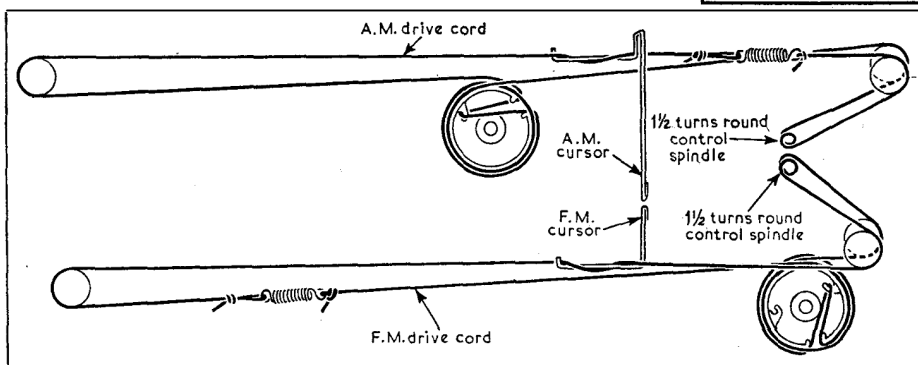
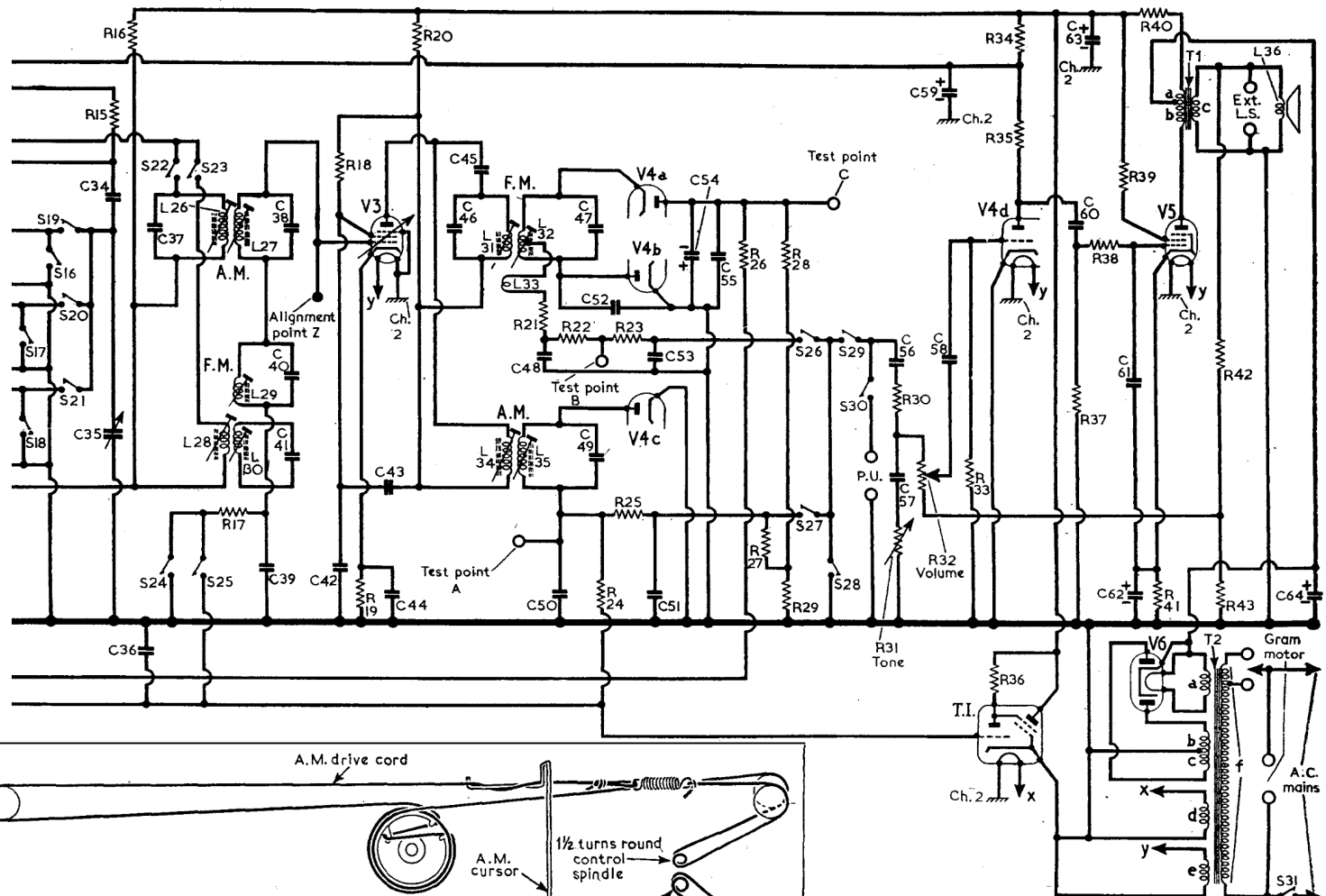
