

REGENTONE U22

Horizontal 5-valve table superhet in walnut cabinet, waveranges 16-51, 200-550, 800-2,000 metres; for AC and DC. Made by Regentone Products, Ltd., Town Road, Edmonton, London, N9.

Circuit.—Triode-hexode frequency changer V1, followed by variable-mu HF pentode IF amplifier V2. Signal rectification and AVC are carried out by the double-diodes of V3, the triode section of which is used as an AF amplifier. The output stage uses a power amplifier, pentode V4, which drives a 6½-in. PM loudspeaker. HT is provided by half-wave rectifier V5.

Aerial is fed in through an isolating capacitor C1 and C2 to primary L1 of SW aerial coupling

transformer. On MW and LW aerial is fed in through C1, C2, L1 to bottom ends of tuned coils L3 (MW) and L4 (LW). R1 is static drain resistor; C4 is bottom-end coupling capacitor and also AVC line isolating capacitor.

S1 switches grid of V1 to tuned circuits L2 (SW), L3 (MW) and L4 (LW), which are tuned by VC1. T1, T2 and T3 are associated trimmers. AVC is fed through R2 to grid V1 on MW and LW only. On SW the earthing end of L2 is connected direct to chassis. Cathode bias is obtained from R3 and decoupled by C7.

Screen voltage is obtained from R7 in common with screen of V2. C13 is screen decoupling capacitor. L9, C5, which form the primary of IFT1, are in the hexode anode circuit.

Oscillator is connected in a tuned-grid, parallel-fed anode circuit. VC2 is tuning capacitor; S2 switches it to tuned circuits L5 (SW), L7 (MW) and L8 (LW). T4, T5 and T6 are trimmers, and C10, C11 and C12 are padders.

C9 is grid coupling capacitor, and R4 grid resistor. S3 switches oscillator anode, through coupling capacitor C8, to reaction circuits. On SW inductive reaction is obtained from L6. On MW and LW, however, capacitive reaction is

obtained from across padders C11 and C12. R5 is oscillator anode load.

IF Amplifier operates at 465 Kc. L10, C6, secondary of IFT1, feed the signal to grid of V2. AVC is applied in series with L10 through R6, decoupled by C14, and also to suppressor grid through R9, decoupled by C15. R8, C16 provide decoupled cathode bias.

Screen voltage is obtained from R7 in common with screen V1. C13 is decoupling capacitor.

L11, C31, which form the primary of IFT2, are in the anode circuit.

Signal Rectification is by one of the diodes of V3. L12, C32, the secondary of IFT2, applies the signal; R11 is the diode load. R10, C17, C18 form an IF filter circuit.

AVC.—C20 feeds signal from anode V2 to other diode of V3. R16 is diode load and R15 is feed resistor. Delay voltage for AVC line is obtained from cathode bias which is developed across R14, C21.

