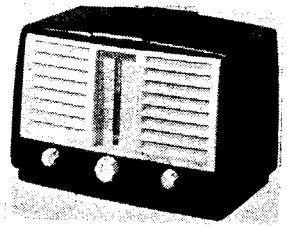
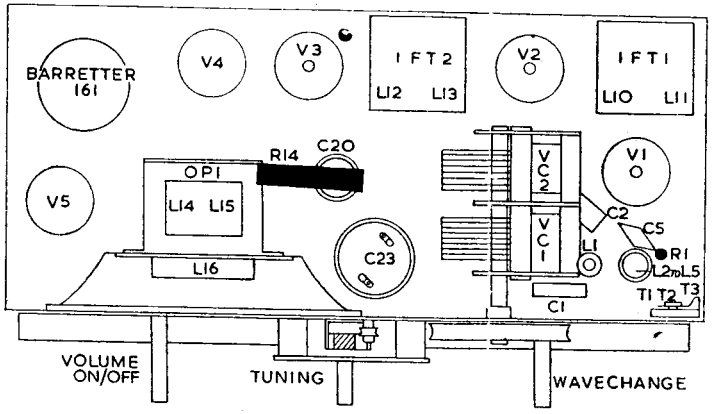
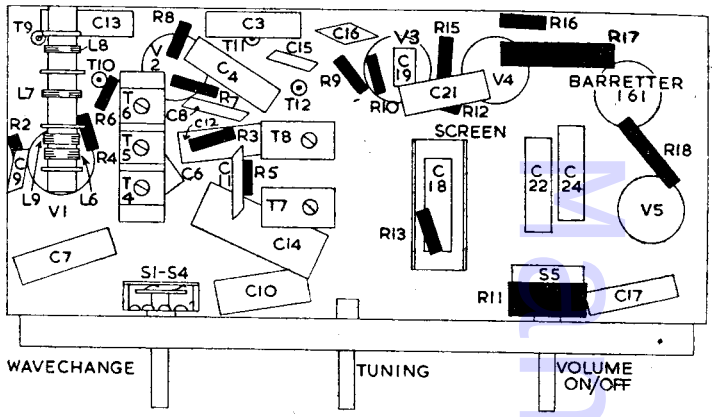
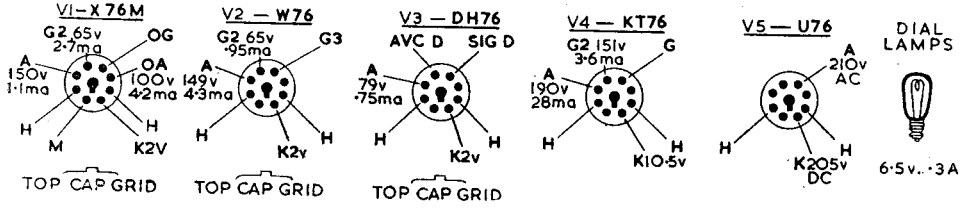
GEC Compact (BC 4835R)







Five-valve three-waveband superhet for operation on AC-DC mains supply of 200-250 volts. Known as the "Compact," it is supplied with self-contained aerial, either a plate or a permanently attached throw-out wire. Housed in moulded plastic cabinet finished brown, green or maroon with cream escutcheon. Manufactured by the General Electric Co., Ltd., Kingsway, London, WC2.

