



“His Master’s Voice”

PRELIMINARY SERVICE DATA

This product has been manufactured to a standard of design and quality approved by the Registered Proprietor.

STEREOPHONIC RADIOGRAMPHONES 1639 & 1640

Schedules A & B Production

ALIGNMENT DATA

Note: A hexagonal trimming tool must be used for the IF transformer cores; tune to the outer peak in all cases.

IF ALIGNMENT — AM CIRCUITS

Switch the receiver to MW, turn tuning gang to minimum capacitance position and volume control to maximum. Inject a 470 Kc/s modulated signal through a .01uF capacitor at V2 control grid and adjust L19, L18, L15 and L14 for maximum output.

RF ALIGNMENT — AM CIRCUITS

MW must be aligned first. 30% modulated signals to be injected via a loop loosely coupled to the ferrite-rod aerial. With the tuning gang at maximum, set cursor to the right-hand edge of the scale opening. Pad and Trim markers are provided on MW and a calibration check point on LW.

Range	Frequency	Cursor Position	Adjust
MW	580 Kc/s	Pad Marker	L16, L10*
	1460 Kc/s	Trim Marker	C28, C19
LW	220 Kc/s	{ Tune to Signal Check Calibration }	C69, L11†

*Adjust by sliding ring along aerial rod.

†Adjust by sliding COIL FORMER along aerial rod.

Note.—In Schedule A receivers, an adjustable LW oscillator trimmer is not fitted and L11 only is adjusted for maximum output.

IF ALIGNMENT — FM CIRCUITS

The following procedure is based on the use of a signal generator providing Band II coverage, also 10.7 Mc/s AM (30% modulated) and 10.7 Mc/s FM signals (25 Kc/s deviation) at an output impedance of 75 Ω. Throughout alignment the

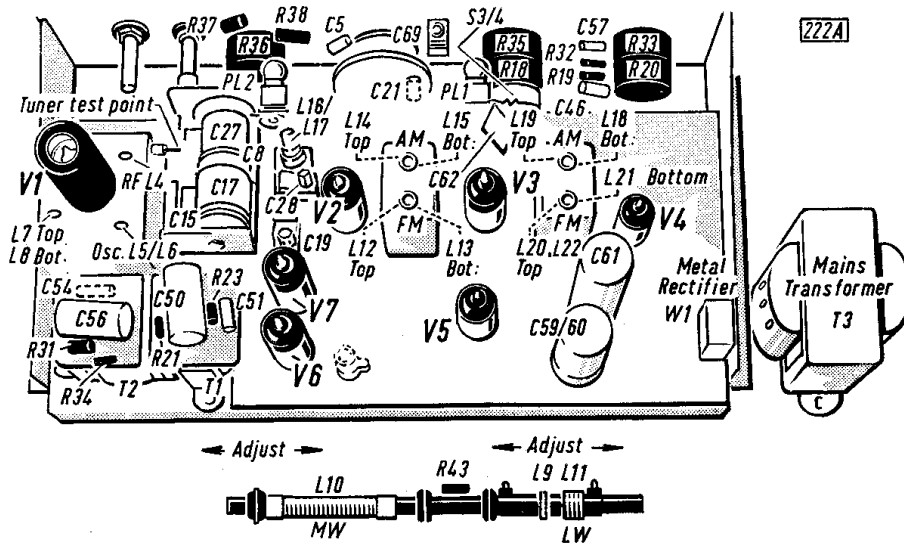
signal input to the receiver should be adjusted to maintain an audio output of about 100 mW.

1. Switch the receiver to VHF and allow to warm up for at least ten minutes. Set the Volume control 90° back from maximum and the Tone control to maximum treble.
2. Inject 10.7 Mc/s FM signal via 400 pF capacitor to V2 control grid and adjust L20, L21, L13 and L12 for maximum output.
3. AM rejection check
 - (a) Switch generator to 10.7 Mc/s AM and tune L21 for minimum output.
 - (b) Switch generator to 10.7 Mc/s FM and check that FM output has been retained. If maximum AM rejection does not coincide with maximum FM output, L21 should be tuned for maximum rejection at the expense of a slight reduction in FM output.
4. Unscrew the core of L8 in the VHF tuner unit so that it protrudes from the former by approximately 3/8 in.
5. Inject 10.7 Mc/s FM signal to the tuner TEST POINT. Adjust L7 for maximum output and then peak L8.

