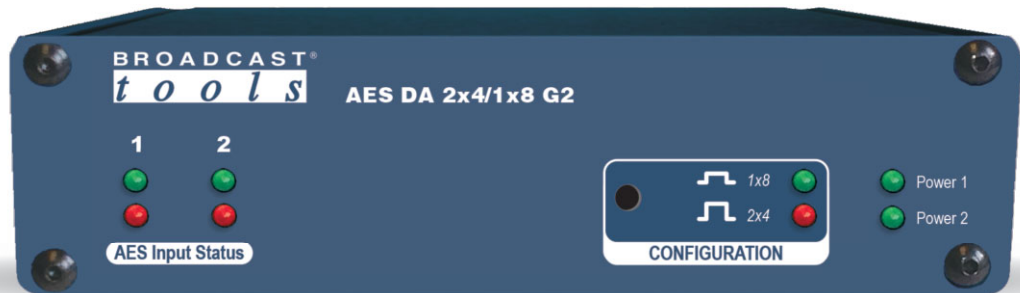


BROADCAST[®]
t o o l s **INC**
PROBLEM SOLVED

Installation and Operation Manual



AES DA 2x4/1x8 G2 Term **Eight-output, two-input AES/EBU Digital Audio Distribution Amplifier** **with Terminal Block Audio Connectors**

Manual update: 8/10/2026

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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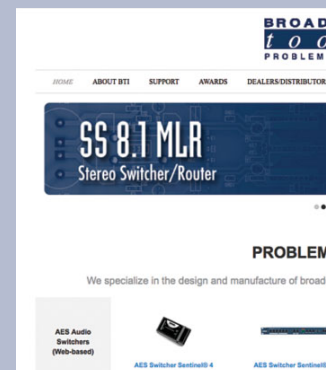
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INTRODUCTION

Thank you for your purchase of a Broadcast Tools® AES DA 2x4/1x8 G2 Term 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 2x4/1x8 G2 Term.

SAFETY INFORMATION

Only qualified technical personnel should install the AES DA 2x4/1x8 G2 Term. 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 2x4/1x8 G2 Term 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 2x4/1x8 G2 Term. 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:

Broadcast Tools, Inc.

131 State Street
Sedro-Woolley, WA 98284-1503 USA
Voice: 360.854.9559
Fax: 866.783.1742

Internet Home Page: www.broadcasttools.com
E-mail: support@broadcasttools.com

THANK YOU FOR CHOOSING
BROADCAST TOOLS® BRAND PRODUCTS!

Broadcast Tools is a Veteran Owned Business



Designed , Manufactured, and Supported in Washington State, USA.



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.

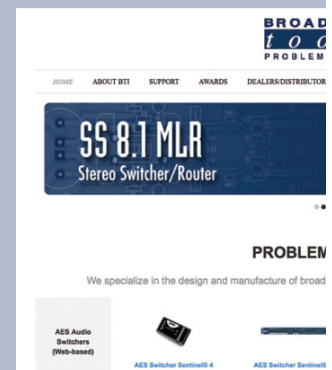


NOTE:

This manual should be read thoroughly before installation and operation.

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Product Overview

The AES DA 2×4/1×8 G2 Term, eight output, two-input AES/EBU distribution amplifier is ideal for distributing AES/EBU signals or word clock at sample rates of up to 192kHz. It can be configured for 2×4 operation, acting as two separate one input, four output DAs, or for 1×8 operation acting as a one input eight output DA. The system's two transformer isolated inputs and two banks for four outputs use three position terminal block connectors for balanced AES/EBU signals. Internal AES/EBU activity detectors provide local and remote signal monitoring for both inputs via front panel LED indicators and SPDT alarm relays. SPDT alarm relay contacts are available on rear panel plug-in euro-block connectors. Includes signal bypass relays which passively route the input to output one and input 2 to output 5, respectively, in the event of power loss, and a second power jack for an optional second redundant power supply.

