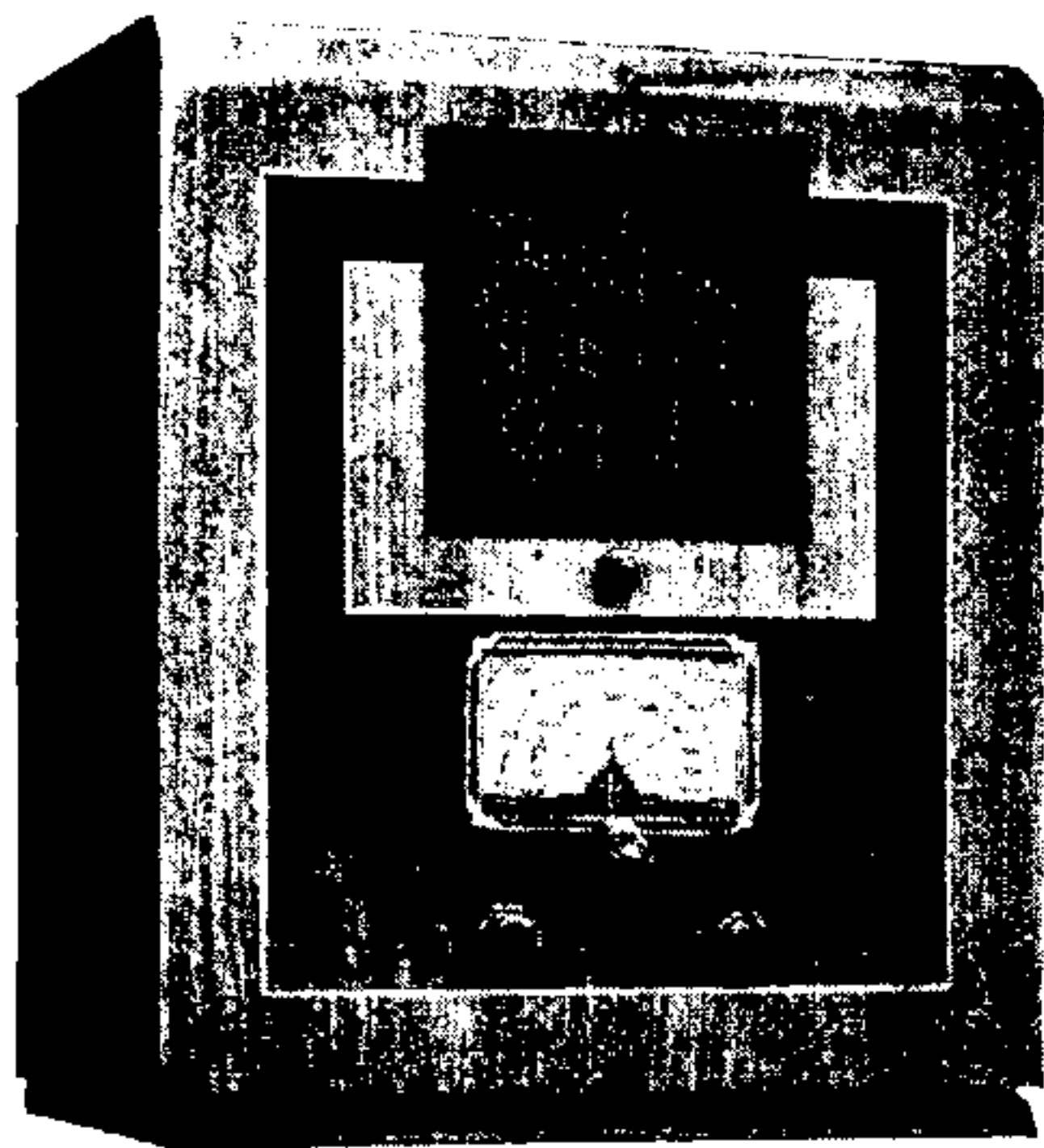


ALBA SIX-VALVE A.C. SUPERHET



This six-valve A.C. mains superhet receiver, known as model 57, was introduced by A. J. Balcombe, Ltd., for the 1934-5 season.

Circuit.—The frequency-changer valve, FC4 met. (V1), is preceded by a band-pass aerial tuner of which the first coupling is a tuned secondary transformer. Bias is by cathode resistance and A.V.C., and coupling to the next valve is by band-pass I.F. transformer (frequency 117.5 kc.).

