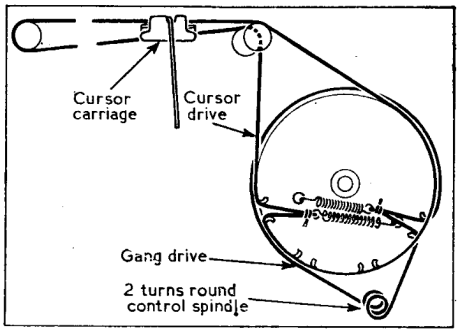
PHILCO - B2810, B2855



Tuning drive cord system, viewed from the front with gang at maximum.

Valve	Anode		Screen		Cath.
	V	mA	V	mA	V
V1 14S7	120	1·0	130	2·0	—
	Oscillator 96	2·0			
V2 7B7	120	4·8	130	1·0	—
V3 12Q7	34	0·2	—	—	—
V4 50L6	118	49·0	120	3·0	7·6
V5 35Z4	160†	—	—	—	142·0

† A.C.

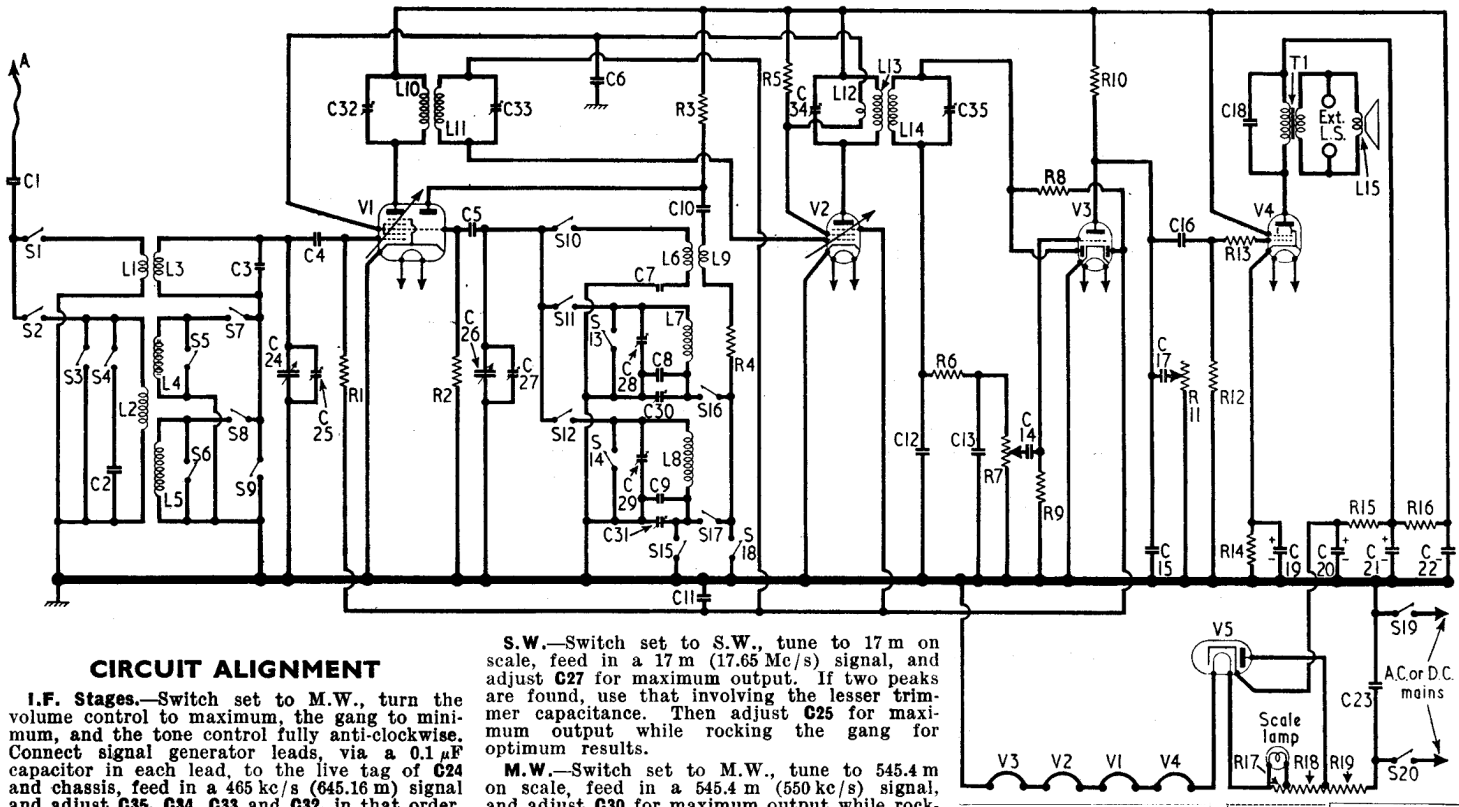
Intermediate frequency 465 kc/s.