RF ALIGNMENT — FM CIRCUITS

Check that the cursor coincides with the edge of the scale opening when the tuning gang is fully closed.

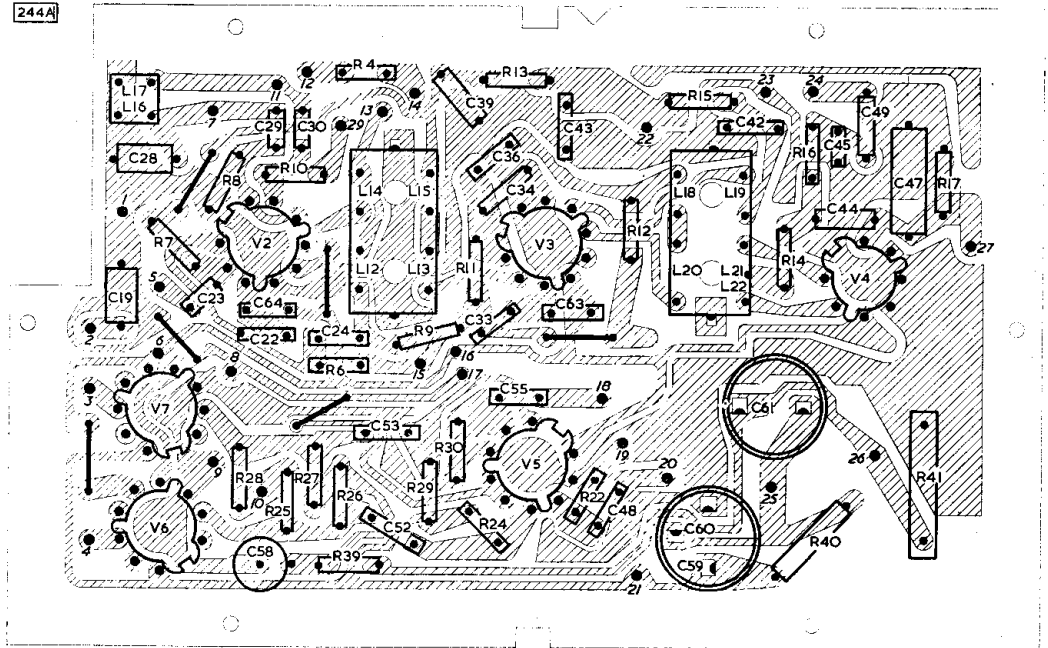
1. Adjust tuning control to set cursor to 91 Mc/s on scale.
2. Inject 91 Mc/s FM signal at the aerial sockets and tune in signal by adjusting L6. If two peaks occur within the tuning range, that obtained with the core nearest the top of the former must be chosen.
3. Adjust L4 for maximum audio output with the core towards the bottom of the former.
4. Check calibration over the range.



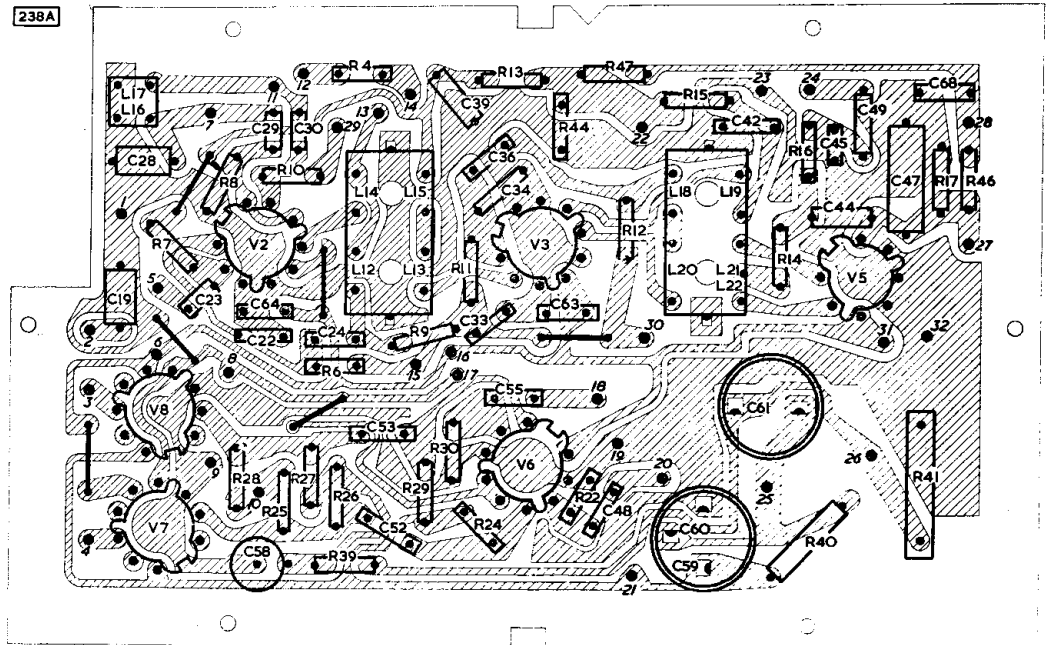
MODEL 1640 CHASSIS, schedule B production. The 1639 chassis is generally similar, with a piano key switch in place of the rotary type.

