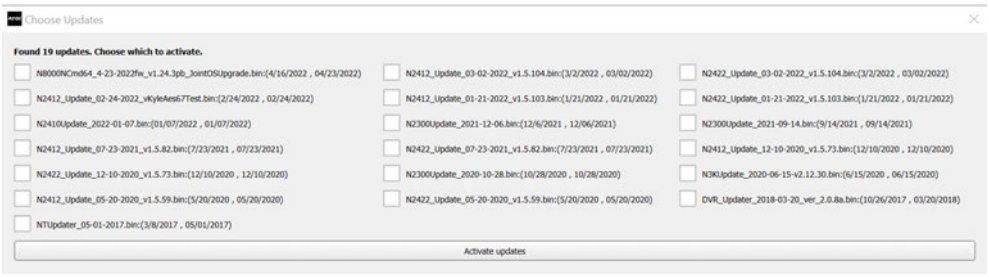
Firmware Update

N-Able, during installation, creates a folder by default called "svsiupdates" in the downloads folder. The folder path can be moved anywhere by changing the path located in the settings menu of N-Able. To update firmware on any SVSi Networked AV product, you will need the .bin and the .ver file that is located inside of the zip file downloaded from amx.com.

1. Copy and paste the .bin and .ver file from the zip file into the svsiupdates folder being used for firmware.
2. Navigate to Tools > Firmware Updater



3. A pop-up will open asking you to choose the update(s) you wish to apply and then press "Activate updates."



4. The Choose Updates window will close, and the AMX Updater window will open. Select the devices you wish to apply the firmware update to and press "Update Selected Units.".

   NOTE: *Due to the large update file size of the N-Command Joint OS Upgrade firmware, the minimum version of N-Able software used to transfer the firmware to N-CMD should be newer than 3-7-2022.*

3000 RESEARCH DRIVE, RICHARDSON, TX 75082
AMX.com | 800.222.0193 | 469.624.8000 | +1.469.624.7400 | fax 469.624.7153

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