

Switch Table

Switch	S.W.	M.W.	L.W.
S1	C	—	—
S2	—	C	—
S3	—	—	C
S4	C	—	—
S5	—	C	—
S6	—	—	C
S7	C	—	—
S8	—	C	—
S9	—	—	C
S10	C	—	—
S11	—	C	—
S12	—	—	C

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Aerial S.W. coup....	0-1	H3
L2	Aerial M.W. coup.	1-2	A1
L3	Aerial S.W. tune....	0-1	H3
L4	Aerial M.W. tune.	3-0	A1
L5	Aerial L.W. tune....	26-0	H3
L6	Osc. S.W. tuning ...	0-1	B2
L7	Osc. M.W. tuning...	1-6	G4
L8	Osc. L.W. tuning...	9-5	B2
L9	Osc. S.W. reaction	0-1	B2
L10	Osc. M.W. reaction	1-6	G4
L11	Osc. L.W. reaction	3-0	B2
L12	Osc. S.W. "Booster"	0-9	B2
L13	1st I.F. trans. { Pri.	8-0	C2
L14		8-0	C2
L15	2nd I.F. trans. { Pri.	8-0	D2
L16		6-0	D2
L17	Speech coil { Sec.	2-5	C1
T1	Output trans. { Sec.	500-0	C1
S1-S12	Waveband switches	—	A2
S13, S14	Mains sw., g'd R10	—	D2

FERGUSON - 208U

Valve	Anode		Screen		Cath.
	V	mA	V	mA	
V1 UCH42	155 Oscillator 84	2-7 3-0	72	2-4	—
V2 UAF42	178	4-5	72	1-45	—
V3 UL41	159	42-0	155	7-1	7-1
V4 UY41	225†	—	—	—	210-0

† A.C.

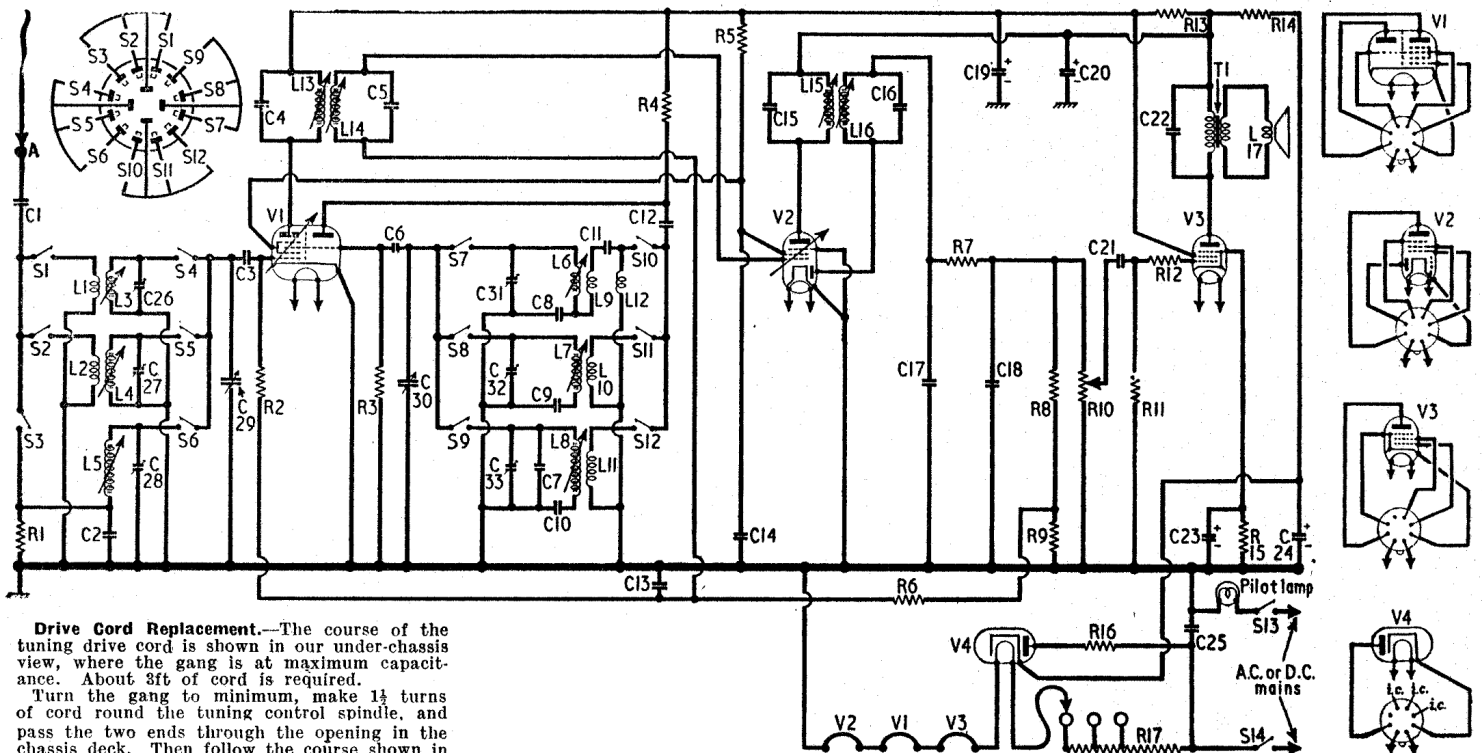
RESISTORS		Values	Locations
R1	Aerial coupling ...	27kΩ	H3
R2	V1 hex. C.G. ...	1MΩ	H4
R3	V1 osc. C.G. ...	47kΩ	H4
R4	V1 osc. H.T. feed	22kΩ	H4
R5	V1, V2 S.G. H.T. feed ...	22kΩ	H4
R6	A.G.C. line de-coupling ...	1MΩ	F3
R7	I.F. stopper ...	47kΩ	E4
R8	A.G.C. feed potential divider ...	2MΩ	E3
R9		1MΩ	F3
R10	Volume control ...	500kΩ	D1
R11	V3 C.G. resistor ...	1MΩ	E4
R12	V3 grid stopper ...	4-7kΩ	E4
R13	H.T. smoothing {	1-2kΩ	F4
R14		470Ω	F4
R15	V3 G.B. ...	150Ω	E4
R16	Surge limiter ...	150Ω	B2
R17	Heater ballast* ...	1-4kΩ	B2

