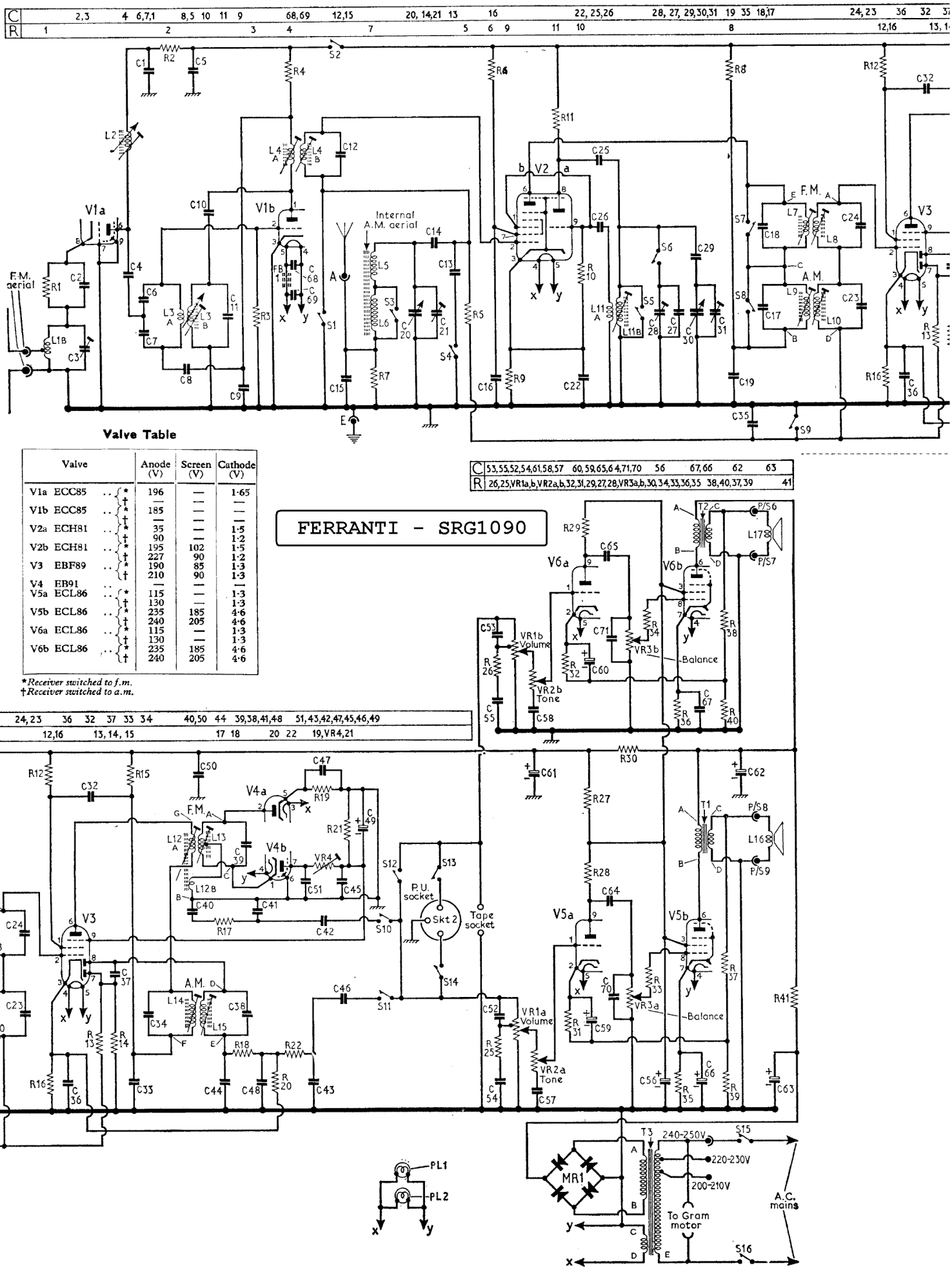


Valve		Anode (V)	Screen (V)	Cathode (V)
V1a ECC85 ..	*	196	—	1·65
	†	—	—	—
V1b ECC85 ..	*	185	—	—
	†	—	—	—
V2a ECH81 ..	*	35	—	1·5
	†	90	—	1·2
V2b ECH81 ..	*	195	102	1·5
	†	227	90	1·2
V3 EBF89 ..	*	190	85	1·3
	†	210	90	1·3
V4 EB91 ..		—	—	—
V5a ECL86 ..	*	115	—	1·3
	†	130	—	1·3
V5b ECL86 ..	*	235	185	4·6
	†	240	205	4·6
V6a ECL86 ..	*	115	—	1·3
	†	130	—	1·3
V6b ECL86 ..	*	235	185	4·6
	†	240	205	4·6

*Receiver switched to f.m.
†Receiver switched to a.m.

Resistors

R1	150Ω	K8
R2	1·5kΩ	B2
R3	1MΩ	K8
R4	4·7kΩ	A2
R5	1MΩ	B1
R6	22kΩ	J6
R7	3·3kΩ	J6
R8	2·2kΩ	J6
R9	100Ω	J6
R10	47kΩ	J6
R11	68kΩ	J6
R12	47kΩ	H5
R13	1MΩ	H5
R14	1MΩ	G5
R15	2·2kΩ	H5
R16	100Ω	H5
R17	6·8kΩ	G5
R18	47kΩ	G5
R19	2·2kΩ	G6
R20	330kΩ	H5
R21	47kΩ	G5
R22	47kΩ	H5
R23	—	†
R24	—	†
R25	180kΩ	D1
R26	180kΩ	D1
R27	3·3kΩ	F5
R28	220kΩ	C3
R29	220kΩ	C3
R30	680Ω	F5
R31	4·7kΩ	D2
R32	4·7kΩ	B3
R33	47kΩ	D3
R34	47kΩ	B3
R35	120Ω	C3
R36	120Ω	C3
R37	680Ω	D2
R38	680Ω	B3
R39	22Ω	D2
