

## SECTION 23

### CAMERA DRIVE GENERATOR GE2/523

#### Introduction

This unit accepts feeds of line-drive and field-drive waveforms and provides feeds of:

- camera line-drive pulses
- camera field-drive pulses
- gating pulses at line-frequency
- triggering pulses at line frequency

In addition the unit incorporates a clamp circuit for use with external equipment.

The unit requires an external power supply of -9 volts. It is constructed on a chassis type CH1/12A with index peg positions 1 and 23.

#### Circuit Description

A circuit of the GE2/523 is shown in Fig. 23.1. The generator consists essentially of two monostable multivibrator circuits (see Television Engineering, Volume 3) one of which drives the clamp circuit; the other provides positive-going trigger pulses, negative-going gating pulses and camera line-drive pulses. Both multivibrator circuits are triggered from the trailing edges of the line-drive waveform fed via an emitter-follower input-stage TR1.

The clamp-pulse multivibrator is formed by TR2 and TR3 and timing network C5 and R9; diodes D1 and D2 improve the rise-time of the output waveform. In the stable state, TR2 is conducting and TR3 is cut-off. From the collector of TR3, positive-going pulses with a duration of about 4 microseconds are taken and fed to a phase splitter TR4. This stage provides equal-magnitude positive-going and negative-going pulses to operate the two-diode clamp D3 and D4. The clamping level is set by means of RV1.

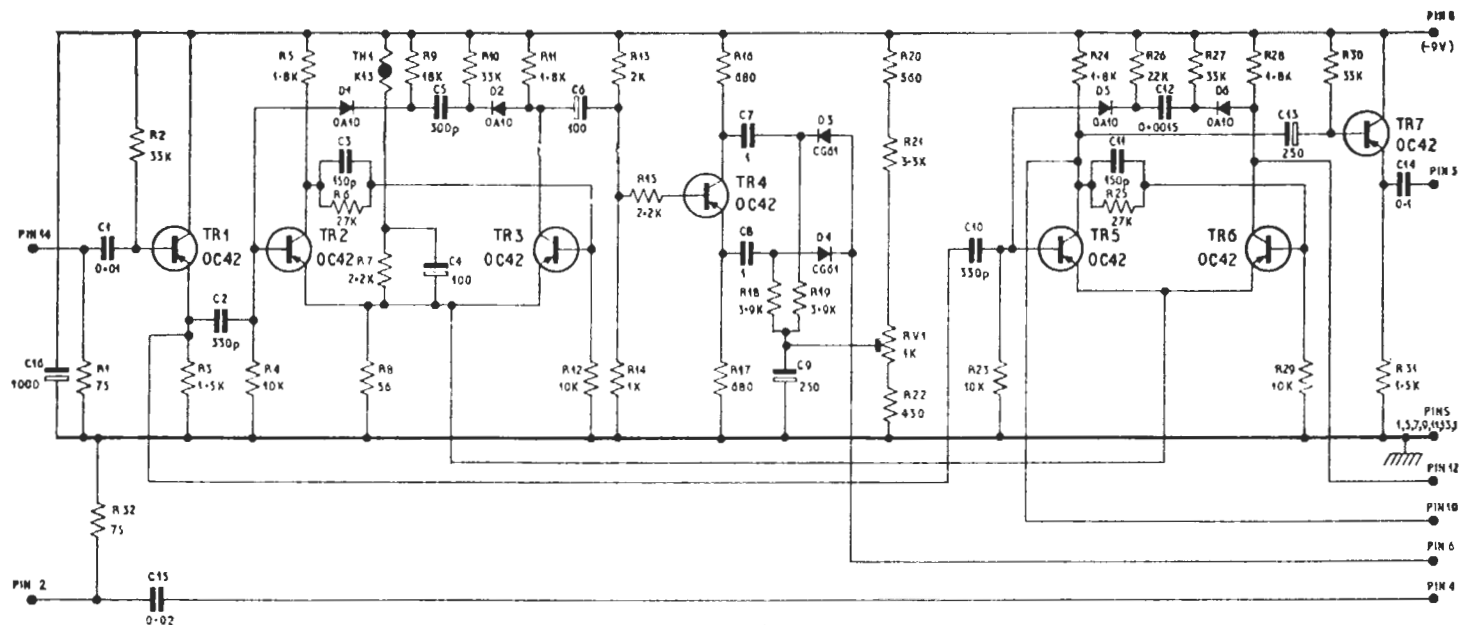
The other multivibrator circuit, formed by TR5 and TR6, is similar to the first but timing components C12 and R26 increase the duration of the output pulses to approximately 20 microseconds. Negative-going pulses are taken from the collector of TR5 to an emitter-follower TR7 and form the camera line-drive pulses. The output pulses from TR7 are timed such that their leading edges are co-incident with the trailing edges of the line-drive input.

Incoming field-drive pulses are fed via C15 to the camera field-drive output.

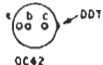
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*See overleaf for Fig. 23.1*

23.2



TRANSISTOR TERMINATIONS  
VIEW ON LEADS



V10/BB

- PIN No.
- 1,3,7,9,11,13 & 15. EARTH.
  - 8 -9V
  - 2 FIELD DRIVE.
  - 3 CAMERA LINE DRIVE.
  - 4 CAMERA FIELD DRIVE.
  - 6 CLAMP PULSES.
  - 10 1/2 LINE GATING PULSE.
  - 12 EXTRA BLANKING GENERATOR PULSE.
  - 14 LINE DRIVE.

Fig. 23.1 Circuit of the GE2/523