The I.F. valve, VP4A met. (V2), is also biased by cathode resistance and A.V.C., and

is followed by a second band-pass I.F. transformer.

The second detector is a simple double diode, 2D4A (V3), the A.V.C. anode being fed from the primary of I.F.T.2. Coupling to the L.F. valve is by resistance capacity filter, of which the grid leak forms the volume control.

Optional sensitivity is provided by a switch, which can change the diode bias to a tapping on the V4 bias potentiometer.

The L.F. valve, VP4A (V4), is resistance capacity coupled to the output valve, a Pen. 4VA (V5). This is tone compensated by a condenser and provided with a control consisting of a condenser and variable series resistance.

The mains equipment is: Transformer, full-wave IW3 indirectly-heated rectifier, and the field coil in the positive H.T. lead with electrolytic condensers.

Special Notes.—The pilot lamps are 2.5 v. .3 amp., and are wired in series.

To replace them, turn the dial to about 450 metres. The lamp shield is then above the condenser. Pull the lamp carrier upwards by the projecting flange.

Quick Tests.—Voltages between the terminals on the speaker transformer and chassis:—

Top, (1) and (2).—Joined, H.T. smoothed, 236 v.;

(3).—Junction of C17 and R 18;

(4).—V5 anode, 214 v.;

(5).—H.T. unsmoothed, 356 v.;

Removing Chassis.—Remove the knobs (grub screw) and remove the four holding screws from underneath the cabinet, taking care not to lose the rubber washers within.

General Notes.—The block electrolytic condenser has two red leads, but the case is marked with the corresponding capacities. C19 of 8 mfd. is connected to the second tag from the rear on the inner side of the mains transformer (i.e., the rectifier heater tag).

The connections to the transformer (counting from the rear in each case) are:—

Inner row: (1) and (3) rectifier heaters;

(3) and (5) rectifier anodes;

(4) centre tap

Outer row: (1) Mains Ov.;

(2) Mains, to switch;

(3) and (5) set heaters;

