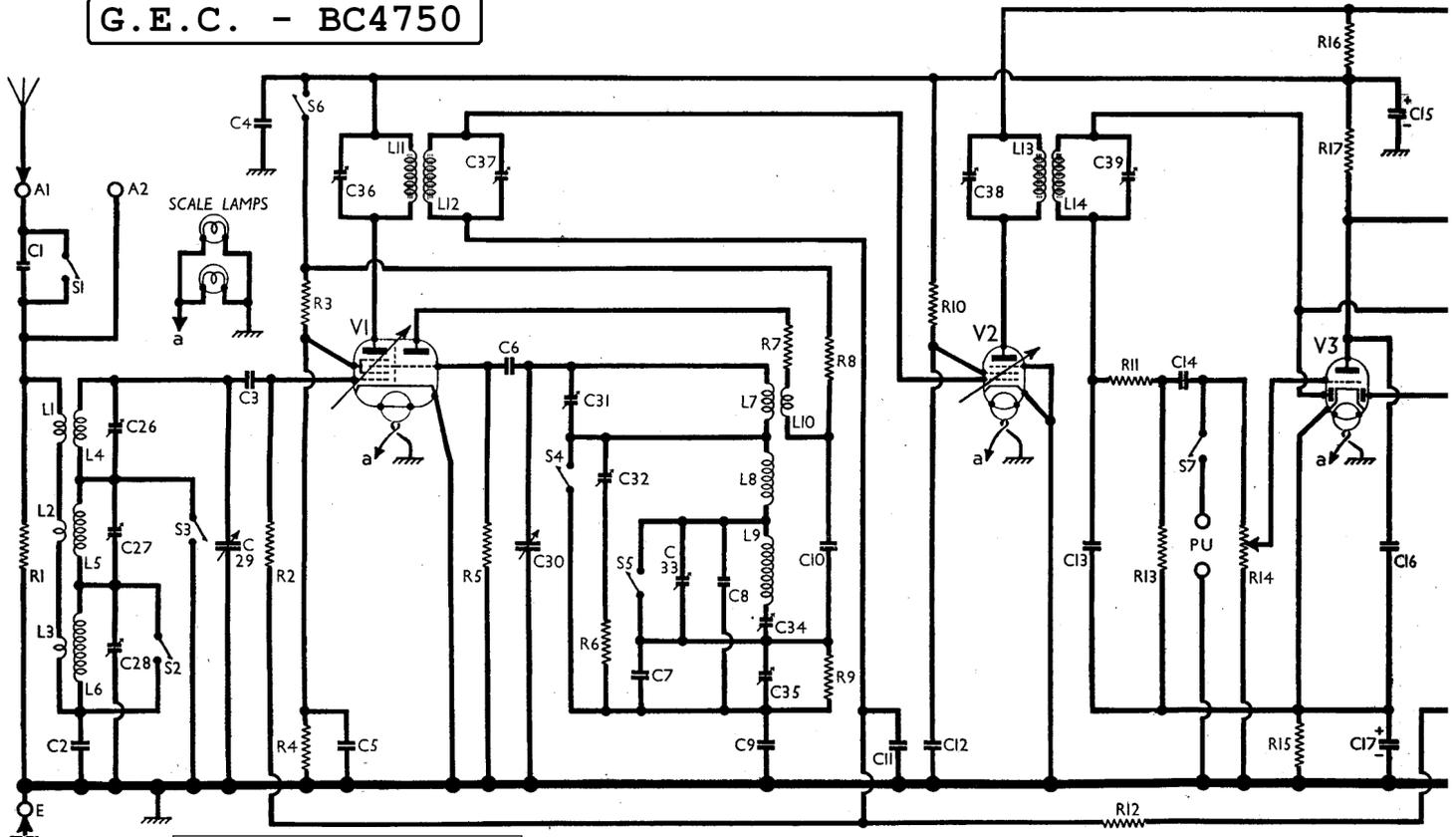
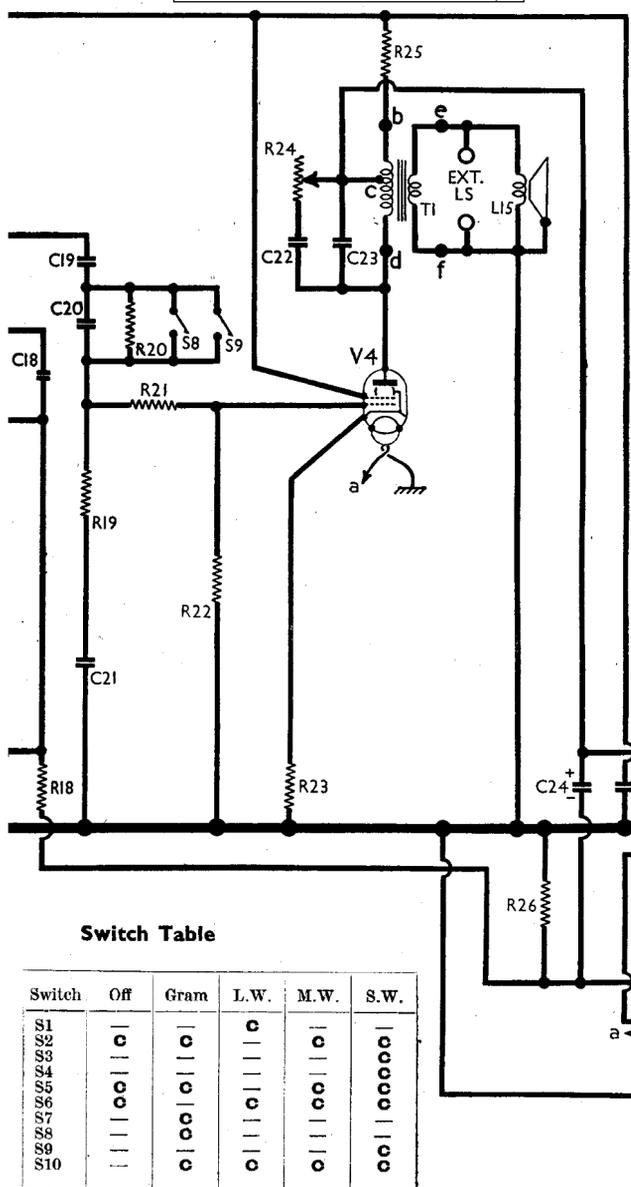


