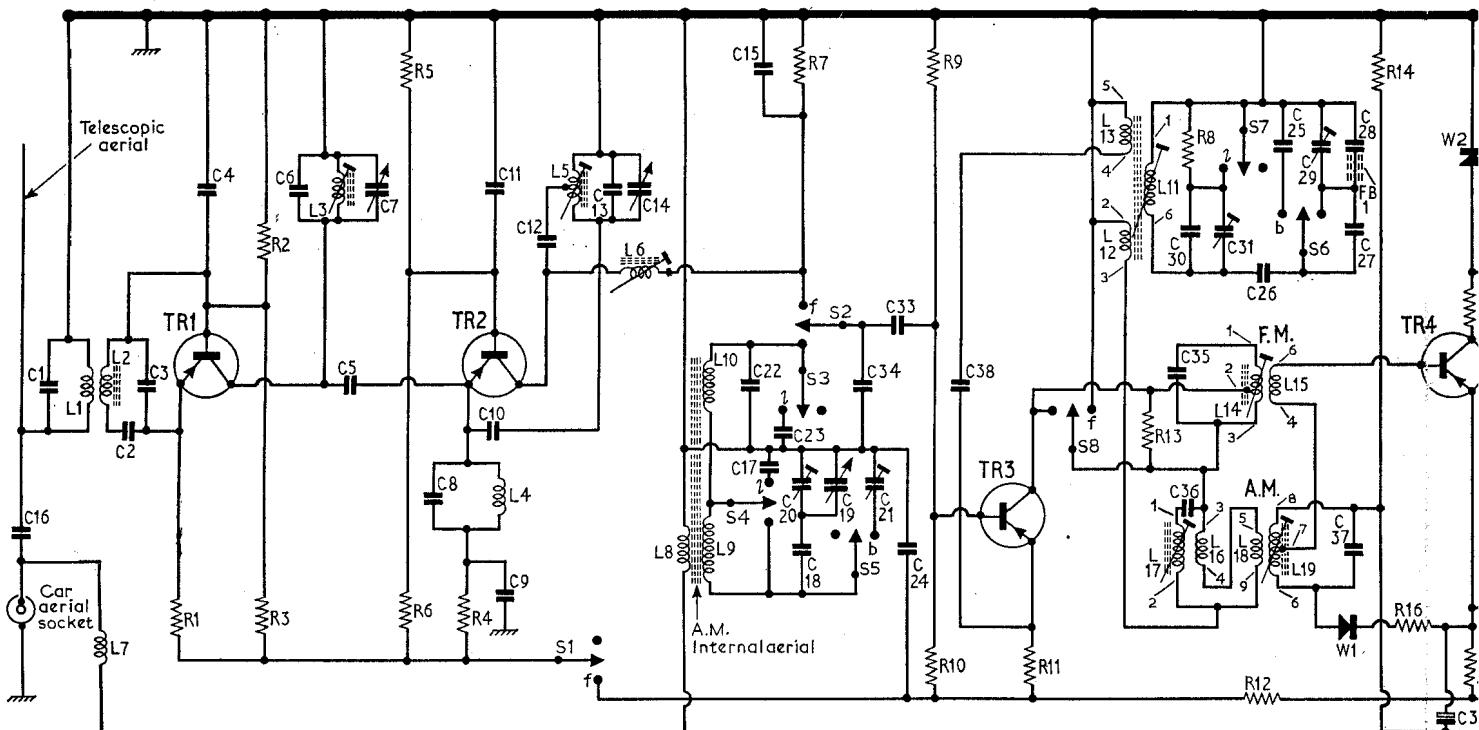
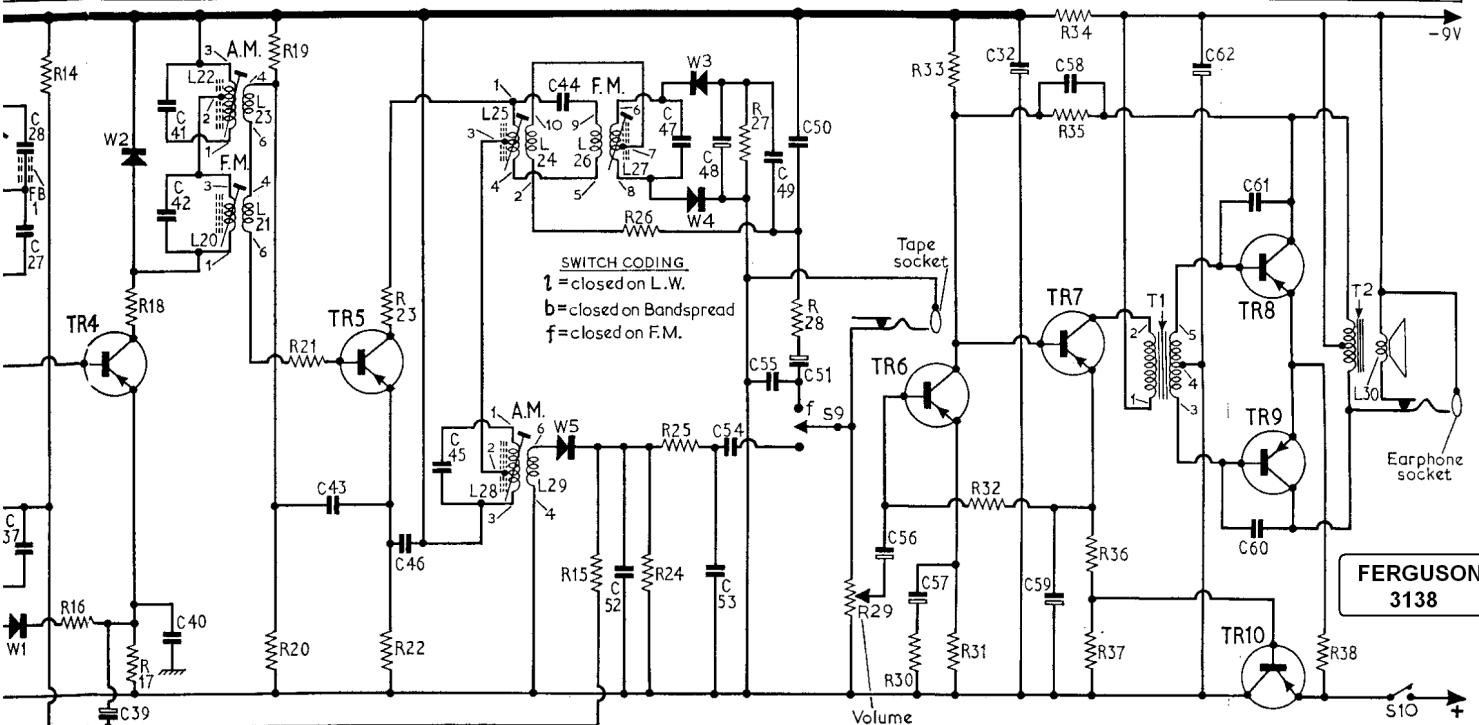