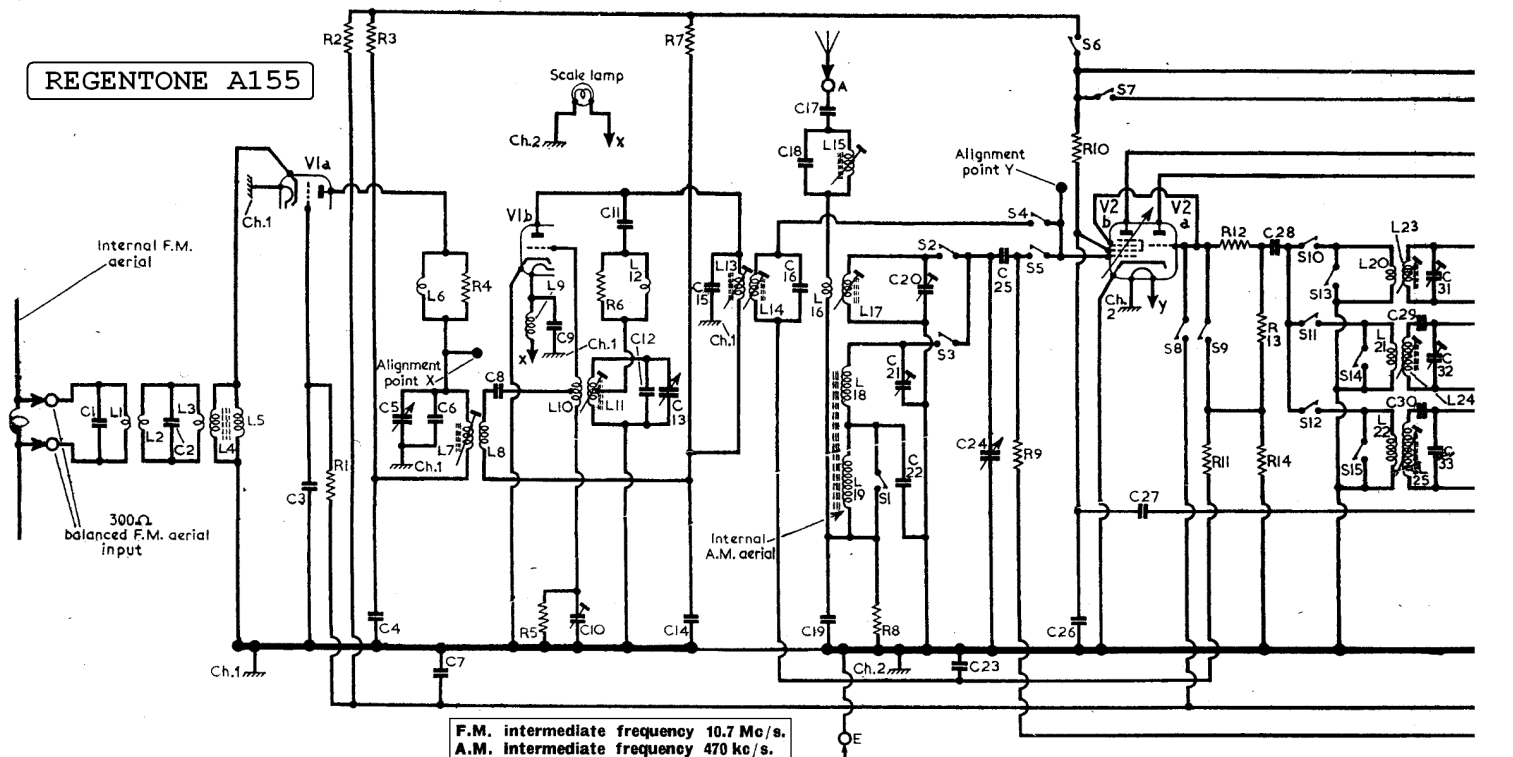


