

**Overview**

The N3X21 Video over IP Series extends the reach of your Networked AV solution to the WAN for streaming, video to desktop, digital signage, set-top boxes, cloud, or mobile devices applications. Fully integrated with existing Networked AV control options, the N3X21 Series delivers the highest quality HD video content at the lowest bandwidth for the most demanding applications. This quick start guide will familiarize you with your new device and step you through initial setup.

**Basic Installation Guidelines (Continued)**

Audio:	<b>N3121 Encoders</b> <ul style="list-style-type: none"> <li>For audio encoding, connect a line level analog audio source to the <b>Audio</b> input terminal block plug connector, or</li> <li>Use the embedded audio from the video source.</li> </ul>
	<b>N3221 Decoders</b> <ul style="list-style-type: none"> <li>For analog audio decoding, connect a line level analog audio device to the <b>Audio</b> output terminal block plug connector, or</li> <li>Send audio embedded in the video connection to a monitor's speakers.</li> </ul>

Product Specifications	
Models Available:	NMX-ENC-N3121 Encoders NMX-DEC-N3221 Decoders
Power Requirements:	<b>PoE:</b> Can be powered via a PoE switch or other equipment with a PoE source. Conforms to IEEE 802.3af Class 3 (802.3at Type 1). <b>External power supply:</b> 2.0 Amp @ 12 Volts DC; 100-240 Volts AC power supply; Part number N9312 (sold separately).
Dimensions (HWD):	1.05" x 7.888" x 5.5" (2.67cm x 20.04cm x 13.8cm)
Weight:	1.55 lbs (0.7kg)
Certifications:	FCC, CE, and NTRL
Environmental:	<b>Temperature:</b> 32° to 104°F (0° to 40°C) <b>Humidity:</b> 10% to 90% RH (non-condensing)
Mounting Options:	Stand alone, surface mount, wall mount, or rack mount.*
<i>NOTE: *Mounting wings (part number N9101) required for surface and wall mounting. Rack shelf (part number N9102) or card cage (part number N9206) required for rack mounting. Shelf accommodates two side-by-side N-Series Encoders and Decoders. Card cage accommodates up to six N-Series Encoder and Decoder cards (mix and match any series). Mounting accessories sold separately and are compatible with most N-Series devices.</i>	

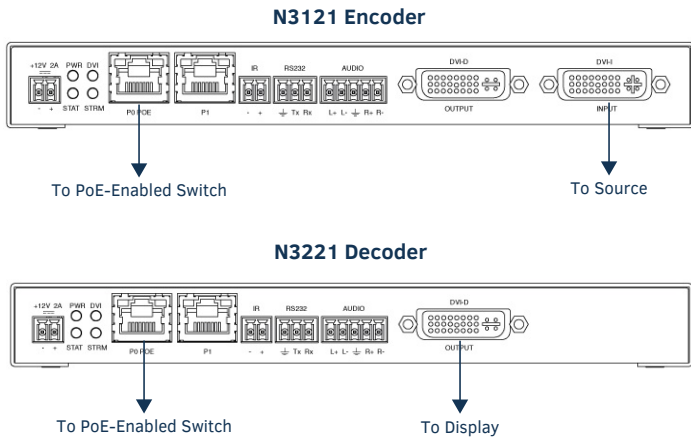


FIG. 1 N3X21 ENCODER AND DECODER PORTS

**Basic Installation Guidelines**

Connections	Options
<b>Power:</b>	<p><b>PoE:</b> Connect the unit's <b>P0</b> port to an active, PoE-enabled network switch</p> <p><b>External power supply:</b> If not using PoE for power, connect a 12V regulated power supply (part number N9312) to the unit's two-pin terminal block plug connector labeled <b>+12V 2A</b>.</p>
<b>Network:</b>	<p><b>PoE units:</b> If using PoE to power the unit, you should already have a network connection.</p> <p><b>Externally powered units:</b> If not using PoE, connect the <b>P0</b> port to the network using an Ethernet cable, or connect the <b>P1</b> port to the network using an Ethernet cable.</p> <p><b>Daisy-chain configuration:</b> Once network connection is established to one unit, you can daisy chain additional units by connecting Ethernet cables between devices using their <b>P0</b> and/or <b>P1</b> ports. Keep in mind that the number of units supported in this configuration is limited by bandwidth (total aggregate streams must be less than 1 Gb/s). NOTE: PoE power is only supplied to the unit connected <b>directly to the network</b>. All other units in the daisy-chain must have an external power supply.</p>
<b>Video:</b>	<p><b>N3121 Encoders</b></p> <ul style="list-style-type: none"> <li>For video encoding of a <i>digital</i> source, connect the source to the Encoder's <b>DVI-D</b> port using a video cable with a DVI-D connector (or adapter).</li> <li>For video encoding of a <i>digital or analog</i> source, connect the source to the Encoder's <b>DVI-I</b> port using a video cable with a DVI-I connector (or adapter).</li> </ul> <p><b>N3221 Decoders</b></p> <ul style="list-style-type: none"> <li>For video decoding, connect a digital display to the Decoder's <b>DVI-D OUT</b> port using a video cable with a DVI connector (or adapter).</li> </ul>

