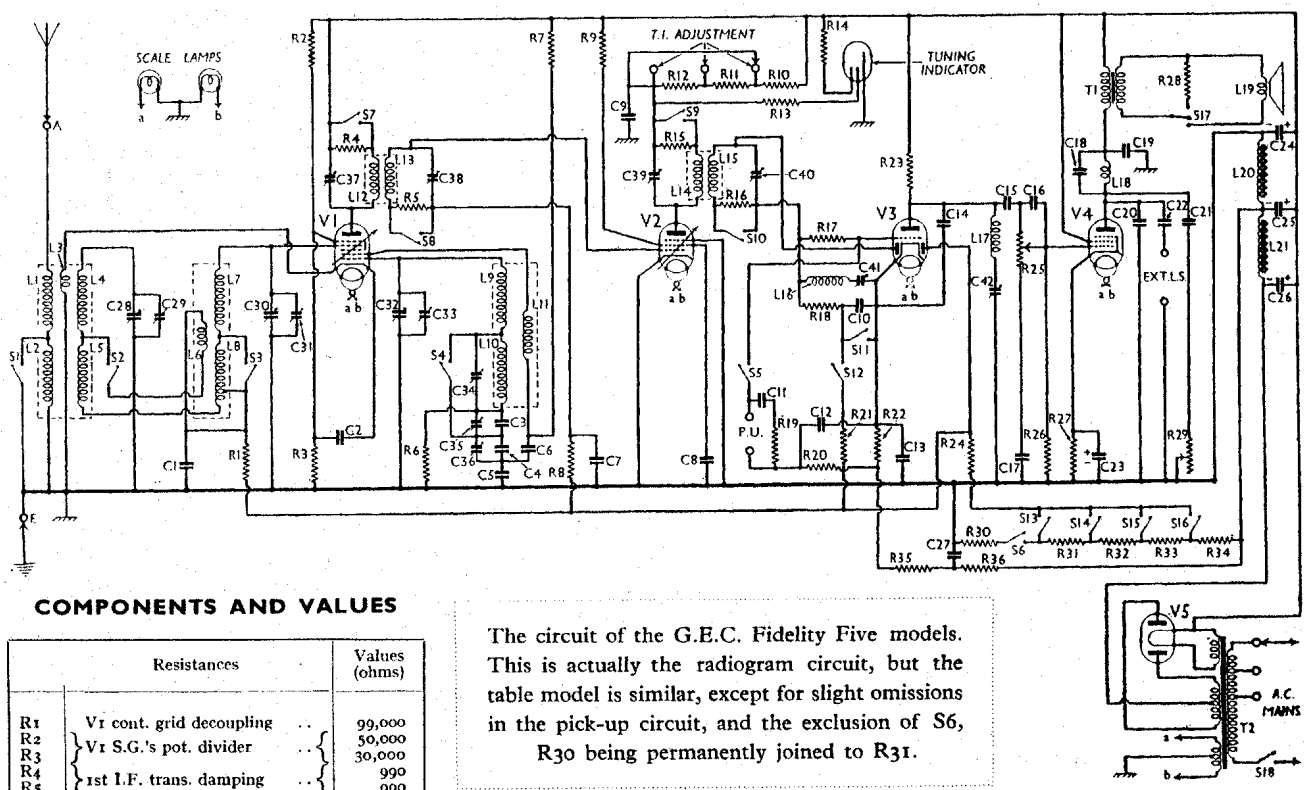
G.E.C. - FIDELITY FIVE



The circuit of the G.E.C. Fidelity Five models. This is actually the radiogram circuit, but the table model is similar, except for slight omissions in the pick-up circuit, and the exclusion of S6, R30 being permanently joined to R31.

COMPONENTS AND VALUES

	Resistances	Values (ohms)
R1	V1 cont. grid decoupling	99,000
R2	V1 S.G.'s pot. divider	50,000
R3	V1 S.G.'s pot. divider	30,000
R4	1st I.F. trans. damping	990
R5	1st I.F. trans. damping	990
R6	V1 osc. grid resistance	99,000
R7	V1 osc. anode decoupling	44,000
R8	V2 cont. grid decoupling	99,000
R9	V2 S.G. H.T. feed	77,000
R10	Neon tuning indicator feed resistances	15,000
R11	Neon tuning indicator feed resistances	5,500
R12	Neon tuning indicator feed resistances	5,500
R13	Neon tuning indicator feed resistances	20,000
R14	Neon tuning indicator feed resistances	1,000,000
R15	2nd I.F. trans. damping	990
R16	2nd I.F. trans. damping	990
R17	V3 triode grid I.F. stopper	99,000
R18	V3 rectifier diode load	440,000
R19*	Part of pick-up shunt circuit	22,000
R20*	Gram pick-up decoupling	220,000
R21	Part of muting circuit	220,000
R22	V3 G.B. resistance (gram. only)	990
R23	V3 anode resistance	77,000
R24	V3 A.V.C. diode load	440,000
R25	Manual volume control	500,000
R26	V4 grid resistance	330,000
R27	V4 G.B. resistance	300
R28	Artificial output load	8
R29	Variable tone control	50,000
R30	Potential divider across speaker field winding	5,000
R31	Potential divider across speaker field winding	1,500
R32	Potential divider across speaker field winding	3,000
R33	Potential divider across speaker field winding	4,000
R34	Potential divider across speaker field winding	99,000
R35	Amplified A.V.C. voltage-dropping resistances	20,000
R36	Amplified A.V.C. voltage-dropping resistances	33,000

* Not in our chassis.

