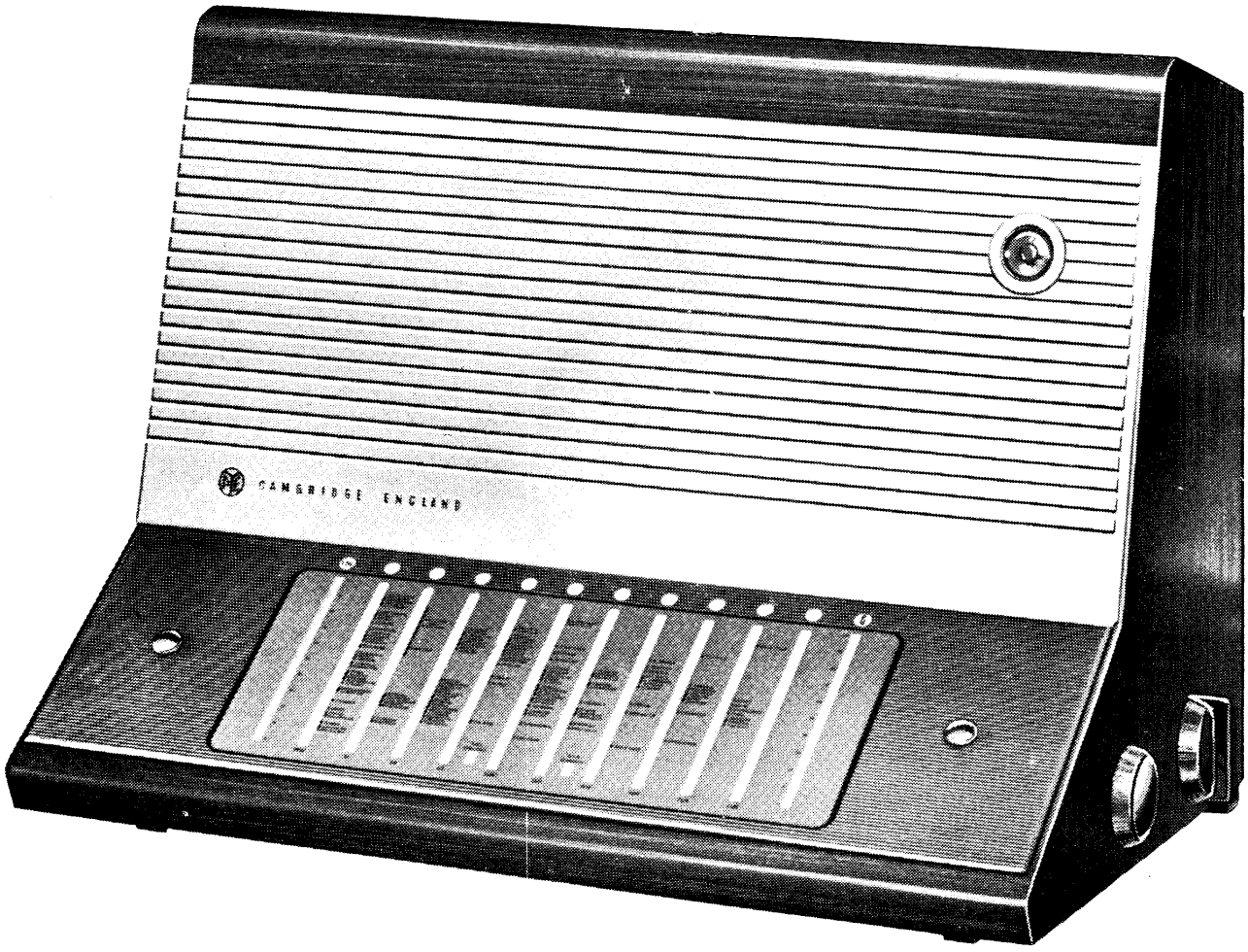
SERVICE SHEET FOR

model "H"

