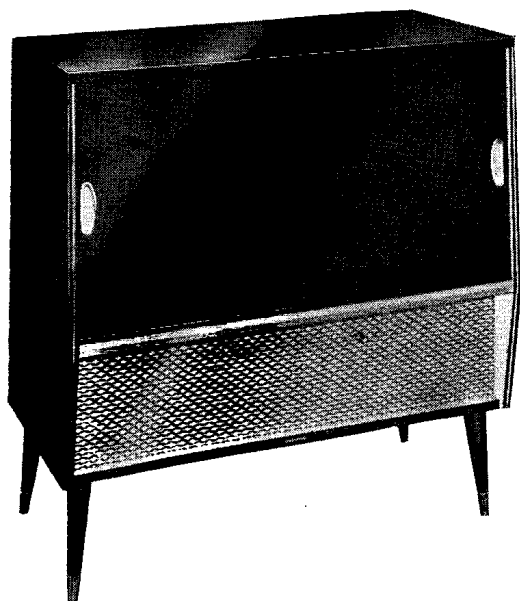


Marconiphone

SERVICE DATA



MODEL ARG 57E AUTO. RADIO-GRAMOPHONE

Radio

GMarconi

(Registered Trade Mark of
The Marconiphone Company Limited)

SERVICE NOTES

Mains Supply

200 to 250 Volts A.C. mains (50 cycles).

Power consumption approximately 50 watts (Radio), 65 watts (Gram.).

Waveband Coverage

Long Wave—1,160-1,940 metres

Medium Wave—188-545 metres

V.H.F./F.M.—88-101 Mc/s.

Valves

- | | |
|--------|---|
| ECC85 | V.H.F. Amplifier and Mixer Oscillator. |
| ECH81 | A.M. Frequency Changer and F.M. I.F. Amplifier. |
| EF89 | A.M. and F.M. I.F. Amplifier. |
| EABC80 | A.M. and F.M. Detector and Audio Amplifier. |
| EL84 | Audio Output. |

H.T. Rectifier

Siemens B250 C75.

Record Changer

B.S.R. UA8 with TC8M pickup cartridge.

Replacement styli. L.P.: T.C.8R (Red). STD: T.C.8G (Green).

Removing the Chassis

The control knobs should first be drawn off the spindles and the upper cabinet back removed. Free the ferrite-rod aerial from its mounting cradle, remove the plug from the chassis and disconnect record changer mains lead from terminal block.

The chassis fixing feet fit into rebates at the front of the cabinet and are secured at the rear by two bolts. When these are removed the chassis may be withdrawn from the cabinet.

ALIGNMENT

A.M. CIRCUITS

I.F. Alignment

Switch receiver to M.W., turn gang to minimum capacitance position and volume control to maximum. Inject a 470 Kc/s modulated signal through a 0.01 μ F capacitor at the grid of V2 (pin 2).

Adjust L18, L17, L14 and L13 for maximum output, adjusting input signal level to maintain output at approximately 50 mW.

