

## R.1224A Receiver

Battery operated superheterodyne

### 3 Wavebands:

1.0 - 2.1 Mc/s approx. 300-140 metres;  
2.1 - 4.3 Mc/s approx. 140- 70 metres;  
4.3 - 9.0 Mc/s approx. 70- 30 metres.

### 5 Valves:

V1 and V3 VP23 (ARP12);  
V2 FC2A;  
V4 HL2 (VR21);  
V5 220PA (VR22) or KT2 (VR118).

I.F.: 470 kc/s

CONTROLS: Sensitivity control, operates variable resistance R4 which adjusts the grid bias on V1 and V3.  
Main Tuning, controls ganged condensers C38 (R.F. grid), C43 (Mixer signal grid) and C44 (Local Oscillator grid).  
Range Knob, controls ganged switches S1 to S5.  
Phone Jack, provides choke capacity output. A 600Ω line jack is also provided.

BATTERIES REQUIRED: H.T.: 120 volts;  
L.T.: 2 volts;  
G.B.: 9 volts.

CIRCUIT DETAILS: Controllable feedback is provided between anode and grid of the detector valve, to enable this stage to oscillate and supply a beat note for C.W. signals.

Switches S1 and S2 select the three separate input tuned circuits for the three ranges. The secondary coils of the input circuit are tuned by condenser C38, which has an aerial trimmer condenser C37, in parallel for fine adjustment.

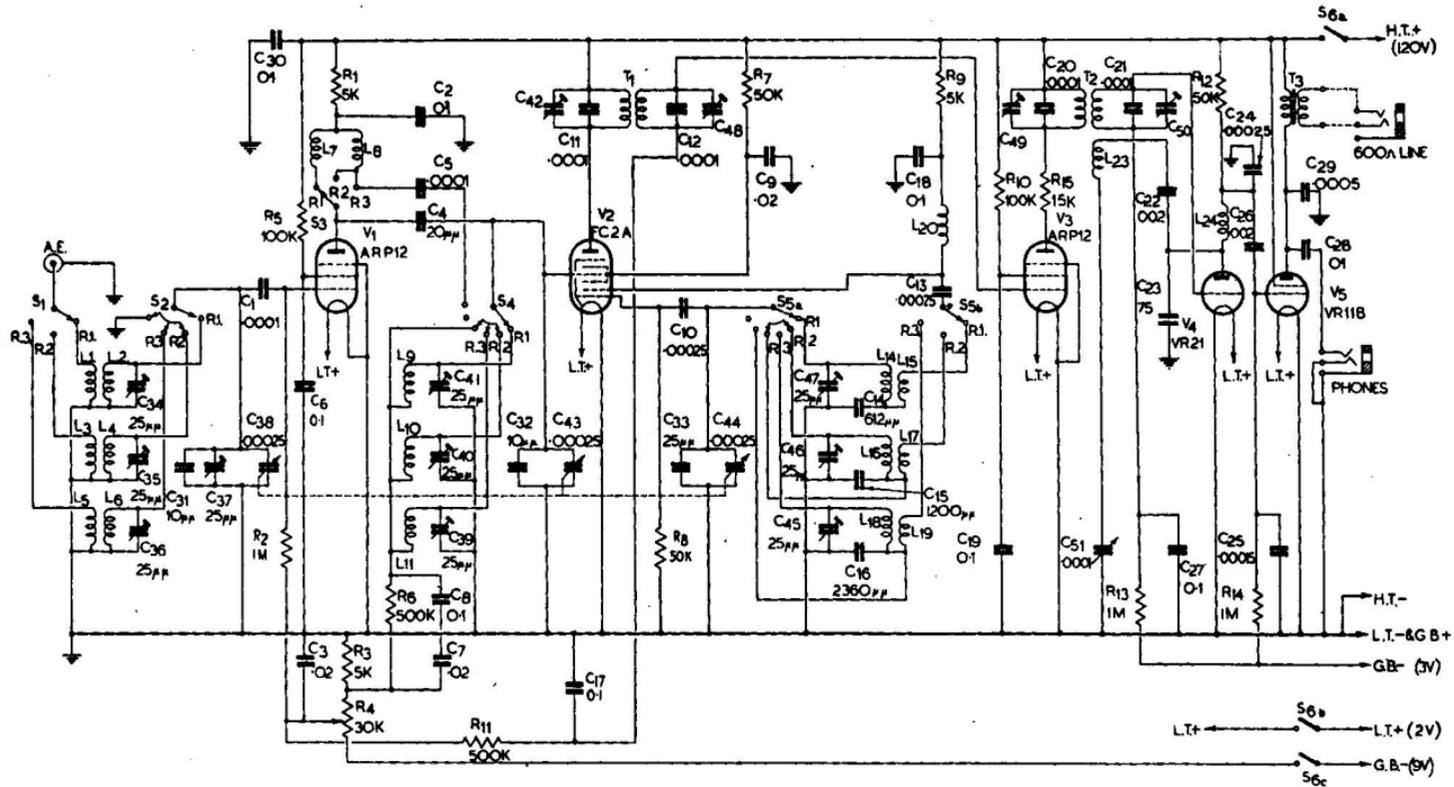
The R.F. stage is choke-capacity coupled to V2. Chokes L7 and L8 cover the three ranges and are selected by switch S3.

The signal grid circuit of FC2A (V2) is tuned by coils L9, L10 and L11, as selected by S4, with variable condenser C43 in parallel. The oscillator section of V2 is provided by using the second grid as oscillator anode and is coupled to the first oscillator grid L15 and L14, L17 and L16 or L19 and L18, depending on the range used. Oscillator grid coils L14, L16 and L18 are tuned by C44 variable condenser. S5 (two sections) selects the oscillator tuned circuit.

T1 I.F. transformer couples the anode circuit of V2 (FC2A) to the grid of V3 (VP23), and T2 I.F. transformer applies the amplifier I.F. signal to the grid of V4 (HL2). Feedback into the detector circuit is provided by the coupling coil L23 in the anode section of V4 to the secondary of T2, and is controlled by C51 (Reaction). The detector stage is resistance-capacity coupled to V5 by C26, R12 and R14.

To obtain anode-bend conditions of working, a bias of -3V is applied to the grids of V4 and V5. Potentiometers R3 and R4, between -9V and earth provide a fixed bias for the signal grid of V2.

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Circuit diagram of Receiver R.1224A