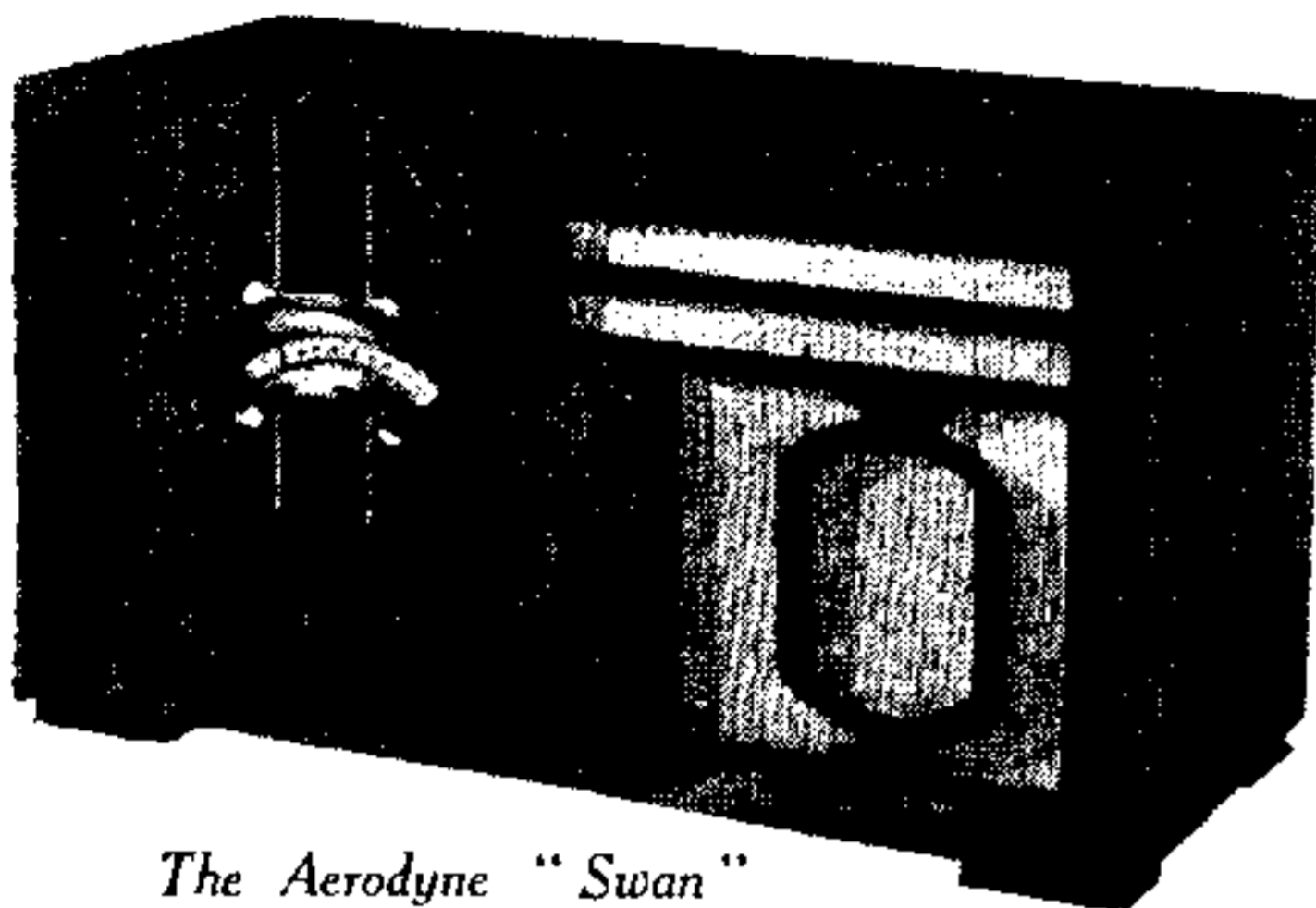


"SWAN" STRAIGHT MAINS THREE BY AERODYNE RADIO



The Aerodyne "Swan"

(One is hidden under the felt on the rear support.)

