

IRT

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EUROCARD

AES/EBU Distribution Amplifier

Type DAA-3400

Designed and manufactured in Australia

**IRT can be found on the Internet at:
<http://www.irtelectronics.com>**

DAA-3400
AES/EBU
Distribution Amplifier
Instruction Manual

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This instruction book applies to units SN:9907001 and above

Operational Safety:

WARNING

Operation of electronic equipment involves the use of voltages and currents that may be dangerous to human life. Note that under certain conditions dangerous potentials may exist in some circuits when power controls are in the **OFF** position. Maintenance personnel should observe all safety regulations.

Do not make any adjustments inside equipment with power **ON** unless proper precautions are observed. All internal adjustments should only be made by suitably qualified personnel. All operational adjustments are available externally without the need for removing covers or use of extender cards.

Description.

The IRT DAA-3400 is an eight output non-reclocking distribution amplifier for AES/EBU digital audio signals. The DAA-3400 will operate at any frequency from 34 to 54 KHz and may be used with non-EAS digital signals that have net zero DC content. Provision is made for 75 ohm coax and 110 ohm balanced line in the input and output distribution circuits. The DAA-3400 is designed to fit the IRT range of eurocard mounting frames, including the 12 slot FR-700 and 2 slot FRU-1030 rack mounting frames.

Circuit Description.

The DAA-3400 input circuit is a linking arrangement (SW1,SW2) to select either the balanced or unbalanced input from the rear panel input connector. The signal is then coupled to a high speed differential line receiver using transformer T1. The line receiver is buffered by its internal line driver circuit and this signal drives output line driver circuits for the nine outputs from the DAA-3400, eight to the rear panel assembly via transformers T2-T9 and one via T10 to the front panel monitor connector. The eight outputs to the rear panel are sourced through 51 ohms resistors to set the output impedance for the balanced output circuits when using the ZAA-3401 rear panel assembly. For 75 ohms output circuits the ZAA-3400 rear panel assembly uses a resistive voltage divider to set the output impedance back to 75 ohms at a nominal level of 1 Vp-p.

The power supply comprises two bridge rectifiers whose rectified outputs are paralleled (positive and negative respectively) to provide redundancy. The inputs to these rectifiers are two independent feeds of 28 Vac (centre tap grounded). A DC-DC converter module is used to provide the required 5 volts supply for the line receiver and transmitter circuits. The DC indicator LED on the front panel is used to indicate presence of the 5 volts supply.

DAA-3400 Specifications

Inputs	2
Type	1 x 110 Ω balanced. or 1 x 75 Ω unbalanced. selected by link on PCB.
Format	AES3-1992 standard.
Input level	200 mVp-p minimum.
Input cable length	>500m Belden (8281) >200m 110 Ω (AES digital high quality shielded pair).
Outputs	8
Rear panel type ZAA-3400	75 Ω unbalanced >1Vp-p. or
Rear panel type ZAA-3401	110 Ω balanced >3Vp-p.
Front panel monitoring	1 x 75 Ω unbalanced.
Format	AES3-1992 standard.
Performance	
Frequency range	32 – 54 KHz continuous.
Output signal rise and fall times	<20 ns.
Power requirement per unit	14V-0-14Vac <2 VA
Connectors	
Unbalanced	BNC.
Balanced	Phoenix 3 terminal plug-in screw terminal blocks.
Operating temperature range	0 - 50° C ambient
Mechanical	6 HP x 3 U x 220mm IRT Eurocard Suitable for mounting in IRT 19" rack chassis types FR-700 & FRU-1030.
Finish: Front panel	Grey powder coat, silk-screened black lettering & red IRT logo
Rear assembly	Detachable silk-screened PCB with direct mount connectors to Eurocard and external signals
Standard accessories	Operation manual
Optional accessories	TME-6 module extender card

Due to our policy of continuing development these specifications are subject to change without notice.

