

QUICK START GUIDE

## Overview

The SVSI NMX-ATC-N4321 Audio Transceiver sends and receives audio over IP. Balanced or unbalanced audio input coming into the N4321's **AUDIO IN** port is converted into network packets for output through the RJ45 port. Units can be stacked to deliver low-latency, multi-channel audio over a house network or a physically separate network (using the two auto-sensing gigabit Ethernet ports). One Ethernet port is Power Over Ethernet (PoE) for use with a PoE switch, eliminating the need for an external power supply. Since control is the same as SVSI's video matrix, video and audio matrices can be combined and routed using the same controller.

#### N4321 Audio Transceiver



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FIG. 1 N4321 LEDS AND CONNECTORS

# **Basic Installation Guidelines**

Connections	Options		
Power:	$\ensuremath{\text{PoE:}}$ Connect the unit's $\ensuremath{\text{PO}}$ port to an active, PoE-enabled network switch		
	<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> .		
Network:	<b>PoE units:</b> If using PoE to power the unit, you should already have a network connection.		
	Externally powered units: If not using PoE, connect the PO port or P1 port to the network with the appropriate cable		
Audio:	For audio encoding, connect a line level analog audio source to the <b>Audio</b> input terminal block plug connector		

# **Establishing Connection**

Before using your N4321 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:

- 1. From the Control Panel > Network and Internet dialog box, select Network and Sharing Center.
- 2. Select Change adapter settings.
- 3. Select the wired interface connected to your AV network.
- 4. Click the Properties button.
- 5. Scroll down in the list to the **Internet Protocol Version 4 (TCP/IPv4)** option. Highlight it and click the **Properties** button.
- 6. Enable the **Use the following IP address** option, and enter the static IP address *provided to you by your network administrator.* See FIG. 2.

eneral						
ou can get IP settings assigned automatically if your network supp is capability. Otherwise, you need to ask your network administra ir the appropriate IP settings.						
Obtain an IP address auto	matically					
() Use the following IP addre	ss:					
IP address:	169.25	4.25	. 25			
Subnet mask:	255 . 25	5.0	. 0			
Default gateway:	169.25	4.1	. 1			
Obtain DNS server addres	s automatically					
Use the following DNS server						
Preferred DNS server:				2		
Alternate DNS server:						
Validate settings upon ex	it		Adva	anced		

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. Contact your network administrator if you are unsure of how to configure the existing interface. If the computer already 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:

- Use the host computer to download and install the latest version of N-Able:
  - PC version <u>http://www.amx.com/products/N-ABLE-PC.asp</u> Mac version - <u>http://www.amx.com/products/N-ABLE-MAC.asp</u>
- 2. Attach your N4321 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.

#### **Understanding the N-Able Interface**

Once the host IP address is configured properly, you can view all discovered units using N-Able. Access the N4321 units from the following tabs:

- Unit Management tab N4321 units have N4000 Audio listed in their Type field.
- Audio Matrix tab N4321 units have a musical note icon next to their names (as shown in FIG. 3).

/IDEO MATRIX A	UDIO MATR	X	NVR		LOCAL	PLAYLISTS	UNIT MANAGEMENT	USB MATRIX
Audio Matr	S Follow Video	R Adam ATR	<b>C</b> 00:19:0B:00:27:40	<b>R</b> Adam 4321	R Audio 1			
🔲 Adam 1k Toshiba	a o		0	0	0			
Adam ATR			0	0	0			
00:19:0B:00:27:	40	0		0	0			
Adam 4321		0	0		0			
Audio 1		0	0	0				

FIG. 3 AUDIO MATRIX

In the **Audio Matrix** tab (shown previously in FIG. 3) Hover over a unit name with your mouse to view tool tips providing critical information about each device. Double-click any device to view its **Settings** page (shown in FIG. 4). If prompted, enter **admin** and **password** for the default login username and password.

