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IRT Eurocard
Triple
Video Distribution Amplifier

Type AVA-3900

Designed and manufactured in Australia

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

IRT Eurocard
Triple
Video Distribution Amplifier

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Instruction Book

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This instruction book applies to units later than S/N 0804001.

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.

IRT Eurocard
Type AVA-3900
Triple Video Distribution Amplifier

General Description

The AVA-3900 is a high performance Eurocard video amplifier package containing three separate amplifiers.

Gain and cable equalisation controls are accessible on the front panel and the longitudinal hum reduction adjustment is an internal pre-set potentiometer.

The cable equaliser characteristics are pre-set to compensate for a maximum of greater than 250 metres of 75 Ω video cable. This can be changed to accommodate different cable types.

The AVA-3900 is a standard IRT Eurocard and is compatible with our other Eurocard products.

Two AVA-3900 Eurocards may be mounted in the IRT 1 RU chassis providing 6 VDA's in 1 RU.

Uses for the AVA-3900 include:

- Adjustment of gain and frequency response of multiple video signals at a central location.
- Isolation of multiple monitoring points.
- RGB / YUV signal distribution or monitoring.

Features:

- **Gain reserve**
- **DC coupled**
- **Longitudinal hum reduction**
- **Cable equalisation**
- **Three outputs**
- **Terminating inputs**
- **Suitable for standard and wide band analogue video signals**

Technical Specifications
IRT Eurocard Triple VDA
Type AVA-3900

Input/output connectors	BNC
Input impedance	Ground isolated, terminating into 75 Ω
Input signal range	0.7 to 1.5 V p-p video signal
Outputs	Three 75 Ω sourced, DC coupled
Maximum output	2.0 V p-p video
Overall gain	Set by front panel control Adjustable from –4 dB to +6 dB
Frequency response	±0.1 dB to 10 MHz ±0.2 dB to 50 MHz -3dB > 100 MHz
Differential gain at 4.43 MHz	Less than 0.2% at 1V p-p
Differential phase at 4.43 MHz	Less than 0.2° at 1V p-p
Longitudinal hum reduction	With input grounds isolated better than 40 dB at 50 Hz (Internal pre-set adjustment)
Cable equalisation	Continuously variable front panel control. 250 m of 75 Ω cable (Belden 8281 or equivalent) for standard analogue, 50 m of 75 Ω cable (Belden 8281 or equivalent) for wide band analogue.

General:

Input power		28 Vac CT (14 - 0 - 14)
Temperature range		0 - 50° C ambient
Mechanical		Suitable for mounting in IRT Eurocard chassis
Finish:	Front escutcheon	Grey background, black lettering & red IRT logo
	Rear assembly	Detachable silk screened PCB with direct mount connectors to Eurocard and external signals
Dimensions		6 HP x 3 U x 220 mm IRT Eurocard

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

Internal Adjustments

The following adjustable resistors are factory set and should not be adjusted unless a component has been changed. They are not 'operational' controls. Before adjusting any of these controls allow time for the AVA-3900 to reach temperature stability.

RV 1 "Channel 1” Common Mode Rejection.
Adjusted to reduce input common mode signals to a minimum at the output of the AVA-3900.

RV 4 "Channel 2” Common Mode Rejection.
Adjusted to reduce input common mode signals to a minimum at the output of the AVA-3900.

RV 7 "Channel 3” Common Mode Rejection.
Adjusted to reduce input common mode signals to a minimum at the output of the AVA-3900.

Configuration

The AVA-3900 requires no configuration other than setting the front panel gain and equalisation controls as necessary. These are factory set for a transfer gain of 1 into a 75 Ohm load and for 1 metre of input cable. For most applications these will not require adjustment and unless proper test equipment is on hand they should not be altered.

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.

Video inputs:	differential type not connected directly to signal or chassis earth.
Video outputs:	Internally connected to reference earth.

Installation in frame or chassis:

See details in separate manual for selected frame type.

Connections:

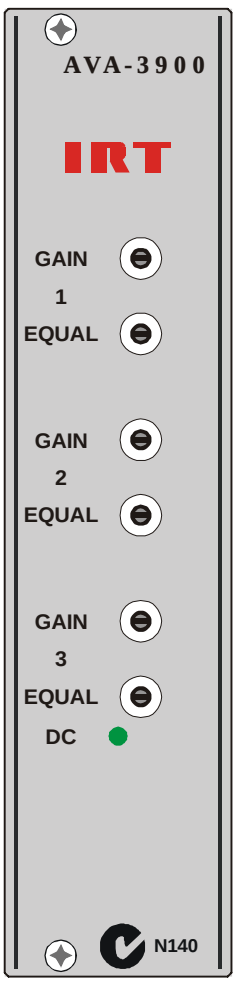
The inputs of the AVA-3900 are terminated in 75 Ω and no loop through facility is provided.
The outputs are 75 Ω sourced and will not provide correct level or response unless correctly terminated in 75 Ω by the connected equipment.