Features/Benefits

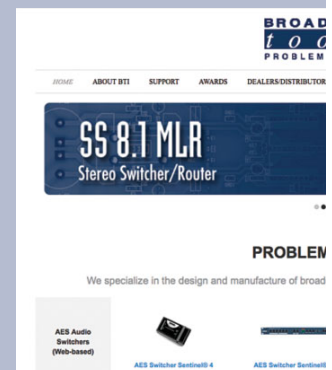
- Balanced AES/EBU digital distribution amplifier.
- 2×4 or 1×8 operation set via front panel switch.
- Input signal monitoring with LED indicators and SPDT alarm relay outputs.
- Removable euro-block screw terminal connectors are used for I/O connections. Necessary 3-position mating plugs are supplied.
- Signal bypass relays built-in, input one to output one, input two to output five on power loss.
- Fully RFI proofed.
- Surge protected universal switching 9 VDC desktop power supply with IEC AC inlet included.
- Dual (2x) power input jacks allow for redundant power with an optional second power supply.
- Up to three units may be mounted on the optional RA-1 rack shelf. Desktop and wall mounting are also possible.

Inspection

Please examine your AES DA 2x4/1x8 G2 Term 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 2x4/1x8 G2 Term, and a 9 VDC universal power supply with domestic connector. Manuals may be downloaded from our web site.

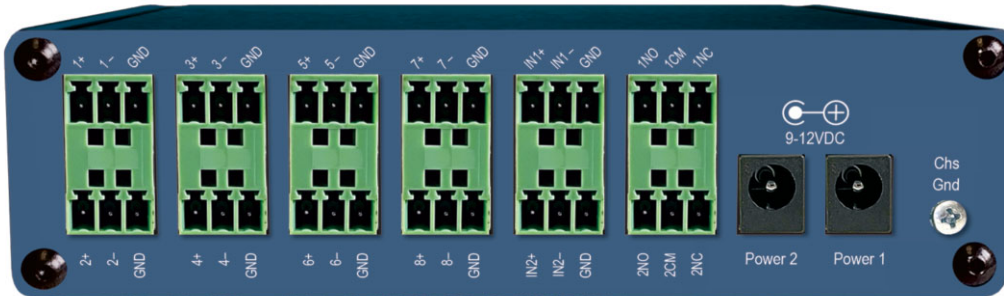
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Installation/Operation

Rear Panel View



Surge Protection

The AES DA 2x4/1x8 G2 Term 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 2x4/1x8 G2 Term 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 2x4/1x8 G2 Term to a UPS system. A UPS, like the BE600M1 from APC helps to minimize the risk to the AES DA 2x4/1x8 G2 Term and provides power during a power outage.

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

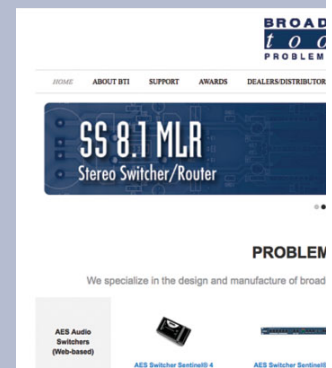
Dual Power Inputs (Power 1 and Power 2)

Connect the 2.1mm barrel type power connector into the jack labelled “Power 1” and the 9 VDC universal switching power supply into a 100 to 250 VAC 50/60Hz power source. If using the optional second 9 VDC 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.

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AES/EBU Digital Audio Inputs

The AES DA 2x4/1x8 G2 Term has two balanced AES/EBU digital audio inputs. For 1x8 operation connect the signal source to the pluggable screw-terminal block labelled “AES Input 1”. In the 1x8 configuration the AES Input signal feeds AES Outputs 1-8. For 2x4 operation connect the first signal source to “AES Input 1” and the second signal source to “AES Input 2”. In the 2x4 configuration the AES Input 1 signal feeds AES Outputs 1-4 and the AES Input 2 signal feeds AES Outputs 5-8.

