

**VARIABLE GAIN AMPLIFIER AM1/552****Introduction**

The AM1/552 is a video amplifier the gain of which is controlled by a d.c. input. With a d.c. input of 0 volts the gain is 25 dB and with a d.c. input of -5 volts the gain is 15 dB.

The AM1/552 is constructed on a CH1/12A chassis with index-peg positions 2 and 41.

**Circuit Description**

The circuit diagram of the AM1/552 is given in Fig. 1. There are two video inputs one of which feeds only a monitoring socket. In positions where the amplifier is fed from an attenuator, the monitoring feed can be taken from the input to the attenuator.

The amplifier is a four-stage circuit with overall negative feedback which incorporates a Raysistor R37. The Raysistor comprises a filament lamp and

photo-resistor combination in a TO5 transistor case. The Raysistor lamp is fed from a long-tail pair amplifier which includes transistor TR7 as a constant current source. A meter is used to monitor the control voltage applied to the Raysistor.

The amplifier is direct coupled and the operating point is stabilised by d.c. negative-feedback taken from the collector of transistor TR4. This transistor is an emitter follower fed from a constant current source TR5 so that all the signal current is fed to the load.

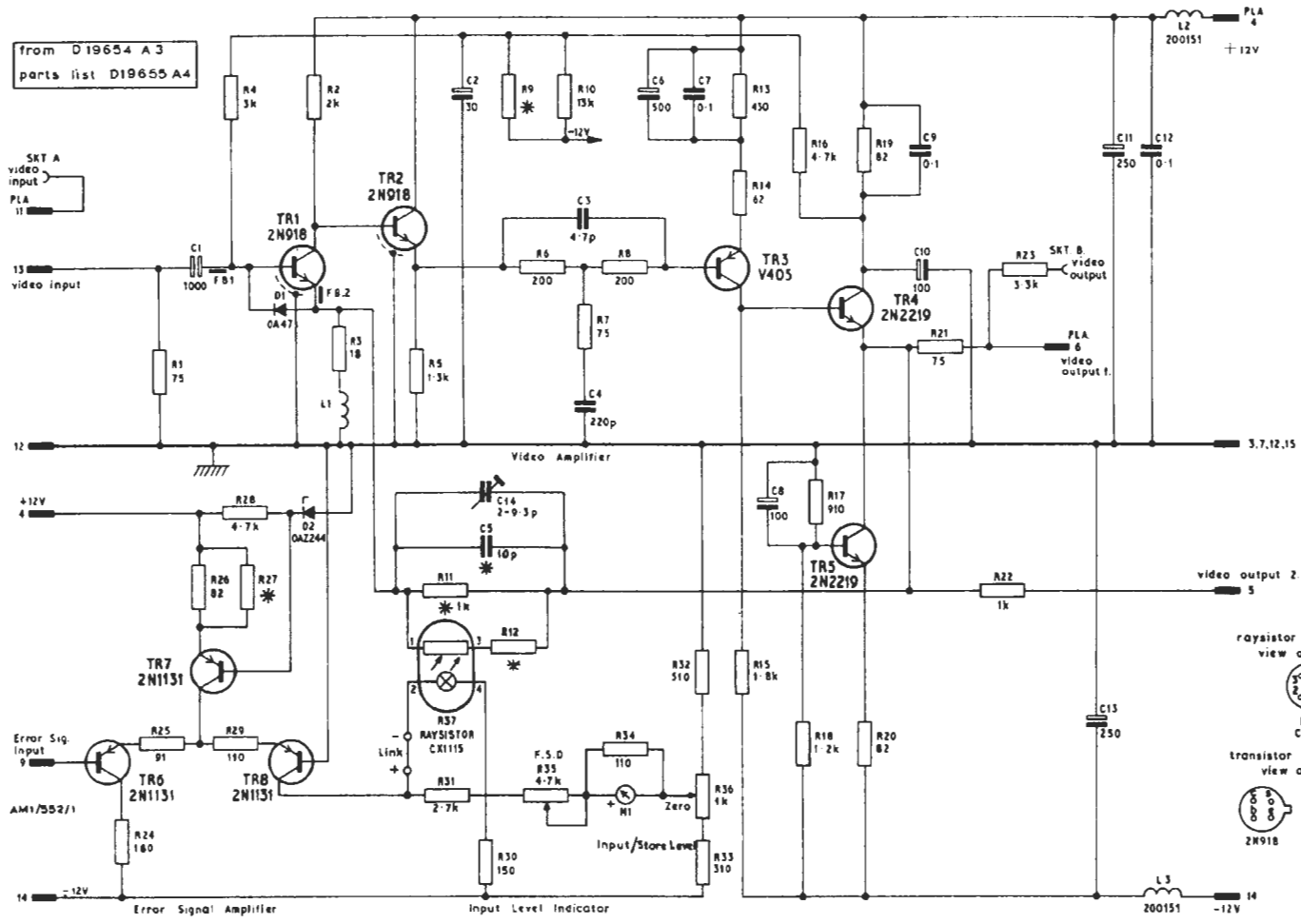
Inductor L1 and the interstage network between transistors TR2 and TR3 provide high-frequency phase correction to stabilise the loop gain.

**Test Procedure**

The AM1/552 is tested as part of its parent unit.

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*See overleaf for Fig. 1.*



\* values adjusted on test

Fig. 1 Circuit of the AMI/SS2