

TONE AMPLIFIER AM1/5

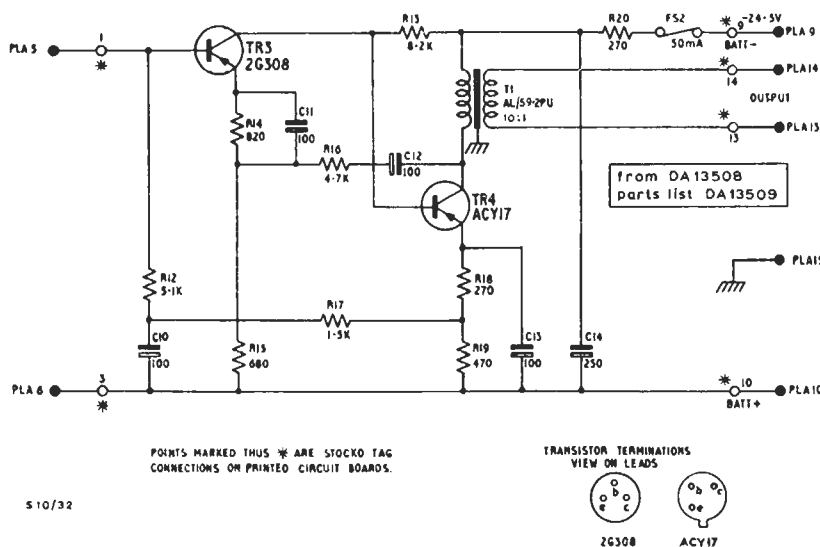


Fig. 1. Tone Amplifier AM1/5: Circuit

General Description

The AM1/5 is used in sequential tone test oscillator OS1/1, as the output amplifier for oscillators OS2/13 and OS2/14.

The amplifier is built on a printed board, housed in a chassis CH1/18C; this is intended for mounting on a panel PN3/23, and has index pegs at positions 5 and 30.

The board consists of a two-stage amplifier (Fig. 1), identical with the amplifier board of the OS2/15, in connection with which it is more fully described. Negative feedback applied via R15 and R16 reduces the output impedance at T1 secondary to less than 7 ohms.

Test Data

Power Requirements

Supply voltage, 24.5 volts d.c.
Total current, 8.5 ± 1.0 mA.

Typical Voltages

The following are typical voltages, measured with an Avometer Model 8 on the lowest practicable range.

Points of Measurement	TR3	TR4
Emitter/Collector	2.3	15.6
Emitter/Common Positive	2.9	5.1

Gain

With 900-Hz tone from a 4.5-kilohm source applied to the input at a level of +1.8 dB, the output level into a 600-ohm load should be 0 ± 0.5 dB.

For measurement purposes, a 4-μF capacitor should be interposed between the source and the input, to isolate d.c. bias.

The required source impedance of 4.5 kilohms may conveniently be provided by a 600-ohm tone-source in series with a 3.9-kilohm resistor.

Nonlinearity

Total harmonic distortion under the above specified conditions should be less than

0.3% at 900 Hz
0.6% at 90 Hz

Output Impedance

Replacement of the 600-ohm load by 62 ohms in the test for gain should not reduce the output level by more than 0.8 dB. Satisfaction of this test denotes an output impedance not greater than 7 ohms.