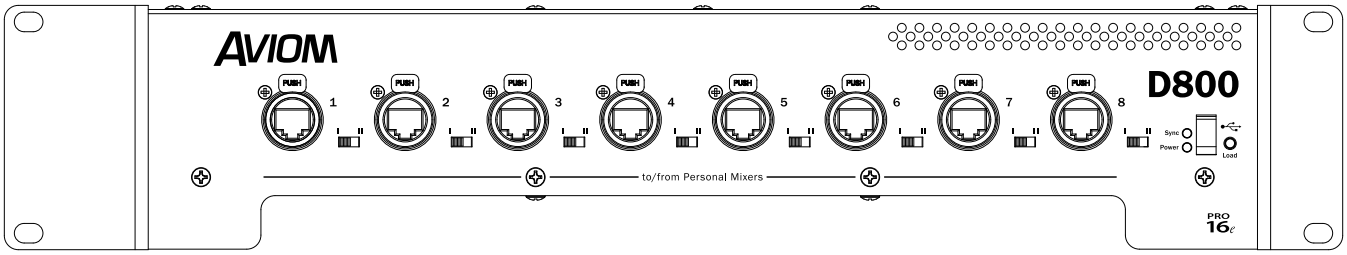
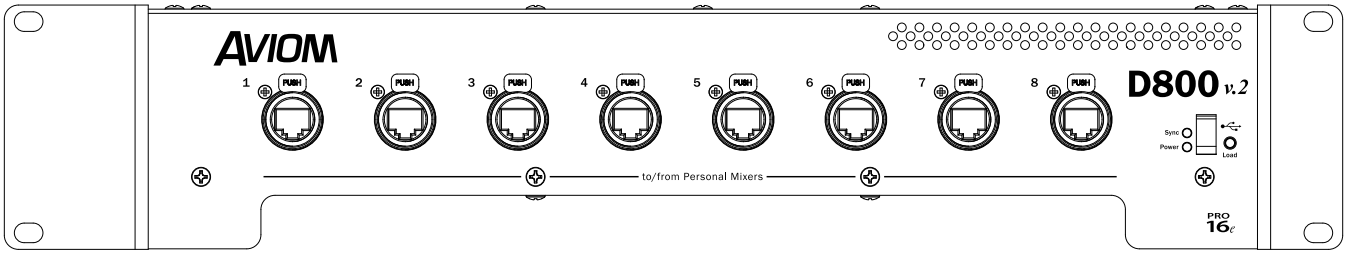
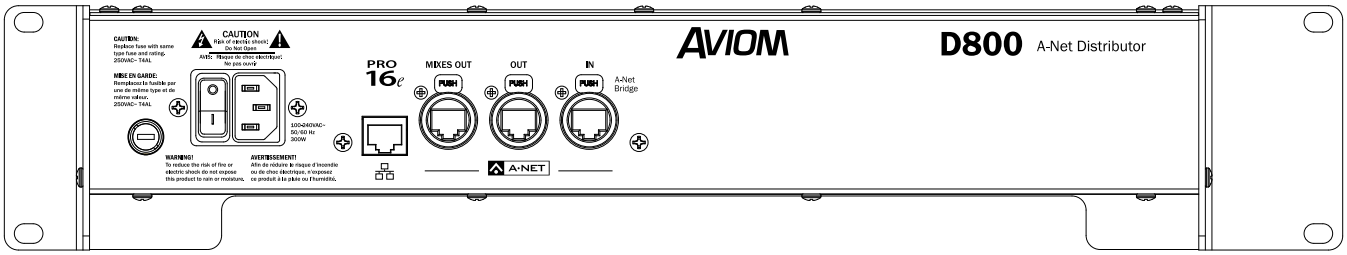
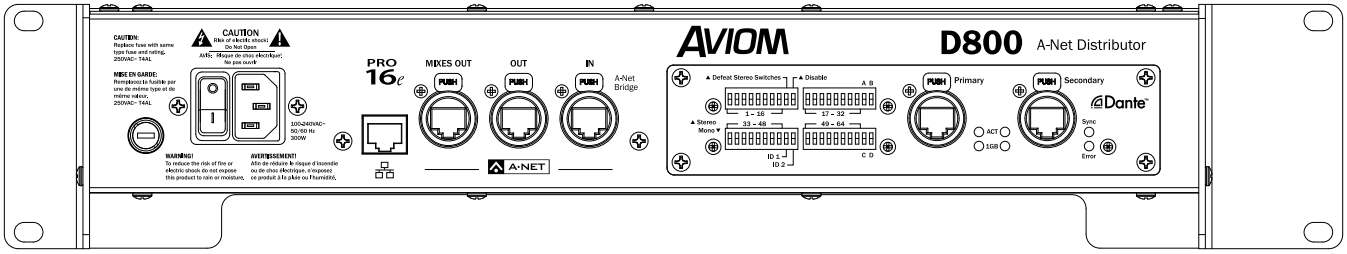
AVIOM®









D800 and D800-Dante A-Net Distributors

User Guide

9310 1030 0001F rev 1.4
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PRO 16® PRO 16e® A·NET®

READ THIS FIRST

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. The apparatus shall be connected to a Mains power outlet with a protective grounding/earthing connection.
16. Where the Mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in this manual.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous" voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.

WARNING!

TO REDUCE THE DANGER OF ELECTRICAL SHOCK DO NOT REMOVE COVERS.

NO USER SERVICEABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.

To reduce the risk of fire or electrical shock, do not expose this product to rain or other types of moisture.

To avoid the hazard of electrical shock, do not handle the power cord with wet hands.

Replace fuse with same type and rating.

Operating Temperature: 0˚C to 50˚C (32˚F to 122˚F)

Risque de choc électrique – ne pas ouvrir. Pour réduire le risque de feu ou de choc électrique, ne pas exposer cet équipement à la pluie ou la moisissure. Pour réduire le risque de choc électrique, ne pas retirer le couvercle. Pièces non remplaçables par l'utilisateur. Confier la réparation à une personne qualifiée. Attention – utiliser seulement un fusible de rechange de même type.

Cet appareil est conforme à la section 15 de la norme FCC. Son fonctionnement est soumis aux conditions suivantes : (1) cet équipement ne doit pas causer des interférences nocives, et (2) cet équipement doit accepter toute interférence captée incluant les interférences pouvant causer des opérations indésirables.

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

IMPORTANT:

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 to correct the interference by one or more of the following measures:

- Reorient or relocate 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.

Changes or modifications to the product not expressly approved by Aviom, Inc. could void the user's FCC authority to operate the equipment.

CAUTION:

- Using any audio system at high volume levels can cause permanent damage to your hearing.
- Set your system volume as low as possible.
- Avoid prolonged exposure to excessive sound pressure levels.

Certifications

EMC: EN55103-1:2009
EN 55103-2: 2009
EN 55022:2006 / CISPR 22:1997
CAN/CSA-CEI/IEC CISPR 22:02
FCC 47 CFR, Part 15

Safety: ANSI/UL 60065 Audio, Video and Similar Electronic Apparatus – Safety Requirements; Issued: 2003/06/30 Ed: 7 Rev: 2013/07/24

CSA C22.2 No. 60065 Audio, Video and Similar Electronic Apparatus – Safety Requirements; Issued: 2003/04/01 Ed: 1; Amendment 1: April 2006 – (R2007) (R 2012)-Amendment 2 2012/08/01

ETL/cETL Listed and RoHS Compliant

Pb-Free

✓ **Note:** For front panel connections to Personal Mixers shielded Cat-5e (or better) cable must be used to stay below the CISPR 22 Class B, ICES-003, and FCC 47 CFR Part 15 Class B emissions limits. Unshielded Cat-5e cable may be used on all rear panel connections.

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Aviom, Inc. Limited Warranty

Aviom, Inc. warrants this product against defects in materials and workmanship for a period of **one year** from the date of the original retail purchase.

This warranty does not apply if the equipment has been damaged due to misuse, abuse, accident, or problems with electrical power. The warranty also does not apply if the product has been opened or modified in any way; if the product serial number has been damaged, modified, or removed; or if the original Quality Assurance label has been damaged, modified, or removed.

If a defect is discovered, first write or call Aviom, Inc. to obtain a Return Authorization number. No service will be performed on any product returned without prior authorization. Aviom, Inc. will, at its option, repair or replace the product at no charge to you. The product must be returned during the warranty period, with transportation charges prepaid to Aviom, Inc., 1157 Phoenixville Pike, Suite 201, West Chester, PA 19380. You must use the product's original packing materials for shipment. Shipments should be insured for the value of the product. Include your name, address, phone number, description of the problem, and copy of the original bill of sale with the shipment. The Return Authorization number should be written on the outside of the box.

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Warranty Information

Please record the following information for future reference:

Your Authorized Aviom Dealer:

Name: _____

Address: _____

_____

_____

Phone: _____

Serial Numbers of Your Aviom Products: _____

_____

_____

Date of Purchase: _____

Your Authorized Aviom Dealer is your primary source for service and support. The information recorded above will be helpful in communicating with your Authorized Aviom Dealer should you need to contact Aviom Customer Service. If you have any questions concerning the use of this unit, please contact your Authorized Aviom Dealer first. For additional technical support, or to find the name of the nearest Authorized Aviom Repair Station, check the Aviom web site at www.aviom.com.

To fulfill warranty requirements, your Aviom product should be serviced only at an authorized Aviom service center. The Aviom serial number label must appear on the outside of the unit, or the Aviom warranty is void.

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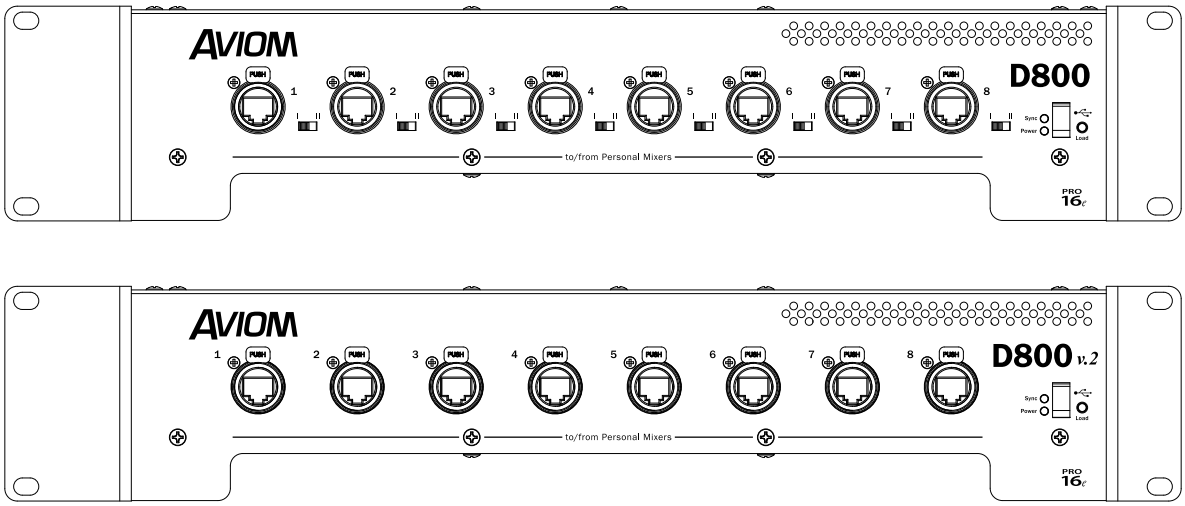
D800 and D800-Dante

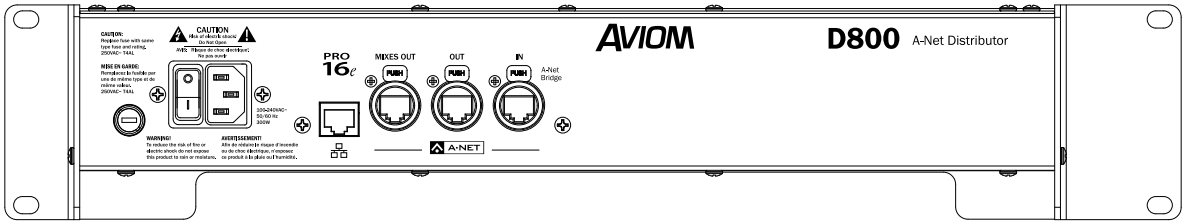
*Thank you for purchasing the Aviom **D800** or **D800-Dante A-Net Distributor**. This User Guide is designed to familiarize you with your new product's features and to have your personal mixing system up and running as quickly as possible.*

Multiple versions of the D800 are available:

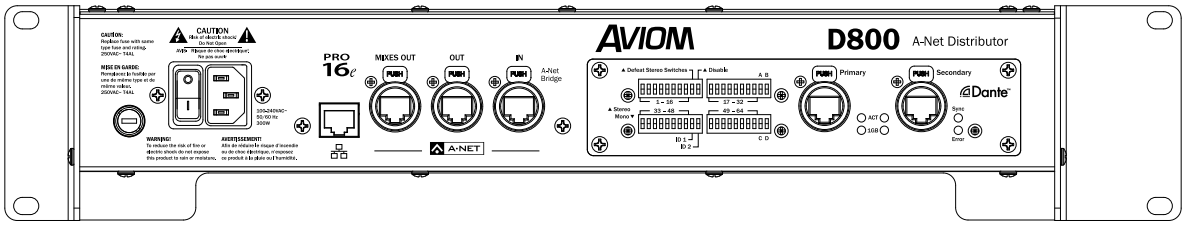
- The standard D800 includes a Pro16e® A-Net® input, compatible with all Pro16® Series and Pro16e-capable devices.
- The D800-Dante adds connectivity for a Dante® digital audio network.
- The original version of the D800 and D800-Dante use switches labeled **I/II** to control bidirectional communication with Aviom Personal Mixers.
- The D800 v.2 and D800-Dante v.2 eliminate the need for the I/II switches, automatically setting up bidirectional communication as needed.



The front panels of the original and v.2 versions of the D800 and D800-Dante



The rear panel of the D800



The rear panel of the D800-Dante

Conventions Used in this Document

Using Personal Mixers

When referring to the use of the Personal Mixers in a personal mixing system in general, the term ***Personal Mixer*** is used to describe a case where an A640, A360, A320, or A-16II Personal Mixer can be used.

Cat-5 Cables

In most cases Cat-5e, Cat-6, and Cat-6e cables can be interchanged. When speaking about interconnections between components in a system, the term ***Cat-5*** is used generically to indicate the use of any of the applicable cable types.

A-Net Distributors

The D800, D400, A-16D and A-16D Pro A-Net Distributors are referred to generically as ***A-Net Distributors***. All are used to take an A-Net digital signal and split it into multiple copies so that devices may be connected in parallel. In a case where either the D800 or D800-Dante version of the product may be used, the text will reference the ***D800***.

Button Presses

When instructed to press a specific button, or when referring to a specific port, jack, etc., on a product, a special font style is used. For example, "Connect a Cat-5 cable to the **A-Net In** port."

Slots

Audio channels from analog input devices or digital console cards connected to the A-Net network are referred to as ***slots***. There are a total of 64 network slots in an A-Net network.