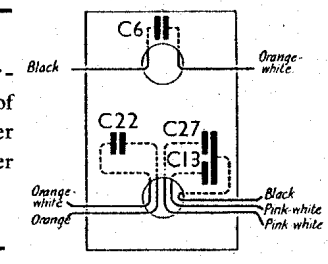
	Condensers	Values (μF)
C1	V1 cont. grid decoupling	0·05
C2	V1 S.G.'s by-pass	0·05
C3	Osc. L.W. tracker, fixed	0·0005
C4	Osc. M.W. tracker, fixed	0·00175
C5	Osc. grid condenser	0·005
C6	V1 osc. anode decoupling	0·1
C7	V2 cont. grid decoupling	0·05
C8	V2 S.G. by-pass	0·05
C9	V2 anode decoupling	0·25
C10	Part of muting circuit	0·1
C11†	Part of pick-up shunt circuit	0·002
C12†	Pick-up circuit decoupling	0·05
C13	V3 cathode by-pass	0·5
C14	V3 anode I.F. by-pass	0·0005
C15	L.F. coupling to V4	0·02
C16	Manual volume control shunt	0·0002
C17	R25 blocking condenser	0·05
C18	Parts of V4 anode filter circuit	0·00065
C19	Parts of V4 anode filter circuit	0·003
C20	Parts of V4 anode filter circuit	0·003
C21×	Tone control condenser	0·05
C22	Coupling to ext. speaker	0·2
C23*	V4 cathode by-pass	50·0
C24*	H.T. smoothing	6·0
C25*	H.T. smoothing	6·0
C26*	H.T. smoothing	6·0
C27	Part of amp. A.V.C. circuit	0·5
C28	Band-pass primary tuning	—
C29‡	Band-pass primary trimmer	—
C30	Band-pass secondary tuning	—
C31‡	Band-pass secondary trimmer	—
C32	Oscillator tuning	—

	Condensers (contd.)	Values (μF)
C33‡	Oscillator main trimmer	—
C34‡	Oscillator L.W. trimmer	—
C35‡	Oscillator L.W. tracker	—
C36‡	Oscillator M.W. tracker	—
C37‡	1st I.F. trans. pri. tuning	—
C38‡	1st I.F. trans. sec. tuning	—
C39‡	2nd I.F. trans. pri. tuning	—
C40‡	2nd I.F. trans. sec. tuning	—
C41‡	Part of I.F. filter	—
C42‡	Part of V3 anode whistle filter	—

† Not in our chassis ‡ Pre-set condensers * Electrolytics × May be 0·02 μF

	Other Components	Values (ohms)
L1	Aerial coupling coils	6·0
L2	Aerial coupling coils	100·5
L3	Image rejection coil	0·27
L4	Band-pass primary coils	5·3
L5	Band-pass primary coils	49·3
L6	Band-pass coupling coil	0·08
L7	Band-pass secondary coils	5·2
L8	Band-pass secondary coils	49·5
L9	Oscillator grid coils	4·3
L10	Oscillator grid coils	27·0
L11	Oscillator anode coil	2·2
L12	1st I.F. transformer Pri.	82·5
L13	1st I.F. transformer Sec.	82·5
L14	2nd I.F. transformer Pri.	82·5
L15	2nd I.F. transformer Sec.	82·5
L16	I.F. filter coil	38·0
L17	Whistle filter coil	36·0
L18	V4 anode filter coil	400·0
L19	Speaker speech coil	1·9
L20	Speaker field winding	1,400
L21	Extra H.T. smoothing choke	400·0
T1	Speaker input trans. Pri.	300·0
T1	Speaker input trans. Sec.	0·35
T2	Mains trans. Pri. total	41·0
T2	Mains trans. Heater sec.	0·08
T2	Mains trans. Rect. fil. sec.	0·12
T2	Mains trans. H.T. sec.	540·0
S1-S4	Waveband switches, ganged	—
S5	Gram. pick-up switch	—
S6*	Radio muting switch on gram.	—
S7-S16	Muting and fidelity switches	—
S17	Internal speaker switch	—
S18	Mains switch, ganged R25	—

* Not in our chassis.



Colour-coding of the paper condenser block.

VALVE ANALYSIS

Valve voltage and current readings given in the table below were taken with the aerial disconnected and with the muting-fidelity switch set at "normal." Voltage readings were taken with the chassis as negative, and since the voltmeter used was an electrostatic type, slightly lower readings may be obtained on other types of instruments. The figures are those given by the manufacturers.

Valve	Anode Volts	Anode Current (mA)	Screen Volts	Screen Current (mA)
V1 MX40*	235	3·0	70	1·3
V2 VMP4G	175	3·5	65	2·0
V3 MHD4	100	2·0	—	—
V4 MPT4	210	32·0	235	6·0
V5 U12†	320†	—	—	—

* Osc. anode (G2) 150V, 2mA.
† Each anode, A.C.

GENERAL NOTES

Switches.—There are no fewer than 18 switches in this set, of which **S17** is the internal speaker switch, at the top back of the cabinet, and **S18** is the mains switch ganged with the volume control.

S1-S5 are in one unit operated by a spindle mounted from front to back of the chassis, and indicated in our under-chassis view. Of these, **S1-S4** are the waveband switches, and **S5** the radio-gram switch. Radiogram models also contain an additional switch **S6**, operated by the same spindle, and mounted between **S3** and **S4**. This switch is not seen in our chassis views.

The following table gives the positions for **S1-S6**, O indicates open, and C, closed.

Switch	M.W.	L.W.	Gram
S1	C	O	O
S2	C	O	O
S3	C	O	C
S4	C	O	C
S5	O	O	C
S6*	C	C	O

*Not included in table models.