

TEST LINE SIGNAL GENERATOR AND INSERTER GE4M/518A

Introduction

The GE4M/518A generates the test line signal and inserts it on lines 13 and 215 of a 405 line television waveform, but it is capable of inserting the signal on any line in the field blanking interval.

It requires an input of video at standard level and provides two standard level outputs. The test line signal is added at a level of 0.7 volts irrespective of the input signal level and remains stable within ± 0.1 dB for periods of at least 3 months. The working temperature range is 5°C to 45°C.

The generator consists of the 8 units listed below, mounted in a PN3/23 panel:

- Distribution Amplifier AM4/519.
- Automatic Monitor MN2/509.
- Waveform Timing Generator GE2/540.
- Staircase and Pedestal Generator GE4/517.
- Trigger Pulse Generator GE2/535B.
- Pulse and Bar Generator GE4/516.
- Power Supplier PS2/13F.
- Shorting Unit UN1/570 (used if MN2/509 not required).

General Description

The block diagram of the generator is given in Fig. 1 and the test line signal waveform is indicated in Fig. 2.

The input video signal is divided between the Automatic Monitor MN2/509 and the output Distribution Amplifier AM4/519. The amplifier has 3 outputs, one feeding to line, one feeding a monitor output and the third driving the Selected-Line Trigger Generator GE2/535B. This generator produces a negative pulse at the beginning of each selected line.

If a test line signal is not on the selected line of the input signal, and assuming that a mode switch on the MN2/509 is in either the *Monitor On* or the *Monitor Off* position, negative pulses from the GE2/535B pass to the GE2/540 and initiate control pulses to trigger the GE4/516 and GE4/517 which together produce the test line signal. The test line signal appears at the output terminal of the GE4/16 and then, via a 6dB attenuator, passes to the input of the AM4/519 where it mixes with the input of the AM4/519 where it mixes with the input

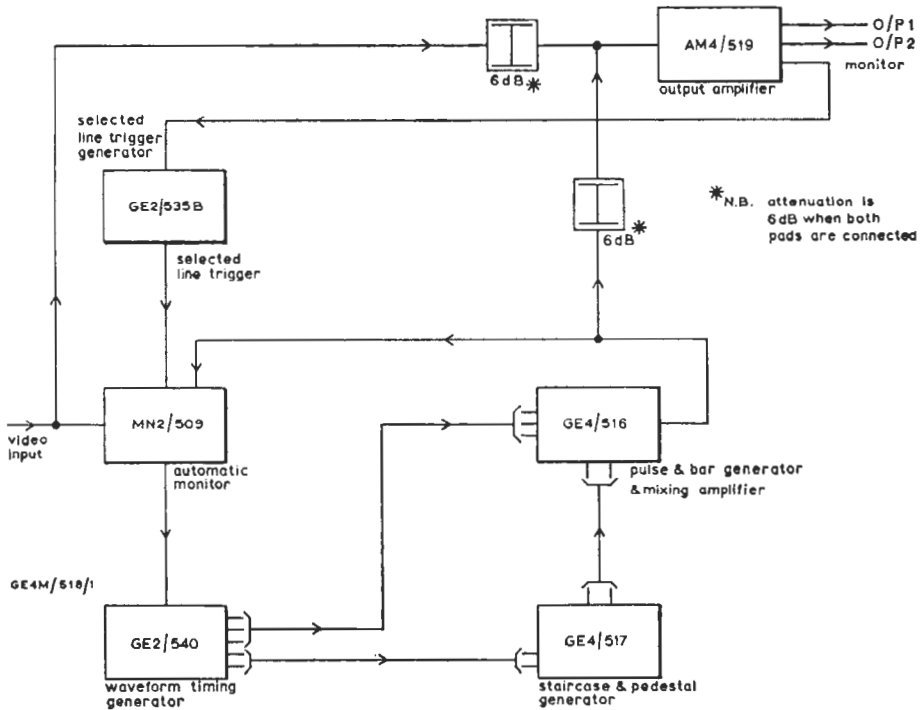


Fig. 1 Block Diagram of the GE4/518

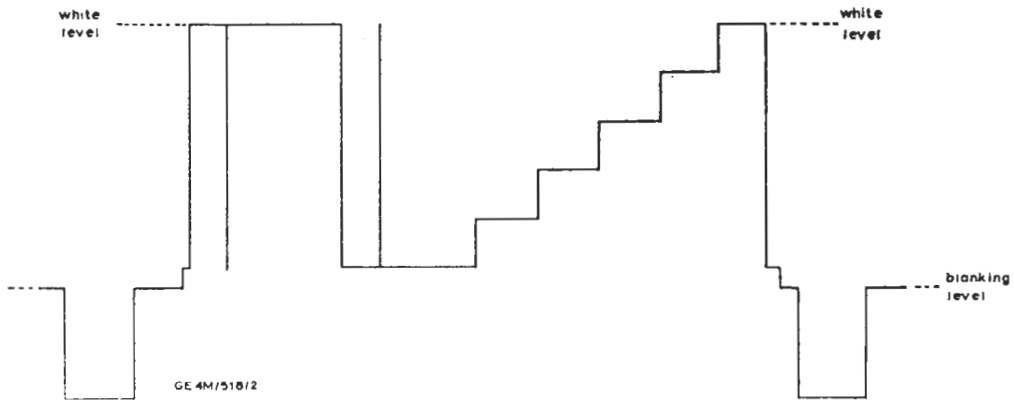


Fig. 2 Test Line Signal from the GE4/518

video signal.

The operation of the generator is controlled by the mode switch on the MN2/509. With the switch in the *Monitor On* position, the operation of the generator is inhibited if a test line signal is present on the selected line of the input signal. With the switch in the *Monitor Off* position, a test

line signal is generated without reference to the input signal; in the *Test-line Signal Off* position a test signal is not generated under any conditions.

Reference

Designs Department Specification No. 9.69(66).

AIB 2/69