CAPACITORS		Values	Locations
C1	Aerial series ...	0·002μF	H3
C2	L.W. shunt ...	0·001μF	H3
C3	S.W. trimmer ...	20pF	G3
C4	V1 hept. C.G. ...	100pF	G4
C5	V1 osc. C.G. ...	100pF	G4
C6	V1 screen decoup.	0·05μF	G4
C7	S.W. tracker ...	3,790pF	H4
C8	M.W. tracker ...	430pF	H4
C9	L.W. tracker ...	80pF	H4
C10	Osc. anode coup.	220pF	G3
C11	A.G.C. decoupling	0·05μF	G3
C12	I.F. by-passes ...	100pF	C2
C13		100pF	C2
C14	A.F. coupling ...	0·005μF	C1
C15	I.F. by pass ...	470pF	F3
C16	A.F. coupling ...	0·01μF	F3
C17	Tone control ...	0·005μF	F3
C18	Tone corrector ...	0·02μF	G3
C19*	Cath. by-pass ...	10μF	B1
C20*	H.T. smoothing ...	40μF	B1
C21*		30μF	B1
C22*		20μF	B1
C23	R.F. by-pass ...	0·05μF	E3
C24†	Aerial tuning ...	420pF‖	A2
C25‡	S.W. trimmer ...	—	A2
C26†	Osc. tuning ...	420pF‖	A1
C27‡	S.W. trimmer ...	—	A1
C28‡	M.W. trimmer ...	20pF	H4
C29‡	L.W. trimmer ...	40pF	H4
C30‡	M.W. tracker ...	40pF	H4
C31‡	L.W. tracker ...	40pF	H4
C32‡	I.F. transformer tuning	—	B2
C33‡		—	B2
C34‡		—	C2
C35‡		—	C2

* Electrolytic. † Variable. ‡ Pre-set.
‖ Swing value, minimum to maximum.

RESISTORS		Values	Locations
R1	V1 hept. C.G. ...	1MΩ	G4
R2	V1 osc. C.G. ...	68kΩ	G4
R3	V1 osc. H.T. feed	10kΩ	G4
R4	React. stabiliser	82Ω	H4
R5	Screen H.T. feed	20kΩ	F4
R6	I.F. stopper ...	47kΩ	C2
R7	Volume control ...	500kΩ	D1
R8	A.G.C. decoup. ...	2·2MΩ	F3
R9	V3 triode C.G. ...	10MΩ	C1
R10	V3 anode load ...	470kΩ	F3
R11	Tone control ...	500kΩ	E3
R12	V4 C.G.	470kΩ	F3
R13	Grid stopper ...	1·2kΩ	F3
R14	V4 G.B.	150Ω	F4
R15	H.T. smoothing ...	150Ω	G3
R16		1kΩ	G3
R17	Heater ballast ...	50Ω	D2
R18		275Ω	D2
R19		320Ω	D2

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Aerial coupling coils	2·2	G3
L2		28·0	A2
L3	Aerial tuning coils	Very low	G3
L4		3·8	A2
L5		37·0	A2
L6	Oscillator tuning coils	Very low	H4
L7		2·6	H4
L8		22·0	H4
L9	S.W. reaction ...	0·8	H4
L10	1st I.F. trans. Pri.	33·0	B2
L11	1st I.F. trans. Sec.	33·0	B2
L12	I.F. stabiliser ...	Very low	C2
L13	2nd I.F. trans. Pri.	22·0	C2
L14	2nd I.F. trans. Sec.	22·0	C2
L15	Speech coil ...	2·8	—
T1	O/put trans. Pri.	270·0	G3
	Sec.	0·4	—
S1-S18	Waveband switch	—	H3
S19, S20	Mains sw., g'd R11	—	E3



CIRCUIT ALIGNMENT

I.F. Stages.—Switch set to M.W., turn the volume control to maximum, the gang to minimum, and the tone control fully anti-clockwise. Connect signal generator leads, via a 0.1 μF capacitor in each lead, to the live tag of **C24** and chassis, feed in a 465 kc/s (645.16 m) signal and adjust **C35, C34, C33** and **C32,** in that order, for maximum output.

R.F. and Oscillator Stages.—With the gang at maximum capacitance, the cursor should coincide with the dots on vertical lines at the long wavelength ends of the scales. Transfer "live" signal generator lead to the aerial lead, using a 400Ω resistor for the S.W. band, and a 200 pF capacitor for M.W. and L.W. bands, as a dummy aerial. The S.W. band must be adjusted first, and if it is subsequently disturbed the complete alignment must be repeated on all three bands.

S.W.—Switch set to S.W., tune to 17 m on scale, feed in a 17 m (17.65 Mc/s) signal, and adjust **C27** for maximum output. If two peaks are found, use that involving the lesser trimmer capacitance. Then adjust **C25** for maximum output while rocking the gang for optimum results.

M.W.—Switch set to M.W., tune to 545.4 m on scale, feed in a 545.4 m (550 kc/s) signal, and adjust **C30** for maximum output while rocking the gang for optimum results. Tune to 200 m, feed in a 200 m (1,500 kc/s) signal and adjust **C28** similarly, while rocking the gang. Then repeat both adjustments.

L.W.—Switch set to L.W., tune to 2,000 m on scale, feed in a 2,000 m (150 kc/s) signal, and adjust **C31** for maximum output while rocking the gang for optimum results. Tune to 800 m, feed in an 800 m (375 kc/s) signal, and similarly adjust **C29** while rocking the gang. Then repeat both adjustments.

Switch	L.W.	M.W.	S.W.
S1	o	o	o
S2	o	—	o
S3	o	—	o
S4	—	—	o
S5	—	o	o
S6	o	—	o
S7	—	o	o
S8	o	—	o
S9	—	o	o
S10	o	—	o
S11	—	o	o
S12	o	—	o
S13	—	o	o
S14	o	—	o
S15	—	o	o
S16	o	—	o
S17	—	o	o
S18	o	—	o

Diagrams of the waveband switch units as seen from the rear of an inverted chassis. Above is the associated switch table.