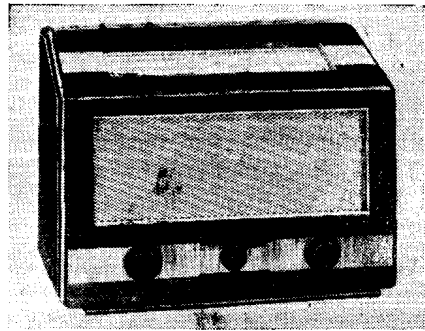
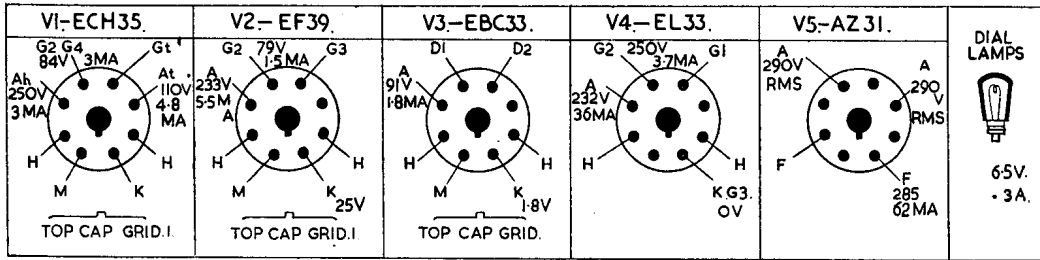
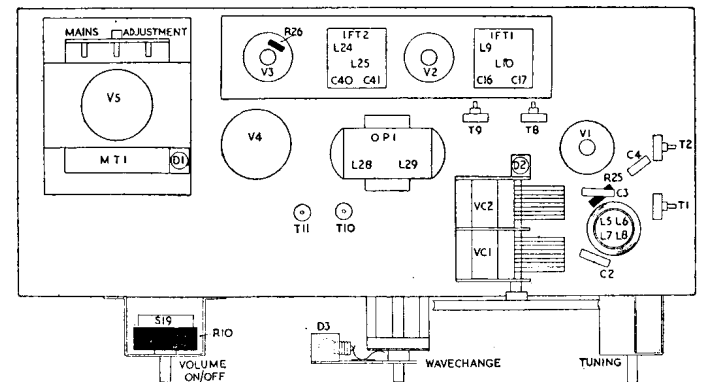
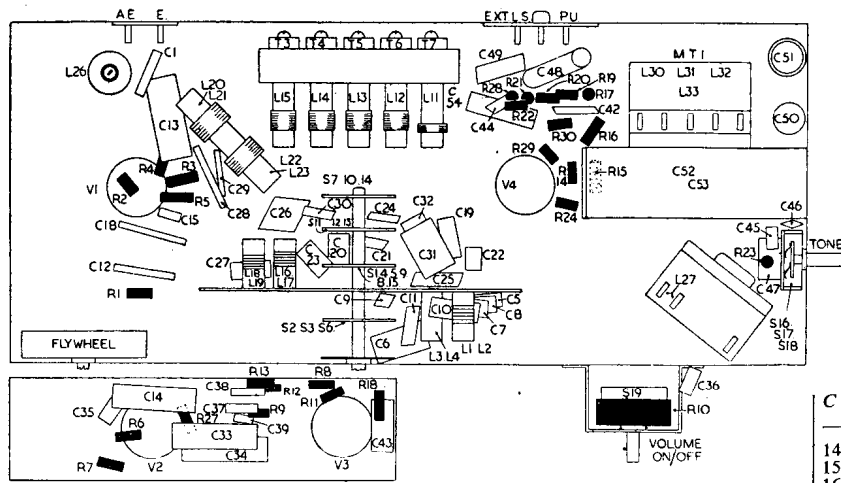


