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PROBLEM SOLVED

Installation and Operation Manual



AES DA 1x6
Six-output one-input AES/EBU Digital Audio Distribution
Amplifier with dual/redundant power inputs.

Manual update: 2/28/2023

Rev E PCB (2023) and above only.

If you need a firmware upgrade, contact Broadcast Tools[®]

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NOTE: We recommend the use of Chrome, Firefox or Safari as your browser.

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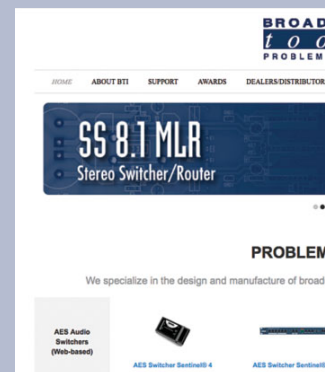
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INTRODUCTION

Thank you for your purchase of a Broadcast Tools® AES DA 1x6 is a professional quality AES/EBU digital audio distribution amplifier. We're confident that this product will give you many years of dependable service. This manual is intended to give you all the information needed to install and operate the Broadcast Tools® AES DA 1x6.

SAFETY INFORMATION

Only qualified technical personnel should install the AES DA 1x6. Any attempt to install this device by a person who is not technically qualified could result in a hazardous condition to the installer or other personnel or damage to the AES DA 1x6 or other equipment. Please ensure that proper safety precautions have been taken before installing this device. If you are unfamiliar with this type of equipment, please contact a properly qualified engineer to handle the installation and setup of the AES DA 1x6. Broadcast Tools, Inc., is unable to support NON-Broadcast Tools software, hardware or NON-Broadcast Tools computer/hardware/software problems. If you experience these problems, please research your hardware/software instruction manuals, or contact the manufacturers technical support department.

WHO TO CONTACT FOR HELP

If you have any questions regarding your product or you need assistance, please contact your distributor from whom you purchased this equipment. If you would like more information about BROADCAST TOOLS® products, you may reach us at:

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Internet Home Page: www.broadcasttools.com
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CAUTION!

Broadcast Tools® Products, as with any electronic device, can fail without warning. Do not use this product in applications where a life threatening condition could result due to failure.

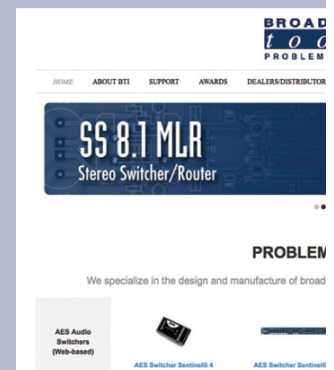


NOTE:

This manual should be read thoroughly before installation and operation.

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INTRODUCTION

Product Overview

The AES DA 1×6, six XLR output, one-input AES/EBU distribution amplifier is ideal for distributing AES/EBU signals or word clock. It features dual (2x) power input jacks to allow for redundant power with an optional second power supply. The system's transformer isolated input uses a standard XLR audio jack for balanced AES/EBU signals. The AES input is distributed to 6 transformer isolated AES/EBU outputs XLR jacks. An internal AES/EBU activity detector provides local and remote signal monitoring via front panel LED indicators and a SPDT alarm relay. The alarm relay contacts are available on a rear panel plug-in euro-block connector. Signal bypass is built-in with XLR AES input 1 passively routing to AES output 1 in the event of power loss.

Features/Benefits

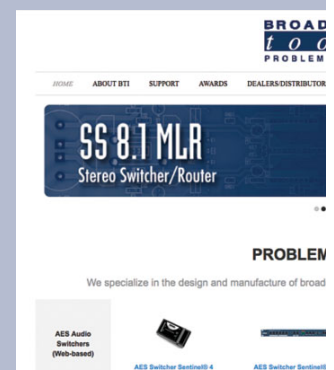
- 1×6 operation with standard pinout XLR input and outputs.
- Dual (2x) power input jacks allow for redundant power with an optional second power supply.
- Input signal monitoring with LED indicators and SPDT relay output.
- Signal bypass on loss of power, Input 1 to Output 1.
- Fully RFI proofed.
- Surge protected internal power supply, 9 VDC universal switching power supply with domestic connector supplied.
- Up to two units may be mounted on the optional RA-1 rack shelf. Desktop and wall mounting are also possible.

Inspection

Please examine your AES DA 1x6 carefully for any damage that may have been sustained during shipping. If any damage is present, please notify the shipper immediately and retain the packaging for inspection by the shipper. The package should contain the AES DA 1x6, and a 9 VDC universal power supply with domestic connector. Manuals may be downloaded from our web site.

