AVIOM®

A-16D A-Net Distributor

PRO™
16

A·NET®

Information in this document is subject to change.

Document Rev. 1.06   Part Number 9310 1002 0001

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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.

■ Operating Temperature: 10˚C to 40˚C (50˚F to 105˚F)

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.

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.

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 website 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.

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. No on/off power switches are included in the A-16 system. The external power supply should be used to control power to an Aviom A-16 device. This power supply should remain readily operable.
16. The solid line over dashed line symbol ($\overline{}$) indicates that the input voltage must be a DC voltage.
17. The box within a box symbol ($\boxed{\square}$) indicates that the external power supply is double insulated.

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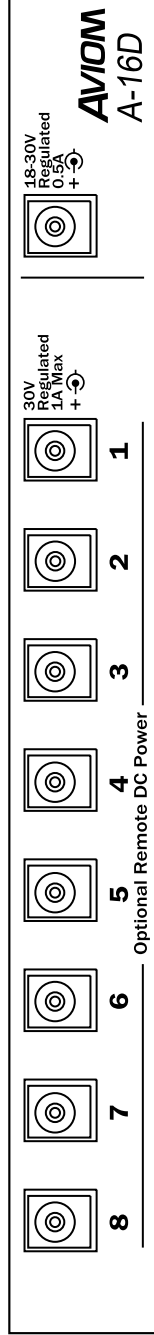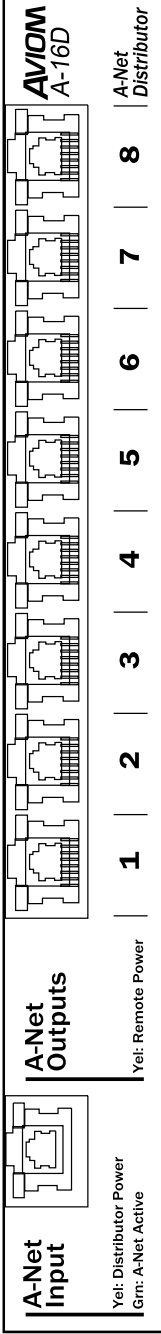
This warranty does not apply if the equipment has been damaged due to misuse, abuse, accident, or problems with electrical power. The warranty also does not apply if the product has been modified in any way, or if the product serial number has been damaged, modified, or removed.

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.

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE (OR JURISDICTION TO JURISDICTION). AVIOM'S RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN HARDWARE IS LIMITED TO REPAIR AND REPLACEMENT AS SET FORTH IN THIS LIMITED WARRANTY STATEMENT. ALL EXPRESS AND IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE WARRANTY PERIOD SET FORTH ABOVE. NO WARRANTIES, WHETHER EXPRESS OR IMPLIED, WILL APPLY AFTER SUCH PERIOD.

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SOME STATES DO NOT ALLOW EXCLUSIONS OR LIMITATION OF IMPLIED WARRANTIES OR LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

AVIOM A-16D

A-Net Input

Yel: Distributor Power
Grn: A-Net Active

A-Net Outputs

Yel: Remote Power

A-Net Distributor

1 2 3 4 5 6 7 8

AVIOM A-16D

Optional Remote DC Power

18-30V Regulated 0.5A

30V Regulated 1A Max

8 7 6 5 4 3 2 1

Welcome

Thank you for purchasing the **Aviom A-16D A-Net® Distributor** for use with the **Pro16 Monitor Mixing System™** and Distributed Audio Networks products. This User Guide is designed to make the installation and setup of your new product quick and easy.

Features

The A-16D is designed to distribute the A-Net signal from any A-Net product including other A-16D Distributors via industry-standard Category 5e (Cat-5e) cables. Each A-16D accepts one A-Net input and provides eight simultaneous A-Net outputs. The A-16D A-Net Distributor enables parallel connection of A-Net devices, simplifying stage and studio setups.

A-16D Features:
- Easily distribute A-Net from a central location or from other A-16D Distributors
- One A-Net input, eight A-Net outputs
- Can insert DC power for A-Net Personal Mixers into the Cat-5e cable
- ½ rack space footprint – mounts easily on standard rack shelf
- A-Net activity LED on the main input
- DC power indicator LEDs on each A-Net output
- Multiple A-16D Distributors can be used in a system
- Uses the same power supply as all Pro16 Monitor Mixing System components

The A-16D A-Net Distributor can be used with:
- A-16 Personal Mixer (discontinued)
- A-16R rack-mounted Personal Mixer
- A-16II Personal Mixer
- A-16D Pro A-Net Distributor
- A-16T Transmitter (discontinued)
- AN-16/i Input Module
- AN-16/i-M Mic Input Module
- Y1 console interface card for use with Yamaha® consoles
- D-16C console interface card for use with DiGiCo® consoles
- AN-16/o Output Module

Conventions Used in this Document

When indicating an action using a button or knob on the front panel of any component of your system, a special typeface is used. For example, when selecting a Preset on the A-16II Personal Mixer, press the RECALL button.

