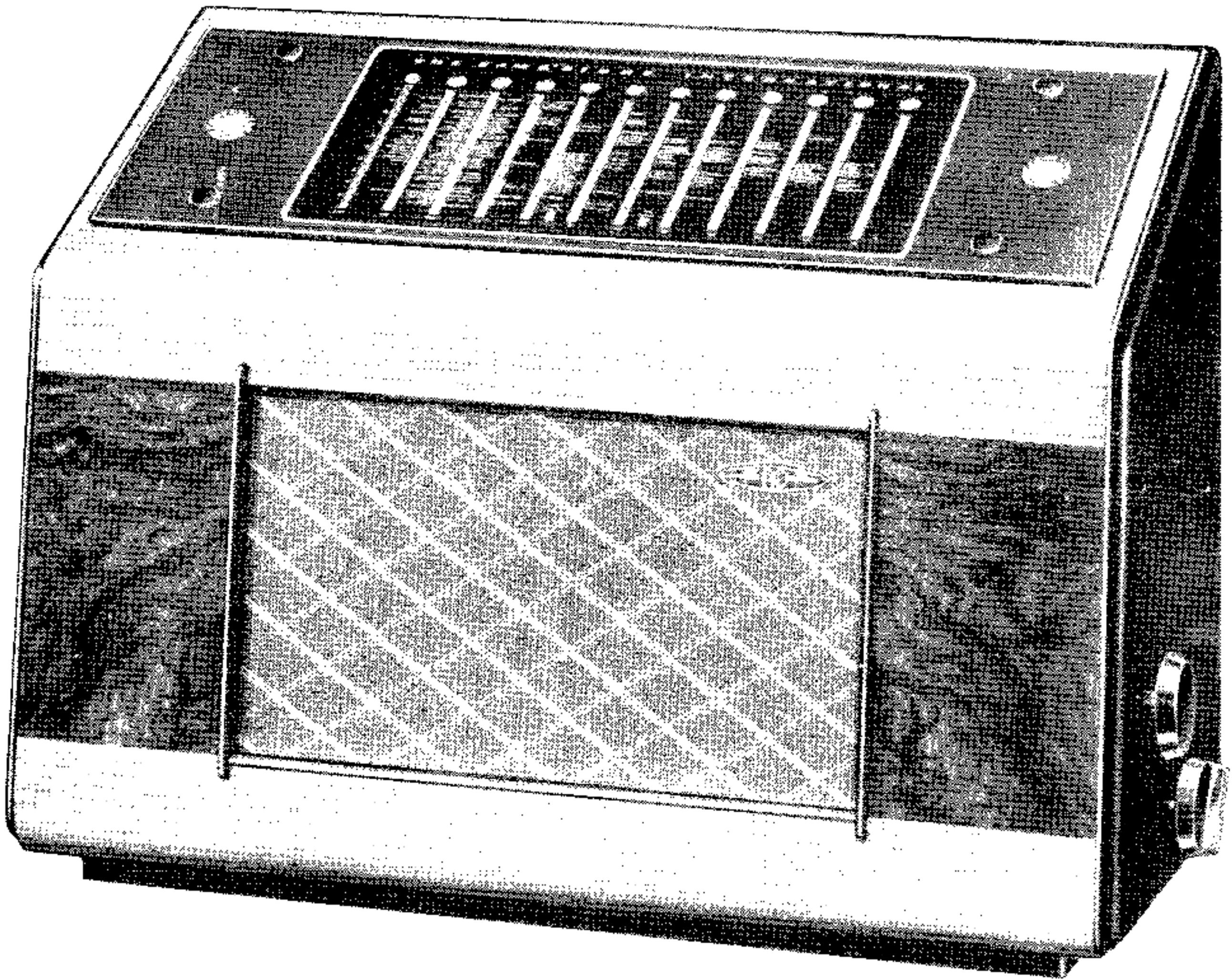


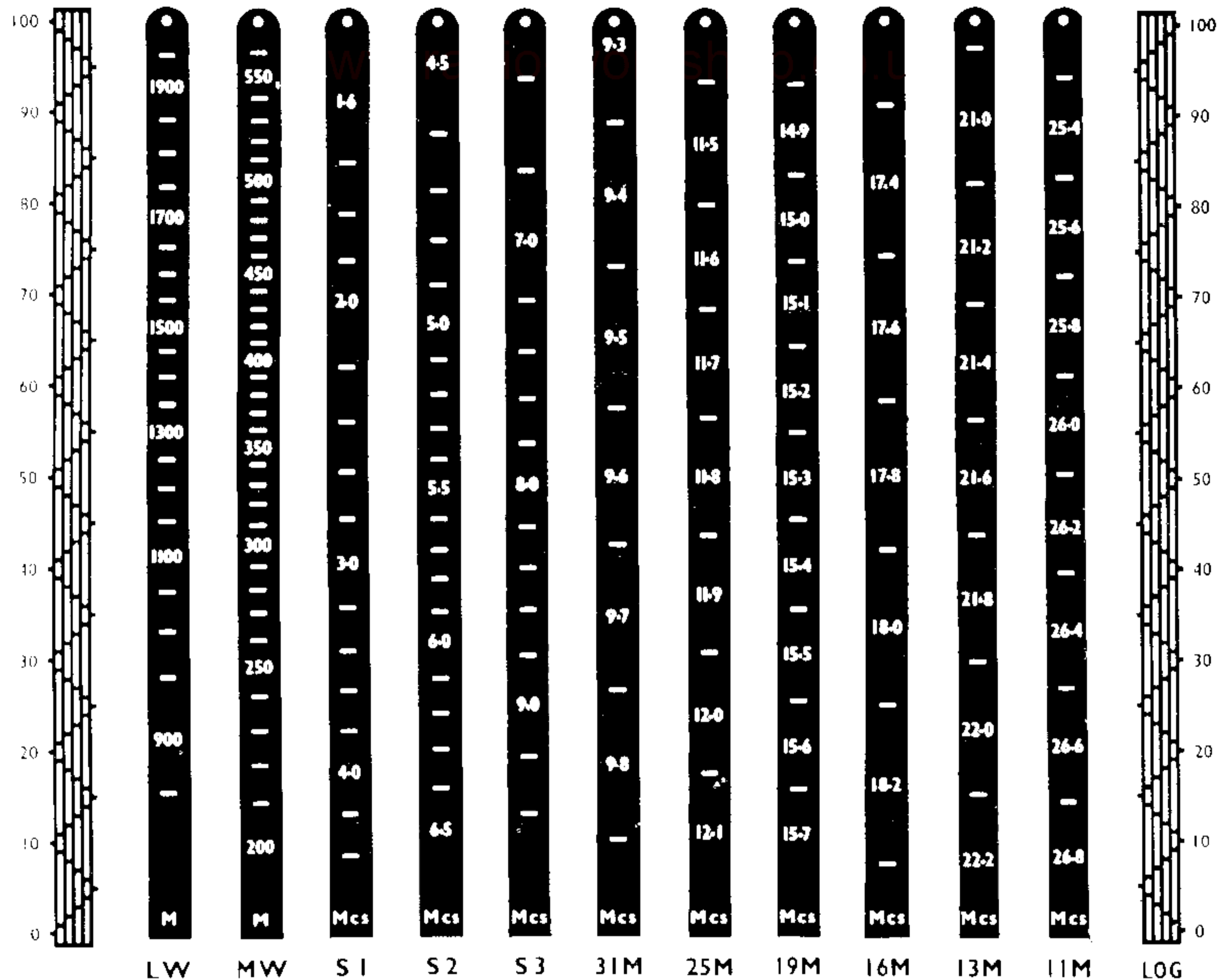
"Cambridge International"