Package Contents

The D800 (or D800-Dante) A-Net Distributor box includes:

- One A-Net Distributor
- IEC power cable

Options for your personal mixing system include:

- Cat-5e/Cat-6 interconnect cables
- SB4 System Bridge
- D800, D800-Dante, A-16D, or A-16D Pro A-Net Distributors
- A640, A360, A320, or A-16II Personal Mixers
- AN-16/o v.4 Output Module for use with the Network Mix Back™ feature
- Dante Controller software, available free from the Audinate website

A Warranty Registration can be found within this User Guide. Be sure to fill out the form and return it to Aviom, Inc. via mail or fax as soon as possible.

About A-Net

A-Net® is a proprietary high-speed data transmission protocol developed by Aviom, capable of sending and receiving high-quality digital audio using readily available Cat-5 cables.

A-Net is based on the physical layer of Ethernet, a Local Area Network (or LAN) technology. This provides A-Net with a mature and robust base on which to build. However, it is important to note that A-Net devices are not compatible with Ethernet devices.

Some of the benefits of using A-Net to transmit digital audio are:

- Virtually no latency; analog in to analog out is always less than one millisecond
- No ground loops
- Easy cabling using readily available components
- An unlimited number of A-Net devices can be used in a system
- Ease in spanning long distances between system components

There are two versions of Pro16 A-Net: the original Pro16 A-Net signal carries sixteen channels of digital data while the enhanced Pro16e version of A-Net is capable of carrying up to 64 channels of digital audio data. Like standard Pro16 A-Net, Pro16e is a point-to-point digital audio protocol.

Pro16e A-Net data is intended for use with the A640, A360 and A320 Personal Mixers which can take advantage of the higher network channel count that Pro16e provides.

Compatibility

The D800 A-Net Distributor is compatible with Pro16 and Pro16e devices as detailed below.

Pro16 Products

The **A-Net Out** from the following Pro16 devices may be connected to the D800 or D800-Dante's rear panel **A-Net In** port:

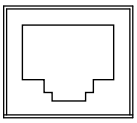
- AN-16/i v.2 Input Module
- AN-16/i Input Module
- AN-16/i-M Mic Input Module
- AV-M8 Mic Input Module
- Aviom16/o-Y1 A-Net Card for Yamaha® devices
- A-16II Personal Mixer
- A-16R Rack-mount Personal Mixer
- AN-16/o Output Module
- AV-P2 Output Module
- A-16D and A-16D Pro A-Net Distributors
- D400 A-Net Distributor
- Other D800 or D800-Dante A-Net Distributors
- Third-Party digital console cards that implement Aviom's proprietary Pro16 A-Net protocol

In addition, the **A-Net Bridge** output from the SB4 System Bridge may also be connected to the A-Net input of the D800 when combining the A-Net output from two or more digital console cards.

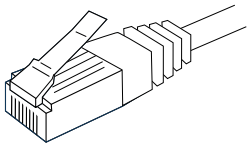
About Category 5

The term Category 5 (also referred to as *Cat-5*) is broadly used to describe a type of high performance network cabling used for data transmission purposes to connect computer networks and other devices. A standard patch cable consists of four twisted pairs of copper wire terminated by RJ45 male connectors. The cable assembly is used to provide connectivity between any two Cat-5 female RJ45 jacks.

A variation of the cable, called Category 5e (or Cat-5e), has largely replaced Cat-5 in the field; it uses additional twists in the cable's wire pairs to reduce interference in high-speed network applications. Additional wire pair variations are found in Cat-6 and Cat-6e cables, typically used with gigabit networking devices.



RJ45 Jack



Cat-5e Cable

Cat-5 Cables

Although the D800 (or D800-Dante) A-Net Distributor's eight front panel **A-Net Out** ports will operate properly with unshielded Cat-5e cable, when connecting these outputs to Personal Mixers shielded Cat-5e (or better) cable must be used to stay below the CISPR 22 Class B, ICES-003, and FCC 47 CFR Part 15 Class B emissions limits. Unshielded Cat-5 cable may be used on all rear panel connections.

For fixed or permanent installations, you have the option of running Cat-5 cables inside walls and terminating them with readily available wall panel connectors that include the RJ45 jack. (Solid wire is recommended for permanent installations.) A Cat-5 cable wiring pinout table is included at the end of this document. See page 41.

In addition to standard Category 5e cables, Cat-6 and Cat-6e cables may also be used.

✓ **Note:** When purchasing Category 5 cables, be sure to buy only standard Cat-5 cables, not those sold as *crossover* cables. A crossover cable is used for file transfer between two computers and is not compatible with your Aviom equipment.

Cat-5 cables outfitted with the heavy-duty Neutrik EtherCon® connector (or their equivalent) may also be used in addition to those that use the standard RJ45 cable connector.

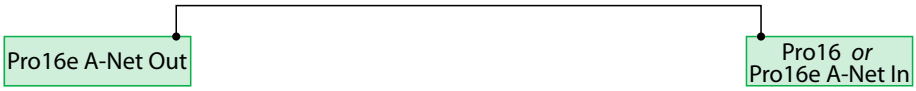
Cable Lengths

For Pro16 applications—connecting one **Pro16** device to another—the Cat-5 cables used with your Aviom products may be up to 500 feet (approximately 150 meters) in length between devices. For example, connecting an AN-16/i-M Mic Input Module to an AN-16/o Output Module is a Pro16-to-Pro16 connection.

Total Pro16 A-Net cable length: 500 feet (150 meters)

When using **Pro16e**—such as the **A-Net Out** from an AN-16/i v.2 to *any other* Pro16 or Pro16e device—Cat-5 cables may be up to 400 feet (approximately 122 meters) in length between compatible devices due to the larger amount of data being transmitted to accommodate Pro16e's higher channel count.

Total Pro16e A-Net cable length: 400 feet (122 meters)



The maximum cable length specification applies to the total cable length between an **A-Net Out** port on one device and the **A-Net In** port on the next A-Net capable device in your system.

Your cable length performance will be affected by a number of factors including the quality of the cables used, and the number of passive devices such as cable couplers or passive wall panel interconnections in use.

Stranded or solid Cat-5 cable may be used; stranded cable is easier to deploy on a stage while solid core cable provides slightly better maximum distance performance. Solid core wire is typically used in permanent installations in walls and across ceilings.

When using the optional AN-16SBR or SB4 System Bridge with Pro16 and Pro16e devices, the cable length specification applies to the *total* cable length between the two active A-Net devices being connected with the passive System Bridge, plus all cables. This is also true when using a passive inline coupler to extend cable lengths.

Total Pro16e A-Net cable length: 400 feet (122 meters)

Pre-made cables in a variety of lengths and colors are available at most computer outlets. Cables may be extended by using a simple passive device called an *inline coupler* to add length to existing cables (as long

as you do not exceed the specified maximum cable length). If you need a longer cable on occasion, this is a simple solution. Note that the maximum cable length performance can be compromised by using inline couplers or other passive connection devices.

AC Line Conditioning

Aviom products are digital devices and as such are sensitive to sudden spikes and drops in the AC line voltage. Changes in the line voltage from lightning, power outages, etc., can sometimes damage electronic equipment.

To minimize the chance of damage to your equipment from sudden changes in the AC line voltage, you may want to plug your equipment into a power source that has surge and spike protection. Power outlet strips are available with built-in surge protection circuits that may help protect your equipment.

Other options for protection of your equipment include the use of an AC line conditioner or a battery backup system (sometimes referred to as an *uninterruptible power supply*, or UPS).

Cleaning and Maintenance Information

The exterior of your Aviom products should be cleaned with a dry, soft, lint-free cloth. For tougher dirt, you can use a cloth slightly dampened with water or with a mild detergent.

When cleaning your Aviom products, never spray cleaners directly onto the product surfaces. Instead, spray a small amount of the cleaning solution onto a clean cloth first. Then use the dampened cloth to clean the product.

✓ **Note:** Never use solvents or abrasive cleaners on the finished surfaces of your Aviom products.

D800 A-Net Distributor

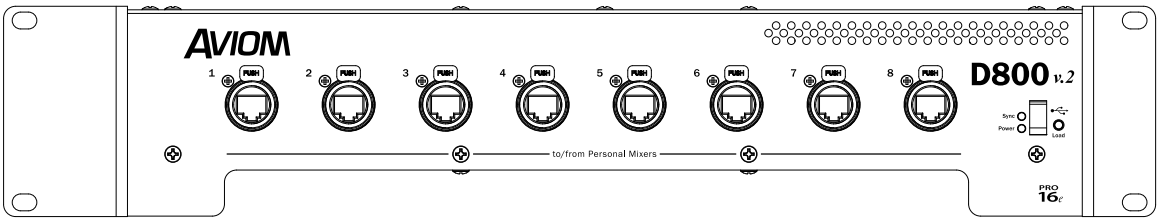
Aviom's series of D800 A-Net Distributors provides support for parallel connections of up to eight Pro16 devices, including the A640, A360, A320, and legacy A-16II Personal Mixers.

Overview

Two versions of the D800 are available. The standard D800 includes a Pro16e A-Net input, compatible with all Pro16 Series and Pro16e-capable devices. This input port also supports an A-Net Bridge input, allowing up to four synchronous Pro16 A-Net streams to be connected. Used in conjunction with the SB4 System Bridge and Pro16 A-Net console cards, the D800 can be used for sending up to 64 channels directly from a digital console to A640, A360 and A320 Personal Mixers.

The D800-Dante A-Net Distributor adds connectivity for a Dante digital audio network, allowing up to 64 channels (at 44.1/48kHz sample rates) to be sent directly from a Dante audio network to Aviom Personal Mixers. Sample rates of 88.2/96 and 176.4/192 kHz are supported with reduced A-Net channel counts.

The D800-Dante has a dual interface and may be set to use *either* its Dante interface or its A-Net In port as the source of digital audio for the Personal Mixers.



D800 front panel

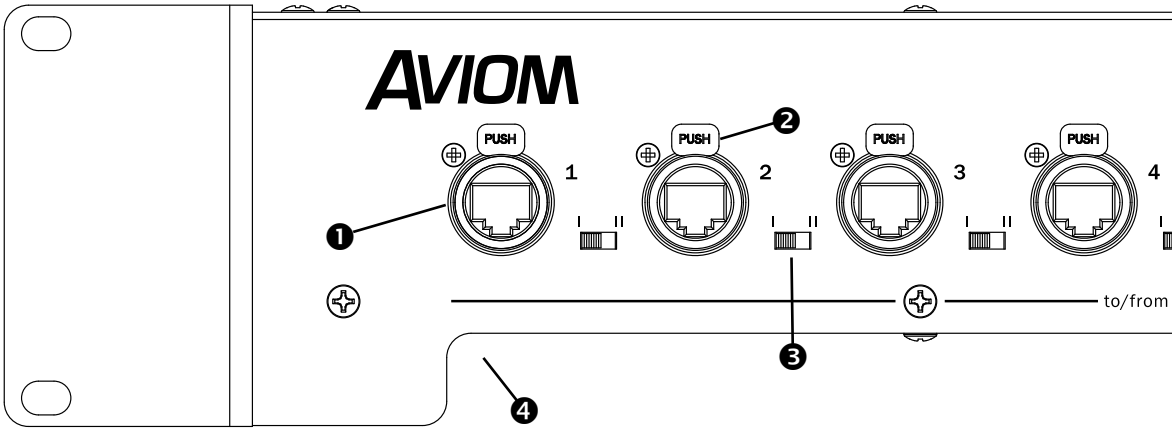
All versions of the D800 A-Net Distributor include a Mixes Out port for the A640 and A360 Network Mix Back™ feature. The D800 creates a 16-channel Pro16e A-Net stream comprised of the eight stereo mixes from connected A640 or A360 Personal Mixers. No setup or routing is required at the D800 or the A640/A360. By connecting the Mixes Out port on the D800 to an AN-16/o v.4 Output Module, these stereo mixes can be connected to the transmitter units for the musicians' wireless in-ear monitors, eliminating the need for analog cables from the A640 or A360 to the transmitters's inputs while also keeping all analog connections off of the stage. On the D800-Dante, Network Mix Back audio is also available to the Dante network.

All versions of the D800 include a rear-panel Ethernet port, which can be connected to a standard Wi-Fi router. By connecting an iOS device—Apple® iPhone®, iPod touch®, or iPad®—to the Wi-Fi network, musicians can extend the user interface of their A360 onto their device's touchscreen.

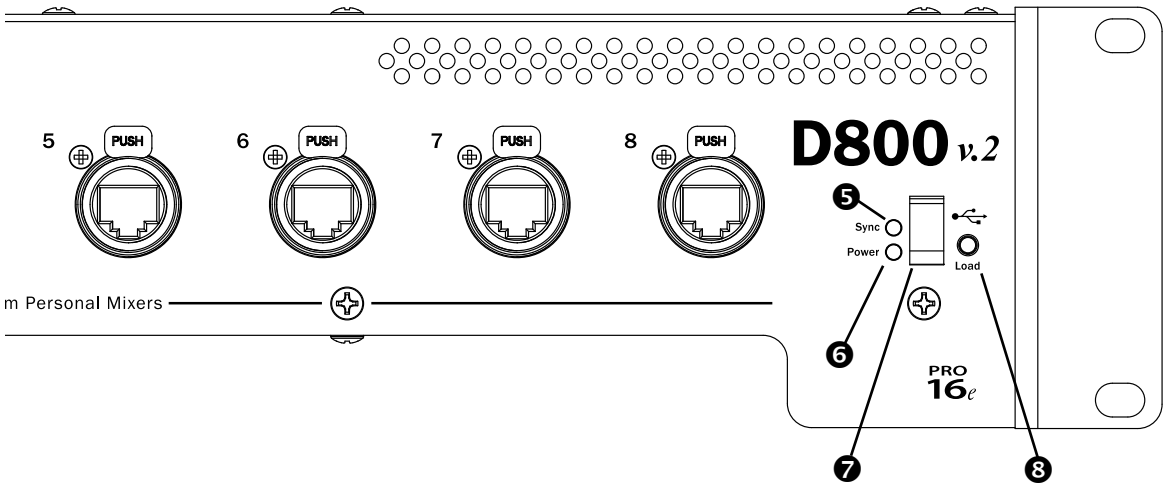
An unlimited number of D800 and D800-Dante A-Net Distributors can be used in an A-Net network, and all versions of the D800 are compatible with all Pro16 Series devices.

D800 Front Panel

Front panel features described in this section are found on both the standard and Dante versions of the D800 A-Net Distributor.



	Function
1	A-Net outputs 1-8, with DC power for Personal Mixers
2	Locking dual Cat-5 connector; press tab to release
3	Mode switch; Pro16 (I) for devices that support single-direction A-Net, or Pro16e (II) devices that support bidirectional communication and Network Mix Back * *Not required on the v.2 D800 and D800-Dante*
4	Cable pass-through



	Function
5	Sync LED, green
6	Power LED, red
7	USB port
8	Load button

A-Net Ports 1 to 8

The eight A-Net ports on the front panel of the D800 A-Net Distributor provide a copy of the D800's input signal to the connected A-Net devices. When connected to a personal mixer such as the A320, or A-16II data flows in only one direction; when connected to an A640 or A360 Personal Mixer data can be unidirectional or bidirectional. On the original version of the product the I/II switch below the Cat-5 jack controls the data flow; the switches are not required on the D800 v.2 and D800-Dante v.2.

