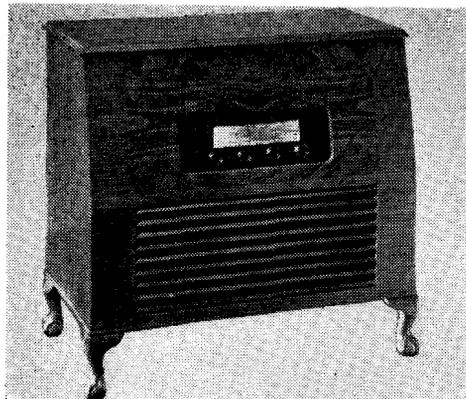
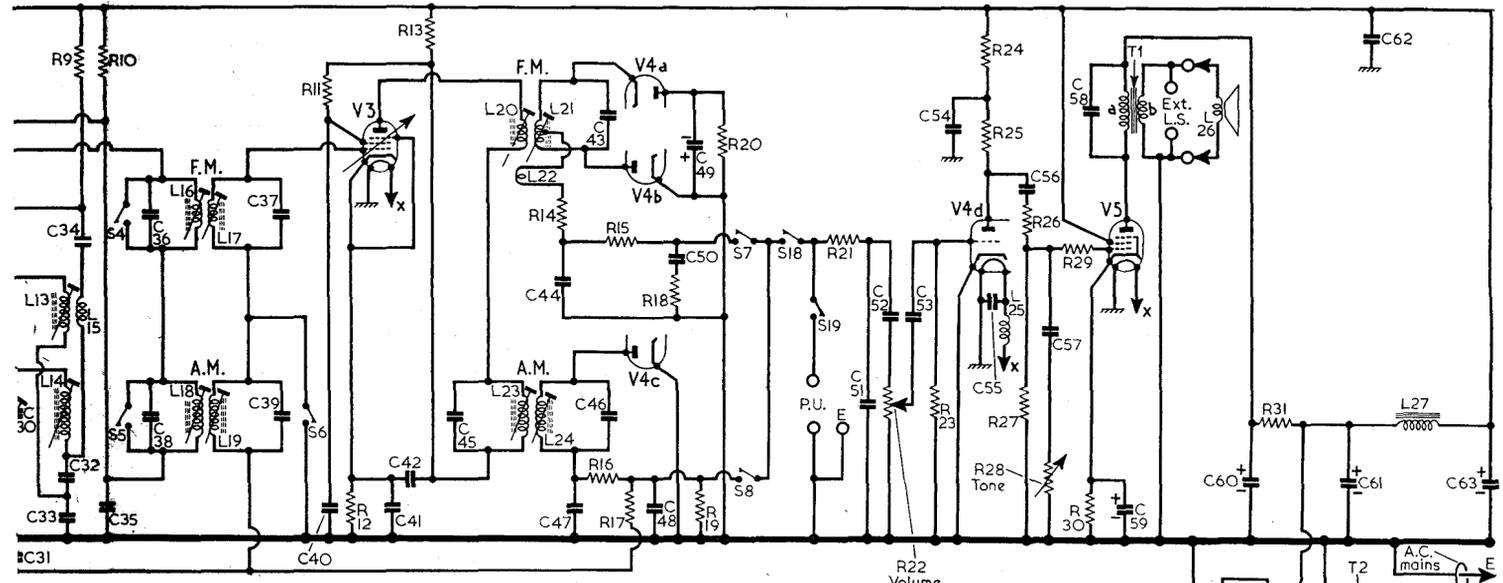