**Establishing Connection**

Before using your N3X21 unit, it must be configured using the free N-Able device management software. However, you will not be able to configure units until they are in the same subnet as the host computer. N-Series devices are shipped in Auto-IP mode with a default IP address of 169.254.xxx.xxx. The sample steps below show how the required changes (to the host computer's IP settings) are made in a Windows environment.

Steps for IP address configuration (for Windows 8):

- From the **Control Panel > Network and Internet** dialog box, select **Network and Sharing Center**.
- Select **Change adapter settings**.
- Select the wired interface connected to your AV network.
- Click the **Properties** button.
- Scroll down in the list to the **Internet Protocol Version 4 (TCP/IPv4)** option. Highlight it and click the **Properties** button.
- Enable the **Use the following IP address** option, and enter the static IP address *provided to you by your network administrator*.

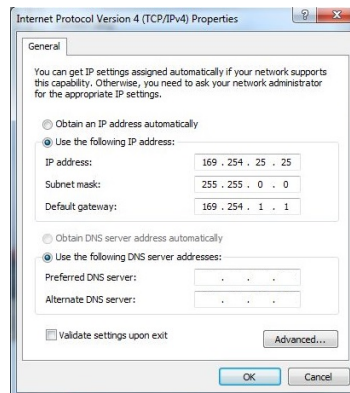


FIG. 2 SETTING A STATIC IP ADDRESS

**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. Please contact your network administrator if you are unsure of how to configure the existing interface. If the computer has a statically-assigned IP address, click on the Advanced button. Then click Add to enter a unique 169.254.xxx.xxx address with a subnet of 255.255.0.0.

**Steps for auto discovering devices on the network:**

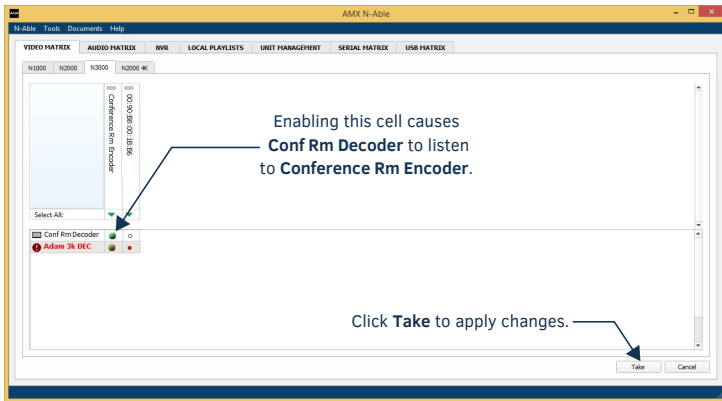
1. Use the host computer to download and install the latest version of N-Able:  
*PC version - <http://www.amx.com/products/N-ABLE-PC.asp>  
 Mac version - <http://www.amx.com/products/N-ABLE-MAC.asp>*
2. Attach your N3X21 unit(s) to the layer-3 network switch.
3. Disable the wireless adapter on your computer (it must be hard-wired to the switch).
4. Connect the host computer to the layer-3 network switch.
5. Open the N-Able application.

If all devices do not appear automatically, click the **Auto Discover** button on the **Unit Management** tab. This issues a broadcast command that will discover all units even if they are not in the same IP subnet.

**Logging in Using N-Able Software**

Once the host IP address is configured properly, you can view all discovered units using the N-Able software. Access the N3X21 units from the following tabs:

- **Unit Management** tab - N3000 Encoder/Decoder is listed in the **Type** field.
- **Video Matrix** tab - N3X21 units are found on the **N3000** sub-tab of this screen.