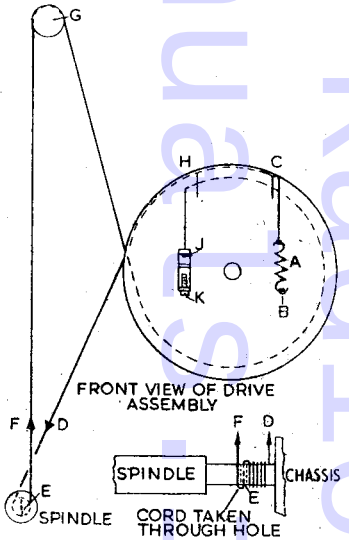


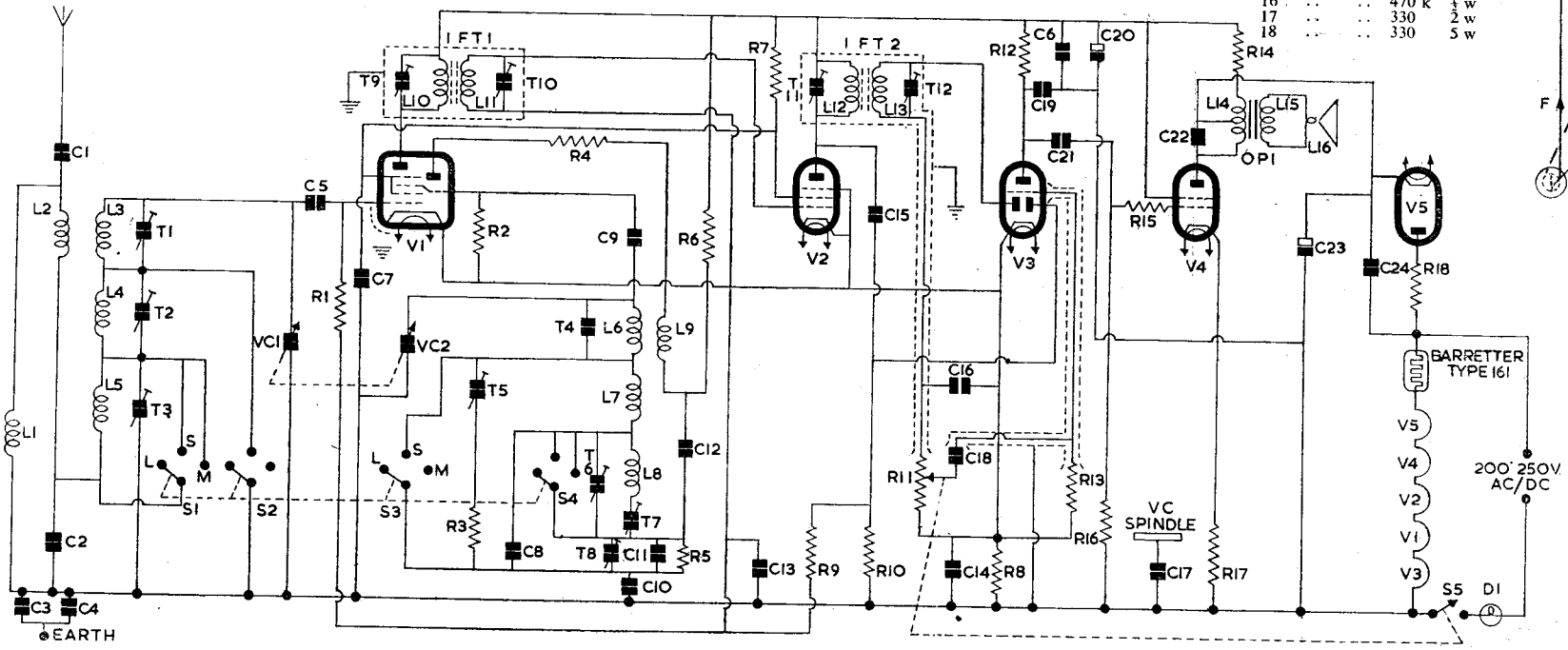
INDUCTORS

L		Ohms
1	.. .. ..	60
2	.. .. ..	.18
3	.. .. ..	.09
4	.. .. ..	2.5
5	.. .. ..	19.4
6	.. .. ..	.07
7	.. .. ..	3.5
8	.. .. ..	7.75
9	.. .. ..	.4
10, 11	.. .. ..	.7
12, 13	.. .. ..	.4
14	.. .. ..	300
15	.. ..	.24
16	.. .. ..	2

RESISTORS

R		Ohms	Watts
1	.. ..	680 k	½ w
2	.. ..	56 k	½ w
3	.. ..	68	½ w
4	.. ..	390	½ w
5	.. ..	10 k	½ w
6	.. ..	12 k	½ w
7	.. ..	27 k	½ w
8	.. ..	150	½ w
9	.. ..	680 k	½ w
10	.. ..	1 meg.	½ w
11	.. ..	1 meg. pot. (with switch)	
12	.. ..	100 k	½ w
13	.. ..	10 meg.	½ w
14	.. ..	2.7 k	2 w
15	.. ..	82 k	½ w
16	.. ..	470 k	½ w
17	.. ..	330	2 w
18	.. ..	330	5 w





CAPACITORS

1	.. .0 1 mica
2	.. .003 silver mica
3	.. .02 tubular 750 v
4	.. .02 tubular 750 v
5	.. 500pf mica
6	.. .05 tubular 500 v
7	.. .05 tubular 500 v
8	.. 39pf silver mica
9	.. 100pf mica
10	.. .00395 silver mica
11	.. 100pf silver mica
12	.. .005 tubular 10 0 v
13	.. .05 tubular 500 v
14	.. .25 tubular 350 v
15	.. 22pf silver mica
16	.. 300pf mica
17	.. .0 1 tubular 1000 v
18	.. .005 tubular 1000 v
19	.. 300pf mica
20	.. 32 electrolytic 350 v
21	.. .01 tubular 1000 v
22	.. .02 tubular 750 v
23	.. 16 electrolytic 350 v
24	.. .01 tubular 1000 v

GEC COMPACT—*Continued*

AERIAL is connected through capacitor C1 to SW aerial coupling coil L2. On SW working L4, L5 and C2 are shorted to chassis by S1 and S2. On LW and MW working, however, aerial is fed through C1, L2 to bottom end of tuned coils L5 (LW and L4 (MW). L5 is shorted out by S1 on MW. C2 is bottom end coupling.