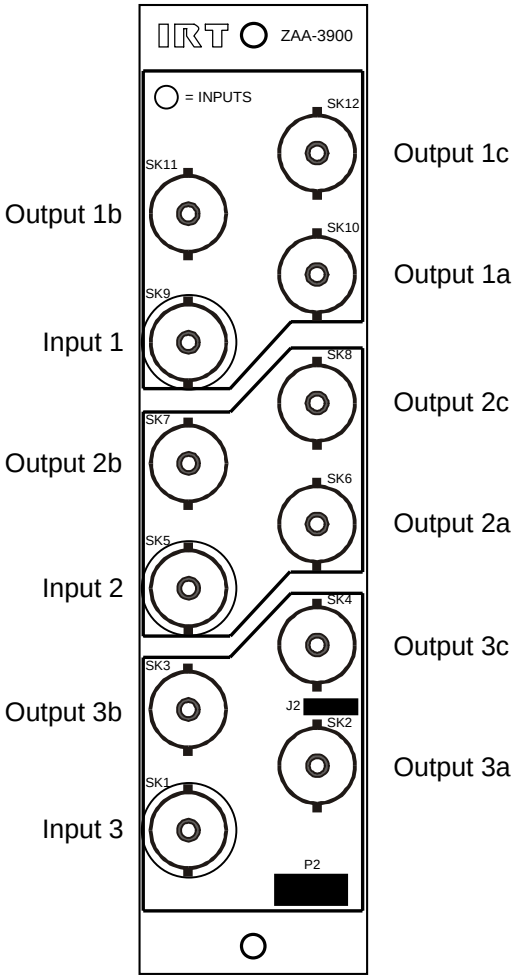
If more than three outputs are required outputs a & b from the VDA 1 should be fed to VDA 2 & 3 inputs to provide six outputs. Output c of VDA 1 should not be used to feed other than another AVA-3900 as there will be a slight timing difference between this output and that of the outputs from VDA's 1 & 2.

If more than six outputs are required consideration should be given to using another type of VDA better suited to this purpose such as the VA-700 with ten outputs.

Front & rear panel connector diagrams

The following front panel and rear assembly drawings are not to scale and are intended to show relative positions of connectors, indicators and controls 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 1 hour's labour, at IRT's current labour charge rate, 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 1 hour's labour will apply, whether the equipment is within the warranty period or not. Contact IRT for current hourly rate.

