

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Aerial coupling ...	—	—
L2	Frame aerial ...	—	—
L3	L.W. loading coil ...	16.0	B2
L4	Oscillator tuning coils ...	3.0	A1
L5		6.0	A1
L6	Oscillator reaction coils ...	2.0	A1
L7		6.0	A1
L8	1st I.F. trans. { Pri.	15.0	B2
L9		Sec.	15.0
L10	2nd I.F. trans. { Pri.	15.0	B2
L11		Sec.	15.0
L12	Speech coil ...	3.0	—
T1	O.P. { Pri.	900.0	C1
	trans. { Sec.	—	
S4-S3	Waveband switches	—	G3
S4, S5	Battery switches...	—	D3

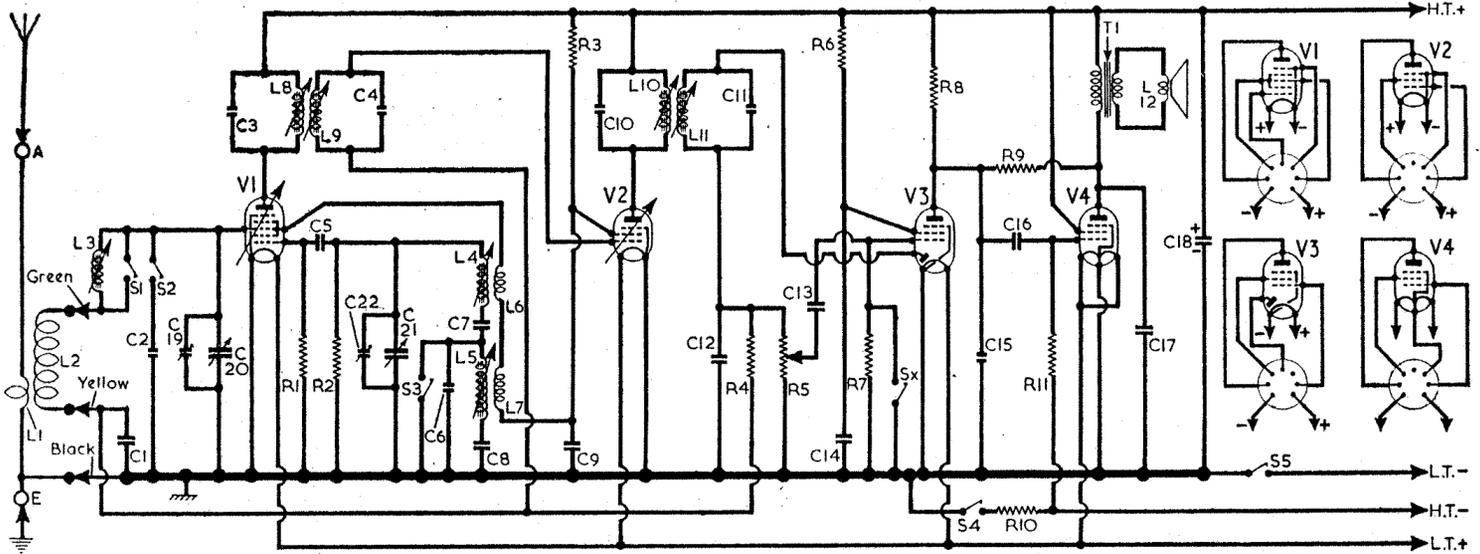
KOLSTER-BRANDES FP11

RESISTORS		Values	Locations
R1	V1 osc. C.G. ...	100kΩ	F4
R2	Oscillator shunt ...	33kΩ	A1
R3	V1, V2 S.G. feed ...	22kΩ	E4
R4	A.G.C. decoupling ...	2.2MΩ	E4
R5	Volume control ...	1MΩ	C1
R6	V3 S.G. feed ...	3.3MΩ	D4
R7	V2 C.G. ...	10MΩ	D4
R8	V3 anode load ...	1MΩ	D4
R9	Neg. feed back ...	6.8MΩ	D4
R10	V4 G.B. ...	680Ω	D3
R11	V4 C.G. ...	3.3MΩ	D4

