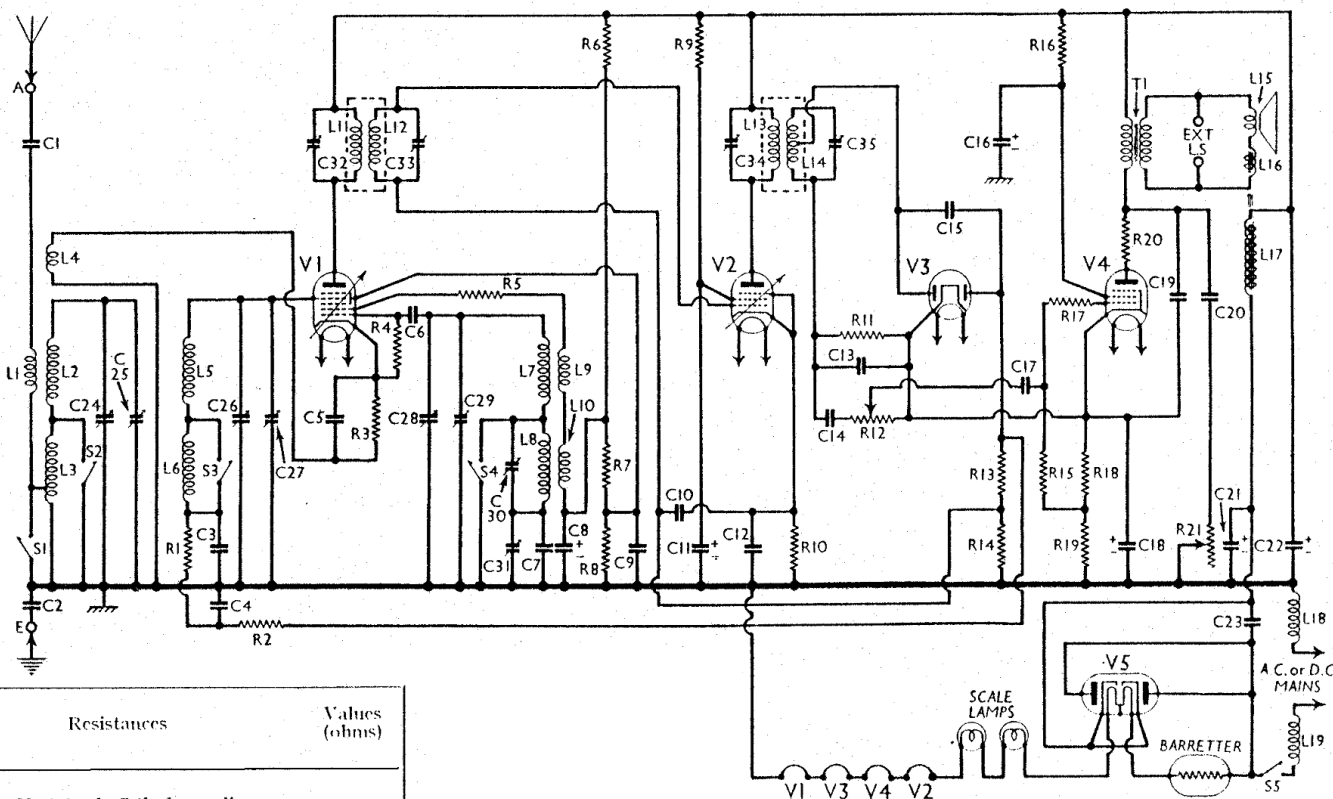


G.E.C. - DC / AC4



Resistances

Values
(ohms)

R1	V1 tetrode C.G. decoupling ..	220,000
R2	V1 A.V.C. line decoupling ..	440,000
R3	V1 fixed G.B. resistance ..	250
R4	V1 oscillator C.G. resistance ..	99,000
R5	V1 osc. anode circuit stabiliser ..	2,500
R6	V1 S.G.'s and oscillator anode ..	5,500
R7	H.T. potential divider ..	7,000
R8	V2 S.G. H.T. feed ..	15,000
R9	V2 fixed G.B. resistance ..	33,000
R10	V2 signal diode load ..	250
R11	Manual volume control ..	440,000
R12	V3 signal diode load ..	500,000
R13	V3 A.V.C. diode load ..	660,000
R14	V4 C.G. resistance ..	220,000
R15	V4 aux. grid H.T. feed ..	440,000
R16	V4 C.G. I.F. stopper ..	3,300
R17	V4 G.B. and A.V.C. delay ..	77,000
R18	voltage resistances ..	90
R19	V4 anode circuit stabiliser ..	150
R20	Variable tone control ..	100
R21	Variable tone control ..	50,000

Condensers

Values
(μ F)

