

RADFORD

TT100 Power Amplifier

TECHNICAL INSTRUCTIONS INSTALLATION AND MAINTENANCE

1. GENERAL

This leaflet and the sales leaflet A35 should be studied before installing the TT100 amplifier.

2. MAINS INPUT VOLTAGE ADJUSTMENT

The TT100 is designed to operate on mains supply voltages of 100V, 110-120V and 220-240V. 50-60 Hz.

The amplifier incorporates two mains transformers and it is necessary to adjust the voltage input tap on each transformer. To remove the perforated metal cover take out the retaining screws in the base and slide the cover to the rear. For details of transformer tag connections refer to Fig. 1.

3. VENTILATION

It is essential that adequate ventilation be provided. If amplifiers are fitted in enclosures, an easy air passage should be arranged to ensure convection. Radiation of heat also takes place from the rear of the unit. Rubber feet are fitted to the baseplate to permit air access through the chassis.

4. MAGNETIC RADIATION

Although the amplifier is fitted with mains transformers which have low magnetic radiation, it is advisable to take full advantage of the extremely high signal-to-noise ratio by locating it as far as possible from magnetic pickups, tape heads or other input transducers. Should any difficulty be encountered with induced hum, a slight orientation can sometimes result in considerable improvement.

5. LOUDSPEAKER LOAD IMPEDANCE

The amplifier delivers maximum power into an impedance of 4 ohms. The optimum load, however, is 6 ohms (maximum power with minimum distortion). As shown in Fig. 4 of leaflet A35 the power output versus load impedance is very flat. The amplifier operates satisfactorily into nominal load impedances from 4 ohms to 16 ohms.

6. INSTALLATION AND MAINTENANCE

6.1 Bias adjustment

The TT100 output stages are operated in a class AB₂ condition with fixed bias. It is necessary from time to time to check that the bias is correct on the output valves. Adjustment is made by the slotted spindle potentiometers at the rear of the chassis.

Valves are given a 24 hour ageing in the factory before

final bias adjustment is made, but further changes in the emission characteristics may take place up to 100 hours of running. It is advisable, therefore, to carry out a further check after this period. Very little change is then likely and checking need only be occasional depending on how much the amplifier is used.

6.2 Life expectancy of component parts

As a guide to frequency of replacement the possible life of parts used in the TT100 is given below.

6.2.1 Valves

The component most likely to require replacement is the KT88 valve. The wear on the output valves is a function of the average power output extracted, and time. If the amplifier is in continuous use the output valves should be checked every 6 months, and every year if in use for 2 to 3 hours per day. Replacement matched pairs of M.O. Gold Lion KT88 valves are available direct from Radford Audio, or the agent outside the United Kingdom.

6.2.2 Fuses

Fuses wear thin and may blow after a few years use. This does not imply any fault in the equipment but if fuses need frequent replacement the equipment should be checked. The fuse rating for the TT100 is as follows:

Mains Input 100 to 140V: 5 amp

Mains Input 200 to 250V: 3 amp

6.2.3 Electrolytic capacitors

Providing equipment is regularly used, the life should be a minimum of 10 years.

6.2.4 Transformers

Transformers are designed on a class 'A' rating basis with a life expectancy of 21 years continuous intermittent duty. Deterioration of the insulating materials takes place as a function of temperature and time. If the transformer is over-run due to the failure of a valve or other component the life expectancy may be reduced.

6.2.5 Other components

All other components have a considerable life potential but absolute failure is a possibility at any time, although remote.

6.3 Service adjustments

The service of amplifiers is very simple for an experienced technician. If in difficulty concerning service, write to the Service Department, Radford Audio Ltd. Keep the leaflets in a safe place to ensure availability to the maintenance technician.

