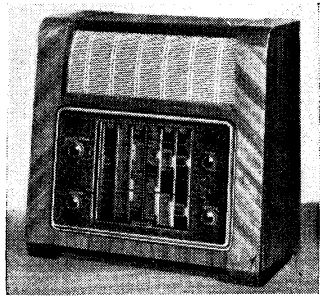
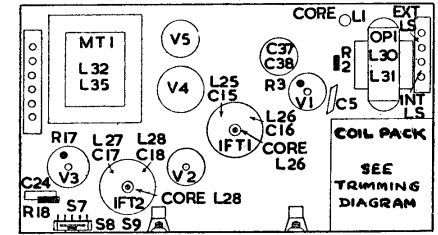
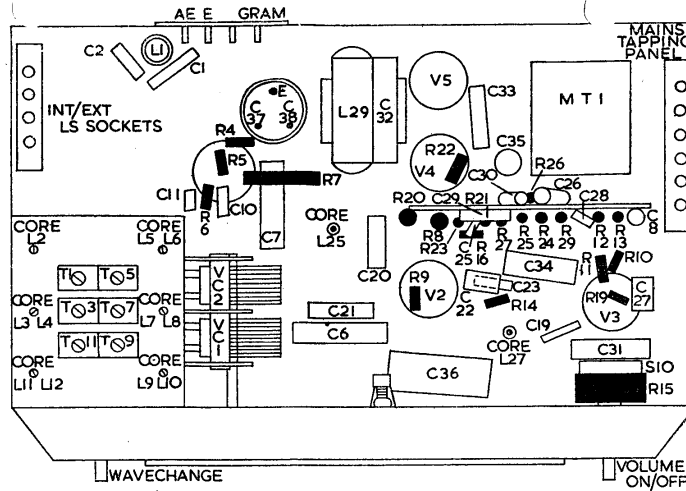


AMBASSADOR 4756



Five-valve, six-waveband superhet with electrical bandspread on short wave ranges. For AC mains, 100-250 volts, 50 c/s, manufactured by R. N. Fitton, Ltd., Brighouse, Yorks.