Type PE60V



FOR OPERATION ON

100/150 V. AND 200/250 V. A.C. MAINS

PYE LTD · CAMBRIDGE · ENGLAND

CODE LIST OF THE PYE MODEL "H" Type PE60V

CONDENSERS

	Specification	Volts	±	Fig.	No.
C1	3-50 pF Trimmer			4	800228
C2	3-50 pF Trimmer			4	800076
C3	3-50 pF Trimmer			4	800076
C4	6·8 pF Ceramic		20%	4	666799
C5	390 pF Mica		2%	4	664232
C6	528 pF Swing Gang Condenser			1 & 3	800191
C7	100 pF Ceramic		20%	4	666806
C8	100 pF Mica		2%	4	664100
C9	56 pF Mica		2%	4	664064
C10	10 pF Swing Gang Condenser			1 & 3	800191
C11	47 pF Mica		2%	4	664048
C12	0·05 µF Tubular	350		4	668966
C13	0·04 µF Tubular	150		4	669106
C14	5·6 pF Ceramic		20%	4	666659
C15	39 pF Mica		2%	4	664032
C16	3-50 pF Trimmer			4	800076
C17	39 pF Ceramic		10%	4	666847
C18	3-50 pF Trimmer			4	800076
C19	100 pF Ceramic		20%	4	666306
C20	0·0002 µF Tubular	600		4	669087
C21	100 pF Ceramic		20%	4	666806
C22	390 pF Mica		2%	4	664232
C23	528 pF Swing Gang Condenser			1 & 3	800191
C24	100 pF Ceramic		20%	4	666806
C25	100 pF Mica		2%	4	664100
C26	39 pF Mica		2%	4	664032
C27	0·04 µF Tubular	150		4	669106
C28	50 µF Electrolytic	12		4	667171
C29	10 pF Swing Gang Condenser			1 & 3	800191
C30	0·04 µF Tubular	150		4	669106
C31*	100 pF Mica		2%	1 & 3	666776
C32*	100 pF Mica		2%	1 & 3	666776
C33	0·0005 µF Tubular	600		4	669089
C34	180 pF Mica		2%	4	664150
C35	82 pF Mica		2%	4	664092
C36	510 pF Mica		2%	4	664262
C37	3-50 pF Trimmer			4	800076
C38	1700 pF Mica		5%	4	666795
C39	3-50 pF Trimmer			4	800076
C40	3-50 pF Trimmer			4	800076
C41	3-50 pF Trimmer			4	800076
C42	15 pF Ceramic N750K		10%	4	666515
C43	528 pF Swing Gang Condenser			1 & 3	800191
C44	0·05 µF Tubular	350		4	668966
C45	330 pF Ceramic		20%	4	666809
C46	330 pF Mica		2%	4	664212
C47	100 pF Ceramic		20%	4	666806
C48	110 pF Mica		2%	4	664106
C49	100 pF Mica		2%	4	664100
C50	45·5 pF Swing Gang Condenser			1 & 3	800191
C51	0·04 µF Tubular	150		4	669106
C52	22 pF Ceramic		20%	4	666655
C53	0·02 µF Metalmite	350		4	668964
C54	0·005 µF Tubular	150		4	669081
C55	0·25 µF Tubular	350		4	668609
C56	0·02 µF Tubular	150		4	669105
C57*	100 pF Mica		2%	1 & 3	666776
C58*	100 pF Mica		2%	1 & 3	666776
C59	82 pF Ceramic		20%	4	666677
C60	0·1 µF Tubular	150		4	669111
C61	100 pF Ceramic		20%	4	666806
C62	100 pF Ceramic		20%	4	666806
C63	0·005 µF Tubular	350		4	669095
C64	50 µF Electrolytic	12		4	667171
C65	47 pF Ceramic		20%	4	666660
C66	50 µF Electrolytic	12		4	667171
C67	0·005 µF Tubular	1000		4	668870
C68	32 µF + Electrolytic	350		3	667504
C69	32 µF + Electrolytic				
C70	16 µF + Electrolytic	350		3	667509
C71	16 µF + Electrolytic				
C72	0·002 µF Tubular	300 A.C.		4	669097
C73	0·002 µF Tubular	300 A.C.		4	669097
C74	0·01 µF Tubular	150		4	669082

Note.—* Integral part of I.F. Transformer.

RESISTORS

	Ohms	Watts	±	Fig.	No.
R1	10,000	¼	20%	4	670360
R2	1 Meg.	¼	20%	4	670410
R3	330	¼	10%	4	670512
R4	1 Meg.	¼	20%	4	670410
R5	10,000	¼	20%	4	670398
R6	180	¼	10%	4	670509
R7	390	¼	20%	4	671061
R8	47,000	¼	10%	4	670538
R9	4,700	¼	20%	4	670396
R10	47,000	¼	10%	4	670538
R11	47,000	¼	10%	4	670538
R12	100,000	¼	20%	4	670404
R13	18,000	1	10%	4	670153
R14	330	¼	10%	4	670512
R15	2·2 Meg	¼	20%	4	670412
R16	3,300	¼	20%	4	670395
R17	2,200	¼	20%	4	670394

RESISTORS Cont'd.

	Ohms	Watts	±	Fig.	No.
R18	390	¼	20%	4	671061
R19	1 Meg. Volume Control			3 & 4	810418
R20	220	¼	20%	4	670388
R21	220,000	¼	20%	4	670406
R22	220,000	¼	20%	4	670406
R23	3,900	¼	10%	4	670525
R24	220,000	¼	20%	4	670406
R25	1 Meg.	¼	20%	4	670410
R26	1 Meg.	¼	20%	4	670410
R27	470,000	¼	20%	4	670408
R28	10,000	¼	20%	4	670398
R29	1,600	¼	5%	4	671836
R30	180	¼	10%	4	670509
R31	2,200	¼	10%	4	670446
R32	15,000	¼	10%	4	670456
R33	47,000	¼	10%	4	670538
R34	220,000	¼	20%	4	670406
R35	1 Meg.	¼	20%	1	670410
R36	1 Meg.	¼	20%	1	670410
R37	2·2 Meg.	¼	20%	4	670412

