LINE PULSE CLIPPERS GE2/507 AND GE2/507A

Introduction

The GE2/507 accepts line and field sawtooth waveforms, mixed sync pulses, field drive pulses and a d.c. field-control input: it produces a line-frequency rectangular waveform, which may contain a field-frequency component, and a field sawtooth waveform containing line-frequency, field drive and d.c. components. Outputs are selected by means of four relays. The GE2/507A differs from the GE2/507 in that a resistor is replaced by a shorting link.

The GE2/507 is constructed on a CH1/12A chassis with index peg positions 2 and 5.

Circuit Description

The circuit of the GE2/507 is given in Fig. 1. The line sawtooth input is fed to a Schmitt trigger circuit which includes transistors TR1 and TR2. The Schmitt circuit produces a rectangular waveform with a mark-to-space ratio which is dependent on the d.c. component of the line-frequency sawtooth waveform. The output of the Schmitt circuit is fed to a long-tailed pair used as a phase-splitter. Relays RL3 and RL5 are used to select a line pulse output.

The field sawtooth input is inverted in transistor TR5 and mixed with either field-drive pulses of either polarity (relay RL6) or a fixed voltage (relay RL1B). This waveform is fed via relay contact RL1B-2 either to the base of transistor TR1 or to the collector of transistor TR7.

The field sawtooth waveform at the base of transistor TR1 introduces a field component into the mark-to-space ratio of the line pulse output. Alternatively the field sawtooth waveform at the collector of transistor TR7 is mixed with differentiated mixed sync pulses and the d.c. field-control input of the GE2/507.

Test Procedure

The GE2/507 is tested as part of its parent unit 1,2,3.

References to Typical Associated Equipment

1. Keying Waveform Generator PA1/512.
2. Split Screen Effects Unit UN4/501.
3. Split Screen Effects Unit UN4/502.

MJR 2/67
TES 9/71

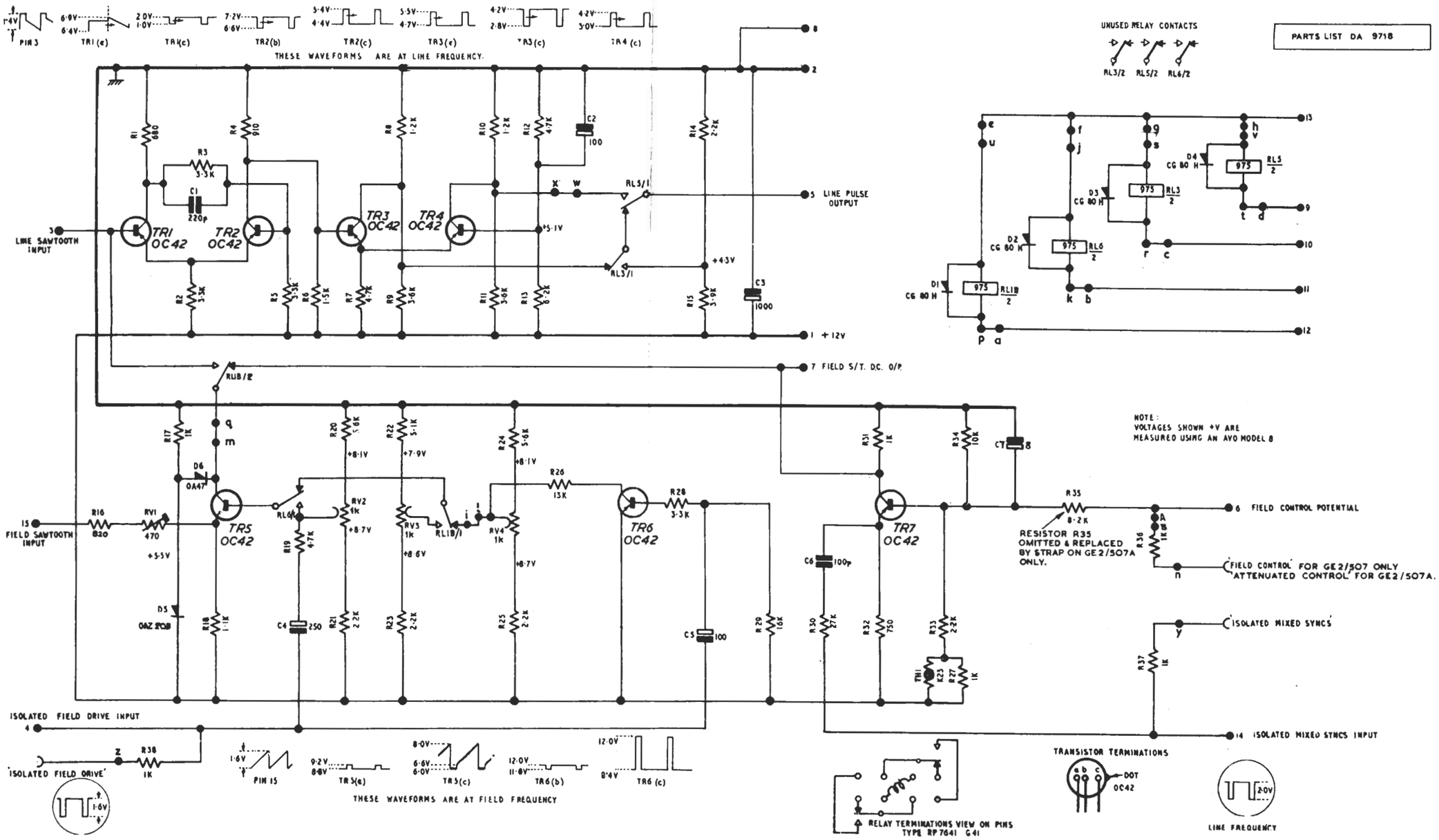

Fig. 1 Circuit of the GE2/507 and GE2/507A