



AT16 A-Net Output Card Guide

For VENUE Mix Rack and VENUE SC48™

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Disposal of Waste Equipment by Users in the European Union



This symbol on the product or its packaging indicates that this product must not be disposed of with other waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city recycling office or the dealer from whom you purchased the product.

Warning

- ▲** *This product contains chemicals, including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.*

Compliance Statement

This model Avid AT16 A-Net Output Card complies with the following standards regulating interference and EMC:

- FCC Part 15 Class B
- EN 55103-1 E3
- EN 55103-2 E3
- AS/NZS 3548 Class B
- CISPR 22 Class B

Radio and Television Interference

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

DECLARATION OF CONFORMITY

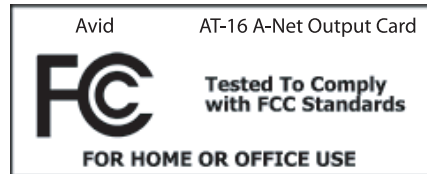
We Avid,
2001 Junipero Serra Boulevard, Suite 200
Daly City, CA 94014 USA
tel: 650-731-6300
declare under our sole responsibility that the product
AT16 A-Net Output Card
complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Communication Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or locate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Any modifications to the unit, unless expressly approved by Avid, could void the user's authority to operate the equipment.

Canadian Compliance Statement:

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Australian Compliance



European Compliance



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Chapter 1: Overview

The AT16 A-Net Output Card (A-Net Card) lets you use Aviom Personal Mixers and other Aviom Pro16 Series™ devices with the VENUE Mix Rack or the VENUE SC48™ console.

You can install up to two A-Net Cards in a single Mix Rack or a single SC48, allowing for two discrete 16-channel networks.

This guide covers installation and connection of the A-Net Card to the Mix Rack and the SC48, as well as signal routing to the A-Net Card from VENUE D-Show® software .

A-Net Card Option Components

The A-Net Card option includes the following items:

- A-Net Card
- Mounting screws
- Registration Information Card
- This guide

A-Net Card Capabilities and Features

The A-Net Card option provides the following:

- Transmission of 16 channels of 24-bit, 48 kHz audio per card to any Aviom Pro16 Series networked device
- Signal status display on front of card
- Full control of A-Net parameters from VENUE D-Show software
- Connects to Aviom hardware over inexpensive Cat-5e Ethernet cable (purchased separately)
- Rugged Neutrik EtherCon® RJ45 connector for durability

System Requirements

VENUE System

One of the following is required to use the A-Net Card option:

- A VENUE Mix Rack with an available output card slot
 - or –
- A VENUE SC48 console with an available output card slot

For complete system requirements, visit www.avid.com.

Aviom Components

The A-Net Card is compatible with Aviom Personal Mixers and other Pro16 Series devices.

For instructions on using an Aviom Pro16 Series device with your system, refer to the documentation that comes with the Aviom device.

▲ *The Aviom A-16 Personal Monitor Mixing System (now discontinued) is not supported by the A-Net Card. Use the A-16II Personal Mixers with the A-Net Card.*

Cables

Supported Aviom Pro16 Series devices connect to the A-Net Card using unshielded Cat-5e Ethernet cables (not included). The maximum supported cable length for each device is 500 ft (150m).

Compatibility Information

Avid can only assure compatibility and provide support for hardware and software it has tested and approved.

For a list of-qualified third-party devices, visit www.avid.com.


Conventions Used in This Guide


All VENUE guides use the following conventions to indicate menu choices and key commands in VENUE D-Show and Pro Tools software:


| Convention | Action |
|-------------------------|---|
| File > Save Session | In Pro Tools, choose Save Session from the File menu. |
| Options > System Config | In the D-Show software screen, click Options to display the Options page, then click the System Config tab. |
| Ctrl+N | Hold down the Control key and press the N key. |
| Ctrl-click | Hold down the Control key and click the mouse button. |


The names of Commands, Options, and Settings that appear on-screen are in a different font.

The following symbols are used to highlight important information:

 *User Tips are helpful hints for getting the most from your VENUE system.*

 *Important Notices include information that could affect data or performance.*

 *Shortcuts show you useful keyboard or mouse shortcuts.*

 *Cross References point to related sections in VENUE or Pro Tools Guides.*

Chapter 2: Installing an A-Net Card


This chapter provides information on installing an A-Net Card in a Mix Rack or an SC48 console, as well as connecting A-Net devices to an A-Net Card.

