AMPLIFIER AM14/4

The AM14/4 is a three-transistor Band-II amplifier which accepts an input of about 700 mV r.m.s. and delivers an output of about 1 watt into a 50-ohms load. The input impedance is 50 ohms. Two externally-derived power feeds are required, one at 12 volts and one at 24 volts. The amplifier is constructed on a printed wiring board which is contained in a copper screening box BX1/4.

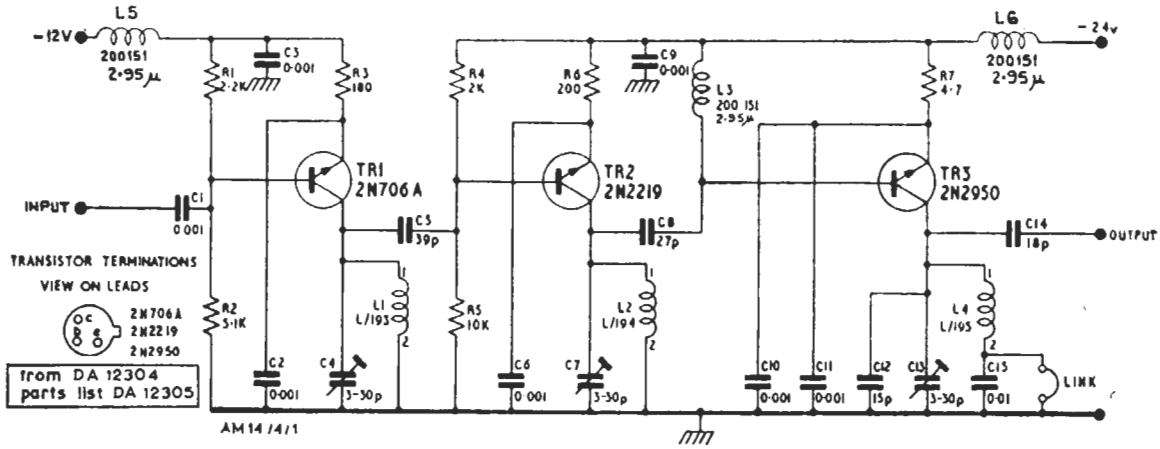

Fig. 1 Circuit of the AM14/4

The three amplifier stages, shown in the circuit diagram of Fig. 1, all have their collector circuits tuned to give maximum power outputs at the working frequency. The decoupling of TR3 emitter resistor R7 is achieved by using two capacitors C10 and C11 to reduce the effects of self-inductance and lead-inductance. The tuned collector-load of TR3 includes a link connected across capacitor C15 in series with the tuned-circuit inductor L4. The link normally short-circuits test points at which the collector d.c. current can be measured. The purpose of C15 is to divert the r.f. current from the measuring instrument. With the full-output condition, the current through L4 should be 85 mA $\pm$ 10 mA.

Maintenance Note

If a replacement transistor is fitted, the specified amplifier-output power may not be obtained because the particular characteristics of the transistor used are near the lower limits of fairly-wide production tolerances. It may be necessary therefore to choose a suitable specimen by successive trials.

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