INDUCTANCES

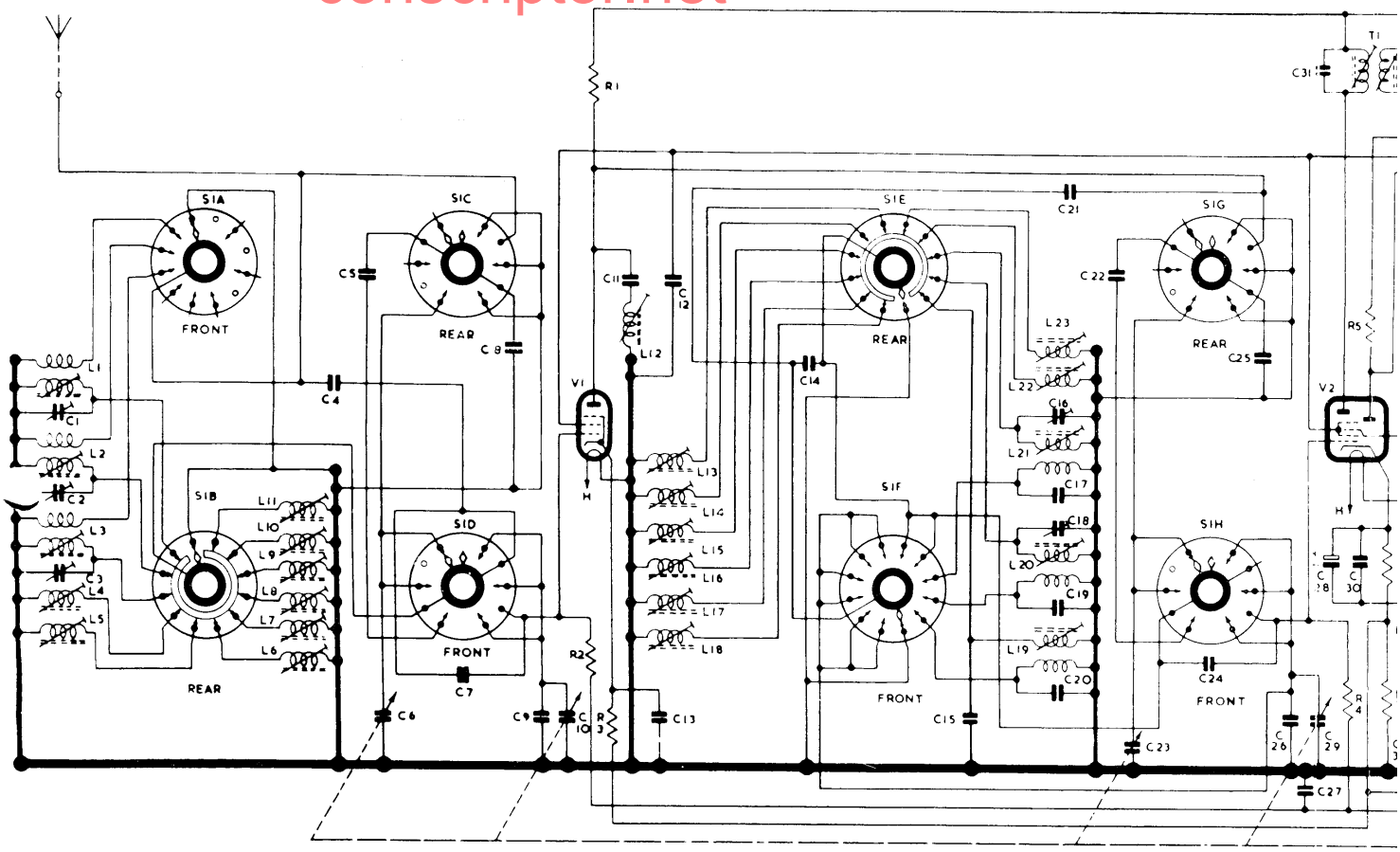
	Specification	Ref.	Fig.	No.
L1	L.W. Aerial Coil	L.W.16	4	780629
L2	M.W. Aerial Coil	M.W.7	4	780246
L3	S.1 Aerial Coil	T.B.4	4	780605
L4	S.2 Aerial Coil	S.W.7	4	780275
L5	S.3 Aerial Coil	S.W.5	4	780277
L6	31 m. Aerial Coil	S.W.6	4	780276
L7	25 m. Aerial Coil	S.W.5	4	780277
L8	19 m. Aerial Coil	S.W.3A	4	780574
L9	16 m. Aerial Coil	S.W.3	4	780272
L10	13 m. Aerial Coil	S.W.2	4	780279
L11	11 m. Aerial Coil	S.W.1	4	780280
L12	I.F. Filter Coil		4	780149
L13	31 m. R.F. Coil	S.W.6	4	780276
L14	25 m. R.F. Coil	S.W.5	4	780277
L15	19 m. R.F. Coil	S.W.3A	4	780574
L16	16 m. R.F. Coil	S.W.3	4	780272
L17	13 m. R.F. Coil	S.W.2	4	780279
L18	11 m. R.F. Coil	S.W.1	4	780280
L19	L.W. R.F. Coil	L.W.15	4	780628
L20	M.W. R.F. Coil	M.W.17	4	780627
L21	S.1 R.F. Coil	T.B.4	4	780605
L22	S.2 R.F. Coil	S.W.7	4	780275
L23	S.3 R.F. Coil	S.W.5	4	780277
L24	L.W. Osc. Coil	L.W.1	4	780241
L25	M.W. Osc. Coil	M.W.1	4	780234
L26	S.1 Osc. Coil	T.B.1	4	780249
L27	S.2 Osc. Coil	S.W.7	4	780275
L28	S.3 Osc. Coil	S.W.5	4	780277
L29	11 m. Osc. Coil	S.W.1A	4	780906
L30	13 m. Osc. Coil	S.W.2	4	780279
L31	16 m. Osc. Coil	S.W.4	4	780278
L32	19 m. Osc. Coil	S.W.5	4	780277
L33	25 m. Osc. Coil	S.W.6	4	780276
L34	31 m. Osc. Coil	S.W.7	4	780275

TRANSFORMERS

	Specification	Fig.	No.
T1	1st I.F. Trans. — Prim. 12·2 Ω; Sec. 12·2 Ω	1 & 3	770369/A
T2	2nd I.F. Trans. — Prim. 12·2 Ω; Sec. 12·2 Ω	1 & 3	770369/A
T3	Output Trans. — Prim. Start to Tap 11 Ω; Prim. Start to Finish 500 Ω	1 & 3	770820
T4	Mains Trans. — Prim. Start to Finish 39 Ω; Sec. H.T. Wdg. Start to Tap 150 Ω; Start to Finish 300 Ω; Sec. L.T. Wdg.	1 & 3	770819

SWITCHES, LAMPS, ETC.

