CLAMP PULSE GENERATOR GE2/505 AND GE2/505A

Introduction

The GE2/505 accepts a clamp-trigger pulse input and produces two pairs of clamp pulses. The GE2/505 also contains a diode network which is omitted in the GE2/505A.

The GE2/505 is constructed on a CH1/12A chassis with index-peg positions 7 and 28. The GE2/505A is constructed on a CH1/12A chassis with index-peg positions 11 and 28.

Circuit Description

The circuit of the GE2/505, given in Fig. 1, has a clamp-pulse generating stage (transistors TR1 and TR2) followed by two identical clamp pulse output stages.

The input clamp-trigger pulse is d.c. restored by diodes D2 and D8 and fed to a complementary monostable multivibrator. The complementary output clamp pulses of this stage are of 1μs duration.

The positive supplies to the two clamp pulse output stages are balanced by means of the potential dividers RV2 and RV3. This enables the black level of the two external clamped video waveforms to be made equal.

Positive-going pulses applied to the base of transistor TR3 and negative-going pulses applied to the base of transistor TR4 cause these transistors to conduct, thereby clamping the external circuit, connected between pins 11 and 12, to approximately half the voltage across capacitor C4. If either of these transistors starts to conduct more rapidly than the other a voltage is fed back via either capacitor C6 or C7 to speed up the slower transistor. Potential divider RV5 is adjusted to give minimum switching transients on the external clamped video signal. Transistor TR4 has a slower cut-off time than transistor TR3 and so a variable resistor RV1 is used to slow up the cut-off of transistor TR3 to equalise the rise and fall times of the output clamp pulses; this minimises transients on the external clamped video signal.

Test Procedure

Routine maintenance is not required. It is convenient to check the unit when it is plugged into the parent unit, e.g. PA18/518 or PA18/522. The waveforms as indicated in Fig. 1 should be obtained.

Reference

1. Designs Department Specification No. 8.81(62).

MJR 2/67
AIB 8/70

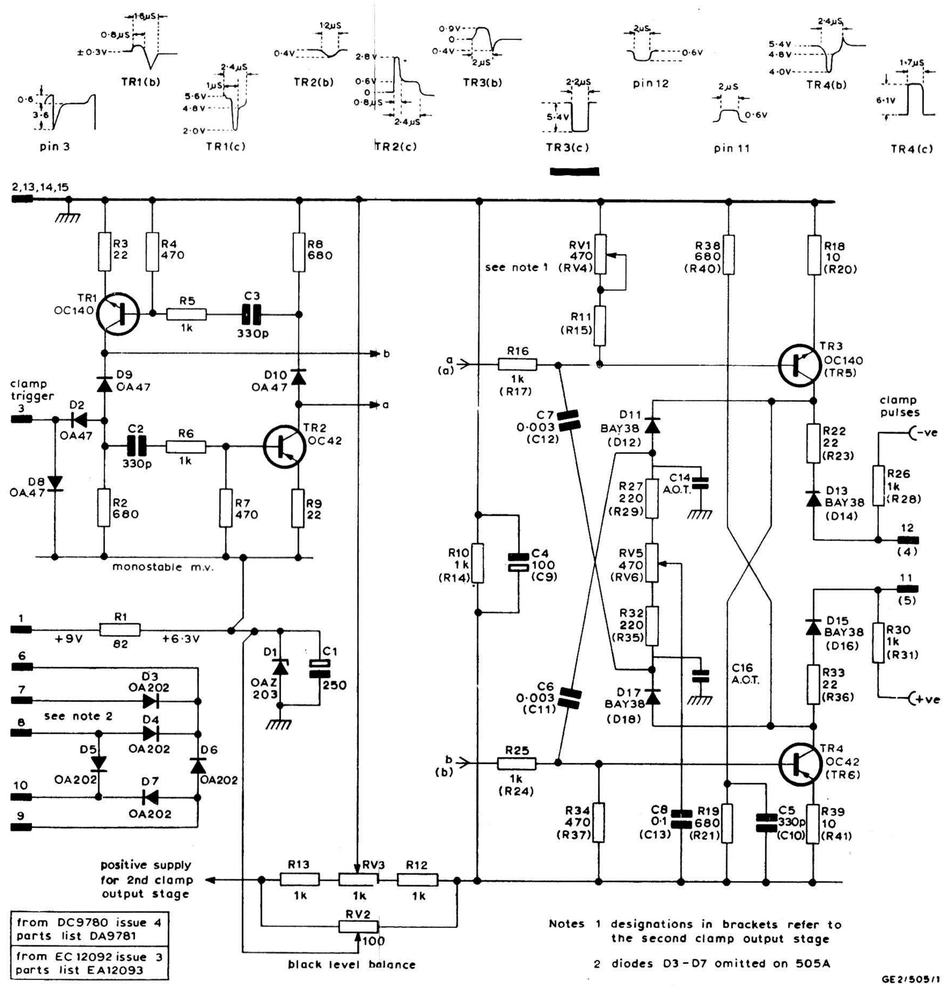


Fig. 1. Circuit of the Clamp-pulse Generators GE2/505, A