For instructions on installing an A-Net Card in your Mix Rack, see “Installing an A-Net Card in Mix Rack” on page 3.

For instructions on installing an A-Net Card in your SC48, see “Installing an A-Net Output Card in SC48” on page 6.

Installing an A-Net Card in Mix Rack

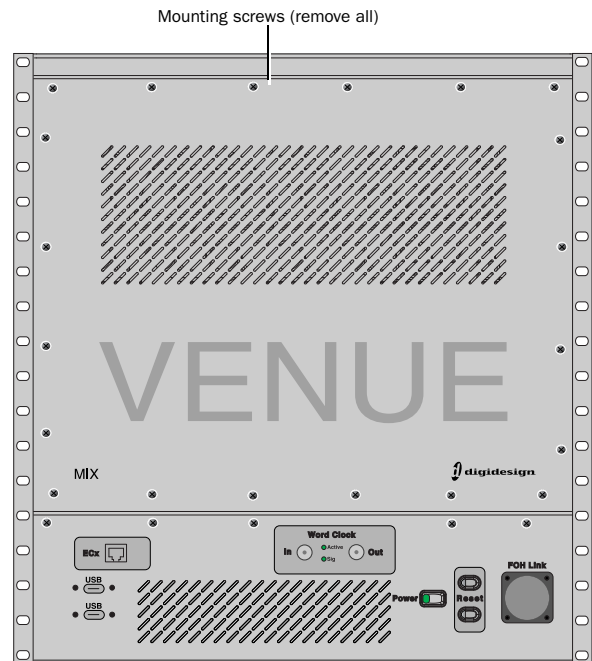
Your Mix Rack has two available output card slots, slots D and E. A-Net Cards can be installed in either or both slots. These instructions assume that you have an Analog Output Card (AO16) in slot D and that slot E is empty.

 *If you are replacing an A-Net Card or are removing an AO16 card, you must first remove one of the cards. See the Venue Service Guide for more information on removing and replacing cards.*

To install an A-Net Card:

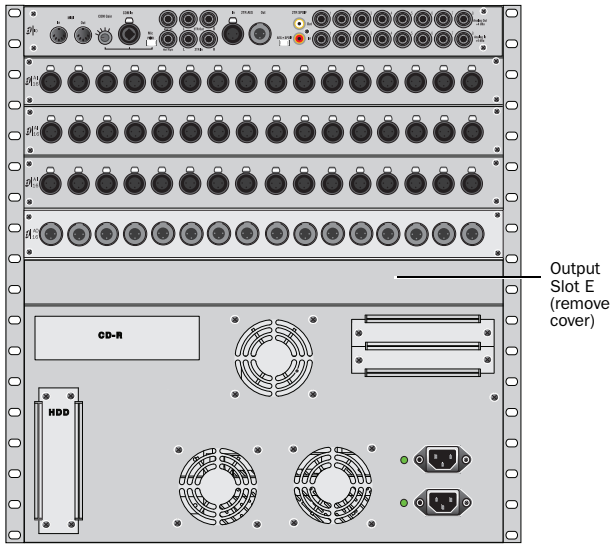
1 Shut down the VENUE system, and turn off power to the Mix Rack.

2 Disconnect all cables from the Mix Rack. Remove the Mix Rack’s front panel cover by unscrewing its mounting screws (#1 Phillips).



Mix Rack front panel

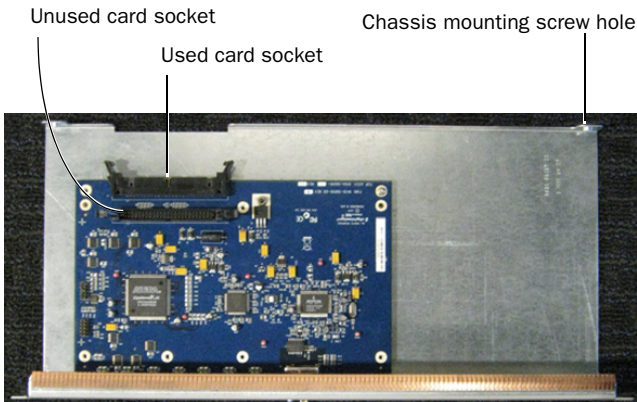
3 On the Mix Rack's back panel, locate output slot E.