Network connections on the D800 front panel can use standard Cat-5 cables or cables equipped with a locking Cat-5 connector such as the Neutrik EtherCon. Locking XLR-style Cat-5 connectors are similar to a mic connector, offering increased protection and a more secure locking mechanism.

Each A-Net port also supplies DC power that can be used to power a Personal Mixer product over the Cat-5 cable, eliminating the need for a local power supply.

✓ **Note:** The DC power supply in the D800 can power only one Personal Mixer per Cat-5 cable. If you start a daisy chain from an A-16II Personal Mixer that is powered from one of the D800's front panel A-Net ports, each additional Personal Mixer in the daisy chain will need a source of DC power such as the PS-120 Power Supply.

Pro16e Output

Both versions of the D800 A-Net Distributor output a Pro16e data stream from each of the front panel A-Net ports. This enhanced version of A-Net can carry up to 64 network slots, depending on the number of input devices used in the system.

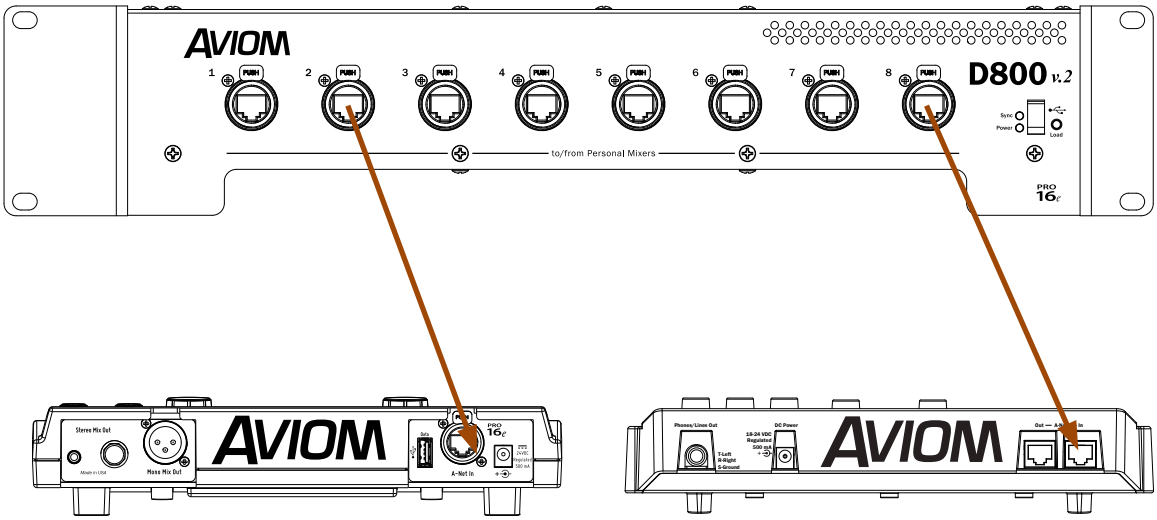
The standard D800 A-Net Distributor gets its network input from the **A-Net In** port on its rear panel. The D800-Dante version of the product can get its network audio from either a connected Dante network *or* its **A-Net In** port. A DIP switch for selecting the network source is provided on the Dante interface. See page 23 for additional information.

Personal Mixing systems using more than 16 inputs always pass all network slots to all A-Net ports on the D800 regardless of the type of personal mixer connected to the port. Pro16 devices such as the A-16II Personal Mixer can make use of only network slots 1-16 and will ignore network slots 17-64. The A320 Personal Mixers uses the first 32 channels of the network, and will ignore network channels 33-64. Each A640 or A360 Personal Mixer can use any active network slot from 1-64; A640 mix channel buttons can be mapped as needed right from the A640 user interface. Mapping A360 channel buttons requires the use of the free A360 Channel Manager software available from the Aviom website (www.Aviom.com).

Connecting Personal Mixers

To connect a Personal Mixer to the D800:

- Connect a Cat-5e cable from an A-Net port on the D800 A-Net Distributor to the **A-Net In** port on the Personal Mixer.
- DC power is supplied automatically to the Personal Mixer—no external DC power supply is required.
- Connect additional Personal Mixers using Cat-5e cables from an available A-Net port on the D800 A-Net Distributor to the A-Net input on the Personal Mixer. Any combination of A640, A360, A320, and A-16II Personal Mixers may be used.



Connect the A-Net port on the D800 to A-Net In on an A640, A360, A320, or A-16II Personal Mixer.

See below for information about the settings for each A-Net port's mode switch.

✓ Note: For front panel connections from the D800 to Personal Mixers, shielded Cat-5e (or better) cable must be used to stay below the CISPR 22 Class B, ICES-003, and FCC 47 CFR Part 15 Class B emissions limits.

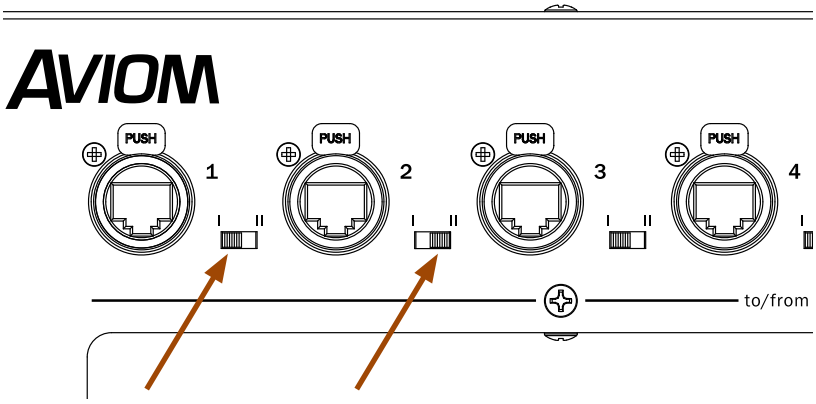
Unshielded Cat-5e (or better) cable may be used on all rear panel connections.

The A-Net outputs on the D800 can be connected to any A-Net compatible device, allowing flexible routing and system configurations as well as virtually unlimited system expansion.

See page 31 for additional information on configuring personal mixing systems.

Mode Switches

Each of the eight A-Net ports on the front of the original D800 has a two-position mode switch labeled with Roman numerals **I** and **II**. The switches are used to control data flow, either unidirectional (I) or bidirectional (II). The unidirectional mode is used with Pro16 Personal Mixers (A-16II, A-16R) and output modules and the A320 Personal Mixer while the bidirectional mode is used with the A640 or A360 Personal Mixer to enable the two-way communication with the D800 when using the optional Network Mix Back or the A360 iOS support features. *The mode switches are not required on the D800 v.2.*

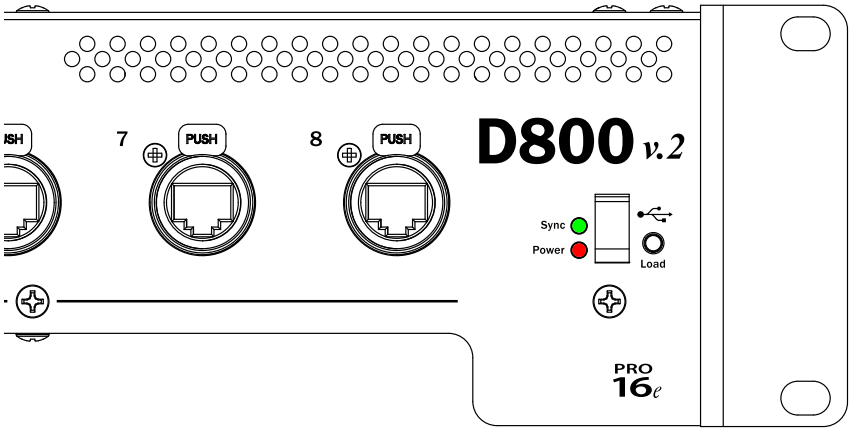


A-Net port 1 is set to unidirectional (**I**) while port 2 is set to bidirectional (**II**).

When using the A320, and A-16II Personal Mixers, the mode switch *must* be set to the unidirectional (I) position. When using A640 or A360 Personal Mixers the switch can be in either position, but note that the switch must be in the bidirectional (II) position for each port where iOS or Network Mix Back support is required.

Front Panel LED Indicators

There are two LED indicators on the front panel of the D800. The red LED indicates that the D800 is powered on.



Sync (green) and Power (red) LEDs on the D800 front panel

The front panel Sync LED lights green on the standard version of the D800 A-Net Distributor when a valid A-Net stream is connected to the rear panel A-Net In port.

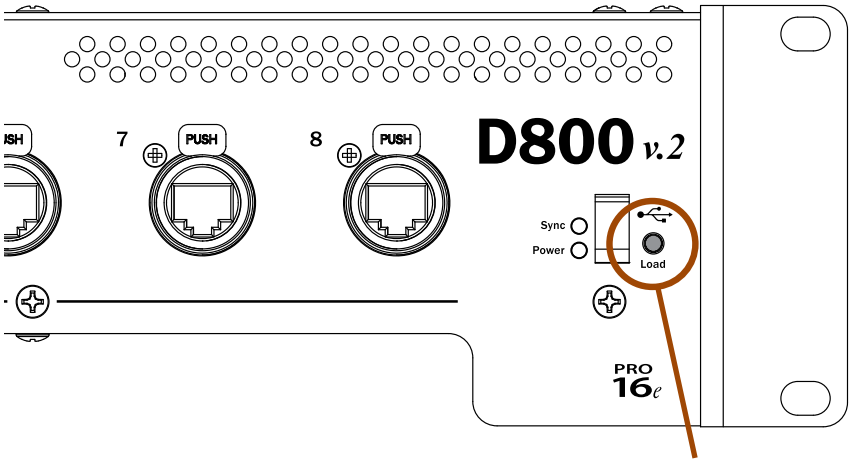
On the D800-Dante version of the product, the front panel **Sync** LED will light green if:

- the Dante interface is enabled ***and*** the Dante network is functioning and generating clocks, *or*
- the Dante interface is disabled ***and*** a valid A-Net stream is connected to the D800's rear panel A-Net In port

See page 23 for additional information about configuring Dante.

Load Button

The D800 includes USB support for Aviom firmware updates. A standard USB compliant mass storage device (also called a memory stick or thumb drive) is required. **This USB port is not used for Dante firmware updates.**

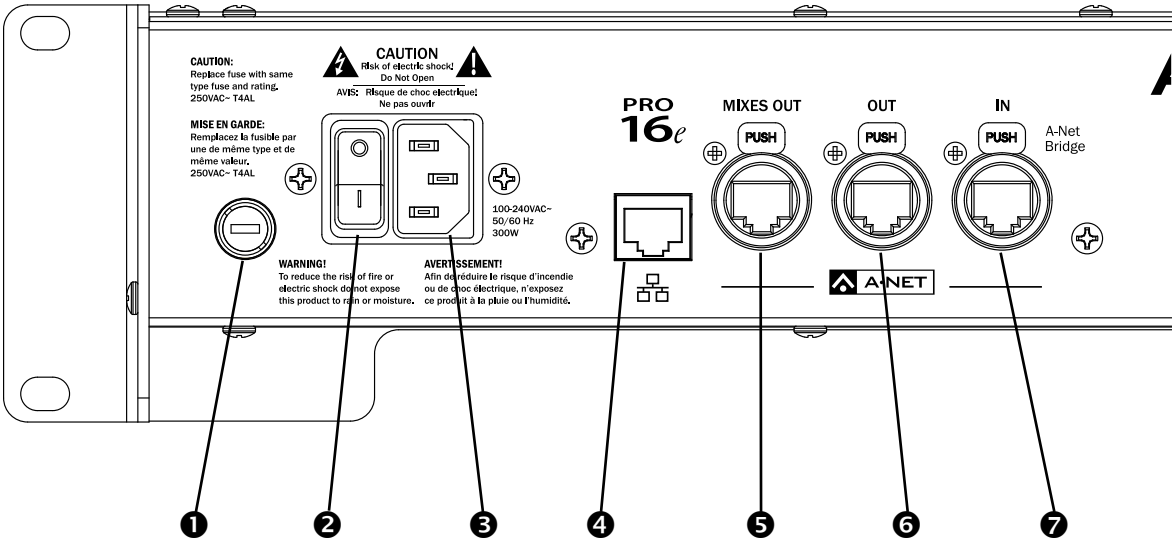


The load button is used with a USB memory device for firmware updates.

See page 35 for firmware update information.

D800 Rear Panel

The features on the left side of the rear panel are found on both the standard and Dante versions of the D800.



	Function
1	Fuse holder
2	Power On/Off switch
3	AC Power connection, IEC
4	Ethernet network connection, RJ45
5	Pro16e Mixes Out, locking RJ45
6	Pro16e A-Net Out, locking RJ45
7	Pro16e A-Net In or A-Net Bridge In, locking RJ45

✓ **Note:** The standard version of the D800 is not field upgradable to the Dante version. Do not open the unit; no user-serviceable parts are inside.

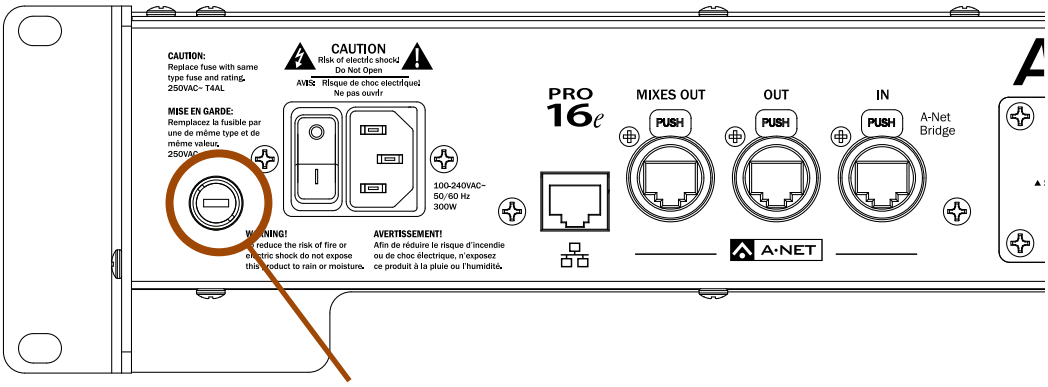
Power Supply

The rear of the D800 A-Net Distributor contains the standard IEC power input for the unit. The main power supply in the D800 is a switching type, compatible with the variety of electrical systems in use worldwide.

The D800 can operate with input voltages from 100 to 240 volts and at rates from 50 to 60 Hz. Replaceable IEC cables for AC power systems throughout the world are available from many electronics dealers. Avoid using cable adapters whenever possible. Replacement cables must provide an earth ground connection.

Fuse

The D800's power supply fuse is contained in the round receptacle next to the power connector assembly. To change a fuse, first unplug the unit from the AC wall receptacle. Remove the fuse access panel to reveal the fuse. Always replace the fuse with one of the same rating—250VAC - T4AL.