R.F. Alignment

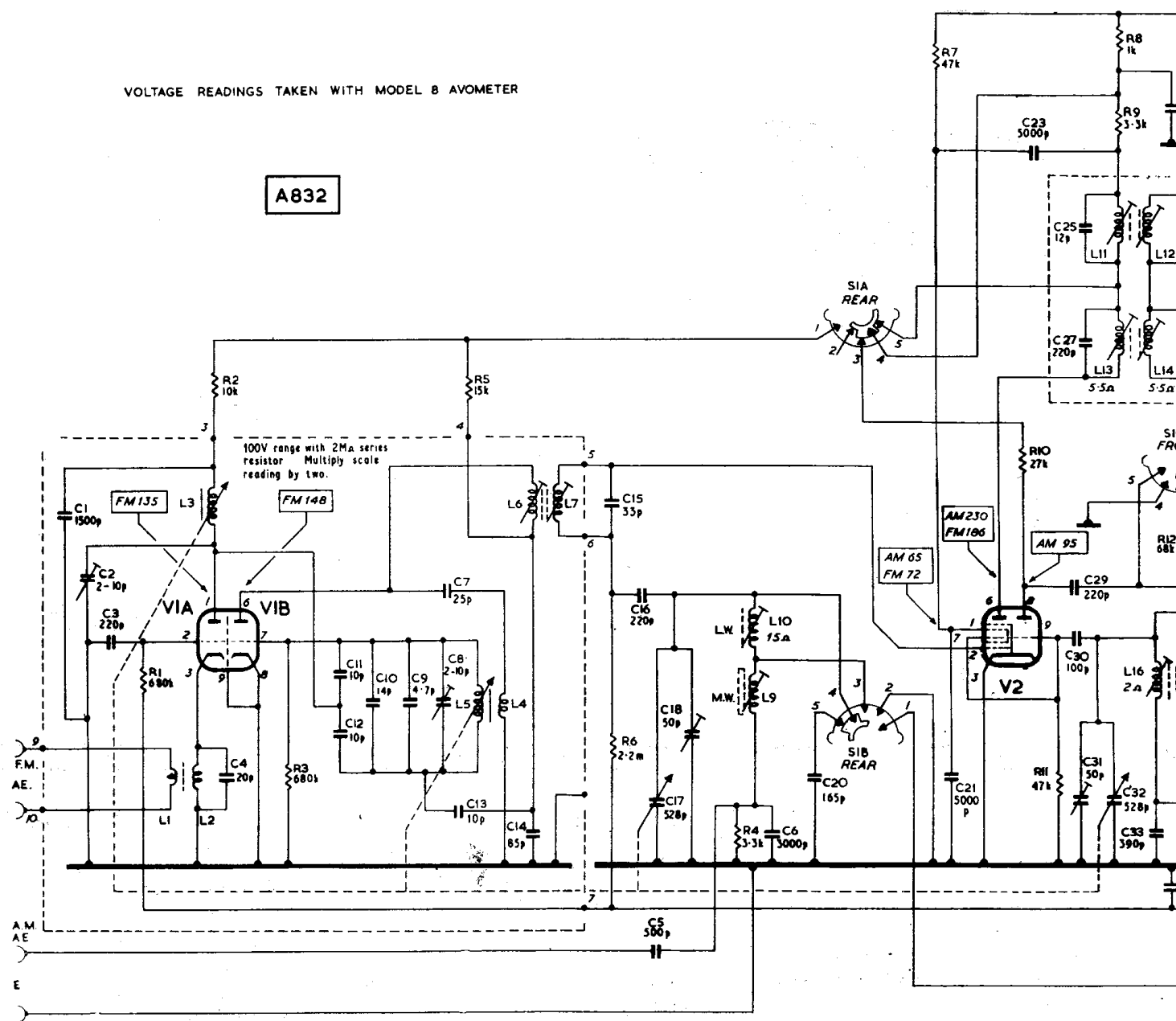
M.W. must be aligned first. Signals to be injected via a loop, loosely coupled inductively to the ferrite-rod aerial. Input level to be adjusted to maintain output at 50 mW.