Lift chassis out (leads to L.S. need not be disconnected).

General Notes.—The wiring from the mains transformer is coded :—

- Black and yellow—set filaments.
- Red and yellow—rectifier filaments.
- Red—rectifier anodes.
- Pink and green—centre taps (earthed).
- Brown—lowest mains tapping.
- Green—middle mains tapping.

Blue—highest mains tapping.
Yellow—switch (i.e., mains O.).

Cleaning Switch.—Remove two screws holding resistance panel.

Unsolder the following leads :—

- R3 to volume control.
- R9 to electrolytic condenser C18.
- R1 to switch (underneath).

Ease the resistance panel upwards and the switch can be reached.

Replacing Chassis.—Lay chassis loosely in cabinet and manoeuvre the rear corner screw into position.

Replace remaining screws.

Replace clips holding speaker leads

Replace knobs—noting the correct position of the "Off" on the V.C. knob. In our model the grub screw was opposite the rounded side of the spindle.

VALVE READINGS

Valve.	V.C. max.		Volts.	M.A.
	Connection.			
V1 VP4	...	anode ...	220	3.5
		screen ...	105	—
V2 354V	...	anode ...	150	3
V3 Pen.4VA	...	anode ...	240	30
		aux. grid	255	5.
DW3	...	each anode	340A.C.	—

See next page for diagrams.

Circuit.—The H.F. valve (V1) VP4, a variable-mu H.F. pentode, is preceded by a band-pass aerial circuit and the volume is controlled by the conventional variable resistance in the cathode lead. Coupling to the next valve is by tuned anode.

The detector valve (V2), 354V, is a proper power grid detector, with .0001 mfd condenser (C11), and $\frac{1}{4}$ megohm leak R7. Reaction is applied to the tuned anode coil and an H.F. filter is included in the anode circuit. Filtered transformer coupling includes R8 and C15.

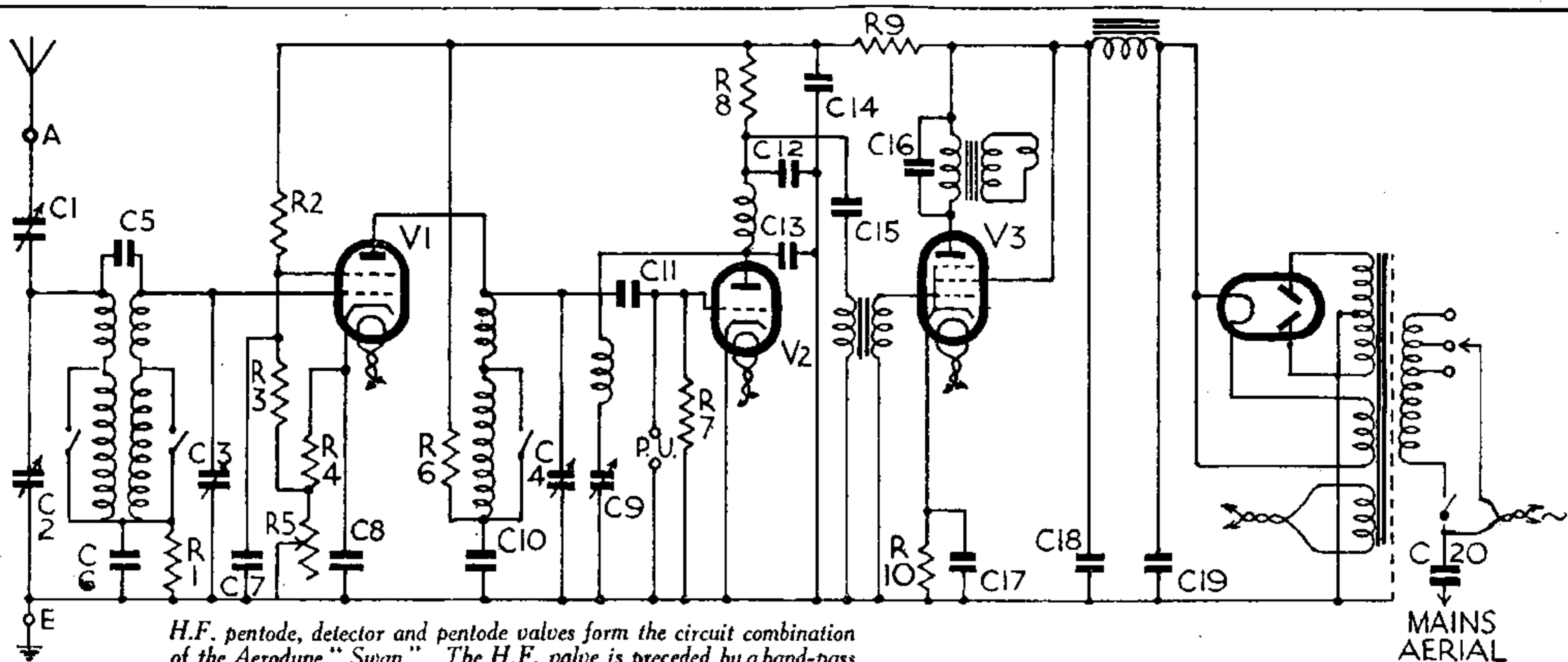
The output valve (V3), a seven-pin pentode, Pen 4 VA, is compensated by a simple condenser, C16, across the output transformer primary.

