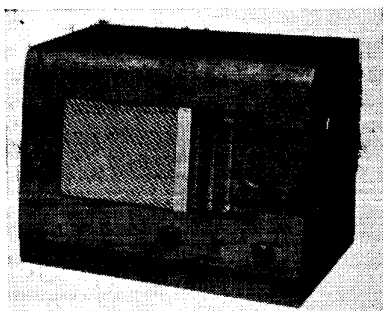
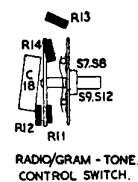
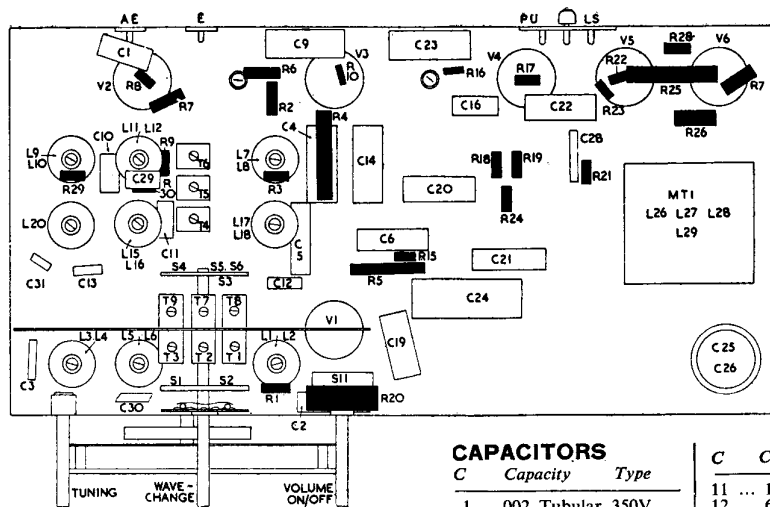


For more information remember www.savoy-hi11.co.uk

PETO SCOTT HM61, HM62



Six-valve three-waveband superhet with mechanical vernier bandspeed dial. Sockets for aerial, earth, high-impedance gramophone pickup and low-impedance extension speaker. Designed for 200-250V 40-100 c/s AC mains. Walnut-veneered cabinet. Made by Peto Scott Electrical, Ltd., Weybridge, Surrey. The illustration shows Model HM62, which differs from HM61 only in the design of cabinet.



CAPACITORS

C	Capacity	Type
1	.002 Tubular	350V
2	.1 Tubular	350V
3	15pF Silva	Mica
4	.1 Tubular	350V
5	.1 Tubular	350V
6	.1 Tubular	350V
7	100pF Silver	Mica
8	100pF Silver	Mica
9	.1 Tubular	500V
10	100pF Silver	Mica

C Capacity Type

11	100pF Silver	Mica
12	620pF Silver	Mica
13	180pF Silver	Mica
14	.1 Tubular	500V
15	100pF Silver	Mica
16	100pF Silver	Mica
17	100pF Silver	Mica
18	100pF Silver	Mica
19	.02 Tubular	350V
20	.02 Tubular	350V
21	.1 Tubular	350V

C Capacity Type

22	.02 Tubular	500V
23	.1 Tubular	500V
24	8 Electrolytic	500V
25	8 Electrolytic	550V
26	16 Electrolytic	550V
27	.002 Tubular	1000V
28	100pF Silver	Mica
29	22pF Silver	Mica
30	22pF Silver	Mica
31	68pF Silver	Mica

R Ohms Watts

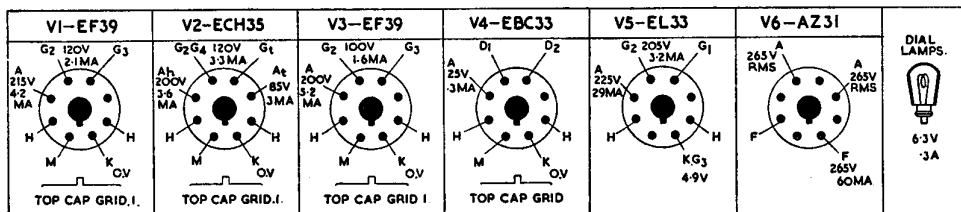
25	1K	...	2
26	470	...	3
27	1	...	1 1/2
28	100	...	1/4
29	220K	...	1/4
30	220K	...	1/4