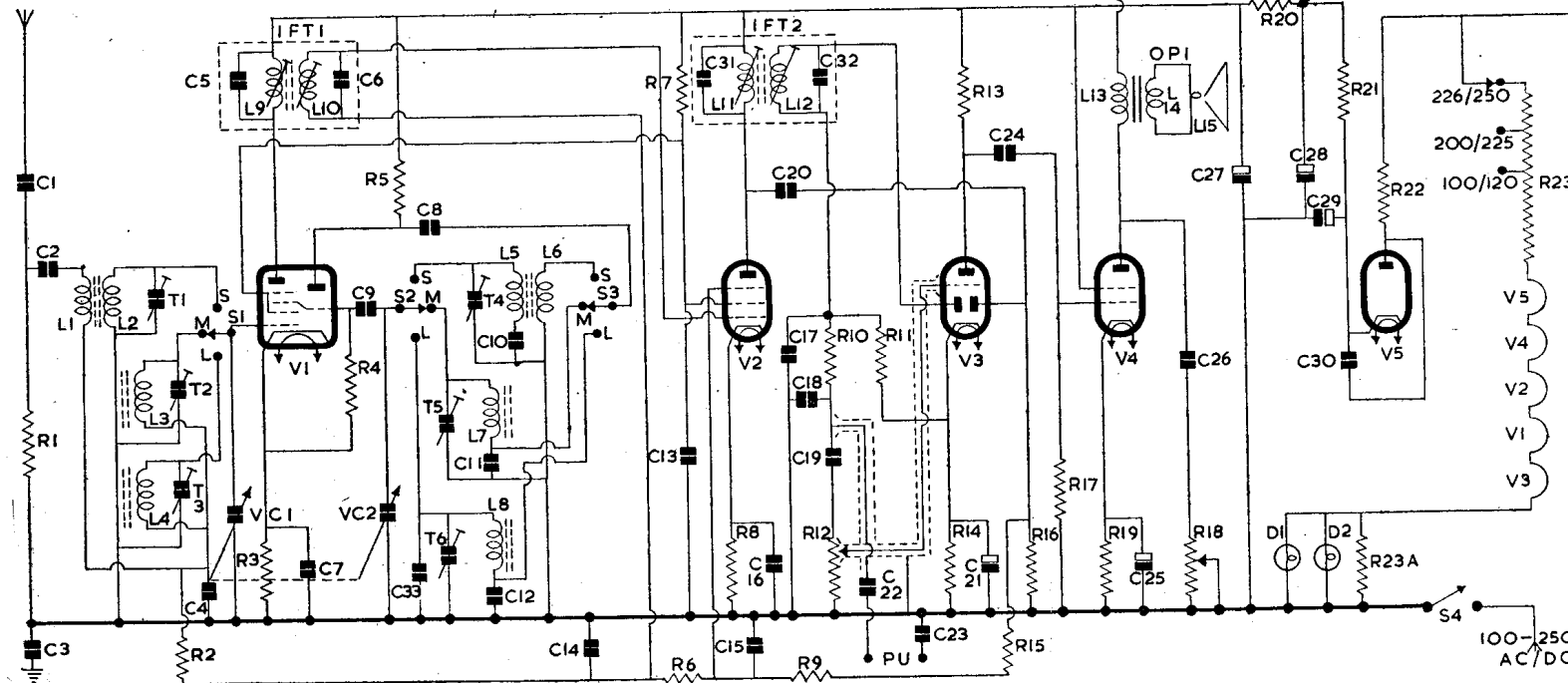
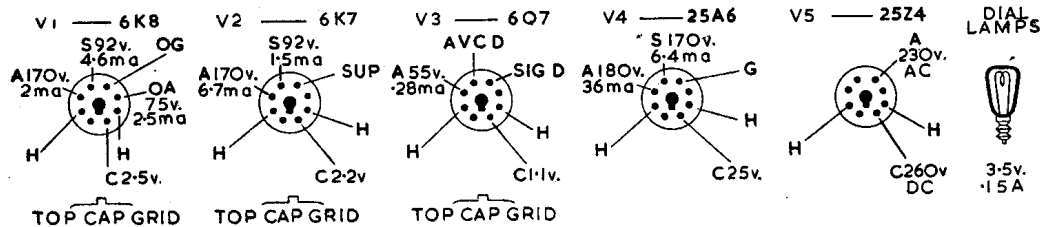
AF Amplifier is the triode section of V3. C19 feeds rectified signal to R12 (volume control) and thence to grid V3. Cathode bias for triode section is obtained from R14, decoupled by C21. R13 is anode load resistor.

Output Stage.—C24 feeds signal to grid of pentode V4; R17 is the grid resistor.

Cathode bias comes from R19 decoupled by C25; screen is fed direct from HT line to V1-V3; C27 provides the decoupling.

L13 (primary of OPI, output matching transformer) is in the anode circuit of V4. L14, the secondary, feeds the speech coil L15. C26, R18 provide variable top cut.