PRINTED BOARDS

MODEL 1640



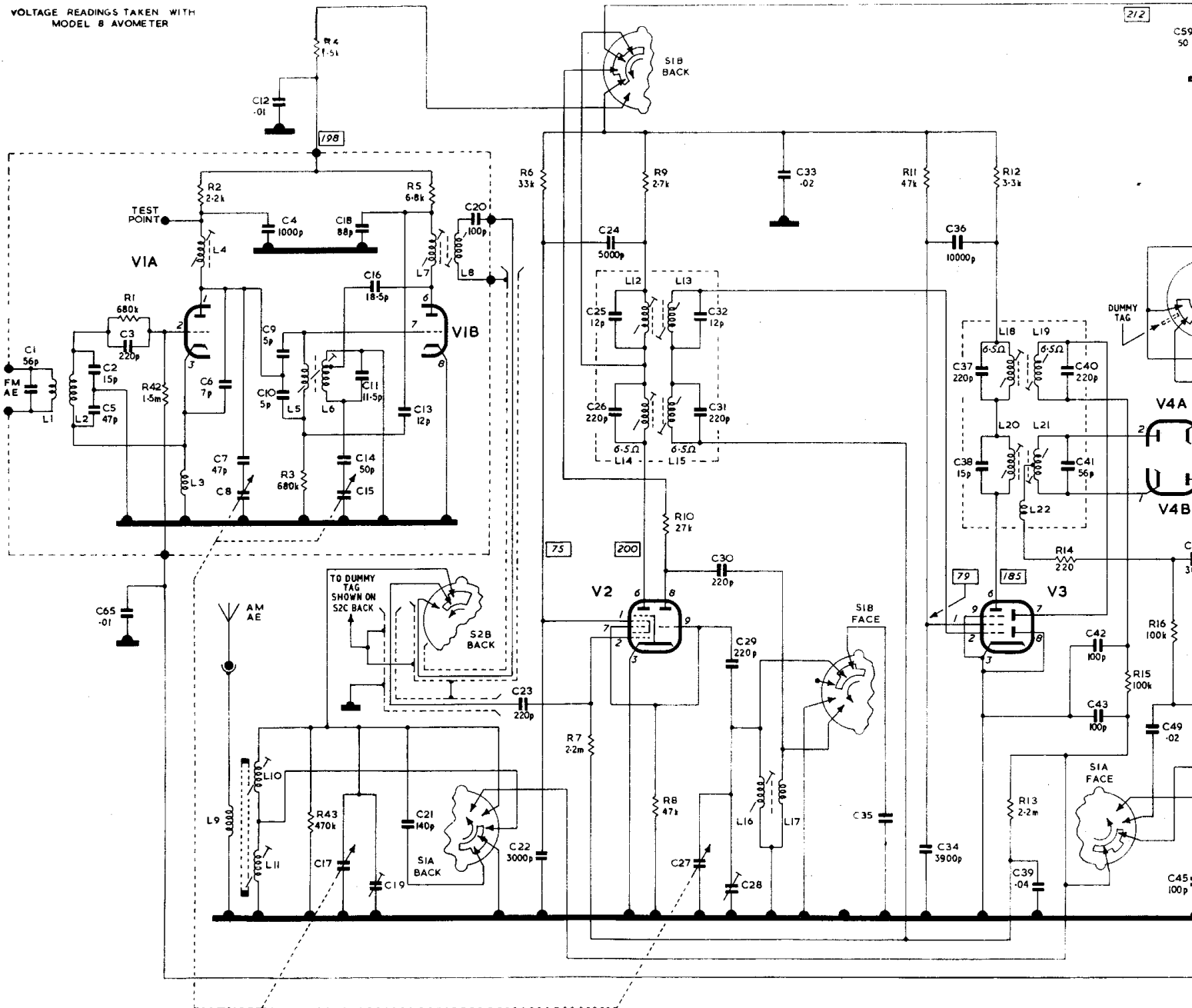
MODEL 1639



1. To chassis via Tuning Gang and to L9-L11 on Ferrite Aerial
2. To C17 Tuning Gang and to contact 10S3A-5 S1B-L10
3. To primary winding of T2
4. To primary winding of T1
5. To contact 5 of S3B
6. Heater connection to V1 Tuner Unit
7. To C27 Tuning Gang and contact 2 of S4A
8. Heater connection to V1 Tuner Unit
9. To shielding braid of connection 10
10. To contact 3 of S1A
11. To contact 1 of S3B
12. To pin A5 on Tuner Unit
13. To contact 6 of S2A
14. To contact 4 of S2A
15. To contact 5 of S2A-contact 5 of S2B and to pin 9 of V4
16. Heater connection to Pilot Lamps and heater winding on T3
17. To chassis via Pilot Lamps and to heater winding on T3
18. To contact 2 S1A
19. To shielding braid of connections 18 and 20
20. To R35 Volume Control
21. To contact 11 of S1B
22. To contact 3 of S1B via C43
23. To shielding braid of connections 22 and 24
24. To contact 1 S2A
25. To metal rectifier W1 positive and primary junctions T1-T2
26. To metal rectifier W1 negative
27. To pin A2 on Tuner Unit
- * 28. To pin 1 of V4
29. To contact 6 of S2B
- * 30. To pin 9 of V4
- * 31. To pin 5 of V4
- * 32. To pin 4 of V4

CONNECTIONS TO PRINTED BOARDS. The table shows the connections to the 1639 printed board; but is also applicable to the 1640, with the exception of those items marked thus "*" and the references to the piano key switch contacts.

VOLTAGE READINGS TAKEN WITH
MODEL 8 AVOMETER



MODEL 1640 CIRCUIT DIAGRAM. Voltage measurements, shown in rectangles, were taken with a 20,000 ohms/volt meter. DC resistance measurements are shown against inductances where they are 1 ohm or greater. **NOTE:** In schedule A production, C35 is 346pF 1%. In schedule B receivers, C35 is 315pF 1% and shunted by a 3-30pF trimmer. The trimmer is referred to as C69 in 'Alignment Data'.

STYLUS REPLACEMENT

MODEL 1639. Slide retaining clip to rear of cartridge and remove old stylus by means of stylus lever. With clip in vertical position, insert new stylus, type SS73, so that the lever fits into mounting, and cantilever beds correctly into damping block and stylus coupler. Slide retaining clip fully forward.

MODEL 1640. When replacing a worn stylus, do not remove the fixing screw, one turn is sufficient to enable the stylus to be removed. Use replacement types TC8RS (Stereo-LP) and TC8G (78 r.p.m.).