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).

ings <u>N-Act Logs</u>	LLDP Test Tone	
ransceiver Setur	1	
Device Name:	00:19:0B:00:32:BE	Network Setup
Transmit Name:	00:19:08:00:32:8E-tx	IP Mode: AUTO IP AUTO IP *
Transmit Name:		IP address 169.254.208.254 169.254.208.254
	✓ Enable	Netmask 255.255.0.0 255.255.0.0
TX Output Stream	2135	Gateway address 169.254.1.1 169.254.1.1
TX Input Type	Balanced •	Trial Save
TX Audio Input Trim Left	0 •	
TX Audio Input Trim Right Audio Gain	0 •	Change Password
Audio Gain Left		Old Password:
Audio Gain Right		New Password:
TX Sample Rate	44100 •	Confirm Password: Change PW
TX Audio Delay	23 milliseconds	Software
	Default	Serial: N432A000000274
TX Unicast	Enable	MAC address 00:19:08:00:32:BE
TX Unicast Dest 1 IP	0.0.0.0	Firmware Version: v0.4.0 (9/28/2015)
TX Unicast Dest 2 IP	0.0.0.0	Web Version: 9/28/2015
Receive Name:	00:19:0B:00:32:BE-rx	Factory Restore Reboot
Receiver Input	✓ Enable	Audio Downmixer
Receiver Mute	Mute	Center Gain
RX Unicast	Enable	Front Gain
RX Input Stream	2235	Line out source Downmix
		Cancel Save Defaults
RX Audio Delay	0 milliseconds	External devices
Master Volume	_	Relay interlock Enable
Set Left/Right		Relay 1 state 🕑 Close
Headphone Level Set Left/Right		Relay 2 state Close
Lineout Level Set Left/Right		GPI level: High
IGMP Joins on Stream Loss	Fnable	Microphone power 🕑 Enable
IGMP Join Interval	3 V secs	Cancel Save
Gratuitous ARP	✓ Enable	Port Status
ARP Interval	60 •	Port 50001 Source IP: Disconnected Flush
Unsolicited Status	Z Enable	Port 50002 Source IP: Disconnected Flush
Send Status Address	0.0.0.0	
Status Interval	90 •	
TTL	64 •	
VLAN Tagging	Enable	
VLAN #	0	
DSCP #	136 •	
Allow voLANte traffic	Ø P0 Ø P1	
Disable P1	Disable	

FIG. 4 .N4321 SETTINGS PAGE

# **Troubleshooting Guidelines**

When troubleshooting, start with verifying the network address, subnet mask, and gateway address. Make sure the network switch is properly configured and that the receive portion of the N4321 was assigned to an existing stream number. If the device does not output anticipated audio, disconnect it from the AV network and connect Encoder directly to the N4321 for testing. Units must be pre-configured first before connecting directly. If problems persist, refer to the following troubleshooting tip list. Unless specified otherwise, the configuration choices mentioned can be found on the device's **Settings** page.

- 1. Verify in N-Able that the receive portion of the N4321 has been assigned to an Encoder.
- 2. Verify Receiver Output is selected and that Receiver Mute is disabled.
- If source is multicast stream from an N1000 or N2000 Encoder, verify that RX Unicast is unchecked.
- 4. If source is unicast stream from another N4321, ATR201, or other unicast SVSI device, verify that the **RX Unicast** is checked.
- 5. If source is N3000 Encoder, verify the **Enable PCM Audio** is checked on the N3000 Encoder **Settings** page.
- 6. Verify that the N4321 receive is not routed from N4321 transmit to N4321 receive (same physical unit).

- 7. Verify with both headphone and lineout connection that audio is not present and that audio levels for headphone and lineout volume are set to 100% (all the way right on the sliding bars).
- If multi-channel audio is being generated by the Encoder, verify that Line out source on the N4321 is set to Downmix OR to FL/FR or another channel set for appropriate output.
- 9. Verify VLAN Tagging is not enabled.
- If the device is connected to another SVSI device via the upstream unit's network ports, verify that all units have P0 and P1 checked to allow traffic (and that P0 is not disabled).

Product Specifications					
Model Available (in stand-alone or card versions):	NMX-ATC-N4321 Audio Transceiver				
Power Requirements:	PoE: 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). External power supply: 2.0 Amp @ 12 Volts DC; 100-240 Volts AC power supply with country-specific power cord; 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:	Temperature: 32° to 104°F (0° to 40°C) Humidity: 10% to 90% RH (non-condensing)				
Mounting Options:	Stand alone, surface mount, wall mount, or rack mount.*				
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 NMX-ATC-N4321 stand-alone units.					

Card cage accommodates up to six NMX-ATC-N4321 cards (mix and match any series). Mounting accessories sold separately and are compatible with most N-Series devices.

#### **Optional Accessories:**

- N9312 12V External Power Supply
- N9101 Rack Mounting Wings
- N9102 1RU Rack Shelf (holds 2 cards)
- N9206 2RU Card Cage (holds up to 6 cards)

# Contact SVSI technical support at svsisupport@harman.com or 256.461.7143 x9900 for any installation issues.



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The AMX Warranty and Return Policy and related documents can be viewed/downloaded at www.amx.com

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