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Installation/Operation

Surge Protection

The AES DA 1x6 has built-in resistance to voltage changes; we recommend that you use a power surge protector or line conditioner on the incoming AC line. Lightning strikes and/or other high voltage surges may damage your AES DA 1x6 and connected equipment if it is not properly protected. For lightning protection devices, check out www.polyphaser.com and www.itwlinx.com.

UPS Standby Power System

We recommend that you connect your AES DA 1x6 to a UPS system. A UPS, like the BE600M1 from APC helps to minimize the risk to the AES DA 1x6 and provides power during a power outage.

NOTE: Signal bypass is provided by an internal relay that will passively route the XLR input signal to output one in the event of power loss.

Dual Power Inputs (Power 1 and Power 2)

Connect the 2.1mm barrel type power connector into the jack labelled “Power 1” and the 9 to 12 VDC universal switching power supply with domestic AC connector into a 120 Vac 50-60 Hz power source. If using the optional second power supply for redundancy, connect it to the jack labelled “Power 2”.

NOTE: Never use any type of power supply other than the specified/supplied power supply.

LED Indicators

“Power 1” LED: Illuminates when power is applied to Power 1 input jack. (Green)

“Power 2” LED: Illuminates when power is applied to Power 2 input jack. (Yellow)

“Active” LED: Lit when an AES signal is detected on one of the inputs. (Green)

“Alarm” LED: Lit when no AES signal is detected on the inputs. (Red)

AES/EBU Input

The AES DA 1x6 one balanced AES/EBU digital audio input: connect the signal source to the female XLR jack labelled “AES Input”. The input is set for 110-ohm termination from the factory as is typically used with balanced AES3 signals. The input termination can be changed to 75-ohm for unbalanced signals or open (no termination) for loop thru operation using the JP1 jumper header.

AES/EBU Outputs

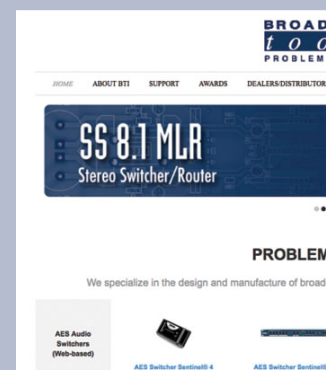
The AES DA 1x6 has six transformer isolated 110-ohm AES/EBU outputs with male XLR jacks, labelled 1-6. Connect the inputs of your AES/EBU compatible devices to the male XLR AES output jacks.

XLR Connector Pinout

The input and output XLR connector pinouts conform to 3-pin XLR Wiring Standards: Pin 1 = Ground. Pin 2 = Positive. Pin 3 = Negative. Please use cable qualified for AES/EBU signals.

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INSTALLATION

AES/EBU Activity Detector and Alarm Relay

When valid signal is present the front panel “Active” LED will light, the “Alarm” LED will extinguish, and the alarm relay will open. When AES signal is lost the front panel “Inactive” LED will light, the “Alarm” LED will extinguish, and the Alarm Relay will close.

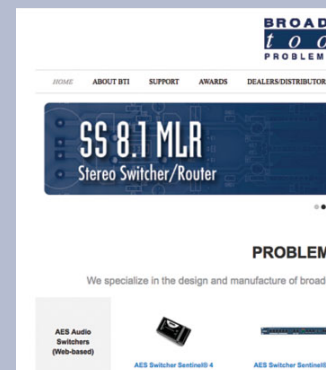
The AES DA 1x6 has one SPDT alarm relay labeled “Alarm Relay.” Connections should be made to the three-position plugin euro-block’s NO (normally open), CM (common) and NC (normally closed) terminals. Limit contact current to 1 amp at 30 VDC maximum.

NO (Normally Open)	CM (Common)	NC (Normally Closed)
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Note: For wiring information, refer to the grids in this section of the manual, the silk-screen text on the rear panel of the product or the fractional schematic in the appendix.

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Specifications

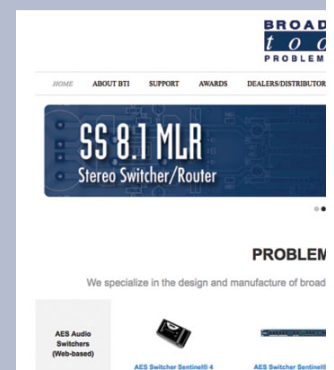
- Digital Inputs: One transformer isolated AES/EBU female XLR input (110-ohm or 75-ohm termination jumper selectable)
- Digital Outputs: Six transformer isolated AES/EBU outputs. 110-ohm impedance.
- Sample Rate: Up to 192 kHz. Outputs follow input sample rate.
- Alarm Relay Output: SPDT dry contacts, 30 VDC @ 1 amp maximum.

CAUTION! For safety, never connect 120 Vac circuits to the above relay!

