

TECHNICAL INFORMATION

BULLETIN No. 118.

(TYPE)

1937

TECHNICAL DATA ON TYPE 5 L.S.

5-VALVE DUAL WAVE VIBRATOR

OPERATED RECEIVER.

RECEIVER

COLLIER & BEALE LTD.

WELLINGTON

Earth speaker frame

TECHNICAL DATA ON TYPE 5 L.S.

5-VALVE DUAL WAVE VIBRATOR

OPERATED RECEIVER.

The new Type 5 L.S. Vibrator Receiver uses the following Valves and arrangement :-

- 1 - Type 1C6 Pentagrid Converter
- 1 - " 1A4 Intermediate Frequency Amplifier
- 1 - " '30 Diode Detector and A.V.C. Supply
- 1 - " 1B4 Pentode Connected Audio Frequency Amplifier
- 1 - " 1F4 Power Amplifier

The circuit generally is conventional, although it is to be noted that in the converter circuit the oscillator plate coil is now parallel fed. This method of connection allows a much higher trans-conductance to be obtained, with consequently greater reliability in the oscillator section in particular. The only other important modification from standard Battery Receiver practice is the special method of splitting up the various valve filaments to obtain a low battery drain, and to provide grid bias for the various stages. Operating power for the entire Receiver is obtained from a separate Vibrator Unit of identical design to that used on the 6-Valve Receiver. The circuit of this particular Unit and the method of connecting it to the Receiver is identical in every respect. The intermediate frequency used is 465-K.c/s.

Alignment, if ever required, should be undertaken in the conventional manner; the various adjusting screws are easily located and no difficulty should be had in obtaining perfect alignment.

A schematic wiring diagram with values of all components is shown on separate leaves attached.

COLLIER & BEALE LIMITED,
66 GHUZNEE STREET,
WELLINGTON, C.2.
24th August, 1937.

TYPE 5 L.S. 5-VALVE DUAL WAVE VIBRATOR

OPERATED RECEIVER.

CONDENSER DETAILS.

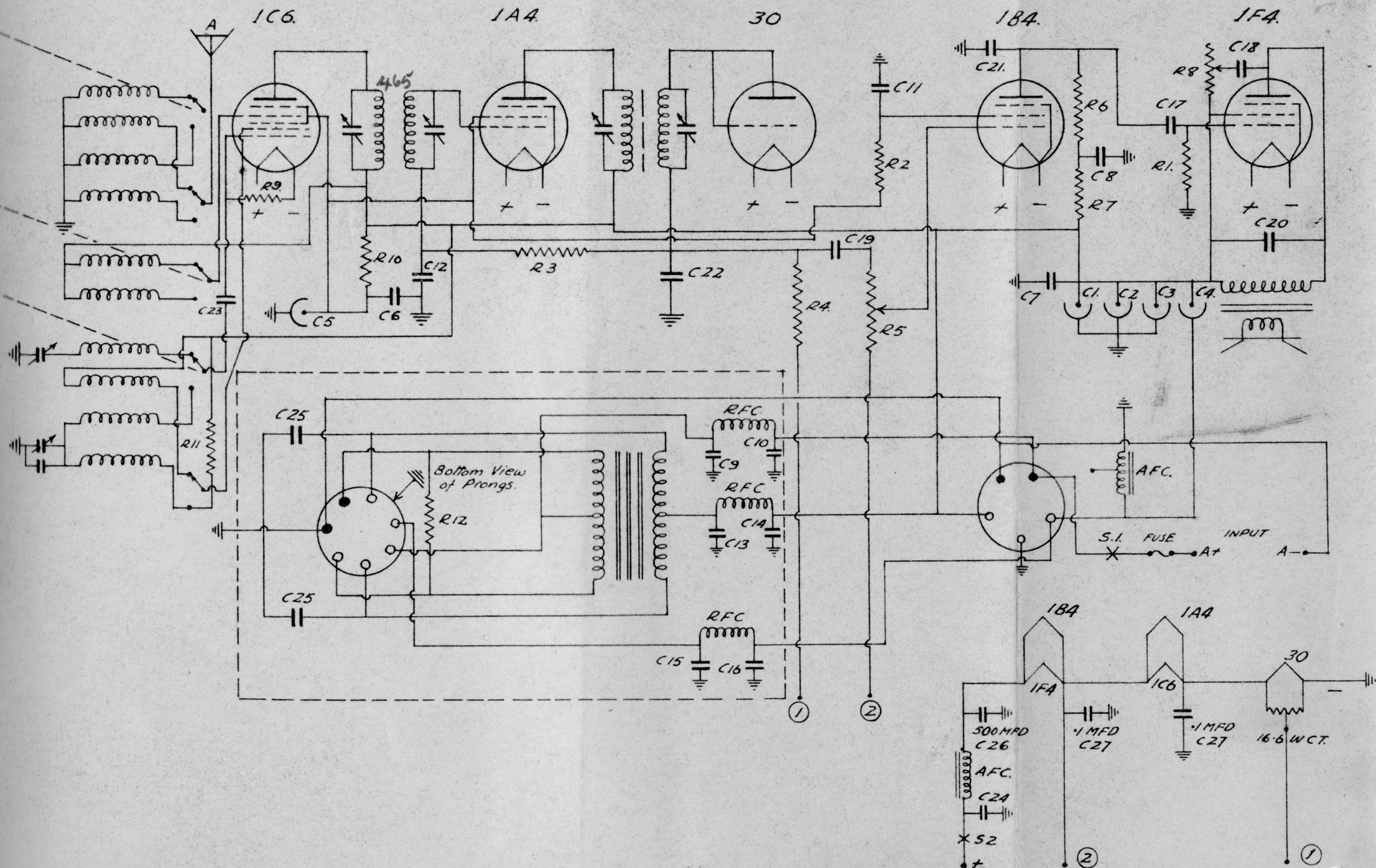
| | | |
|-----|---|---|
| C.1 |) | |
| |) | |
| 2 |) | |
| |) | 8-mfd. Main High Tension Supply Filter. |
| 3 |) | |
| |) | |
| 4 |) | |
| 5 | | 4-mfd. Screen By-pass |
| 6 | | .25-mfd. High Frequency Screen By-pass |
| 7 | | .25-mfd. Main High Tension Supply Filter High Frequency By-pass. |
| 8 | | .25-mfd. Audio Filter. |
| 9 |) | |
| |) | .25-mfd. Vibrator Power Unit Radio Frequency Filter. |
| 10 |) | |
| 11 | | .1-mfd. 1B4 Screen Audio Filter. |
| 12 | | .05-mfd. A.V.C. Filter. |
| 13 |) | |
| |) | |
| 14 |) | |
| |) | .05-mfd. Vibrator Power Unit Radio Frequency Filter. |
| 15 |) | |
| |) | |
| 16 |) | |
| 17 | | .01-mfd. Audio Coupling Condenser. |
| 18 | | .01-mfd. Tone Control Condenser. |
| 19 | | .01-mfd. Audio Coupling Condenser. |