Installation

Pre-installation:

Handling:

This equipment may contain or be connected to static sensitive devices and proper static free handling precautions should be observed.

Where individual circuit cards are stored, they should be placed in antistatic bags. Proper antistatic procedures should be followed when inserting or removing cards from these bags.

Power:

AC mains supply: Ensure that operating voltage of unit and local supply voltage match and that correct rating fuse is installed for local supply.

DC supply: Ensure that the correct polarity is observed and that DC supply voltage is maintained within the operating range specified.

Earthing:

The earth path is dependent on the type of frame selected. In every case particular care should be taken to ensure that the frame is connected to earth for safety reasons. See frame manual for details.

Signal earth: For safety reasons a connection is made between signal earth and chassis earth. No attempt should be made to break this connection.

Installation in frame or chassis:

See details in separate manual for selected frame type.

Installation

Installation requires the unit to be plugged into the front of the mounting frame and the rear assembly to be secured to the rear panel of the mounting frame, to install a module in the frame please see instructions under selected frame type in the relevant manual describing the frames.

Signal connections are made to the connectors on the selected rear panel of the DAA-3400.

The input signal can be either 75 ohms unbalanced terminating or 110 ohms balanced terminating, the **input selection** is done by links **SW1, SW2 on the module pcb** near pin 32 of the input connector. Move the links provided to the 75 or 110 positions marked on the board as required. The input signal is then connected to the appropriate input connector on the rear panel.

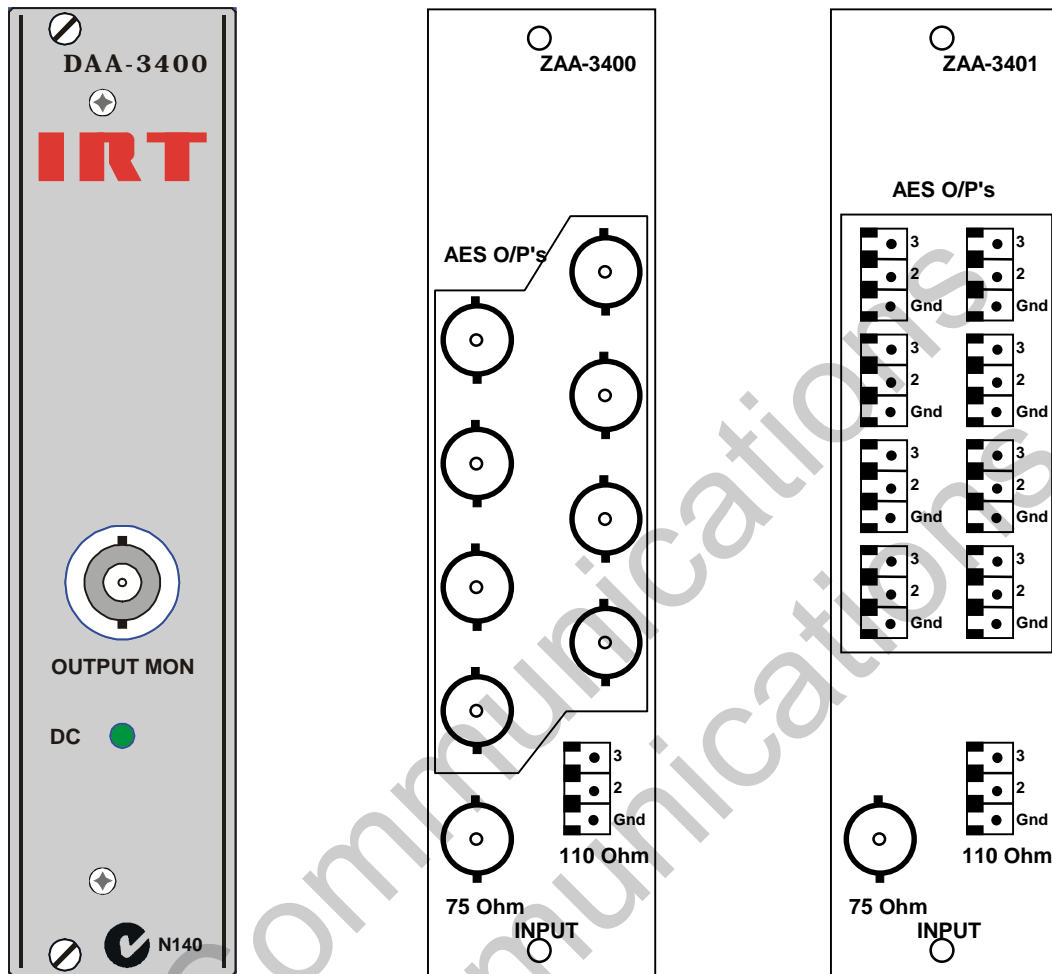
For unbalanced 75 ohms output circuits use the ZAA-3400 rear panel and for balanced 110 ohms output circuits use the ZAA-3401 rear panel assembly.