# EKCO A52



Description and alignment notes, see page 42



## CAPACITORS

C	Capacity	Type
1	150pF	Silver Mica
2	470pF	Silver Mica
3	820pF	Silver Mica
4	47pF	Tub. Ceramic
5	68pF	Silver Mica
6	1200pF	Silver Mica
7	47pF	Silver Mica
8	100pF	Silver Mica
9	150pF	Silver Mica
10	39pF	Silver Mica
11	56pF	Silver Mica
12	300pF	Silver Mica
13	.1	Tubular 350V

C	Capacity	Type
14	.1	Tubular 350V
15	47pF	Tub. Ceramic
16	150pF	Silver Mica
17	150pF	Silver Mica
18	470pF	Silver Mica
19	82pF	Silver Mica
20	240pF	Silver Mica
21	68pF	Silver Mica
22	17pF	Silver Mica
23	300pF	Silver Mica
24	100pF	Silver Mica
25	270pF	Silver Mica
25	1000pF	Silver Mica
27	68pF	Silver Mica
28	570pF	Silver Mica
29	270pF	Silver Mica
30	470pF	Silver Mica
31	820pF	Silver Mica
32	330pF	Silver Mica
33	.1	Tubular 350V

C	Capacity	Type
34	.1	Tubular 350V
35	.005	Tubular 500V
36	.005	Tubular 500V
37	100pF	Tub. Ceramic
38	100pF	Tub. Ceramic
39	15 pF	Tub. Ceramic
40	150pF	Silver Mica
41	150pF	Silver Mica
42	2500pF	Silver Mica
43	.5	Tubular 350V
44	160pF	Silver Mica
45	.005	Tubular 500V
46	160pF	Silver Mica
47	270pF	Silver Mica
48	.01	Tubular 500V
49	2000pF	Silver Mica
50	50	Electrolytic 25V
51	4	Electrolytic 500V
52	16	Electrolytic 500V
53	8	Electrolytic 500V
54	.0025	Tubular 500V

