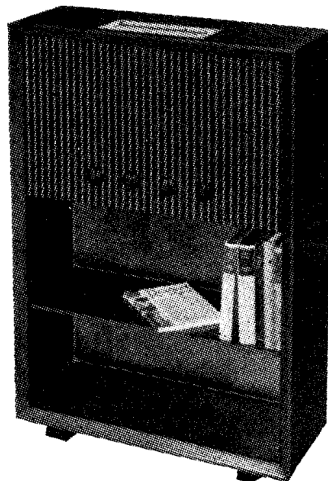


Appearance of the Ambassador PRG/AFM.



Appearance of the Ambassador AFM Bookshelf receiver.

Capacitors

C1 ¹	0.003μF	A2
C2	6pF	A2
C3	0.002μF	A2
C4	50pF	A2
C5	—	A1
C6	—	J4
C7	500pF	J4
C8	50pF	J4
C9	—	J4
C10	15pF	J4
C11	50pF	A2
C12	—	A1
C13	—	J4
C14	6pF	J4
C15	0.002μF	J4
C16	15pF	B2
C17	500pF	A2
C18	2,400pF	J3
C19	—	A1
C20	60pF	J3
C21	—	A1
C22	—	A1
C23	100pF	H4
C24	0.05μF	H4
C25	0.05μF	H4
C26	100pF	H4
C27	—	A1
C28	—	B1
C29	140pF	H3
C30	—	B1
C31	0.1μF	G3
C32	300pF	H3
C33	550pF	H3
C34	100pF	H3
C35	0.01μF	H4
C36	15pF	B2
C37	15pF	B2
C38	175pF	B2
C39	175pF	B2
C40	0.01μF	G4
C41	0.01μF	G4
C42	0.003μF	G4
C43	30pF	C2
C44	300pF	F4
C45	175pF	C2

C46	175pF	C2
C47	100pF	G4
C48	100pF	F4
C49	2μF	G3
C50	1,500pF	F4
C51	100pF	G3
C52	0.01μF	G3
C53	0.02μF	F3
C54	0.1μF	G3
C55	0.002μF	G3
C56	0.05μF	G3
C57	0.01μF	F3
C58	0.001μF	F4
C59	25μF	F4
C60	32μF	B1
C61	16μF	B1
C62	0.002μF	H3
C63	32μF	B1

Resistors

R1	220Ω	A2
R2	1MΩ	J4
R3	2.2kΩ	H4
R4	10kΩ	J3
R5	470kΩ	H4
R6	39kΩ	H4
R7	180Ω	H4
R8	47kΩ	H4
R9	39kΩ	H4
R10	2.2kΩ	H4
R11	68kΩ	G4
R12	150Ω	G4
R13	2.2kΩ	G4
R14	1.2kΩ	F3
R15	47kΩ	F4
R16	47kΩ	F4
R17	1.5MΩ	G4
R18	22kΩ	F4
R19	470kΩ	F4
R20	56kΩ	G3
R21	47kΩ	H3
R22	1MΩ	G3
R23	10MΩ	G3
R24	150kΩ	G3
R25	100kΩ	G3

R26	56kΩ	F3
R27	470kΩ	F3
R28	50kΩ	F3
R29	56kΩ	F3
R30	220Ω	F4
R31	120Ω	F4

Other Components²

L1	—	A2
L2	—	A2
L3	—	J4
L4	—	J4
L5	—	J4
L6	—	H4
L7	—	B2
L8	—	B2
L9	3-0	A2
L10	8-0	J3
L11	3-0	J3
L12	25-0	J3
L13	2-0	H3
L14	5-0	H3
L15	—	H3
L16	—	B2
L17	—	B2
L18	10-0	B1
L19	10-0	B1
L20	2-0	C2
L21	—	C2
L22	—	C2
L23	10-0	C2
L24	10-0	C2
L25	—	F3
L26	2-5	—
L27	400-0	B1
T1	{ a 430-0 } { b 0-5 }	B3
T2	{ a — } { b 190-0 } { c 200-0 } { d 43-0 }	D1
S1-S8	—	G4
S9-S19	—	H4
S20, S21	—	F3

¹May be 0.001μF.

²Approximate D.C. resistance in ohms.

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	—	—	—	—	—
d	75	0.8	—	—	—
V5 EL84	250	36.0	258	4.0	8.2
V6 EZ80	243 ²	—	—	—	258-0 ³

¹Receiver switched to A.M.

²A.C. reading each anode.

³Cathode current 73 mA.

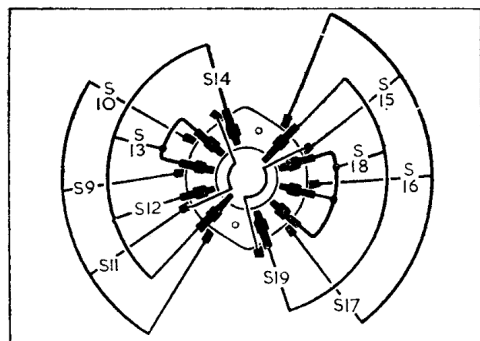


Diagram of the band/gram switch unit as seen from the rear. Below is the associated switch table.

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

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.

AMBASSADOR - AFM/TM

F.M. R.F. and Oscillator Stages

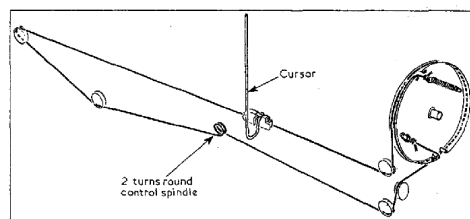
- 13.—Tune receiver to 88 Mc/s, and with signal generator connected to F.M. aerial sockets, feed in an 88 Mc/s unmodulated signal and adjust cores of **L5** (A2) and **L3** (A2) for maximum output on meter.
- 14.—Tune receiver to 96 Mc/s, feed in an unmodulated 96 Mc/s signal and adjust **C13** (J4) 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.



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