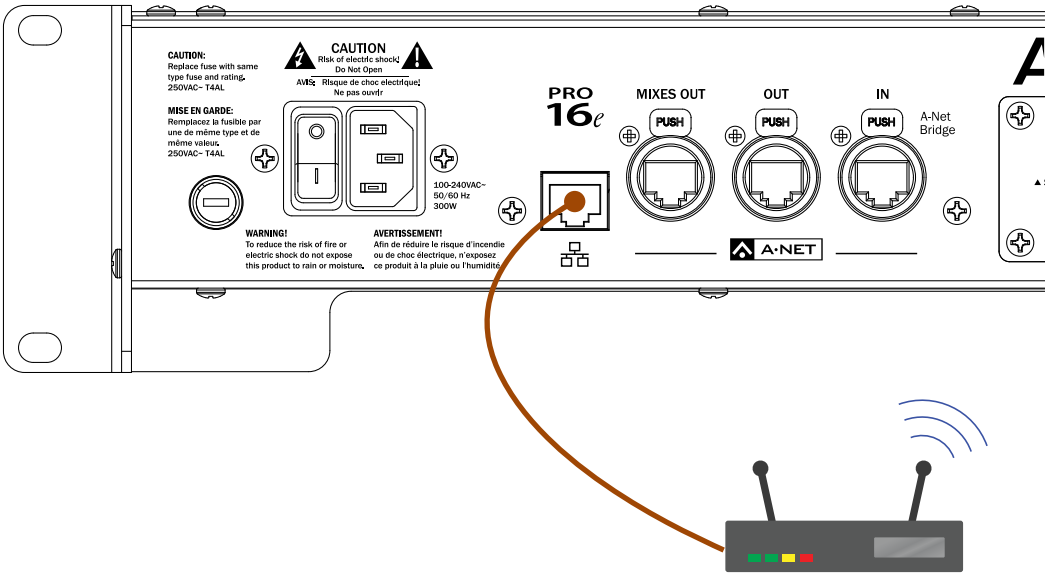
Always replace the fuse with one of the same rating.

Ethernet Network Connection

The D800 can provide an enhanced personal mixing experience to users of the A360 Personal Mixer via iOS and the free A360 Display app, available from the Apple store. Each A360 connected to a D800 can display this optional mix information on a supported iOS device such as an iPhone or iPad. A properly configured Wi-Fi router is required to use iOS support.

✓ **Note:** The front panel mode switch must be in the bidirectional (**II**) position for each A360 Personal Mixer that will be using iOS support on the original D800 products.

The iOS A360 Display support feature is only available when using A360 Personal Mixers; the A320 and A-16II Personal Mixers cannot take advantage of the advanced information display. Each D800 can support up to eight A360 Personal Mixers.



A Wi-Fi router connected to the Ethernet port on a D800 sends additional mix information from an A360 Personal Mixers that can be displayed on an iOS device.

A-Net In Port / A-Net Bridge

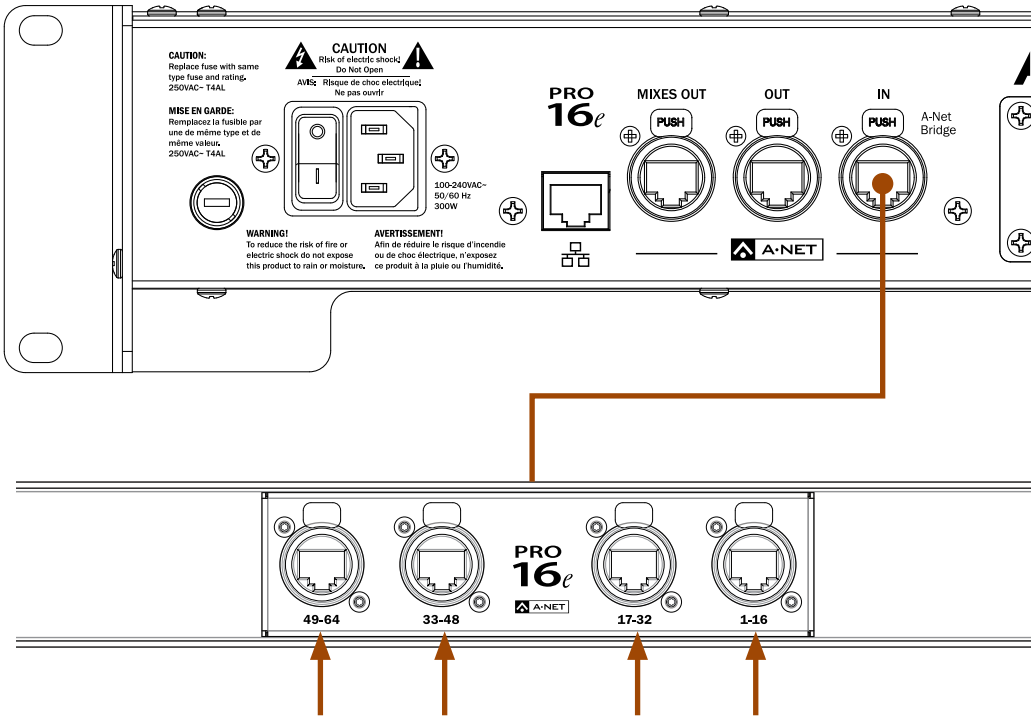
The standard D800 A-Net Distributor gets its network input from the **A-Net In** port on its rear panel. This A-Net signal can come from:

- a single Pro16 analog input module such as the legacy AN-16/i Input Module
- a single Pro16e analog input module such as the AN-16/i v.2 Input Module
- a maximum of four AN-16/i v.2 Input Modules cascaded together
- one Pro16 analog input module and up to three AN-16/i v.2 Input Modules
- a single Pro16 A-Net console card
- one Pro16 console card and up to three AN-16/i v.2 Input Modules
- multiple console cards from the same clock source connected to an SB4 System Bridge
- the A-Net Out from another A-Net Distributor
- a single Pro16 output from a Pro64 ASI A-Net System Interface
- up to four Pro16 outputs from a Pro64 ASI A-Net System Interface connected to an SB4 System Bridge

SB4 System Bridge

By using an SB4 System Bridge, a maximum of four digital console cards from the same clock domain may be cascaded, allowing up to 64 input sources to be made available to A640 or A360 Personal MIxers. The System Bridge's front panel **A-Net Bridge** port gets connected to the **A-Net In** on the D800 where the data will be merged into one multi-channel Pro16e data stream. The console cards can be installed in different consoles, but the consoles must be clocked to the same source using Word Clock connections.

✓ **Note:** The console card connected to the port labeled 1-16 on the System Bridge is assumed to be the clock source when using multiple cards.



Multiple console cards connect to an SB4 System Bridge.

The console card connected to the System Bridge's 1-16 port is assumed to be providing the clock.

✓ **Note:** When using the D800-Dante version of the product with the input audio source set to come from a Dante network, the A-Net In port is ignored.

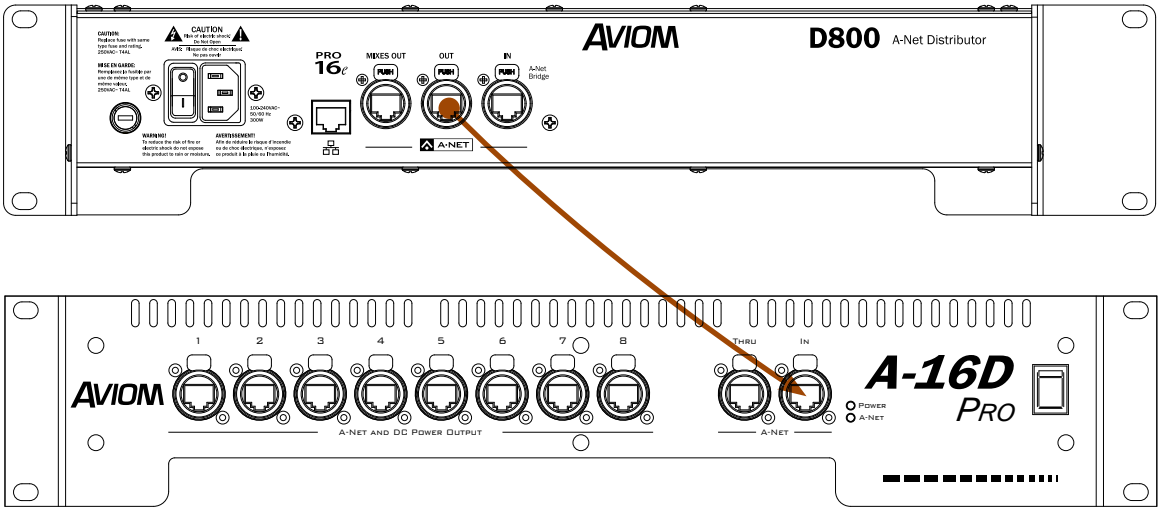
A-Net Out Port

On the standard version of the D800, the **A-Net Out** port supplies a copy of the Pro16e A-Net stream (up to 64 slots) that is connected to the **A-Net In** port. On the D800-Dante version of the product, the **A-Net Out** also supplies an exact copy of the input source, but note that the source is selectable between the Dante stream connected to the Dante interface's Dante Primary or Secondary port and the A-Net stream connected to the **A-Net In** port. (Configuration of the Dante Primary and Secondary ports must be done using the Dante Controller software available from Audinate.) A DIP switch on the Dante interface is used to select the source. See page 23 for additional information.

Use the **A-Net Out** port to connect additional A-Net Distributors, including other versions of the D800, as well as the D400, A-16D and A-16D Pro A-Net Distributors. This enables more than eight Personal Mixers to be used with the same input sources when configuring personal mixing systems for more than eight performers.

The A-Net Out port may also be connected directly to a Personal Mixer as a ninth network output, but remember that this port does not carry DC power for the Personal Mixer, so an optional external power supply (such as the PS-120) will be required. The rear panel A-Net Out also does not support the Network Mix Back or iOS features.

A Pro16 output device such as the AN-16/o v.4 Output Module may also be connected to the D800's **A-Net Out** port. Since the AN-16/o v.4 is a Pro16 device it can only output slots 1-16 of the network. Slots 17-64 are ignored.



This example shows a D800's A-Net Out connected to an A-16D Pro's A-Net input to expand a personal mixing system.

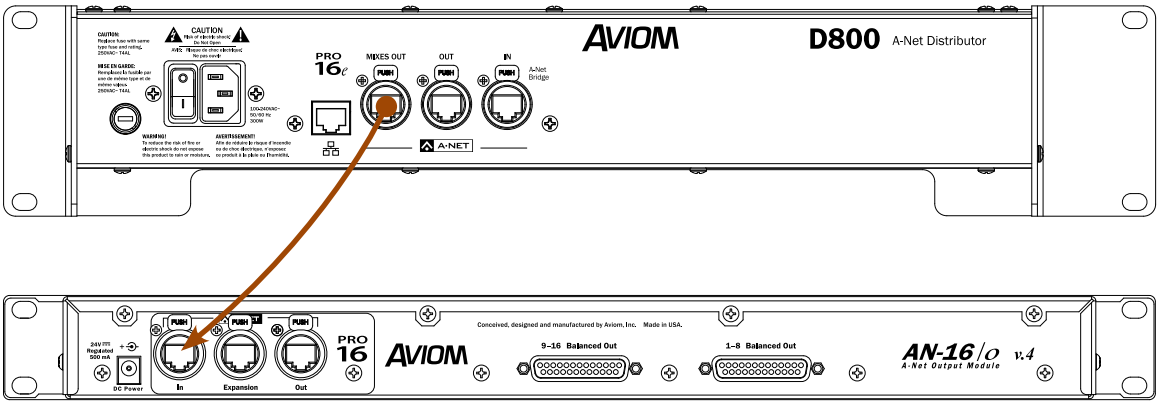
Mixes Out Port

The D800 **Mixes Out** port is used with the Network Mix Back feature and the A640 or A360 Personal Mixer. Each A640 or A360 Personal Mixer connected to the D800 can send its stereo mix back into the network so that it may be connected to a Pro16 output device such as the AN-16/o v.4 Output Module. The analog outputs from the AN-16/o can be connected to a wireless in-ear system transmitter; the A360 can then be used as a remote controller for the performer's mix without connecting earbuds or headphones to the A640 or A360. The front panel mode switches on the D800 must be set to the bidirectional position (**II**) for each A640 or A360 that will use the feature. Each of the eight A-Net ports on the D800 can provide one stereo mix from an A640 or A360 Personal Mixer to the **Mixes Out** port.

Each stereo mix from an A640 or A360 is assigned to a fixed pair of channels that appear at the **Mixes Out** port and are mapped to the connected output device as seen in the table below.

D800 Port	Mixes Out Channels
1	1-2
2	3-4
3	5-6
4	7-8
5	9-10
6	11-12
7	13-14
8	15-16

An A640, A360, or A-16II Personal Mixer may also be connected to the **Mixes Out** port (or daisy chained to the **A-Net Out** port of an AN-16/o v.4) to allow an engineer to monitor the various mixes being created by the performers. Any A-Net device connected to the Mixes Out port will require an external power supply.

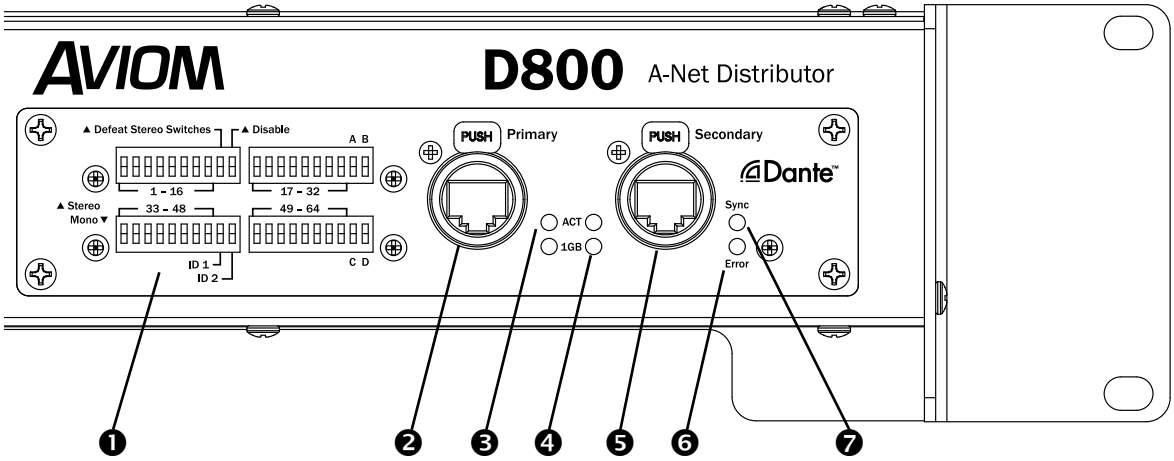


The Mixes Out port on a D800 connects to A-Net In on the AN-16/o v.4. Up to eight stereo mixes can be connected to the inputs of wireless in-ear transmitters from the AN-16/o v.4 analog outputs.

The eight Network Mix Back stereo mixes from the A640 or A360 Personal Mixers are also available in the Dante stream as D800 channels 1-16 when using the D800-Dante. This allows you to route the signals into Dante-enabled consoles, processors, etc. Using the Dante Controller routing software.

D800-Dante Rear Panel

The features described below are found only on the Dante version of the D800.



	Function
1	Dante configuration and Stereo Link DIP switches
2	Dante network Primary port, locking RJ45
3	Dante network activity LEDs, green
4	Dante 1GB network LEDs, red
5	Dante network Secondary port, locking RJ45
6	Dante network Error LED, red
7	Dante Sync LED, green

✓ **Note:** The standard version of the D800 is not field upgradable to the Dante version. Do not open the unit; no user-serviceable parts are inside.