Mix Rack back panel

4 Remove the card slot cover from the output slot by removing the four screws holding it in place. Keep the screws nearby for securing the card to the Mix Rack later.

5 Remove the card from its packing material. Hold the card by its edges.



A-Net Card showing ribbon cable connectors

6 Gently slide the card into output slot E



Installing an A-Net Card in Mix Rack

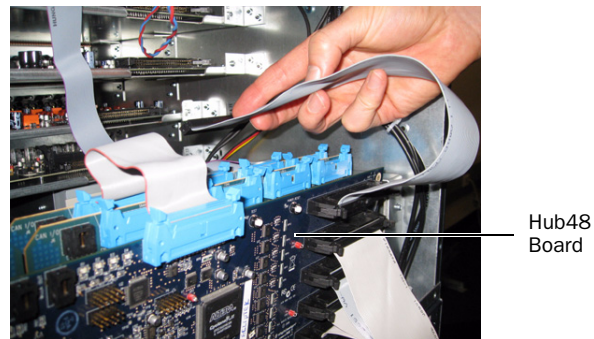
7 When the card is seated in its slot, use the captive thumb-screws to secure the A-Net Card to Mix Rack's chassis in the front of Mix Rack.

8 Secure the card to the front panel of Mix Rack using the four mounting screws you removed earlier.



Securing an A-Net Card to Mix Rack's back panel

9 Find the topmost Hub48 board ribbon cable. The Hub48 board's five ribbon cables connect to the input and output cards.

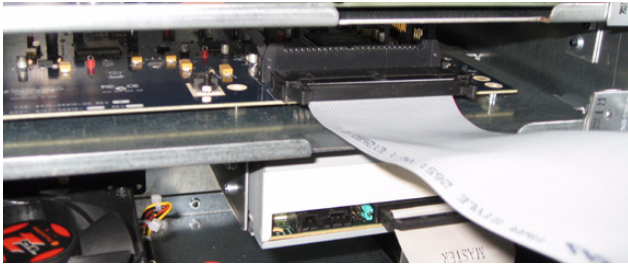


Finding topmost Hub48 ribbon cable

10 Connect the ribbon cable to the card socket that is facing out.

⚠ Only one of the card sockets on the A-Net Card is connected to Mix Rack's ribbon cable connector. Make sure to use the card socket that is facing out, not the card socket that is facing up.

Make sure the pins on the socket are correctly aligned with the ribbon cable connector. Secure the connection by moving the retaining clips on each side of the socket connector inward. Check to make sure the ribbon cable is connected securely.




A correctly connected A-Net Card

Completing and Confirming Installation

To complete and confirm installation:

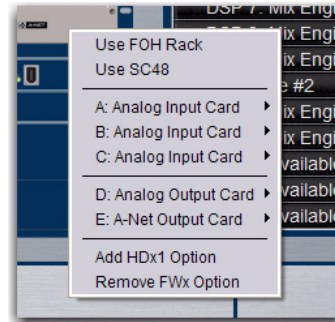
- 1 Reattach the Mix Rack's front panel.
- 2 Reconnect the power and any audio cables to the Mix Rack.
- 3 Turn on your VENUE system.
- 4 Go to the Options page and click the Devices tab to view your system hardware status. The newly installed A-Net Card should be displayed.

 *If the A-Net Card does not appear in the Mix Rack graphic, check the ribbon cable connection. Disconnect and reconnect the ribbon cable to the Output Card, making sure to seat the connector properly in its card socket.*



Detail of Devices tab indicating presence of an A-Net Card

5 In the standalone software, right-click the Mix Rack graphic to see your Mix Rack's input and output card configuration. Your A-Net Card appears as "E: A-Net Output Card" in the pop-up menu.