CAPACITORS

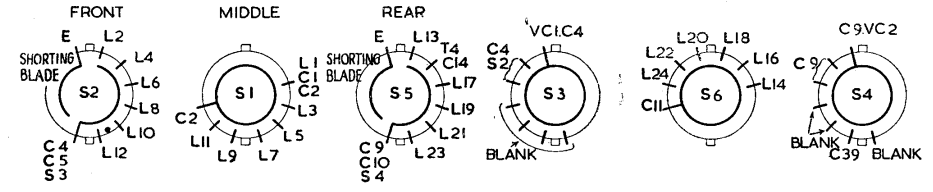
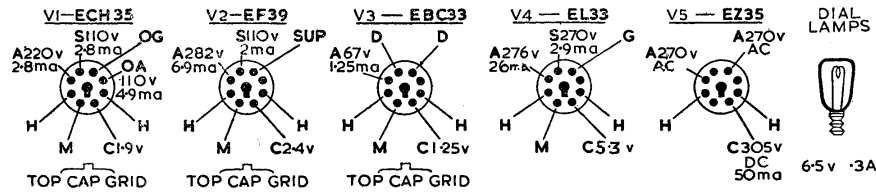
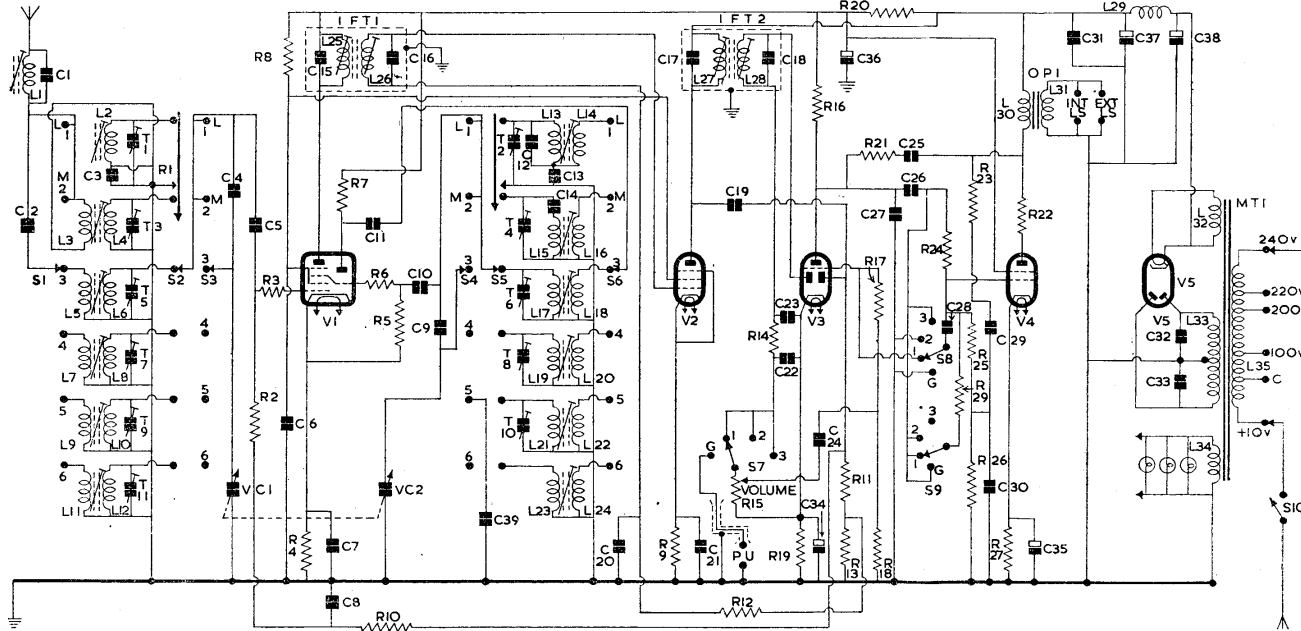
| C | Mfds | Type | C | Mfds | Type |
|----|---------|--------------|----|-----------------|-------------|
| 1 | 500 pF | Mica | 21 | .05 Tubular | 350V |
| 2 | 120 pF | Mica | 22 | 120 pF | Mica |
| 3 | 2400 pF | Silver Mica | 23 | 120 pF | Mica |
| 4 | 140 pF | Silver Mica | 24 | .02 Tubular | 350V |
| 5 | 50 pF | Silver Mica | 25 | 60 pF | Silver Mica |
| 6 | .1 | Tubular 500V | 26 | .04 Tubular | 500V |
| 7 | .1 | Tubular 500V | 27 | 300 pF | Mica |
| 8 | .05 | Tubular 350V | 28 | 500 pF | Mica |
| 9 | 140 pF | Silver Mica | 29 | .004 Tubular | 500V |
| 10 | 120 pF | Mica | 30 | .01 Tubular | 350V |
| 11 | 120 pF | Mica | 31 | .1 Tubular | 500V |
| 12 | 100 pF | Silver Mica | 32 | .005 Tubular | 1000V |
| 13 | 220 pF | Silver Mica | 33 | .005 Tubular | 1000V |
| 14 | 625 pF | Silver Mica | 34 | 50 Electrolytic | 12V |
| 15 | 100 pF | Silver Mica | 35 | 50 Electrolytic | 12V |
| 16 | 140 pF | Silver Mica | 36 | 8 Electrolytic | 450V |
| 17 | 140 pF | Silver Mica | 37 | 8 Electrolytic | 450V |
| 18 | 25 pF | Silver Mica | 38 | 8 Electrolytic | 540V |
| 19 | .05 | Tubular 350V | 39 | 30 pF | Silver Mica |
| 20 | .05 | Tubular 350V | | | |