The presence of signal at the output of the ZAA-3400 can be monitored using the front panel monitoring BNC socket provided.

Diagrams are provided giving details of the circuits of the DAA-3400.

Front & rear panel connector diagrams

The following front panel and rear assembly drawings are not to scale and are intended to show connection order and approximate layout only.



Maintenance & storage

Maintenance:

No regular maintenance is required.

Care however should be taken to ensure that all connectors are kept clean and free from contamination of any kind. This is especially important in fibre optic equipment where cleanliness of optical connections is critical to performance.

Storage:

If the equipment is not to be used for an extended period, it is recommended the whole unit be placed in a sealed plastic bag to prevent dust contamination. In areas of high humidity a suitably sized bag of silica gel should be included to deter corrosion.

Where individual circuit cards are stored, they should be placed in antistatic bags. Proper antistatic procedures should be followed when inserting or removing cards from these bags.

Warranty & service

Equipment is covered by a limited warranty period of three years from date of first delivery unless contrary conditions apply under a particular contract of supply. For situations when “**No Fault Found**” for repairs, a minimum charge of \$A100.00 will apply, whether the equipment is within the warranty period or not.

Equipment warranty is limited to faults attributable to defects in original design or manufacture. Warranty on components shall be extended by IRT only to the extent obtainable from the component supplier.

Equipment return:

Before arranging service ensure that the fault is in the unit to be serviced and not in associated equipment. If possible, confirm this by substitution.

Before returning equipment contact should be made with IRT or your local agent to determine whether the equipment can be serviced in the field or should be returned for repair.

The equipment should be properly packed for return observing antistatic procedures.

The following information should accompany the unit to be returned:

1. A fault report should be included indicating the nature of the fault
2. The operating conditions under which the fault initially occurred.
3. Any additional information which may be of assistance in fault location and remedy.
4. A contact name and telephone and fax numbers.
5. Details of payment method for items not covered by warranty.
6. Full return address.
7. For situations when “**No Fault Found**” for repairs, a minimum charge of \$A100.00 will apply, whether the equipment is within the warranty period or not.

Please note that all freight charges are the responsibility of the customer.

The equipment should be returned **to the agent who originally supplied the equipment or, where this is not possible**, to IRT direct as follows.

Equipment Service
IRT Electronics Pty Ltd
26 Hotham Parade
ARTARMON
N.S.W. 2064
AUSTRALIA