INDUCTORS

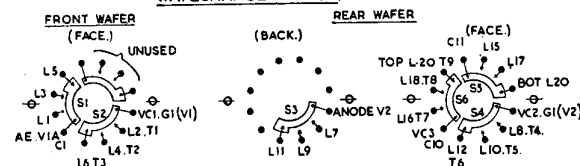
L Ohms

1	...	Very Low
2	...	Very Low
3	...	11
4	...	1.5
5	...	3.5
6	...	12
7	...	Very Low
8	...	Very Low
95
10	...	1.6
118
12	...	13
13	...	5.5
14	...	5.5
152
16	...	Very Low
178
18	...	1
19	...	No coil fitted
20	...	4.75
21	...	5.5
22	...	5.5
23	...	455
240
25	...	2.5
26	...	Very Low
27	...	450 Total
28	...	Very Low
29	...	39 Total

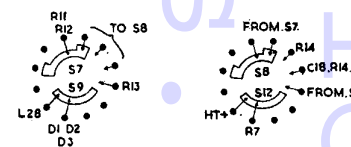
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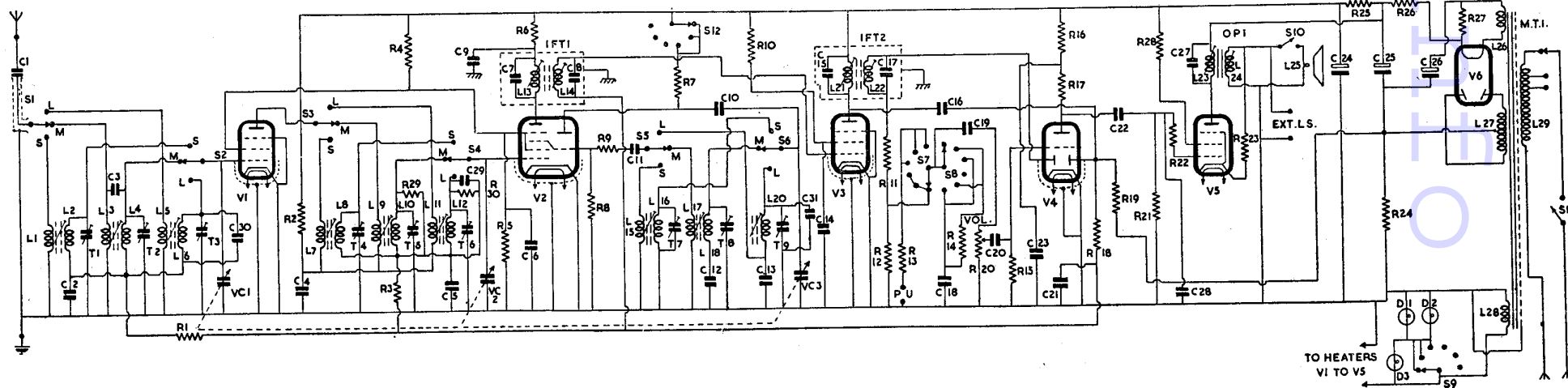
WAVECHANGE SWITCH



RADIO-GRAM AND TONE CONTROL



VIEWED FROM REAR OF UPRIGHT CHASSIS.

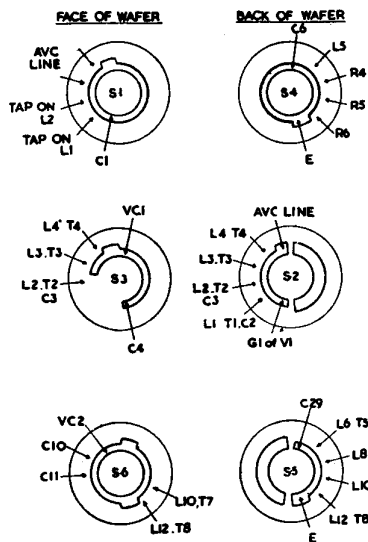


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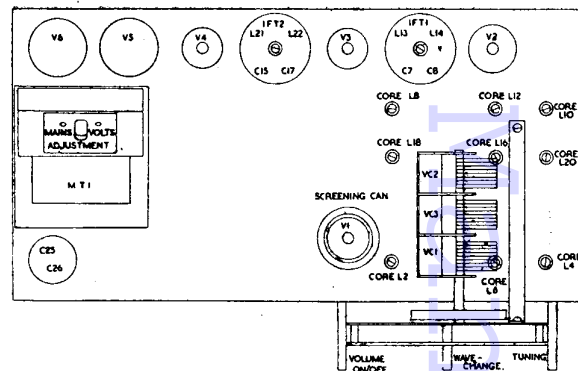
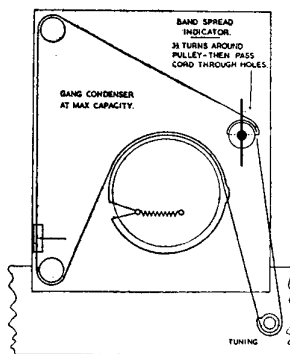
PHILCO A547B

WAVECHANGE SWITCH

VIEWED FROM REAR OF UPRIGHT CHASSIS SWITCH IN GRAM POSITION



CORD DRIVE LAYOUT



is earthed to chassis. Screen (g2, g4) voltage is obtained from potential divider R8, R9 and is decoupled by C19. L13, C12, the primary of IFT1, are in the hexode anode circuit.