Full wave rectification is used and the rectifier is of the indirectly heated type, DW3. The L.S. field is used for smoothing in the H.T.+ lead, and the associated condensers are 6 mfd. electrolytics.

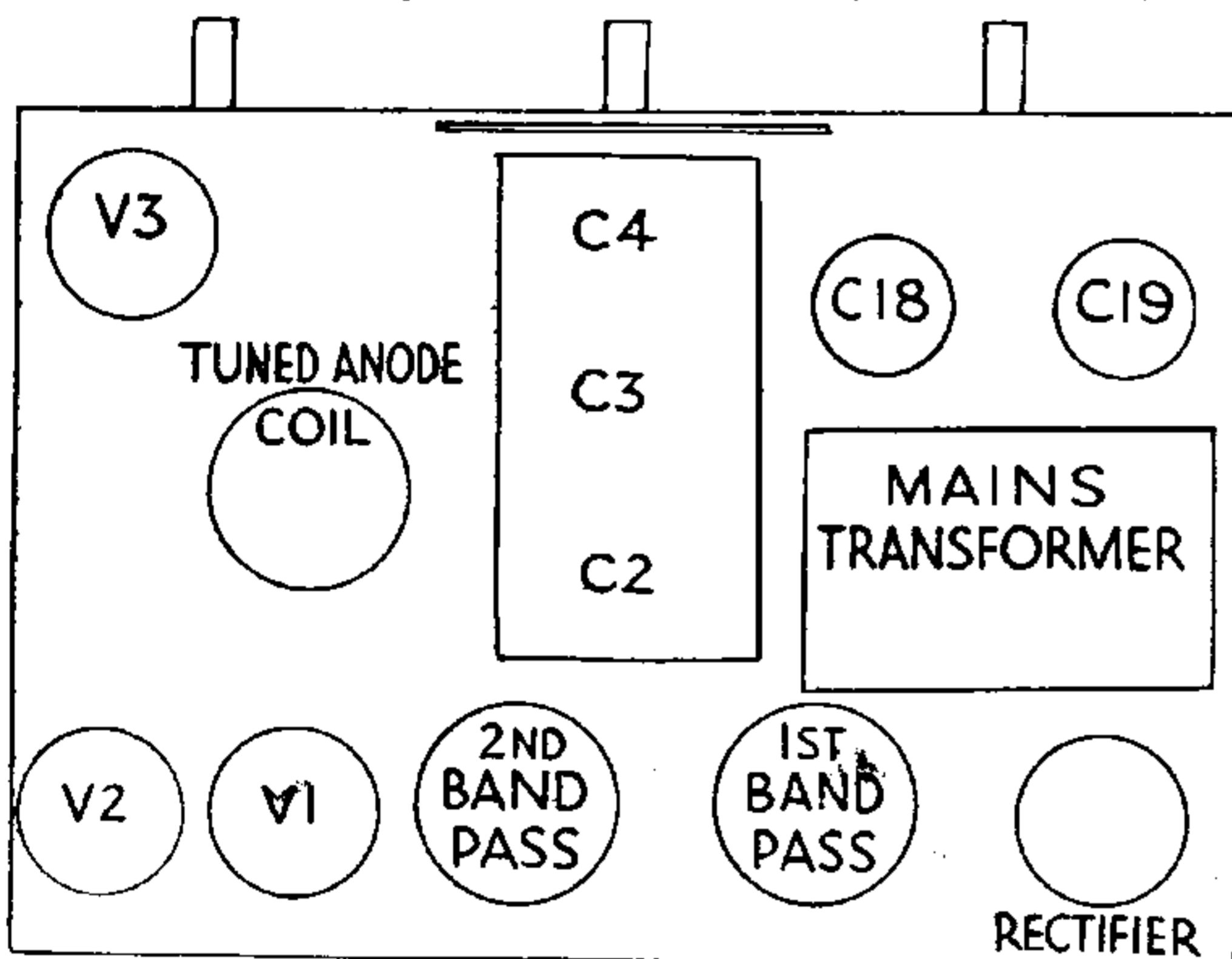
Quick Tests.—Voltages from terminals on L.S. transformer :