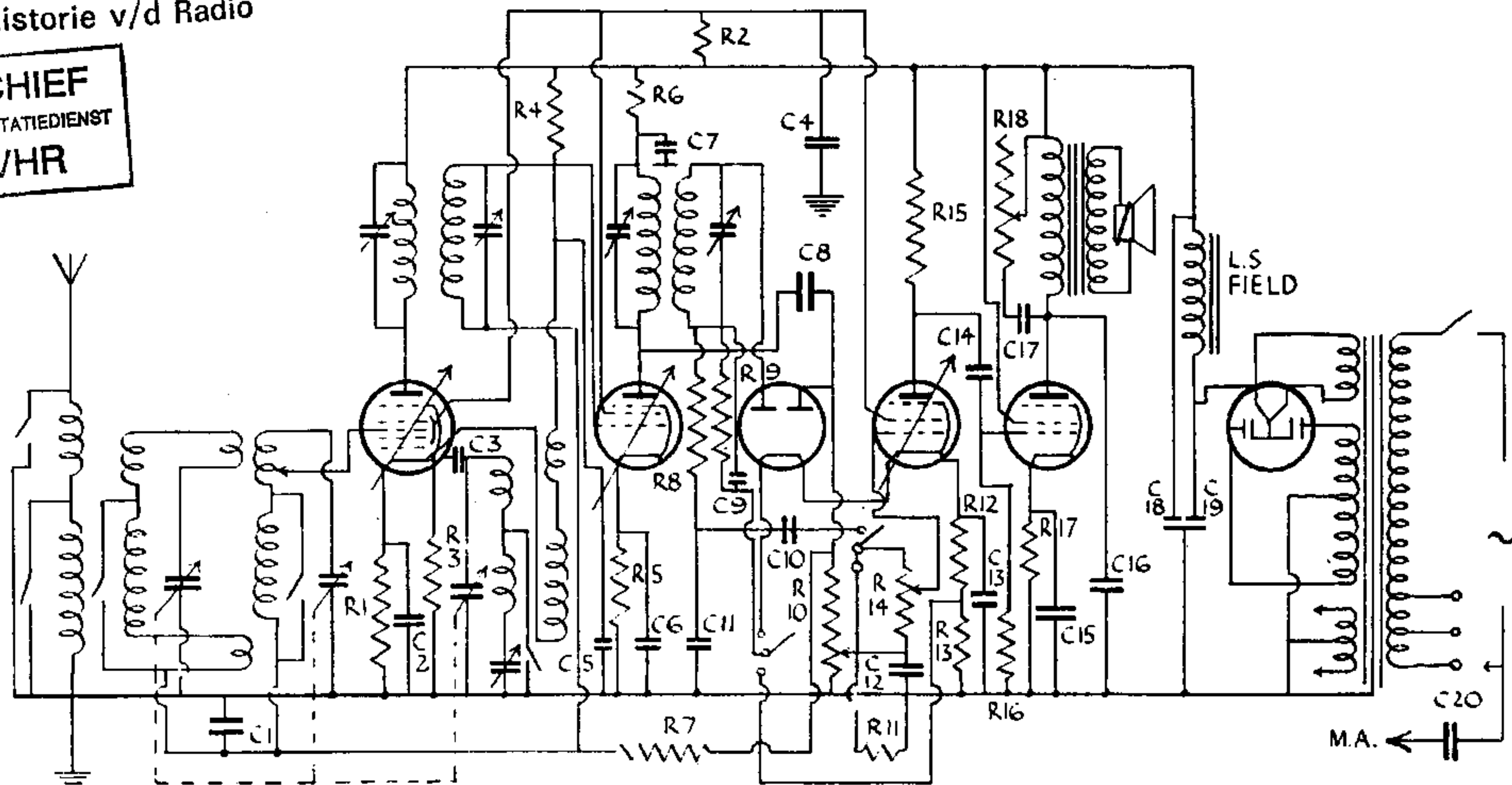
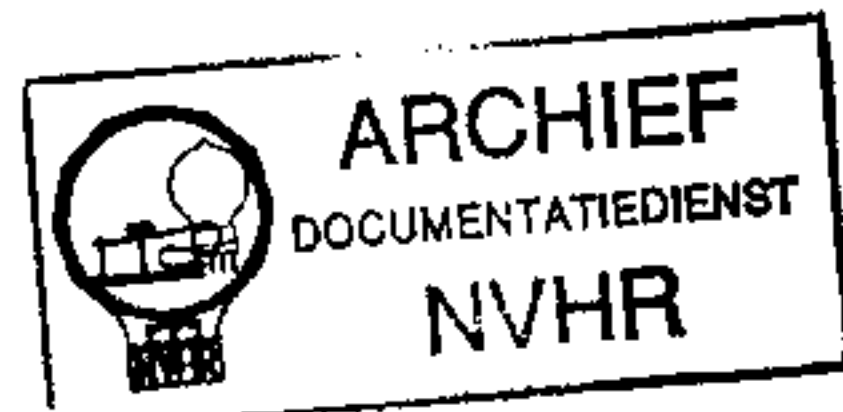
(4) centre tap (to chassis).

(Continued on next page.)

VALVE READINGS

Valve.	Type.	Electrode.	Volts.	M.A.
1	FC4 met. (7) ..	anode ..	236	1.5
		aux. grid	86	4
		osc. anode	82	1.25
2	VP4A met. (7) ..	anode ..	204	1.8
		aux. grid	86	1.7
		diode	—	—
3	2D4A ..	anode ..	56	1.7
4	VP4A ..	anode ..	56	1.7
		aux. grid	86	.8
		anode ..	236	33.5
5	Pen.4VA ..	anode ..	236	33.5
		aux. grid	214	3

Ned. Ver. v. Historie v/d Radio



Five valves and a rectifier are used in a modern arrangement in the 57. It will be noted that an L.F. amplifier follows the diode detector.

ALBA A.C. SUPERHET SIX (Cont.)

Replacing Chassis.—Stick or lay the rubber washers over the holes in the bottom of the cabinet.