Dante Network Ports

The Dante interface on the D800-Dante A-Net Distributor has two gigabit network ports labeled **Primary** and **Secondary**. The Dante Secondary port can be configured to be a pass-through port or a redundant copy of the Primary port. Configuring Dante settings requires the Dante Controller software available from the Audinate website. The Dante Primary port is also used when updating the Dante firmware.

The D800-Dante supports sample rates between 44.1kHz and 192kHz coming from the Dante network.

Dante Interface LEDs

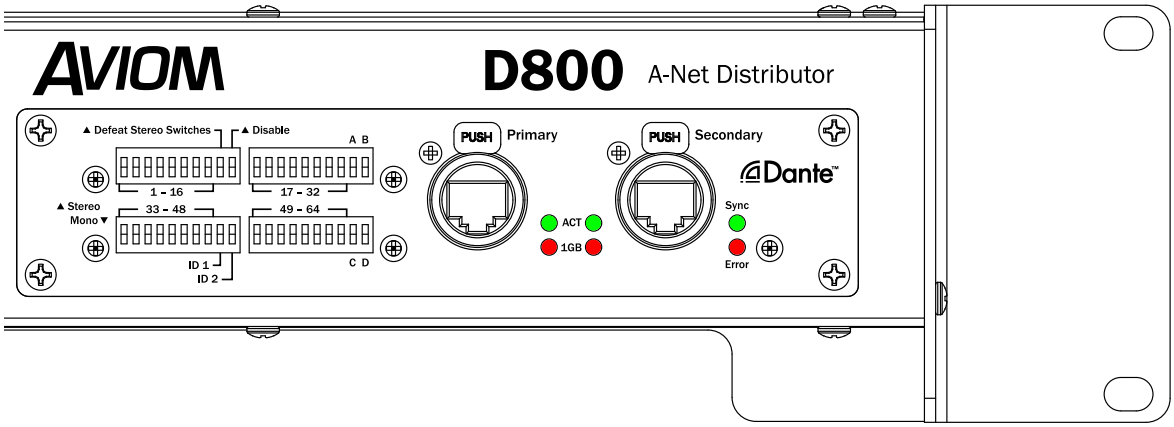
There are six LEDs on the Dante interface of the D800-Dante A-Net Distributor.

1GB Network LED

The red **1GB** LED will light when the Dante interface is connected to an Ethernet network. It does not, however, indicate that a valid Dante network stream is present. Individual 1GB LEDs are provided for the Primary and Secondary ports.

Activity LED

The green **ACT** (Activity) LED flickers when a valid Dante data stream is connected. Individual ACT LEDs are provided for the Primary and Secondary ports.



LED indicators on the Dante interface

Error LED

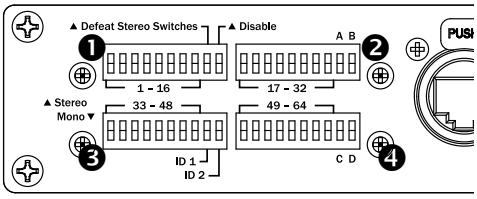
The Dante interface's **Error** LED lights to indicate a configuration error or loss of Dante network communication. Use the Dante Controller software to resolve Dante network issues.

Sync LED

The **Sync** LED on the Dante interface lights when a valid Dante stream is connected and active, indicating that the module is getting a proper clock signal.

Dante Configuration DIP Switches

Setting up a Dante network requires the use of the Dante Controller software available from the Audinate website. Once configured, the D800-Dante's onboard set of four DIP switch blocks is used to configure the A-Net-specific settings. This document refers to the DIP switch blocks with numbers 1-4 as shown below.



DIP switch blocks are referred to using numbers 1-4.

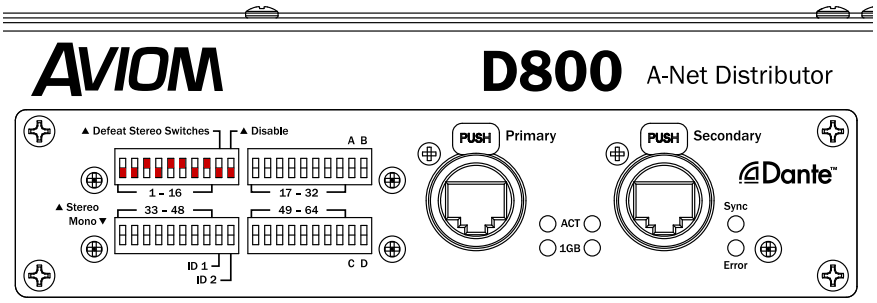
DIP Switch Block 1

DIP Switch	Down	Up
1	Mono	Stereo Link Slots 1-2
2	Mono	Stereo Link Slots 3-4
3	Mono	Stereo Link Slots 5-6
4	Mono	Stereo Link Slots 7-8
5	Mono	Stereo Link Slots 9-10
6	Mono	Stereo Link Slots 11-12
7	Mono	Stereo Link Slots 13-14
8	Mono	Stereo Link Slots 15-16
9	Use the DIP switch Stereo Link settings	Ignore the DIP switch Stereo Link settings; all channels sent to A-Net are mono
10	Use **Dante** as the input source for the network	Use the **A-Net** In port as the input source for the network

Any combination of the Stereo Link DIP switches may be used; in the up position, the global stereo links are transmitted over A-Net to all Personal Mixers in the network. Set DIP Switch 9 in this block to the ***up*** position to override the Stereo Link settings made with the hardware switches; this makes all channels sent to the A-Net devices mono. Stereo link changes can be made at any time; all Personal Mixers will update automatically to reflect the changes. Stereo Link settings may be changed at any time.

Stereo Links settings made with the DIP switches in the Dante interface are applied only when using the Dante audio stream as the network's input. When using the A-Net In port instead of the Dante input, Stereo Links must come from an A-Net input device (analog or console card).

✓ **Note:** DIP switch #10 in Switch Block 1 will enable or disable the Dante input and determine which port the D800 is getting its audio and clocking from. The D800-Dante can either use Dante audio (from the Dante Primary or Secondary port), or A-Net Audio (from the **A-Net In** port), but not both simultaneously.

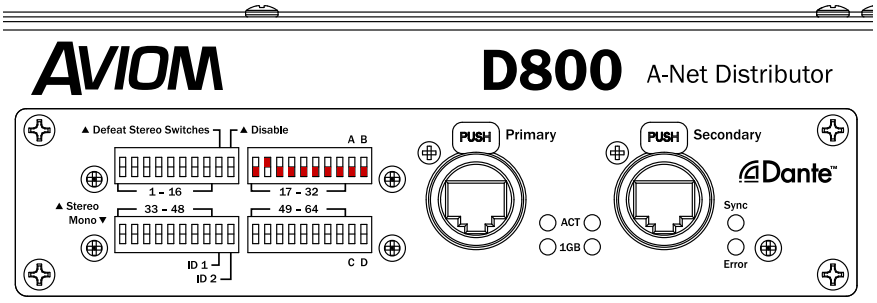


This example uses red handles to show Slots 5-6, 9-10, 11-12, and 15-16 with stereo links on.

DIP Switch Block 2

DIP Switch	Down	Up
1	Mono	Stereo Link Slots 17-18
2	Mono	Stereo Link Slots 19-20
3	Mono	Stereo Link Slots 21-22
4	Mono	Stereo Link Slots 23-24
5	Mono	Stereo Link Slots 25-26
6	Mono	Stereo Link Slots 27-28
7	Mono	Stereo Link Slots 29-30
8	Mono	Stereo Link Slots 31-32
9 A	*Reserved*	*Reserved*
10 B	*Reserved*	*Reserved*

In DIP Switch block 2, switches 9 and 10 (**A** and **B**) are reserved for future use. They should be left in the down position by default.



In the example red handles are used to show a stereo link for network slots 19-20.

DIP Switch Block 3

DIP Switch	Down	Up
1	Mono	Stereo Link Slots 33-34
2	Mono	Stereo Link Slots 35-36
3	Mono	Stereo Link Slots 37-38
4	Mono	Stereo Link Slots 39-40
5	Mono	Stereo Link Slots 41-42
6	Mono	Stereo Link Slots 43-44
7	Mono	Stereo Link Slots 45-46
8	Mono	Stereo Link Slots 47-48
9 ID1	*Reserved*	*Reserved*
10 ID2	*Reserved*	*Reserved*

In DIP Switch block 3, switches 9 and 10 (**ID1** and **ID2**) are reserved for future use. They should be left in the down position by default.

DIP Switch Block 4

DIP Switch	Down	Up
1	Mono	Stereo Link Slots 49-50
2	Mono	Stereo Link Slots 51-52
3	Mono	Stereo Link Slots 53-54
4	Mono	Stereo Link Slots 55-56
5	Mono	Stereo Link Slots 57-58
6	Mono	Stereo Link Slots 59-60
7	Mono	Stereo Link Slots 61-62
8	Mono	Stereo Link Slots 63-64
9 C	*Reserved*	*Reserved*
10 D	*Reserved*	*Reserved*

In DIP Switch block 4, switches 9 and 10 (labeled **C** and **D**) are reserved for future use. They should be left in the down position by default.

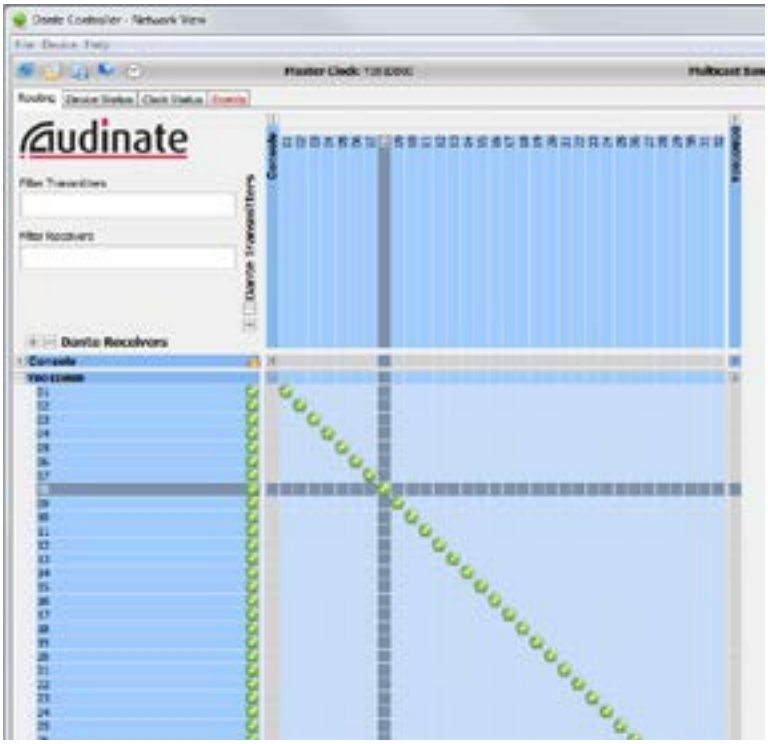
Dante Setup

The D800-Dante requires some additional configuration using Audinate's Dante Controller software when it is part of a Dante network.

Routing Channels

Any active audio resource in a Dante network may be routed to the D800-Dante as long as the two devices are operating at the same sample rate. Routing channels requires the Dante Controller software, available from the Audinate website. It can be run on either Mac or PC computers. Complete documentation for the software is available from Audinate.

Dante Controller is essentially an X/Y grid that allows a channel from one device to be sent to another. Devices that transmit are shown horizontally across the top of the grid; receiving devices are in the vertical column along the side. Open any device's Transmit or Receive panel by clicking the plus or minus sign (+/-) next to its name.



The Dante Controller routing grid is used to assign channels to any device in the network.

Use the mouse to activate or deactivate a channel. A green check mark symbol indicates a valid connection.

Once channels are configured for your application, the Dante Controller software application can be closed. Channel transmit/receive settings are stored within each Dante device until they are changed using the Dante Controller software.

Device View

Opening the Device View for any Dante device in the network will display a tabbed view of additional settings for the device. There is an overview of the device's firmware, its transmit and receive settings, as well as settings for the sample rate and redundancy.

Status Tab

Choose the Status tab of the Device View to display the current firmware and other manufacturer-related information.

The status view for the D800-Dante displays its current firmware.

There are no user-configurable settings in the Status tab.

Device Config Tab

The settings for Sample Rate and Device Latency are found within the Device Config tab.

Choose a sample rate from the drop-down menu.

To change the sample rate for the D800-Dante, select a new rate from the drop-down menu.

Use the radio buttons in the Device Latency section to choose a latency value that best matches the network you have set up.

Rename Device

The **Rename Device** field in Dante Controller allows you to change the D800-Dante's default name to some more descriptive for your application. However, it is important to note that when using the D800-Dante with Yamaha Dante products the "Y001" prefix in the default name is used by Yamaha as way of identifying connected Dante devices from within the Yamaha hardware's user interface.

Network Config Tab

The settings for the D800-Dante's Primary and Secondary ports are found within the Network Config Tab of the Device View. Two settings are available in the drop-down menu. When set to **Switched**, both ports are identical; Dante devices can be daisy chained.

When set to **Redundant**, the Secondary port will serve as a redundant copy of the data appearing at the Primary port. Note that using the Redundant setting requires that the network be configured using a pair of gigabit switches and also requires that all of the Audinate Dante rules regarding redundant setup are followed.

Choose either Switched or Redundant from the drop-down menu.

AES67 Config Tab

The AES67 Config tab has the AES67 Mode set to **Disabled** by default. To use AES67, select **Enabled** in the drop-down menu and confirm the change in the dialog box. A device reboot is required.

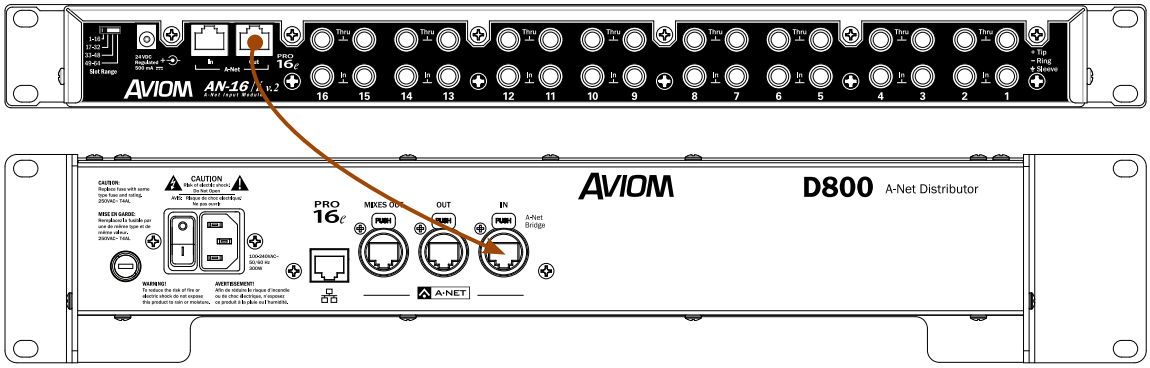
Personal Mixing Systems

A personal mixing system can be configured with a variety of input sources including analog, digital console cards, and Dante network devices and consoles. Up to eight Personal Mixers (A640, A360, A320, or A-16II) can be connected and powered per D800. This section shows some typical personal mixing system configurations.