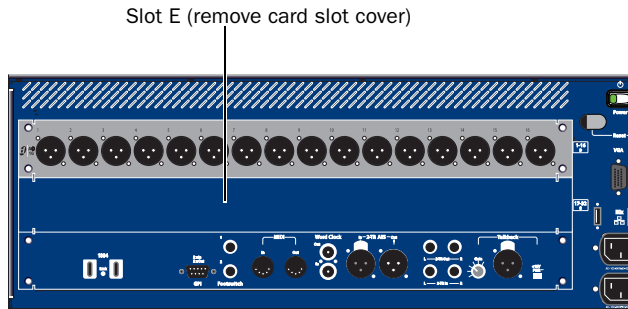
Detail of the standalone software Devices tab showing an A-Net Card pop-up menu

6 Go to the Patchbay page and click the Stage tab to verify that "A-Net Card" outputs appear in the patchbay.

Installing an A-Net Output Card in SC48

Your SC48 has two available output card slots, slots D and E. A-Net Cards can be installed in either or both slots. These instructions assume that you have an Analog Output Card (AO16) in slot D and that slot E is empty.

- 1 Shut down your system, and turn off power to the SC48.
- 2 Disconnect any power cables from the SC48, as well as any other audio cables that may get in your way.
- 3 On the back panel of the SC48, locate output slot E.



Left side of the SC48 back panel

- 4 Remove the four screws holding the card slot cover in place. You can use a flathead screwdriver to pry the cover away from the output slot after removing the screws.

⚠ Use care when prying away the card slot cover. The ribbon cable that you need to connect to the output card is attached to the inside of the card slot cover.

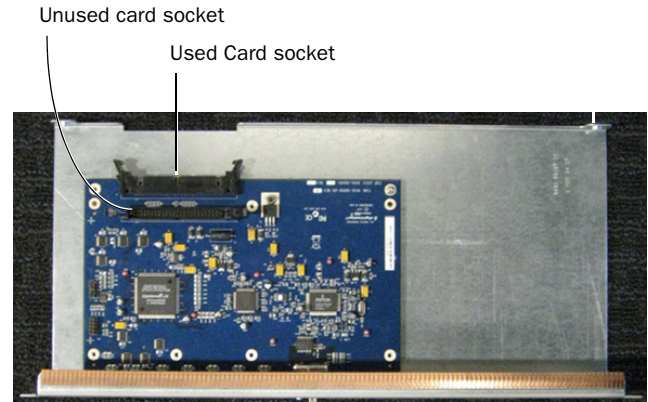
Keep the screws nearby for securing the A-Net card to the SC48.

- 5 Clip the cable tie to free the ribbon cable that is attached to the inside of the card slot cover.



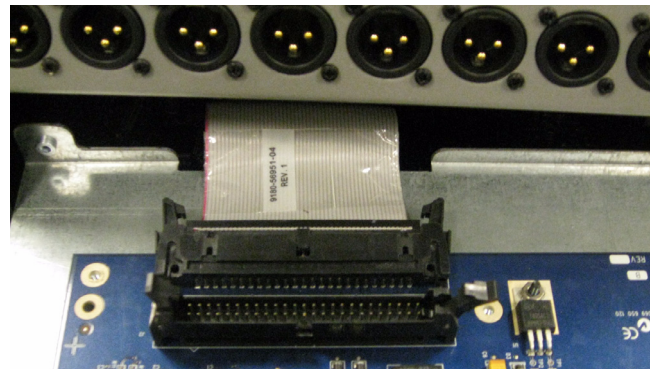
Clip the cable tie to free the ribbon cable

- 6 Remove the A-Net Card from its packing material. Hold the card by its edges.



A-Net Card showing ribbon cable connectors

- 7 Connect the ribbon cable to the card socket that is facing out. Make sure the pins on the socket are correctly aligned with the ribbon cable connector. The retaining clips on each side of the socket connector automatically close when the cable connector is properly seated. Check to make sure the ribbon cable is connected securely.



Connecting the ribbon cable to the card socket facing out

- 8 Slide the A-Net Card into the slot, firmly pressing on both ends of the card so that it fits snugly in the slot.




Installing the A-Net Card

- 9 Secure the card to the rear panel using the four screws you removed earlier.

Completing and Confirming Installation

To complete and confirm installation:

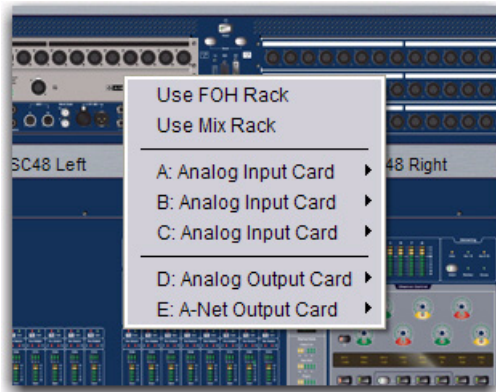
- 1 Reconnect the power cable and any other cables to the SC48.
- 2 Turn on your VENUE system.
- 3 Go to the Options page and click the Devices tab to view your system hardware status. The newly installed A-Net Card should be displayed.