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

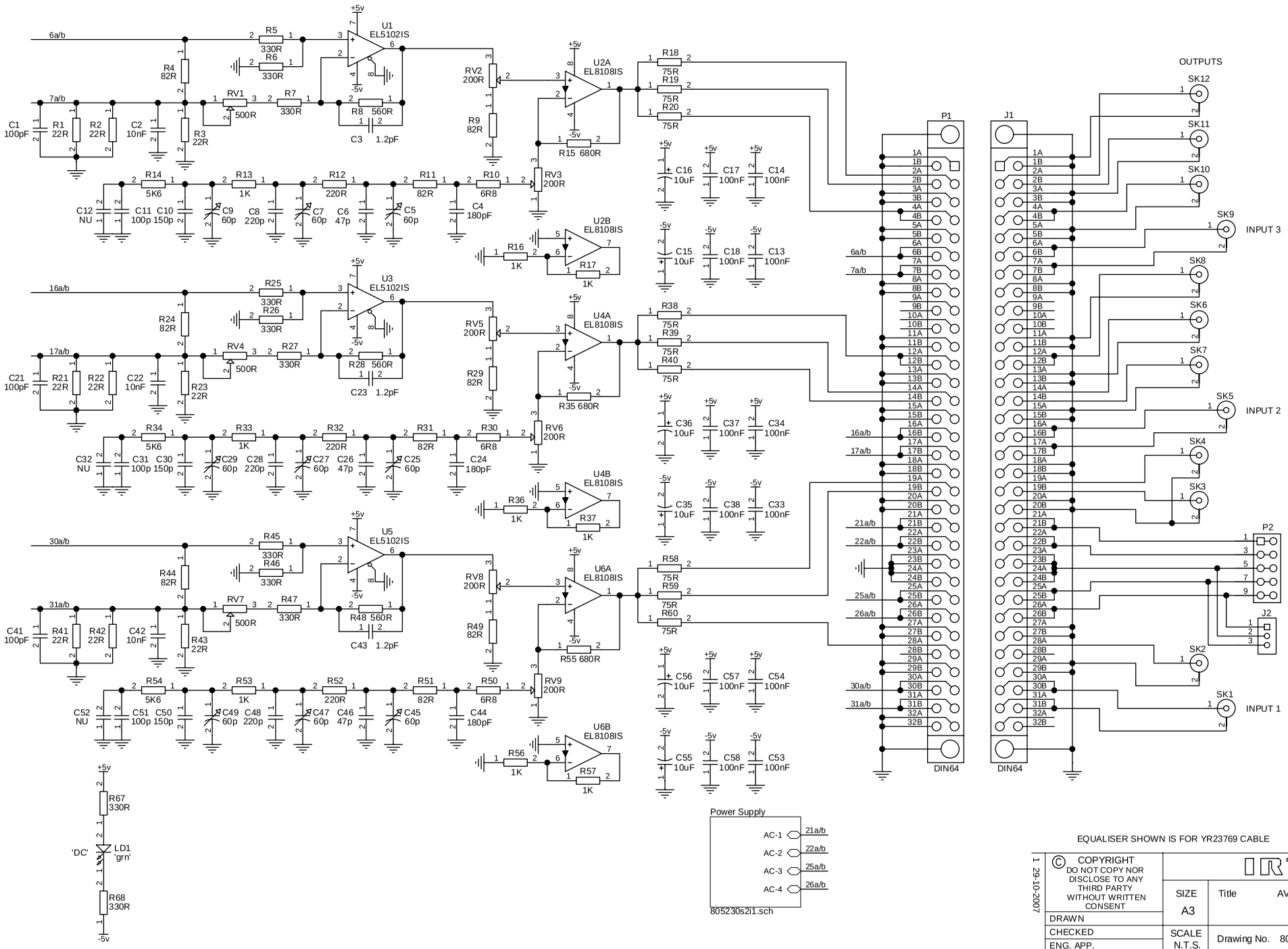
The equipment should be returned **to the agent who originally supplied the equipment** or, where this is not possible, to IRT direct as follows.

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
805230	1	AVA-3900 Triple VDA circuit diagram – sheet 1
805230	2	AVA-3900 Triple VDA power supply circuit – sheet 2



EQUALISER SHOWN IS FOR YR23769 CABLE

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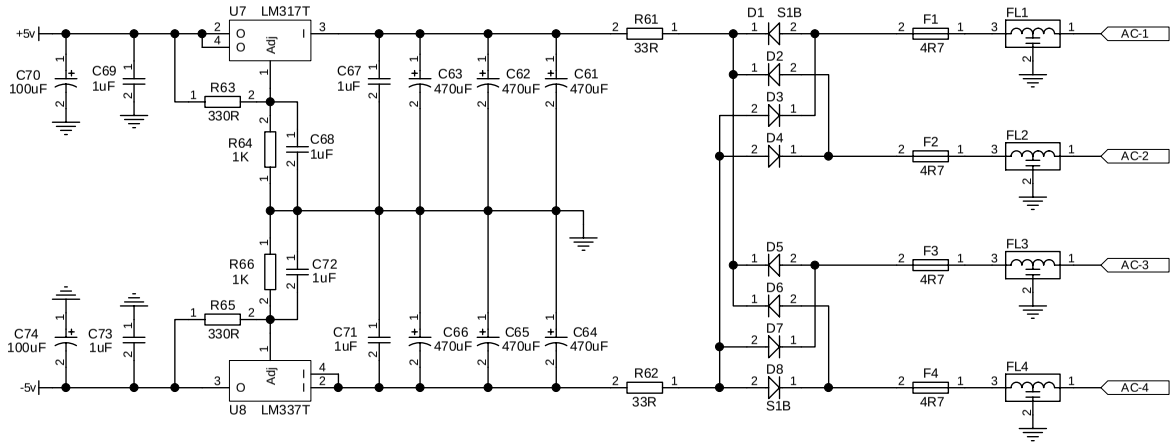
		SIZE A3	Title AVA-3900
	DRAWN		
	CHECKED	SCALE N.T.S.	Drawing No. 805230 — Sheet 1 of 2
	ENG. APP.		
	Revision: 1	IRT Electronics Pty. Ltd. ARTARMON NSW AUSTRALIA 2064	
	Date: 30-Sep-2008		



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Revision: 1
Date: 30-Sep-2008

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SIZE A3

Title AVA-3900 Power Supply

SCALE N.T.S.

Drawing No. 805230

Sheet 2 of 2

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