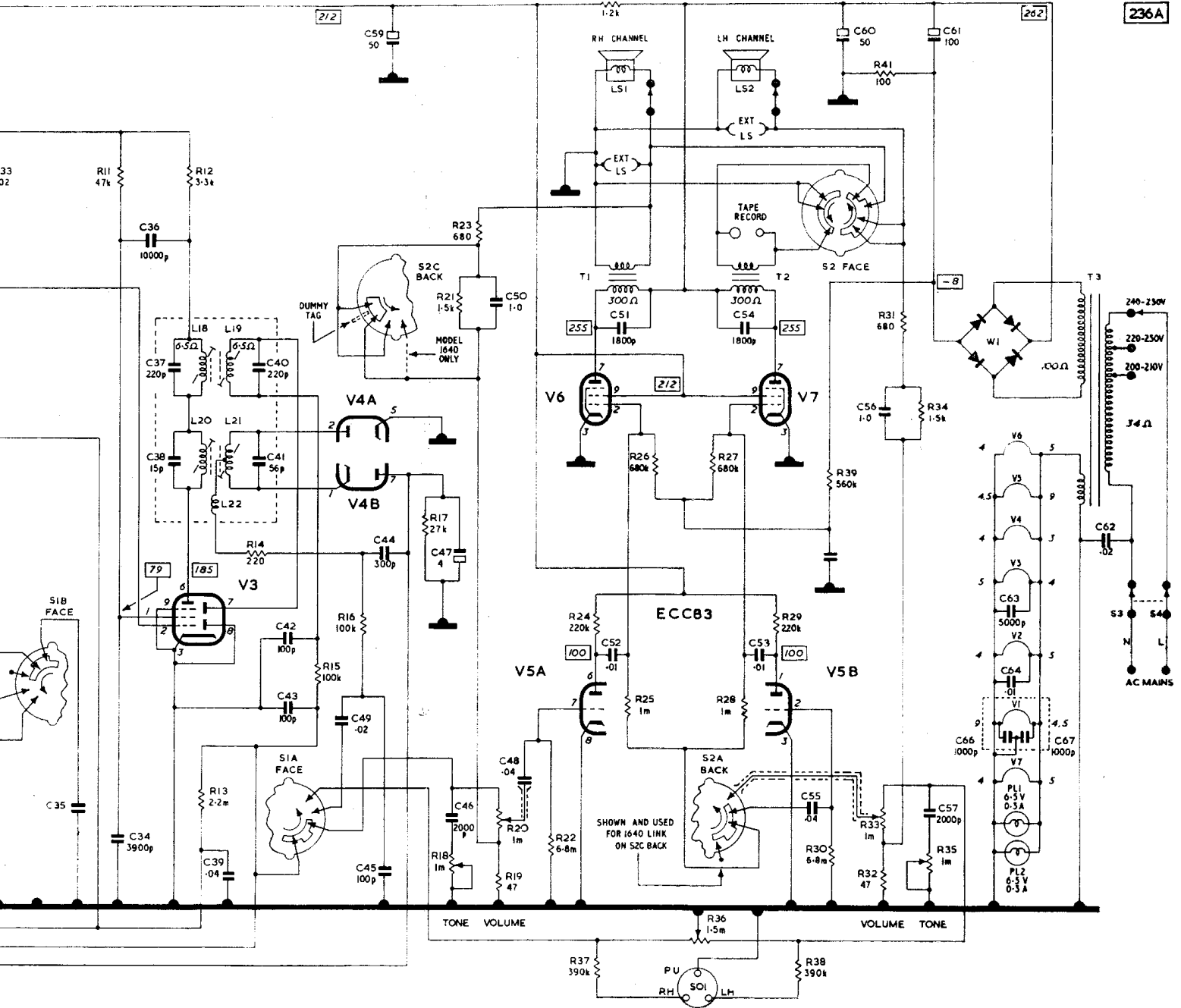
EBF 89

EB91

EL84

EL84

236A

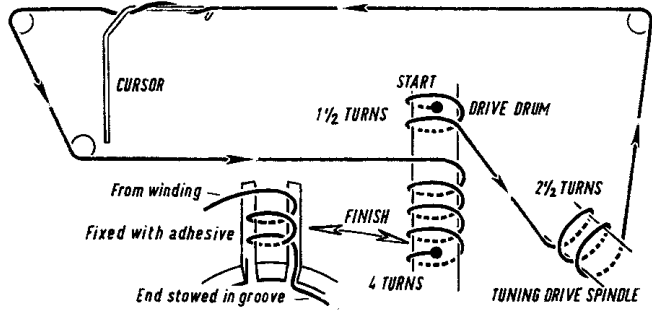


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