 *If the A-Net Card does not appear in the graphic, check the ribbon cable connection. Shut down your system, then disconnect and reconnect the ribbon cable to the Output Card, making sure to seat the connector properly in its card socket.*



Detail of Devices tab indicating presence of an A-Net Card

- 4 Go to the Patchbay page and click the Stage tab to verify that “A-Net Card” outputs appear in the patchbay.
- 5 In the standalone software, click the Devices tab on the Options page. You can right-click the SC48 graphic to see and modify your SC48’s input and output card configuration.



Detail of the standalone software Devices tab showing an A-Net Card pop-up menu

Connecting A-Net Devices to the A-Net Card

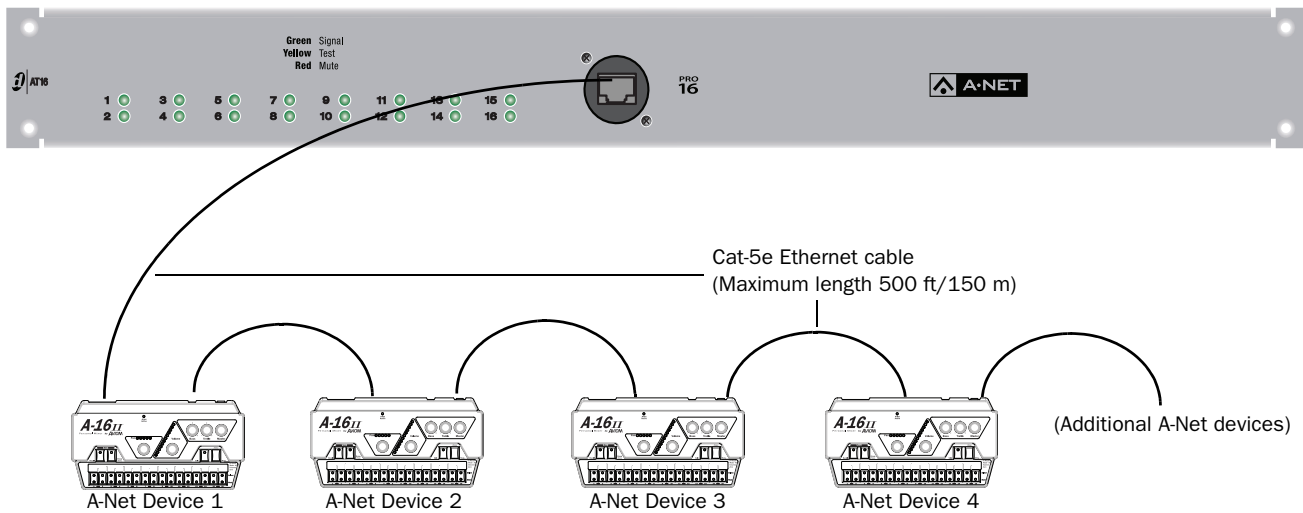
With an A-Net Card installed in Mix Rack or the SC48, you can connect Aviom Pro16 Series networked devices in series or in parallel.

Connecting A-Net Devices in Series

You can connect any number of compatible A-Net devices in series by daisy-chaining the devices from the A-Net Card. Each Cat-5e cable connection can be up to 500 ft (150 m). There is no limit to the number of A-Net distributor devices or A-Net audio devices that can be used in a system.

To connect A-Net devices in series:

- 1 Connect a Cat-5e Ethernet cable to the A-Net output connector on the A-Net Card.
- 2 Connect the other end of the cable to the A-Net In port on the first device.
- 3 Use Cat-5e Ethernet cables to connect the “A-Net Out” port on each device to the “A-Net In” port on the subsequent device.