| | |
|------|--|
| C.20 | .002-mfd. (Mica) High Frequency By-pass Condenser. |
| 21 | .00025-mfd. (Mica) High Frequency By-pass Condenser. |
| 22 | .0001-mfd. Diode Load By-pass. |
| 23 | .0001-mfd. Oscillator Grid Condenser. |
| 24 | .02-mfd. Filament Circuit High Frequency By-pass. |
| 25 | .01-mfd. Buffer Condensers. |
| 26 | 500-mfd. Filament Circuit Filter. |
| 27 | .1-mfd. Filament Circuit High Frequency By-pass. |

RESISTOR DETAILS.

| | |
|-------|---|
| R.1) | 1-meg. Grid Leak. |
| 2) | |
| 3 | 1-meg. A.V.C. Filter. |
| 4 | 500,000-ohm. Diode Load Resistor. |
| 5 | 500,000-ohm. Volume Control. |
| 6 | 250,000-ohm. Audio Amplifier Plate Load Resistor. |
| 7 | 100,000-ohm. Audio Amplifier Plate Decoupling Resistor. |
| 8 | 100,000-ohm. Tone Control. |
| 9 | 50,000-ohm. Oscillator Grid Leak. |
| 10 | 20,000-ohm. Screen Dropping Resistor. |
| 11 | 10,000-ohm. Oscillator Plate Feed Resistor. |
| 12 | 300-ohm. Vibrator Power Unit Fixed Load Resistor. |

SCHEMATIC DIAGRAM TYPE 5LS VIBRATOR RECEIVER



DETAIL OF FILAMENT CIRCUIT.

The diagram is a hand-drawn schematic of a vacuum tube radio receiver. It features five vacuum tubes: 1C6, 1A4, 30, 184, and 1FA. The 1C6 is the first detector, followed by the 1A4 as a tuned circuit. The 30 tube is the second detector and AF amplifier. The 184 is the push-pull audio amplifier, and the 1FA is the rectifier for the power supply. The power supply section includes a transformer with a 'Bottom View of Prongs' diagram, a full-wave rectifier, and a filter network with capacitors C26, C27, and C28, and an AFC (Automatic Frequency Control) coil. The tuning eye circuit is connected to the 184 tube. The diagram is labeled with various components: resistors (R1-R12), capacitors (C1-C28), inductors (RFC, AFC), and a fuse. The input is labeled 'INPUT A' and the output is labeled 'A'.

1F4

500 MFD
C26

AFC
C24

52

1 MFD
C27

1 MFD
C27

16.6 W.C.

6X6