R40	22Ω	B3
R41	180Ω	F6
VR1	2MΩ	D1
VR2	1MΩ	C1
VR3	1MΩ	B1
VR4	5kΩ	G5

Capacitors

C1	1,000pF	K8
C2	1,000pF	K8
C3	—	B3
C4	470pF	K8
C5	0·01μF	B2
C6	8·2pF	K8
C7	6pF	K9
C8	12pF	K8
C9	51pF	K9
C10	10pF	K8
C11	12pF	K9
C12	8·2pF	K9
C13	125pF	A1
C14	0·01μF	A1
C15	4,700pF	J7
C16	0·01μF	J5
C17	100pF	A3
C18	8·2pF	A3
C19	0·01μF	J6
C20	—	B2
C21	—	B2
C22	0·03μF	J6
C23	100pF	A3
C24	15pF	A3
C25	100pF	J6
C26	100pF	J5
C27	410pF	B1
C28	—	B2
C29	465pF	H5
C30	—	B2
C31	—	B2
C32	0·01μF	G5
C33	0·01μF	G5
C34	200pF	C2
C35	0·03μF	J6
C36	0·1μF	H5
C37	47pF	H5
C38	200pF	C2
C39	47pF	C2
C40	220pF	G5
C41	5,000pF	G5
C42	1,500pF	G5
C43	100pF	H5
C44	100pF	G5
C45	0·03μF	H5
C46	1,000pF	B1
C47	220pF	G5
C48	100pF	G4
C49	2μF	F5
C50	0·01μF	H5
C51	220pF	G5
C52	47pF	D1
C53	47pF	D1
C54	2,000pF	D1
C55	2,000pF	D1
C56	4μF	C3
C57	100pF	C1
C58	100pF	C1
C59	10μF	D2
C60	10μF	B3
C61	32μF	D2
C62	40μF	D2
C63	40μF	D2
C64	0·01μF	D3
C65	0·01μF	C2
C66	50μF	D3
C67	50μF	B3
C68	0·01μF	K8
C69	0·01μF	H5
C70	220pF	B1
C71	220pF	C1