The inputs are 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, or open (no termination) for loop-thru operation using the JP1 (input 1) or JP7 (input 2) jumper headers.

AES/EBU Digital Outputs

The AES DA 2x4 has eight transformer-isolated 110-ohm AES/EBU outputs labelled “1-4” and “5-8”. Connect the inputs of your AES/EBU compatible devices to the AES output.

Connector Pinout

The AES input and output connector pinout is: Pin 1 = Positive (+). Pin 2 = Negative (-). Pin 3 = Ground. AES/EBU cable qualified is required for AES/EBU signals.

AES/EBU Activity Detectors/Alarm Relays

The AES DA 2x4 has two SPDT alarm relays, one labeled “K1” for Input One and one labelled “K2” for Input Two. 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.

When signal is present on an input its green front panel activity LED will light, its red inactivity LED will be extinguished, and its alarm relay will open. When signal is lost on an input its front panel red inactivity LED will light, its green activity LED will be extinguished, and its alarm relay will close.

K1 Relay (Input One Alarm)

NO (Normally Open)	CM (Common)	NC (Normally Closed)
--------------------------	----------------	----------------------------

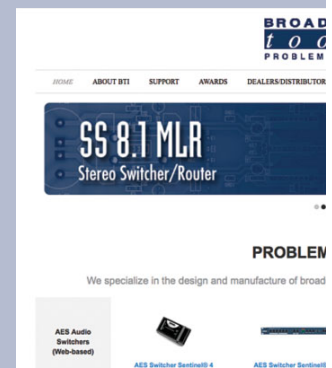
K2 Relay (Input Two Alarm)

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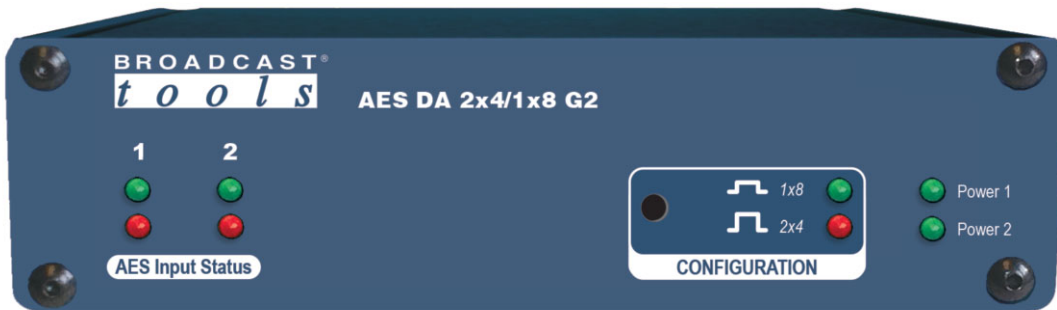
Note: For wiring information, refer to the grids in this section of the manual, the silk-screen text on the rear panel of the product or the fractional schematic in the appendix.

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Front Panel View



LED Indicators

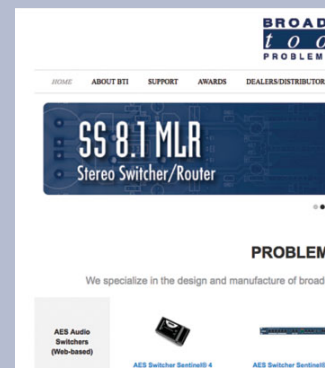
- “Power 1” LED: Illuminates when power is applied to Power 1 input jack. (Green)
- “Power 2” LED: Illuminates when power is applied to Power 2 input jack. (Green)
- “AES Input Status” LEDs: When an AES/EBU signal is present on the input the Green LED will be lit, if no signal is present the Red Alarm LED will be lit.
- “Configuration” LEDs: Green LED = 1x8 configuration, Red LED = 2x4 configuration.