1. With gang at maximum capacitance, set cursor to position E.
2. Switch to M.W., inject 1,400

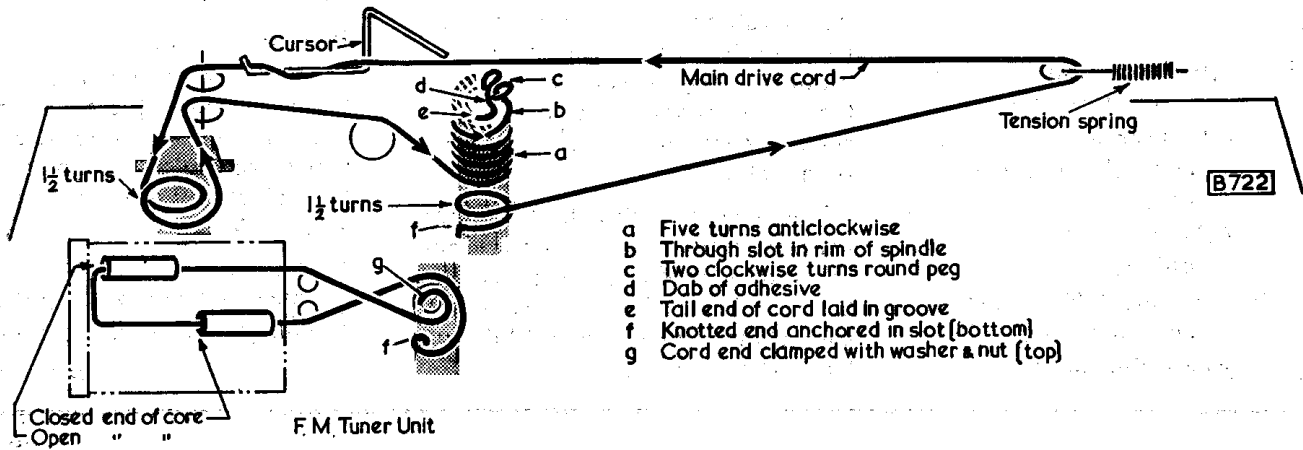
continued on p. 4

VOLTAGE READINGS TAKEN WITH MODEL B AVOMETER

A832



DIAGRAMMATIC ONLY Position when Gang closed Viewed from rear of chassis



- a Five turns anticlockwise
- b Through slot in rim of spindle
- c Two clockwise turns round peg
- d Dab of adhesive
- e Tail end of cord laid in groove
