

PYE 65A

Four valve battery version of the model 15A. Three waveband superhet for operation from standard batteries mounted internally. Waveband coverage 16.3-51.8, 185-575, and 1000-2000 metres. Equipped with Flywheel tuning and Pye Tonemaster, with provision for pickup and extension speaker. Marketed by Pye, Ltd., Cambridge. Released April, 1946. Retail price, £15 15s. plus £3 7s. 9d. tax, complete with batteries.

A PERIODICALLY tuned aerial coupling coils L1, L3 feed signals to the triode-hexode, V1, grid circuit comprising L2 (SW), L4 (MW) and L5 (LW). VC1 is the main tuning capacitor. T1 on SW and T2 on MW are variable trimmers and C4 is LW fixed trimmer. C1 provides additional coupling between aerial and grid circuits on MW only.

AVC and some standing bias from R17 in the HT negative line are series fed to V1 via R12 decoupled by C3. Screen potential for V1, in common with V2, is derived from R3 decoupled by C8.

The triode oscillator portion of V1 derives its HT via R2, C10 parallel feeding the tuned anode circuits via S3. VC2 is the main oscillator tuning capacitor.

On SW L7 and trimmer T3 are used in the anode circuit with L6 inductively coupling the oscillator

grid. Additional coupling is secured by the use of a fixed padder C9 which is common to both anode and grid circuits.

MW circuit comprises L9 and T4 in the anode with L8 in the grid. Again additional coupling is secured by the use of fixed padder capacitor common to both anode and grid circuits. The same capacitor C7 is used in a similar manner on LW when L11 and variable trimmer T5, with fixed trimmer C6, form the anode circuit and L10 the grid circuit. Oscillator grid coils are switched by S2.

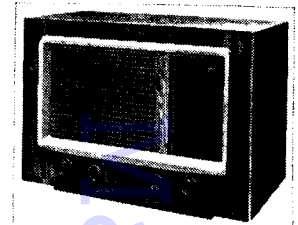
Automatic bias is derived from R1 and C5. The hexode portion of V1 has L12 and C11 as its anode load tuned by T6. Together with L13 and C12

these form the first IF transformer feeding IF signals to V2.

Bias for V2 is applied through L13 from R17. Suppressor grid is externally earthed. IFT2 primary is composed of L14 and C13 trimmed by T8. The secondary is made up of L15 and C14 trimmed by T9 and feeds the signal to the detector diode of V3.

C16, R4, C17 form a conventional AF filter. R5 is the signal diode load. C18 passing AF signals to the volume control R6 and via the grid stopper resistor R7 to the triode of V3. R6 is returned to chassis via R8 and R17 thus giving standing bias to the triode portion of V3.

The 65A is a battery version of the 15A and in its design the same care has been taken to ensure easy service accessibility.