Configuration Switch

When this switch is in the out position the DA will be in the 2x4 configuration, where Input One feeds Outputs 1-4 and Input Two feeds Outputs 5-8. When the switch is in the in position the DA will be in the 1x8 configuration, where Input One feeds all eight outputs.

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Specifications

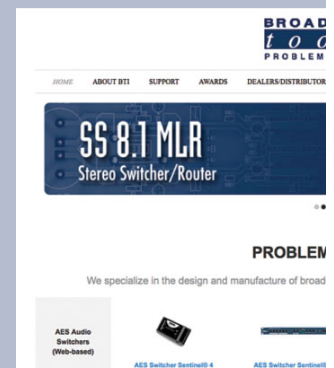
Digital Inputs:	Two transformer isolated AES/EBU inputs, jumper selectable 110-ohm termination, 75-ohm termination, or open (no termination.)
Digital Outputs:	Eight transformer isolated AES/EBU outputs. 110-ohm impedance.
Sample Rate:	Up to 192 kHz. Outputs follow input sample rate.
Alarm Relay Outputs:	SPDT dry contacts, 30 VDC @ 1 amp maximum.

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

Power Requirements:	9 VDC @ 1 amp power supply (CE/UL/ETL). 2.1mm ID x 5.5mm OD coaxial connector, center positive. Surge protected, universal (100 - 240 vac / 50/60 Hz) with IEC input, domestic AC cord included. Dual coaxial power input jacks for optional redundant power.
Physical Dimensions:	5.66" x 7.125" x 1.58", aluminum extrusion chassis with (4) #6-32 screw thread mounting holes for optional RA-1 rack shelf.
Weight:	2.0 lb.
Shipping Weight:	3.0 lb.
Operating Environment:	32°F/0°C-122°F/50°C; 0%-95% non-condensing relative humidity; 10,000ft/3048m.
Declaration of Conformity:	Email support@broadcasttools.com for more information.
Options:	* RA-1 rack shelf, holds three units (1-RU) / Filler panels supplied. * Second 9 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.