- f Knotted end anchored in slot [bottom]
- g Cord end clamped with washer & nut (top)

Fig. 1. The tuning drive cords. For the main drive, allow 4 ft. of nylon braided cord and arrange as shown. A special cord assembly with tuning slugs already fitted must be used if the F.M. Tuner drive cord needs replacement (Part No. Z17223).

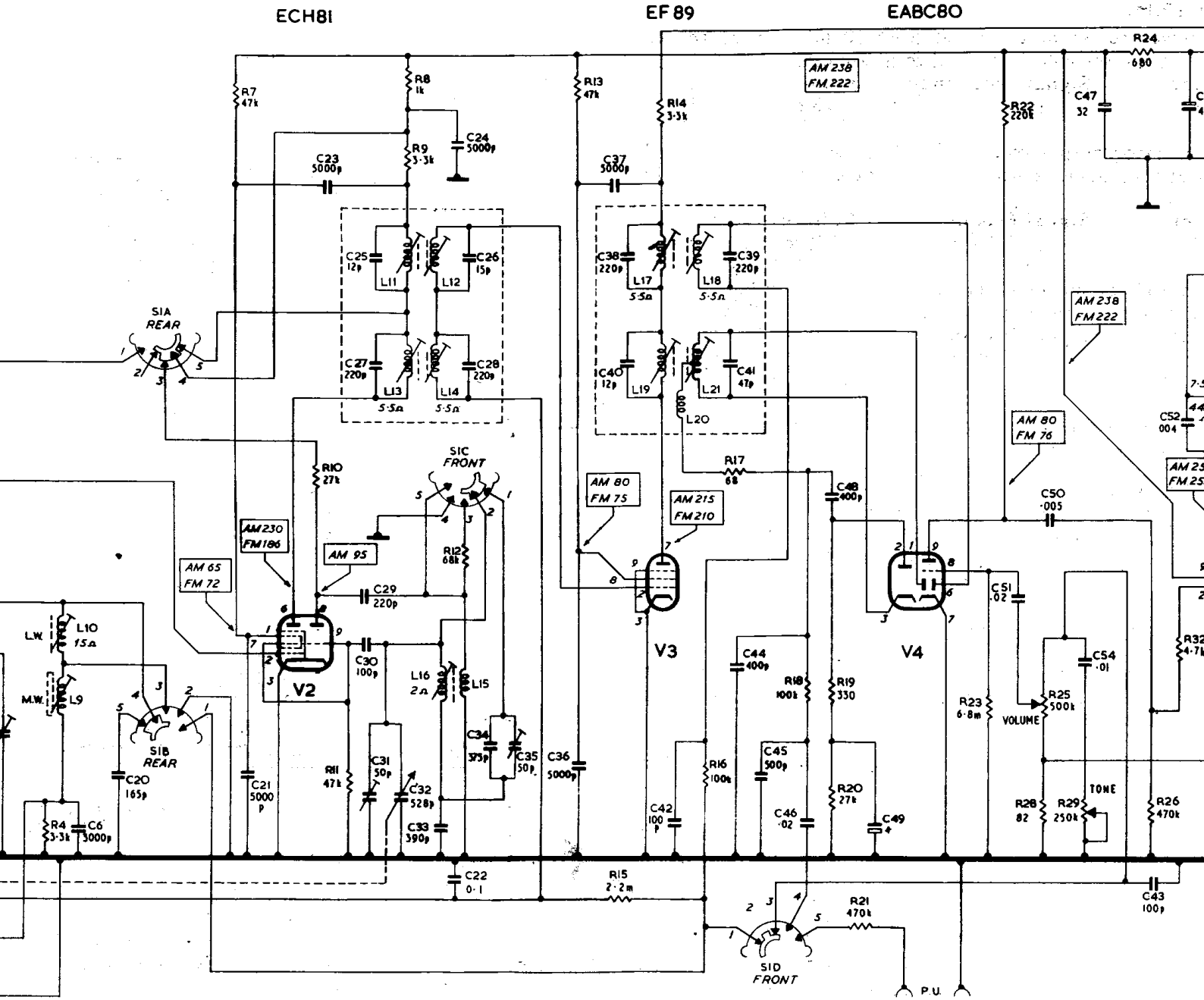
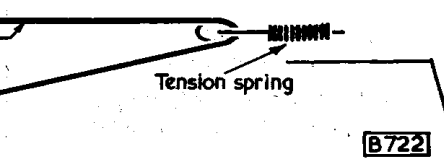


