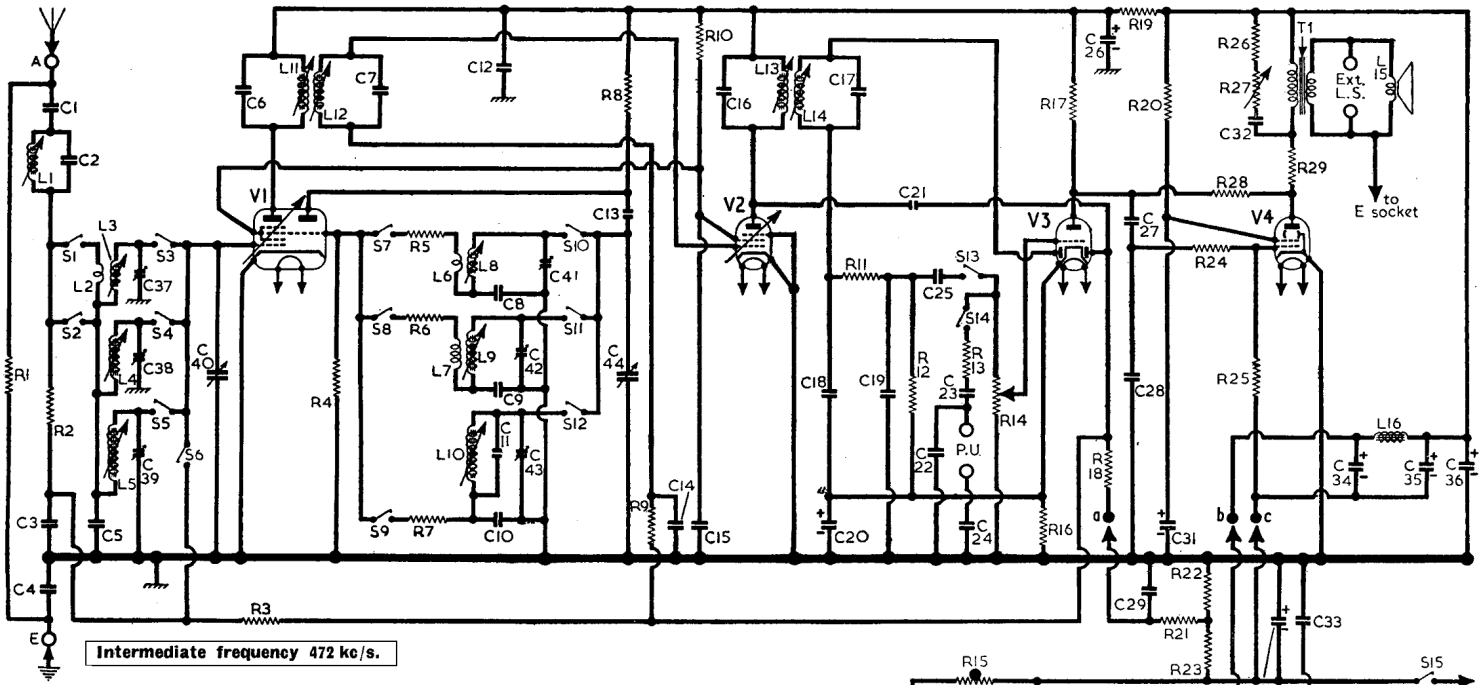

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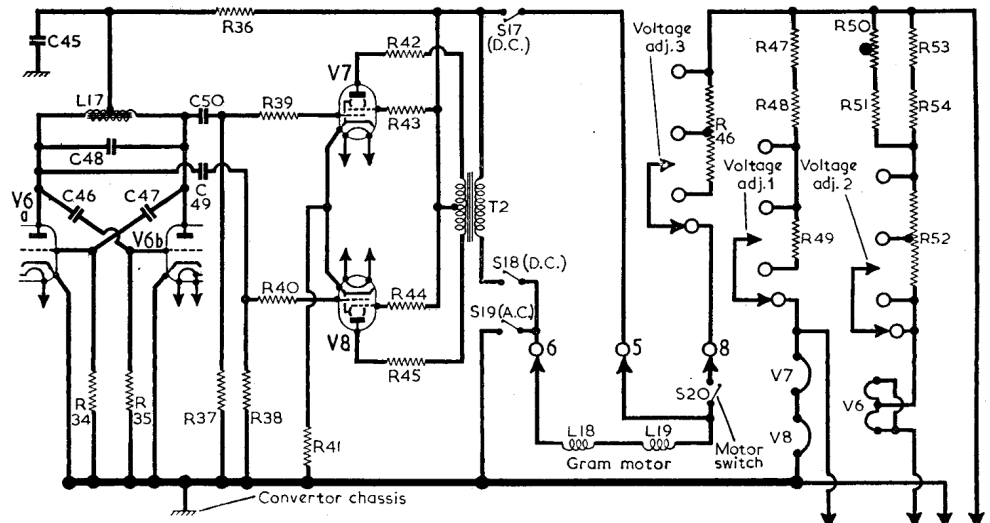