Oscillator is connected in a shunt-fed tuned-anode circuit. L6 (SW2), L8 (SW1), L10 (MW) and L12 (LW) are the anode tuned coils which are connected by S5, through C29, to oscillator anode (A1) of V1, and by S6 to tuning capacitor VC2. On SW2 and SW1 ranges, series capacitors C11, C10 are switched in circuit with VC2. A following shorting blade on S5 short circuits the unused coils. T5 (SW2), T6, C7 (SW1), T7 (MW), T8 (LW) are trimmers, and C8 (MW), C9 (LW) are padders. R7 is oscillator anode load resistor.

The grid reaction coils L5 (SW2), L7 (SW1), L9 (MW), L11 (LW) are switched by S4 through C6 to oscillator grid. R4, R5 and R6 are series limiter resistors. Self bias for oscillator grid is developed on C6 with R3 as leak resistor. In the "gram" position of the wave-change switch anode and grid of oscillator are earthed through their respective coupling capacitors.

IF amplifier operates at 465 kc/s. L14, C13, the secondary of IFT1, feeds signal, AVC and a standing bias voltage, decoupled by R13, C20, to the grid of IF amplifier V2. Cathode and suppressor grid are connected down to chassis. Screen voltage is obtained from potential divider R8, R9 and is decoupled by C19. L15, C14, which form the primary of IFT2, are in the anode circuit.

Signal rectifier. L16, C15, the secondary of IFT2, feeds signal to one of diodes of V3. R11 is load resistor and R10, C17, C18 an IF filter.

Automatic volume control. C16 feeds signal at anode V2 to second diode of V3. The load resistor R14 is returned to earth via the bias network formed by R19, R20. This provides a delay voltage for the AVC diode and a standing bias for grids of V1 and V2.

AF amplifier. C21 feeds rectified signal to volume control R12 and thence to grid of triode section of V3. Cathode is at earth potential so bias for grid is obtained by returning bottom of R12 to bias network R19, R20. R15 is anode load resistor and C22 anode RF bypass capacitor.

Pickup. Sockets are fitted for connection of any high impedance gramophone pickup. The sockets are wired so as to connect the pickup between top of volume control R12 and chassis.

Output stage. C23 feeds signal from anode of V3 to grid of tetrode output valve V4. R17 is grid resistor. Cathode is at earth potential and bias for grid is developed across R19, R20 and is fed through R17 to grid. C26 decouples the bias voltage. Screen voltage is obtained from R21 and decoupled by C27. R21 also supplied HT to V1, V2 and V3. L17, the primary of output matching transformer OP1 is in the anode circuit of V4, the HT for which is obtained direct from reservoir capacitor C28.

C24, C25 and R16 provide tone control. L18, the secondary of OP1, feeds signal to an 8 in. PM loudspeaker L19. Sockets are fitted on L18 for connection of a low-impedance extension speaker.

Negative feedback from L18 is fed by R18 and R12 to grid of V3.

High tension is provided by an indirectly heated, full-wave rectifier V6. L21, the HT secondary of mains input transformer MT1, supplies its anode

voltage and L20 its heater current. R21, C27, C28 provide resistance capacity smoothing.

The negative side of HT supply is returned to chassis through R19, R20 so as to provide bias for grids of V1 to V4 and delay voltage for AVC diode of V3. C26 is bias decoupling capacitor.

Chassis removal. Remove the four push-on type control knobs and fibre rear panel of cabinet. Unscrew and remove the two screws securing dial assembly to front of cabinet. Remove the two screws holding wooden supporting strip at rear of cabinet.

TRIMMING INSTRUCTIONS

Apply signal as stated below	Tune Receiver to	Trim in Order stated for Max. Output
(1) 465 kc/s to g1 of V1, via .1 mF	—	Core L16, L15, L14, L13
(2) 350 kc/s to AE socket, via dummy aerial	857 metres	T8, T4
(3) 160 kc/s as above	1875 metres	Core L12, repeat (2) and (3)
(4) 1.4 mc/s as above	214 metres	T7, T3
(5) 600 kc/s as above	500 metres	Core L10, repeat (4) and (5)
(6) 13 mc/s as above	13 mc/s	T6, T2
(7) 6 mc/s as above	6 mc/s	Core L8, repeat (6) and (7)
(8) 21 mc/s as above	21 mc/s	T5, T1
(9) 13 mc/s as above	13 mc/s	Core L6, repeat (8) and (9)

NOTE.—Two peaks may be found when adjusting T1 and T2. The maximum capacity setting should be selected.

