## 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.
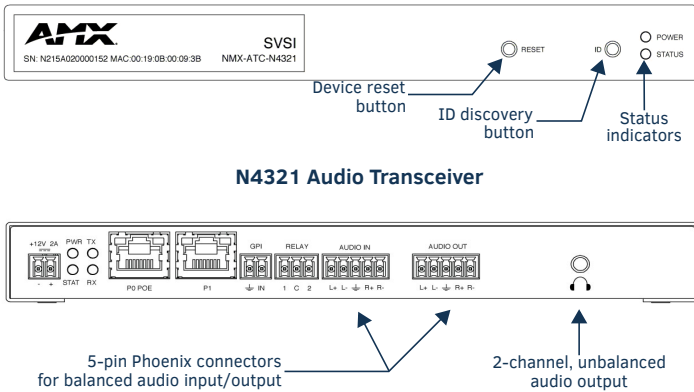
### N4321 Audio Transceiver



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**FIG. 1** N4321 LEDS AND CONNECTORS

## Basic Installation Guidelines

| Connections | Options |
|---|---|
| Power: | **PoE:** Connect the unit's **P0** port to an active, PoE-enabled network switch |
| | **External power supply:** 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 **+12V 2A**. |
| Network: | **PoE units:** If using PoE to power the unit, you should already have a network connection. |
| | **Externally powered units:** If not using PoE, connect the **P0** port or **P1** port to the network with the appropriate cable |
| Audio: | For audio encoding, connect a line level analog audio source to the **Audio** 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.
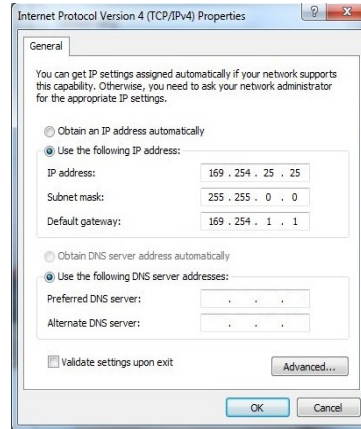


**FIG. 2** SETTING A STATIC IP ADDRESS

*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:**

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 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).
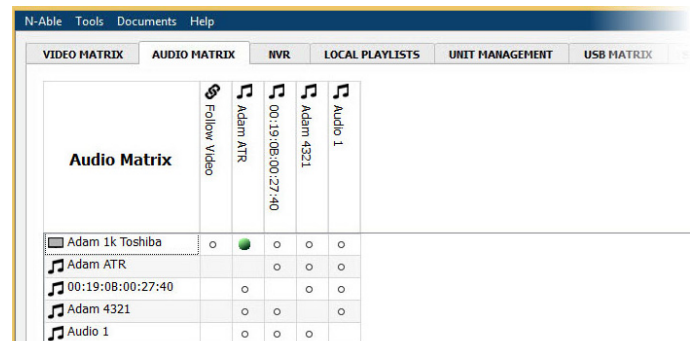


**FIG. 3** AUDIO MATRIX

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.
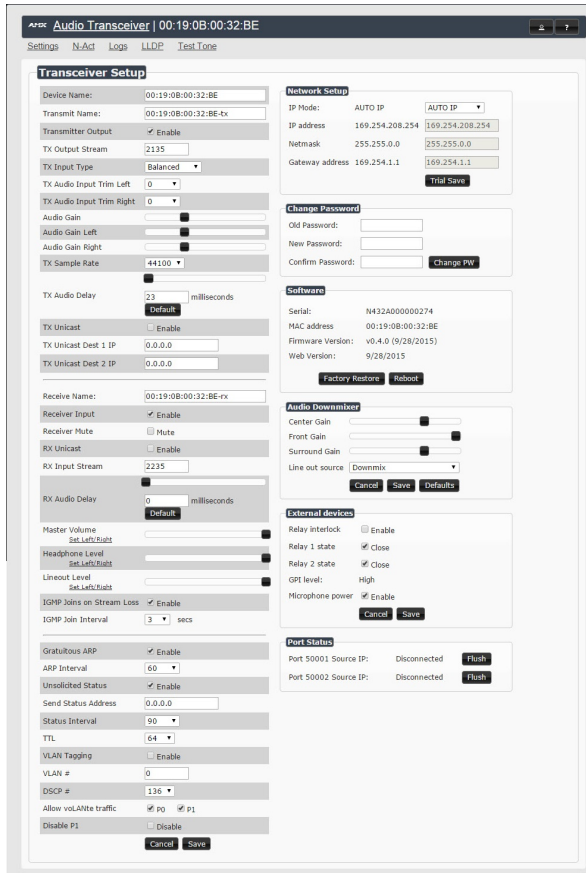
**FIG. 4** .N4321 SETTINGS PAGE

## 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.
3. 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).
8. 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.
10. 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.**