BASIC AMPLIFIER NETWORK NE1/7

See also AM7/8

Introduction

This is a transistor-operated a.f. amplifier assembly on a printed circuit board, intended for use with a suitable output transformer which must be provided and mounted separately. Its performance is specified and tested indirectly in its function as part of a larger unit in which it is incorporated. Used with an output transformer AAL/41E and with a 26-volt supply, in an AM7/8, it will give up to 45 dB voltage gain and an output volume of +12 dB into 600 ohms, at low distortion, in the range 25 Hz to 20 kHz.

Circuit Description (Fig. 1)

The circuit of the NE1/7 consists of two common-emitter stages in cascade, TR1 and TR2, which drive a Darlington pair, TR4 and TR6, and also feed a common-emitter phase-reversing stage, TR3, which drives a second Darlington pair, TR5 and TR7.

The gain of the stage containing TR1, and the overall gain of the unit, depends on the value chosen for R6, which with C4 shunts the emitter circuit resistor R4. The value of R6 may lie between 910 ohms, for maximum gain, and infinity, for minimum gain, giving a range of adjustment of about 21 dB.

The amplitude fed to TR3, from the junction of R11 with the feedback resistor R12, is such that TR5 and TR7 receive equal drive, in opposite phase, to TR4 and TR6.

References

1. Internal Line Sending Amplifiers AM7/8 and AM7/8A.
2. Designs Department Specification 3.488(69).

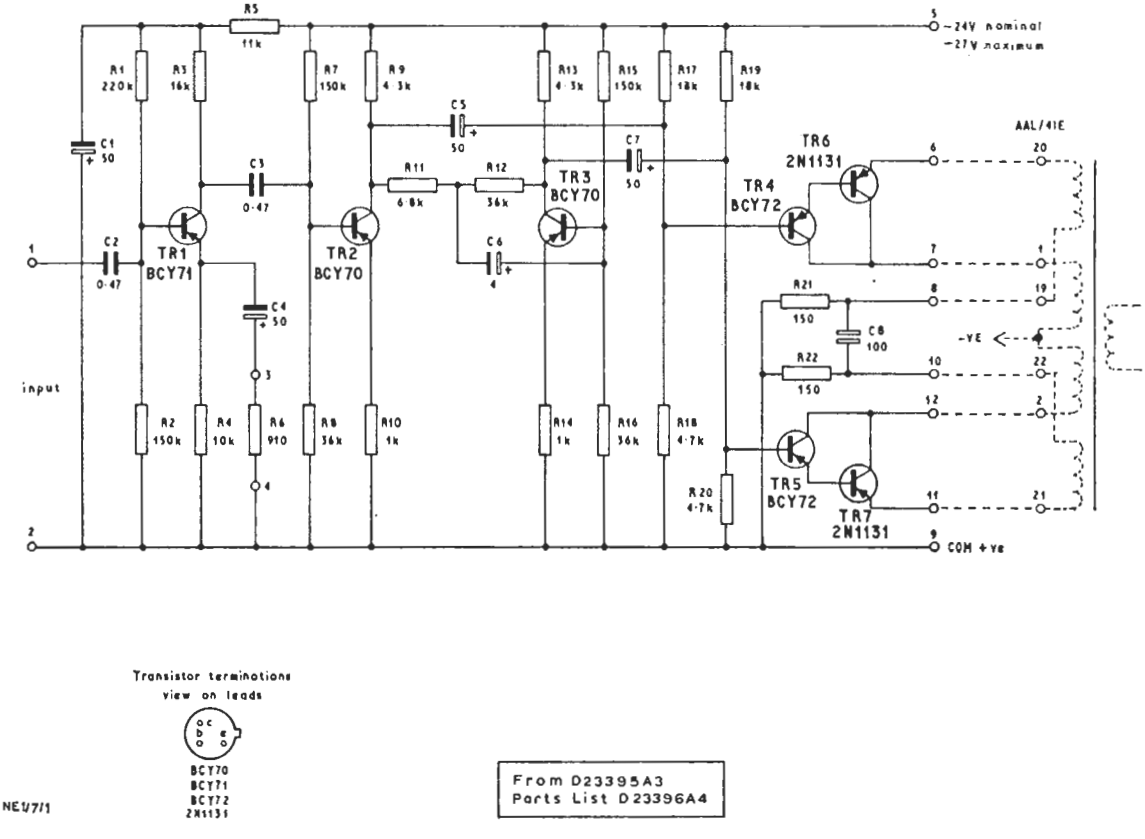

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Fig. 1. Circuit of the NE1/7, showing external connections to an AAL/41E output transformer