Model "J" Type PE80



FOR OPERATION ON
90 150 V. AND 195 250 V. A.C. MAINS

CALIBRATION CHART



Notes

- 1 A 100 Division Trimming Scale is fitted to the scale reflector plate (see Fig. 3) for use when trimming the receiver outside the cabinet; this should agree with the 100 Division Logging Track on the scale when chassis and scale are correctly placed in the cabinet.
The bottom of the pointer carriage serves as an index for the scale.
A Calibration Chart is printed above.
When no accurate frequency standard is available the receiver should be calibrated against a reliable broadcasting station operating on a frequency close to that specified in the trimming instructions.
- 2 External Speaker 2.4 ohms impedance.
- 3 Dial and Indicator Bulbs 6.5 volt 0.3 amp. M.E.S.
- 4 Make sure Mains Voltage Adjuster is in correct position to ensure (a) maximum valve and component life and (b) full benefit of the Pye Quality reproduction.
- 5 TO REMOVE TUNING INDICATOR. Loosen two screws "A," see Fig. 1, rotate circular base plate in a clockwise direction to end of slots and pull out.
When replacing Tuning Indicator, reverse the above procedure making sure that the shadows appear vertical. Tighten up two screws "A."



MODEL "J"

TYPE PE80

FOR OPERATION ON
90/150 V. AND 195/250 V.
A.C. MAINS

CIRCUIT ANALYSIS

Mains Consumption 70 watts approx.

Output 7 watts

Valve	Mullard	Ea	Ia	Es	Is	Osc. and Target		Ek	Ik
						Ea	Ia		
V1 R.F. Amplifier	EF.41	180	4.3	80	1.1	—	—	1.75	5.4
V2 Freq. Changer.. .. .	ECH.42	190	2.2	80	3.4	100	4.2	1.75	9.8
V3 I.F. Amplifier	EF.41	220	4.5	80	1.0	—	—	1.8	5.5
V4 A.V.C. and L.F. Amp.	EBC.41	118	0.25	—	—	—	—	1.6	0.25
V5 Tuning Indicator	EM.34	—	—	—	—	220	—	0	1.3
V6 Det. and Phase Inverter	EBC.41	118	0.25	—	—	—	—	1.6	0.25
V7 Output	EL.41	255	20.5	220	3.0	—	—	7.1	23.5
V8 Output	EL.41	255	20.5	220	3.0	—	—	7.1	23.5
V9 Power Rectifier	EZ.40	Anode to Anode 510 v. A.C.						258	69.5

Note.—Measurements taken on an Avometer Model 8 instrument. All voltages over 250 v. taken on 1,000 v. range. Voltages under 250 v. taken on 250 v. range. All voltages under 10 v. taken on 10 v. range. Receiver tuned to M.W. band 200 metres with no signal input. Mains input 210 v. into 200 to 220 v. tap on transformer.