16-Channel Personal Mixing System

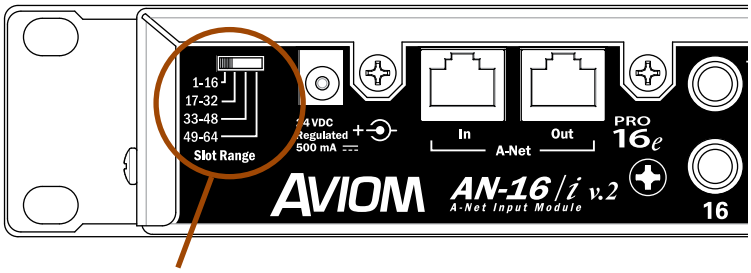
This system uses a single analog input device or digital console card; 16 total network slots are available to the Personal Mixers. If the D800-Dante is used, note that the Dante Disable DIP switch must be in the *up* position to use A-Net as the input source to the D800. (The Dante DIP switch is #10 in Switch Block 1.)

Analog Input



A-Net Out on the analog input device is connected to A-Net In on the D800.

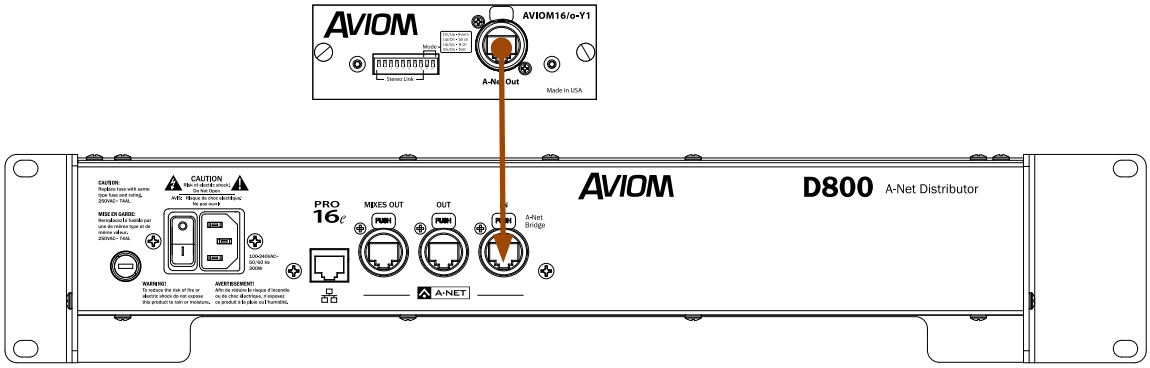
When using an AN-16/i v.2 Input Module, be sure to set its rear panel **Slot Range** switch to 1-16.



The Slot Range must be set to 1-16.

Digital Console Card

A compatible Pro16 A-Net digital console card from any of Aviom's technology partners may be substituted for the Y1 Yamaha card shown in the diagram.



A-Net Out from the console card is connected to A-Net In on the D800.

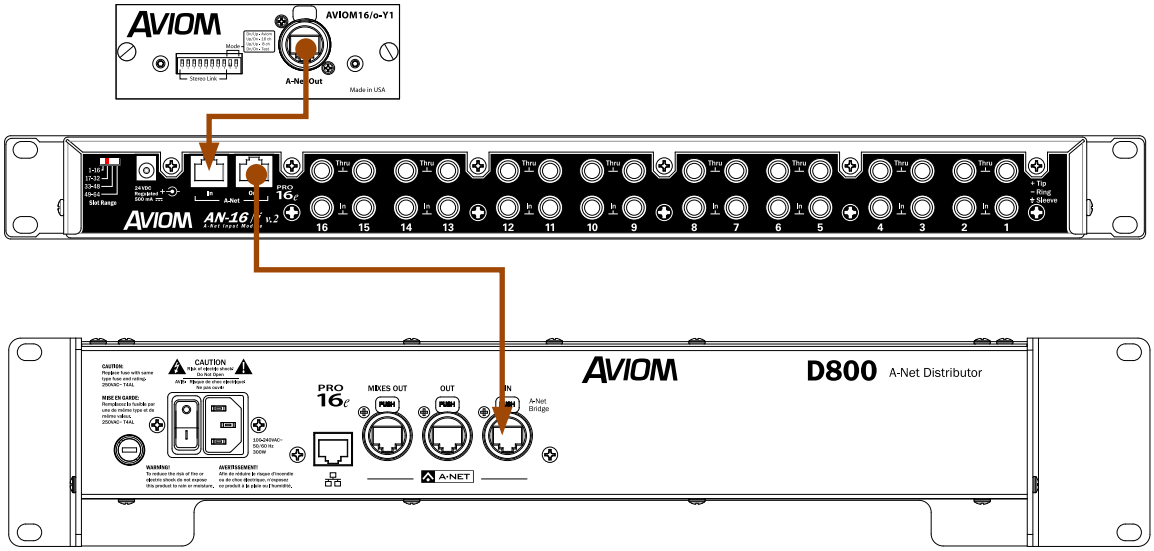
As with the analog version of the basic system, if a D800-Dante A-Net Distributor is used, the Dante Disable DIP switch (#10 in Switch Block 1) must be in the ***up*** position to use the **A-Net In** port.

32-Channels - Analog & Digital Inputs

This hybrid system uses one digital console card plus one analog AN-16/i v.2 Input Module to provide up to 32 inputs to the network. The console card provides network slots 1-16 of the network; the AN-16/i v.2 Input Module provides slots 17-32.

To configure this system:

- Connect **A-Net Out** on the console card to **A-Net In** on the AN-16/i v.2 with a Cat-5 cable.
- Set the **Slot Range** switch on the AN-16/i v.2 to **17-32**.
- Connect a Cat-5 cable from **A-Net Out** on the AN-16/i v.2 to **A-Net In** on the D800. (If the D800-Dante is used, the Dante Disable DIP switch (#10 in Switch Block 1) must be in the up position to use the A-Net input. The Dante interface's Stereo Link DIP switches are ignored)
- Set Stereo Links as needed on the console cards and/or AN-16/i v.2.
- Connect Personal Mixers to the D800's front panel A-Net ports.
- Create custom channel maps for A640 or A360 Personal Mixers.



The A-Net Out from the console card connects to the analog input module's A-Net In port. The Pro16e A-Net Out on the AN-16/i v.2 connects to A-Net In on the D800.

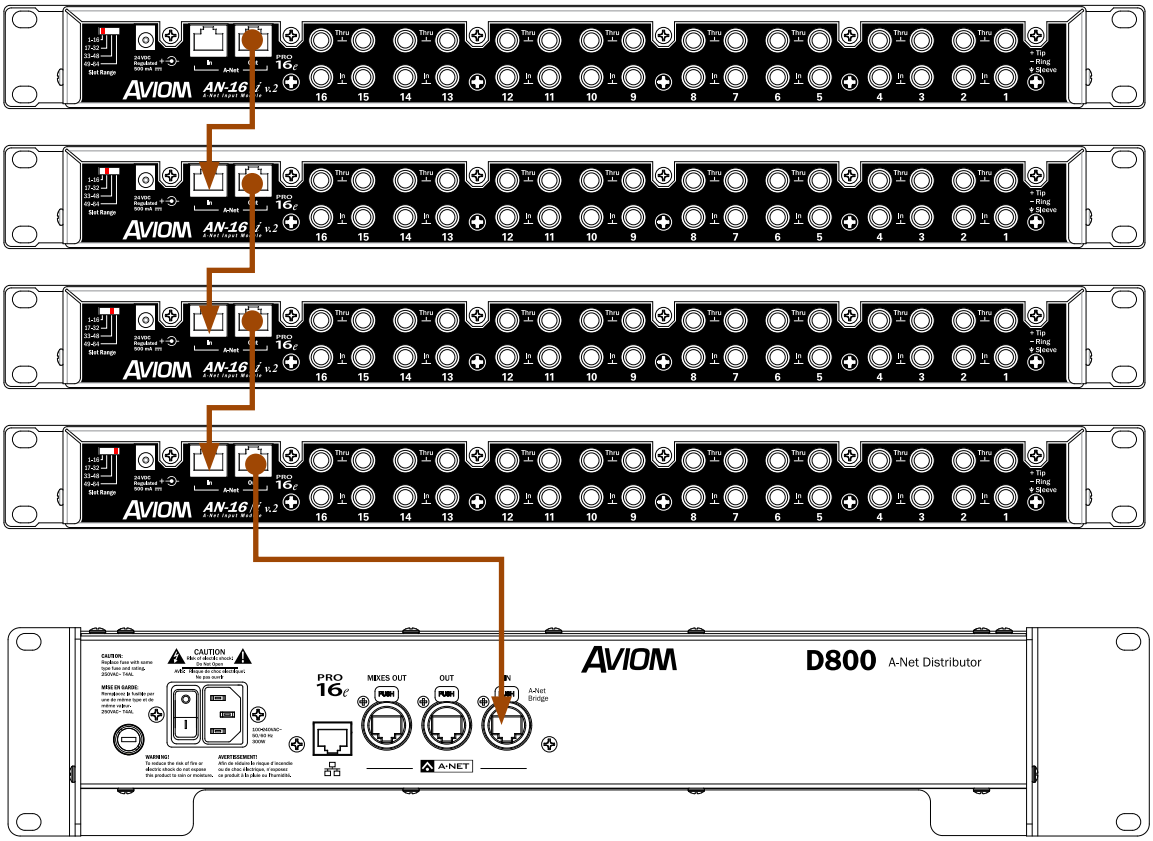
✓ **Note:** If A-16II Personal Mixers will be used with A640, A360, and/or A320 Personal Mixers in this type of network, it is important to note that the A-16II will ignore network slots 17 and above. Make sure to assign audio sources that are critical for users of the A-16II to slots 1-16 of the network. This also applies to A320 Personal Mixers used in the A320's 16-channel mode.

32-64 Channels - Analog Inputs

Up to four analog input devices may be connected to a D800 by cascading the A-Net ports on the A-Net input devices. The first input device in the system (Input Module 1 in the diagrams) can be an original AN-16/i Input Module or AN-16/i-M Mic Input Module. By default these devices supply network slots 1-16.

To configure this system:

- Set the **Slot Range** switch on AN-16/i v.2 Input Module #1 to **1-16**.
- Connect **A-Net Out** on #1 to **A-Net In** on AN-16/i v.2 Input Module #2 with a Cat-5 cable.
- Set the **Slot Range** switch on AN-16/i v.2 Input Module #2 to **17-32**.
- Connect **A-Net Out** on #2 to **A-Net In** on AN-16/i v.2 Input Module #3.
- Set the **Slot Range** switch on AN-16/i v.2 Input Module #3 to **33-48**.
- Connect **A-Net Out** on #3 to **A-Net In** on AN-16/i v.2 Input Module #4.
- Set the **Slot Range** switch on AN-16/i v.2 Input Module #4 to **49-64**.
- Connect **A-Net Out** on #4 to the **A-Net In** on a the D800.



Four analog input modules create a 64-channel network.

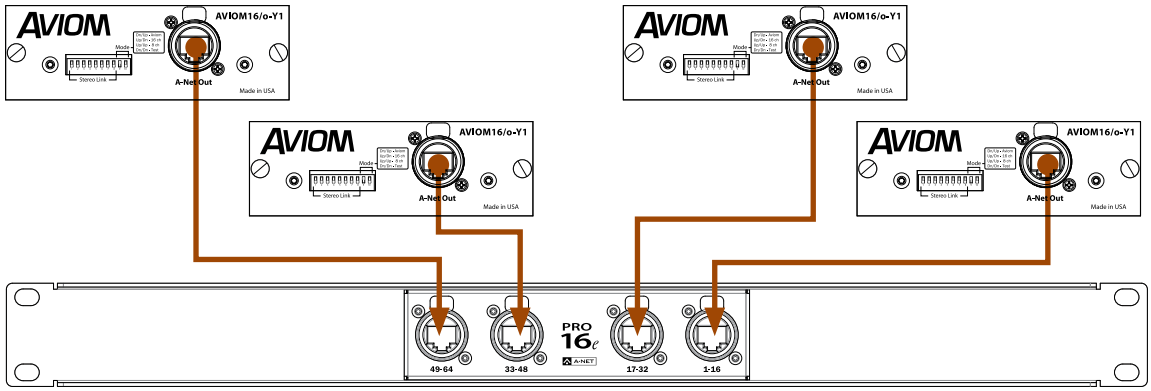
32-64 Channels - Console Card Inputs

Up to four digital console cards from the same clock domain may be connected to a D800 by connecting the cards to an SB4 System Bridge. The A-Net streams connected to the System Bridge will be merged into a single Pro16e data stream by the D800 A-Net Distributor. If the digital console cards are installed in different consoles, the consoles must be clocked together using Word Clock.

To configure this system:

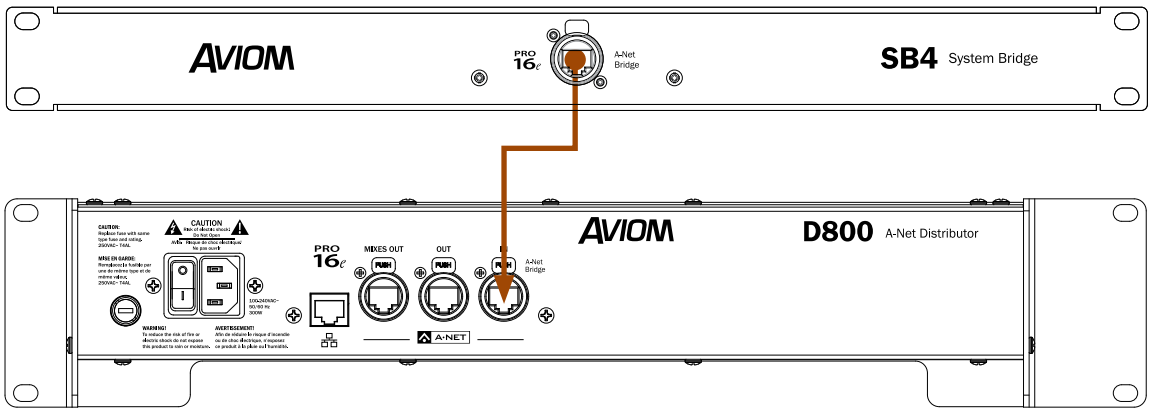
- Connect **A-Net Out** on console card #1 to **A-Net 1-16** on the SB4 System Bridge.
- Connect **A-Net Out** on console card #2 to **A-Net 17-32** on the SB4.
- Connect **A-Net Out** on console card #3 to **A-Net 33-48** on the SB4.
- Connect **A-Net Out** on console card #4 to **A-Net 49-64** on the SB4.
- Connect the **A-Net Bridge** port on the front of the SB4 to **A-Net In** on the D800.

SB4 Rear Panel Setup



Four digital console cards combine to create a 64-channel network.

SB4 Front Panel Setup



Connect the SB4 System Bridge to the D800.