	Specification	Fig.	No.
S1A	Front Bank 1 } Aerial Section — Gram. and Wavechange Switch 12 position	4	830394
S1B	Rear Bank 2 } Aerial Section — Gram. and Wavechange Switch 12 position	4	830394
S1C	Rear Bank 1 } Aerial Section — Gram. and Wavechange Switch 12 position	4	830394
S1D	Front Bank 2 } Aerial Section — Gram. and Wavechange Switch 12 position	4	830394
S1E	Rear Bank 4 } R.F. Section — Gram. and Wavechange Switch 12 position	4	830394
S1F	Front Bank 3 } R.F. Section — Gram. and Wavechange Switch 12 position	4	830394
S1G	Rear Bank 3 } R.F. Section — Gram. and Wavechange Switch 12 position	4	830394
S1H	Front Bank 4 } R.F. Section — Gram. and Wavechange Switch 12 position	4	830394
S1J	Front Bank 5 } R.F. Section — Gram. and Wavechange Switch 12 position	4	830394
S1K	Rear Bank 6 } Osc. Section — Gram. and Wavechange Switch 12 position	4	830394
S1L	Rear Bank 5 } Osc. Section — Gram. and Wavechange Switch 12 position	4	830394
S1M	Front Bank 6 } Osc. Section — Gram. and Wavechange Switch 12 position	4	830394
S1N	Front Bank 7 } Gram. Section — Gram. and Wavechange Switch 12 position	4	830394
S1P	Rear Bank 7 } Gram. Section — Gram. and Wavechange Switch 12 position	4	830394
S2A	Rear Bank } Tone Control and ON/OFF Switch 5 position	4	830393
S2B	Front Bank } Tone Control and ON/OFF Switch 5 position	4	830393
S2C	ON OFF Switch } Tone Control and ON/OFF Switch 5 position	4	830393
LP1	Dial Bulb 6·5 volt 0·3 amp.	4	700494
LP2	Dial Bulb 6·5 volt 0·3 amp.	4	700494
LP3	Dial Bulb 6·5 volt 0·3 amp.	4	700494
LS	Loudspeaker 8 inch P.M.	1	850015



CIRCUIT DIAGRAM

of the

PYE MODEL "H"

Type PE60V

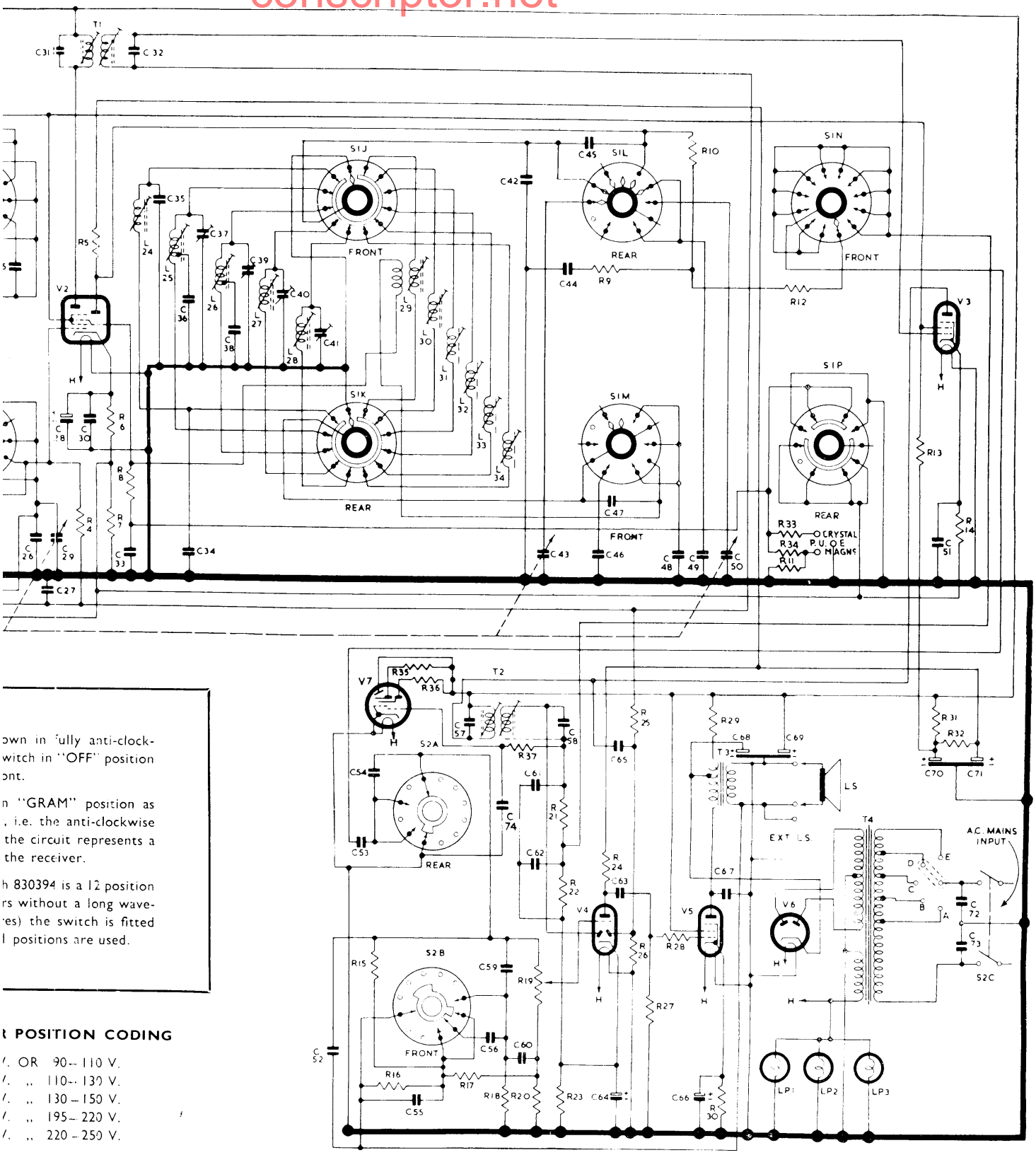
NOTE. All switches shown in fully anti-
wise position. Tone switch in "OFF" po
as viewed from the front.