- Right hand (1) (H.T. unsmoothed)... 370V.
- (2) (V4 anode) 240V.
- (3 and 4) (H.T. smoothed) 255V.
- S.G. anode, V.C. max... 220V.

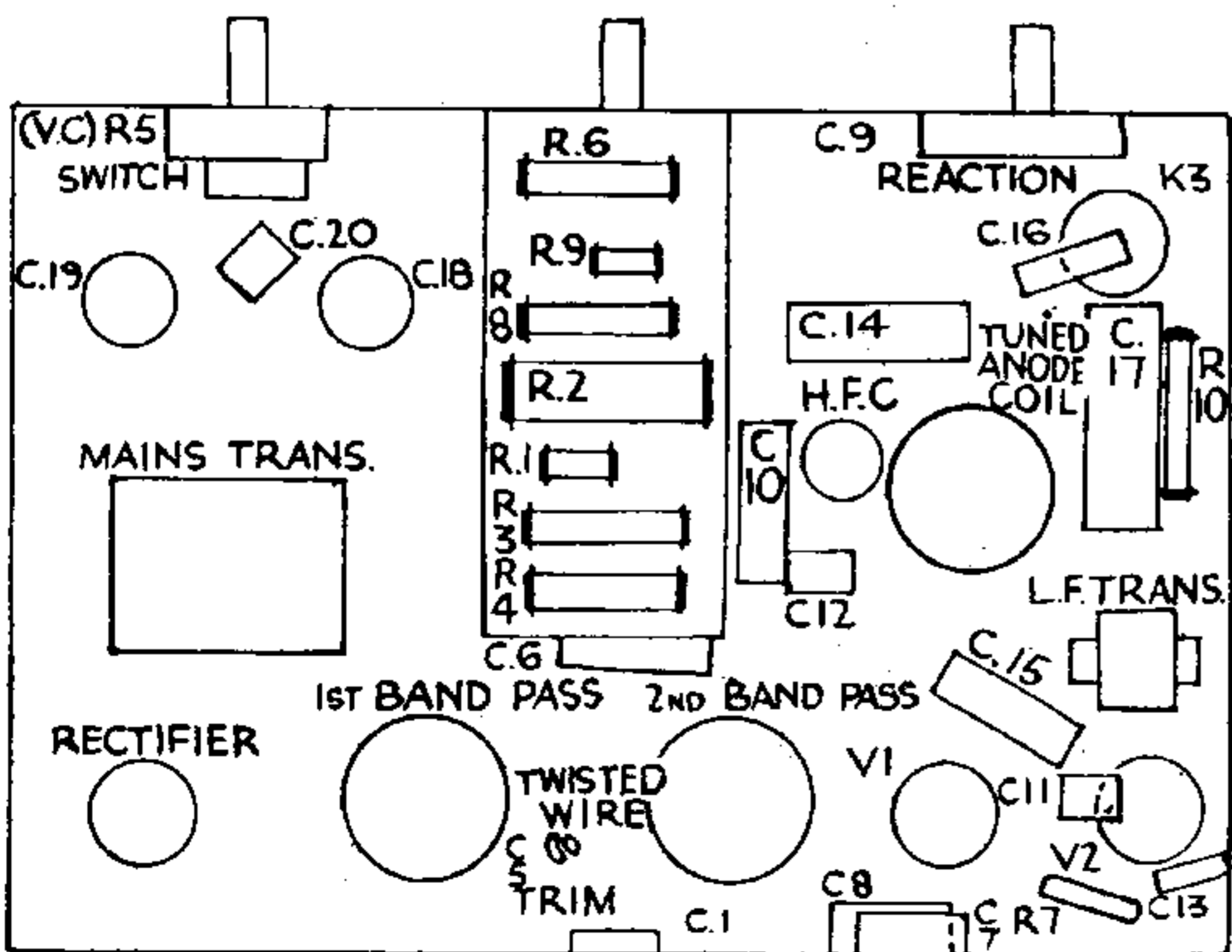
Removing Chassis.—Undo knobs (grub screws). Undo two clips holding speaker leads. Remove four screws from underneath.