RESISTORS

| R | Ohms | Watts | R | Ohms | Watts |
|----|-------|---------------------------|----|---------------------|-------|
| 1 | 100 K | 1/2 W | 16 | 150 K | 1/2 W |
| 2 | 470 K | 1/2 W | 17 | 47 K | 1/2 W |
| 3 | 33 | 1/2 W | 18 | 4.7 M | 1/2 W |
| 4 | 180 | 1/2 W | 19 | 1 K | 1/2 W |
| 5 | 47 K | 1/2 W | 20 | 3.3 K | 1/2 W |
| 6 | 33 | 1/2 W | 21 | 150 K | 1/2 W |
| 7 | 22 K | 1 W | 22 | 47 | 1/2 W |
| 8 | 22 K | 1 W | 23 | 39 K | 1/2 W |
| 9 | 770 | 1 W | 24 | 220 K | 1/2 W |
| 10 | 2.2 M | 1/2 W | 25 | 470 K | 1/2 W |
| 11 | 330 K | 1/2 W | 26 | 22 K | 1/2 W |
| 12 | 680 K | 1/2 W | 27 | 180 | 1/2 W |
| 13 | 680 K | 1/2 W | 28 | Not Fitted on Model | |
| 14 | 47 K | 1/2 W | 29 | Tested | |
| 15 | 500 K | Potentiometer with Switch | | 47 K | 1/2 W |

INDUCTORS

| L | Ohms | L | Ohms |
|----|----------|----|----------|
| 1 | 1.5 | 17 | Very low |
| 2 | 14 | 24 | Very low |
| 3 | 11 | 25 | 6 |
| 4 | 2 | 28 | Very low |
| 5 | Very low | 29 | 400 |
| 12 | 30 | 30 | 270 |
| 13 | 4.5 | 31 | .5 |
| 14 | 5 | 32 | Very low |
| 15 | 2.3 | 33 | 375 |
| 16 | .3 | 34 | Very low |
| | | 35 | 36 total |



AMBASSADOR 4756—Contd.

Five-valve six-waveband superhet with electrical bandspread on short-wave ranges and negative feedback tone control circuit. Fitted with sockets for extension loudspeaker and pick-up. For AC mains, 100-250 volts, 50 c/s. Manufactured by R. N. Fitton, Ltd., Brighouse, Yorks.

CIRCUIT consists of a triode-hexode frequency-changer V1 coupled by permeability-tuned IF transformer to a variable-mu pentode IF amplifier V2. A second iron-cored IF transformer couples V2 to a double-diode triode V3, which is used for signal rectification, AVC, and AF amplification.

V3 is resistance-capacity coupled to pentode output valve V4. A negative-feedback tone control circuit is connected between V3 and V4. Output valve V4 feeds into an 8-in. PM speaker. HT is provided by an indirectly heated, full-wave rectifier V5.

Aerial is connected through filter circuit L1, C1 to contacts on S1. On LW (Range 1), aerial input is fed through MW coupling coil L3 to bottom end of LW tuned coil L2. C3, R1 are bottom-end coupling components.

On MW (Range 2) aerial is inductively coupled by L3 to tuned coil L4. A series capacitor, C2, is connected in the aerial lead when on the SW bands (Ranges 3, 4, 5 and 6). This capacitor is shorted out by S1 when on Ranges 1 and 2.

L5, L7, L9, L11 are SW aerial coupling coils, L6, L8, L10, L12 are tuned coils, and T1, T3, T5, T7, T9, T11 are trimmers.

S2 connects the tuned circuits across the grid tuning capacitor VC1 and through capacitor C5 and grid stopper R3 to grid V1. A following shorting blade on S2 short circuits the unswitched tuned coils.

C4 reduces the capacity of VC1 when on SW ranges and together with the special coils used produces the bandspread tuning, which is a feature of this receiver. S3 shorts C4 on L and MW.

AVC is applied to grid V1 on all ranges through R2. R10, C8 are decoupling components. Cathode bias for V1 is by R4, C7. Screen voltage is obtained from R8 decoupled by C6. L25, C15, the primary of IFT1, are in V1 anode circuit.

Oscillator uses a tuned-grid and parallel-fed HT circuit. S5 selects the tuned coils L13, L15, L17, L19, L21, L23 to oscillator grid via C10 and stopper resistor R6. VC2 is oscillator tuning capacitor, and T2, T4, T6, T8, T10 are trimmers. C12 gives additional capacity across LW coil L13; C13 is fixed padder. C14 is MW padder connected on

the grid side of the coil. No padders are provided for the four SW ranges.

Series capacitor C9 reduces the capacity of VC2 when on SW ranges. S4 short circuits C9 when on LW and MW ranges and introduces a small parallel capacitor C39 across VC2 on Range 5. A following blade on S5 short circuits the unswitched tuned coils.