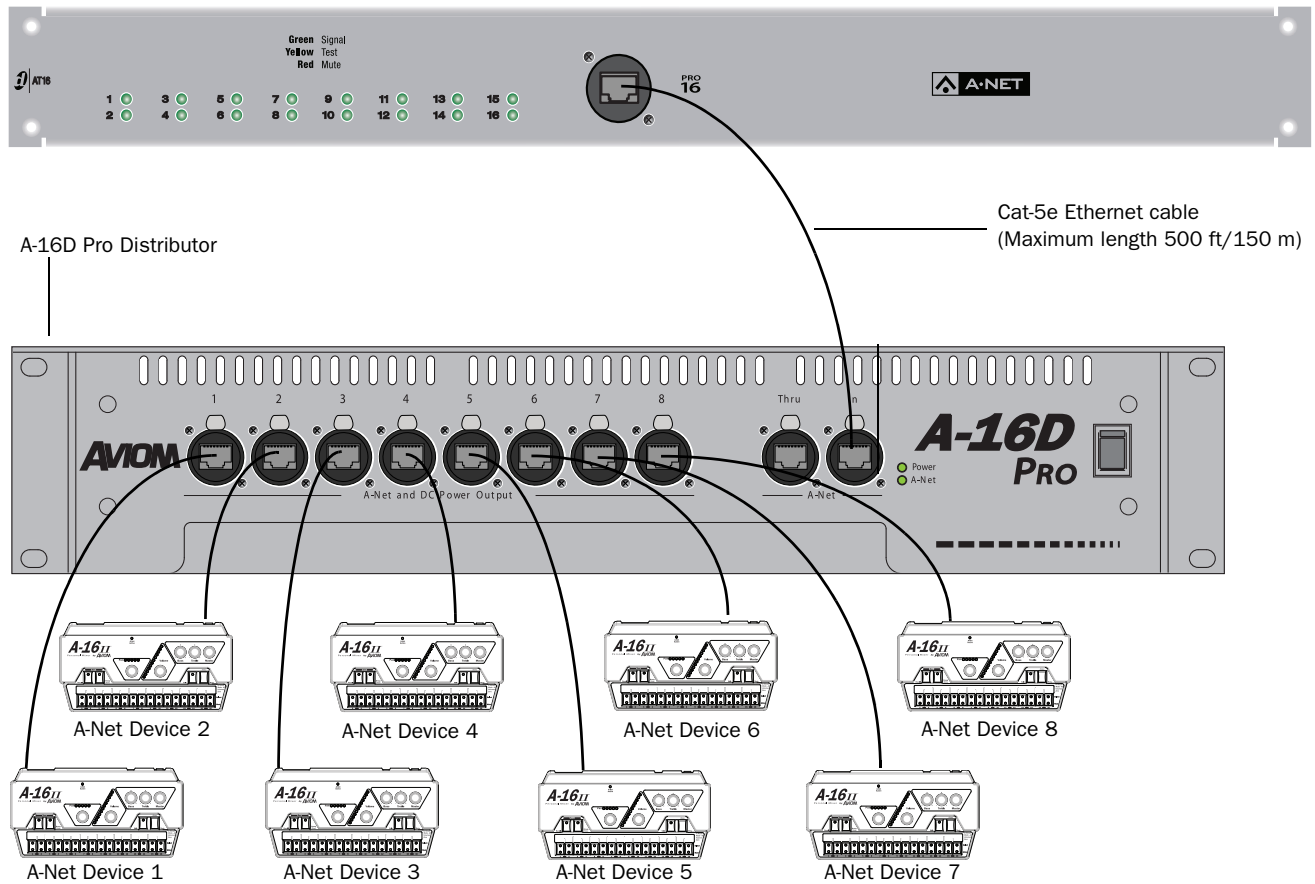
Connecting Aviom Personal Mixers in series (not to scale)

Connecting A-Net Devices in Parallel

You can connect compatible A-Net devices in parallel by connecting at least one A-Net distributor to the A-Net Card. Each Cat-5e cable connection can be up to 500 ft (150 m). There is no limit to the number of A-Net distributors or A-Net audio devices that can be used in a system.

To connect A-Net devices in parallel:

- 1 Connect a Cat-5e Ethernet cable to the A-Net output connector on the A-Net Card.
- 2 Connect the other end of the cable to the A-Net In port on an A-Net distributor device. Additional A-Net distributor devices can be connected in series to the first distributor device.
- 3 Use a Cat-5e Ethernet cable to connect an A-Net Out port on the A-Net distributor device to the A-Net In port on the destination device.



