

RAINBOW 536

Four-valve, plus rectifier, three-waveband, AC superhet with 3W output; oak veneer cabinet. Made by Rainbow Radio Manufacturing Co., Ltd., Chapel Street Works, Blackburn, Lancs.

CIRCUIT consists of triode-hexode mixer and local oscillator V1 feeding into a variable-mu pentode IF amplifier V2. A double-diode triode V3 is used as detector AVC and LF amplifier. A high slope tetrode V4, in the output stage, drives a 10-in. mains energised speaker and a directly-heated rectifier V5 supplies the HT for the set.

Aerial circuit.—Separate aerial transformer coils are used for each of the three wavebands. S1 selects the primary and S2 the secondary connections. VC1 tunes the aerial grid circuit. AVC is applied to grid of V1 on all wavebands.

Oscillator is parallel-fed tuned anode with S4

switching the tuned anode coil and S3 the grid feedback coils. VC2 is oscillator tuning capacitor.

Oscillator bias is derived from C4, R3. Variable padders T7 and T8 are fitted on LW and MW bands but on SW fixed padder C6 is utilised.

IF amplifier.—Capacity tuned iron-dust cores are used, the intermediate frequency being 465kc. AVC is applied, in series with secondary of IFT1, to grid of V2.

Detector.—Signal rectifying diode is fed from secondary of IFT2 with R7 as diode load and R9, C12 and C13 constituting an IF filter. Rectified signal is fed through C14 to volume control R8 and thence to triode grid.

PU sockets are fitted, the input being applied to the volume control via C14.

AVC.—Control voltage is developed by a diode fed from anode circuit of V2 through C11. R14 is the load and R13, C10, R2 and C2 are AVC decoupling components. Delay voltage is derived from the cathode bias developed across R12.

LF amplifier.—The triode portion of V3 is used as first stage of LF amplification. R10, C16 provide HT decoupling. R11 is the anode load and C17 provides HF decoupling. Cathode bias is derived from R12 and decoupled by C15. The output is taken off from the anode by C18.

Output stage.—Grid circuit incorporates an oscillation stopper resistor R17, the grid resistor being R16. Cathode bias is supplied by R19 and decoupled by C20. Screen voltage is obtained direct from HT line.

Anode circuit consists of primary of output transformer OPI and R18 a stopper resistor. C19, R20 provide a degree of tone correction. Negative feedback is applied to grid of V4 by means of R15, C18.

The secondary of the output transformer is connected to a low impedance speech coil in series with a hum-bucking coil L19.

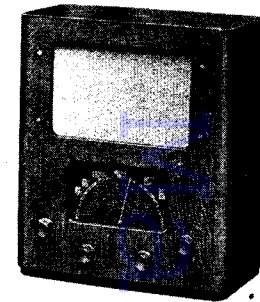
Extension LS.—Sockets are provided to connect a high-impedance extension speaker (7,000 ohms.)

HT supply.—A full-wave, directly heated rectifier is used. L24, the HT secondary of mains input transformer MT1 supplies the anode voltages. L21, the field coil of the loudspeaker, in conjunction with C21 and C22 provides adequate smoothing.

Rectifier filament is supplied from L22. Valve heaters and dial lights are supplied from L23, the LT secondary of MT1.