32-64 Channels - Console Cards & Analog

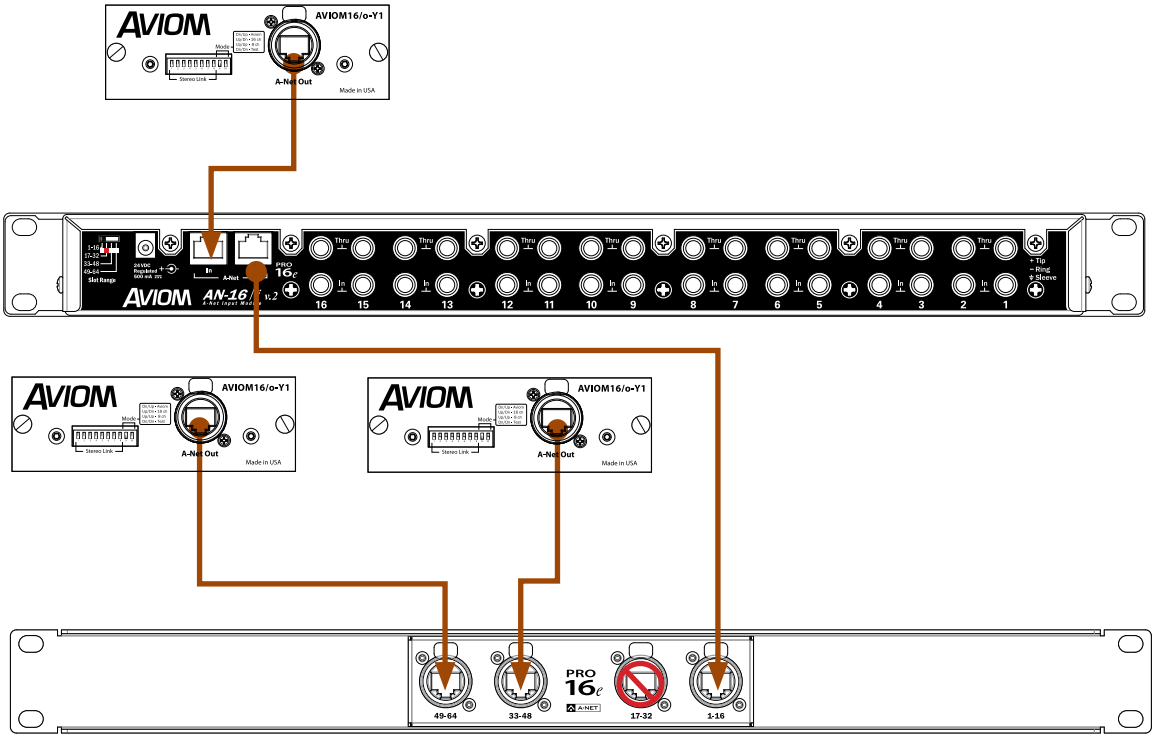
Up to three digital console cards from the same clock domain plus one AN-16/i v.2 Input Module may be combined to create a hybrid system that uses both analog and digital inputs to the network. An SB4 System Bridge is used to combine the A-Net outputs so that they may be connected to the D800's A-Net input.

Since there can only be one clock source, one of the console cards will be connected to the AN-16/i v.2 Input Module's **A-Net In** to provide sync while the remaining console cards will be connected to the SB4 ports as seen in the previous system example. SB4 port 17-32 is unused in this configuration.

To configure this system:

- Connect **A-Net Out** on console card #1 to **A-Net In** on the AN-16/i v.2 Input Module.
- Set the AN-16/i v.2 Input Module's **Slot Range** switch to **17-32**.
- Connect **A-Net Out** on the AN-16/i v.2 Input Module to **A-Net 1-16** on the SB4.
- Leave the **A-Net 17-32** port on the SB4 unconnected. (Channels 1-32 are provided by the AN-16/i v.2)
- Connect **A-Net Out** on console card #2 to **A-Net 33-48** on the SB4.
- Connect **A-Net Out** on console card #3 to **A-Net 49-64** on the SB4.
- Connect the **A-Net Bridge** port on the front of the SB4 to **A-Net In** on the D800.

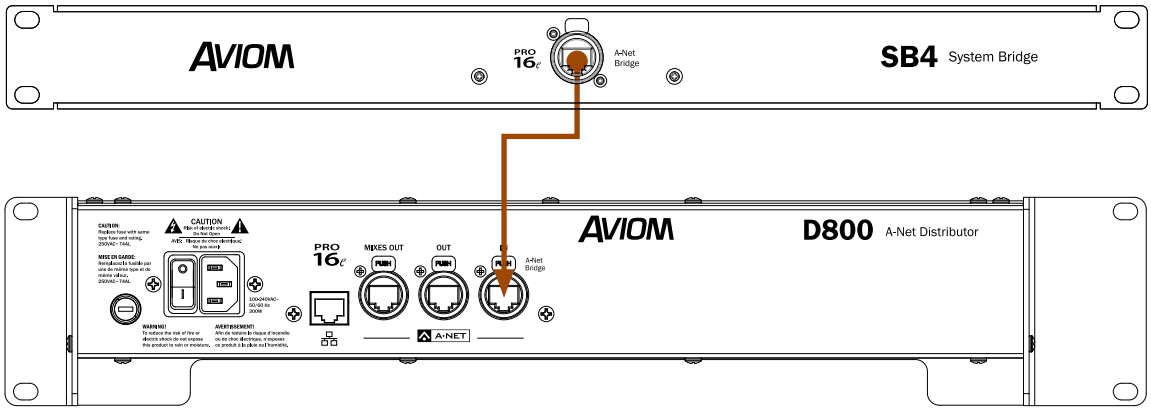
SB4 Rear Panel Setup



Three digital console cards and 16 channels of analog inputs combine to create a 64-channel network.

If the digital console cards are installed in different consoles, the consoles must be clocked together using Word Clock.

SB4 Front Panel Setup



Connect the SB4 System Bridge to the D800.

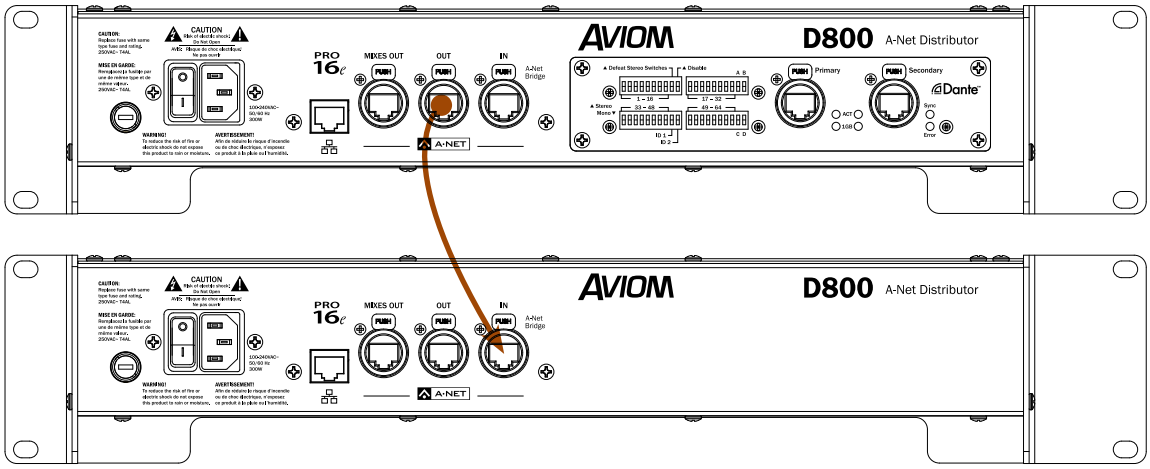
If the D800-Dante A-Net Distributor is used, the Dante Disable DIP switch must be in the up position to use the A-Net input rather than the Dante network input.

Expanding a Personal Mixing System

Any number of Pro16 A-Net devices can be used in a personal mixing system, including multiple D800 A-Net Distributors. To expand a system, additional D800 Distributors can be connected to any available **A-Net Out** port on a Pro16 device including A-16II Personal Mixers and AN-16/O v.4 Output Modules.

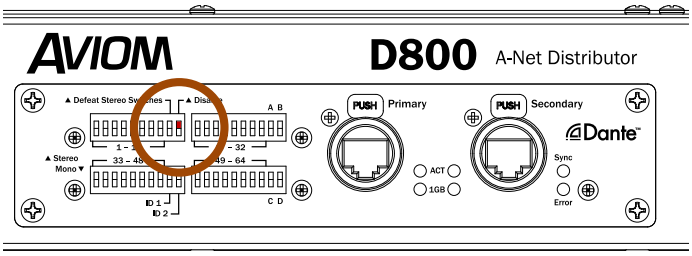
Using Multiple D800 A-Net Distributors

Multiple D800 units can be cascaded. To add another D800 to a system, simply connect a standard Cat-5 cable from the **A-Net Out** of the first D800 to the **A-Net In** on the second D800. See the following diagram.



Connect A-Net Out on the first D800 to A-Net In on a second D800 to expand a system.

If the second D800 is a D800-Dante version, make sure that its Dante Disable DIP switch is in the up position to enable its **A-Net In** port. (The Dante Disable DIP switch is #10 in Switch Block 1.)



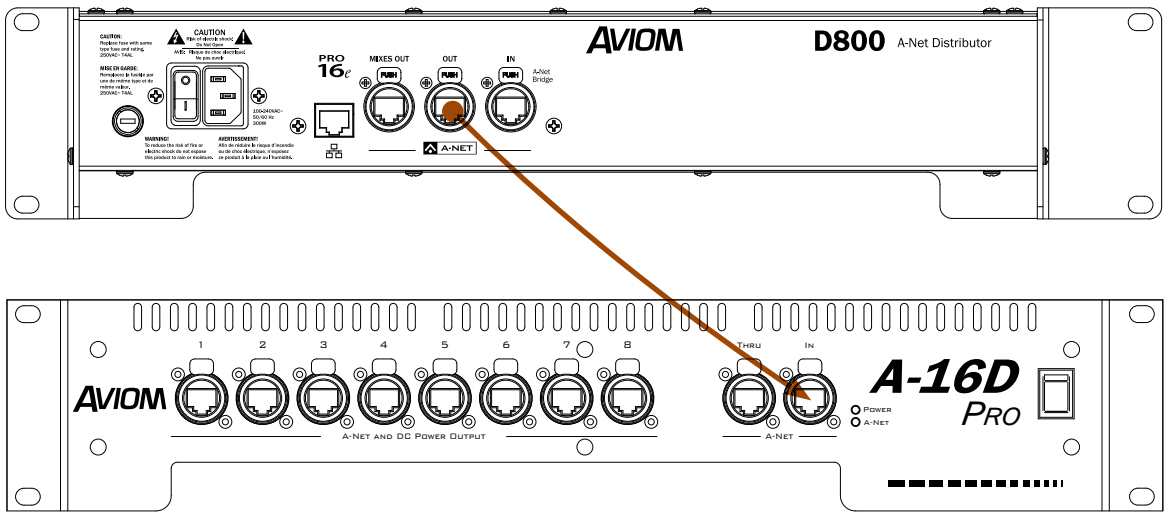
Set the Dante Disable switch to up to use the A-Net input.

Two D800s connected in a daisy chain provide sixteen powered A-Net outputs. Any number of D800 Distributors can be connected to provide additional expansion by connecting the **A-Net Out** jack of one D800 to the next distributor's A-Net In jack. Cat-5 cables can be up to 400 feet (120 meters) long between devices. Note that the Mixes Out port of each D800 only outputs the stereo mixes from A640 or A360 mixers connected to it.

Using the D400 or A-16D Pro With the D800

A D800 (or D800-Dante) may be used along with a D400 or an A-16D Pro A-Net Distributor in the same system. Connecting a D400 or A-16D Pro after a D800 allows up to 64 network slots to be transmitted to every port on each A-Net Distributor; use this as the default patching method if you are using A640, A360, and A320 Personal Mixers. Up to 64 inputs may be made active in the network by using analog input devices, console cards connected to an SB4 System Bridge, or a Dante network.

To connect a D800 A-Net Distributor to an A-16D Pro A-Net Distributor, patch a Cat-5 cable from the **A-Net Out** port on the D800 or D800-Dante's rear panel to the **A-Net In** on the front panel of the A-16D Pro A-Net Distributor.



A-Net Out on the D800 is connected to A-Net In on the A-16D Pro.

All network slots (up to 64) are available at each of the A-16D Pro's A-Net outputs. Connect Personal Mixers as needed. The A-16II and A-16R Personal Mixers will use network slots 1-16 only and will ignore slots 17-64. A320 Personal Mixers will use slots 1-32 of the network, ignoring slots 33-64. A360 Personal Mixers can make use of any active slot. Any A360 personal Mixers connected to an A-16D Pro cannot use the Network Mix Back or iOS features; these are unique to the D800 A-Net Distributors.

Expand the system further with another A-16D Pro by connecting **A-Net Thru** on the first A-16D Pro to **A-Net In** on the second.

✓ **Note:** The D400 A-Net Distributor or the half-rackspace A-16D A-Net Distributor may be substituted for the A-16D Pro in the example above.

Firmware Updates

The D800 and D800-Dante A-Net Distributor's Aviom firmware can be updated by the user to take advantage of new features and product updates released by Aviom.

During an Aviom firmware update, the front panel A-Net ports are temporarily disabled; connected personal mixers will not be able to output audio. The rear panel **A-Net In**, **A-Net Out**, and **Mixes Out** ports are also disabled while firmware is being updated as is the Dante I/O on the D800-Dante version.

A USB compliant memory stick formatted for FAT32 (standard PC formatting) is required. USB devices formatted with Mac NTFS formatting are not supported. USB devices partitioned with PC and Mac volumes may be used; the Mac partition will be ignored.

Once a firmware update has been downloaded from the Aviom website, extract the files from the .zip archive and copy the contents to the root level of the USB flash drive (the extracted archive will have all files in a folder named **Aviom**).

✓ Note: Aviom firmware updates are delivered with a specific folder structure in place which must remain intact in order to work. **Do not move, re-name, or otherwise alter the files delivered with the firmware update.**
The D800 firmware update file will be named *D800_firmware.upd*.

To update the D800's Aviom firmware:

1. Extract the firmware update files to the USB flash drive .
2. Plug the USB device into the D800's USB port.
3. Press and release the **Load** button on the front panel of the D800.
4. The **Sync** LED will blink throughout this process to indicate that a firmware update is in progress.
5. Once the new firmware is installed and verified, the **Sync** LED will stop blinking, and the D800 will return to its normal state, ready to be used. The A-Net connections are active again.
6. The USB storage device can be safely removed.

✓ Warning:
Do not press the **Load** button, change any switches, remove the USB stick, or turn off the D800 while its firmware is being updated.

The actual amount of time for a firmware update will vary based on the complexity of the current firmware file being applied. Firmware updates are available from the Aviom website (www.aviom.com).

Dante interface firmware updates must be applied separately with tools created by Audinate.