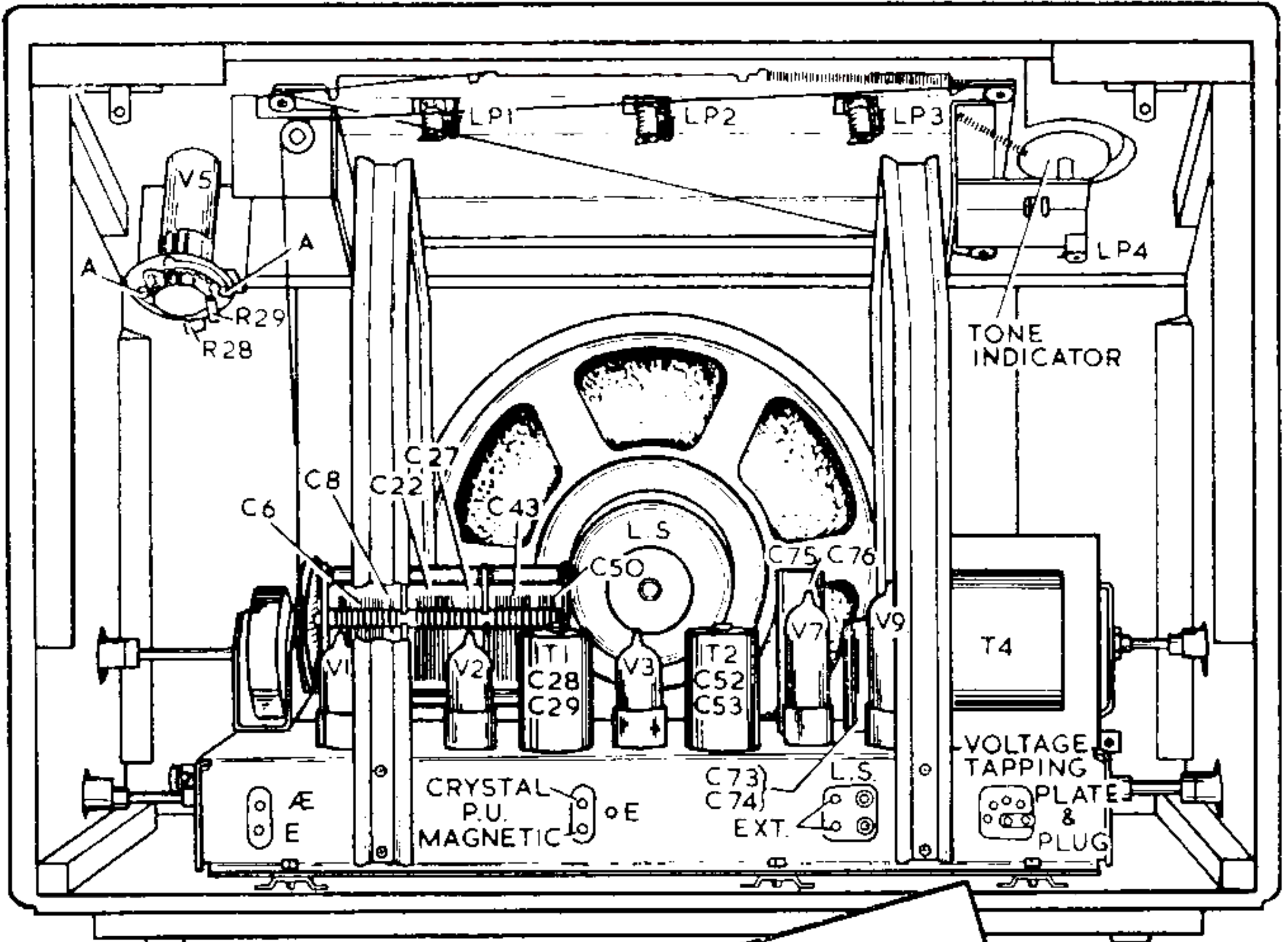
TRIMMING PROCEDURE

Apply Signal as below	Set Receiver Controls to	Adjust in order for maximum output, except in case of L12
(1) 470 Kc/s. between chassis and control grid of V2 via 0.1 μ F condenser	Low frequency end of M.W. band (550 metres)	Iron dust cores of T2 and T1
(2) 470 Kc/s. between chassis and aerial socket via standard dummy aerial	Low frequency end of M.W. band (550 metres)	Iron dust core of L12 for MINIMUM output
(3) As (2) but 214 Kc/s.	L.W. band 1,400 metres	Iron dust cores of L24 and L19
(4) As (2) but 167 Kc/s.	L.W. band 1,800 metres	Iron dust core of L1
(5) As (2) but 333 Kc/s.	L.W. band 900 metres	Trimmer C1
(6) Repeat (4) and (5) until tracking is correct		
(7) As (2) but 600 Kc/s.	M.W. band 500 metres	Iron dust cores of L25, L20 and L2
(8) As (2) but 1,500 Kc/s.	M.W. band 200 metres	Trimmers C35, C18 and C2
(9) Repeat (7) and (8) until calibration and tracking are correct		
(10) 1,800 Kc/s. between chassis and aerial socket via a 400 ohm resistor	S1 band 167 m. Log track 79	Iron dust cores of L26, L21 and L3
(11) As (10) but 4.0 Mc/s.	S1 band 75 m. Log track 17.5	Trimmers C37, C16 and C3
(12) Repeat (10) and (11) until calibration and tracking are correct		
(13) As (10) but 4.9 Mc/s.	S2 band 61.25 m. Log track 71	Iron dust cores of L27, L22 and L4
(14) As (10) but 6.1 Mc/s.	S2 band 49.18 m. Log track 28	Trimmer C38
(15) Repeat (13) (L27) and (14) until calibration is correct		
(16) As (10) but 7.2 Mc/s.	S3 band 41.67 m. Log track 69	Iron dust cores of L28, L23 and L5
(17) As (10) but 9.6 Mc/s.	S3 band 31.25 m. Log track 2	Trimmer C39
(18) Repeat (16) (L28) and (17) until calibration is correct		
(19) As (10) but 9.6 Mc/s.	31 m. band 31.25 m. Log track 50	Slug of L34 and iron dust cores of L13 and L6
(20) As (10) but 11.8 Mc/s.	25 m. band 25.42 m. Log track 50	Slug of L33 and iron dust cores of L14 and L7
(21) As (10) but 15.3 Mc/s.	19 m. band 19.61 m. Log track 50	Slug of L32 and iron dust cores of L15 and L8
(22) As (10) but 17.8 Mc/s.	16 m. band 16.85 m. Log track 50	Slug of L31 and iron dust cores of L16 and L9
(23) As (10) but 21.6 Mc/s.	13 m. band 13.89 m. Log track 50	Iron dust cores of L30, L17 and L10
(24) As (10) but 26.1 Mc/s.	11 m. band 11.49 m. Log track 50	Iron dust cores of L29, L18 and L11

Note.—Adjust all cores and trimmers in the above order, i.e. first, Oscillator; second, R.F. Anode; third, Aerial. In the case of the fully spread bands the only adjustments necessary are at the one frequency stated for each.

In order to facilitate tuning of the aerial and R.F. circuits a resistance 4.7 K ohm in series with a condenser of 0.01 μ F must be connected between V2 hexode anode and chassis. This has the effect of reducing the I.F. sensitivity about 30 times.