Mains transformer primary is tapped for voltages

Continued overleaf



INDUCTORS

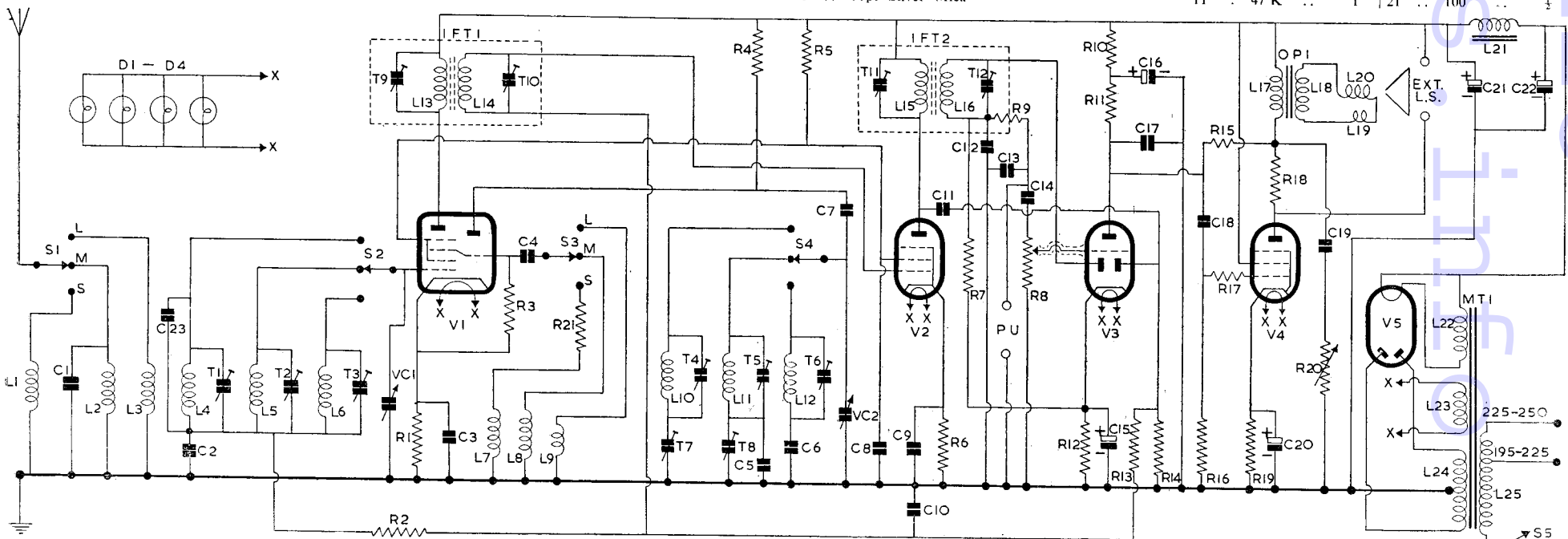
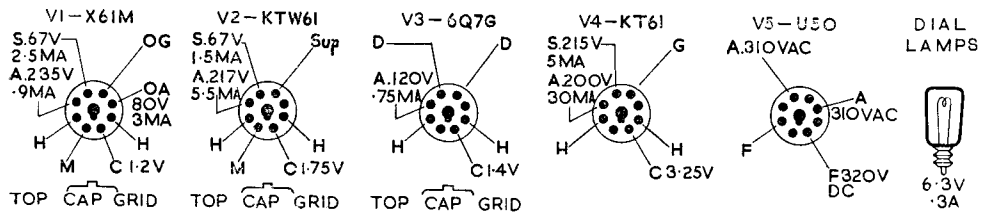
L	Ohms
1	25
2	16.5
3	43
4	31.5
5	4.5
6	Very low
7	26.5
8	70
9	8.5
10	12.0
11	3.8
12	Very low
13	2.25
14	2.25
15	4.5
16	4.5
17	470
18	Very low
19	Very low
20	2
21	2,000
22	Very low
23	Very low
24	900
25	42

RESISTORS

R	Ohms.	W
1	220	
2	500 K	
3	47 K	
4	47 K	
5	39 K	
6	330	
7	500 K	
8	500 K	Potentiometer
9	100 K	
10	39 K	
11	47 K	
12	2.2 K	
13	500 K	
14	500 K	
15	500 K	
16	500 K	
17	100 K	
18	47	
19	90	
19	150	(for KT61)
20	100 K	Potentiometer with switch
21	100	

CAPACITORS

C	Mfds.
1	50pf Silver Mica
2	.1 Tubular 450V
3	.05 Tubular 500V
4	100pf Silver Mica
5	500pf Silver Mica
6	5,000pf Silver Mica
7	100pf Silver Mica
8	.1 Tubular 450V
9	.1 Tubular 450V
10	.1 Tubular 450V
11	50pf Silver Mica
12	200pf Silver Mica
13	200pf Silver Mica
14	.01 Tubular 500V
15	25 Electrolytic 25V
16	8 Electrolytic 450V
17	200pf Silver Mica
18	.01 Tubular 1,000V
19	.1 Tubular 450V
20	25 Electrolytic 25V
21	8 Electrolytic
22	500V
23	50pf Silver Mica

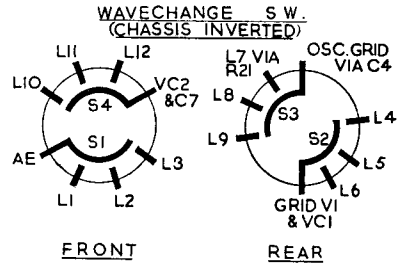


RAINBOW 536—Contd.

from 195 to 250, 40 to 100 cs. S5, in the primary, is the on/off switch and is ganged to the tone control R20.