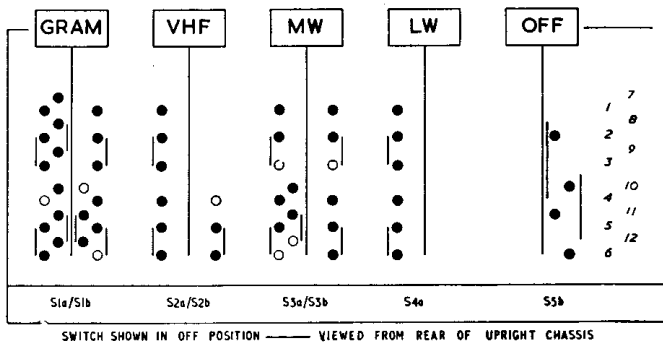
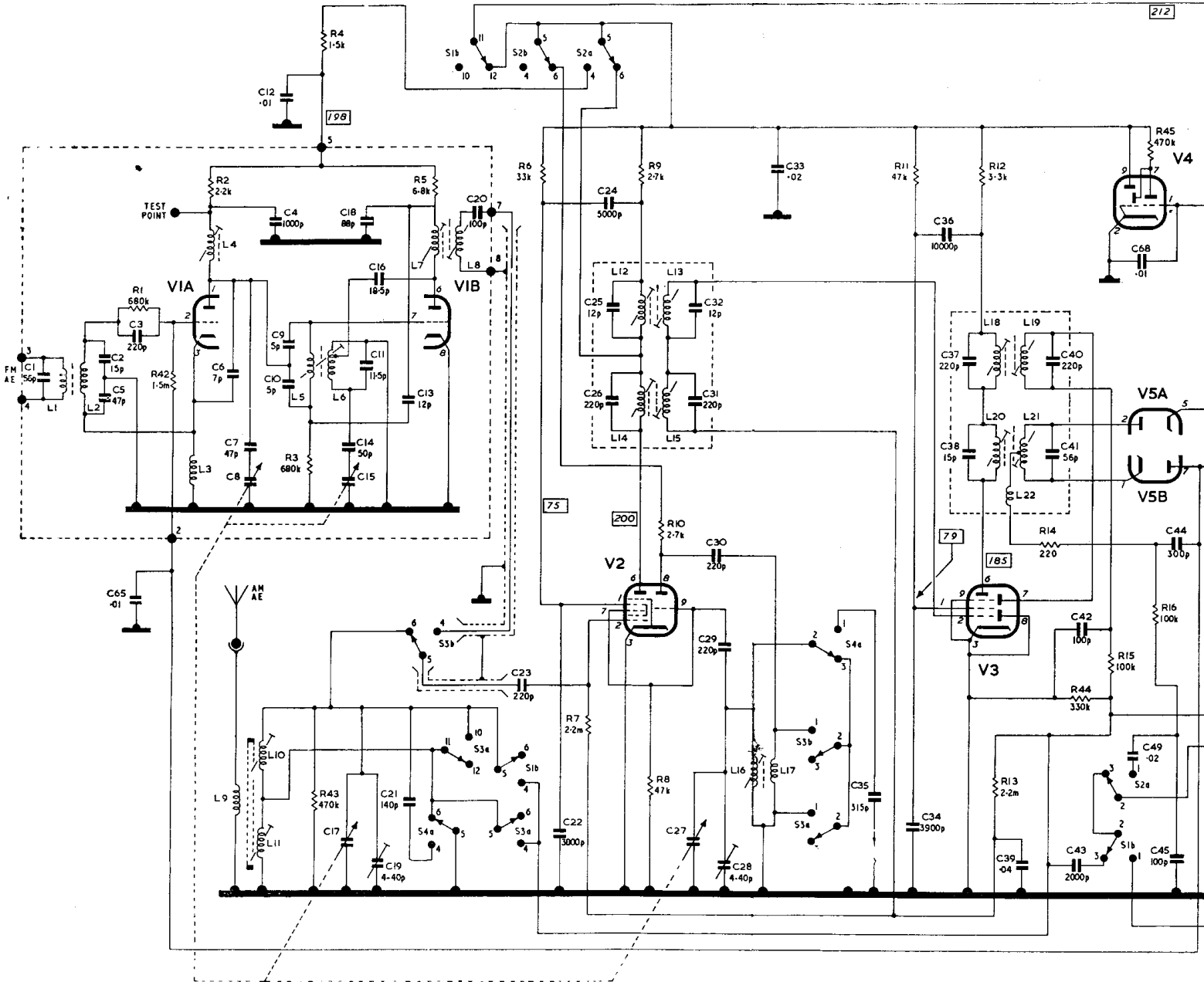
ve old stylus by means of stylus
 73, so that the lever fits into
 stylus coupler. Slide retaining