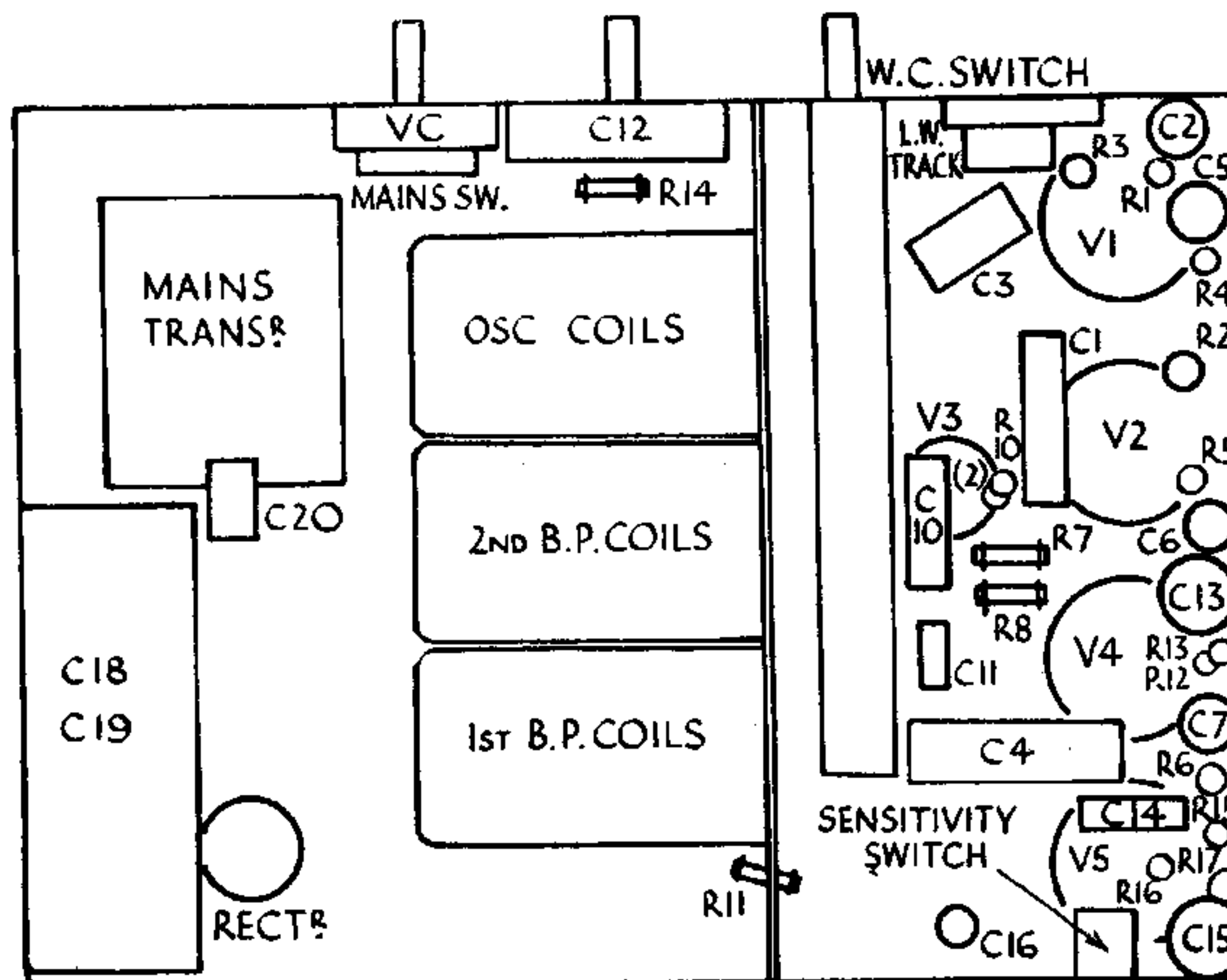
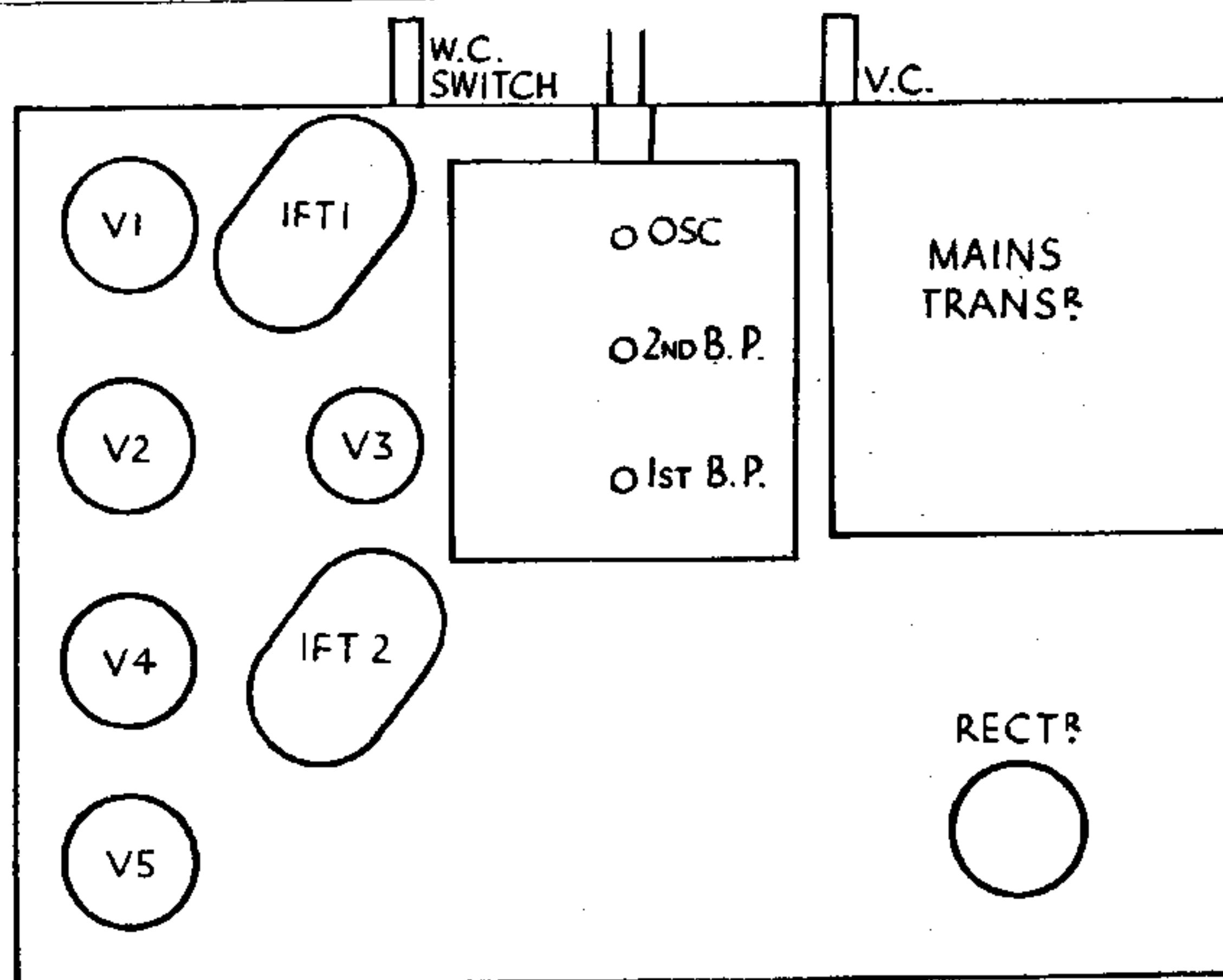
Lay the chassis inside, replace the holding screws and the knobs.