Coils and Transformers

L1B	—	B2
L2	—	K8
L3A	—	K8
L3B	—	K8
L4A	—	K9
L4B	—	K9
L5	—	A1
L6	—	A3
L7	—	A3
L8	—	A3
L9	—	A3
L10	—	A3
L11A	—	J5
L11B	—	J5
L12A	—	C1
L12B	—	C1
L13	—	C2
L14	—	C2
L15	—	C2
L16	—	—
L17	—	—
T1	—	D3
T2	—	C3
T3	—	E4

Miscellaneous

FB1	—	K8
MR1	FC124	G6
PL1, PL2	6-8V 3W M.E.S.	H6 G6
S1-S14	—	B1
S15, S16	—	D1

†*No component.*

CIRCUIT ALIGNMENT

Two methods of f.m. i.f. alignment are given, a visual method using a sweep frequency generator and oscilloscope, and a meter method using an f.m. signal generator and audio output meter.

Equipment Required.—A sweep frequency generator and oscilloscope if visual alignment of the f.m. i.f. circuits is employed, or alternatively an f.m. signal generator; an a.m. signal generator; an audio output meter; a 0.01μF capacitor and a 3 ohm 3W resistor.

F.M. I.F. Circuits (Visual Method)

1.—Connect the audio output meter across the loudspeaker sockets of the audio channel to be used and connect the 3 ohm 3W resistor across the loudspeaker sockets of the other channel, to act as a dummy load. Switch receiver to f.m. and tune to a spot at the l.f. end of the band. Disconnect the positive end of **C49.**

2.—Connect the sweep generator to **V3** pin 2 and connect the oscilloscope across **R21.** Feed in a sweep signal with a centre frequency of 10.7Mc/s and adjust **L12A** for peak response.

3.—Re-connect **C49** and connect the oscilloscope between chassis and the junction of **R17** and **C41.** Adjust **L13** for the best "S" shape response, readjusting **L12A** if necessary.

4.—Transfer the sweep generator to **V2** pin 2. Disconnect the positive end of **C49** and connect the oscilloscope across **R21.** Adjust **L7** and **L8** for maximum output with a smooth response at 10.7Mc/s.

5.—Connect the sweep generator via 0.01μF capacitor to the junction of **R2** and **C1.** Adjust **L4A** and **L4B** for maximum output with a smooth response at 10.7Mc/s.

Switch Table

Switch	VHF	MW	LW	Mono	Stereo
S1	C	—	—	—	—
S2	C	—	—	—	—
S3	—	C	—	—	—
S4	—	—	C	—	—
S5	C	—	—	C	C
			C		
S7	—	C	C	—	—
S8	—	—	—	—	—
S9	C	—	—	—	—
S10	C	—	—	—	—
S11	—	C	C	—	—
S12	C	C	C	C	—
S13	—	—	—	C	C
S14	—	—	—	C	C

F.M. I.F. Circuits (Meter Method)

1.—Switch receiver to f.m. and connect the audio output meter and 3Ω dummy load resistor as in operation 1 of "F.M. I.F. Circuits (Visual Method)." Adjust the balance control to give maximum audio output.

2.—Connect the f.m. signal generator to **V3** pin 2. Feed in a 10.7Mc/s ±75kc/s deviated signal and adjust **L12A** and **L13** for maximum output. Check the quality of sound output and if necessary adjust **L13** for minimum distortion.

3.—Transfer the signal generator to **V2** pin 2 and adjust **L7** and **L8** for maximum output. Then transfer the signal generator via the 0.01μF isolating capacitor to the junction of **R2** and **C1,** and adjust **L4A** and **L4B** for maximum output. Use the lowest input signal possible for adequate deflection on the output meter.

4.—Connect the f.m. signal generator to the f.m. aerial sockets and feed in a weak signal at any point in the f.m. band. Tune the receiver carefully to this signal for minimum distortion. Then switch off f.m. modulation and adjust **VR4** for minimum noise (maximum a.m. rejection).

A.M. I.F. Circuits

1.—Switch receiver to m.w. and tune to 500m. Connect the audio output meter and 3Ω dummy load as in operation 1 of "F.M. I.F. Circuits (Visual Method)." Connect the a.m. signal generator to **V2** pin 2.

