

## SOUND I.F. AMPLIFIER AND FILTER AM1/556

**Introduction**

The AM1/556 is an amplifier/converter intended for use in television rebroadcast and monitoring receivers<sup>1</sup>. It accepts an input at 31.5 MHz and gives an output at 6 MHz. It includes a crystal oscillator operating at 37.5 MHz.

The unit is built on a printed board mounted in a screened chassis, type CH1/39A. Input and output connections are made through BNC connectors on the front panel.

**General Specification**

Input Frequency	31.5 MHz
Output Frequency	6.0 MHz
Input and Output Impedances	nominally 75 ohms
Maximum Input at 31.5 MHz	15 mV r.m.s.
Power Gain between Matched Impedances	27 dB $\pm$ 2 dB
Bandwidth at 31.5 MHz	300 kHz $\pm$ 20 kHz
D.C. Power Requirement	45 mA at 25 V, negative earthed
Weight	2 lb.
Index Pegs	10 and 40

**Circuit Description**

The circuit is given in Fig. 1. The emitter follower TR1 feeds the signal to the capacitance-coupled cascode pair TR2 and TR3. A 31.5-MHz Tchebycheff filter<sup>2</sup> 1MHz wide couples the cascode stage to TR4. This is an f.e.t. mixer with an i.f. transformer, tuned to 6 MHz, in the drain lead. A 6-MHz bandpass filter feeds the signal to the output via TR5 at a bandwidth of 300kHz.

The local oscillator is a crystal controlled Colpitts type, operating at 37.5 MHz.

**Maintenance**

Routine maintenance is not required, but if the performance becomes suspect, the gain and bandwidth may be checked against the Specification.

The adjustment of the inductor cores should not be altered unless the full alignment procedure as laid down in the Designs Department Specification, is applied.

**References**

1. Television U.H.F. Rebroadcast Receiver RC5M/501
2. Wireless World, Sept. 1954
3. Designs Department Specification No. 6.132(67) AIB 10/68

*See overleaf for Fig. 1*

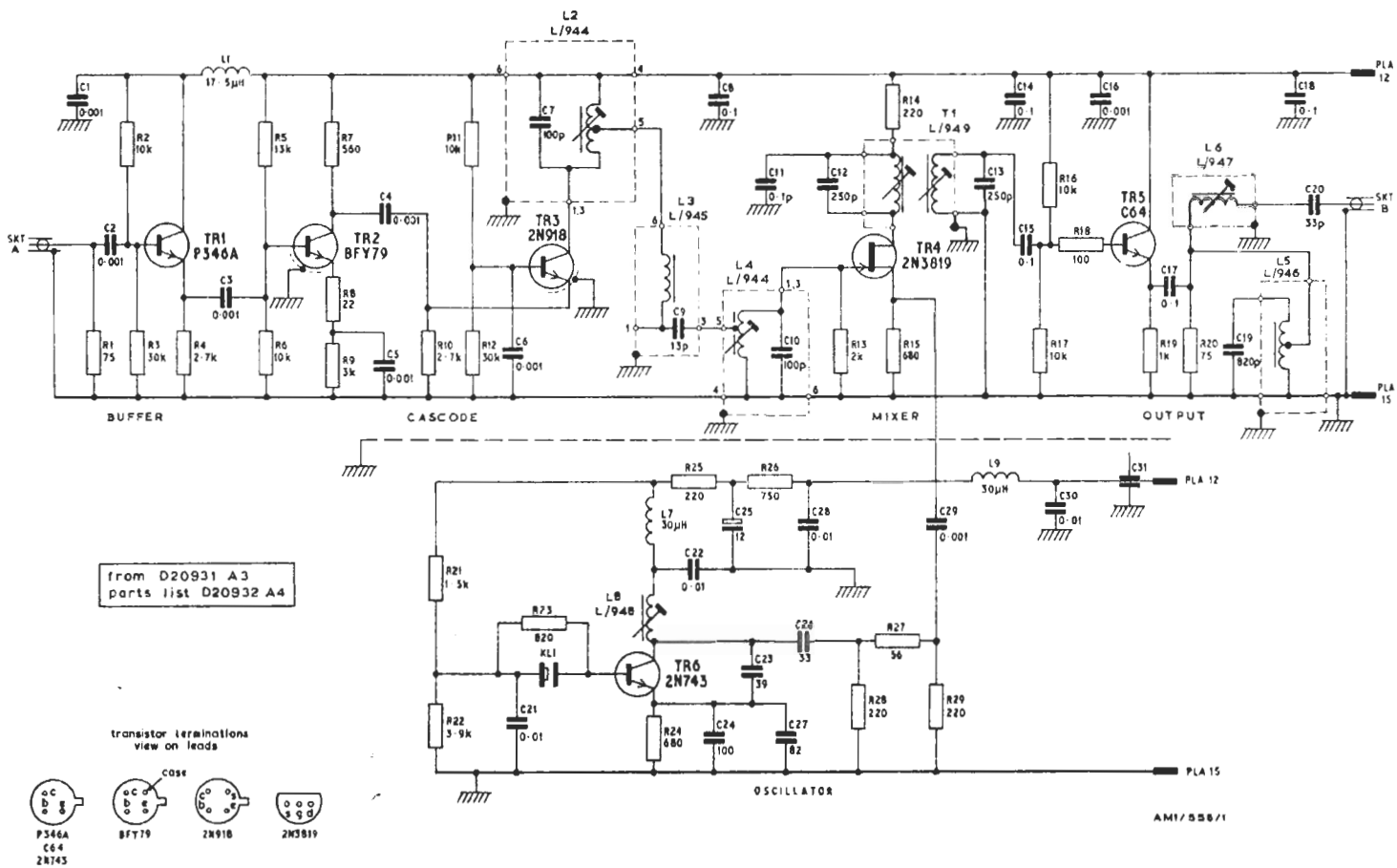


Fig. 1 Circuit of the AMI/556