

## SECTION 10

### GATING PULSE GENERATOR GE2/510

#### Introduction

The GE2/510 accepts an input of mixed-sync pulses and provides two delayed and clipped mixed-sync pulse outputs<sup>1</sup>. The amount by which each output is delayed with respect to the input can be adjusted independently within the range 0-0.5  $\mu$ s.

The unit is constructed on a CH1/12A chassis with index peg positions 3 and 15. Input and output monitor sockets are provided on the front panel. A power supply at +12 volts is required<sup>2</sup>.

#### General Specification

Mixed Syncs Input	2 volts p-p $\pm$ 6 dB
Input Impedance	7.5 kilohms
Signal Outputs	2 volts p-p $\pm$ 1 dB across 75 ohms
Output Impedance	75 ohms
Power Consumption	12 volts $\pm$ 4%, 45 mA
Weight	1.5 lb.

#### Circuit Description

A circuit diagram is shown in Fig. 10.1.

Negative-going mixed-sync pulses are applied, via emitter-follower TR1 and d.c. restorer D1, to the base of TR2. Transistors TR2 and TR3 form an emitter-coupled clipping stage. In the quiescent condition TR3 conducts and TR2 is cut off but each time a d.c. restored sync pulse is applied to the base of TR2 it is driven into conduction and TR3 is cut off. Thus clipped mixed-sync pulses, with an amplitude of about 7.5 volts, appear at the collector of TR3. The function of diodes D2 and D3, in the emitter circuits of TR2 and TR3, is to prevent a breakdown of the base-emitter junctions when the transistors are cut off.

The sync pulses developed at the collector of TR3 drive delay network DN1. Two feeds are taken from tapping points on this delay network. These are applied to two identical circuits, TR4 to TR6 and TR7 to TR9, each of which consists of a clipper stage followed by an emitter-follower output stage. The additional clipper stages are necessary to remove any disturbances and irregularities introduced by the delay network. The two outputs from the unit are designated *Mixed Sync Output* and *Gating Pulse Output*.

#### Maintenance

The unit is maintained as part of its parent unit<sup>1</sup>.

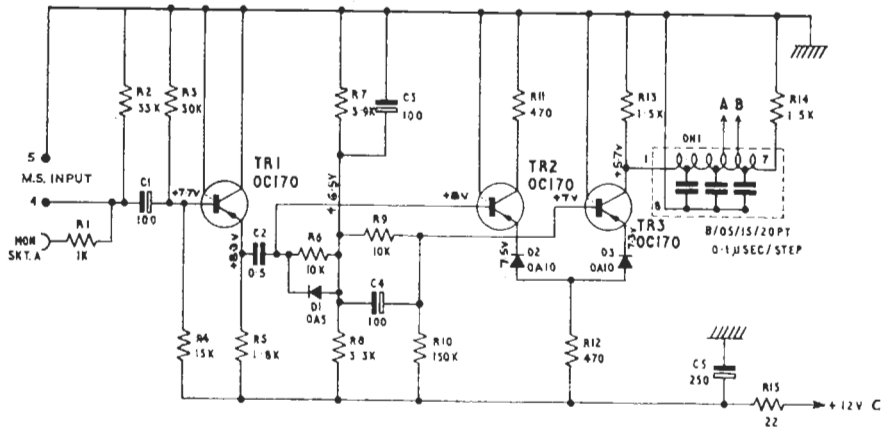
#### References to Typical Associated Equipment

1. Sync Switch Panels PA18/508 and PA18/509, Instruction V.13.
2. Stabilised Power Supplier PS2/20, Instruction G.2.

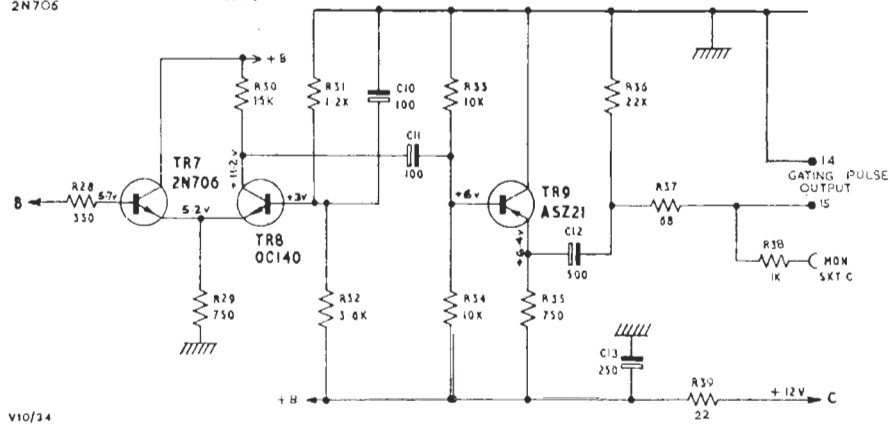
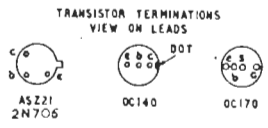
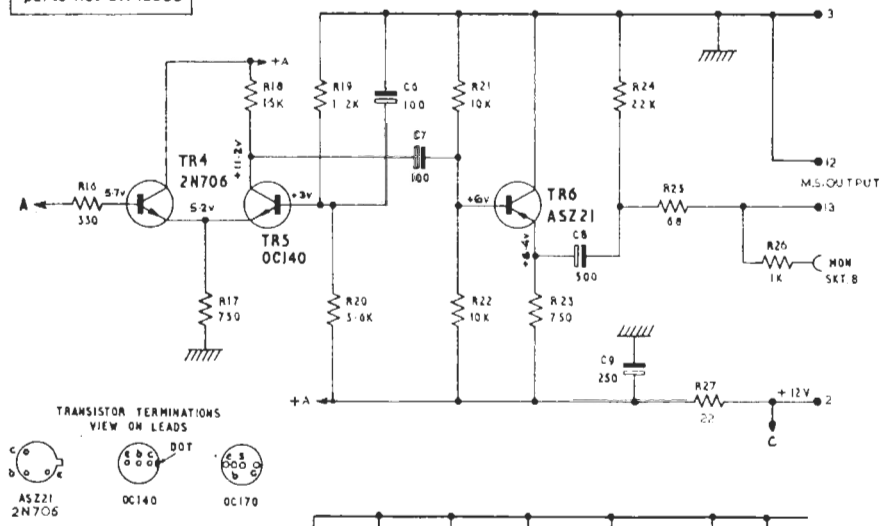
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See overleaf for Fig. 10.1

Instruction V.10  
Part 2, Section 10



parts list DA 12366



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Fig. 10.1 Circuit of the GE2/510