VC1 is grid tuning capacitor, and T1 (SW), T2 (MW), T3 (LW) are trimmers. The tuned circuits are connected by capacitor C5 to grid of V1, which receives AVC bias through R1. Cathode bias is obtained from R8, decoupled by C14, and screen voltage from R7, decoupled by C7.

Oscillator is connected in a tuned-grid series-fed circuit. The grid coils L6 (SW), L7 (MW), L8 (LW) are tuned by VC2 with T4 (SW), T5 (MW), T6 (LW) as trimmers and C10 (SW), T8, C11 (MW) and T7 (LW) as padders. S3 and S4 short circuit the unwanted coils on SW and MW operation.

Reaction voltage on SW is developed inductively across L9. On MW and LW, however, it is developed across the padding capacitors.

IF amplifier operates at 456 Kc/s. L11, T10, the secondary of IFT1, feed signal to grid of IF amplifier V2, which is a variable-mu RF pentode. Cathode bias is obtained from R8 and C14 in the cathode circuit of V3. Screen voltage is derived from R7, decoupled by C7.

Signal Rectifier. L13, T2, the secondary of IFT2, feed signal to one of the diodes of V3. R11, the volume control, is diode load resistor.

Automatic Volume Control. C15 feeds signal at anode V2 to second diode of V3. R10 is the load resistor, and R9, R1, C13 are AVC line decoupling components. R8 provides delay voltage.

AF Amplifier. C18 feeds signal from volume control R11 to grid of triode section V3. R13, the grid resistor, is returned to cathode and with C18 provides leak-condenser bias. R8, C14 in the cathode circuit provide cathode bias for V1 and V2 and AVC delay bias for V3 diode.

Output Stage. C21 feeds signal to grid of tetrode output valve V4. R15 is grid stopper, and R16 grid resistor. R17 provides bias and feedback.

Screen voltage is obtained from HT line to V1 to V3. Primary L14 of the output matching transformer OP1 is in the anode circuit. HT is fed to the anode of V4 *via* a tap on L14. This eliminates hum by the cancellation effect of hum currents in the two primary sections of L14.

High Tension is provided on AC supplies by an indirectly-heated half-wave rectifier V5. R18 is a current limiter, and C24 reduces modulation hum. L1, across the aerial input circuit, further reduces modulation hum. C20, C23, R14 and part of L14 constitute the HT smoothing network. C6 is HF decoupling capacitor.

Heaters of V1 to V5 are connected in series and obtain their current through barretter type 161. S5 is the on-off switch and is ganged to the volume control R11, the spindle of which is earthed through C17.

Removing Chassis. Remove back and base panels. Receivers in brown and green cabinets require the aerial wire unsoldering before the base panel can be removed. Unscrew and remove the four chassis bolts on underside of cabinet and the two black painted screws holding the speaker mounting plate to the front of the case.

Remove the push-on control knobs. Receivers in maroon cabinets require the plate aerial connecting clip removing from top cap V1. The chassis can now be withdrawn from the casing.

To avoid damage to the oscillator coil the chassis should be held with a slight upward tilt.

Drive Cord Replacement. Remove register, range indicator and tuning ribbon. Set tuning capacitor to minimum. Fix spring (A) to one end of a length of drive cord, and slip free end of spring over tag (B). Pass cord out through gap at (C), anti-clockwise around tuning drive wheel; lead down to spindle and starting from the back pass six turns anti-clockwise around spindle. Thread from top to bottom through hole at (E) and pass half an anti-clockwise turn around the spindle. Lead up (F) to pulley (G), and pass clockwise over and down to tuning drive wheel. Lead anti-clockwise round and through gap at (H). Secure to bracket (J), tensioning by means of setscrew (K).

Replace ribbon and secure to cord so that indicating joint lies $\frac{1}{16}$ in. above the top edge of the register window when tuning capacitor is at maximum.

TRIMMING INSTRUCTIONS

Apply Signal as Stated Below.	Tune Receiver to.	Trim in Order Stated for Max. Output.
(1) 456 Kc/s to grid V2 *via* .01 capacitor.	2,000 metres	T12, T11
(2) 456 Kc/s to grid V1 *via* .01 capacitor.	2,000 metres	T10, T9
(3) 18 Mc/s to aerial lead *via* dummy aerial.	16.7 metres	T4, T1. (Lower capacity setting of T4 must be used.)
(4) 1.4 Mc/s. As above.	214 metres	T5, T2
(5) 600 Kc/s. As above.	500 metres	T8
(6) 1.4 Mc/s. As above.	214 metres	Check T5, T2
(7) 300 Kc/s. As above.	1,000 metres	T6, T3
(8) 165 Kc/s. As above.	1,818 metres	T7
(9) 300 Kc/s. As above	1,000 metres	Check T6, T3, and repeat (7) and (8) if necessary.

NOTE.—Receivers fitted with plate aerials (maroon cabinets) require a 7.5 pf capacitor between grid V1 and chassis if alignment is carried out with chassis removed from cabinet.