Fig. 2. Circuit diagram of Model ARG57E Schedule A receiver. The L.W. (fully anti-clockwise position) and sections SIA and SIB as they would be seen from the front. Contacts refer to the Switch Table which gives the D.C. resistances of inductors are given on the diagram. Voltage readings taken on a model 8 Avometer.

rear of chassis



clockwise
of spindle
is round peg
d in groove
red in slot (bottom)
with washer & nut (top)

of nylon braided cord and arrange
ready fitted must be used if the F.M.

SWITCH TABLE

Position	Contacts Closed		
	SIA	SIB	SIC
L.W.	3, 4, 5	4, 5	1, 2
M.W.	3, 4, 5	3, 4	2, 3
V.H.F.	1, 4	1, 2, 3, 4	2, 3, 4, 5
GRAM.	—	1, 2	4, 5

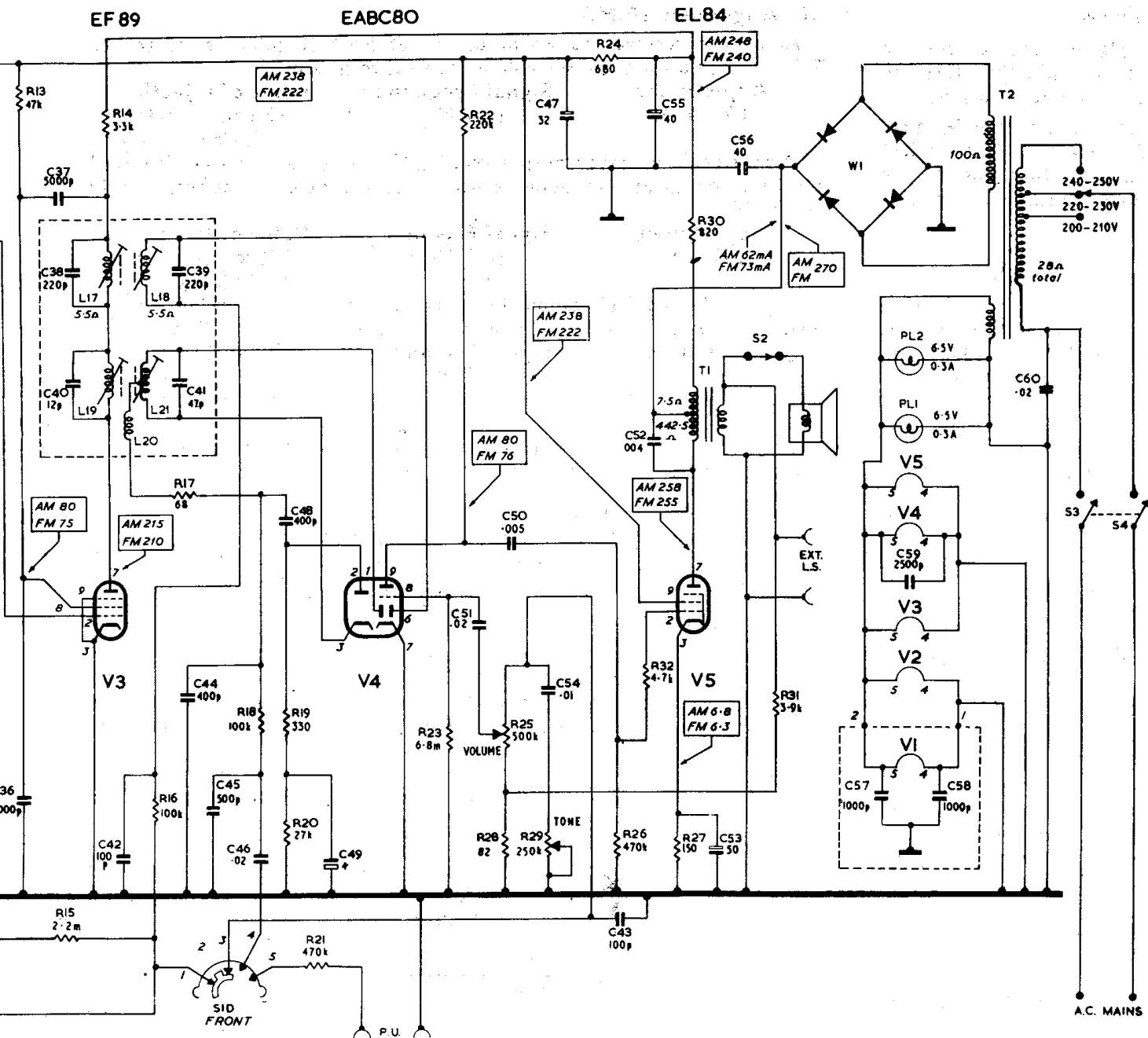


Fig. 2. Circuit diagram of Model ARG57E Schedule A production. The wave range switches are shown in the L.W. (fully anti-clockwise position) as viewed from the spindle end with the rear sections **SIA** and **SIB** as they would be seen "through" the wafer. Numbers against the contacts refer to the Switch Table which gives the switch operations for each waveband. D.C. resistances of inductors are given on the diagram where they are 1Ω or greater. Voltage readings taken on a model 8 Avometer are shown in rectangles.

SWITCH TABLE

Position	Contacts Closed			
	SIA	SIB	SIC	SID
L.W.	3, 4, 5	4, 5	1, 2	1, 3
M.W.	3, 4, 5	3, 4	2, 3	1, 3
V.H.F.	1, 4	1, 2, 3, 4	2, 3, 4, 5	3, 4
GRAM.	—	1, 2	4, 5	3, 5

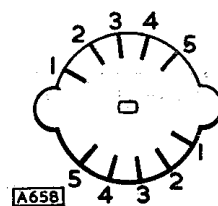


Fig. 3. Generalised view of switch wafer, showing relative positions of contacts.

continued from p. 1

Kc/s signal, set cursor to position **A** and adjust **C31** and **C18** for maximum output.

3. Set cursor to position **D**, inject 580 Kc/s signal and adjust **L16** and the adjusting ring on the ferrite-rod aerial for maximum output.
- 4 Repeat 2 and 3 until no further improvement results.
5. Switch to L.W., inject 223 Kc/s signal, set cursor to position **B** and adjust **C35** and **L10** until no further improvement results.

F.M. Circuits

The various trimming adjustments associated with the V.H.F./F.M. band must not be disturbed unless suitable equipment is available to re-align the tuned circuits. In the event of component replacement in the V.H.F. tuner unit, care must be taken to restore the wiring to its original arrangement and to ensure that the lead lengths of the replacement part are the same as in that originally fitted.

