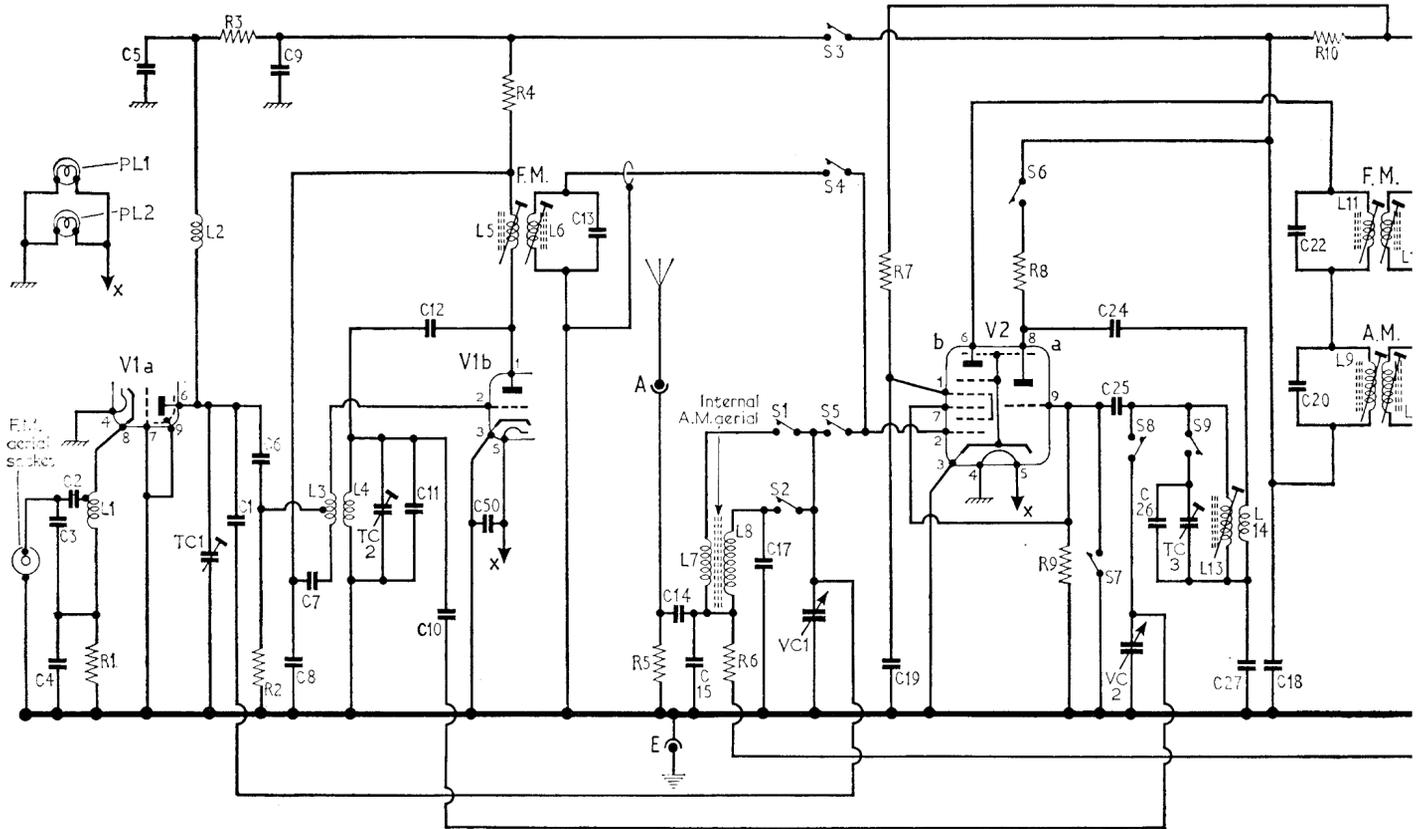


C	3,4,2	5	TC1	6	9,8,7	TC2	11,12,10	50	13	14,15	17	VC1	19	24,25,VC2,26,TC3	27	18,22,20
R	1		3	2			4		5	6		7		8	9	10
L	1	2	3,4				5,6			7,8					13,14	9,10,11,12