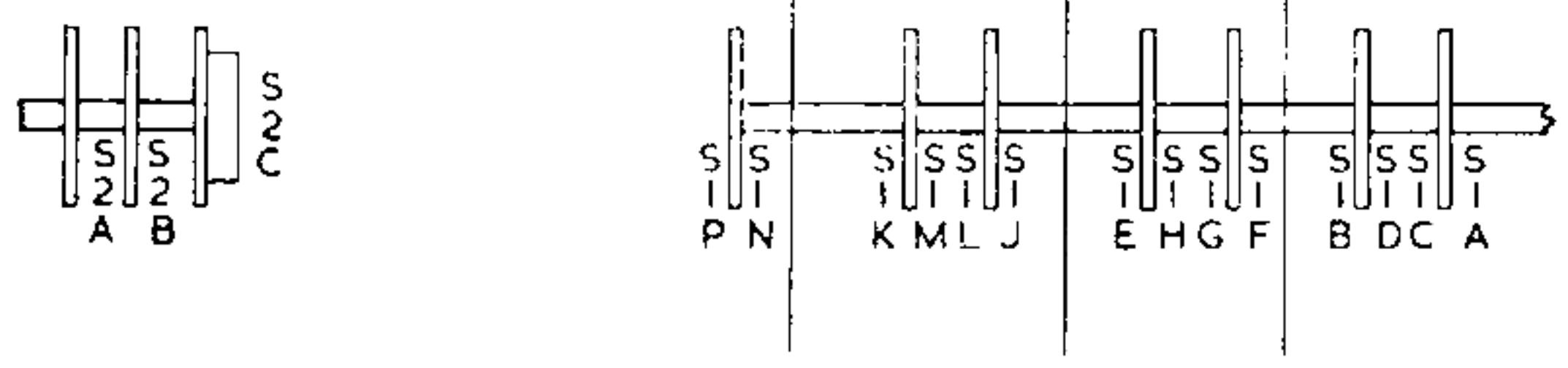
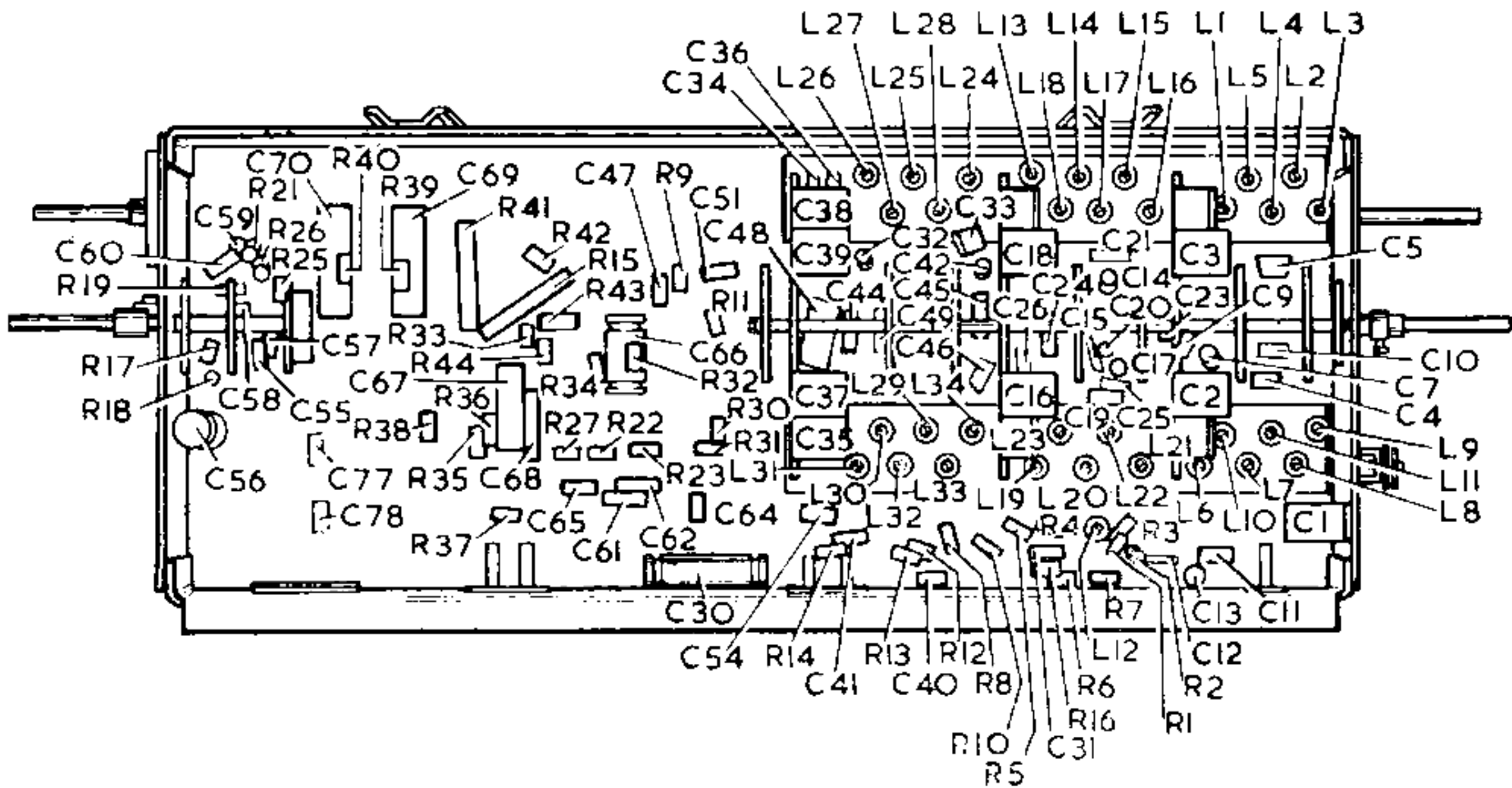
NOTE: Wood screws securing the two transit brackets to top of cabinet must be removed before removal of chassis from cabinet.