H.F. pentode, detector and pentode valves form the circuit combination of the Aerodyne "Swan." The H.F. valve is preceded by a band-pass circuit and linked to a power-grid detector by tuned anode coupling. A complete H.F. filter is connected in the detector anode circuit and the L.F. transformer is resistance-capacity fed.



Like most three-valve receivers the "Swan" has a simple and logical arrangement of components on the top of the chassis. The mains apparatus is compactly grouped on the right-hand side and three of the four valves are very accessibly placed.



Below the Aerodyne chassis, a resistance panel is mounted above the wave-change switch but there is still room for each resistance to be easily recognised. The L.F. transformer is very diminutive since it is a special nickel-core type for auto or parallel feed.

AERODYNE "SWAN" FOUR (Cont.)

RESISTANCES

R.	Purpose.	Ohms.
1	Across band-pass coupling condenser C6.	1,000
2	Top part of screen ptr. V1 ...	25,000 (2w.)
3	Lower part of screen ptr. V1 ...	20,000
4	Fixed bias resistor V1 ...	500
5	Volume control ...	8,000
6	V1 anode decoupling ...	8,000
7	V2 grid leak ...	.25 meg.
8	Coupling V2 to V3 ...	30,000
9	Decoupling anodes V1 and V2 ...	10,000
10	V3 bias resistor ...	340

CONDENSERS

C.	Purpose.	Mfd.
1	Aerial series trimmer ...	.001max.
2, 3 & 4	Ganged tuning condensers ...	.0005 ea.
5	Part of band-pass coupling (twisted wire).	—
6	Part of band-pass coupling ...	.05*
7	V1 screen ...	.1
8	V1 cathode ...	.1
9	Reaction ...	.0003
10	V1 anode decoupling ...	1.
11	V2 grid ...	.0001
12	Part of H.F. filter anode V2 ...	.0005
13	Part of H.F. filter anode V2 ...	.0001
14	Decoupling anodes V1 and V2 ...	1.
15	Filter feed to L.F. transformer	.05
16	Pentode compensator ...	.01
17	V3 cathode ...	25 el.
18	Electrolytic smoothing ...	6 el.
19	Electrolytic smoothing ...	6 el.

* In our model C6 was .1 mfd.