- Power Requirements: 9 to 12 VDC @ 660 mA. CE certified universal switching 9 VDC adapter with domestic AC connector supplied. International connectors optional.
- Physical Dimensions: 8.50" x 7.10" x 1.576" (WDH)
- Weight: 3.0 lb.
- Shipping Weight: 4.0 lb.
- Options: * RA-1 rack shelf, holds two units (1-RU) / Filler panels supplied.
* Second 9-12 VDC power supply for redundancy.

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LIMITED WARRANTY

The term “Buyer” as used in this document refers to and includes both (but only) (a) any person or entity who acquires such an item for the purpose of resale to others (i.e., a dealer or distributor of an item), and (b) the first person or entity who acquires such an item for such person’s or entity’s own use.

Broadcast Tools warrants to each Buyer of any item manufactured by Broadcast Tools that the item will be free from defects in materials and workmanship at the time it is shipped by Broadcast Tools if the item is properly installed, used and maintained.

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If Broadcast Tools is notified, in writing, of a failure of any item manufactured by Broadcast Tools to conform to the foregoing Limited Warranty within one (1) year following the date of the Buyer’s acquisition of the item, and if the item is returned to Broadcast Tools in accordance with Broadcast Tools’ instructions for confirmation by inspection of the defect (which at Broadcast Tools’ election may include, without limitation, a requirement that the Buyer first obtain a Return Authorization number from Broadcast Tools, that the Buyer furnish proof of purchase in the form of an invoice and/or receipt, and that the Buyer prepay all freight charges associated with any return of the item to Broadcast Tools using such freight service as Broadcast Tools reasonably may specify), Broadcast Tools will repair or replace the defective item, or will refund the purchase price paid by the Buyer for the item. Broadcast Tools shall have the exclusive right to choose between these alternative remedies.

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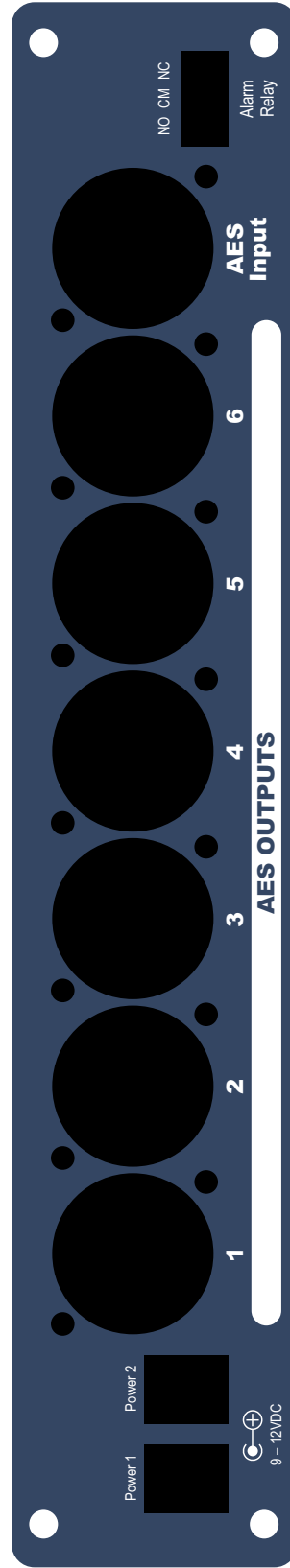
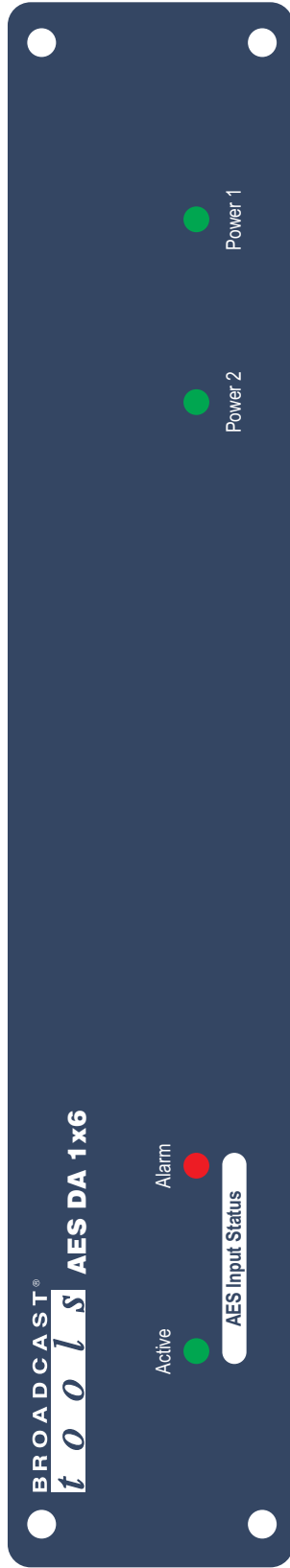
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