REGENTONE A155



Sketch of the separate A.M. and F.M. tuning drive systems as seen from the front of an upright chassis with both of the gangs at maximum capacitance.

REGENTONE A155

RESISTORS		Values	Locations
R1	F.M. A.G.C. decoup.	500kΩ	G3
R2	F.M. G.B.	3MΩ	G3
R3	H.T. feed	20kΩ	G3
R4	Coil shunt	100kΩ	G3
R5	V1b C.G.	500kΩ	G3
R6	Coil shunt	100kΩ	G3
R7	H.T. feed	10kΩ	G3
R8	A.M. aerial shunt	10kΩ	F3
R9	V2b C.G.	1MΩ	F3
R10	V2b S.G. feed	33kΩ	F4
R11	F.M. G.B. feed	500kΩ	F3
R12	V2a C.G. stopper	200Ω	F3
R13	V2a C.G.	100kΩ	F3
R14	V2a C.G.	50kΩ	F3
R15	V2a C.G.	30kΩ	F3
R16	H.T. feeds	1kΩ	F4
R17	V3 C.G.	47kΩ	E4
R18	V3 S.G. feed	82kΩ	E4
R19	V3 G.B.	220Ω	F4
R20	H.T. feed	1kΩ	E4
R21	F.M. balancing	39kΩ	E4
R22	Part de-emphasis	10kΩ	D4
R23	Part de-emphasis	47kΩ	E4
R24	A.G.C. decoupling	1.2MΩ	E4
R25	I.F. stopper	100kΩ	E4
R26	F.M. A.G.C. de-	300kΩ	F3
R27	couplings	220kΩ	E4
R28	F.M. D.C. load	22kΩ	E4
R29	F.M. D.C. load	10kΩ	E4
R30	Tone corrector	100kΩ	D3
R31	Tone control	500kΩ	D3

(Continued next col.)

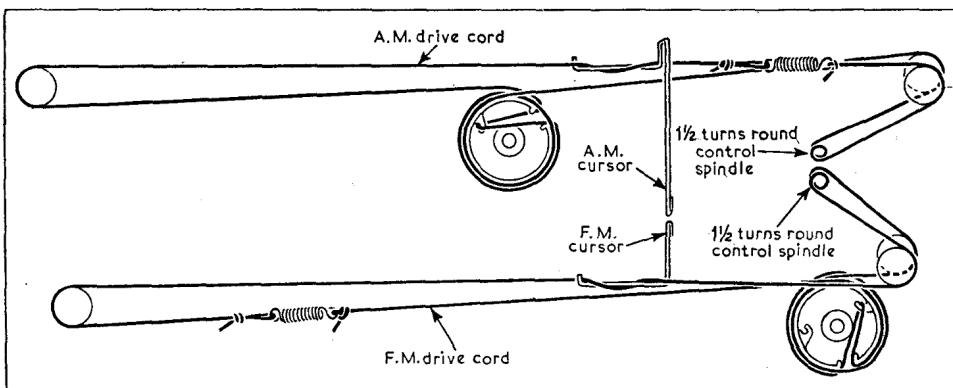
RESISTORS (Contd.)		Values	Locations
R32	Volume control	500kΩ	D3
R33	V4d C.G.	5.6MΩ	E4
R34	H.T. feed	2.2kΩ	D4
R35	V4d anode load	220kΩ	E4
R36	T.I. load	470kΩ	A1
R37	V5 C.G.	560kΩ	D4
R38	V5 C.G. stopper	47kΩ	D4
R39	V5 S.G. stopper	39Ω	D4
R40	H.T. smoothing	1.5kΩ	D4
R41	V5 G.B.	180Ω	D4
R42	Neg. feed-back	1.2kΩ	D3
R43	Neg. feed-back	39Ω	D3

CAPACITORS		Values	Locations
C1	F.M. aerial tuning	40pF	F4
C2	F.M. aerial tuning	40pF	F4
C3	V1a C.G.	0.001μF	F3
C4	H.T. decoupling	0.005μF	G3
C5	F.M.R.F. tuning	10.5pF	G3
C6	F.M.R.F. trimmer	10pF	G3
C7	F.M. A.G.C. decoup.	0.05μF	F3
C8	F.M.R.F. coupling	60pF	G3
C9	R.F. by-pass	0.001μF	F3
C10	F.M. osc. neut.	10pF	G3
C11	F.M. osc. coupling	15pF	F3
C12	F.M. osc. trimmer	18pF	G3
C13	F.M. osc. tuning	10.5pF	G3
C14	H.T. decoupling	500pF	F3
C15	1st F.M. I.F.T.	10pF	F3
C16	tuning	10pF	F3
C17	A.M. aerial coupling	500pF	F4
C18	A.M. I.F. filter tun.	0.001μF	F3
C19	M.W., L.W. aerial	—	—
C20	coupling	0.005μF	E3
C21	S.W. aerial trim.	45pF	F3
C22	M.W. aerial trim	10pF	E3
C23	L.W. aerial trim	65pF	E3

(Continued next col.)