C	161	2	3	4	6	5	7	8	10,11,9	12	13	14		22,15,17,23,20,18,19,3,4,21,33,24	38		35,36,30,31	26,25	29	28,27,37	39		
R				1	2,3		5,6	4						7	9,10	11	13	8	12		14	16	17,
L	1,2,7				3			4	5	6	8,9,10					11,12,13,16,17	14,15,18,19						



28,27,37	39	40,41,42	43	46	45	44	52	47	53,48,54,49,55,50,51	56	57	32	59,58	62	60,61	C
14	16	17,18	19,20,21	22,23		15	24,26,25	27	28	29	30	33,31,32	34,35,36,37		38	R
		20,21,22,23		24,25,28,29	26,27							T1		T2	30	L



Transistor Table

Transistor		Emitter (V)	Base (V)	Collector (V)
TR1	AF124	—	1·0	—
TR2	AF125	—	—	7·0
TR3	AF116	{ * + 0·85	1·2 1·0	8·0 6·7
TR4	AF116	{ * + 0·43	0·6	7·2
TR5	AF116	{ * + 0·4	0·56	6·3
TR6	AC155	{ * + 1·24	1·4	6·65
TR7	AC113	{ * + 1·5	1·35	6·3
TR8	AC154	{ * + 0·7	0·8	1·42
TR9	AC154	{ * + 0·6	0·7	1·35
TR10	AC169	{ * + 1·3	1·42	8·4
		{ * + 1·25	1·35	8·4
		{ * + 0·12	0·12	—
		{ * + 0·13	0·13	—
		{ * + 0·12	0·12	—
		{ * + 0·13	0·13	—
		—	—	—