king screw, one turn is sufficient
 BRS (Stereo-LP) and TC8G (78

DIAGRAMMATIC ONLY SHOWN WITH GANG OPEN 223A



TUNING DRIVE CORD

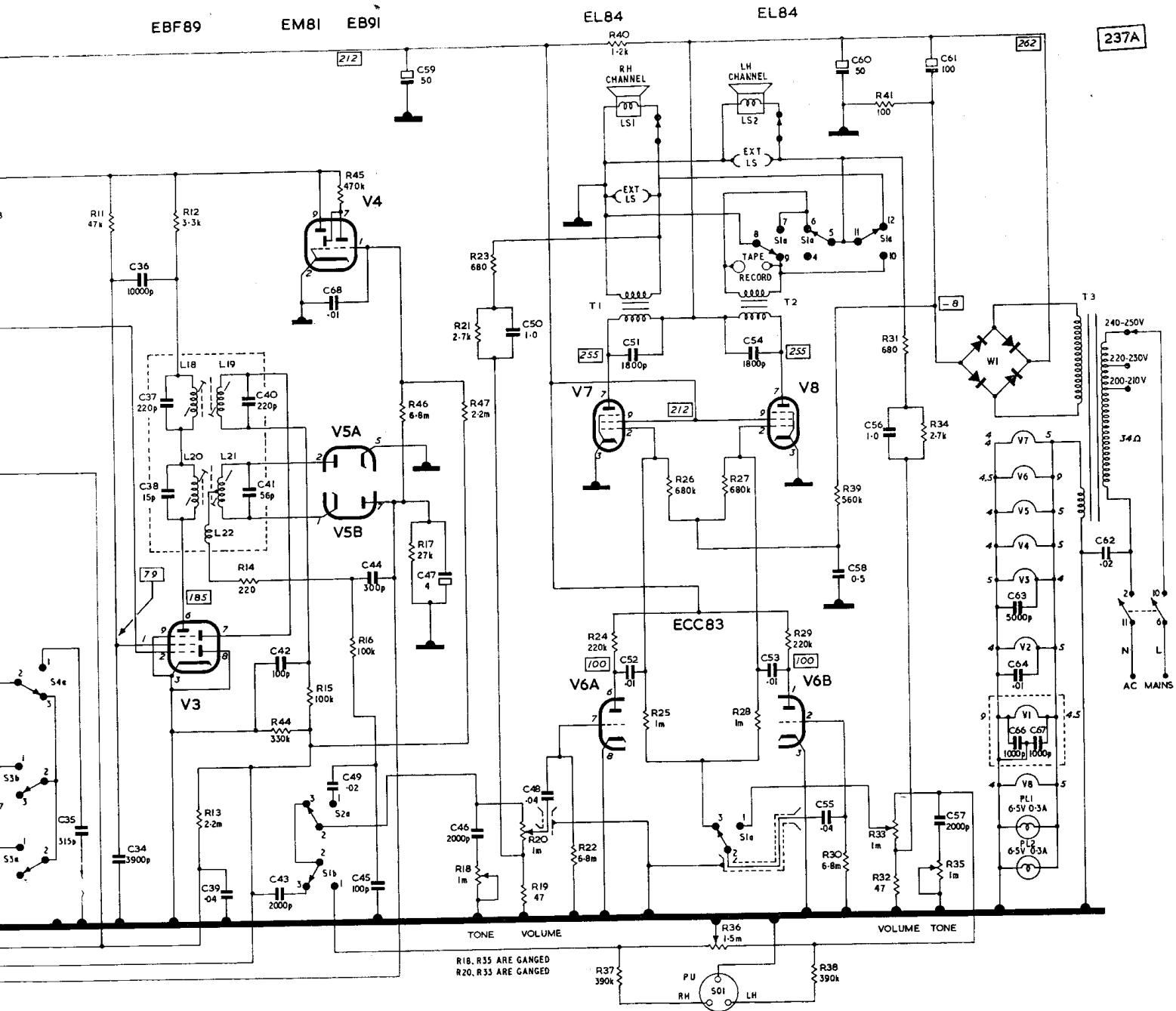


MODEL 1639 CIRCUIT with a 20,000 ohms/volt where they are 1 ohm schedule B receivers, C referred to as C69 in 'A'

BRITISH

The manufacturers reserve the right to vary specifications or use alternative materials as may be deemed necessary or desirable at any time.

LONDON: ELEY'S
 BIRMINGHAM: 24 SHEPHERD
 MANCHESTER: DERBY S
 GLASGOW: 160/162 E



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