Wavechange switch in "GRAM" positi
viewed from the rear, i.e. the anti-cloc
rotation indicated on the circuit repres
clockwise rotation in the receiver.

The wavechange switch 830394 is a 12 po
switch but on receivers without a long
band (2000–800 metres) the switch is
with a stop, as only 11 positions are use

VOLTAGE ADJUSTER POSITION C

A = 100–110 V. OR 90–110 V.
B = 115–130 V. ,, 110–130 V.
C = 135–150 V. ,, 130–150 V.
D = 200–220 V. ,, 195–220 V.
E = 225–250 V. ,, 220–250 V.



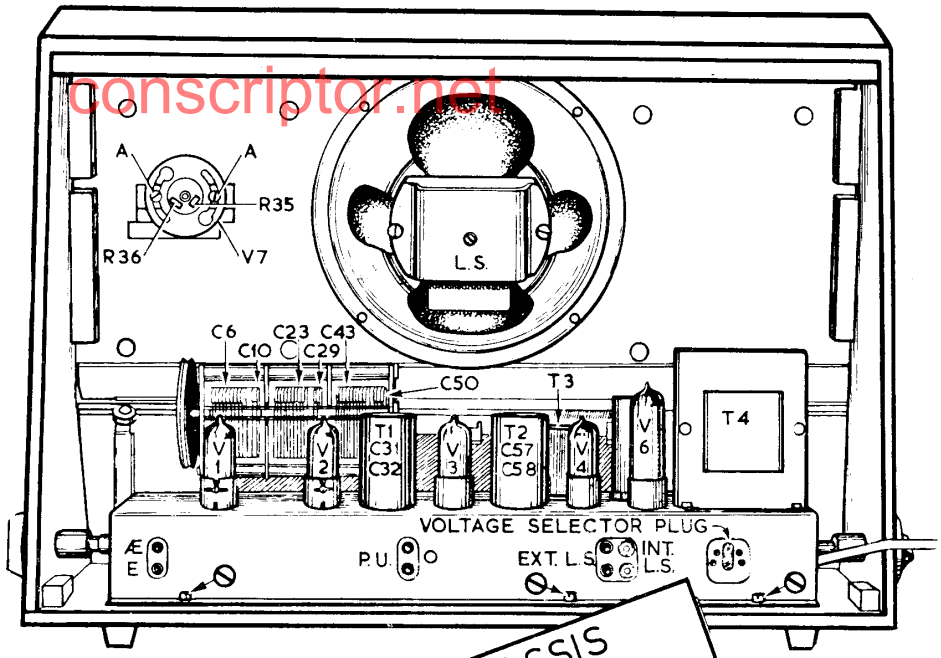
own in fully anti-clock-
witch in "OFF" position
ont.

n "GRAM" position as
, i.e. the anti-clockwise
the circuit represents a
the receiver.

h 830394 is a 12 position
rs without a long wave-
es) the switch is fitted
l positions are used.

POSITION CODING

/. OR 90– 110 V.
/. ,, 110– 130 V.
/. ,, 130 – 150 V.
/. ,, 195– 220 V.
/. ,, 220 – 250 V.

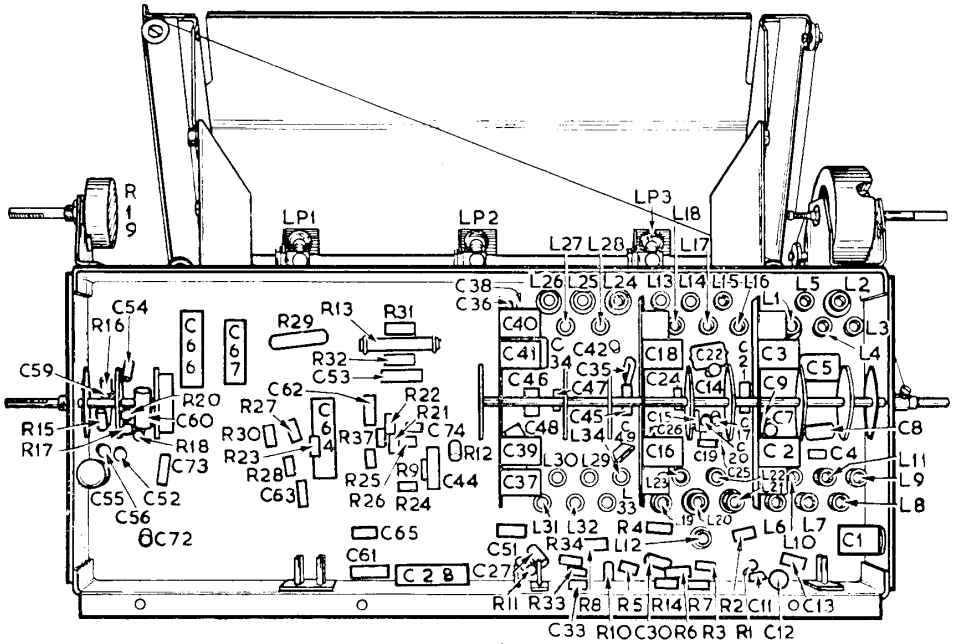


⊘ CHASSIS FIXING SCREWS

TO REMOVE CHASSIS

1 REMOVE BACK OF SET
2 PULL OFF KNOBS
3 REMOVE TUNING INDICATOR FROM BRACKET
4 PULL OUT LOUDSPEAKER PLUGS
5 REMOVE THE THREE CHASSIS FIXING SCREWS
6 WITHDRAW CHASSIS APPROXIMATELY FOUR INCHES, TIP UP FRONT AND LIFT OUT

