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Manufacture & Consultancy:

Custom Electronics, Printed Circuit Boards,
Broadcast Equipment and Controlled Evacuation Systems

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Dual Balancing Amplifier.

PCB NAME: D.B.A.\1-xx

Description

This board can be ordered in many configurations to suit individual requirements, this amplifier was designed to be mounted inside domestic **Cassette Recorders** or **CD Players**, this amplifier requires split rail in all configurations, if internal power is not available, a separate mains transformer is available (T2), mounted on a small PCB with mains fuse (and cover):

D.B.A.-00, this configuration allows operation from your regulated (filtered) supplies, on voltages from +5V to +18V, it must be noted that the lower supply voltages will not provide +8dbm out.

D.B.A.-05, this configuration allows operation from your low voltage equipment supply, using on board +5V regulators, it must be noted that the lower supply voltages will not provide +8dbm out with adequate headroom. Supply voltage range +7.5V to +22V.

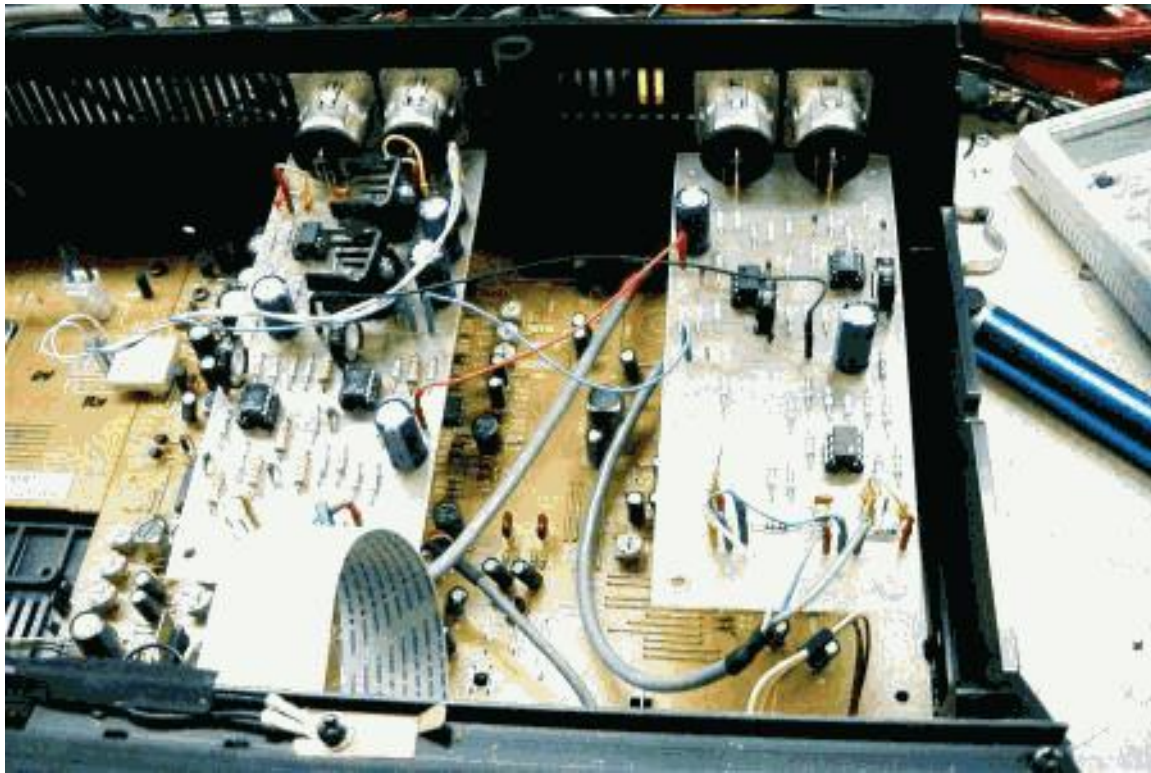
D.B.A.-12, this configuration allows operation from your low voltage equipment supply, using on board +12V regulators, it must be noted that this voltage will provide +8dbm out with minimal headroom. Supply voltage range +14.5V to +29V.

D.B.A.-15 (standard version), this configuration allows operation from your low voltage equipment supply, using on board +15V regulators, it must be noted that this voltage will provide +8dbm out with headroom to +26dbm. Supply voltage range +17.5V to +32V.

The suffix "-AC" may be added to all but the D.B.A.-00 version this will allow operation from low voltage AC centre tapped supply. This allows direct operation from the equipment power transformer secondary, provided the supply is centre tapped and within the ranges specified for the amp. ordered. Note full supply divided by 2 multiplied by 1.4, ie 22V AC centre tap = 15.55V DC, less .6V for the diode = 14.95V, this is the recommended voltage for D.B.A.-12-AC.

A full size 1:1 layout of the XL series connectors is provided with each DBA\1-xx board with marking of PCB location, one set of holes is for the inside of the case and the other set is for marking the outside. This allows **fitting by the customer at their own risk if desired.**

The new model D.B.A.\1 board has XL connectors mounted on the board for either input or output configuration, if in the case of a Cassette Deck where both input (balanced to unbalanced) and output (unbalanced to balanced) is required, only one of the boards is required to have regulators, as there is enough capacity in the on-board heatsinks of one unit to power both units (see page 2).



DBA\1-15-AC & DBA\1-00 fitted inside a Cassette Recorder.

These amplifiers can be supplied without any XL connectors for full internal connection as required, ie. gain make up amplifiers etc. The PCB is 152mm long & 65mm wide. The male or female connector protrudes 8mm past the PCB to the mounting flange of the connector (inside the case).

The layout is shown above, with XL connectors at one end, for the **INPUT** (balanced to unbalanced) and at the other end for **OUTPUT** (unbalanced to balanced). Mounting is via the XL connectors (tapped M3), except for full internal mounting, when PCB plastic supports will be supplied, in this case both input and output connections will be via PCB pins.

The input stage is a full balanced input to allow this unit to be used as a make up amplifier, with infinity attenuation to 19db gain with on board jumpering for 600R termination. For Unbalanced input, the negative input terminal is grounded, while the positive input terminal, is used for unbalanced signals. This gain will suit most domestic units, as a high percentage use -10dbv out requiring 18db gain while others use 1V in 10K, as their output level. This design using 2 stages allows much higher gains to be achieved (up to 60db) and these can be provided on request.

Power connections:

Regulated supplies are connected to the terminals marked "+15V & -15V" and "0V" .

"Un-Reg. DC" and "0V" can be connected to the + & - terminals in the bridge location.

AC supplies are connected to the "AC" terminals and the "0V" terminal.

Mounting screws for the XL connectors will be supplied with the relevant connectors or plastic PCB supports if internal mounting is required.

**Call J.B. Sound Industries Pty. Ltd to discuss your requirements.
(02) 9750-4372, Fax & email available.**