Removal of Chassis.—Remove the four chassis bolts on the underside of the cabinet and the four control knobs.

Unfasten the four nuts clamping the loudspeaker to the baffle (inside the cabinet) and carefully withdraw the loudspeaker and chassis from the cabinet.



TRIMMING INSTRUCTIONS

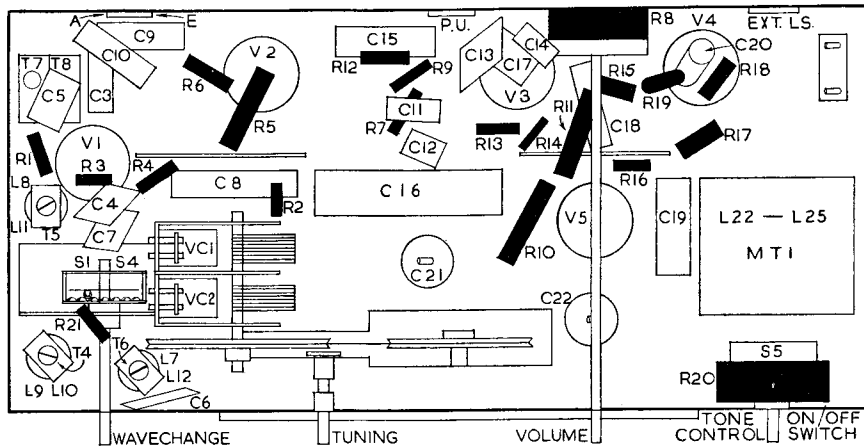
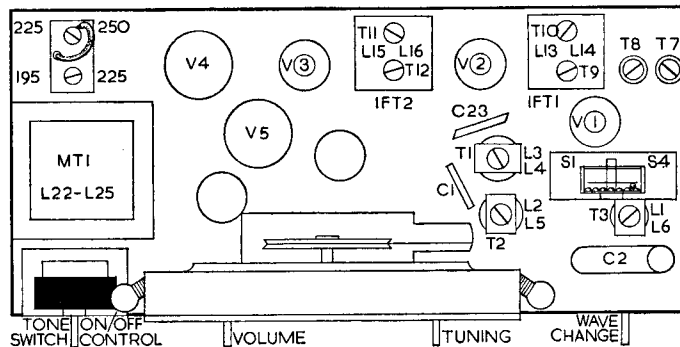
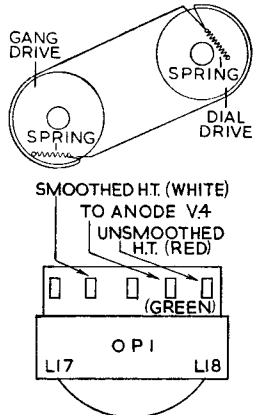
Apply Signal as Stated Below.	Tune Receiver to	Trim in Order Stated for Max. Output.
(1) 465 Kc to top cap V1 via .01 capacitor	Gang fully meshed	T12, T11, T10 and T9.
(2) 15 Mc to aerial socket via dummy aerial	20 metres	T6 and T3.
(3) 1.2 Mc as above ..	250 metres	T5 and T2.
(4) 600 Kc as above ..	500 metres	T8.

Repeat (3) and (4) until at both frequencies max. output is obtained without further adjustment of trimmers or padder being necessary.

(5) 300 Kc as in (2) .. 1,000 metres T4 and T1.

(6) 165 Kc as above .. 1,800 metres T7.

Repeat (5) and (6) until at both frequencies max. output is obtained without further adjustment of trimmers or padder being necessary.



RADIOSPARES WIRE WOUND VOLUME CONTROLS

less switch, 3 watt type, fitted $\frac{1}{4}$ " flat Spindles of 2" free length—exactly as illustrated above (1)—available in the following values:

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