CAPACITORS		Values	Locations
C1	A.G.C. decoupling	0.05μF	F4
C2	L.W. trimmer ...	60pF	A1
C3	1st I.F. trans. { tuning ...	88pF	B2
C4		88pF	
C5	V1 osc. C.G. ...	100pF	G4
C6	L.W. trimmer ...	45pF	A1
C7	Oscillator trackers	600pF	A1
C8		400pF	
C9	Screen decoupling	0.02μF	A1
C10	2nd I.F. trans. { tuning ...	88pF	B2
C11		88pF	
C12	I.F. by-pass ...	230pF	E4
C13	A.F. coupling ...	0.005μF	C2
C14	V3 S.G. decoup. ...	0.02μF	E3
C15	I.F. by pass ...	50pF	E4
C16	A.F. coupling ...	0.002μF	D4
C17	Tone corrector ...	0.005μF	D4
C18*	H.T. reservoir ...	8μF	C2
C19†	M.W. aerial trim.	35pF	A2
C20†	Aerial tuning ...	—	A2
C21†	Oscillator tuning ...	—	A2
C22†	M.W. osc. trim. ...	35pF	A2

Intermediate frequency 422 kc/s.

*Electrolytic. †Variable. ‡Pre set.



CIRCUIT ALIGNMENT

As all the core and trimmer adjustments are accessible on opening the carrying case, it is not necessary to remove the chassis for the following alignment adjustments.

I.F. Stages.—Connect output of signal generator, via an 0.1 μF capacitor in the "live" lead, to control grid (pin 6) of V1 and chassis. Switch receiver to M.W., turn gang to minimum capacitance, feed in a 422 kc/s (710.8 m) signal and adjust the cores of L11 (location reference B2), L10 (E4), L9 (B2) and L8 (F4) for maximum output, reducing the input as the circuits come into line to avoid A.G.C. effects.

R.F. and Oscillator Stages.—As the tuning scale is fixed to the carrying case, reference must be made to the four calibration marks along the lower edge of the scale backing plate if the chassis is withdrawn for alignment. A corresponding set of four calibration dots are marked on the tuning scale, above and below the line separating the M.W. and L.W. scales. The calibration points on both the backing plate and the tuning scale are as follows, from left to right: 200 m; 1,714 m; 500 m; Max. capacitance.

Check that with the gang at maximum the cursor coincides with the "Max. capacitance" point on the backing plate or on the scale. Transfer signal generator output, via a dummy aerial to A and E sockets.

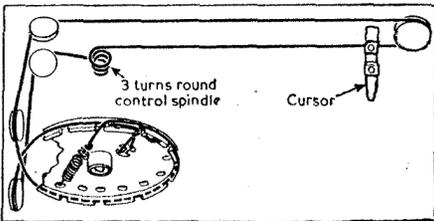
M.W.—Switch receiver to M.W., tune to 500 m calibration point, feed in a 500 m (600 kc/s) signal and adjust the core of L4 (G3) for maximum output. Tune receiver to 200 m, feed in a 200 m (1,500 kc/s) signal and adjust C22 (A2) and C19 (A2) for maximum output. Repeat these adjustments, rocking the gang when adjusting C19 for optimum results.

L.W.—Switch receiver to L.W., tune to 1,714 m, connect a small capacitor of approximately 1 pF across L2 (about an inch of lighting flex would do), feed in a 1,714 m (175 kc/s) signal and adjust the core of L5 (G3) and L3 (F4) for maximum output. Repeat these adjustments, and finally remove the 1 pF capacitor from L2.

Drive Cord Replacement.—About 40 inches of high-grade flax fishing line, plaited and waxed, is required for a new tuning drive cord, which should be fitted as shown in the sketch (col. 2). Here the system is drawn as seen when looking obliquely at the outer face of the drive drum, while the chassis is still in its carrying case.

A start is made by hooking a loop at one end of the cord to one of the projecting lugs in the drum moulding while the gang is at minimum capacitance, and making a quarter-turn anti-clockwise round the drum, thereafter pulling against the gang stop. The cursor can be fitted afterwards, being held in position by a dab of cement and being adjusted to cover the datum mark with the gang at maximum before the cement sets.

Valve	Anode		Screen	
	V	mA	V	mA
V1 1R5	82	0.3	39	1.4
V2 1F4	82	1.2	39	0.4
V3 1U5	18	0.06	19	0.015
V4 3V4	77	4.4	82	1.0



Sketch showing the drive cord system, drawn as seen from a three-quarter rear perspective.