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Intermediate frequency 456 kc/s.



CAPACITORS		Values (μF)	Locations
C1	Aerial series	0-000022	K6
C2	Aerial coupling	0-003	F3
C3	V1 hex. C.G.	0-0001	B1
C4	H.T. R.F. by-pass	0-05	J6
C5	V1 S.G. decoupling	0-05	H5
C6	V1 osc. C.G.	0-0001	H5
C7	Osc. M.W. tracker	0-0001	H4
C8	Osc. L.W. trim.	0-000039	H4
C9	Osc. S.W. tracker	0-00395	J4
C10	Osc. anode coup.	0-005	H5
C11	A.G.C. decoup.	0-05	J6
C12	V2 S.G. decoupling	0-05	H6
C13	I.F. by-pass	0-0003	G6
C14	A.F. coupling	0-02	G6
C15*	H.T. feed decoup.	4-0	B1
C16	I.F. by-pass	0-0005	F5
C17*	V3 cath. by-pass	25-0	F6
C18	A.G.C. coupling	0-000022	G5
C19	A.F. coupling	0-02	F5
C20	Bass cut	0-0002	F5
C21	Bass boost	0-0015	G5
C22	Part tone control	0-05	C1
C23	Tone corrector	0-005	C1
C24*	H.T. smoothing	16-0	A2
C25*	H.T. smoothing	20-0	B1
C26†	Aerial S.W. trim.	0-00003	J3
C27†	Aerial M.W. trim.	0-00003	J4
C28†	Aerial L.W. trim.	0-00008	J4
C29†	Aerial tuning	0-0005	K4
C30†	Oscillator tuning	0-0005	K5
C31†	Osc. S.W. trim.	0-00003	F3
C32†	Osc. M.W. trim.	0-00003	F4
C33†	Osc. L.W. trim.	0-00008	F4
C34†	Osc. L.W. tracker	0-000425	G5
C35†	Osc. M.W. tracker	0-000425	H5
C36†	1st I.F. transformer tuning	0-00013	J5
C37†	1st I.F. transformer tuning	0-00013	J6
C38†	2nd I.F. transformer tuning	0-000425	G8
C39†	2nd I.F. transformer tuning	0-000425	G5