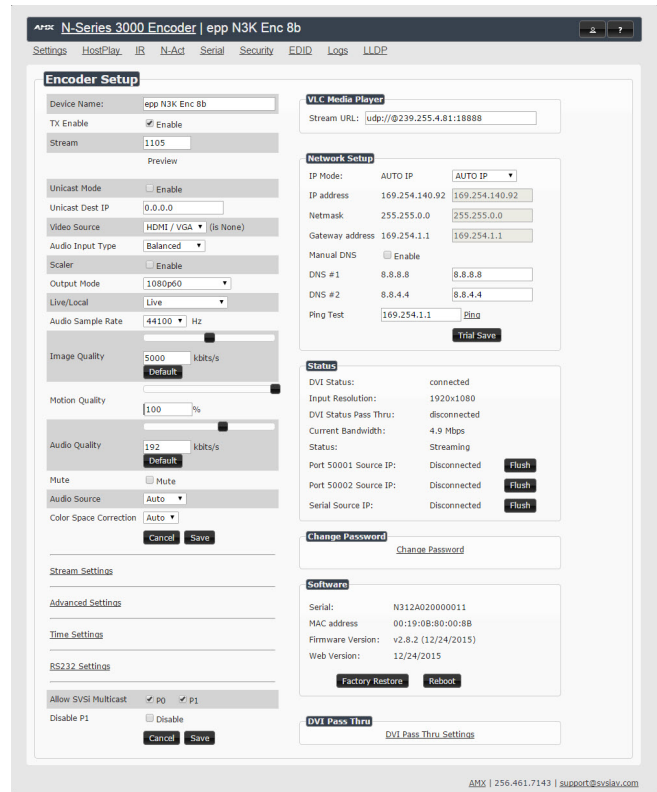


**FIG. 3** CREATING STREAMING COMBINATIONS

Double-click the unit's name (in one of the lists mentioned above) to view its control pages. If prompted, enter **admin** and **password** for the default username and password. Once logged in, you can change the username and password (using the options on the unit's **Settings** page).

**NOTE:** If you would like for N-Able to support auto-login to your units, make sure N-Able's Device Auto-login settings match the unit's username and password (by selecting N-Able > Settings from the N-Able tool bar).

**NOTE:** N3X21 units force HTTPS connections, so your web browser may give you a security warning. N-Able on Windows will ask you to download OpenSSL for Windows to connect HTTPS.



**FIG. 4** N3000 SETTINGS PAGE

**Troubleshooting Guidelines**

Problem	Possible Solution
Video is not transmitting.	<ul style="list-style-type: none"> <li>• Verify that the Encoder <b>TX Enable</b> setting is turned on. (Encoders ship from the factory with their video output turned off by default.)</li> </ul>
Local Play graphic is displayed.	<ul style="list-style-type: none"> <li>• Verify Decoder is assigned to view a valid stream in the N-Able matrix.</li> <li>• Verify Decoder is currently in live play mode (black text on matrix view).</li> <li>• Verify network is properly configured and set up. If needed, connect Encoder directly to Decoder to verify network issues.</li> </ul>
Host Play graphic is displayed.	<ul style="list-style-type: none"> <li>• Verify Encoder is in live play mode (black text in matrix).</li> <li>• Verify source is attached and is outputting a valid signal (DVI LED on Encoder is on).</li> </ul>
Unsupported Resolution graphic is displayed.	<ul style="list-style-type: none"> <li>• Change source resolution to a valid resolution (try 720p60).</li> <li>• Verify cabling is correct.</li> </ul>
Copy Protected Content screen is displayed.	<ul style="list-style-type: none"> <li>• Contact technical support.</li> </ul>
Black screen/no graphic is displayed.	<ul style="list-style-type: none"> <li>• Set Decoder to local play. If the local play graphic does not appear, check the display input settings and cabling.</li> <li>• If local play appears, set Decoder to live play and verify network is configured properly.</li> </ul>
No audio is detected.	<ul style="list-style-type: none"> <li>• If there is no audio on <u>all</u> Decoders, verify audio settings are correct on Encoder.</li> <li>• If there is no audio on a <u>single</u> Decoder, verify audio settings are correct on Decoder.</li> </ul>

Contact SVSI technical support at [svsisupport@harman.com](mailto:svsisupport@harman.com) or 256.461.7143 x9900 for any installation issues.

