

QUARTZ DELAY LINE NE4/504

Introduction

The NE4/504 accepts a 30-MHz vision signal and delays it by a time within the range 35 μ s to 150 μ s. The delay is determined by the choice of the quartz delay-line used.

The NE4/504, which contains an AM2/507 and an AM2/508, is constructed on a CH1/12A chassis with index-peg positions 18 and 44.

Specification

<i>Input level</i>	up to 100 mV p-p
<i>Gain</i>	6 dB
<i>Frequency response</i> (where x is less than 6)	+x/4 dB and -x/2 dB at 30 \pm x MHz with respect to 30 MHz
<i>Delay-line</i> Type	YL2104/07. M.E.L. Equipment Co. Ltd.
<i>Delay</i>	in the range 35 μ s to 150 μ s
<i>Temperature coefficient</i>	-0.08D ns per degree C (where D is the delay of the line in μ s)
<i>Power requirements</i>	18 volts at 280 mA 30 volts at 0.5 amp for oven heater

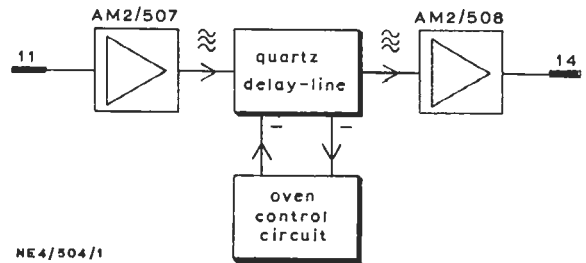


Fig. 1 Block Diagram of the NE4/504

Circuit Description

A block diagram of the NE4/504 is given in Fig. 1 and the oven-control circuit is given in Fig. 2. The oven-control circuit comprises an oscillator, buffer amplifier, detector and output amplifier. The output amplifier load is the oven heating element R17. A thermistor TH1 situated within the oven forms part of a bridge circuit which controls the gain and sense of the feedback loop in the oscillator.

At low oven temperatures this feedback is positive and the output of the oscillator is detected to feed current to the heating element R17. At high oven temperatures the feedback is negative and oscillation stops.

Test Procedure

The NE4/504 is tested as part of its parent unit.

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See overleaf for Fig. 2

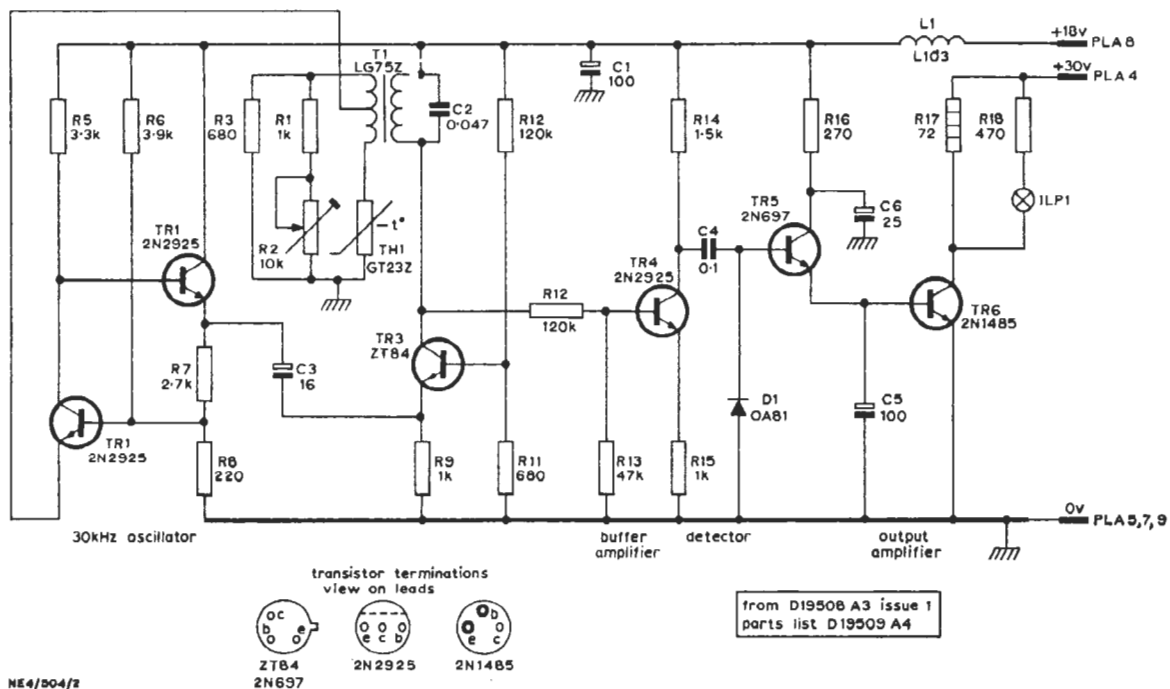


Fig. 2 Oven-control Circuit