S6 switches the inductively coupled reaction coils to the oscillator anode through capacitor C11. IF amplifier operates at a frequency of 465 kc/s. L26, C16, the secondary of IFT1, feeds signal to grid V2, a variable-mu pentode.

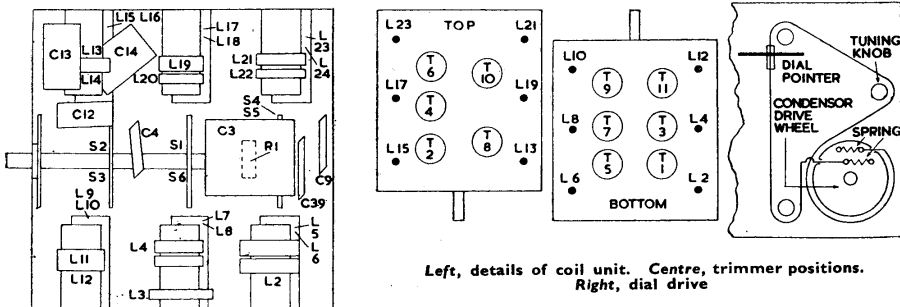
Continued on page viii

TRIMMING INSTRUCTIONS

| Apply signal as stated below | Tune receiver to | Trim in order stated for maximum output |
|--|------------------|---|
| (1) 465 Kc/s to top cap V1 via .01 capacitor | — | Core L28, L27, L26, L25 |
| (2) 250 Kc/s to AE socket via dummy aerial | 1,200 metres | T2, T1 |
| (3) 158 Kc/s, as above | 1,899 metres | Core L13, L2, Repeat (2) & (3) |
| (4) 1.33 Mc/s, as above | 258 metres | T4, T3 |
| (5) 600 Kc/s, as above | 500 metres | Core L15, L4, Repeat (4) & (5) |
| (6) 8 Mc/s, as above | 37.5 metres | T6, T5 |
| (7) 6 Mc/s, as above | 50 metres | Core L17, L6, Repeat (6) & (7) |
| (8) 13 Mc/s, as above | 23 metres | T8, T7 |
| (9) 9.5 Mc/s, as above | 31.5 metres | Core L19, L8, Repeat (8) & (9) |
| (10) 20 Mc/s, as above | 15 metres | T10, T9 |
| (11) 15 Mc/s, as above | 20 metres | Core L21, L10, Repeat (10) & (11) |
| (12) 26 Mc/s, as above | 11.5 metres | T11 * |
| (13) 22 Mc/s, as above | 13.65 metres | Core L23, L12, Repeat (12) & (13) |

NOTE.—Alignment to be carried out with tone control in position 2 and volume control at max.

* No OSC trimmer is fitted on range 6 and OSC frequency is lower than signal frequency.



Left, details of coil unit. Centre, trimmer positions. Right, dial drive

PIFCO

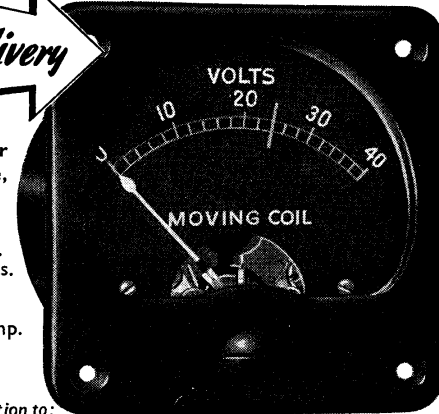
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Panel-mounting moving-coil meter illustrated is in Black Bakelite case, 2 1/4" x 1 1/2". 0-40 volts.

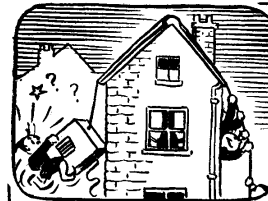
Also available are:

Voltmeter 2 1/4" x 1 1/2" 0-20 Volts.
 Voltmeter 2 1/8" x 1 1/2" 0-600 Volts.
 Milliammeter 3" x 1 1/4" 0-50 M.A.
 Milliammeter 1 1/2" x 1 3/16" 0-75 M.A.
 Ammeter 2 1/4" x 1 7/8" 50-0-50 Amp.
 Oil Pressure Gauge 2 1/4" x 2 1/2" 0-160 lbs.