VALVE ANALYSIS

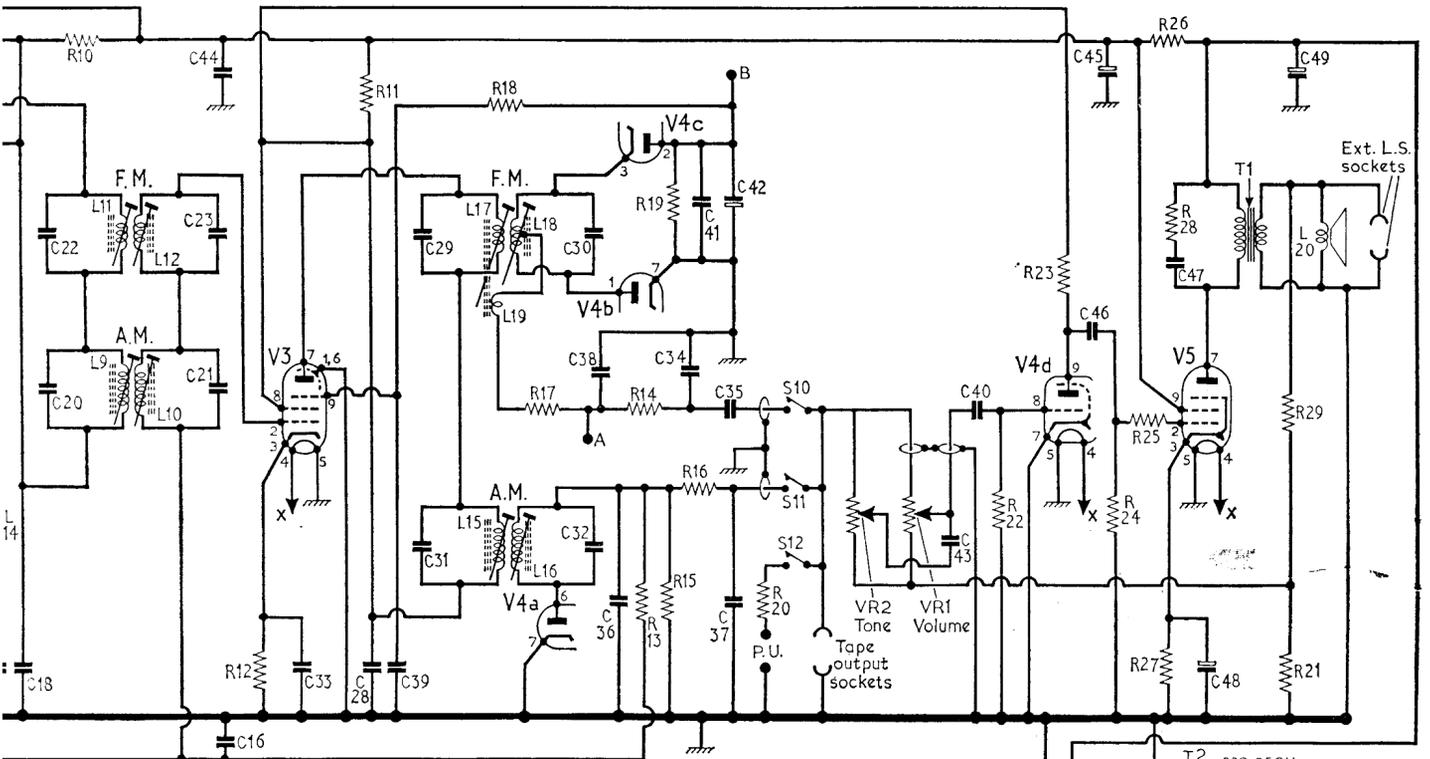
Valve voltages given in the table right were taken from information supplied by the manufacturers. In every case they are positive with respect to chassis.

Valve Table

Valve	Anode (V)	Screen (V)	Cathode (V)
V1 ECC85*	—	—	—
V2 ECH81	{ a 100† b 220	—	—

Valve	Anode (V)	Screen (V)	Cathode (V)
V3 EF89	220	120	—
V4d EABC80	80	—	—

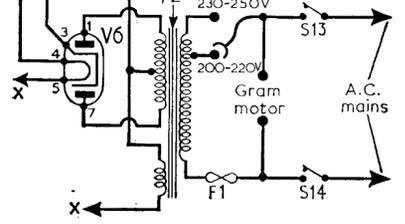
18,22,20	23,21,44,16	33	28	39	29,31	30,32,38,36	34,41,42,35,37	43	40	46	45	47	48	49			
10	12		11			18	17	14,13,15,19,16	20	VR2	VR1	22	23	24	25	26,27,28	29,21
	9,10,11,12					15,16,17,18,19									T2	T1	20



FIDELITY - RG27

Valve	Anode (V)	Screen (V)	Cathode (V)
V5 EL84	250	220	6
V6 EZ80	—	—	250

*F.M. tuner h.t. voltage measured at S with the receiver switched to f.m., 200V.
 †Receiver switched to a.m.