FIG. 1



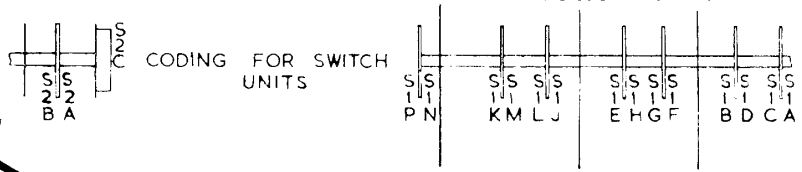
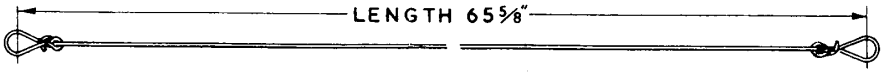
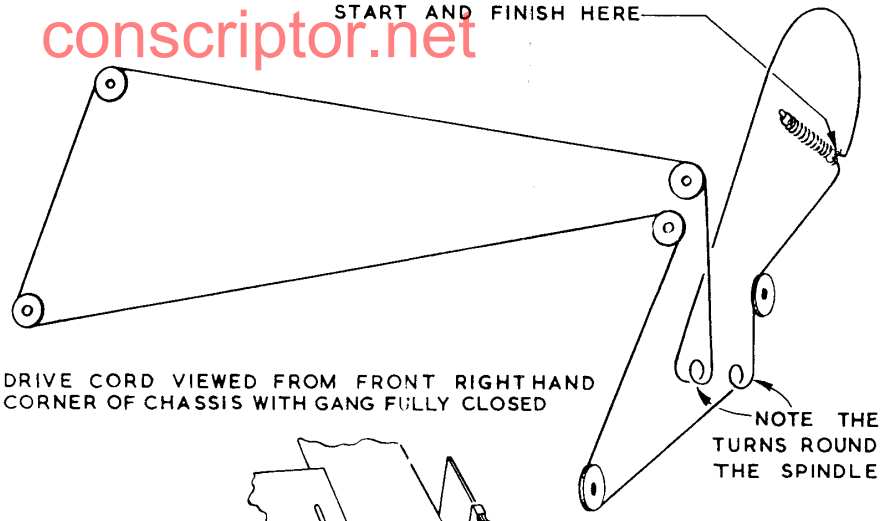


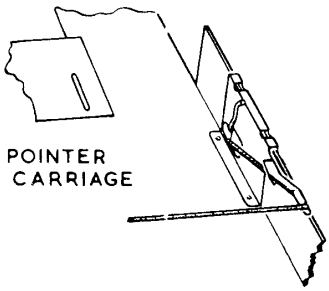
FIG. 4

THE DRIVE CORD SHOULD BE OF NYLON BRAIDED GLASS YARN





DRIVE CORD VIEWED FROM FRONT RIGHT HAND CORNER OF CHASSIS WITH GANG FULLY CLOSED

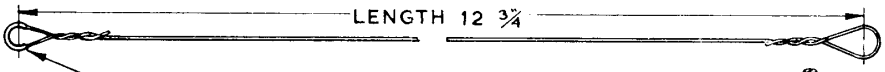


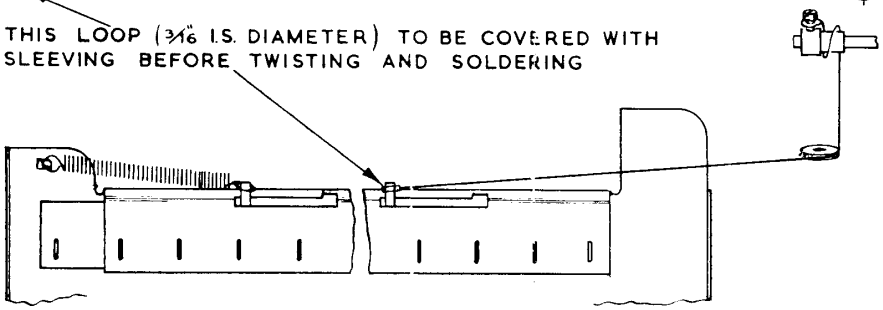
METHOD OF FIXING POINTER CORD TO POINTER CARRIAGE

THE POINTER CORD SHOULD BE OF NYLON BRAIDED GLASS YARN LENGTH 16½

FIG. 2

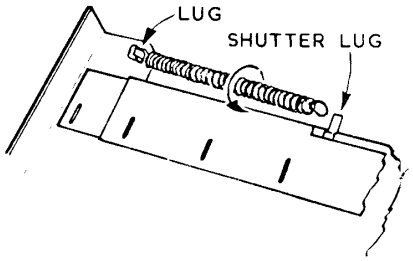
THE SHUTTER TRACE SHOULD BE OF 7/42 SWG. STRANDED HIGH GRADE TINNED STEEL WIRE





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 METRES POSITION AND ON RECEIVERS WITHOUT L.W. TRACK, IN G (GRAM) POSITION



