COSSOR 353 BATTERY THREE

Circuit.—The H.F. valve 220VS (V1) is preceded by a single tuned aerial transformer (iron cored) and the variable-mu characteristic of the valve is used for controlling volume by means of a potentiometer across the G.B. battery. The grid circuit is decoupled. Coupling to the grid of the next valve is by tuned secondary transformer.

The detector valve 210SPT (V2) (7-pin) is an H.F. pentode and is used as a semi power-grid detector with reaction. Coupling to the output valve is by auto transformer.

The output pentode 220HPT (V3) has a grid stabilising resistance and is tone compensated by a condenser and resistance in series across the primary of the output transformer.

The speaker is a permanent magnet type.

Special Notes.—The set is fused. Battery connections are:—

Power (green) 120 volts.
Screen (yellow) 60 volts.
G.B.—1, from 3 to 6 volts neg., depending on condition of battery.
G.B.—2, 9 volts.

The tone compensating resistance and condensers R8 and C9 are actually mounted on the speaker transformer.

Quick Tests.—These are best conducted while taking the valve emission.

Removing Chassis.—Undo the centre screw on the condenser trimmer and, after removing the latter, undo the knobs (grub screw).

Remove four holding bolts underneath, slide out the upright partition at the end of the chassis and lift the chassis out.

General Notes.—The connections in this set are particularly straightforward and need no explanations. C11 and R9 are in one container.

Replacing Chassis.—Lay chassis inside cabinet, replace holding screws and knobs. Replace upright partition.

VALVE READINGS

Battery volts: Power 120, screen 60, G.B.—1, 4½ G.B.—2, 9v.

Valve	Type.	Electrode.	Volts.	M.a.
1	220VS ...	anode* ...	120	.9
		screen ...		
2	210SPT	anode ...	57	.9
		aux. grid ...		
3	220HPT	anode ...	117	3.5
		aux. grid ...	120	.8

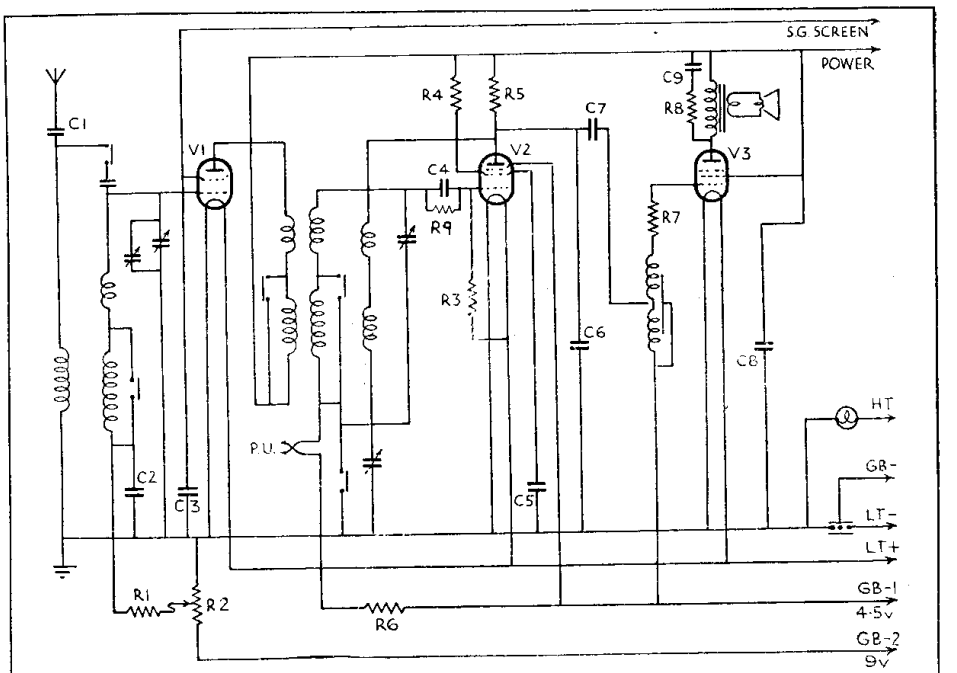
* Make sure that this valve is stable before taking accurate current reading.