CONDENSERS

C.	Purpose.	Mfd.
1	Decoupling V1 grid .. ..	.1
2	V1 cathode by-pass .. ..	.1
3	V1 osc. grid. reservoir .. ..	.0002
4	V1 aux. grid by-pass	2
5	Decoupling V1 osc. anode .. ..	.1
6	V2 cathode by-pass .. ..	.1
7	Decoupling V2 anode .. ..	.1
8	I.F. feed to A.V.C. diode .. ..	.0002
9	H.F. by-pass .. ..	.0002
10	L.F. coupling V3 to V4 .. ..	.005
11	H.F. by-pass .. ..	.0006
12	Decoupling V4 grid .. ..	.25
13	V4 cathode by-pass el.	25
14	I.F. coupling V4 to V5 .. ..	.005
15	V5 cathode by-pass el.	25
16	Tone compensating V5 anode .. ..	.005
17	Tone control circuit .. ..	.02
18	H.T. smoothing el.	12
19	H.T. smoothing el.	8

RESISTANCES

R.	Purpose.	Ohms.
1	V1 cathode bias	250
2	Voltage dropping to V1 and V2 aux. grids	25,000
3	V1 osc. grid leak	50,000
4	Decoupling V1 osc. anode	75,000
5	V2 cathode bias	400
6	Decoupling V2 anode	10,000
7	Decoupling A.V.C. line	1 meg.
8	H.F. stopper	1 meg.
9	Diode load .. ..	.5 meg.
10	A.V.C. diode load .. ..	.5 meg.
11	Across P.U. leads	100,000
12	V4 bias ptr.	600
13	V4 bias ptr.	300
14	V4 grid leak, V.C.	5 meg.
15	V4 anode coupling	100,000
16	V5 grid leak .. ..	.25 meg.
17	V5 cathode bias	500
18	Tone control	50,000
—	L.S. field	2,000



As these lay-outs show the Alba "57" is designed on clean, logical lines.