ATTACH ONE END OF SPRING TO 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

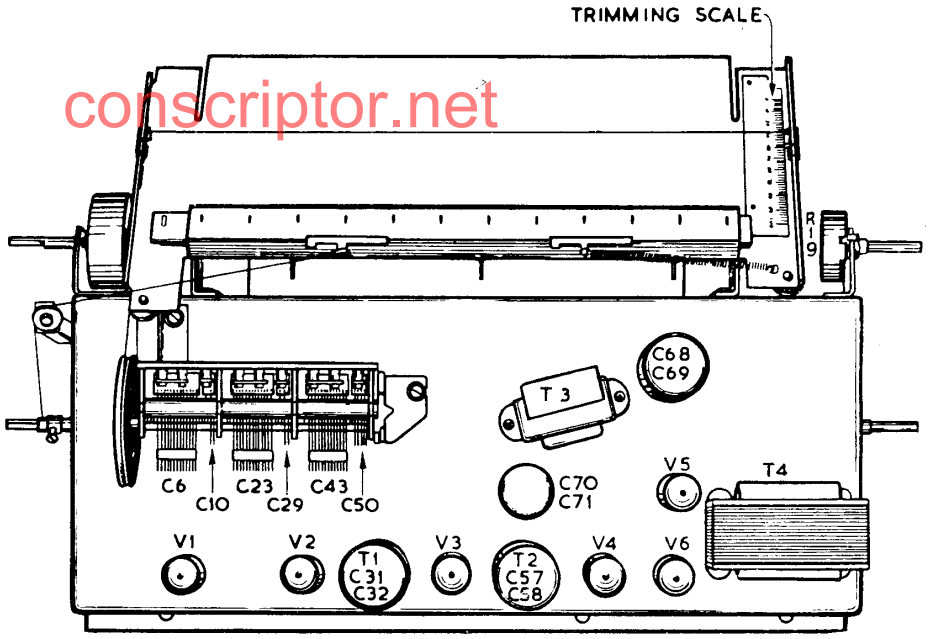
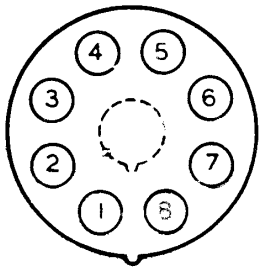


FIG. 3

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	H	A	G	S	D2	D1	K	H
V5	H	A	K G3	—	G2	G1	K G3	H
V6	H	A1	—	—	—	A2	K	H
V7	——	H	A1	G	T	A2	H	K



VIEW LOOKING AT PINS
(V7 WITH SPIGOT SHOWN DOTTED)

FIG. 6

MODEL "H"

TYPE PE 60V

FOR OPERATION ON 100/150 V. AND 200/250 V. A.C. MAINS

CIRCUIT ANALYSIS

Mains Consumption 55 watts approx. A.F. Output 2·5 watts

	Valve	Mullard	Ea	Ia	Es	Is	Osc Target Ea	Osc Target Ia	Ek	Ik
V1	R.F. Amplifier	EF.41	193	4·8	90	1·6	-	-	2·0	6·4
V2	Freq. Changer	ECH.42	235	2·3	90	3·9	105	4·5	2·0	10·7
V3	I.F. Amplifier	EF.41	235	5·0	90	1·7	—	—	2·0	6·7
V4	Det., A.V.C. and L.F. Amp.	EBC.41	80	0·3		-		-	1·2	0·3
V5	Output	EL.41	255	32·0	230	4·4	-		6·3	36·4
V6	Power Rectifier	EZ.40	Anode to Anode 500 v. A.C.				-	-	270	62·1
V7	Tuning Indicator	EM.34					235	-	0	1·6

Note. Measurements taken with an Avometer Model 8 instrument. All voltages over 250 v. taken on 1000 v. range. Voltages under 250 v. taken on 250 v. range. All voltages under 10 v. taken on 10 v. range. Receiver tuned to 200 metres, M.W. band, no signal input. Mains input 210 volts into 200 220 volt tap on transformer.