RESISTORS		Values (ohms)	Locations
R1	Aerial shunt	10,000	K6
R2	V1 hex. C.G.	1,000,000	B2
R3	V1 S.G. H.T. potential divider	15,000	J5
R4	V1 osc. C.G.	22,000	H5
R5	V1 osc. C.G.	100,000	H5
R6	Osc. M.W. stabilizer	68	F4
R7	Osc. stabilizer	470	H5
R8	Osc. anode load	22,000	H5
R9	Osc. M.W. stabilizer	10,000	H4
R10	V2 S.G. H.T. feed	56,000	H6
R11	I.F. stopper	56,000	G6
R12	A.G.C. decoup.	1,000,000	G6
R13	Sig. diode load	470,000	F6
R14	Volume control	1,000,000	C1
R15	V3 G.B., part A.G.C. delay	2,200	F6
R16	H.T. feed decoup.	4,700	J5
R17	V3 triode load	100,000	F5
R18	A.G.C. diode load	470,000	F5
R19	Parts of tone correction network	150,000	F5
R20	V4 C.G. resistor	680,000	F5
R21	V4 C.G. resistor	10,000	F5
R22	V4 C.G. resistor	330,000	G5
R23	V4 G.B. resistor	91	F4
R24	Tone control	55,000	C1
R25	H.T. smoothing	3,300	C1
R26	V1, V2 fixed G.B., part A.G.C. delay	39	F5

Valve	Anode		Screen		Cath.
	V	mA	V	mA	
V1 X61M	15	2-2	67	2-6	—
V2 W61	208	4-6	48	1-8	1-08
V3 DH63	70	0-5	—	—	3-18
V4 KT61	262	32-0	208	5-1	277
V5 U50	265†	—	—	—	—

† Each anode, A.C. \$10V meter range.

Switch Table

Switch	Off	Gram	L.W.	M.W.	S.W.
S1	—	—	—	—	—
S2	—	—	—	—	—
S3	—	—	—	—	—
S4	—	—	—	—	—
S5	—	—	—	—	—
S6	—	—	—	—	—
S7	—	—	—	—	—
S8	—	—	—	—	—
S9	—	—	—	—	—
S10	—	—	—	—	—

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Aerial S.W. coup.	0-36	H3
L2	M.W., L.W. image rejection	Very low	H3
L3	M.W., L.W. image rejection	Very low	H3
L4	M.W., L.W. image rejection	Very low	H3
L5	Aerial tuning coils	2-8	H3
L6	Aerial tuning coils	19-5	G3
L7	Oscillator tuning coils	Very low	H4
L8	Oscillator tuning coils	3-4	G4
L9	Oscillator tuning coils	7-7	H4
L10	S.W. react. coil	0-32	B2
L11	1st I.F. trans. Pri.	7-0	B2
L12	1st I.F. trans. Sec.	4-0	C2
L13	2nd I.F. trans. Pri.	7-0	C2
L14	2nd I.F. trans. Sec.	4-0	C2
L15	Speech coil	2-3	—
T1	Output trans. Pri., b-c	12-0	C1
T1	Output trans. Pri., c-d	430-0	C1
T1	Output trans. Sec.	0-6	—
T1	Output trans. Pri., total	34-0	—
T2	Mains trans. Heat. sec.	0-16	D2
T2	Mains trans. Rect. heat sec.	0-14	—
T2	Mains trans. H.T. sec., total	310-0	—
S1-S9	W/band and gram switches	—	H4
S10	Mains switch	—	F5

* Electrolytic. † Variable. ‡ Pre-set.

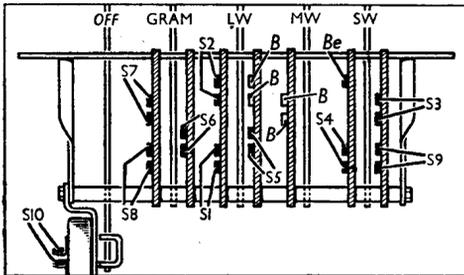


Diagram of the press-button wave-band switch unit, drawn as seen from the rear of an inverted chassis. When the "off" button is depressed, S10 in the attached unit opens.

CIRCUIT ALIGNMENT

Access may be gained to the components involved in the following adjustments upon removal of the cabinet bottom cover.

I.F. Stages.—Switch set to L.W., turn gang and volume control to maximum, connect signal generator (via an 0.1 μF

capacitor in the "live" lead) to control grid (top cap) of V2 and the E socket, feed in a 456 kc/s (657.8 m) signal, and adjust C39 (location reference G5) and C38 (G6) for maximum output.

Transfer "live" signal generator lead and series capacitor to control grid (top cap) of V1, feed in a 456 kc/s signal, and adjust C37 (J6) and C36 (J5) for maximum output. Do not readjust C39 or C38 without repeating the complete I.F. alignment procedure.