2.—Feed in 470kc/s 30 per cent modulated signal and adjust **L15, L14, L10** and **L9** in that order for maximum output.

A.M. R.F. Circuits

1.—Switch receiver to m.w. and turn all controls to maximum. Connect the signal generator via a dummy aerial to the a.m. aerial sockets. Check that when the tuning gang is fully closed, the cursor coincides with the datum mark on the scale. Adjust if necessary by sliding the cursor along the drive cord. Then tune to 500m.

2.—Feed in a 600kc/s modulated signal and adjust **L11B** and **L5** for maximum output.

3.—Tune receiver to 214.3m. Feed in a 1,400kc/s signal and adjust **C31** and **C21** for maximum output.

4.—Switch receiver to l.w. and tune to 1,400m. Connect the signal generator to **V2** pin 2 and feed in a 214.3kc/s signal. Adjust **C28** for maximum output.

5.—Re-connect the signal generator via the dummy aerial to the a.m. aerial sockets and adjust **L6** at 214.3kc/s for maximum output.

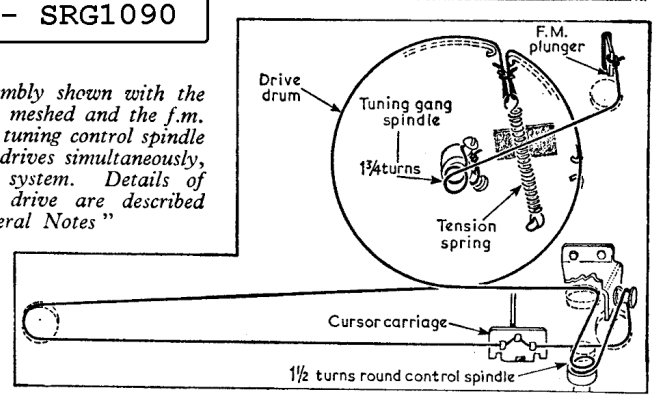
F.M. R.F. Circuits

1.—Check that with the tuning gang fully closed the f.m. tuner carriage is ⅛in from the fully open position. Adjust if necessary by rotating the drive collar on the gang shaft. Connect the f.m. signal generator to the f.m. aerial sockets.

2.—Tune receiver to 92Mc/s mark, feed in a 92Mc/s signal and adjust **L3** for correct calibration, and **L2** and **C3** for maximum output.

FERRANTI - SRG1090

The tuning drive assembly shown with the a.m. tuning gang fully meshed and the f.m. plunger fully in. The tuning control spindle operates two separate drives simultaneously, one for each tuning system. Details of replacement of either drive are described under "General Notes"



Drive Cord Replacement (Main Drive).—For a replacement drive cord approximately 56in of cord is required. Connect one end of the cord to the tension spring. With the drive drum facing and turned so that the tuning gang is fully meshed, attach the tension spring in position on the drive drum. Make a half-turn clockwise round the drive drum then route the cord round pulleys "A," "B" and "C," make one and a half turns clockwise round the tuning control spindle and continue round pulley "D" anti-clockwise.

From pulley "D," take the cord back to the drive drum, make a half-turn clockwise round the drum and attach the free end of the cord to the tension spring. Adjust the spring tension and seal the knot with shellac. Attach the pointer to the right-hand end of the drive cord and adjust its position to coincide with the datum mark on the scale with the tuning gang fully meshed.

Drive Cord Replacement (F.M. Unit).—To replace the f.m. unit drive cord, fully close the tuning gang and attach the replacement cord to the slider on the unit. Place it over the pivot pulley and down to the drive drum spindle. Make one and three-quarter turns round the spindle, thread the cord inside the upper screw in the collar and attach it to the lower screw as shown in the sketch, col. 3.

Switches.—S1-S14 are waveband and gram switches which are housed in a rotary unit assembly shown in location reference B1. Their function is indicated in the switch table in col. 4 where, under the respective headings, a "C" means closed and a "dash" means open.

S15 and **S16** are mains on/off switches which are ganged to the volume control.