VIDEO AMPLIFIER AM5/519

Introduction

The AM5/519 consists of two 20-dB negative-feedback amplifiers joined by an FL4/556A low-pass phase-corrected filter and a video-delay corrector. It accepts one video input and gives two standard-level video outputs.

The amplifier is built on a printed circuit board mounted in a CH1/12A chassis with index pegs 46 and 58.

The video input is made via a BNC socket on the front panel; the video output and d.c. supplies are made via a rear mounted 15-way Painton plug.

The amplifier was designed for use in the RC5M/502 U.H.F. Rebroadcast Television Receiver.

General Specification

Overall Gain	40 dB ±0·2dB
Input Signal Level	10 mV p-p
Output Signal Level	1V p-p across 75 ohms
Input Impedance	75 ohms nominal
Output Impedance	75 ohms nominal
Output Signal at Overload Point one or both outputs terminated	3V p-p
Overall Pulse to Bar Ratio (T=0·1 μs)	
2T	not less than 98%
1T	not less than 88%
Power Requirements	125 mA at +12 V 150 mA at −12 V
Weight	1 lb 3 oz

Circuit Description

The circuit diagram is given in Fig. 1. The two 20-dB amplifiers are identical. The output networks protect the output amplifier, TR5 to TR8, from the effects of short-circuit or open-circuit conditions on the interconnecting lines to associated apparatus.

The FL4/556A coupling filter comprises a low-pass section with a cut-off at 5·5 MHz along with three stages of phase correction. The final section of the network, between terminals 9 and 10, corrects for the group delay distortion introduced by the vestigial shaping characteristic of the receiver.

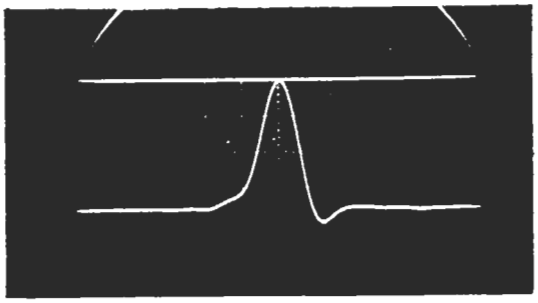
Maintenance

Routine maintenance is not required but the following points can be noted for test purposes.

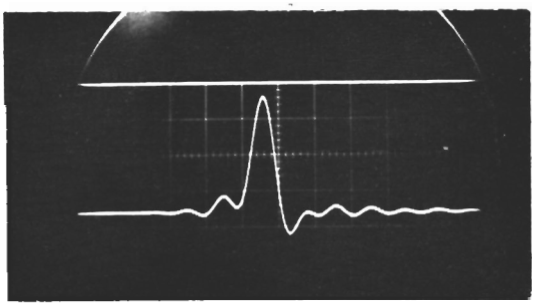
1. With the outputs unterminated, the potential at the emitters of TR4 and TR7 should be 0 ±100mV. This is set during manufacturing tests by adjustment of R14 and R34.
   The gain of the two amplifiers is set to 20 db by adjustment of R6 and R26.
2. Typical waveform responses of the unit are shown in Fig. 2.

Reference

1. Designs Department Specification No.6.156(70).



2T PULSE & BAR



1T PULSE & BAR

Fig. 2 AM5/519: Typical waveform response

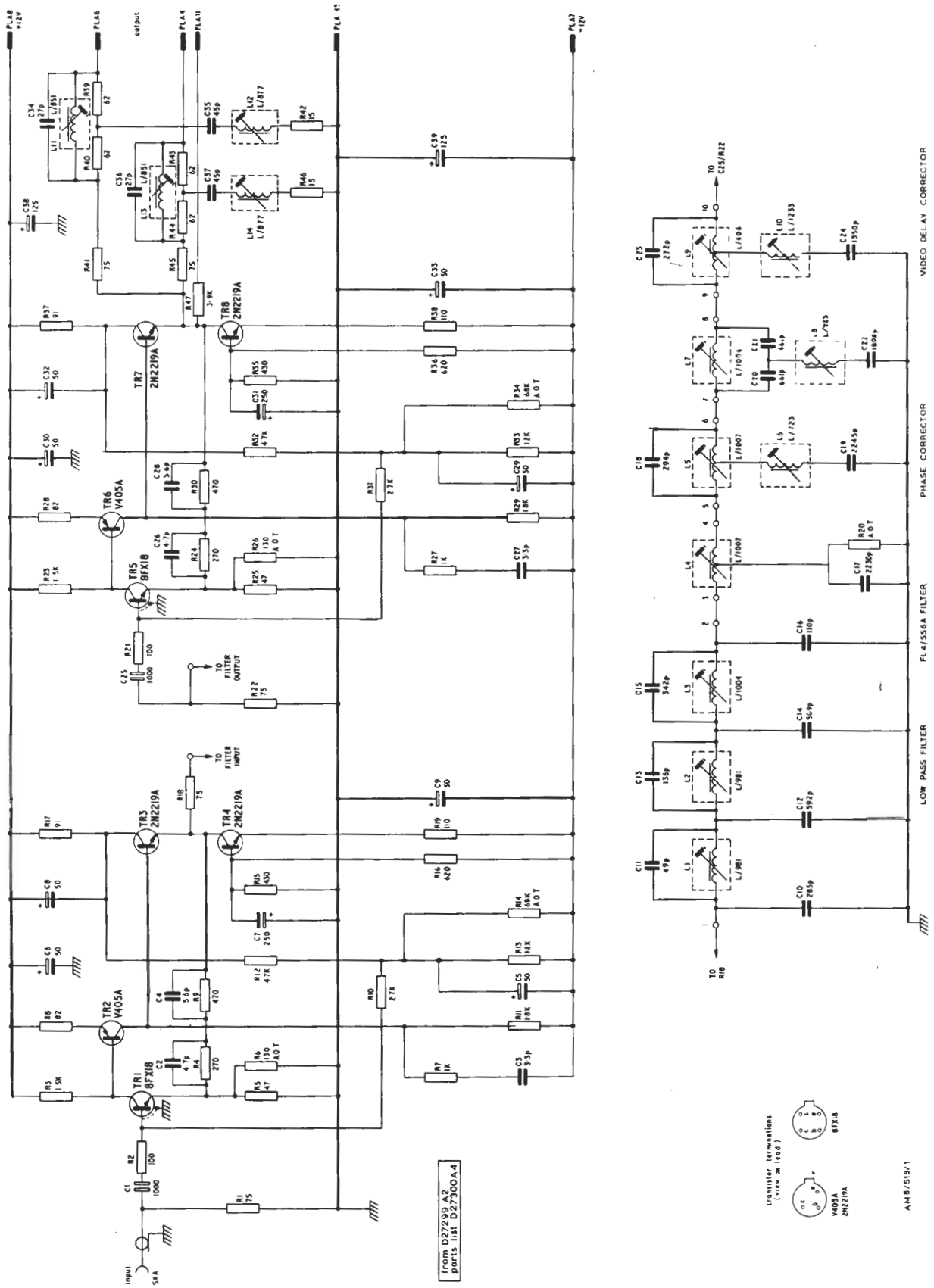


Fig. 1 AM5/519: Circuit Diagram

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