The following alignment procedure is based on the use of an F.M. signal generator with I.F. and Band II coverage and an output impedance of 75 Ω. Carrier deviation should be set to 25 Kc/s and, throughout alignment, the signal input to the receiver should be adjusted to maintain an audio output of 100 mW. The stage by stage sequence given must be strictly observed.

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

I.F. Alignment (F.M.)

Allow the receiver to warm up for at least 10 minutes, switch to V.H.F./F.M. position and set volume control to maximum.

Adjustment	Signal Frequency	Point of Injection
L21, L19	10.7 Mc/s	V3 control grid (Pin 2 via 0.01 μF)

With signal generator output of 20 mV, adjust core of **L21**, followed by **L19**, for maximum audio output. This should be approximately 100 mW.

Adjustment	Signal Frequency	Point of Injection
L12, L11	10.7 Mc/s	V2 control grid (Pin 2 via 0.01 μF)

Adjust **L12** and **L11** for maximum audio output reducing input signal level as required so that the audio output does not exceed 100 mW.

Adjustment	Signal Frequency	Point of Injection
L7, L6	10.7 Mc/s	Junction R2 and L3 (Tag 3 V.H.F. tuner via 500 pF)

Using non-metallic trimming tool, adjust **L7** and **L6** for maximum audio output reducing input level as necessary.

R.F. Alignment (F.M.)

1. Rotate tuning control until cursor locates at position **C**.
2. With main drive held in this position, slacken V.H.F. tuner drive bush fixing screw and rotate bush fully anti-clockwise. Check that free end of cord is under washer and that cord tension is maintained, then tighten fixing screw.
3. Rotate tuning control clockwise until cursor reaches position **E** (end stop).
4. Inject 91 Mc/s signal into aerial socket and, using a non-metallic trimming tool, adjust **C8** for maximum audio output. **No further adjustment of C8 should be made.**
5. Slacken V.H.F. tuner drive bush and rotate tuning control until cursor reaches position **B**. Re-adjust V.H.F. drive bush if necessary to bring in 91 Mc/s signal (during this operation, cord tension must be maintained) and tighten fixing screw.
6. Adjust **C2** for maximum audio output, reducing input signal level as required.

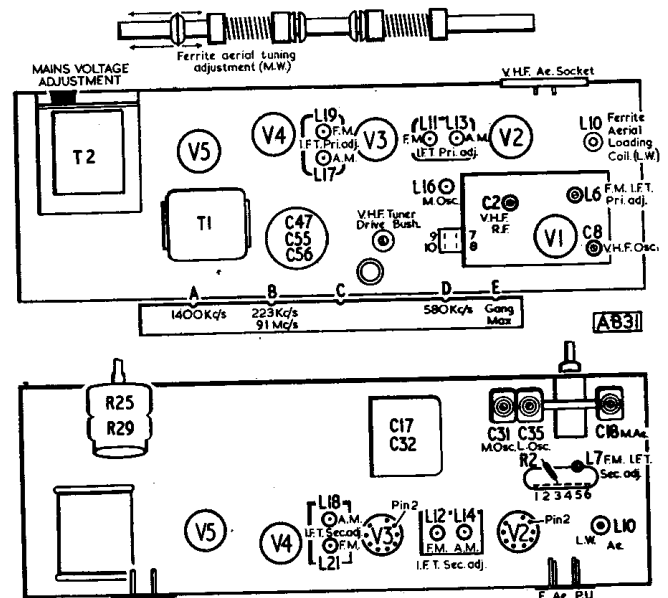


Fig. 4. Locations of trimming adjustments and calibration markers.

Address all service enquiries to:—

THE BRITISH RADIO CORPORATION LTD.,
SERVICE DIVISION.

LONDON: 145 KENTISH TOWN ROAD, N.W.1. Telephone: GULLiver 6633.
 BIRMINGHAM: 24 SHEPCOTE STREET, 15. Telephone: Midland 5291. Telegrams: Eleclampo, Birmingham.
 MANCHESTER: 9 STEVENSON SQUARE. Telephone: Central 3185. Telegrams: Eleclampo, Manchester.
 GLASGOW: 9/15 WAVERLEY STREET, SHAWLANDS, S.1. Telephone: Langside 1242.