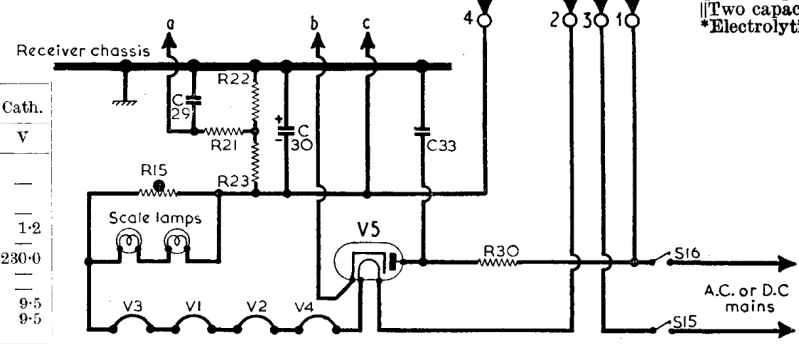

Valve	Anode		Screen		Cath.
	V	mA	V	mA	V
V1 6K8GT	192 (Oscillator)	2·6	110	5·4	—
	105	4·0			
V2 6K7GT	195	4·7	110	2·4	—
V3 6Q7GT	95	0·4	—	—	1·2
V4 25L6GT	175	66·0	135	4·5	—
V5 25Z4GT	220†	—	—	—	230·0
V6 12AU7 a	68	3·0	—	—	—
V6 12AU7 b	68	3·0	—	—	—
V7 185BT	175	115·0	165	16·0	9·5
V8 185BT	175	115·0	165	16·0	9·5

† A.C. reading.

CAPACITORS		Values	Locations
C1	Aerial isolator ...	500pF	G4
C2¶	I.F. rejector tune...	800pF	G4
C3	A.G.C decoupling	0·01μF	F3
C4	Chassis isolator ...	0·05μF	G4
C5‖	Aerial coupling ...	0·0032μF	G3
C6	1st I.F. trans. tuning	100pF	A2
C7		100pF	A2
C8	S.W. osc. tracker ...	0·0022μF	F3
C9	M.W. osc. tracker...	380pF	F3
C10	L. W.osc.tracker...	150pF	F3
C11	L.W. osc. trim. ...	25pF	F3
C12	R.F. by-pass ...	0·1μF	F4
C13	Osc. anode coup.	50pF	G3
C14	A.G.C. decoupling	0·01μF	G4
C15	S.G. decoupling ...	0·1μF	F4
C16	2nd I.F. trans. tuning	100pF	A2
C17		100pF	A2
C18	I.F. by-passes ...	120pF	F4
C19		120pF	F3
C20*	V3 cath. by-pass ...	50μF	E4
C21	A.G.C. coupling ...	23pF	F4
C22	P.U. shunt ...	250pF	F4
	Contd. col. 1 overleaf		

¶Two capacitors, 300pF + 500pF, in parallel.
‖Two capacitors, 0·0014μF + 0·0018μF in parallel.
*Electrolytic.