FIDELITY - RG27

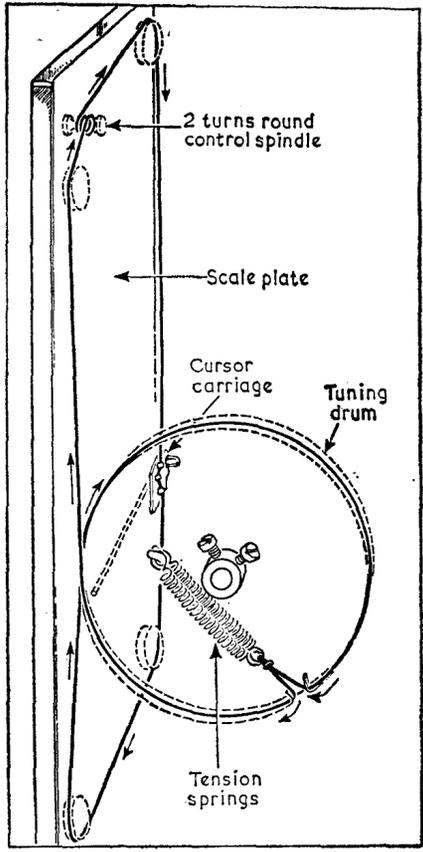
COMPONENT VALUES AND LOCATIONS

Resistors			Resistors			Capacitors		
R1	120Ω	B1	R21	1.2kΩ	D2	C1	20pF	B1
R2	470kΩ	B1	R22	10MΩ	G3	C2	1,000pF	B1
R3	1kΩ	B1	R23	270kΩ	G3	C3	10pF	B1
R4	5.6kΩ	B1	R24	470kΩ	F4	C4	1,000pF	B1
R5	1.2kΩ	C2	R25	47kΩ	F4	C5	0.01μF	B1
R6	100kΩ	C2	R26	680Ω	E3	C6	15pF	B1
R7	22kΩ	H3	R27	150Ω	F3	C7	12pF	B1
R8	33kΩ	H4	R28	10kΩ	F3	C8	120pF	J5
R9	47kΩ	H3	R29	33kΩ	F3			
R10	1.2kΩ	G3	VR1	1MΩ	D2			
R11	47kΩ	G3	VR2	1MΩ	D2			
R12	220Ω	H3						
R13	2MΩ	G3						
R14	100kΩ	F3						
R15	2MΩ	G4						
R16	270kΩ	G3						
R17	120Ω	G3						
R18	22kΩ	G3						
R19	33kΩ	F3						
R20	1MΩ	*						

C9	1,000pF	B1	C37	100pF	G4	L8	—	C2
C10	20pF	B1	C38	1,000pF	F3	L9	—	C2
C11	15pF	B1	C39	0.01μF	G3	L10	—	H3
C12	25pF	B1	C40	0.01μF	G3	L11	—	H3
C13	12pF	B1	C41	5,000pF	F3	L12	—	C2
C14	0.01μF	B2	C42	4μF†	F3	L13	—	H3
C15	0.01μF	B2	C43	200pF	D2	L14	—	H3
C16	0.01μF	B2	C44	0.01μF	G3	L15	—	G3
C17	120pF	H4	C45	32μF	A2	L16	—	B2
C18	0.01μF	H3	C46	0.01μF	G3	L17	—	B2
C19	0.01μF	H3	C47	0.01μF	F3	L18	—	G3
C20	250pF	C2	C48	25μF	A2	L19	—	B2
C21	250pF	H3	C49	50μF	A2	L20	—	—
C22	12pF	H3	C50	1,000pF	J5			
C23	12pF	C2	TC1	5pF	G4			
C24	100pF	H3	TC2	5pF	G4			
C25	100pF	H4	TC3	5pF	H3			
C26	330pF	H3	VC1	—	C1			
C27	410pF	H3	VC2	—	C1			
C28	0.1μF	G3						
C29	12pF	B2						
C30	47pF	G3						
C31	250pF	G3						
C32	250pF	B2						
C33	0.01μF	H3						
C34	200pF	F3						
C35	0.01μF	F3						
C36	100pF	G4						

Miscellaneous		
F1	500mA	B2
PL1	6.5,0.3A	C2
PL2		H3
T1	—	F3
T2	—	A1

*Located on record changer unit.
†May be 5μF.



