

FERRANTI - 915

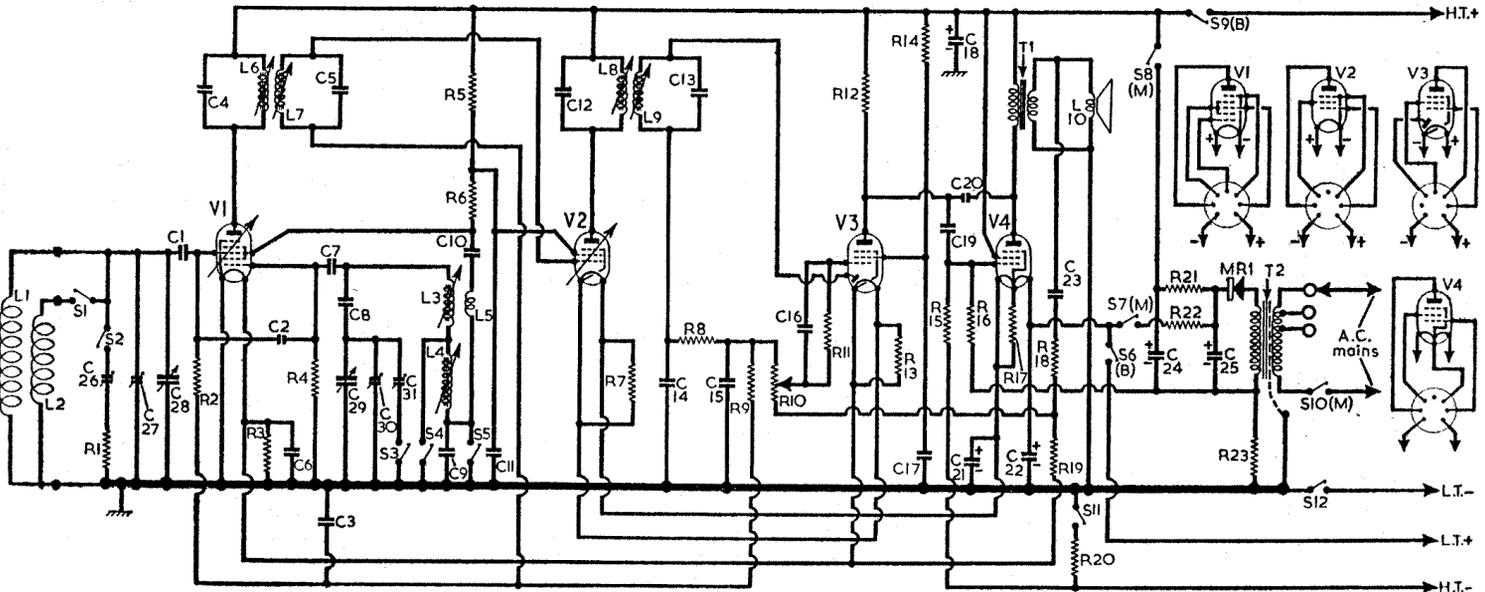
OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	L.W. frame aerial	16-0	—
L2	M.W. frame aerial	1-3	—
L3	Oscillator tuning coils	2-0	B2
L4		4-5	B2
L5	Osc. reaction ...	1-0	B2
L6	1st I.F. trans.	7-5	D4
L7		7-5	D4
L8	2nd I.F. trans.	7-5	D3
L9		5-5	D3
L10	Speech coil ...	2-3	E3
T1	O.P. trans.	690-0	—
T2		0-6	D3
S1-S5	Waveband switches	250-0	—
S6-S10		120-0	F5
S11, S12	Mains/battery sw.	—	F4
S11, S12	Safety switches ...	—	E3

Valve	Anode		Screen	
	V	mA	V	mA
V1 6XK91	90-0	0-8	34	1-1
V2 6DF91	90-0	1-6	47	0-45
V3 6AF91	3-5	0-06	1	0-02
V4 6L94	84-0	4-7	90	0-9

CAPACITORS		Values	Locations
C1	V1 C.G. ...	200pF	C5
C2	Osc. neutralizing ...	3pF	C4
C3	A.G.C. decoupling	0-05μF	D3
C4	1st I.F. trans. tuning	100pF	D4
C5		100pF	D4
C6	Filament by-pass	0-1μF	C5
C7	V1 osc. C.G.	100pF	C4
C8	Oscillator trackers	550pF	C5
C9		200pF	C4
C10	Reaction coupling	200pF	C4
C11	S.G. decoupling ...	0-05μF	C3
C12	2nd I.F. trans. tuning	100pF	D3
C13		180pF	D3
C14	I.F. by-passes	100pF	C3
C15		100pF	C3
C16	A.F. coupling ...	0-005μF	D3
C17	V3 S.G. decoupl.	0-05μF	D3
C18*	H.T. reservoir ...	2μF	C3
C19	A.F. coupling ...	0-001μF	C3
C20	Neg. feed-back ...	15pF	C3
C21*	Filament by-passes	500μF	B1
C22*		50μF	F3
C23	Neg. feed-back ...	0-05μF	D3
C24*		32μF	F3
C25*	H.T. smoothing ...	32μF	F3
C26†	L.W. aerial trim	200pF	B1
C27†	M.W. aerial trim	21-5pF	D5
C28†	Aerial tuning ...	523pF	C5
C29†	Oscillator tuning	523pF	C5
C30†	M.W. osc. trim ...	60pF	B2
C31†	L.W. osc. trim ...	120pF	B2