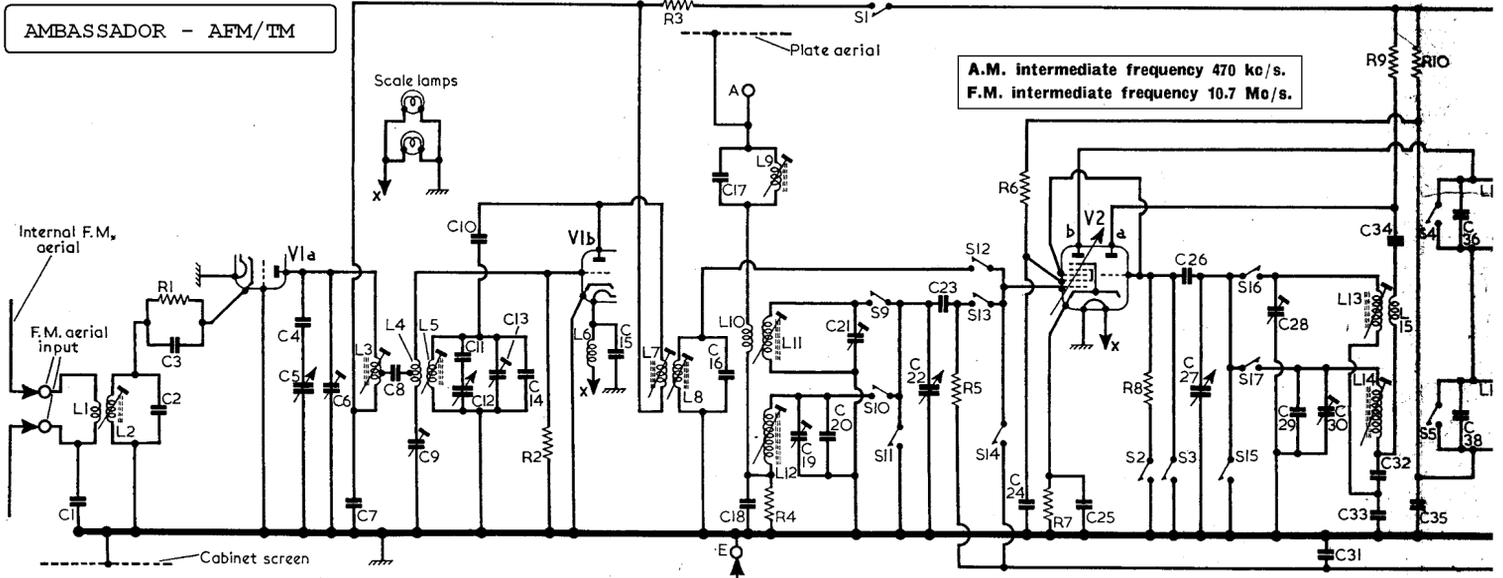
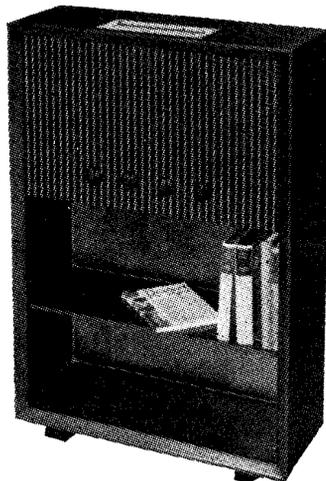