The A-16D Front Panel

A-Net Input

DC Power available LEDs

A-Net Input

Yel: Distributor Power
Grn: A-Net Active

A-Net Outputs

Yel: Remote Power

1   **2**   **3**

Power LED   A-Net Active LED   A-Net Outputs

The A-16D Rear Panel

5   4   3   2   1

Optional Remote DC Power

30V
Regulated
1A Max

18-30V
Regulated
0.5A

AVIOM
A-16D

DC Power inputs   A-16D Power jack
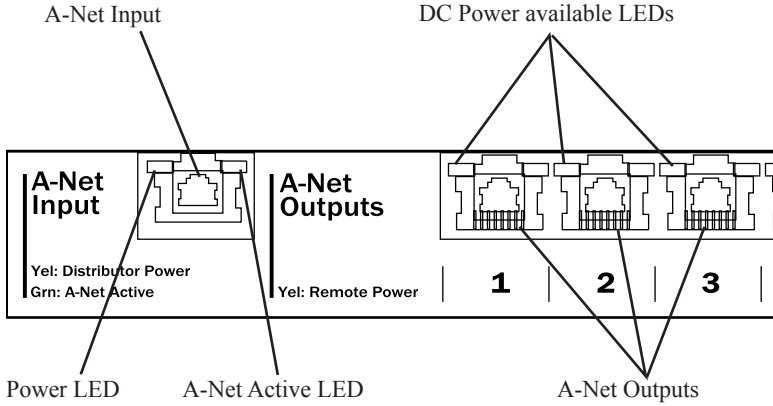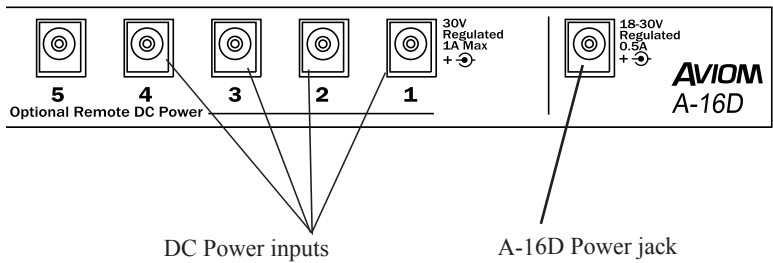
Connecting the A-16D

The A-16D is designed to create a network of A-Net devices. The A-Net signal appearing at the input of the A-16D is distributed to each of the eight outputs on the front panel. Devices are connected in parallel rather than in serial fashion. A-Net can span 500 feet (150 meters) between devices.

Connections on the A-16D Front Panel

There are two sets of A-Net connectors on the front of the A-16D Distributor. They are marked **Input** and **Output**. One Input and eight Output jacks are provided.

The **Input** port accepts the A-Net signal coming from *any* A-Net device. This is most likely going to be an AN-16/i Input Module, AN-16/i-M Mic Input Module or A-16T Transmitter in typical analog systems, or the Y1 or D-16C console interface cards when using a digital mixing console. You can expand a Pro16 Monitor Mixing System by using as many A-16D A-Net Distributors as required.

The A-Net **Output** ports send an exact copy of the input signal in parallel to each of the eight A-Net outputs. All connections on the A-16D front panel accept standard Category 5e cables.

Front Panel LED Indicators

The front panel's A-Net Input jack contains two LEDs. The yellow LED indicates that the A-16D is powered on. The green LED indicates that a valid A-Net signal is connected to the A-Net Input jack.

The eight A-Net Output jacks also have an LED. This yellow LED indicates that a particular channel has DC power available. DC power can be used with the A-16, A-16II and A-16R Personal Mixers for remote operation of the units without requiring a power source at the destination location.

Connecting an A-16D to a System

In a simple system containing one A-Net input module and a number of Personal Mixers, the A-16D A-Net Distributor is connected between the input module and the Personal Mixers. Connecting the A-Net Out port of the input module to the A-Net Input jack on the A-16D is the first step in creating a network of A-Net devices.

A-Net Input

You can connect a Pro16 Monitor Mixing System in a variety of ways. In

a typical system, you will have your audio inputs connected to the audio input jacks on the rear of the input module (AN-16/i, AN-16/i-M, A-16T), or patched in the digital domain when using the Y1 card with a Yamaha digital mixing console. From the A-Net input module, the A-Net output is connected to the first Personal Mixer in the system. Each subsequent Personal Mixer is connected by running a cable from the Personal Mixer's A-Net Output to the A-Net Input on the next Personal Mixer. This type of connection is called a daisy chain.

When using the A-16D A-Net Distributor, the daisy chain linking of Personal Mixers is optional. Up to eight Personal Mixers can be connected directly to the A-Net outputs of the front of the A-16D.

To connect the A-16D:
> • Connect the A-Net Output jack of the input module to the A-Net Input jack on the A-16D A-Net Distributor using a Category 5e cable.

A-Net Outputs
The eight A-Net Outputs on the A-16D A-Net Distributor all carry the same 16-channel digital signal. You can use any output to connect a Personal Mixer or output module.