EXCLUSIVE REMEDIES

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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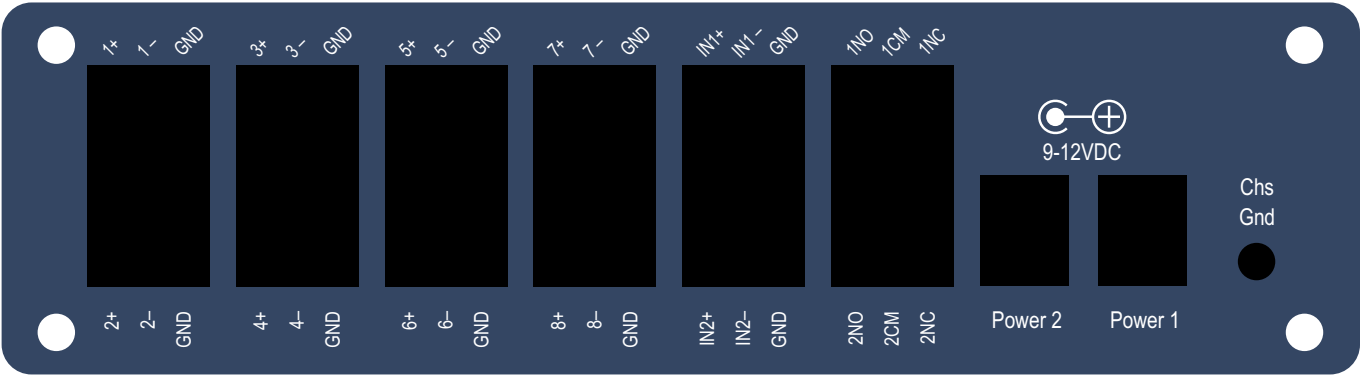
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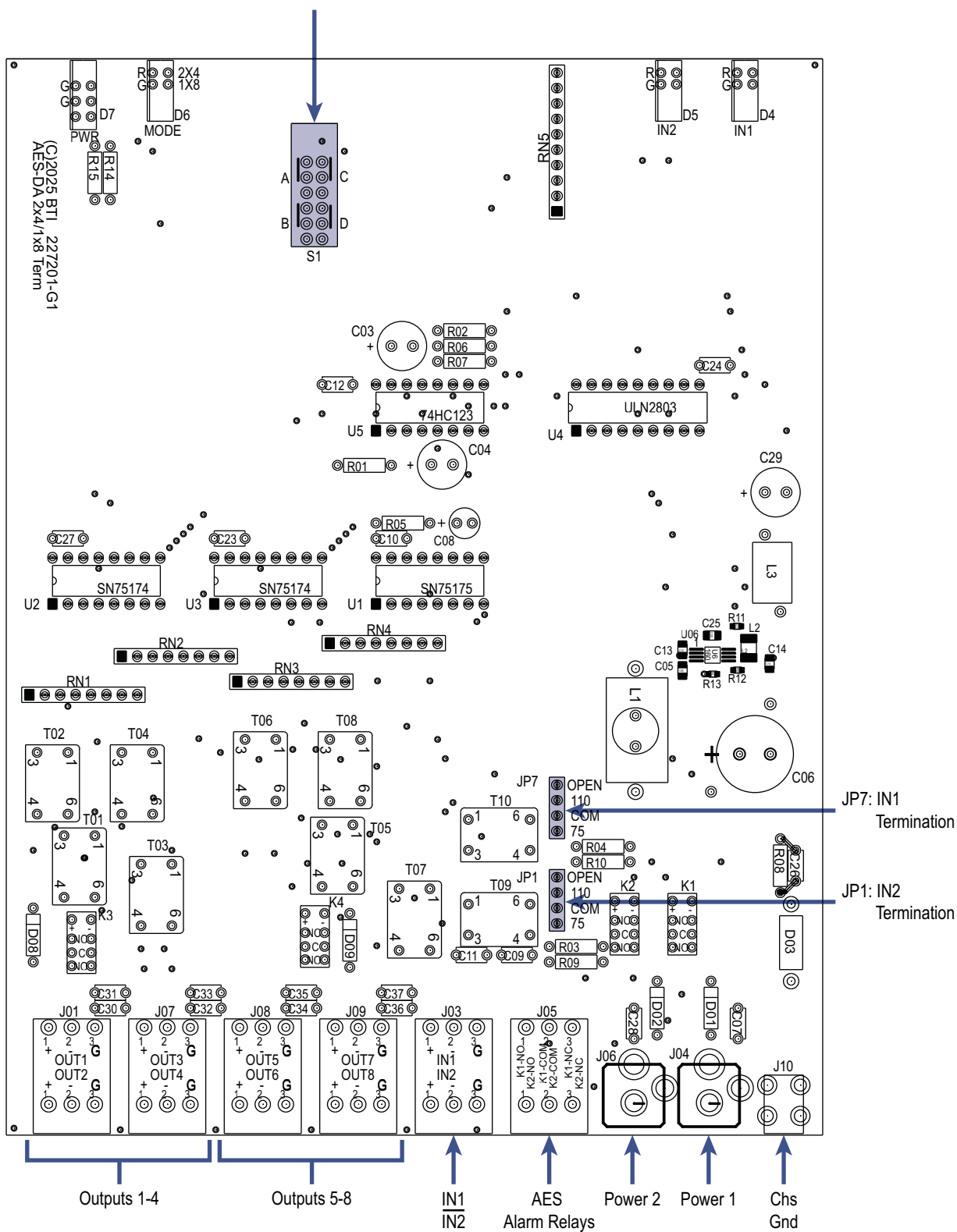
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support@broadcasttools.com **e-mail**
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Component Layout

S1: Input Select Switch
IN = 1x8 OUT = 2x4



APPENDIX

Fractional Schematic