CONDENSERS

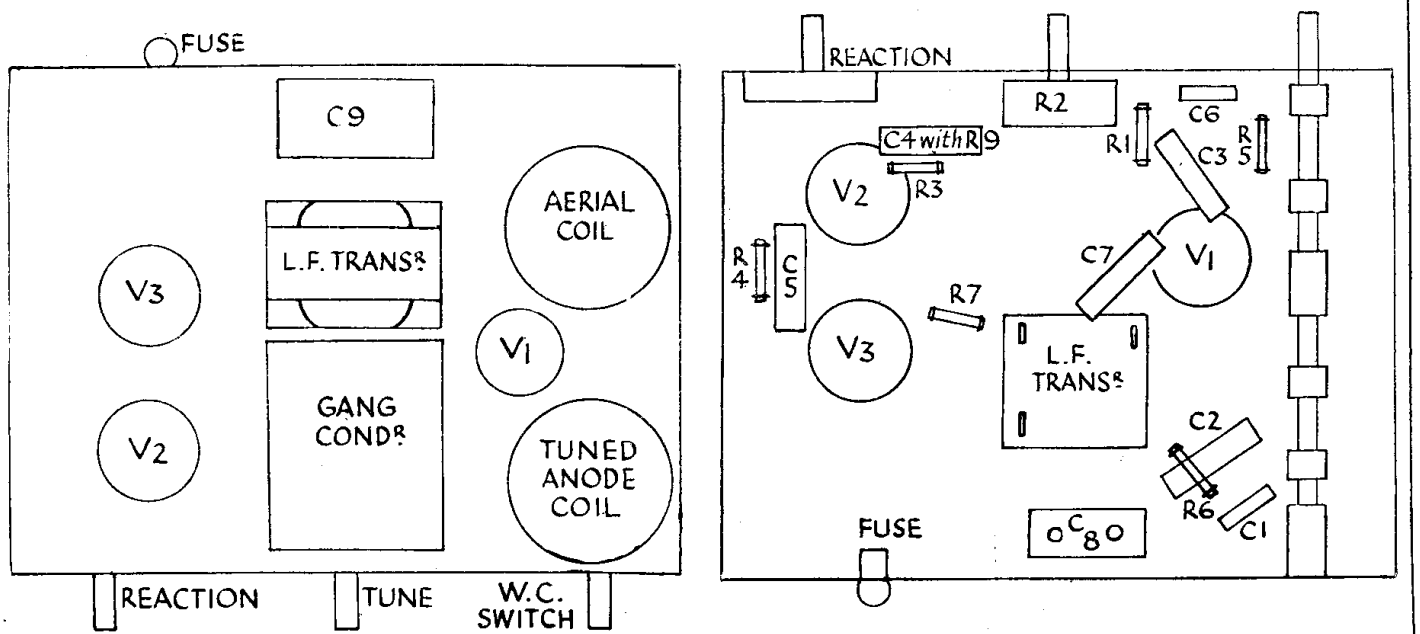
C.	Purpose.	Mfd.
1	Series aerial	.0005
2	Decoupling V1 grid	.1
3	V1 screen	.1
4	V2 grid	.0001
5	V2 aux. grid	.1
6	V2 anode by-pass	.0002
7	L.F. filter to transformer ..	.1
8	Across H.T.	2
9	Tone compensation circuit in V3 anode.	.01

RESISTANCES

R.	Purpose.	Ohms.
1	Decoupling V1 grid	2 meg.
2	Volume control (across G.B.) ..	50,000
3	V2 grid leak	2 meg.
4	Voltage dropping to V2 aux. grid	.5 meg.
5	V2 anode L.F. coupling ..	50,000
6	Series with P.U. lead	100,000
7	V3 grid, H.F. stopper	100,000
8	Tone compensation circuit V3 anode	10,000
9	Across V2 grid condenser ..	3 meg.



A variable-mu screen-grid H.F. amplifier, an H.F. pentode detector and an output pentode constitute the basis of the circuit of the model 353.



As these two diagrams show the construction of the Cossor model 353 receiver is simple and logical.