

G.E.C. - BC5442

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Frame aerial	0.3	—
L2	S.W. aerial coup.	—	E4
L3	Aerial tuning coils	—	E4
L4		2.6	E3
L5		17.0	E3
L6	Oscillator tuning coils	—	D4
L7		3.4	D3
L8	Osc. reaction coil	7.5	D3
L9		—	D4
L10	1st I.F. {Pri.	10.0	C2
L11	trans. {Sec.	10.0	C2
L12	2nd I.F. {Pri.	10.0	B2
L13	trans. {Sec.	10.0	B2
L14	Speech coil	3.0	—
T1	O.P. trans. {e-c	23.0	—
	{e-d	470.0	B2
	{b-f	0.5	—
	{a	—	—
	{b	300.0	—
T2	Mains trans. {c	300.0	A2
	{d	—	—
	{e	34.0	—
S1-S5	Waveband switches	—	D3
S6, S7	Mains sw., g'd R9...	—	E3

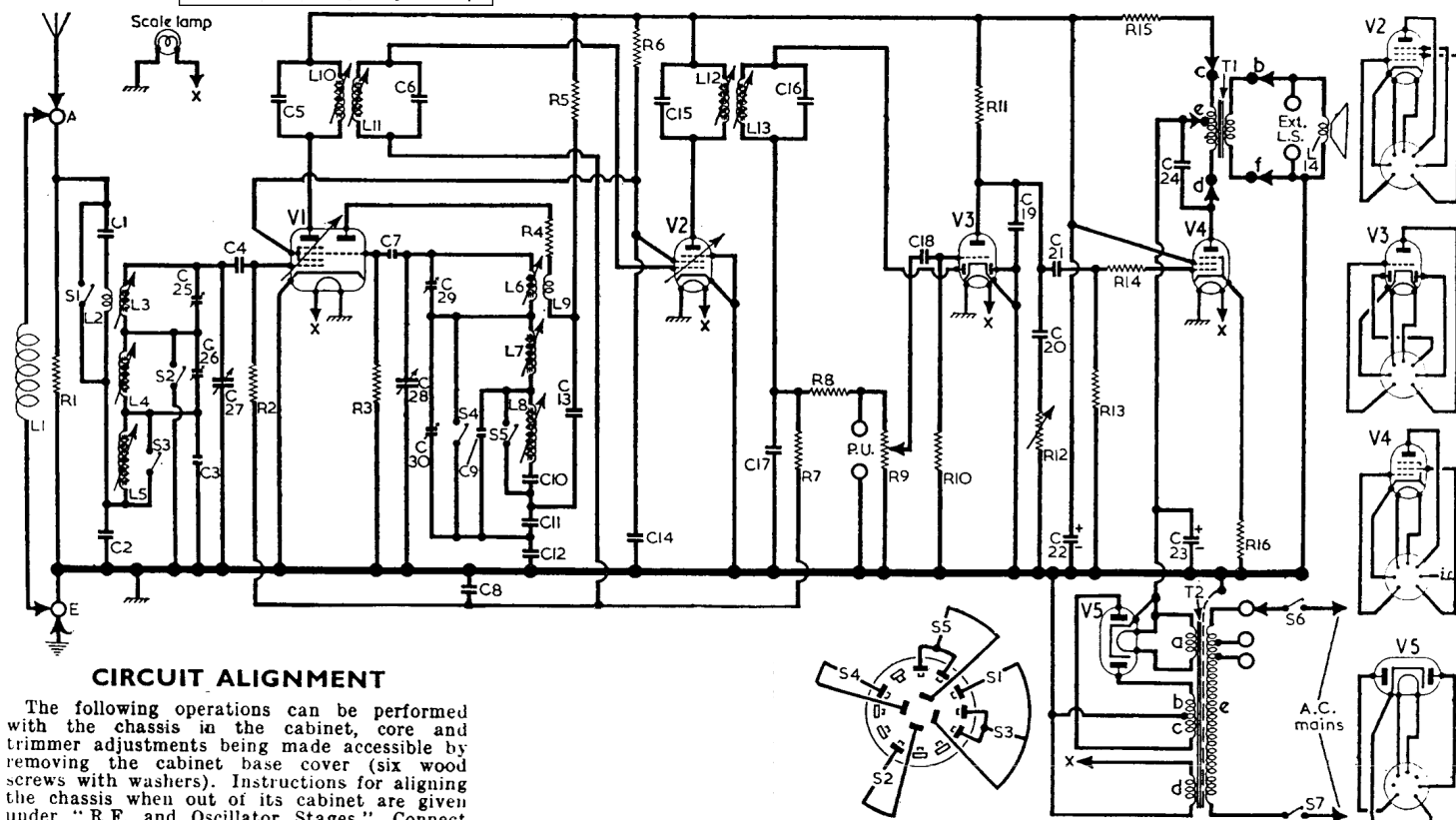
Switches	S.W.	M.W.	L.W.
S1	—	—	C
S2	—	—	—
S3	C	C	—
S4	C	—	—
S5	C	C	—