CAPACITORS (Contd.)		Values	Locations
C23	V2b F.M. G.B. decoup	0.05μF	F3
C24	Aerial tuning	500pF	B2
C25	V2b C.G.	170pF	F3
C26	V2b S.G. decoup	1.800pF	F4
C27	V2b neutralizing	0.005μF	F4
C28	V2a osc. C.G.	100pF	F3
C29	A.M. osc. trackers	385pF	E3
C30	A.M. osc. trackers	200pF	E3
C31	A.M. osc. trimmers	45pF	F3
C32	A.M. osc. trimmers	30pF	E3
C33	A.M. osc. coupling	130pF	E3
C34	A.M. osc. coupling	500pF	F3
C35	A.M. osc. tuning	440pF	B1
C36	A.G.C. decoupling	0.05μF	F4
C37	1st A.M. I.F.T.	100pF	B2
C38	tuning	100pF	B2
C39	V3 C.G.	0.005μF	F4
C40	2nd F.M. I.F.T.	15pF	B2
C41	tuning	35pF	B2
C42	V3 S.G. decoup.	0.003μF	E4
C43	V3 neutralizing	0.005μF	E4
C44	V3 cath. by-pass	0.05μF	F4
C45	F.M. coupling	190pF	E4
C46	3rd F.M. I.F.T.	15pF	C2
C47	tuning	50pF	C2
C48	F.M. A.F. load	500pF	E4
C49	A.M. I.F.T. tun	100pF	B2
C50	A.M. I.F. by-pass	100pF	E4
C51	A.M. I.F. by-pass	50pF	F4
C52	F.M. balancing	12.5μF	E4
C53	Part de-emphasis	0.001μF	F3
C54	D.C. load	4μF	E4
C55	F.M. I.F. by-pass	0.01μF	E4
C56	A.F. coupling	0.01μF	D3
C57	Part tone control	0.005μF	D3
C58	A.F. coupling	0.01μF	E4
C59	H.T. decoupling	8μF	C2
C60	A.F. coupling	0.05μF	E4
C61	I.F. by-pass	100pF	D4
C62	V5 cath. by-pass	25μF	D4
C63	H.T. smoothing	32μF	C2
C64	H.T. smoothing	32μF	C2

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	F.M. aerial coupling transformer	—	F4
L2	F.M. aerial coupling transformer	—	F4
L3	F.M. aerial coils	—	A1
L4	F.M. aerial coils	—	A1
L5	R.F. choke	—	G3
L6	F.M. R.F. tuning coils	—	G3
L7	F.M. R.F. tuning coils	—	G3
L8	R.F. choke	—	F3
L9	F.M. oscillator coils	—	G3
L10	F.M. oscillator coils	—	G3
L11	R.F. choke	—	G3
L12	R.F. choke	—	G3
L13	1st F.M. {Pri. Sec.}	—	G3
L14	I.F.T. {Pri. Sec.}	—	F3
L15	A.M. I.F. filter	2.0	F3
L16	S.W. aerial coup.	1.0	F3
L17	A.M. aerial coils	—	F3
L18	A.M. aerial coils	—	C1
L19	A.M. oscillator reaction coils	4.0	B1
L20	A.M. oscillator reaction coils	1.0	E3
L21	A.M. oscillator reaction coils	1.4	E3
L22	A.M. oscillator reaction coils	—	F3
L23	A.M. oscillator tuning coils	4.0	E3
L24	A.M. oscillator tuning coils	8.0	E3
L25	1st A.M. {Pri. Sec.}	20.0	B2
L26	I.F.T. {Pri. Sec.}	20.0	B2
L27	2nd F.M. {Pri. Sec.}	—	B2
L28	I.F.T. {Pri. Sec.}	—	B2
L29	I.F.T. {Pri. Sec.}	—	B2
L30	I.F.T. {Pri. Sec.}	—	B2
L31	3rd F.M. {Pri. Sec.}	—	C2
L32	I.F.T. {Pri. Sec.}	—	C2
L33	I.F.T. {Pri. Sec.}	—	C2
L34	2nd A.M. {Pri. Sec.}	18.0	B2
L35	I.F.T. {Pri. Sec.}	18.0	B2
L36	Speech coil	2.5	—
T1	O.P. trans. {a b c d e f}	45.0 800.0 1.0 1.0 180.0 180.0	E3 A2
S1-S30	Band switches	—	F3
S31	Mains sw., g'd R32	—	D3



Sketch of the separate A.M. and F.M. tuning drive systems as seen from the front of an upright chassis with both of the gangs at maximum capacitance.