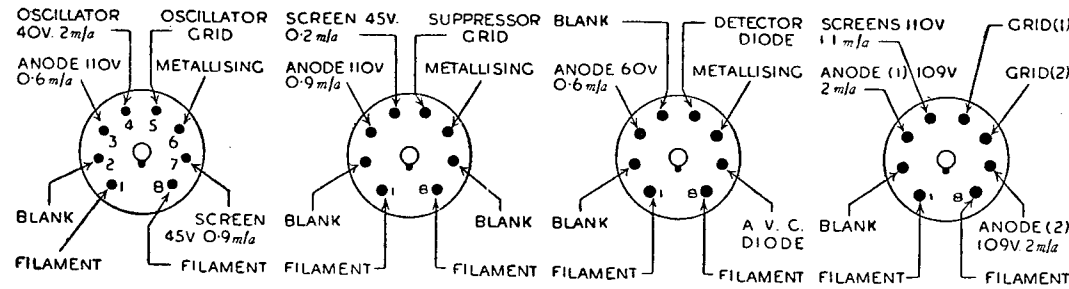


V1 — TP 25

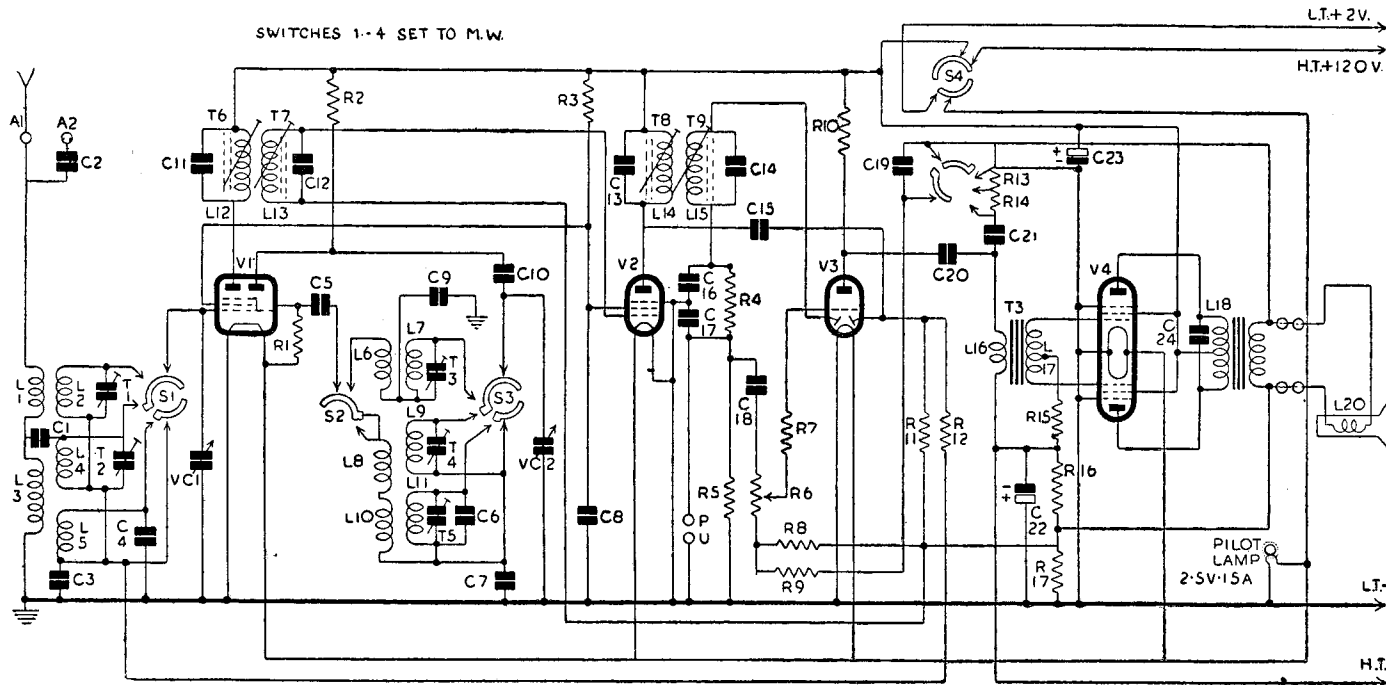
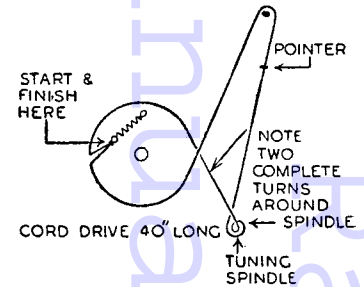
V2 — VP 23

V3 — HL23DD

V4 — QP 25



HT CONSUMPTION 123V 11mA
LT CONSUMPTION 2.1V 63amps



INDUCTORS

L	Ohms	L	Ohms
1 5	12 9.4
2 very low	13 9.4
3 59	14 6.7
4 2.7	15 6.7
5 15.7	16 680
6 very low	17 4250 plus 4250
7 "	18 860
8 and 10 2.4	193
9 4	20 2
11 4.5		

CAPACITORS

C	Mfd	C	Mfd
1 5 pfd	13 140 pfd
2 formed in wiring	14 140 pfd
31	15 10 pfd
4 60 pfd	16 100 pfd
5 100 pfd	17 100 pfd
6 330 pfd	1801
7 570 pfd	191
81	2005
9005 mfd	21 50
10 100 pfd	22 Electrolytic
11 70 pfd	23 8
12 70 pfd	24001

RESISTORS

R	Ohms	R	Ohms
1 47,000	10 47,000
2 33,000	11 1,000,000
3 47,000	12 1,000,000
4 47,000	13 47,000
5 470,000	14 10,000
6 1,000,000	15 100,000
7 10,000	16 680
8 2,200	17 150
9 15,000		

All 1/4 watt 10% tolerance, except R6.