RESISTORS		Values	Locations
R1	Aerial shunt	10kΩ	D4
R2	V1 C.G.	1MΩ	D4
R3	V1 osc. C.G.	100kΩ	D4
R4	S.W. stabilizer	390Ω	D4
R5	Osc. H.T. feed	33kΩ	D4
R6	V1, V2 S.G. feed	100kΩ	D4
R7	A.G.C. decoupling	1MΩ	E4
R8	I.F. stopper	56kΩ	E4
R9	Volume control	1MΩ	E3
R10	V3 C.G.	10MΩ	F4
R11	V3 anode load	150kΩ	E4
R12	Tone control	500kΩ	F3
R13	V4 C.G.	220kΩ	F4
R14	V4 C.G. stopper	10kΩ	F3
R15	H.T. smoothing	6.8kΩ	B1
R16	V4 G.B.	150Ω	F3

CAPACITORS		Values	Locations
C1	Aerial coupling	0.001μF	D4
C2		3,950pF	E3
C3	L.W. aerial trim.	47pF	E3
C4	V1 C.G.	100pF	D4
C5	1st I.F. trans. tun-	120pF	C2
C6	ing	120pF	C2
C7	V1 osc. C.G.	47pF	D4
C8	A.G.C. decoupling	0.05μF	E4
C9	L.W. osc. trim.	82pF	D3
C10	Oscillator trackers	270pF	D3
C11		390pF	D3
C12	Osc. coup.	0.006μF	D3
C13		0.005μF	D3
C14	V1, V2 S.G. decoup.	0.05μF	E4
C15	2nd I.F. trans. tun-	120pF	B2
C16	ing	120pF	B2
C17	I.F. by-pass	300pF	F4
C18	A.F. coupling	0.02μF	F4
C19	I.F. by-pass	500pF	F4
C20	Part tone control	0.005μF	F3
C21	A.F. coupling	0.02μF	F4
C22*	H.T. smoothing	32μF	B2
C23*		16μF	B2
C24	Tone corrector	0.01μF	E3
C25†	S.W. aerial trim.	—	D3
C26†	M.W. aerial trim.	—	D3
C27†	Aerial tuning	—	C1
C28†	Oscillator tuning	—	C2
C29†	S.W. osc. trimmer	—	D3
C30†	M.W. osc. trimmer	—	D3

* Electrolytic. † Variable. ‡ Pre-set.

Intermediate frequency 470 kc/s.



CIRCUIT ALIGNMENT

The following operations can be performed with the chassis in the cabinet, core and trimmer adjustments being made accessible by removing the cabinet base cover (six wood screws with washers). Instructions for aligning the chassis when out of its cabinet are given under "R.F. and Oscillator Stages." Connect signal generator output, via an 0.1 μF capacitor in the "live" lead, to control grid (pin 1) of V2 and chassis.

I.F. Stages.—Switch set to L.W., turn gang to maximum capacitance, feed in a 470 kc/s (638.3 m) signal and adjust the cores of L13 (location reference B2) and L12 (E4) for maximum output. Transfer "live" signal generator lead to control grid (pin 2) of V1 and adjust the cores of L11 (C2) and L10 (D4) for maximum output. Repeat these adjustments.

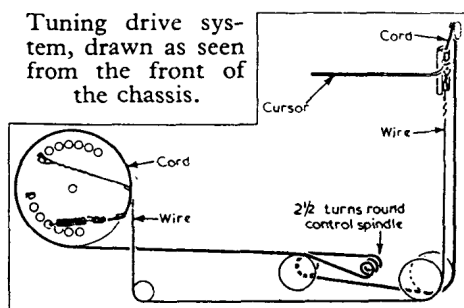
R.F. and Oscillator Stages.—If the chassis is withdrawn from the cabinet, the tuning scale, which remains in the cabinet, can no longer be used for alignment purposes and reference must be made to a substitute tuning scale printed on the cursor carriage bracket. Readings on the substitute scale are taken against the lower edge of the cursor carriage and in the following instructions are given after each alignment point. The reading for the maximum capacitance setting of the gang is 90. Remove the frame aerial plugs and transfer signal generator via a dummy aerial to A and E sockets.

S.W.—Switch set to S.W., tune to 50 m (86.5 on substitute scale), feed in a 50 m (6 Mc/s) signal and adjust the cores of L6, L3 (C2) for maximum output. Tune set to 16.67 m (11), feed in a 16.67 m (18 Mc/s) signal and adjust C29, C25 (D3). Repeat these adjustments until calibration is accurate.

M.W.—Switch set to M.W., tune to 500 m (71), feed in a 500 m (600 kc/s) signal and adjust the cores of L7, L4 (C1) for maximum output. Tune set to 214.3 m (9.5), feed in a 214.3 m (1,400 kc/s) signal and adjust C30, C26 (D3) for maximum output. Repeat until calibration is correct.

L.W.—Switch set to L.W., tune to 1,304 m (37.5), feed in a 1,304 m (230 kc/s) signal and adjust the cores of L8, L5 (C1) for maximum output.

Tuning drive system, drawn as seen from the front of the chassis.



Valves	Anode		Screen		Cath.
	V	mA	V	mA	
V1 X79 ...	216	0.8	43	1.4	—
	Oscillator				
	110	3.2			
V2 W77 ...	216	1.1	43	0.3	—
V3 DH77 ...	80	0.9	—	—	—
V4 N78 ...	283	25.5	216	3.9	4.4
V5 U78 ...	250†	—	—	—	295.0

† A.C. voltage.