C1	Aerial series condenser ..	0.01
C2	Earth blocking condenser ..	0.1
C3	V1 tetrode C.G. decoupling ..	0.05
C4	V1 A.V.C. line decoupling ..	0.05
C5	V1 cathode by-pass ..	0.05
C6	V1 oscillator C.G. condenser ..	0.0001
C7	Oscillator L.W. tracker, fixed ..	0.0005
C8*	V1 osc. anode decoupling ..	3.0
C9	V1 S.G.'s by-pass ..	0.05
C10	V2 C.G. decoupling ..	0.05
C11*	V2 S.G. by-pass ..	3.0
C12	V2 cathode by-pass ..	0.1
C13	I.F. by-pass ..	0.0003
C14	L.F. coupling to vol. control ..	0.02
C15	Coupling to V3 A.V.C. diode ..	0.0001
C16*	V4 aux. grid by-pass ..	2.0
C17	L.F. coupling to V4 ..	0.02
C18*	V4 cathode by-pass ..	50.0
C19	Fixed tone corrector ..	0.003
C20	Part of variable T.C. filter ..	0.02
C21*	H.T. smoothing ..	8.0
C22*	V5 anode-cathode by-pass ..	24.0
C23	V5 anode-cathode by-pass ..	0.01
C24†	Band-pass primary tuning ..	—
C25†	Band-pass primary trimmer ..	—
C26†	Band-pass secondary tuning ..	—
C27†	Band-pass secondary trimmer ..	—
C28†	Oscillator tuning ..	—
C29†	Oscillator main trimmer ..	—
C30†	Oscillator L.W. trimmer ..	—
C31†	Oscillator L.W. tracker ..	—
C32†	1st I.F. trans. pri. tuning ..	—
C33†	1st I.F. trans. sec. tuning ..	—
C34†	2nd I.F. trans. pri. tuning ..	—
C35†	2nd I.F. trans. sec. tuning ..	—

* Electrolytic † Variable ‡ Pre-set

Other Components

Approx.
Values
(ohms)

L1	Aerial M.W. coupling coil ..	1.6
L2	Band-pass primary coils ..	4.0
L3	Image suppression coil ..	17.0
L4	Band-pass secondary coils ..	0.15
L5	Band-pass secondary coils ..	3.9
L6	Band-pass secondary coils ..	17.0
L7	Oscillator tuning coils ..	3.8
L8	Oscillator tuning coils ..	11.5
L9	Oscillator reaction coils, total ..	2.5
L10	1st I.F. transformer ..	82.0
L11	2nd I.F. transformer ..	82.0
L12	1st I.F. transformer ..	82.0
L13	2nd I.F. transformer ..	82.0
L14	Speaker speech coil ..	1.9
L15	Hum neutralising coil ..	0.05
L16	Speaker field coil ..	500.0
L17	Speaker field coil ..	3.0
L18	Mains circuit filter chokes ..	3.0
L19	Mains circuit filter chokes ..	3.0
T1	Speaker input trans. ..	400.0
S1-S4	Waveband switches ..	0.8
S5	Mains switch, ganged R21 ..	—

CIRCUIT ALIGNMENT

IF Stages.—Switch set to MW, tune to 550 m on scale, turn volume control to maximum and short-circuit ends of L9, L10. Connect signal generator leads to control grid (top cap) of V1 and E socket, feed in a 125 kc/s (2,400 m) signal, and adjust C32, C33, C34 and C35 for maximum output.

RF and Oscillator Stages.—With gang at maximum or minimum, pointer should be equal distance from end of scale. Transfer signal generator leads to A and E sockets via dummy aerial.

MW.—With switch still at MW, tune to 214 m on scale, feed in a 214 m (1,400 kc/s signal, and adjust C29, then C27 and C25, for maximum output.

LW.—Switch set to LW, disconnect C28 (unsolder lead from its tag) and substitute an external variable capacitor "X" for it. Feed in a 300 kc/s (1,000 m) signal, tune it in on gang and "X," disconnect "X" and reconnect C28, and adjust C30 for maximum output.

Change over again to "X," feed in a 165 kc/s (1,819 m) signal, tune it in as before, change over to C28 again, and adjust C31 for maximum output. Repeat the 300 kc/s adjustment.

VALVE ANALYSIS

Valve	Anode Volts	Anode Current (mA)	Screen Volts	Screen Current (mA)
V1 X32*	205	1.4	80	3.1
V2 W31	205	6.4	86	3.6
V3 D41	—	—	—	—
V4 N31	188	35.0	178	8.2
V5 U30†	—	—	—	—

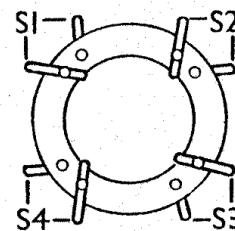
* Osc. anode (G2) 107 V, 4.6 mA.

† Cathode to chassis, 240 V D.C.

GENERAL NOTES

Switches.—S1-S4 are the wavechange switches in a single rotary unit behind the front of the chassis. The unit is indicated in our under-chassis view, and the individual switches are shown in a separate diagram. All the switches are closed on the M.W. band and open on the L.W. band.

S5 is the Q.M.B. mains switch, ganged with the tone control R21.



The wavechange switch unit, as seen from the back of the underside of the chassis.