Mains Supplies.—HT comes from a half-wave rectifier V5 supplied through a limiter resistor R22. R21, R20, C27, C28 and C29 provide smoothing;



Regentone U22 has a light figured walnut cabinet in contrasting veneers with metal grille

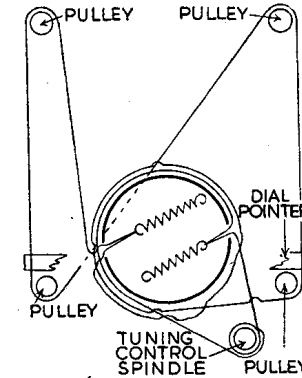
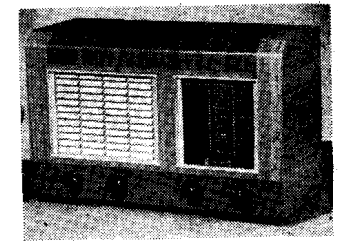


Diagram (left) shows pulley system for tuning control

VIEWED FROM REAR OF CHASSIS WITH GANG CONDENSER AT MINIMUM CAPACITY.

CAPACITORS

C	Mfds	C	Mfds
1	500 pf Mica	13	.1 Tubular 350 v
2	100 pf Mica	14	.1 Tubular 350 v
3	.01 Tubular 1000 v	15	.1 Tubular 350 v
4	2700 pf Silver Mica	16	.1 Tubular 350 v
5	Mounted in IFT1	17	100 pf Mica
6	Mounted in IFT1	18	200 pf Mica
7	.1 Tubular 1000 v	19	.01 Tubular 350 v
8	.80 pf Silver Mica	20	50 pf Silver Mica
9	50 pf Silver Mica	21	25 Electrolytic 25 v
10	.005 Mica	22	.01 Tubular 1000 v
11	350 pf Ceramic	23	.01 Tubular 1000 v
12	150 pf Silver Mica	24	.01 Tubular 500 v
		25	25 Electrolytic 50 v
		26	.05 Tubular 500 v
		27	16 Electrolytic 350 v
		28	16 Electrolytic 350 v
		29	16 Electrolytic 350 v
		30	.1 Tubular 1000 v
		31	Mounted in IFT2
		32	Mounted in IFT2
		33	50 pf Silver Mica

RESISTORS

R	Ohms	R	Ohms
1	47 K, ½ W	1	11
2	270 K, ½ W	2	Very low
3	330, ½ W	3	3.5
4	47 K, ½ W	4	23
5	33 K, ½ W	5	Very low
6	270 K, ½ W	6	10.5
7	15 K, ½ W	7	3.5
8	330, ½ W	8	10
9	270 K, ½ W	9	7.5
10	100 K, ½ W	10	7.5
11	470 K, ½ W	11	7.5
12	250 K. Potentiometer (with Switch)	12	7.5
13	270 K, ½ W	13	300
14	5.1 K, ½ W	14	.2
15	Not fitted in model tested	15	.3
16	500 K, ½ W		
17	250 K, ½ W		
18	50 K. Potentiometer		
19	620, ½ W		
20	820, 1 W		
21	1 K, 2 W		
22	47, ½ W		
23	515 Mains Dropper Resistor		
23A	50 J Resistor		

REGENTONE U22—Contd.

C30 is to prevent modulation hum. Heaters are connected in series, being fed from a tapped mains dropper R23. Dial lamps are connected between heater of V3 and chassis and are shunted by R23A.

Mains dropper is tapped for voltages from 100—250V AC or DC.

S4, which is ganged to the volume control, is on/off switch.

Pickup sockets, across volume control R12, are isolated by C22 and C23.

Removal of Chassis.—Remove back of cabinet, control knobs, three chassis bolts on underside of cabinet. Note that one bolthead is wax-covered to prevent shocks from live chassis and should be rewaxed after replacement.

Chassis should now be half withdrawn from cabinet. Then unsolder LS lead from OP1 and chassis.

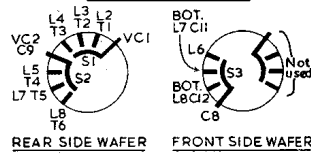
TRIMMING INSTRUCTIONS

Apply Signal as Stated Below	Tune Receiver to	Trim in Order stated for Max. Output
1) 465 Kc to top cap via .01 capacitor	—	L12, L11, L10, and L9