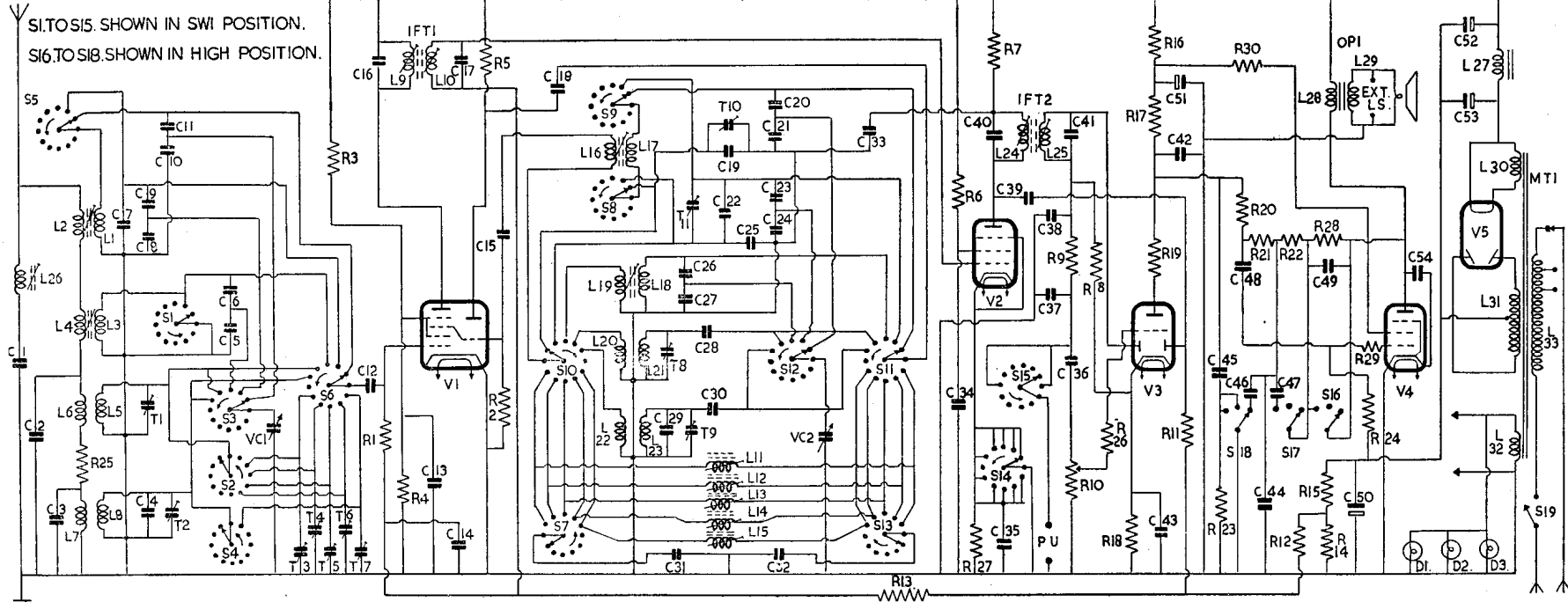
## INDUCTORS

L	Ohms
1-4	Very Low
5	5
6	14
7	40
8	30
9	9
10	9
11	3.7
12	4
13	3.5
14	2
15	1.8
16-19	Very Low
20	1.2
21	3
22	2
23	6.5
24	9
25	9
26	8.5
27	540
28	480
29, 30, 32	Very Low
31	600 Total
33	43 Total

## RESISTORS

R	Ohms	Watts
1	680K	
2	47K	
3	33K	
4	33K	
5	22K	
6	100K	
7	2.2K	
8	470K	
9	47K	
10	1M pot. with switch	
11	470K	
12	1.0M	
13	1.5M	
14	33...	
15	68...	
16	10K	
17	47K	
18	1K	
19	22K	
20	22K	
21	470K	
22	470K	
23	470K	
24	470K	
25	330	
26	220K	
27	47K	
28	1M	
29	470	
30	100	

Continued on page 42



Five-valve five-waveband superhet with electrical band-spread on SW ranges and five pre-selected stations in addition to manual tuned wavebands. Sockets for high-impedance pickup and low-impedance extension speaker. Walnut veneer table style cabinet. For 200 to 250V 40-100 c/s AC mains. Made by E. K. Cole, Ltd., Southend-on-Sea, Essex.

**AERIAL** is fed to series-connected coupling coils L2 (SW1, SW2), L4 (SW3), L6 (MW), L7 (LW) and to IF filter circuit L26, C1, C2 (SW) and C3 (MW) are bypass capacitors and R25 an MW damping resistor. The grid coils L1 (SW1, SW2), L3 (SW3), L5 (MW), L8 (LW) are switched by S5, S6 through C12 to g1 of triode-hexode frequency changer V1. S5 is necessary because L1 is used for SW1 and SW2 bands. Aerial tuning capacitor VC1 is switched by S3 to the tuned coils.

On SW1, 2 and 3 ranges effective capacity of VC1 is reduced to give bandspread by use of series and shunt capacitors, C5, C6, C7 C8, C9, C10 and C11. S1 short circuits L3 when SW2 band is in use. T1 (MW), T2, C4 (LW) are manual tuning trimmers. On preselected positions of wavechange switch trimmers T3, T4, T5, T6 are connected to L5 for MW stations and T7 to L8 for the LW station.

AVC and standing bias, decoupled by R13, C14 are fed to V1 by R1. L9, C16, which form the primary of IFT1, are in the hexode anode circuit.

**Oscillator.** On SW1, SW2 and preselected stations, Colpitts circuits are used, but for SW3, MW, LW the normal shunt-fed tuned-anode circuit is employed.