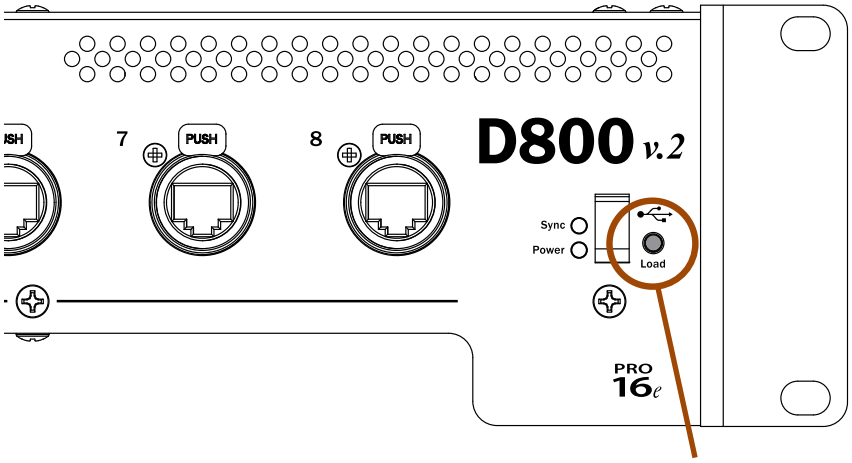
About USB Flash Drives

A USB flash drive formatted for FAT32 (standard PC formatting) is required for firmware updates. It's important to note that not all USB devices are created equal. In fact, even the same make and model USB device can have variations in their manufacture that are impossible to see by simply looking at the device or reading its specs. Some USB devices require that a driver be downloaded and installed before the data on the device can be used. If your memory device does not work, simply try a different USB device.

Firmware Error Warnings

The **Sync** LED is used to indicate any errors that may occur during a firmware update. The Sync LED will flicker if any of the following errors occur:

- USB Read Error
- D800_firmware.upd file not found
- D800_firmware.upd file is the same version or older than what is currently loaded into the unit



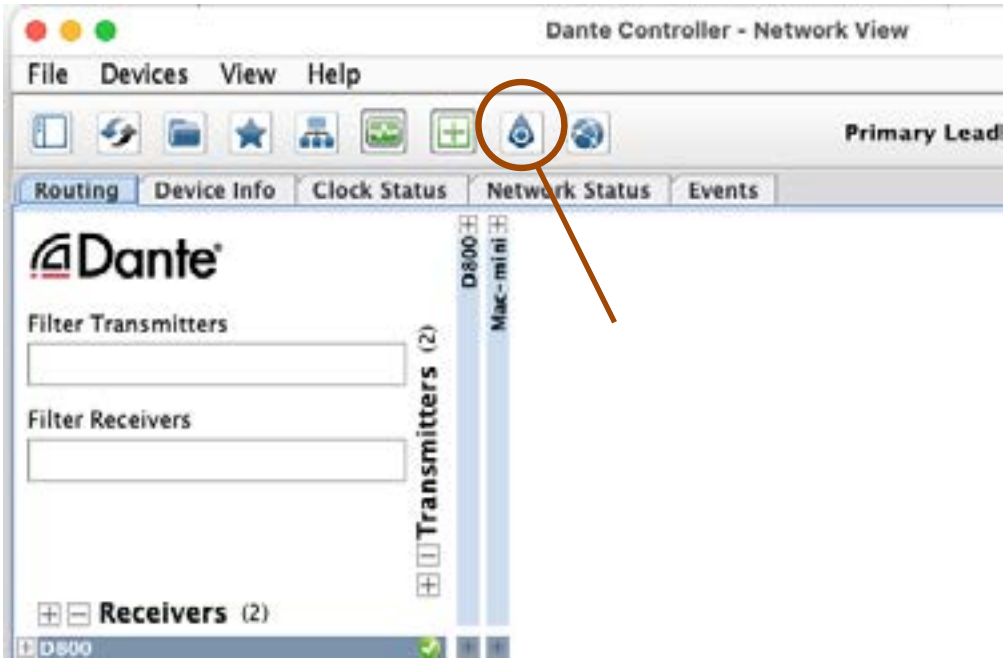
Press the Load button with a memory stick inserted to initiate a firmware update.

Dante Firmware Updates

When updating the D800-Dante's Aviom firmware, note that Dante components are not changed. Any updates to the Dante interface's firmware released by Audinate require the Dante Controller software which contains the **Dante Updater** tool. Dante firmware updates are applied by connecting a Mac/PC computer (either directly or via a network switch) to the **Primary** Dante port on your D800-Dante.

Do not attempt to update the Dante firmware on a D800-Dante using the front panel USB port.

After downloading and installing the Audinate software, follow its simple on-screen instructions to locate and install the new Dante firmware for your D800-Dante. Once the firmware update has been applied, reboot the D800-Dante.



Click to open the Dante firmware update tool

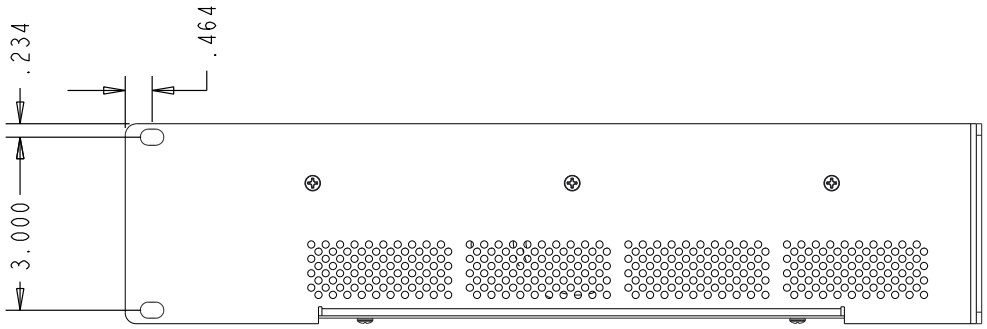
D800 A-Net Distributor Specifications

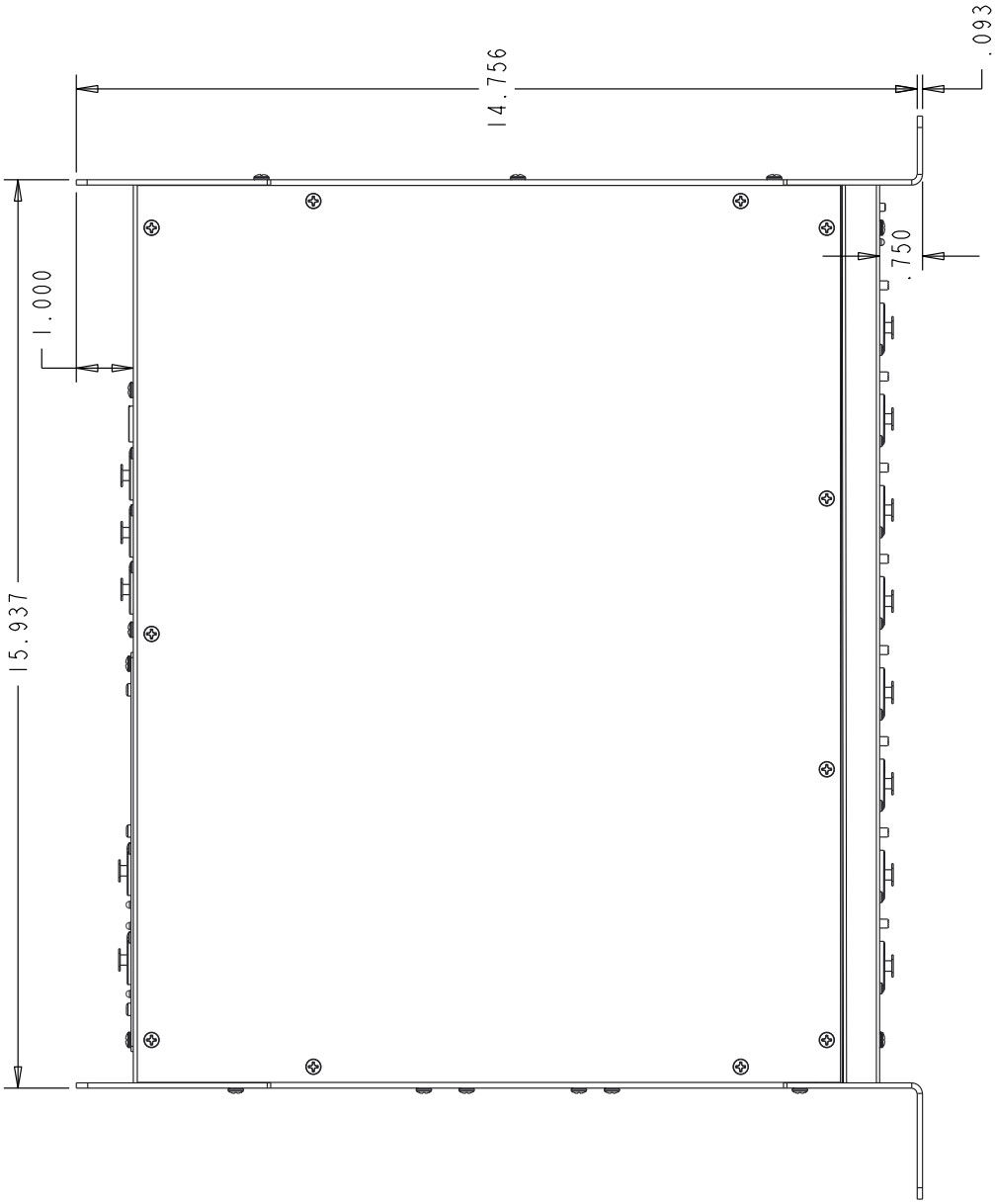
A-Net to/from Personal Mixers (front panel)	Eight locking RJ45 connectors, powered
	2-position switch (I/II) accommodates A320, A-16II (I) and the bidirectional A640 and A360 Personal Mixer (II) The I/II switches are not required on the D800 v.2.
A-Net In or A-Net Bridge In	Accepts Pro16 or Pro16e A-Net; One locking RJ45 connector
A-Net Out (rear panel)	Pro16e A-Net; One locking RJ45 connector, unpowered
A-Net Mixes Out	Pro16e A-Net; One locking RJ45 connector, unpowered; Provides up to 16 channels of Network Mix Back™ data from up to eight A360 Personal Mixers
Ethernet	One RJ45 connector
LEDs	Power On (red); Sync (green)
USB	Used for firmware updates
Pro16 A-Net Support	Transmits 16 channels of digital audio to A-16II and A-16R Personal Mixers
Pro16e A-Net Support	Transmits up to 64 channels of digital audio to A360 & A320 Personal Mixers
A-Net Cables	Front Panel Connections: Shielded Cat-5e (or better) cable must be used to stay below the CISPR 22 Class B, ICES-003, and FCC 47 CFR Part 15 Class B emissions limits. Unshielded Cat-5e cable may be used on all rear panel connections.
Output Voltage for Personal Mixers	24VDC, 0.5 amp
	Transmitted over the Cat-5e cable
Power Supply	Internal, universal switching type, IEC connector
Input Voltage	100-240VAC, 50-60Hz, 300W Fuse - 250VAC~ T4AL
Dimensions	19" (482.6 mm) wide x 14.25" (362 mm) deep; 2U, 3.5" (88.9 mm) high
Weight	12.0 lbs (5.44 kg)

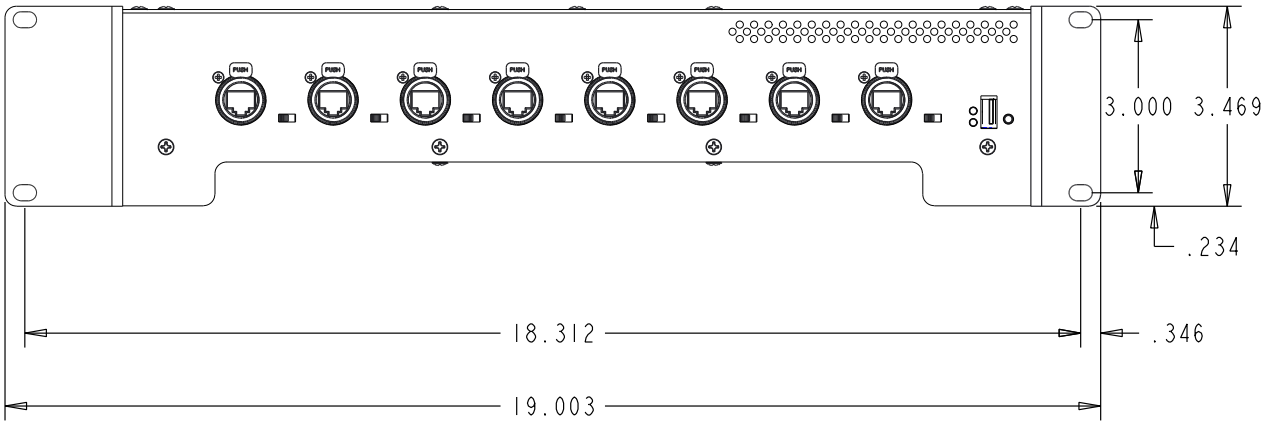
D800-Dante Specifications

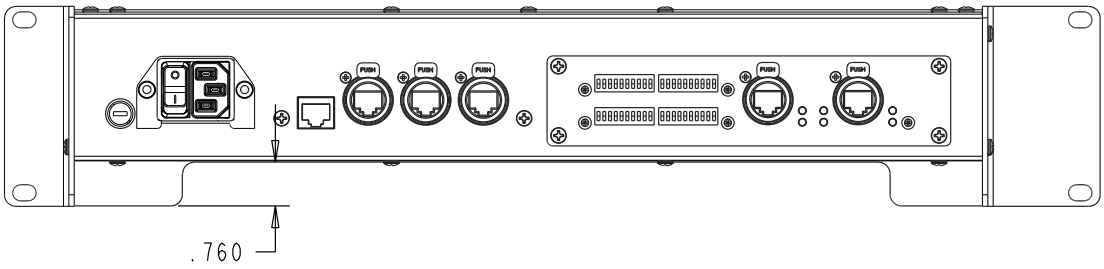
Dante Primary I/O	Locking RJ45 connector
Dante Secondary I/O	Locking RJ45 connector
Stereo Link	Four DIP Switch blocks: 1-16, 17-32, 33-48, and 49-64; used to set up to 32 channel pairs as stereo links
Stereo Link Defeat	Bypasses DIP switch stereo link settings
Disable DIP switch	Chooses Dante (down) or A-Net In (up) as the input source for the D800-Dante; When Dante is enabled, audio from the Network Mix Back feature is available to the Dante network.
ID1, ID2 DIP Switch	Reserved
A, B, C, D DIP switch	Reserved
LEDs (rear panel)	Error (red); Sync (green); 1GB Active (red); Network Activity (green)
Supported Dante Sample Rates	44.1/48kHz - 64 channels 88.2/96 kHz - 32 channels 176.4/192 kHz - 16 channels
Dante Outputs from Network Mix Back	16 channels as 8 stereo pairs

Dimensions






PUSH
3.000
3.469
.234
18.312
.346
19.003


PUSH
.760

Cat-5 Cable Pinout

The tables below detail the two wiring pinout variations for Cat-5 cables. When making custom cables, either pinout can be used, but both ends of a cable must use the same wiring pattern.

T568A

RJ45 Pin	Wire Color	
1	White/Green	
2	Green	
3	White/Orange	
4	Blue	
5	White/Blue	
6	Orange	
7	White/Brown	
8	Brown	

T568B

RJ45 Pin	Wire Color	
1	White/Orange	
2	Orange	
3	White/Green	
4	Blue	
5	White/Blue	
6	Green	
7	White/Brown	
8	Brown	

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