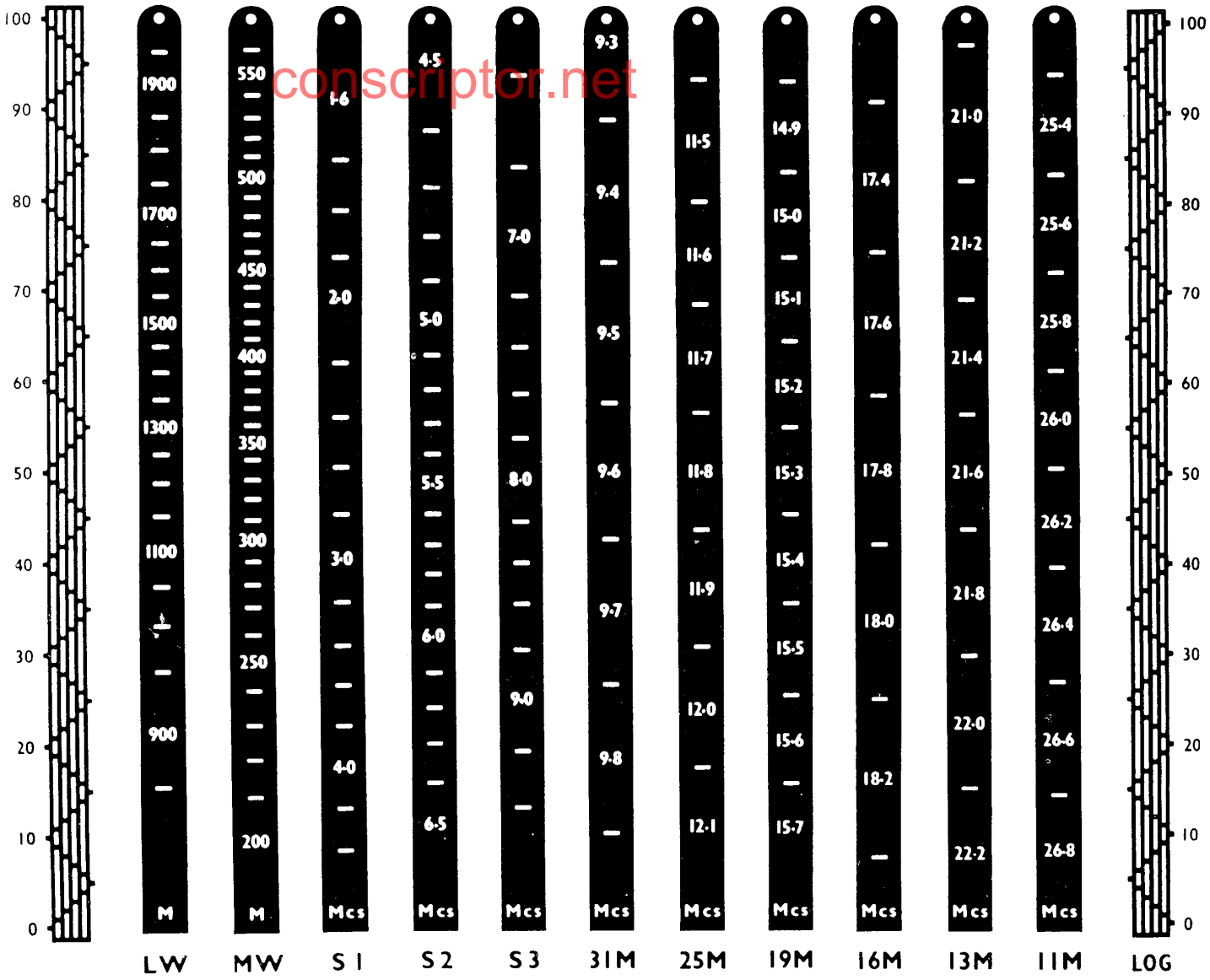
TRIMMING PROCEDURE

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 0·1μF 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 1400 metres	Iron dust cores of L24 and L19
(4) As (2) but 167 Kc s.	L.W. band 1800 metres	Iron dust core of L1
(5) As (2) but 333 Kc s.	L.W. band 900 metres	Trimmer C1
(6) As (2) but 600 Kc s.	M.W. band 500 metres	Iron dust cores of L25, L20 and L2
(7) As (2) but 1500 Kc s.	M.W. band 200 metres	Trimmers C37, C18 and C2
(8) Repeat (6) and (7) until calibration and tracking are correct		
(9) 1500 Kc s. between chassis and aerial socket via a 400 ohm resistor	S1 band 200 m. Log track 100	Iron dust cores of L26, L21 and L3
(10) As (9) but 4·0 Mc s.	S1 band 75 m. Log track 17·5	Trimmers C39, C16 and C3
(11) Repeat (9) and (10) until calibration and tracking are correct		
(12) As (9) but 4·9 Mc s.	S2 band 61·25 m. Log track 71	Iron dust cores of L27, L22 and L4
(13) As (9) but 6·1 Mc s.	S2 band 49·2 m. Log track 28	Trimmer C40
(14) Repeat (12) (L27) and (13) until calibration is correct		
(15) As (9) but 7·2 Mc s.	S3 band 41·7 m. Log track 69	Iron dust cores of L28, L23 and L5
(16) As (9) but 9·6 Mc s.	S3 band 31·25 m. Log track 2	Trimmer C41
(17) Repeat (15) (L28) and (16) until calibration is correct		
(18) As (9) but 9·6 Mc s.	31 m. band 9·6 Mc s.	Slug of L34 and iron dust cores of L13 and L6
(19) As (9) but 11·8 Mc s.	25 m. band 11·8 Mc s.	Slug of L33 and iron dust cores of L14 and L7
(20) As (9) but 15·3 Mc s.	19 m. band 15·3 Mc s.	Slug of L32 and iron dust cores of L15 and L8
(21) As (9) but 17·8 Mc s.	16 m. band 17·8 Mc s.	Slug of L31 and iron dust cores of L16 and L9
(22) As (9) but 21·6 Mc s.	13 m. band 21·6 Mc s.	Iron dust cores of L30, L17 and L10
(23) As (9) but 26·1 Mc s.	11 m. band 26·1 Mc s.	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 0·01μF may be connected between V2 hexode anode and chassis. This has the effect of reducing the I.F. sensitivity about 30 times.

CALIBRATION CHART



Notes

1 The Pye Quick Release provides a quick and easy method of chassis removal eliminating the inconvenience of having to invert the cabinet for under chassis service.

2 The Special Flywheel tuning needs no maintenance.

3 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.

4 External Speaker 2–4 ohms impedance.

5 Dial Bulbs 6·5 volt 0·3 amp. M.E.S.

6 Make sure Mains Voltage Adjuster is in correct position to ensure (*a*) maximum valve and component life and (*b*) full benefit of the Pye "FIDELITY" reproduction.

7 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 the Tuning Indicator, reverse the above procedure making sure that the shadows appear vertical. Tighten up two screws "A".