The manually tuned coils L17 (SW1, SW2), L18 (SW3), L21 (MW), L23 (LW) are switched by S12 to tuning capacitor VC2 and through S11, C18 to oscillator anode of V1. S8, S9 switch in the series and shunt capacitors C20, C21, C22, C23, C24, C26, C27 across L17, L18, to reduce the effective capacity of VC2 on the three SW ranges. T10, C19 (SW1), T11 (SW2), T8 (MW), T9, C29 (LW), together with adjustable iron cores of L17 (SW1, SW2), L18 (SW3), are used for circuit alignment. The grid reaction voltages, developed inductively on L16 (SW1), L19 (SW3), L20 (MW), L22 (LW), and from L17 (SW2) are switched by S10 through C15 to oscillator grid.

The preselected coils L11 to L15 shunted by C31, C32 are switched by S10, S11 to oscillator anode and grid respectively. R5 is anode load resistor and R2, C15 provide self bias for grid.

**IF Amplifier** operates at 460 kc/s. R27, decoupled by C35, provides a muting cathode voltage when S14 is in the GRAM position.

**Signal rectifier.** L25, C41, the secondary of IFT2, feeds signal to one of diodes of V3. R8 is load.

Sockets are fitted for high-impedance PU. Signal from PU is fed by S15 through C36 to volume control R10. To prevent radio breakthrough when PU is in use, aerial and oscillator switches S1 to S13 are in open position. In addition to this, S14 brings into circuit R27, C35, which develop a cathode muting voltage to cut off IF amplifier V2.

**AF amplifier.** From R10 the signal is fed through grid stopper R26 to grid of triode section of V3. Cathode bias is provided by R18, decoupled by C43. R17 is anode load and R16, C51 anode decoupling.

**Output stage.** C48 feeds signal through grid stopper R29, to grid of pentode output valve V4.

R24 is grid resistor and bias is obtained from R14, R15 in the negative HT return lead to chassis. C50 is bias decoupler.

L29 supplies an 8-in. PM speaker.

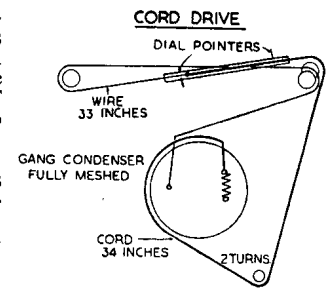
**Negative feedback tone control.** R19, R20, C42

form a top frequency attenuator and C45 switched by S18, gives additional top cut. R23 is fitted to overcome switch clicks. C44 gives a small top lift, by decoupling some of the inverse voltage feedback at the higher frequencies. R21, R22, R28, C49, together with S16, S17, S18 and C46, C47, provide a three-position tone control giving:—

(1) Top Lift—by increasing decoupling of high frequency inverse voltages by shunting C44 with C46.

(2) Normal—C46 disconnected to reduce top lift and R23 shorted out to increase top cut.

(3) Top and Bass Cut—by shorting R28, C49 and shunting R22 with C47.



**ALIGNMENT INSTRUCTIONS**

Apply signal as stated below	Tune Receiver to	Trim in Order stated for Max. Output
(1) —	MW band with gang condenser fully meshed	Adjust dial pointers to coincide with end scale markings
(2) 460 kc/s to top cap of V1, via .1 mF	As above	Core L25, L24, L10, L9
(3) 1.2 mc/s to AE/E sockets, via dummy aerial	250 metres	T8, T1
(4) 270 kc/s as above...	1111 metres	T9, T2
(5) 7 mc/s as above	42.86 metres	Core L18, L3
(6) 15 mc/s as above ...	20 metres	Core L17
(7) 18 mc/s as above ...	16.67 metres	T11, Core L1
(8) 21.5 mc/s as above	13.9 metres	T10
(9) 460 kc/s as above...	MW band	Core L26 for minimum
<i>Pre-selected Stations</i>		
(1) 1.5 mc/s-1.06 mc/s as above	Position 1	L15, T3
(2) 1.3 mc/s-850 kc/s as above	Position 2	L14, T4
(3) 1.06 mc/s-665 kc/s as above	Position 3	L13, T5
(4) 980 kc/s-560 kc/s as above	Position 4	L12, T6
(5) 250 kc/s-170 kc/s as above	Position 5	L11, T7

Check each setting on station signal for final adjustment.