EQUALISING AMPLIFIER EQ1/509

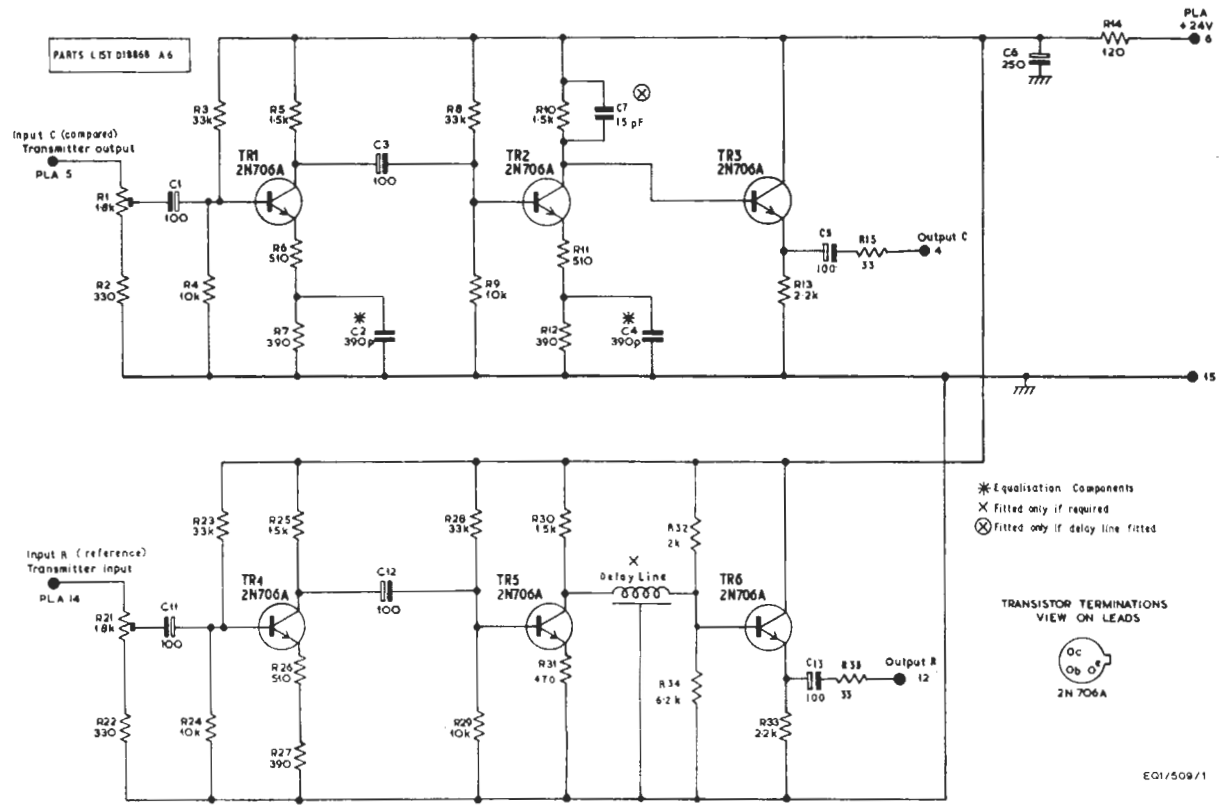

Fig. 1 Circuit of the EQ1/509

Introduction

The EQ1/509 accepts two separate but nominally identical signals, one of which is delayed with respect to the other, and produces an output of each. Both channels have preset input-level controls and one of them is provided with a small amount of frequency correction.

The EQ1/509 forms part of the Television Automatic Monitor (Transmitter) MN2M/505.

General Specification

Input voltage	0·5 to 2 volts p-p
Output voltage (nominal)	0·55 volts p-p
Frequency correction (channel C)	+6 dB at 3 MHz with respect to 1 MHz

Circuit Description

The circuit diagram is given in Fig. 1. The two channels, known as the reference channel (R) and the compared channel (C), each use two common-emitter amplifiers with an emitter-follower output stage. Negative feedback is applied by using un-bypassed emitter resistors but, in channel C, capacitors C2 and C4 are used in parallel with part of each resistor to provide frequency correction. This is required because the C-input signal is usually fed from a diode aerial probe and so has a falling h.f. response when used with a vestigial-sideband transmission.

A small delay is introduced into the R channel to offset part of the time difference between the two input signals. The delay is normally about 0·7 μs but may be as high as 1·3 μs.

The input-level controls are adjusted to provide a nominal output voltage of 550 mV p-p.

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