Phone: 61 2 9439 3744

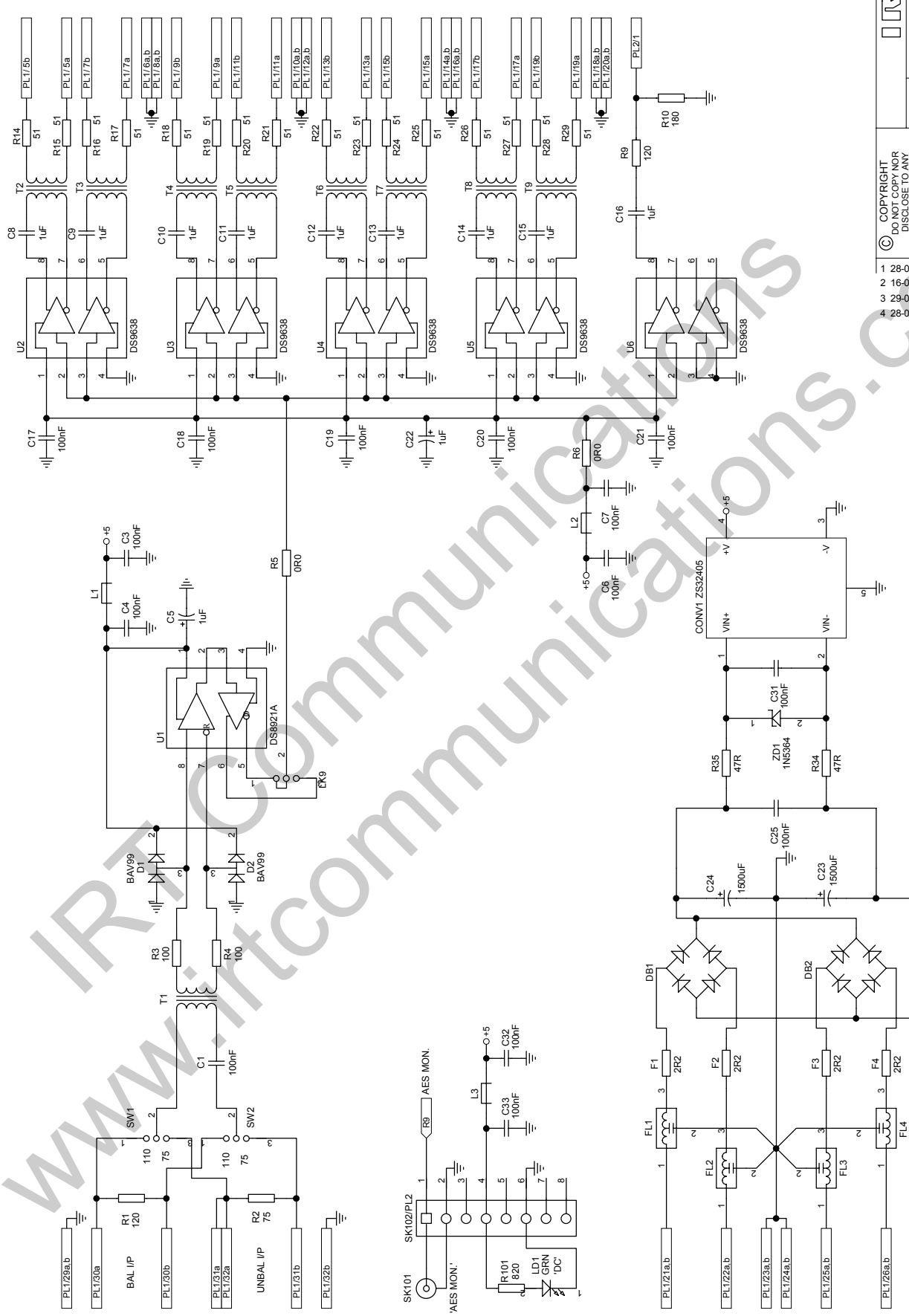
Fax: 61 2 9439 7439

Email: service@irtelectronics.com

Drawing List Index

Drawing #	Sheet#	Description
804169	1	DAA-3400 AES/EBU distribution amplifier
804174	1	ZAA-3400 75 ohms unbalanced rear assembly
804175	2	ZAA-3401 110 ohms balanced rear assembly

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DRAWN K.N.
 CHECKED
 ENG. APP.
 Revision: 4
 Date: 3-Oct-2001

IRT
 SIZE A3
 SCALE N.T.S.
 Title DAA-3400
 AES/EBU AMPLIFIER