TO REMOVE CHASSIS

- 1 REMOVE BACK OF SET
- 2 PULL OFF KNOBS
- 3 PULL OUT LOUDSPEAKER PLUGS
- 4 REMOVE TUNING INDICATOR
- 5 REMOVE THE THREE CHASSIS FIXING SCREWS
- 6 WITHDRAW CHASSIS

FIG. 1



CODING FOR SWITCH UNITS

FIG. 4

THE DRIVE CORD SHOULD BE OF NYLON BRAIDED GLASS YARN
 LENGTH 72"

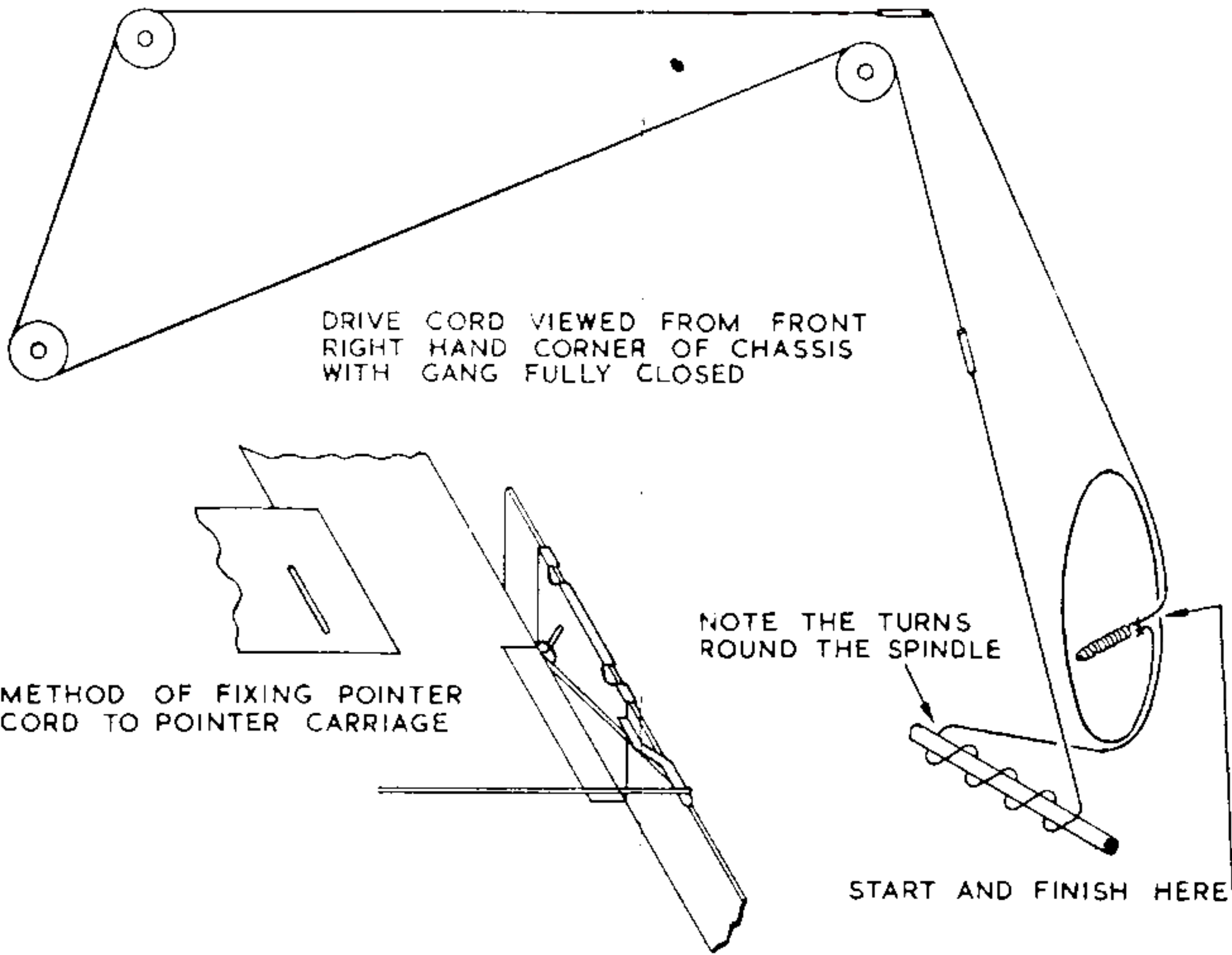
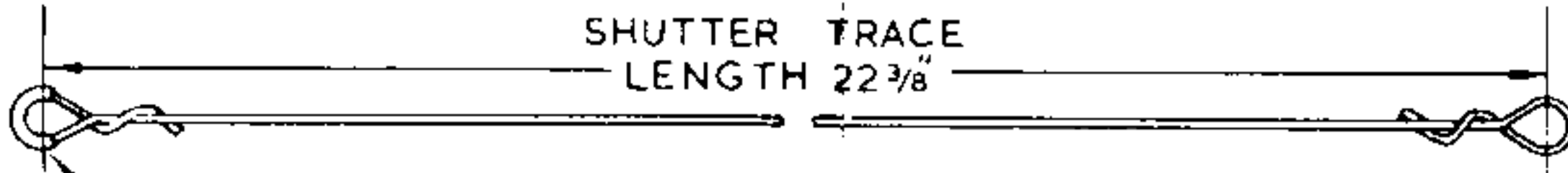