PYE 65A—Continued

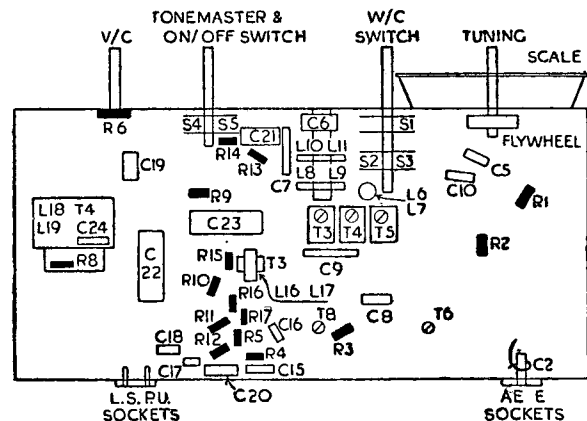
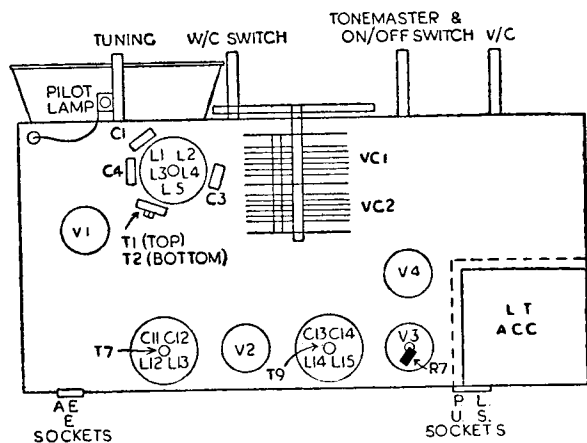
R6 allows negative feed back derived from the OPT secondary L19 to be applied via the Tone-master switch to this stage. Pickup input may be connected in parallel with R5 by connection to the sockets at the rear of chassis.

AVC drive is taken from the IF valve anode by C15. The AVC load is R11, a delay being applied from R17.

Triode anode load of V3 is R10, C20 passing signals to the intervalle coupling transformer primary L16. Various degrees of tone control can be obtained by the use of S5 in conjunction with R13, R14 and C21.

A centre tapped secondary L17 on the intervalle transformer drives the double pentode QPP output valve V4. R15 is the usual grid resistor. R16 and R17 decoupled by C22 in the HT negative line give bias for this stage. Full HT is used on the two screens of V4. C23 is a decoupling condenser (electrolytic) for the impedance of the HT supply.

The OPT primary L18 is shunted by C24 giving fixed treble cut. L19 is the secondary of the OPT feeding a PM speaker of the low-impedance type. An external speaker may be used by substitution in the speaker sockets at the rear of chassis. The on-off switch S4 cuts both LT and HT positive lines.



TRIMMING INSTRUCTIONS

Before trimming turn VC fully clockwise and Tonemaster fully brilliant. Use of an output meter is strongly recommended. Keep signal to minimum in order to avoid AVC action.

Apply signal as below	Tune receiver to	Adjust in order stated for max. output	Apply signal as below	Tune receiver to	Adjust in order stated for max. output
(1) 465 KC to top cap of V1 via a .1 mfd condenser after removing existing lead. Connect .5 megohm between top cap and AVC line	MW 570 metres	T9, T8, T7, T6	(4) 250 KC between Ae and earth via LW dummy Ae	LW 1200 metres	T5
(2) 1.5 MC between Ae and earth via MW dummy Ae	MW 200 metres	T4, T2	(5) 166.7 KC as in (4)	LW 1800 metres	Check calibration as compared with (4)
(3) 600 KC as in (2)	MW 500 metres	Check calibration as compared with (2)	(6) 17.13 MC between Ae and earth via a 400 ohm resistor	SW 17.5 metres	T3, T1
			(7) 6.98 MC as in (6)	SW 43 metres	If necessary correct tracking by aerial coil L2 turns and calibration by oscillator coil L7 turns. If altered repeat (6) & (7)

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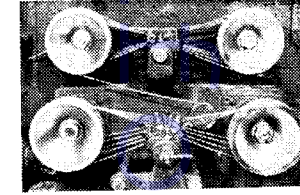
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