Resistors

R1	560Ω	C2	R25	4.7kΩ	B2
R2	12kΩ	C2	R26	100kΩ	B2
R3	2.2kΩ	C2	R27	6.8kΩ	C2
R4	560Ω	C2	R28	1kΩ	B2
R5	22kΩ	C2	R29	20kΩ	B1
R6	4.7kΩ	C2	R30	150Ω	B2
R7	150Ω	C2	R31	820Ω	B2
R8	120kΩ	A1	R32	18kΩ	C2
R9	33kΩ	B2	R33	6.8kΩ	C2
R10	6.8kΩ	B2	R34	120Ω	C2
R11	1kΩ	A1	R35	390kΩ	B1
R12	220Ω	B2	R36	470Ω	B2
R13	10kΩ	A2	R37	12Ω	B2
R14	100kΩ	B2	R38	4.7Ω	B1
R15	8.2kΩ	A2			
R16	15kΩ	A2			
R17	470Ω	A2			
R18	1kΩ	A2			
R19	22kΩ	B2			
R20	4.7kΩ	B2			
R21	68Ω	B2			
R22	820Ω	B2			
Capacitors					
		C1	39pF	C2	
		C2	220pF	C2	
		C3	39pF	C2	
		C4	1,000pF	C2	
		C5	4.7pF	C2	
		C6	11pF	C2	

C7	15pF	A1
C8	9pF	C2
C9	510pF	C2
C10	3.3pF	C2
C11	1,000pF	C2
C12	68pF	C2
C13	18pF	C2
C14	15pF	A1
C15	220pF	C2
C16	20pF	A1
C17	60pF	A1
C18	28pF	A1
C19	380pF	A1
C20	15pF	A1
C21*	8pF	A1
C22†	1,000pF	A1
C23‡**	300pF	A1
C24	0.047μF	B2
C25	25pF	A1
C26	300pF	A2
C27	33pF	A1
C28	380pF	A1
C29	15pF	A1

C30	270pF	A2
C31	.50pF	A2
C32	150μF	B2
C33	5,000pF	A2
C34	100pF	A2
C35	.50pF	A2
C36	200pF	B2
C37	200pF	B2
C38	0-01μF	A1
C39	75μF	A2
C40	0-02μF	A2
C41	175pF	B2
C42	.50pF	B2
C43	0-02μF	B2
C44	30pF	B2
C45	175pF	B2

Note : In the diagram, C25 should be shown as a variable trimmer and the blank connection on S5 should be shown linked to the junction of C18 and C20

* Receiver switched to AM † Receiver switched to FM

C46	0.02μF	B2
C47	90μF	C2
C48	8μF	C2
C49	1,000pF	B2
C50	220pF	B2
C51	25μF	C2
C52	0.01μF	B2
C53	0.02μF	B2
C54	0.05μF	B2
C55	0.01μF	C2
C56	8μF	C2
C57	75μF	B2
C58	56μF	B1
C59	25μF	B1
C60	0.01μF	C1
C61	0.01μF	B1
C62	150μF	B1

Miscellaneous		
FB1	—	A1
S1-S9	—	A1
S10	—	B1
T1	—	C1
T2	—	C1
W1	OA90	A2
W2	OA90	B2
W3	OA90	C2
W4	OA90	C2
W5	OA90	B2

* 25pF in Schedule A and B receivers.
** 470pF or 475pF in some receivers.
† 2,000pF in Schedule A and B receivers.

FERGUSON
3138

loudspeaker or connect a model 8 Avometer switched to 2.5V a.c. range in parallel with the loudspeaker. Switch receiver to m.w., turn tuning gang to maximum and connect the signal generator output via a 0.1μF capacitor across C20. Feed in a 475kc/s signal and adjust the cores of L28/L29, L22/L23, L18/L19 and L16/L17 in that order, for maximum output. Repeat as necessary until no further improvement can be obtained.

2.—Check that, with the tuning gang at maximum, the cursor lines up with the letter "F" in "F.M." at the left-hand side of the tuning scale. Arrange an r.f. coupling loop round the ferrite rod aerial and connect the generator output to the ends of the loop. Switch to m.w., tune to 500m and feed in a 600kc/s signal. Adjust L11 and L10 for maximum output. Tune receiver to 200m and feed in a 1,500kc/s signal. Adjust C29 and C20 for maximum output.

3.—Switch receiver to "Lux" and tune to the 89Mc/s point on the f.m. scale. Feed in a 1,500kc/s signal and adjust C25 and C21 for maximum output.