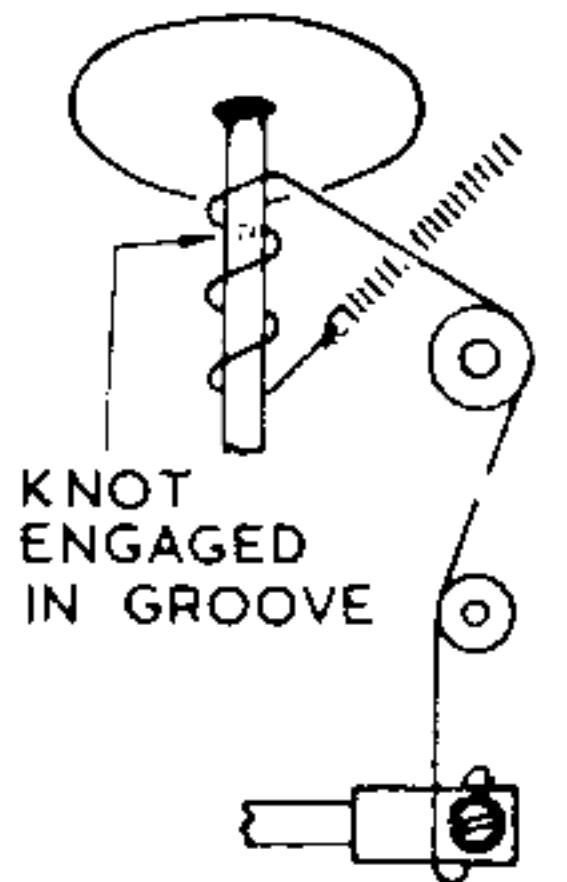
FIG. 2

THE SHUTTER AND TONE INDICATOR TRACE SHOULD BE OF 7/42 SWG.
 STRANDED HIGH GRADE TINNED STEEL WIRE

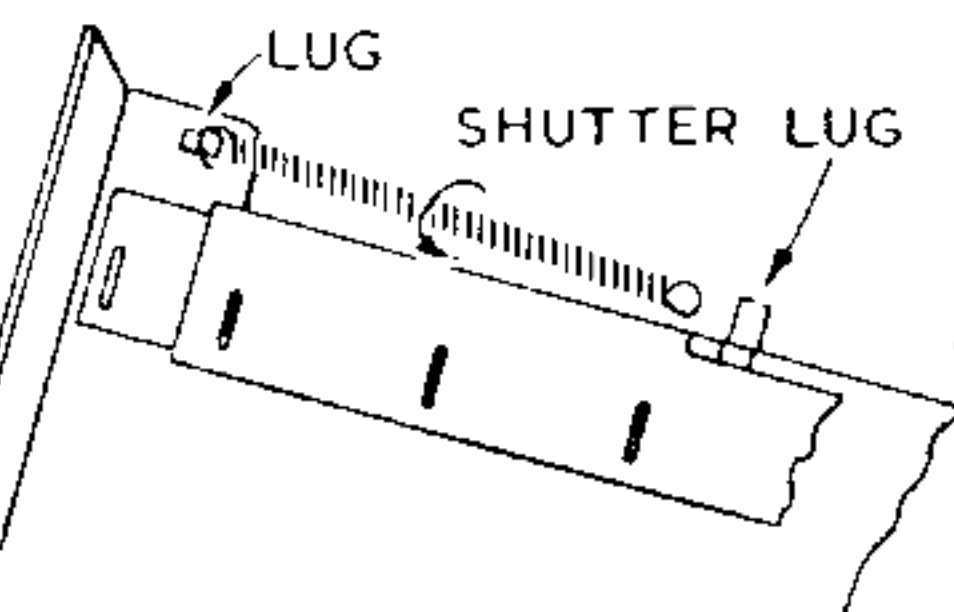


THIS LOOP (3/16" I.S. DIAMETER) TO BE COVERED WITH SLEEVING BEFORE TWISTING AND SOLDERING

TONE INDICATOR SHOWN IN POSITION 7



LOOPS 3/16" AND 5/16" I.S. DIAMETER ENDS TO BE TWISTED AND SECURELY SOLDERED.