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	RESISTORS	Values	Locations
R1	Aerial shunts	2·2kΩ	G4
R2	Aerial shunts	10kΩ	F4
R3	A.G.C. decoupling	1MΩ	F4
R4	V1 osc. C.G.	47kΩ	G4
R5	Oscillator stabilizers	22Ω	F3
R6	Oscillator stabilizers	2·2kΩ	F3
R7	Oscillator stabilizers	5·6kΩ	F3
R8	Osc. anode load	22kΩ	G4
R9	A.G.C. decoupling	1MΩ	F4
R10	S.G. feed	10kΩ	F4
R11	I.F. stopper	47kΩ	F4
R12	Diode load	470kΩ	F4
R13	Tone correction	22kΩ	F4
R14	Volume control	1MΩ	E3
R15	Thermistor CZ2	—	D3
R16	V3 G.B.	2·2kΩ	F4
R17	V3 anode load	220kΩ	F4
R18	A.G.C. diode load	1MΩ	F4
R19	H.T. smoothing	1kΩ	D3
R20	V4 S.G. feed	15kΩ	E4
R21	A.G.C. decoupling	1MΩ	D3
R22	G.B. resistors	68Ω	D3
R23	G.B. resistors	22Ω	D3
R24	V4 grid stopper	100kΩ	E4
R25	V4 C.G.	470kΩ	E4
R26	Part tone control	680Ω	D3
R27	Tone control	50kΩ	D3
R28	Neg. feed-back	1MΩ	F4
R29	V4 anode stopper	47Ω	E4
R30	Surge limiter	68Ω	E4
R31	Thermistor CZ2	—	C2
R32	Heater ballast	140Ω	C2
R33	Heater ballast	*530Ω	C2
R34	V6a, V6b, C.G.	47kΩ	K6
R35	V6a, V6b, C.G.	47kΩ	K7
R36	H.T. smoothing	†20kΩ	K6
R37	V7, V8 C.G.	100kΩ	L6
R38	V7, V8 C.G.	100kΩ	L7
R39	V7, V8 C.G. stoppers	1kΩ	L6
R40	V7, V8 C.G. stoppers	1kΩ	L7
R41	V7, V8 G.B.	‡34Ω	M6
R42	V7 anode stopper	68Ω	H5
R43	V7, V8 S.G. stoppers	1·1kΩ	L6
R44	V7, V8 S.G. stoppers	1·1kΩ	L7
R45	V8 anode stopper	68Ω	H5
R46	Motor voltage adj.	§120Ω	J5
R47	V7, V8 heater current boost	1·49kΩ	J5
R48	V7, V8 heater current boost	500Ω	L7
R49	V7, V8 heater current boost	500Ω	L7
R50	Thermistor CZ2	—	J5
R51	Heater ballast resistors	410Ω	J5
R52	Heater ballast resistors	§120Ω	J5
R53	Heater ballast resistors	550Ω	J5
R54	Heater ballast resistors	140Ω	J5

‡ Two 68Ω resistors in parallel.
§ Tapped at 60Ω+60Ω.
* Tapped at 410Ω+60Ω+60Ω from R32.
† Two 10kΩ resistors in series.

Valve	Anode V	Anode mA	Screen V	Screen mA	Cath. V
V1 6K8GT	192 (Oscillator) 105	2·6 4·0	110	5·4	—
V2 6K7GT	195	4·7	110	2·4	—
V3 6Q7GT	95	0·4	—	—	1·2
V4 25L6GT	175	66·0	135	4·5	—
V5 25Z4GT	220†	—	—	—	230·0
V6 a	68	3·0	—	—	—
12AU7 b	68	3·0	—	—	—
V7 185BT	175	115·0	165	16·0	9·5
V8 185BT	175	115·0	165	16·0	9·5

† A.C. reading.

	CAPACITORS (*Continued*)	Values	Locations
C23	P.U. isolators	0·1μF	F4
C24	P.U. isolators	0·1μF	F4
C25	A.F. coupling	0·1μF	F3
C26*	H.T. smoothing	8μF	E3
C27	A.F. coupling	0·01μF	F4
C28	I.F. by-pass	250pF	E4
C29	A.G.C. decoupling	0·01μF	F4
C30*	G.B. by-pass	50μF	E3
C31*	V4 S.G. decoup.	8μF	E3
C32	Part tone control	0·05μF	D3
C33	Mains R.F. filter	0·05μF	E4
C34*	H.T. smoothing	16μF	C1
C35*	H.T. smoothing	16μF	C1
C36*	H.T. smoothing	12μF	D3
C37‡	S.W. aerial trim.	—	G3
C38‡	M.W. aerial trim.	—	G3
C39‡	L.W. aerial trim.	—	G3
C40†	Aerial tuning	—	A1
C41‡	S.W. osc. trim.	—	F3
C42‡	M.W. osc. trim.	—	F3
C43‡	L.W. osc. trim.	—	F3
C44†	Oscillator tuning	—	A1
C45§	H.T. decoupling	4μF	K6
C46	Multi-vibrator reaction coup.	0·1μF	K7
C47	Multi-vibrator reaction coup.	0·1μF	K6
C48	Osc. anode tune	0·2μF	J5
C49	Osc. coupling	0·5μF	L7
C50	Osc. coupling	0·5μF	L6

*Electrolytic. †Variable. ‡Pre-set.
§Paper type, not electrolytic.