RESISTORS		Values	Locations
R1	L.W. aerial damp ...	33Ω	B1
R2	V1 C.G. ...	2-2MΩ	C4
R3	Filament shunt ...	150Ω	C4
R4	V1 osc. C.G.	100kΩ	C4
R5	S.G. H.T. feed ...	18kΩ	C3
R6	Osc. anode load ...	8-2kΩ	C1
R7	Filament shunt ...	120Ω	C3
R8	I.F. stopper ...	100kΩ	C3
R9	A.G.C. decoupling	2-2MΩ	D3
R10	Volume control ...	500kΩ	B1
R11	V3 C.G. ...	2-2MΩ	D3
R12	V3 anode load ...	1MΩ	D3
R13	Filament shunt ...	150Ω	C3
R14	V3 S.G. feed ...	3-9MΩ	C3
R15	V4 C.G. resistors ...	2-2MΩ	C3
R16		2-2MΩ	C3
R17	Filament shunt ...	430Ω	C3
R18	Neg. feed-back ...	10kΩ	D3
R19		1kΩ	B1
R20	V4 G.B. ...	200Ω	D3
R21	H.T. smoothing ...	1kΩ	F3
R22	Filament ballast ...	1-9kΩ	F4
R23	V4 G.B. ...	56Ω	F3

Intermediate frequency 470 kc/s. * Electrolytic. † Variable. ‡ Pre-set.



CIRCUIT ALIGNMENT

To gain access to the I.F. core adjustments the chassis should be removed from its carrying case, and, with the frame aerial still connected, placed in a convenient position on the bench. When making adjustments to the I.F. tuning cores, care should be taken to see they are not screwed through to the second tuning position, which will result in over-coupling.

I.F. Stages.—Switch receiver to L.W. and turn gang to maximum capacitance. Connect output from signal generator, via an 0.1μF capacitor in the "live" lead, to control grid (pin 6) of V1 and chassis. Feed in a 470 kc/s (638.3 m) signal and adjust the cores of L9, L8, L7 and L6 (location references B1, D4, B2) for maximum output. Repeat these adjustments, reducing the input as the circuits come into line, until no further improvement results.

R.F. and Oscillator Stages.—The following adjustments must be carried out with the chassis in the carrying case, but with the escutcheon removed so that the trimmers and cores are accessible. In order to adjust the core of L3, the core of L4 (B2) should be removed and the trimming tool can then be inserted through the coil former to engage in the top of L3 core; and for this reason M.W. adjustments must always be followed by L.W. re-alignment.

Connect the signal generator output to a loop consisting of two turns of stout copper wire approximately 10in in diameter and placed 12in behind and parallel to the receiver frame aerials. Check that with the gang at maximum capacitance the cursor coincides with the 550 m mark on the tuning scale.

M.W.—Switch receiver to M.W., tune to 200 m, feed in a 200 m (1,500 kc/s) signal, and adjust C30 (B2) and C27 (A2) for maximum output. Tune receiver to 500 m, feed in a 500 m (600 kc/s) signal, and removing the core of L4 (B2) adjust the core of L3 (through the coil former) for maximum output. Repeat these adjustments until no further improvement results and then replace the core of L4.

L.W.—Switch receiver to L.W., tune to 1,000 m, feed in a 1,000 m (300 kc/s) signal and adjust C31 (B2) and C26 (B1) for maximum output. Tune receiver to 1,800 m, feed in a 1,800 m (167 kc/s) signal and adjust the core of L4 (B2) while rocking the gang for optimum results. Repeat these adjustments until no further improvement results.

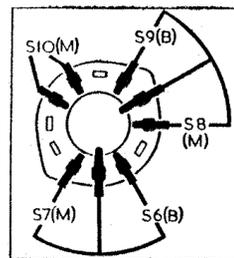
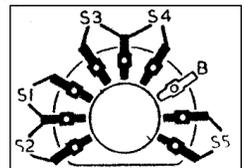


Diagram of the mains/battery/off switch unit, viewed as seen in our underside view of the chassis.

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



Drive Cord replacement.—About 20 inches of high-grade fishing line, plaited and waxed, is required for a new drive cord, which should be run as shown in our plan view of the chassis. Part of the chassis is cut off in this illustration to save space, but the drive system is quite simple. The end loops terminate at the tension spring, but before running the cord a point about 4.5in from one end is folded and looped through the drive drum, as shown inset.