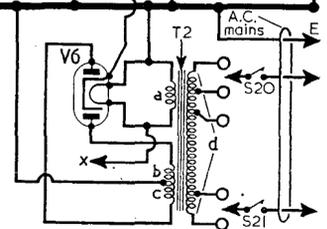
AMBASSADOR - AFM/TM



Appearance of the Ambassador PRG/AFM.



Appearance of the Ambassador AFM Bookshelf receiver.



Capacitors			Resistors			Other Components*		
C1 ¹	0.003μF	A2	C46	175pF	C2	R26	56kΩ	F3
C2	6pF	A2	C47	100pF	G4	R27	470kΩ	F3
C3	0.002μF	A2	C48	100pF	F4	R28	50kΩ	F3
C4	30pF	A2	C49	2μF	G3	R29	56kΩ	F3
C5	—	A1	C50	1,500pF	F4	R30	220Ω	F4
C6	—	J4	C51	100pF	G3	R31	120Ω	F4
C7	500pF	J4	C52	0.01μF	G3	Other Components*		
C8	50pF	J4	C53	0.02μF	F3	L1	—	A2
C9	—	J4	C54	0.1μF	G3	L2	—	A2
C10	15pF	J4	C55	0.002μF	G3	L3	—	J4
C11	50pF	A2	C56	0.05μF	G3	L4	—	J4
C12	—	A1	C57	0.01μF	F3	L5	—	J4
C13	—	J4	C58	0.001μF	F4	L6	—	H4
C14	6pF	J4	C59	25μF	F4	L7	—	B2
C15	0.002μF	J4	C60	32μF	B1	L8	—	B2
C16	15pF	B2	C61	16μF	B1	L9	3.0	A2
C17	500pF	A2	C62	0.002μF	H3	L10	8.0	J3
C18	2,400pF	J3	C63	32μF	B1	L11	3.0	J3
C19	—	A1	Resistors			L12	25.0	J3
C20	60pF	J3	R1	220Ω	A2	L13	2.0	H3
C21	—	A1	R2	1MΩ	J4	L14	5.0	H3
C22	—	A1	R3	2.2kΩ	H4	L15	—	H3
C23	100pF	H4	R4	10kΩ	J3	L16	—	B2
C24	0.05μF	H4	R5	470kΩ	H4	L17	—	B2
C25	0.05μF	H4	R6	39kΩ	H4	L18	10.0	B1
C26	100pF	H4	R7	180Ω	H4	L19	10.0	B1
C27	—	A1	R8	47kΩ	H4	L20	2.0	C2
C28	—	B1	R9	39kΩ	H4	L21	—	C2
C29	140pF	H3	R10	2.2kΩ	H4	L22	—	C2
C30	—	B1	R11	68kΩ	G4	L23	10.0	C2
C31	0.1μF	G3	R12	150Ω	G4	L24	10.0	C2
C32	300pF	H3	R13	2.2kΩ	G4	L25	—	F3
C33	550pF	H3	R14	1.2kΩ	F3	L26	2.5	—
C34	100pF	H3	R15	47kΩ	F4	L27	400.0	B1
C35	0.01μF	H4	R16	47kΩ	F4	T1 { a 430.0 } B3		
C36	15pF	B2	R17	1.5MΩ	G4	{ b 0.5 }		
C37	15pF	B2	R18	22kΩ	F4	T2 { a 190.0 } D1		
C38	175pF	B2	R19	470kΩ	F4	{ b 200.0 }		
C39	175pF	B2	R20	56kΩ	G3	{ c 43.0 }		
C40	0.01μF	G4	R21	47kΩ	H3	S1-S8	—	G4
C41	0.01μF	G4	R22	1MΩ	G3	S9-S19	—	H4
C42	0.003μF	G4	R23	10MΩ	G3	S20, S21	—	F3
C43	30pF	C2	R24	150kΩ	G3			
C44	300pF	F4	R25	100kΩ	G3			
C45	175pF	C2						

¹May be 0.001μF. ²Approximate D.C. resistance in ohms.

F.M. R.F. and Oscillator Stages

- 13.—Tune receiver to 88 Mc/s, and with signal generator connected to F.M. aerial sockets, feed in an 88 Mc/s unmodulated signal and adjust cores of L5 (A2) and L3 (A2) for maximum output on meter.
- 14.—Tune receiver to 96 Mc/s, feed in an unmodulated 96 Mc/s signal and adjust C13 (J4) and C6 (J4) for maximum output on meter.
- 15.—Connect valve voltmeter between chassis and tapping on L3 (J4).
- 16.—Adjust C9 (J4) for minimum reading on valve voltmeter. Disconnect valve voltmeter.
- 17.—Repeat operations 13 and 14. Tune receiver to 94 Mc/s, feed in an unmodulated 94 Mc/s signal and adjust the core of L2 (A2) for maximum output on meter.
- 18.—Disconnect voltmeter and signal generator.

A.M. I.F. Stages

- 19.—Switch receiver to M.W. and turn gang to maximum. Connect a shorting link across C27 (A1).
- 20.—Connect output of signal generator between chassis and control grid (pin 2) of V2b. Feed in a 30% modulated 470 kc/s signal and adjust the cores of L24 (C2), L23 (G4), L19 (B2) and L18 (G4) for maximum output.
- 21.—Repeat the adjustments in operation 20 until no further improvement results.

A.M. R.F. and Oscillator Stages

- 22.—Transfer signal generator leads to A and E sockets. For all the following operations use a 30% modulated signal.
- 23.—Feed in a 470 kc/s signal and adjust the core of L9 (mounted in cabinet) for minimum output.
- 24.—Switch receiver to L.W. and tune to 1,800m. Feed in a 166.6 kc/s signal and adjust the cores of L14 (B1) and L12 (J3) for maximum output.
- 25.—Tune receiver to 1,200m., feed in a 250 kc/s signal and adjust C30 (B1) and C19 (A1) for maximum output.
- 26.—Repeat operations 24 and 25 until no further improvement results.
- 27.—Switch receiver to M.W. and tune it to 500m. Feed in a 600 kc/s signal and adjust the cores of L13 (B2) and L11 (J3) for maximum output.
- 28.—Tune receiver to 200 m, feed in a 1,500 kc/s signal and adjust C28 (B1) and C21 (A1) for maximum output.
- 29.—Repeat the adjustments in operations 27 and 28 until no further improvement results.