Scale drive assembly as seen from the right of the chassis with the tuning gang at maximum capacitance

Switch Table

Switch	F.M.	M.W.	L.W.	Gram.
S1				
S2				
S3				
S4				
S5				
S6				
S7				
S8				
S9				
S10				
S11				
S12				

CIRCUIT ALIGNMENT

Equipment Required.—An audio output meter of suitable impedance; an a.m. signal generator; a high resistance (at least 20,000Ω/v) 0-10v d.c. voltmeter; a 0-50μA meter; a valve screening can for use as a signal injection device; two matched 100kΩ resistors; a 0.01μF capacitor and suitable trimming tools.

A.M. Circuits

- 1.—Connect the output meter across the loudspeaker via an isolating capacitor. Connect the signal generator to the a.m. aerial socket via a 0.01μF capacitor. Switch receiver to m.w., turn the tuning gang to maximum capacitance and the volume control for maximum output.
- 2.—Feed in a 470kc/s modulated signal and adjust the cores of **L16** (location reference B2), **L15** (G3), **L10** (H3) and **L9** (C2) in that order for maximum output. Repeat using reduced signal input for optimum results.
- 3.—Turn the tuning gang to maximum and minimum positions and check that the cursor coincides with end calibration marks. Connect the signal generator to the a.m. aerial and earth sockets via a dummy aerial, and tune receiver to the 300m mark.
- 4.—Feed in a 1,000kc/s signal and adjust the core of **L13** (H3) for maximum output.
- 5.—Tune receiver to 350m, feed in a 857kc/s signal and adjust **L7** by sliding it along the ferrite rod for maximum output.
- 6.—Switch receiver to l.w. and tune to 1,400m. Feed in 214kc/s signal and adjust **TC3** (H3) for maximum output.
- 7.—Tune in the "Paris" broadcast signal (1,829m) and adjust **L8** by sliding it along the ferrite rod for maximum output.

Note: A degree of oscillator pulling may be experienced; **TC3** and **L8** should be adjusted one against the other for optimum results.

F.M. Circuits

- 1.—Connect the high impedance 0-10v d.c. voltmeter between test point B and chassis i.e. across **C42** (F3), observing polarity. Connect the signal generator output to the valve screening can and place the can over **V1**.
- 2.—Switch receiver to f.m. and turn the tuning gang to maximum capacitance. Feed in an unmodulated 10.7Mc/s signal and adjust the cores of **L17** (B2), **L12** (C2) and **L11** (H3) for maximum output on the d.c. voltmeter, reducing the signal input level as the circuits come into line. Then adjust **L5** and **L6** (B2) for maximum output, repeating for optimum results.
- 3.—Repeat the whole sequence of adjustments in operation 2, i.e. **L17**, **L12**, **L11**, **L5** and **L6** in that order with a reduced signal input level, repeating if necessary.

- 4.—Connect the two matched 100kΩ resistors in series between test point B and chassis and connect the 0-50μA meter between their junction and test point A (i.e. junction of **R17**, **R14** and **C38**). With the 10.7Mc/s unmodulated signal fed in as before, adjust **L18** (G3) for a zero reading on the microammeter between positive and negative excursions of the meter. Disconnect the resistors and the microammeter.
- 5.—Connect the signal generator to the f.m. aerial sockets and feed in a signal corresponding to the frequency of the local "Home" programme. Tune the receiver to the appropriate station block and adjust **TC2** (G4) and **TC1** (G4) for maximum output on the d.c. voltmeter.

Note: In some areas, due to the choice of programme frequencies the local broadcast station will not occupy the correct station block. For example: the Welsh and West "Home Service" programmes which are radiated from the Wenvoe transmitter are lower in frequency than their associated "Third" programme, so that these two programmes will appear transposed on the scale. To ascertain the correct f.m. station frequencies for any locality, see the "Television and F.M. Station Guide" in *Service Sheet 1692/T267*.

Normally, operation 5 should provide adequate alignment, but in some cases, especially if the f.m. tuner wiring has been disturbed, the Light programme may not appear in its correct position. In these instances it may be brought into line by slightly adjusting the position of **C1** and **C5**.

Drive Cord Replacement.—A replacement drive cord should be routed as shown in the sketch in col. 3 where the drive assembly is drawn with the tuning gang at maximum.

Switches.—Waveband switches **S1-S12** are housed in a rotary unit shown in location reference H4. A switch table which appears in col. 1 gives the position in which each switch closes, indicated under the appropriate heading by "C."