Connecting Aviom Personal Mixers in parallel using an A-Net distributor (not to scale)

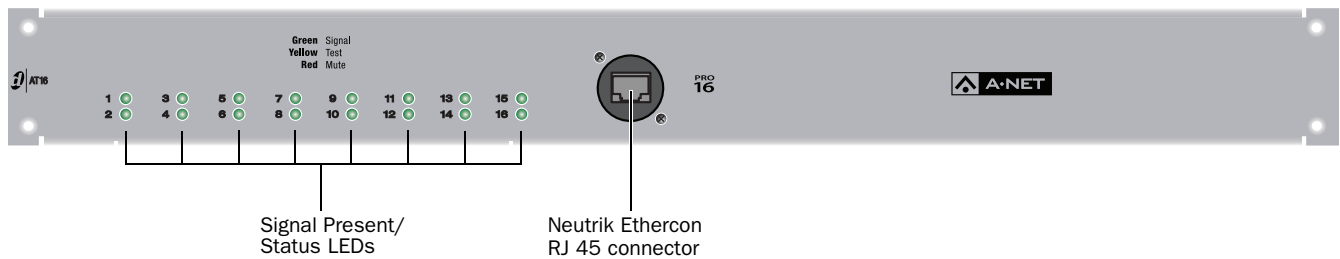
Chapter 3: Using the A-Net Card

Overview

Each A-Net Card allows up to 16 channels of audio to be sent to any Aviom Pro16 Series networked device. Each Mix Rack can support up to two A-Net Cards, allowing for two discrete 16-channel networks.

Signal routing for A-Net Cards is configured in VENUE D-Show software.

A-Net Card



A-Net Card

Signal Present/Status LEDs

The A-Net Card Signal Present/Status LEDs are arranged in channel pairs. These LEDs indicate the status of channel output signals as follows:

Signal Present/Status LED Indications

| LED Color | Indication |
|-----------|-----------------------------|
| Green | Signal present |
| Yellow | Test mode |
| Red | Reset or Mix Rack hard mute |

Connector

The Neutrik EtherCon connector accepts a standard Cat-5e Ethernet cable. The maximum recommended length for Cat-5e Ethernet cable runs is 500 feet.

Stereo Linking Output Channels

You can automatically or manually link A-Net Card output channel pairs.

Linking Output Channels Automatically

You can set A-Net Card output channels to be automatically linked whenever a stereo output pair is assigned to a channel pair. This is called Auto Link.

Applicable output pairs include the following:

- Direct Outs from any stereo Input channel, stereo FX Return, or stereo Output bus
- Stereo-linked Auxes
- Stereo Groups
- Mains L-R
- Stereo PQ Outputs

Auto Link is on by default. In most routing scenarios it will be easiest to leave Auto Link on.

Linking Output Channels Manually

You can manually link A-Net Card output channel pairs.

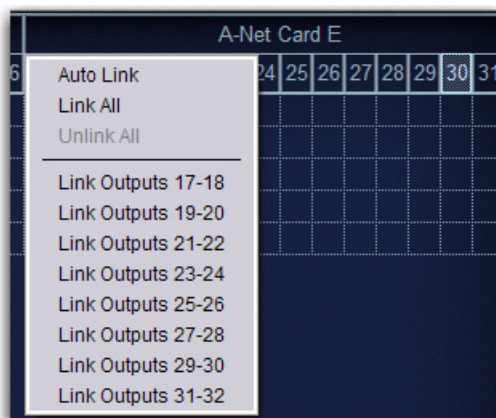
To link output channels manually:

- 1 Go to the Patchbay page and click the Outputs or Directs tab.
- 2 Click the Stage tab to access the Mix Rack outputs.
- 3 Click the arrow icon beside the A-Net Card name and select from the following A-Net device pop-up menu options:

Auto Link Automatically links the card's output channels when you assign a stereo-linked output pair (default)

Link All Links all of the card's outputs channels

Link Outputs Links individual channel pairs on the card



Linking channels on an A-Net Card


Linked channel pairs are indicated by an outline around the channel numbers in the Patchbay.



Indication of linked channels in the Patchbay

To unlink output channels manually:

- 1 Go to the Patchbay page and click the Outputs or Directs tab.
- 2 Click the arrow icon beside the A-Net Card name and do one the following in the A-Net device pop-up menu:
 - Select Unlink All
 - or –
 - Deselect a linked channel pair

 *The A-Net Card appears as "A-Net Card" in the patchbay grid.*

Routing Signals to the A-Net Card

You can route Mains, PQ, Matrix, Aux, Group and Direct Outs output signals to the A-Net Card. You can route the Direct Outs from Input Channels, FX Returns and Outputs to the A-Net Card.