VALVE ANALYSIS

Valve	Anode		Screen		Cath.
	V	mA	V	mA	
V1 ECC85					
a ...	230	7.9	—	—	0.08
b ...	230	14.8	—	—	—
V2 ECH81 ¹					
a ...	86	4.9	—	—	1.65
b ...	250	2.0	83	4.6	1.65
V3 EF85	235	8.3	95	2.15	1.4
V4 EABC80					
a-c ...	75	0.8	—	—	—
d ...	250	36.0	258	4.0	8.2
V5 EL84	243 ²	—	—	—	258.0 ³
V6 EZ80	243 ²	—	—	—	258.0 ³

¹Receiver switched to A.M.
²A.C. reading each anode.
³Cathode current 73 mA.

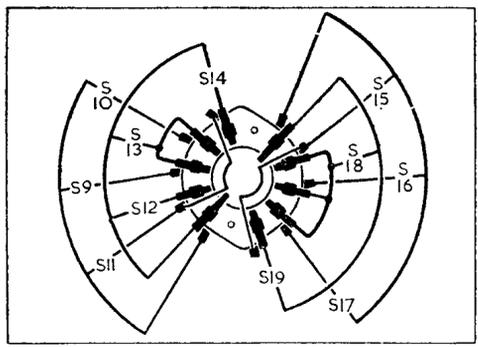


Diagram of the band/gram switch unit as seen from the rear. Below is the associated switch table.

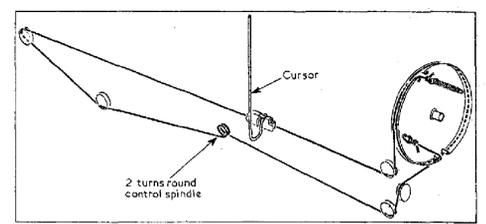
Switches	Gram.	L.W.	M.W.	F.M.
S9	—	—	C	—
S10	—	C	—	—
S11	C	—	—	C
S12	—	—	—	C
S13	—	C	C	—
S14	C	—	—	—
S15	C	—	—	C
S16	—	—	C	—
S17	—	C	—	—
S18	—	C	C	C
S19	C	—	—	—

CIRCUIT ALIGNMENT

Equipment Required.—An A.M. signal generator covering 160 kc/s-1.5 Mc/s, 10.7 Mc/s and 88 Mc/s-96 Mc/s; a 0-10 V high resistance D.C. voltmeter; a 0-2.5 V A.C. valve voltmeter; a damping unit consisting of a 470Ω resistor and an 0.002μF capacitor connected in series; a 47kΩ resistor. The tuning scale should be removed from the cabinet and placed in position over the control spindles. Check that with the gang at maximum capacitance, the cursor coincides with the diamonds at the high wavelength ends of the tuning scales.

F.M. I.F. Stages

- 1.—Connect 0-10V meter across R20, taking the positive lead to chassis and connecting the negative lead via the 47kΩ resistor to the top of R20 (location reference G3).
- 2.—Connect signal generator between chassis and control grid (pin 2) of V2b, switch receiver to F.M. Feed in a 30% modulated 10.7 Mc/s signal and adjust output of signal generator to produce a reading of 1V to 2V on the output meter.
- 3.—Adjust the core of L20 (G4) for maximum output on meter.
- 4.—Adjust the core of L21 (C2) for minimum audio output from speaker. This minimum setting should lie between two maximum audio peaks.
- 5.—Connect damping unit between chassis and control grid (pin 2) of V3. Adjust output of signal generator to give a meter reading of 1 V.
- 6.—Adjust the core of L16 (G4) for maximum output on meter. Disconnect damping unit.
- 7.—Connect damping unit between chassis and anode (pin 6) of V2b. Adjust the core of L17 (B2) for maximum output on meter. Remove damping unit.
- 8.—Transfer signal generator leads to F.M. aerial sockets. Connect damping unit between chassis and control grid (pin 2) of V2b. Adjust output of signal generator to give a reading of 1 V.
- 9.—Adjust the core of L7 (H4) for maximum output on meter. Remove damping unit.
- 10.—Connect damping unit between chassis and anode (pin 1) of V1b. Adjust the core of L8 (B2) for maximum output on meter. Remove damping unit.
- 11.—Repeat operations 3-10 with signal generator output connected to F.M. aerial sockets.
- 12.—Tune signal generator from 10.5 Mc/s to 10.9 Mc/s and check that the response is symmetrical about the centre frequency of 10.7 Mc/s.



Sketch of the tuning drive system as seen from the front of the chassis with the gang at maximum.