Switch Table

Switches	L.W.	M.W.	S.W.	F.M.	Gram
S1	—	—	—	—	—
S2	—	—	—	—	—
S3	—	—	—	—	—
S4	—	—	—	—	—
S5	—	—	—	—	—
S6	—	—	—	—	—
S7	—	—	—	—	—
S8	—	—	—	—	—
S9	—	—	—	—	—
S10	—	—	—	—	—
S11	—	—	—	—	—
S12	—	—	—	—	—
S13	—	—	—	—	—
S14	—	—	—	—	—
S15	—	—	—	—	—
S16	—	—	—	—	—
S17	—	—	—	—	—
S18	—	—	—	—	—
S19	—	—	—	—	—
S20	—	—	—	—	—
S21	—	—	—	—	—
S22	—	—	—	—	—
S23	—	—	—	—	—
S24	—	—	—	—	—
S25	—	—	—	—	—
S26	—	—	—	—	—
S27	—	—	—	—	—
S28	—	—	—	—	—
S29	—	—	—	—	—
S30	—	—	—	—	—

CIRCUIT ALIGNMENT

Equipment Required.—An A.M. signal generator covering the frequency ranges 200-1,500 kc/s and 6-15 Mc/s; an F.M. signal generator covering the frequencies of 470 kc/s, 10.7 Mc/s and 94 Mc/s; a sound output meter; an electronic voltmeter; an oscilloscope.

A.M. I.F. Stages

- 1.—Switch receiver to M.W. and turn gang to minimum capacitance. Connect output of F.M. signal generator between chassis and alignment point Y (location reference F4). Connect oscilloscope between chassis and test point A (E4).
- 2.—Feed in a 470 kc/s signal deviated by +25 kc/s and adjust the cores of L35 (B2), L34 (E4), L27 (B2) and L26 (F4) for maximum response and symmetry of curve on oscilloscope. Repeat these adjustments.

F.M. I.F. Stages

- 3.—Transfer oscilloscope "live" lead to test point B on test panel (E4). Switch receiver to F.M. and tune it to 92 Mc/s.
- 4.—With output of wobulator connected to alignment point Y, feed in a 10.7 Mc/s signal, deviated by ±200 kc/s and adjust the core of L32 (C2) so that the centre of the response curve on the oscilloscope is at 10.7 Mc/s. (The A.M. generator can be used to feed in a 10.7 Mc/s marker pip.)
- 5.—Adjust the core of L31 (C2) for maximum amplitude of response curve, and adjust the cores of L30 (B2), L29 (B2) and L28 (B2) until a response similar to curve 1 in column 6 is obtained on the oscilloscope.
- 6.—Repeat operations 4 and 5.
- 7.—Disconnect negative end of C54 (E4). Transfer oscilloscope "live" lead to test point C on test panel (E4). Feeding in a 10.7 Mc/s signal deviated by ±150 kc/s, check

that curve 2 is obtained on oscilloscope. The cores of L28, L29 and L30 may be readjusted slightly, if necessary, for symmetry.

8.—Transfer "live" F.M. generator lead to alignment point X (G3). Feed in a 10.7 Mc/s signal deviated by ± 150 kc/s and adjust the cores of L13 (G3) and L14 (G3) until a response curve similar to curve 2 is obtained on the oscilloscope, consistent with maximum output.

9.—Reconnect G54. Disconnect oscilloscope and A.M. generator.

A.M. R.F. and Oscillator Stages

10.—Switch receiver to M.W. and tune it to 521.7 m. Connect output meter across external speaker sockets. Connect output of A.M. generator, via dummy aerial, to A and E sockets.

11.—Feed in a 575 kc/s signal and adjust the core of L24 (E3) for maximum output.

12.—Tune receiver to 200 m, feed in a 1,500 kc/s signal and adjust G32 (E3) for maximum.