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AMBASSADOR 4756

—Continued from page vi

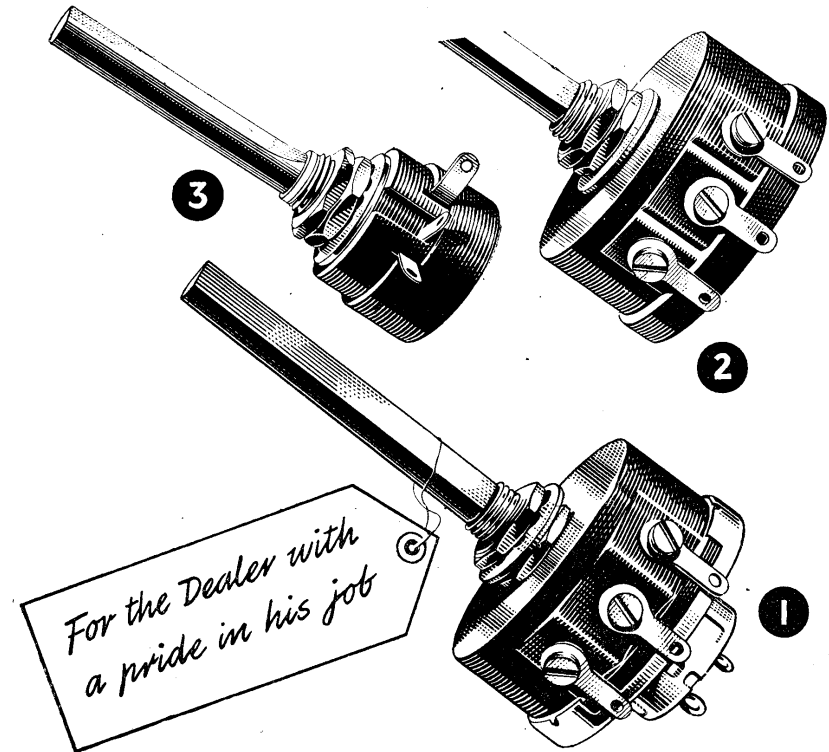
Cathode bias is from R9, C21 and screen voltage for V2 and V1 is obtained from R8, C6. L27, C17, the primary of IFT2, is in V2 anode circuit.

Signal rectifier. L28, C18, IFT2 secondary, apply signal to one diode of V3. Volume control R15 is load resistor. R14, C22, C23 form an IF filter. S7 switches volume control from radio input to PU socket.

Automatic volume control. C19 feeds signal from anode V2 to second diode V3. R11, R13 form the load. Full AVC, decoupled by R10, C8, is applied to grid V1. Approximately two-thirds of the AVC voltage decoupled by R12, C20, is fed to grid of V2. Delay voltage is developed across cathode bias resistor R19.

AF amplifier. C24 feeds signal from volume control R15, through grid stopper R17, to grid of triode section V3. R18 is grid resistor and cathode bias for triode is developed by R19, C34. R16 is anode load resistor and C27 is HF bypass.

Output stage. Signal is fed by C26 to grid V4, pentode output valve. R25, R26 form the grid resistor. Cathode bias developed across R27 is decoupled by C35. Screen voltage comes from R20, C36.



RADIOSPARES WIRE-WOUND VOLUME CONTROLS

Fitted with SPST switch, 3 watt type, fitted $\frac{1}{4}$ " flat spindle of 2" free length—illustrated (1) above. Available in following values: 250 Ω 500 Ω 1,000 Ω 2,500 Ω 5,000 Ω 10,000 Ω 15,000 Ω 20,000 Ω 25,000 Ω 35,000 Ω 50,000 Ω . All at a nett trade price of 5/3 each.

Identical control, less switch, 3 watt type, fitted $\frac{1}{4}$ " flat spindle of 2" free length—illustrated (2) above (one-quarter enlarged). Available in following values:— 1,000 Ω 2,500 Ω 5,000 Ω 10,000 Ω 15,000 Ω 20,000 Ω 25,000 Ω 35,000 Ω 50,000 Ω . All at a nett trade price of 4/- each.

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