* Tapped at 200Ω + 200Ω from V4 heater.

CAPACITORS		Values	Locations
C1	Aerial series ...	0-005μF	H4
C2	"Bottom" coupling	0-0025μF	H3
C3	V1 hex. C.G. ...	200pF	B2
C4	1st I.F. trans. former tuning ...	100pF	C2
C5	V1 osc. C.G. ...	100pF	C2
C6	Osc. L.W. trimmer	50pF	H4
C7	Osc. S.W. tracker	30pF	B2
C8	Osc. M.W. tracker	0-008μF	B2
C9	Osc. L.W. tracker	605pF	G4
C10	Osc. S.W. "Boost" ...	155pF	B2
C11	Osc. anode coupling ...	100pF	B2
C12	A.G.C. line de-coupling ...	200pF	H4
C13	V1, V2 S.G.'s de-coupling	0-02μF	F3
C14	2nd I.F. trans. former tuning ...	0-1μF	H4
C15	I.F. by-passes ...	100pF	D2
C16	I.F. by-passes ...	180pF	D2
C17		100pF	E4
C18	H.T. smoothing ...	100pF	E3
C19*		8μF	D1
C20*	A.F. coupling ...	24μF	D1
C21	Tone corrector ...	0-002μF	E4
C22	V3 cath. by-pass ...	0-005μF	C2
C23*	H.T. smoothing ...	25μF	E4
C24*	Mains R.F. by-pass	16μF	D1
C25	Aerial S.W. trimmer	0-01μF	D2
C26†	Aerial M.W. trimmer	50pF	A2
C27†	Aerial L.W. trimmer	50pF	A1
C28†	Aerial tuning ...	528pF	B1
C29†	Oscillator tuning ...	528pF	B1
C30†	Osc. S.W. trimmer	50pF	B2
C31†	Osc. M.W. trimmer	50pF	B2
C32†	Osc. L.W. trimmer	50pF	B2

* Electrolytic. † Variable. ‡ Pre-set. § "Swing" value, min. to max.

Intermediate frequency 470 kc/s.



Drive Cord Replacement.—The course of the tuning drive cord is shown in our under-chassis view, where the gang is at maximum capacitance. About 3ft of cord is required.

Turn the gang to minimum, make 1½ turns of cord round the tuning control spindle, and pass the two ends through the opening in the chassis deck. Then follow the course shown in our photograph, tying off the upper (front) cord length first to the anchor tag on the drum face and pulling against the gang stop while fitting the remaining length of cord. The tension spring should be extended to 1½in. Set the cursor as explained under "Circuit Alignment."

CIRCUIT ALIGNMENT

I.F. Stages.—Switch set to M.W., turn the gang and volume control to maximum. Disconnect C3 from C29, connect the "live" signal generator lead to the free end of C3 and the other lead via 0.1μF capacitor to chassis. Feed in a 470 kc/s (638.3 m) signal, and adjust the cores of L13, L14, L15 and L16 (location references C2, D2 and F4) for maximum output, keeping input low to avoid A.G.C. action. Reconnect C3 to C29.

R.F. and Oscillator Stages.—Transfer "live" signal generator lead via a suitable dummy aerial to the tag marked A in our under-chassis view (H4). Before commencing this part of the work, it is necessary to mark three calibration points on the scale backing plate, as the scale panel remains in the cabinet.

Slip the chassis into the cabinet, and adjust the cursor to 2,000 m on scale; remove the chassis, and mark the position of the cursor on the scale backing plate. Repeat the procedure at 212 m, then at 555.5 m. Name these three positions "Max," "Trim" and "Track." "Max" is the correct position for the cursor when the gang is at maximum capacitance. Location references are A1, A2 and B2.

S.W.—Switch set to S.W. tune to "Trim," feed in a 16 Mc/s (18.75 m) signal, and adjust C31, then C26, for maximum output. Tune to "Track," feed in a 5.75 kc/s (52.2 m) signal, and adjust the cores of L6 and L3 for maximum output. Repeat these adjustments until no improvement can be obtained.

M.W.—Switch set to M.W., tune to "Trim," feed in a 212 m (1,416 kc/s) signal and adjust C32, then C27, for maximum output. Tune to "Track," feed in a 555.5 m (540 kc/s) signal, and adjust L7 and L4 for maximum output. Repeat these adjustments until no improvement can be obtained.

L.W.—Switch set to L.W., tune to "Trim," feed in an 845 m (355 kc/s) signal, and adjust C33, then C28, for maximum output. Tune to "Track," feed in a 1,935 m (155 kc/s) signal, and adjust L8 and L5 for maximum output. Repeat these adjustments until no improvement can be obtained.

