SECTION 60

MATRIX UNIT UN1/560

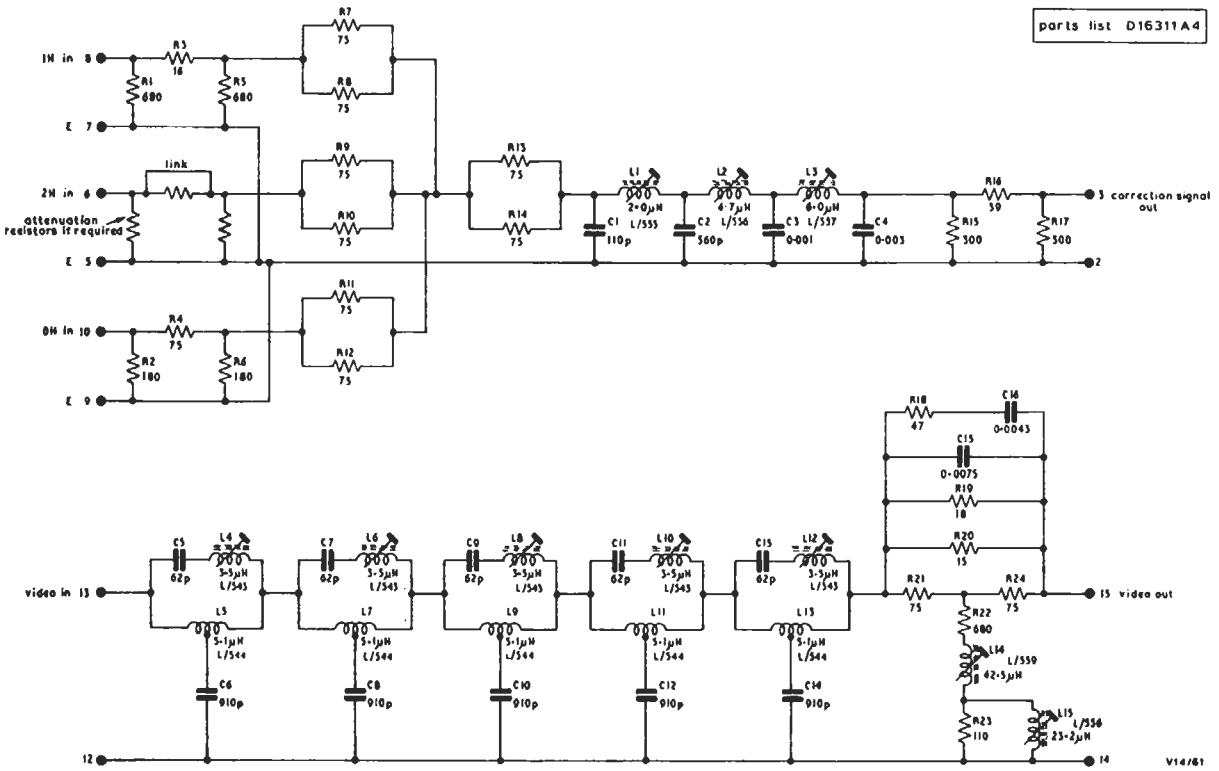

Fig. 60.1 Circuit of the UN1/560

Introduction

The UN1/560 comprises a three-way attenuating and mixing network followed by a low-pass filter with a gaussian amplitude-frequency characteristic[1]. The UN1/560 also contains a delay network[2] with the same delay as the low-pass filter. The circuit of the UN1/560 is given in Fig. 60.1.

As used in a Vertical Aperture Corrector EP1/504 (see Instruction V.15) the three input attenuators are given values of 2 dB, 0 dB and 8 dB.

The UN1/560 is constructed on a CH1/12A chassis with index peg positions 16 and 29.

Test Schedule

Apparatus Required

Tektronix oscilloscope Type 533 with Type CA plug-in unit.
Pulse and Bar Generator GE4/504B.
15-dB amplifier AM5/507.
75-ohm three-way splitting pad.

Test Procedure

1. Connect 75-ohm resistors between pins 7 and 8, 9 and 10.
   Connect the output of the GE4/504B via the

splitting pad to the inputs on pins 6 and 13.
Connect the output on pin 3 via the 15-dB amplifier to one terminated input of the oscilloscope.
Connect the output on pin 15 to the other terminated input of the oscilloscope.
Trigger the oscilloscope from the *Pre-pulse* output of the GE4/504B.

2. Display the two outputs alternately and check that the filtered output is delayed with respect to the output of the delay network by approximately 50 ns. This should be checked by observing the tips of the pulse waveform.
Check that the pulse-to-bar ratio of the filtered output is about 0·7, and that the half-amplitude duration of the pulse is about 0·27 μs without undue overshoot or ringing.
Check that the pulse-to-bar ratio of the output of the delay network is 1·0 ± 0·02.
3. Check that the low-frequency loss of the filter is about 15 dB and that of the delay network is about 1 dB.

Bibliography

1. Weaver, L. E.; *Filters with Gaussian Amplitude Characteristics:* Designs Department Technical Memorandum No. 9.42(64).
2. Weaver, L. E.; *Delay Networks with Complex Conjugate m Values:* Designs Department Technical Memorandum No. 9.19(61).

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