Fig. 1. Mains input voltage adjustment

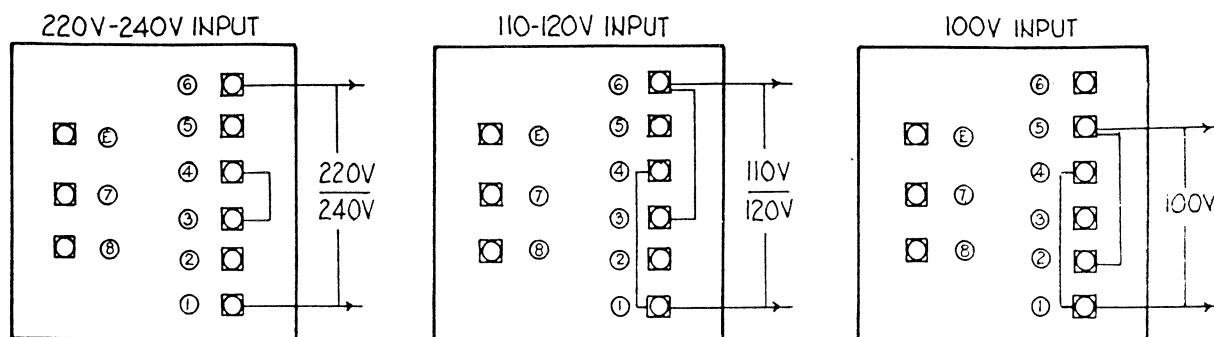


Fig. 3. TT100 top view, cover removed

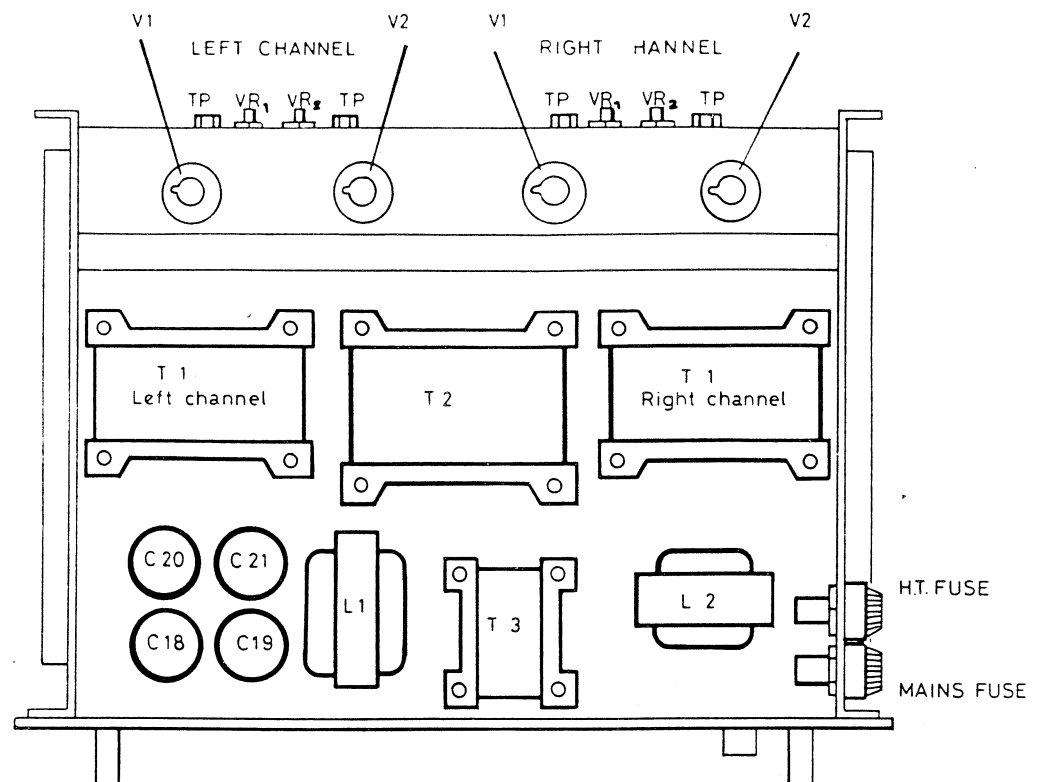
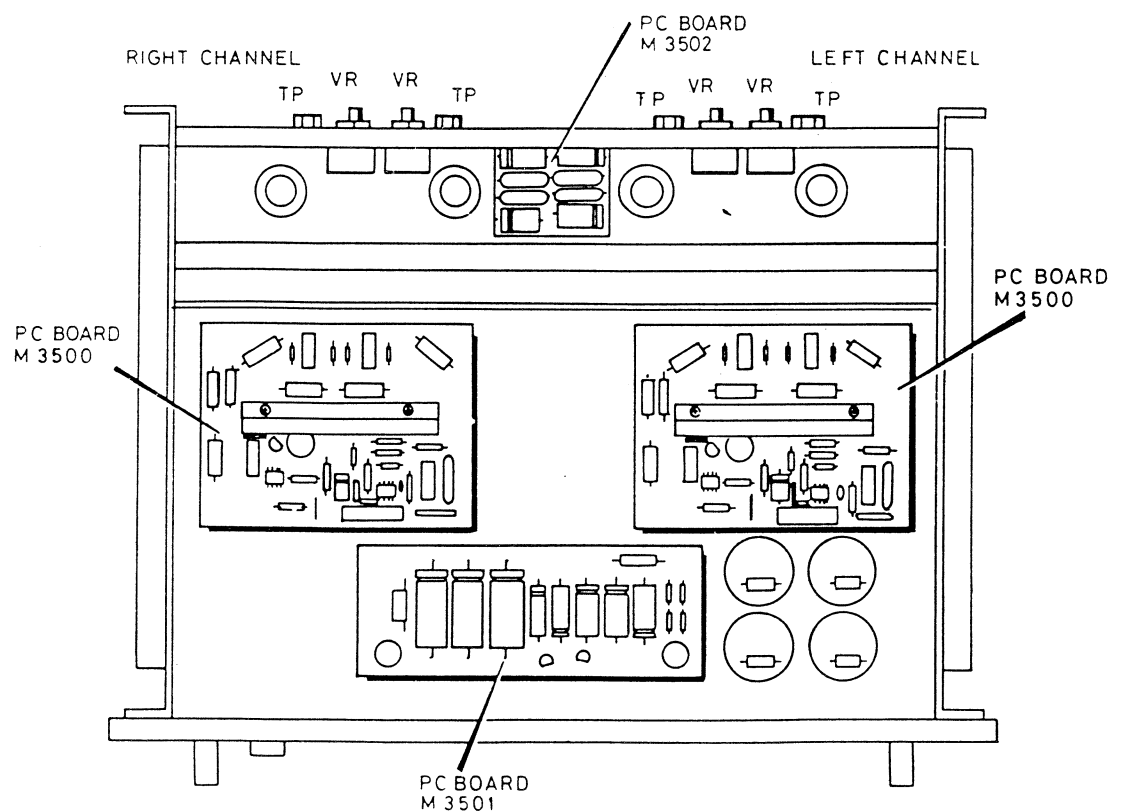


Fig. 4. TT100 underside view, baseplate removed



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