R.F. and Oscillator Stages.—With the gang at maximum capacitance the cursor should coincide with the dots at the high wavelength ends of M.W. and S.W. scales. It may be adjusted in position by rotating the drive drum on its spindle, after slackening the two grub screws. Transfer "live" signal generator lead to A2 socket, via a suitable dummy aerial.

S.W.—Switch set to S.W., tune to 16.7 m (spot on scale), feed in a 16.7 m (18 Mc/s) signal, and adjust C31 (F3) for maximum output, choosing the peak involving the lesser trimmer capacitance.

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Then adjust C26 (J3), while rocking the gang slightly, for maximum output. Repeat these operations until no improvement results.

M.W.—Switch set to M.W., tune to 214 m (spot on scale), feed in a 214 m (1,400 kc/s) signal, and adjust C32 (F4) and C27 (J4) for maximum output. Tune to 500 m on scale, feed in a 500 m (600 kc/s) signal, and adjust C35 (H5), while rocking the gang, for maximum output. Repeat these operations until no improvement results.

L.W.—Switch set to L.W., tune to 1,000 m on scale, feed in a 1,000 m (300 kc/s) signal, and adjust C33 (F4) and C28 (J4) for maximum output. Tune to 1,818 m (spot on scale), feed in an 1,818 m

DRIVE WIRE REPLACEMENT

The tuning drive system consists of two separate wire drives: the gang drive and the cursor drive. Where the two are to be replaced, the gang drive should be fitted first. Suitable wire can be obtained from G.E.C. Radio Service Depot, 9, Greycoat Street, London, S.W.1.

The drawing (col. 5) includes a sketch of the complete system, as seen from the front, with code letters to identify the significant points; an inset at top right showing a plan view of the drive wheels and control spindle, the appropriate code letters being repeated to identify the disposition of the various turns of wire in the three channels; and an inset at bottom left showing the inside of the front (larger) drive wheel as seen from the front, and the method of terminating the cursor drive wire. Throughout the drawing the various items are shown in the positions they adopt when the gang is at maximum capacitance.

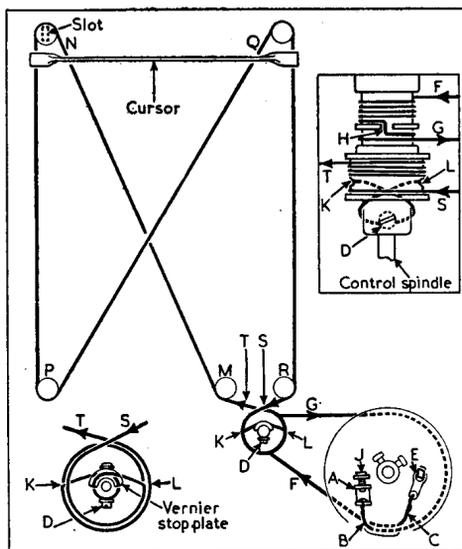
Gang Drive.—Turn the gang to maximum, the gang drum to the position shown in the sketch, with B and C at the bottom, and the control spindle so that screw D is at the bottom and the slow-motion stop plate is on top. If the cursor drive is in order, the cursor should be at the top of the scale.

Taking a suitable length of wire, solder to one end of it a 4BA solder tag, as shown at E, and to the other end the adjustment bracket A, so that the distance between the two soldered joints is 21 inches. Hook the tag to the anchor at E, and run the wire as shown in the sketch, making 4½ turns clockwise in the rear drive wheel channel between F and H,

crossing the gap at H, making one further turn in the next channel, and running off at G on the way back to the gang drum.

Pass into the drum again at the opening B, and fit the adjusting screw J to the bracket A, tightening it up as required.

Cursor Drive.—Take a 62-inch length of wire and solder the ends to keep them



solid. Pass one end into the drive wheel through the hole K, make a small loop in it, wind it clockwise round the fixing boss inside and fix the loop to the screw D. Drop pulley N (at top left-hand corner of scale) to the bottom of its slot.

With the free wire, wind 3½ turns anti-clockwise in the large outer channel, winding towards the rear of the channel, running off at T to the pulley M. Then follow the course shown in the sketch, N, P, Q, R, passing run P, Q in front of run M, N.

Return to the drive wheel at S, make ¾ turn anti-clockwise round the front of the channel to the hole L, pass inside the wheel, take the wire anti-clockwise round the boss and clamp it firmly under the head of screw D. Adjust pulley N in its slot to obtain the required tension.

Finally, solder the cursor to the vertical runs of wire N, P and Q, R so that it is exactly level with the two white dots at the high wavelength ends of the scales when the gang is at maximum capacitance.