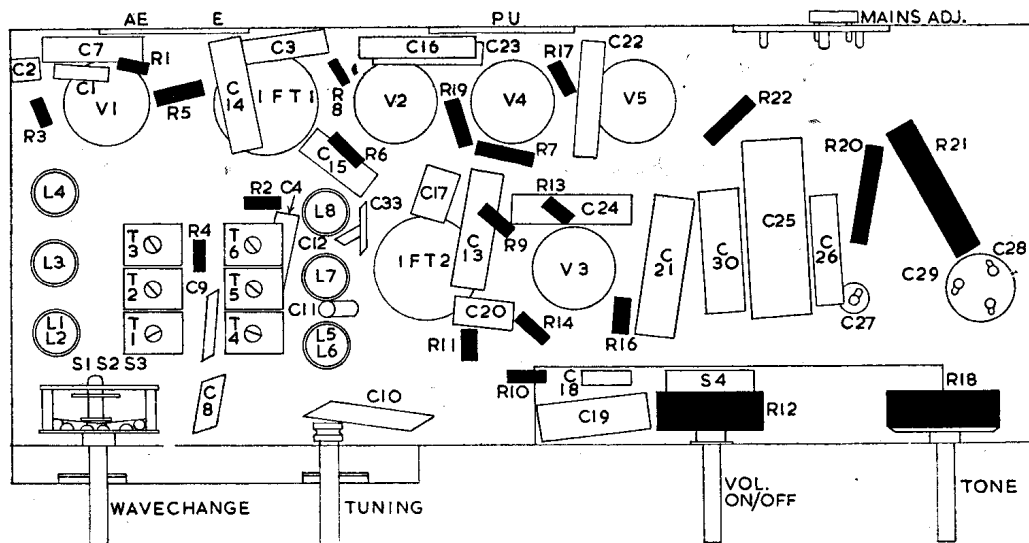
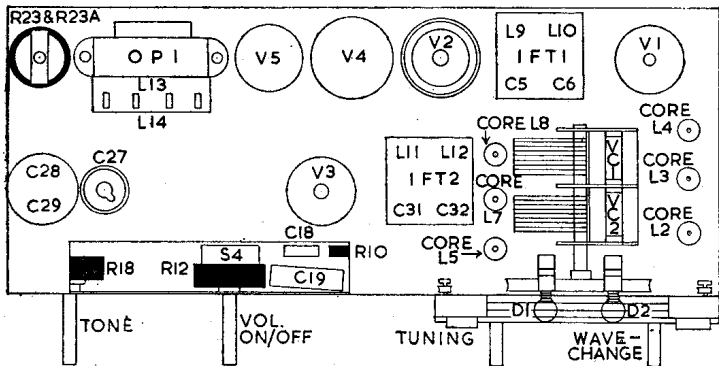
2) Check pointer is horizontal and in line with start of station divisions at top of scale.		
3) 15 Mc to Ae socket via dummy aerial	20 metres	T4, T1
4) 6 Mc as above	50 metres	Core L5, L2 and repeat (3) and (4) again
5) 1.2 Mc as above	250 metres	T5, T2
6) 600 Kc as above	500 metres	Core L7, L3. Repeat (5) and (6) again
7) 300 Kc as above	1000 metres	T6, T3
8) 150 Kc as above	2000 metres	Core L8, L4. Repeat (7) and (8) again

NOTE.—This being an AC/DC receiver, usual caution is necessary when coupling Sig./Gen. to set.

WAVECHANGE SWITCH VIEWED FROM REAR OF INVERTED CHASSIS



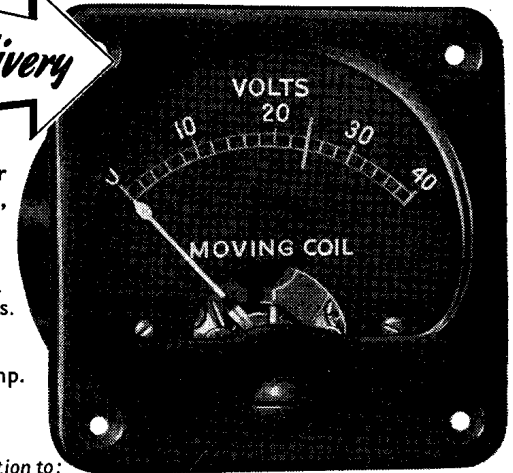
In these chassis layouts resistors are shown in solid black for reference



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