	OTHER COMPONENTS	Approx. Values (ohms)	Locations
L1	I.F. filter	1·8	G4
L2	S.W. aerial coup.	—	G3
L3	Aerial tuning coils	—	G3
L4	Aerial tuning coils	1·7	G3
L5	Aerial tuning coils	40·0	G3
L6	Reaction coupling	0·4	F3
L7	Reaction coupling	1·0	F3
L8	Oscillator tuning	—	F3
L9	Oscillator tuning	5·5	F3
L10	Oscillator tuning	17·5	F3
L11	1st I.F. trans. Pri.	9·0	A2
L12	1st I.F. trans. Sec.	9·0	A2
L13	2nd I.F. trans. Pri.	6·0	A2
L14	2nd I.F. trans. Sec.	6·0	A2
L15	Speech coil	2·5	—
L16	Smoothing choke	140·0	C1
L17	Converter osc. coil	650·0	J5
L18	Gram. motor coils	230·0	—
L19	Gram. motor coils	230·0	—
T1	O.P. trans. Pri.	500·0	E3
	O.P. trans. Sec.	0·5	
T2	Converter Pri., total	50·0	H5
	O.P. trans Sec.	65·0	
S1-S14	Waveband switches	—	G3
S15, S16	Mains sw., g'd R14	—	E3
S17-S19	Converter switches	—	M7
S20	Gram. motor sw.	—	—

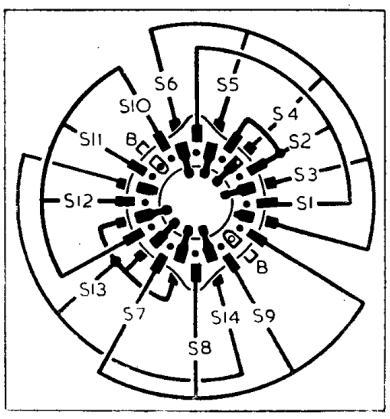


Diagram of the waveband switch unit, drawn as seen from the rear of an inverted chassis.

Swithces	S.W.	M.W.	L.W.	Gram.
S1	C	—	—	—
S2	—	C	C	—
S3	C	—	—	—
S4	—	C	—	—
S5	—	—	C	—
S6	—	—	—	C
S7	C	—	—	—
S8	—	C	—	—
S9	—	—	C	—
S10	C	—	—	—
S11	—	C	—	—
S12	—	—	C	—
S13	C	C	C	—
S14	—	—	—	C

CIRCUIT ALIGNMENT

It is necessary before carrying out the following alignment procedure to remove the chassis from its cabinet in order to make all the core and trimmer adjustments accessible.

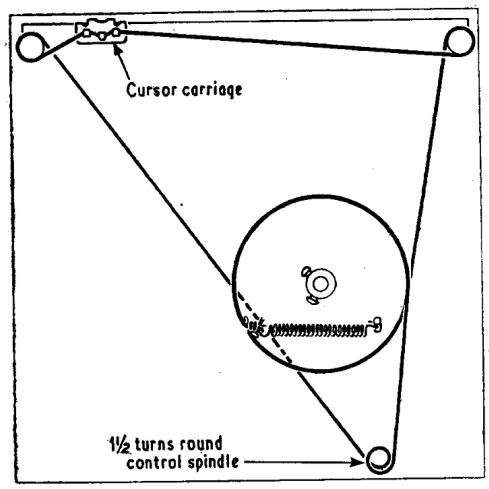
I.F. Stages.—Switch receiver to M.W. and turn gang to maximum capacitance. Connect output of signal generator, via 0.1 μF capacitor in each lead, to control grid (top cap) of **V1** and chassis. Feed in a 472 kc/s (635.6 m) signal and adjust the cores of **L14** (location reference **F4**), **L13** (A2), **L12** (G4) and **L11** (A2) for maximum output. Repeat those adjustments.

R.F. and Oscillator Stages.—Transfer signal generator leads, via a suitable dummy aerial, to **A** and **E** sockets.

L.W.—Switch receiver to L.W., tune to 2,000 m, feed in a 2,000 m (150 kc/s) signal and adjust the cores of **L10** (F3) and **L5** (G3) for maximum output. Tune receiver to 1,000 m, feed in a 1,000 m (300 kc/s) signal and adjust **C43** (F3) and **C39** (G3) for maximum output. Repeat these adjustments.

M.W.—Switch receiver to M.W., tune to 500 m, feed in a 500 m (600 kc/s) signal and adjust the cores of **L9** (F3) and **L4** (G3) for maximum output. Tune receiver to 200 m, feed in a 200 m (1,500 kc/s) signal and adjust **C42** (F3) and **C38** (G3) for maximum output. Repeat these adjustments.

S.W.—Switch receiver to S.W., tune to 50 m, feed in a 50 m (6 Mc/s) signal and adjust the cores of **L8** (F3) and **L3** (G3) for maximum output. Tune receiver to 20 m, feed in a 20 m (15 Mc/s) signal and adjust **C41** (F3) and **C37** (G3) for maximum output. Repeat these adjustments.



Sketch of the drive cord system, drawn as seen from the rear of the chassis, neglecting obstructions.

Drive Cord Replacement.—About 50 inches of high-grade flax fishing line is required for a new drive cord, which should be run as shown in the sketch in col. 6 where it is drawn as seen from the rear of the chassis, neglecting obstructions, when the gang is at maximum capacitance.