Routing Outputs to the A-Net Card

You can route Mains, PQ, Matrix, Aux and Group output signals to the A-Net Card.


To route output signals to the A-Net Card:

- 1 Go to the Patchbay page and click the Outputs tab.
- 2 Click the Stage Hardware tab above the patching grid.
- 3 To the left of the patching grid, click the tab to choose either the Mains, PQ, Matrix, Group or Aux output bus.

4 Click a box in the patching grid to assign the bus output (listed on the left) to an A-Net Card output (listed across the top).



Assigning an Aux output to an A-Net Card in the Patchbay Outputs page

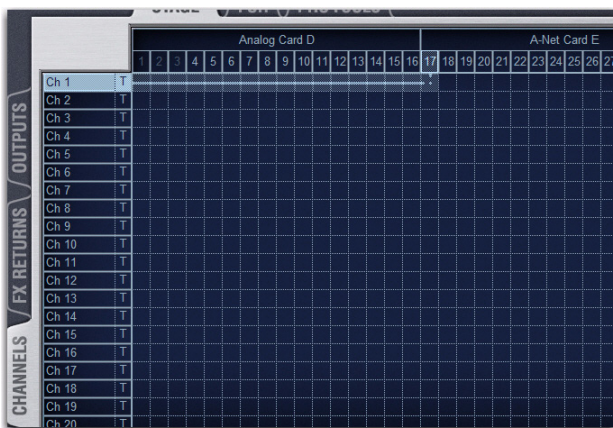
 If you installed an A-Net Card in Slot E of your Mix Rack, output 17 in the patchbay grid corresponds to channel one of the A-Net Card, output 18 corresponds to channel two, and so on up to output 32, which corresponds to channel 16 of the A-Net Card.

Routing Direct Outs to the A-Net Card


You can route Input Channel, FX Return and Output Direct Outs to the A-Net Card.

To route Direct Outs to the A-Net Card:

- 1 Go to the Patchbay page and click the Directs tab.
- 2 Click the Stage tab above the patching grid.
- 3 To the left of the patching grid, click the tab to choose either the Channels Direct Outs, FX Returns Direct Outs or Outputs Direct Outs.
- 4 Click a box in the patching grid to assign a Direct Out (listed on the left) to the A-Net Card (listed across the top). The A-Net Card appears as “A-Net Card” in the patching grid.




Assigning an input channel Direct Out to an A-Net Card in the Patchbay Directs page

 For more information on Direct Outs, see the VENUE D-Show Guide or VENUE D-Show Profile Guide.

Verifying the A-Net Card’s Outputs

You can verify the outputs of an A-Net Card by using its Test mode to send signals to all 16 outputs. Test mode sends a 1 kHz tone directly from the card to all odd-numbered channels and a 2 kHz tone to all even-numbered channels on the card.

 When you place an A-Net Card in Test mode, any regular program material routed through the card is replaced with test tones. Test mode is intended as a troubleshooting tool and should not be enabled when performers are actively using an Aviom system.

To enable Test mode for an AT 16 A-Net Output Card:

- 1 Make sure that no one is wearing headphones or in-ear monitors connected to the Aviom system before enabling Test Mode.
- 2 Put D-Show in Config mode.
- 3 Go to the Patchbay page and click the Outputs or Directs tab.
- 4 Click the tab for the Mix Rack that contains the A-Net Card.
- 5 Click the arrow icon beside the A-Net Card name and choose Test Mode in the AT16 A-Net device menu.
- 6 Click Enable Test Mode in the Test Mode dialog.

If multiple A-Net Cards are present, you will need to enable Test mode separately for each card.

A dialog appears for each A-Net Card currently in Test Mode.

To disable Test mode:

- Click Disable Test Mode in the Test Mode dialog.

Muting A-Net Card Channels Using the Events List

When you use the “Mute All Stage Outputs” action in the Events List, A-Net Card channels are muted in the same way as other Mix Rack outputs.

The “Mute All Stage Outputs” action also mutes the A-Net Card’s outputs during Test Mode.



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