To connect a Personal Mixer:
> • Connect a standard Category 5e cable from A-Net Output #1 on the A-16D A-Net Distributor to the first Personal Mixer in your system.
> • Plug the Personal Mixer's DC power supply into an AC outlet.

At this point the Personal Mixer is connected to the A-Net chain. Any audio appearing at the inputs of the A-Net input module is now available for mixing in the Personal Mixer. Refer to the Personal Mixer User Guide for additional information about using the mixing features of the Pro16 Monitor Mixing System.

Connect additional Personal Mixers using Category 5e cables from an available A-Net output port on the A-16D A-Net Distributor to the A-Net Input on the Mixer.

Similarly, the A-16D can be used to create a digital split when using Aviom's A-Net input and output modules to create a digital snake. By patching the A-Net Out from an A-Net input module into an A-16D, an eight-way digital split can be created. By connecting A-Net output modules such as the AN-16/o Output Module to the A-Net Out jacks on the A-16D, sixteen discreet audio channels can be delivered to output modules for recording,

broadcast, cameras, etc. In fact, any combination of Personal Mixers and output modules can be used to create a hybrid system that includes both stereo personal monitoring and discreet channel distribution. A-Net devices can be up to 500 feet apart. In fact, to extend A-Net for a long cable run, use an A-16D between the devices. Each A-16D added to the system adds 500 feet of cable extension.

Connections on the A-16D Rear Panel

There are two groups of DC power connectors on the rear of the A-16D A-Net Distributor. The right side of the rear panel contains the power input for the A-16D A-Net Distributor. The left side is marked **Optional Remote DC Power**. These jacks can be used to power any of the Personal Mixers connected to the A-16D. Up to eight A-16 Personal Mixers can be powered in this manner.

The power supplies used with Aviom's Personal Mixers and the A-16D A-Net Distributor are interchangeable.

Powering a Personal Mixer Remotely

There are a number of advantages to adding power for a Pro16 Personal Mixer at the A-Net distribution point.

- No DC power supply is needed at the performer's location
- Power supplies can be located at a central point offstage or in the machine room of an audio facility.
- A one-cable solution for supplying A-Net and DC power to a mixing station is possible.

To power a Personal Mixer via the Cat-5e cable:

- Connect the A-Net cables as described previously between system components.
- Connect the power supply for the Personal Mixer you want to power remotely to the same numbered DC Power input on the rear of the A-16D.
- On the front panel of the A-16D note that the yellow channel LED will light for any A-Net output that has DC power connected.
- Connect a Category 5e cable from the powered A-Net output on the A-16D to the A-Net input on the Personal Mixer.
- The Personal Mixer's A-Net Active LED will light to indicate that a valid A-Net signal is present.
- Continue connecting up to eight Personal Mixers in this manner.

> **Note**: The DC power supply plugged into the rear panel of the A-16D can power only *one* Personal Mixer. If you start a daisy chain from a Personal Mixer powered from an A-16D, the additional Personal Mixer units will need a source of DC power.

Each Personal Mixer that is powered remotely no longer needs a power supply connected to its rear panel. If this happens accidently, however, note that you cannot harm the system.

Expanding a System

Any number of A-Net devices can be used in a system. This includes A-16D A-Net Distributors. To expand a system, additional A-16D Distributors can be connected to any available A-Net Output, such as the outputs on Personal Mixers or on other A-16D units.

To add another A-16D to a system, simply connect a standard Cat-5e cable from the A-Net Output of the first device into the A-Net Input of the A-16D Distributor you want to use for system expansion.

> **Note:** Each A-16D Distributor used in a system must have its own source of DC power. You cannot power the A-16D Distributor via the Cat-5e cable. Only Personal Mixers can use this feature.

At this point your audio network has grown to include an additional eight parallel A-Net outputs. You have the option of adding DC power to any or all of the A-Net Outputs on the expansion A-16D. Follow the instructions in the previous section.

Rack Mounting

The A-16D A-Net Distributor can easily be mounted in a standard 19-inch wide equipment rack. The A-16D occupies half of the rack width, allowing two A-16D units to be placed side by side on a standard rack shelf. These shelves are available as an accessory from many audio and studio suppliers.

There are two shelf-mounting holes in the bottom panel of the A-16D. The holes accept a 6-32 size bolt. The depth of the hole in the A-16D bottom panel is 0.25 inches. Do not insert more than .25 inches of thread into the mounting holes on the bottom of your A-16D Distributor.

CAUTION!

Be careful when selecting mounting hardware for use with your accessory shelf. Using bolts that are too long can damage the circuit boards of your A-16D.

Use of improper mounting hardware will void your warranty.

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Aviom Warranty Registration

Please take a moment to fill in this warranty registration form. Return it to Aviom via mail or fax. All information will be kept confidential.

Model Number .... Product Serial Number ....
Model Number .... Product Serial Number ....
Model Number .... Product Serial Number ....
Model Number .... Product Serial Number ....

Date Purchased ....

Dealer Name ....

Dealer Location ....
....

Your Name ....

Address ....

Address ....

City ....

State/Province ....

Zip/Postal Code ....

Country ....

Email Address ....

Fax this form to Aviom at +1 610-738-9950