PETO SCOTT—from page 36

AERIAL is fed through C1 to S1 and thence to coupling coils L1 (SW), L3 (MW), L5 (LW). The grid coils L2 (SW), L4 (MW), L6 (LW), which are trimmed by T1, T2 and T3, C30, are switched by S2 to tuning capacitor VC1, and to signal grid of RF amplifier V1. AVC, decoupled by R1, C2, is fed through the tuned coils. The coupling coils L7 (SW), L9 (MW), L11 (LW) are switched by S3, in series with the anode circuit of V2.

Frequency-changer. The grid coils L8 (SW), L10 (MW), L12 (LW), trimmed by T4, T5 and T6, C29, are switched by S4 to signal grid of triode-hexode frequency changer V2 and to tuning capacitor VC2.

The MW and LW coils are shunted by R29, R30 respectively. AVC, decoupled by R3, C5, is fed through the tuned coils. L13, C7, which form the primary of IFT1, are in the hexode anode circuit.

Oscillator is connected in a tuned-anode shunt-fed circuit. The anode coils L16 (SW), L18 (MW), L20 (LW), which are trimmed by T7, T8 and T9, C31, and padded on MW and LW by C12 and C13, are switched by S6 through C10 to oscillator anode of V2, and to tuning capacitor VC3. R7 is anode load. The oscillator HT supply is disconnected by S12 when the combined radio-gram and tone control switch is in the Gram position.

The grid reaction voltages are developed inductively on L15 (SW), L17 (MW), and capacitively across C13 (LW) and are switched by S5 through C11 and series limiter resistor R9, to oscillator grid of V2.

IF amplifier operates at 465 kc/s. L14, C8, the secondary of IFT1, feeds signal, and AVC voltage, to IF amplifier V3.

Signal rectifier. L22, C17, the secondary of IFT2, feeds signal to one diode of V4. R12 is load.

Tone control—radiogram. S7, S8 combine switching the gramophone pickup and providing three degrees of tone control. The pickup signal is fed through R13 to S7 and thence through C19 to the volume control R20. S8 brings into circuit across either the radio or pickup signal the tone control components R14, C18.

AVC. C16 feeds signal at anode of V3 to second diode of V4. R19, its load, is returned to chassis via R24, in the negative HT lead, so as to provide a delay bias for the AVC diode. R1, C2, R3, C5

TRIMMING INSTRUCTIONS

Apply signals as stated below	Tune Receiver to	Trim in Order stated for Max. Output
(1) 465 kc/s to g1 of V2, via .01 mF with VC3 short circuited	—	Core L22, L21, L14, L13
(2) 300 kc/s to AE socket, via dummy aerial	1000 metres	T9, T6, T3
(3) 150 kc/s as above	2000 metres	Core L20, L12, L6. Repeat (2) and (3)
(4) 1.5 mc/s as above	200 metres	T8, T5, T2
(5) 668 kc/s as above	450 metres	Core L18, L10, L4. Repeat (4) and (5)
(6) 20 mc/s as above	15 metres	T7, T4, T1
(7) 7.5 mc/s as above	40 metres	Core L16, L8, L2. Repeat (6) and (7)

and R18, C21 decouple the AVC line to grids of V1, V2 and V3.

AF amplifier. C20 feeds signal from volume control R20 to triode grid of V4. Bias is developed on C20 with R15 as leak.

Output stage. C22 feeds signal from anode V4, through stopper resistor R22, to grid of pentode output valve V5. R21 is grid resistor and C28 prevents parasitic oscillation. Cathode bias is provided by R23, which is returned to chassis through secondary L24 of output matching transformer OP1, to introduce negative feedback.

L23, output transformer primary, is in the anode circuit, HT for which is obtained from junction of R25, R26. C27 is fixed tone corrector.

L24, OP1 secondary, feeds an 8 in. PM loudspeaker L25. Sockets are fitted for a low-impedance extension speaker. S10 enables the internal speaker to be silenced when the extension speaker is in use.

High tension is provided by directly heated full-wave rectifier V6. L27, the HT secondary of mains input transformer MT1, supplies its anode voltages and L26 its heater current. R25, R26, R27, C24, C25, C26 give resistance-capacity smoothing. R24 provides delay bias for the AVC diode of V4.