4.—Switch receiver to l.w., tune to 1,500m and feed in a 200kc/s signal. Adjust C31 and L9 for maximum output.

5.—Switch receiver to f.m. Connect the signal generator output via a 0.1μF capacitor across C34, i.e. between tags 5 and 6 on the printed panel adjacent to C34. Feed in a 10.7Mc/s f.m. signal with 25kc/s deviation and adjust the cores of L26/L27 and L24/L25 to their outer peak, i.e. with the cores protruding from the formers, for maximum output. Then adjust the cores of L20/L21 and L14/L15 to their inner peak for maximum output. Switch signal generator to a.m. (30 per cent modulation) and adjust L26/L27 for minimum output i.e. for maximum a.m. rejection. Repeat as necessary for maximum f.m. output and minimum a.m. output.

6.—The r.f. circuits of the f.m. tuner unit are aligned at the factory on specialized equipment and should not normally require readjustment. The manufacturer recommends that small calibration errors may be corrected by adjustment of the f.m. oscillator coil L5 which can be adjusted through a hole in the tuner unit screen. The core of L6 can also be reached in this way and should be adjusted for maximum output when an r.f. signal is fed into the f.m. aerial socket.

Should any other adjustment or repair to the tuner unit be necessary the manufacturer recommends that the unit, complete with gang capacitor, be returned to the nearest service depot for repair and realignment on factory test equipment.

Coils	
L1	—
L2	—
L3	C2
L4	C2
L5	C2
L6	C2
L7	A1
L8	B1
L9	B1
L10	C1
L11	B1
L12	B1
L13	B1
L14	A2
L15	A2
L16	B2
L17	B2
L18	B2
L19	B2
L20	B2
L21	B2
L22	B2
L23	B2
L24	C2
L25	C2
L26	C2
L27	C2
L28	B2
L29	B2
L30	35Ω
	B2

CIRCUIT ALIGNMENT

Equipment Required.—A signal generator covering the range 200-1,500kc/s a.m. (30 per cent modulated) and having an output at 10.7Mc/s f.m. (25kc/s deviation); an audio output meter with an impedance to match 30Ω connected in place of the loudspeaker, or a model 8 Avometer switched to 2.5V a.c. range, connected in parallel with the loudspeaker; a 0.1μF isolating capacitor and a suitable non-ferrous trimming tool.

During alignment the signal input level should be adjusted to maintain an output of 50mW with the volume control at maximum.

1.—Switch on signal generator and allow to warm up for 15 minutes. Connect the audio output meter in place of the

loudspeaker or connect a model 8 Avometer switched to 2.5V a.c. range in parallel with the loudspeaker. Switch receiver to m.w., turn tuning gang to maximum and connect the signal generator output via a 0.1μF capacitor across C20. Feed in a 475kc/s signal and adjust the cores of L28/L29, L22/L23, L18/L19 and L16/L17 in that order, for maximum output. Repeat as necessary until no further improvement can be obtained.

2.—Check that, with the tuning gang at maximum, the cursor lines up with the letter "F" in "F.M." at the left-hand side of the tuning scale. Arrange an r.f. coupling loop round the ferrite rod aerial and connect the generator output to the ends of the loop. Switch to m.w., tune to 500m and feed in a 600kc/s signal. Adjust L11 and L10 for maximum output. Tune receiver to 200m and feed in a 1,500kc/s signal. Adjust C29 and C20 for maximum output.

3.—Switch receiver to "Lux" and tune to the 89Mc/s point on the f.m. scale. Feed in a 1,500kc/s signal and adjust C25 and C21 for maximum output.

4.—Switch receiver to l.w., tune to 1,500m and feed in a 200kc/s signal. Adjust C31 and L9 for maximum output.

5.—Switch receiver to f.m. Connect the signal generator output via a 0.1μF capacitor across C34, i.e. between tags 5 and 6 on the printed panel adjacent to C34. Feed in a 10.7Mc/s f.m. signal with 25kc/s deviation and adjust the cores of L26/L27 and L24/L25 to their outer peak, i.e. with the cores protruding from the formers, for maximum output. Then adjust the cores of L20/L21 and L14/L15 to their inner peak for maximum output. Switch signal generator to a.m. (30 per cent modulation) and adjust L26/L27 for minimum output i.e. for maximum a.m. rejection. Repeat as necessary for maximum f.m. output and minimum a.m. output.