13.—Feed in a 470 kc/s signal and adjust the core of L15 (F3) for minimum output.

14.—Repeat operations 11 and 12 until no further improvement results.

15.—Retune receiver to 521.7 m, feed in a 575 kc/s signal and adjust the inductance of L18 (C1) for maximum output by sliding the coil along its ferrite rod.

16.—Retune receiver to 200 m, feed in a 1,500 kc/s signal and adjust G21 (E3) for maximum.

17.—Repeat operations 15 and 16 until no further improvement results.

18.—Switch receiver to L.W. and tune to 1,333 m. Feed in a 225 kc/s signal and adjust the core of L25 (E3) for maximum output. Adjust the inductance of L19 (B1) for maximum output by sliding the coil on its ferrite rod.

19.—Switch receiver to S.W. and tune it to 6 Mc/s. Feed in a 6 Mc/s signal and adjust the core of L23 (F3) for maximum output.

20.—Tune receiver to 15 Mc/s, feed in a 15 Mc/s signal and adjust G31 (F3) for maximum.

21.—Repeat operations 19 and 20 until no further improvement results.

22.—Retune receiver to 6 Mc/s, feed in a 6 Mc/s

signal and adjust the core of L17 (F3) for maximum output.

23.—Retune receiver to 15 Mc/s, feed in a 15 Mc/s signal and adjust G20 (F3) for maximum output, rocking the gang while making this adjustment for optimum results.

F.M. R.F. and Oscillator Stages

24.—Switch receiver to F.M. Connect output of F.M. signal generator to F.M. aerial sockets. Tune receiver to 94 Mc/s, feed in a 94 Mc/s signal and adjust the core of L11 (G3) for maximum output, choosing the middle peak.

25.—Disconnect F.M. generator. Connect electronic voltmeter between chassis and alignment point X (G3). Adjust G10 (G3) for minimum reading on voltmeter.

VALVE ANALYSIS

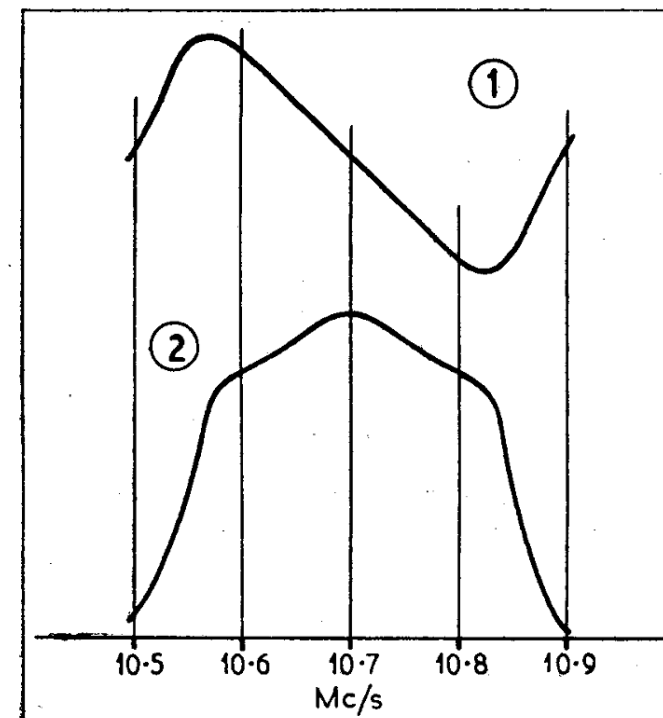
Valve voltages and currents given in the table below are those derived from the manufacturers' information. They were measured with the receiver switched to M.W.

Voltages were measured on the 10 V and 400 V ranges of a Model 7 Avometer, chassis being the negative connection in every case.

Valve	Anode		Screen		Cath.
	V	mA	V	mA	
V1 ECC85					
a ...	—	—	—	—	—
b ...	—	—	—	—	—
V2 ECH81					
a ...	105	4.0	—	—	—
b ...	230	2.3	65	4.0	—
V3 EF85	220	7.5	95	1.5	1.9
V4 EABC80					
a-c ...	—	—	—	—	—
d ...	70	0.6	—	—	—
V5 EL84	260	36.0	235	4.5	7.5
V6 EZ80	225*	—	—	—	280.0†
T.I. EM80	40‡	—	—	—	—

*A.C., each anode. †Cathode current 75mA.

‡Target anode 235V.



Above: F.M. response curves.

Below: Band/gram. switches.