 SHUTTER AND SWITCH VIEWED FROM ABOVE AND SHOWN IN EXTREME CLOCKWISE POSITION, I.E. ON RECEIVERS WITH L.W. TRACK, IN 11 METERS POSITION AND ON RECEIVERS WITHOUT L.W. TRACK, IN G(GRAM) POSITION.



ATTACH ONE END OF SPRING LUG ON SCALE BACKPLATE THEN IN ORDER TO PREVENT THE SHUTTER FROM DROPPING THE SPRING MUST BE TURNED FOR AT LEAST TWO COMPLETE TURNS IN THE DIRECTION SHOWN IN DRAWING THEN ATTACHED TO THE SHUTTER LUG

FIG. 5

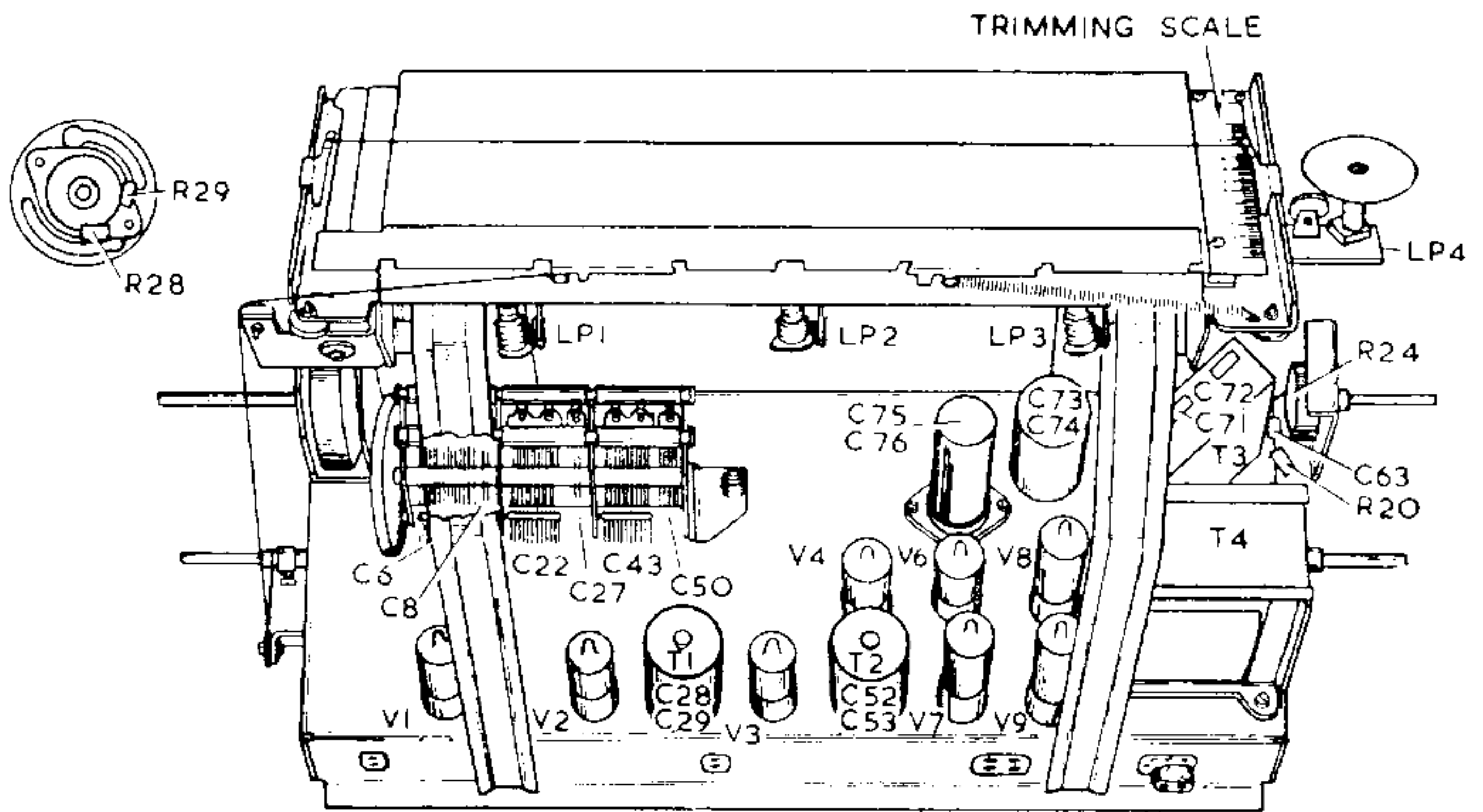
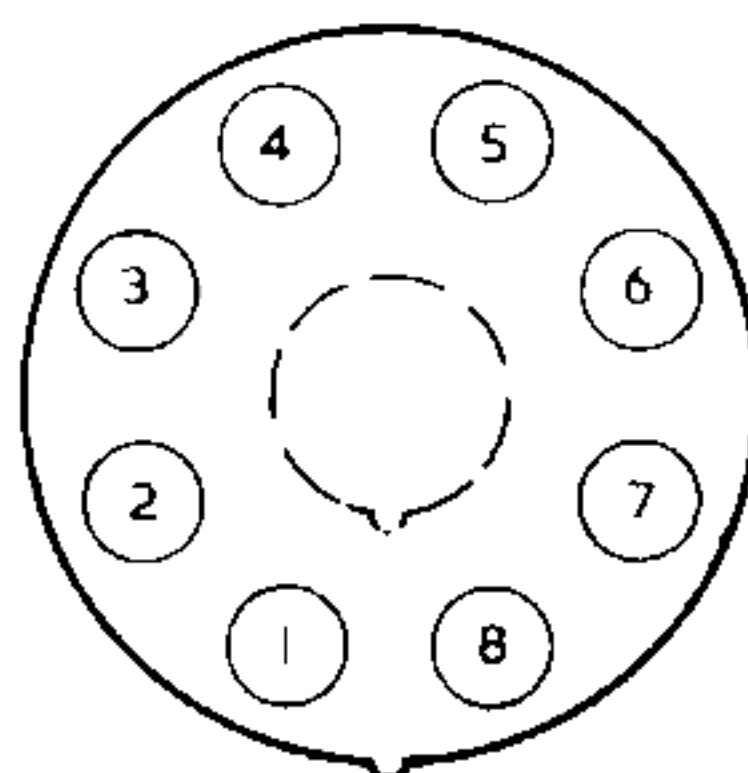


FIG. 3

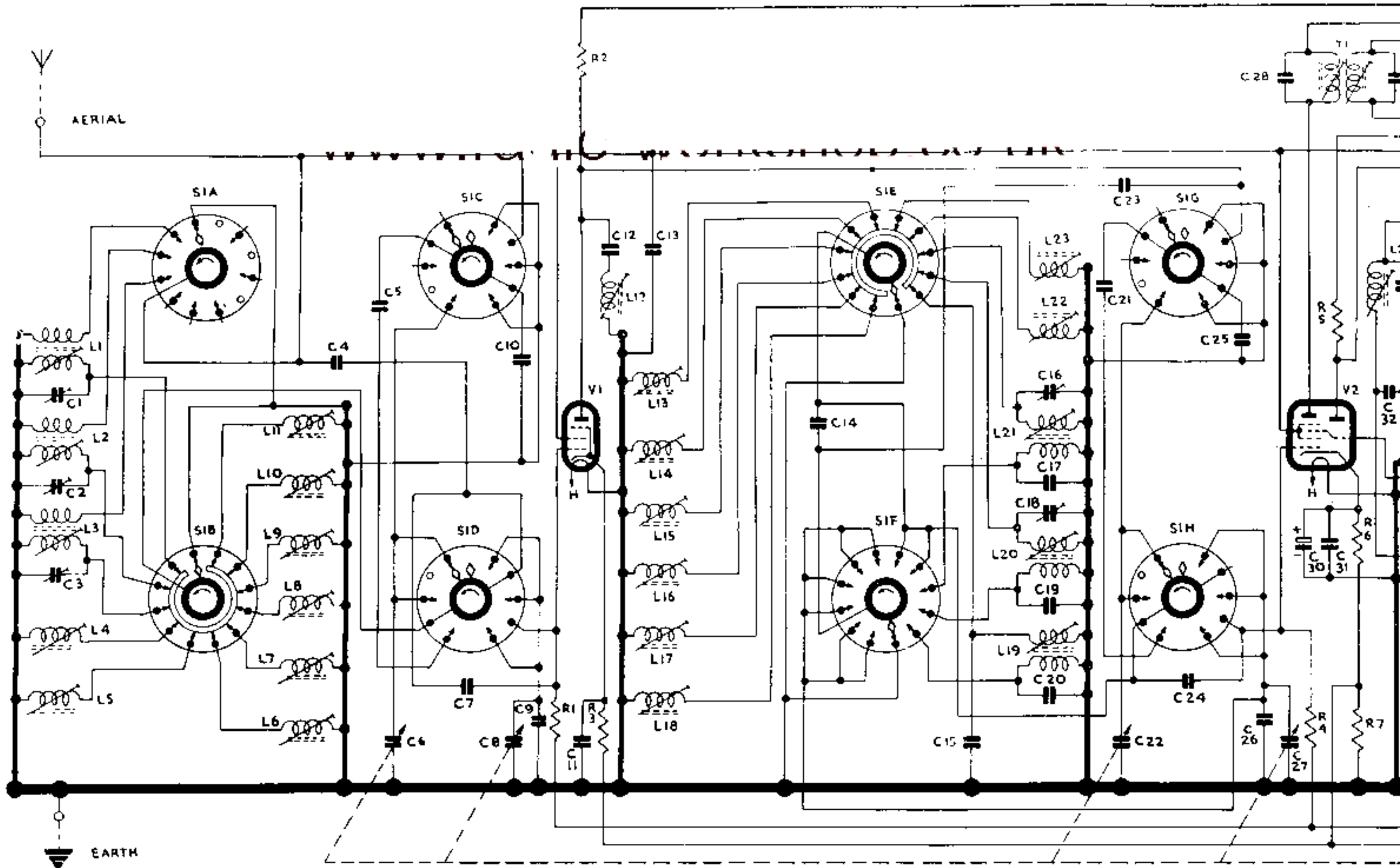
VALVE BASE CONNECTIONS

	1	2	3	4	5	6	7	8
V1	H	A	K G3 S	K G3 S	G2	G1	K G3 S	H
V2	H	A	AT	GT G3	G2 G4	G1	K	H
V3	H	A	K G3 S	K G3 S	G2	G1	K G3 S	H
V4 & V6	H	A	G	S	D2	D1	K	H
V5	—	H	A1	G	T	A2	H	K
V7 & V8	H	A	K G3	—	G2	G1	K G3	H
V9	H	A1	—	—	—	A2	K	H



VIEW LOOKING AT PINS

FIG. 6



To improve sensitivity of the Tuning Indicator, a resistor R45, $1.5k\Omega$ $\frac{1}{4}w$ $\pm 10\%$ Ref. 670520, has been added between Cathode of V5 and chassis.

CIRCUIT DIAGRAM

of the

“Cambridge International”

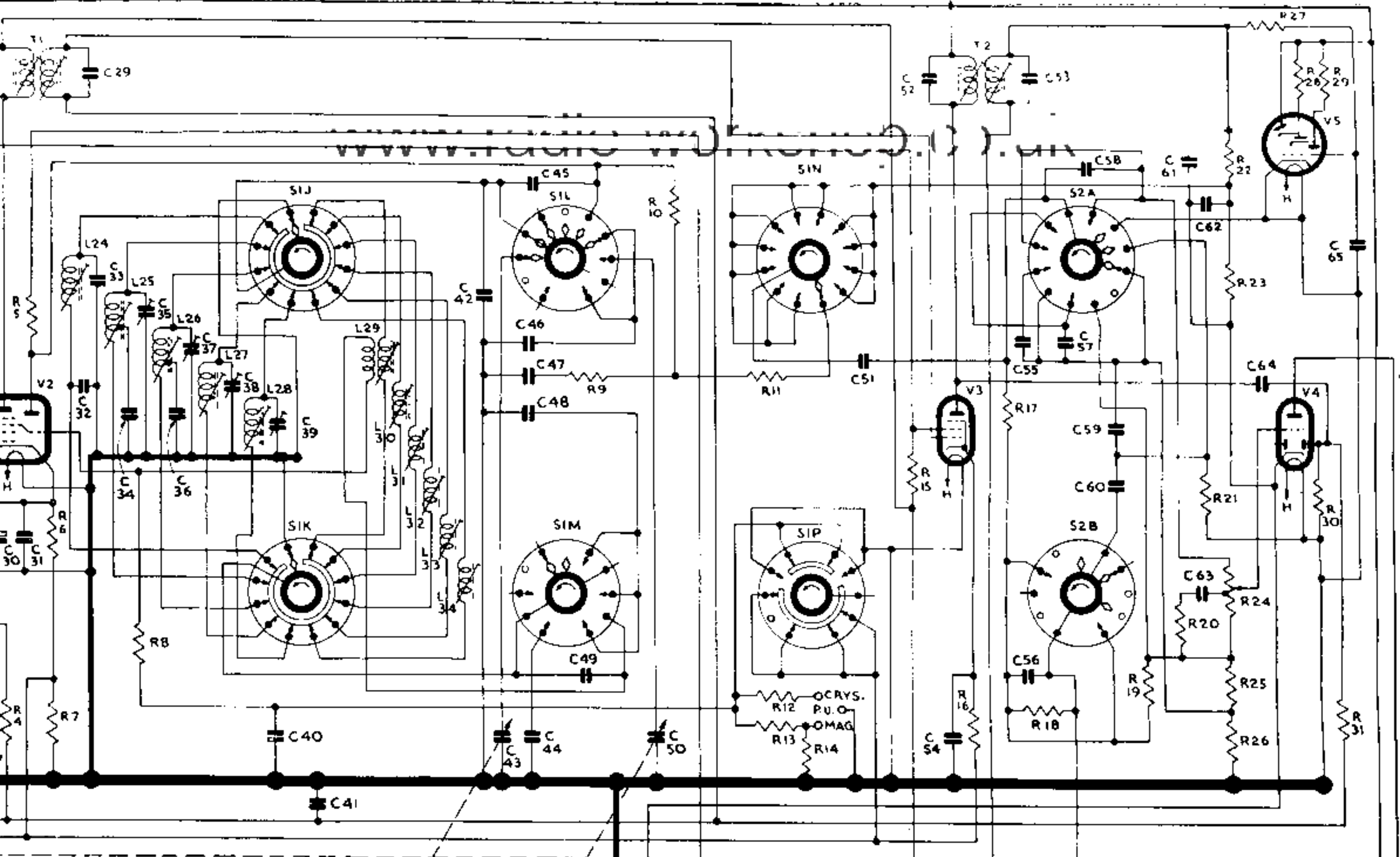
Model “J” Type PE 80

NOTE.—All switches in the normal position. To be as viewed from the front of the receiver. Wavechange switch is shown in the normal position as viewed from the front of the receiver. The rotation of these switches in the circuit represents the operation of the receiver.

The wavechange switch is shown in the normal position but on reception of a signal the switch is rotated to the band (2,000–800 m) with a stop, as on the receiver.

VOLTAGE ADJUSTMENT

- A =
- B =
- C =
- D =
- E =



All switches shown in fully anti-clockwise position. Tone switch in "OFF" position viewed from the rear.

Change switch in "GRAM" position as viewed from the rear. The anti-clockwise rotation of these switches indicated on the diagram represents a clockwise rotation in receiver.

Wavechange switch 830394 is a 12-position switch but on receivers without a long wave band (2,000-800 metres) the switch is fitted with a stop, as only 11 positions are used.

ADJUSTER POSITION CODING

- A = 90-110 V.
- B = 110-130 V.
- C = 130-150 V.
- D = 195-220 V.
- E = 220-250 V.

