

The Marconiphone "55" straight-five portable is typical of a very large number of receivers which are still in use.

Circuit.—The first H.F. valve, HL210 (V1), has the tuned frame aerial in its grid circuit. The aerial is in two different sections, of which only theappings are connected and one section of the L.W. winding is short-circuited for use on the M.W. aerial.

Reaction is applied by feed back from the anode of the first valve to a part of the frame aerial winding of each section. Bias is applied to the grid through the frame aerial.

H.F. choke-capacity filter coupling is used to the second H.F. valve, HL210 (V2), which also is biased and is coupled to the detector by another H.F. choke-capacity filter.

An H210 (V3) leaky grid detector is coupled to the first L.F. valve, L210 (V4), by straight transformer coupling. Similar coupling links V4 to the output valve.

The H.T. to the output valve, P215 (V5) is fed through the moving-iron speaker, and compensation is afforded by a .001 condenser between the anode and H.T.—

Special Notes.—This set was popular as long ago as 1929, and may now be considered obsolete. The chief troubles encountered are due to corrosion through fumes from the acid,

VALVE READINGS

No Signal.

Valve.	Type.	Electrode.	Volts.	M.a
1	HL210	.. anode ..	106 ..	.8
2	HL210	.. anode ..	106 ..	.8
3	H210	.. anode ..	92 ..	1
4	L210	.. anode ..	91 ..	1.3
5	P215	.. anode ..	103 ..	3.4

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and in many cases it has been found that a little acid spilt on the bottom of the case has crept on to every component in the chassis.

In such cases the only sensible repair is to rebuild the set and replace all the components likely to be affected. The advisability of this must be left entirely to the discretion of the dealer, as the cost involved is heavy.

Battery Connections.—H.T. 108V.; G.B. 9.V.

H.T.+ 1, 96 volts; H.T.+ 2, 108 volts; G.B.— 1, —1.5 volts; G.B.— 2, —3 volts; G.B.— 3, —7.5 volts.

Quick Tests.—These consist of taking the valve emissions and noting the relative strengths of the pops produced in the speaker.

Removing Chassis.—To remove the chassis itself it is necessary to unscrew the four screws on the front panel whose positions are shown in the diagram as A, B, C and D. Remove also the screw on the bracket underneath the chassis and the cleat holding the leads to the M.W. frame inside the back. Unsolder the three leads to the panel on the L.W. frame aerial and the two speaker leads. The chassis should then slide out.

To remove the frame aerials undo the wood screws round the edges and lift out.

General Notes.—The component most frequently attacked by acid fumes is C4, which is suspended immediately above the accumulator. Replace by a .005 mfd. tubular condenser.

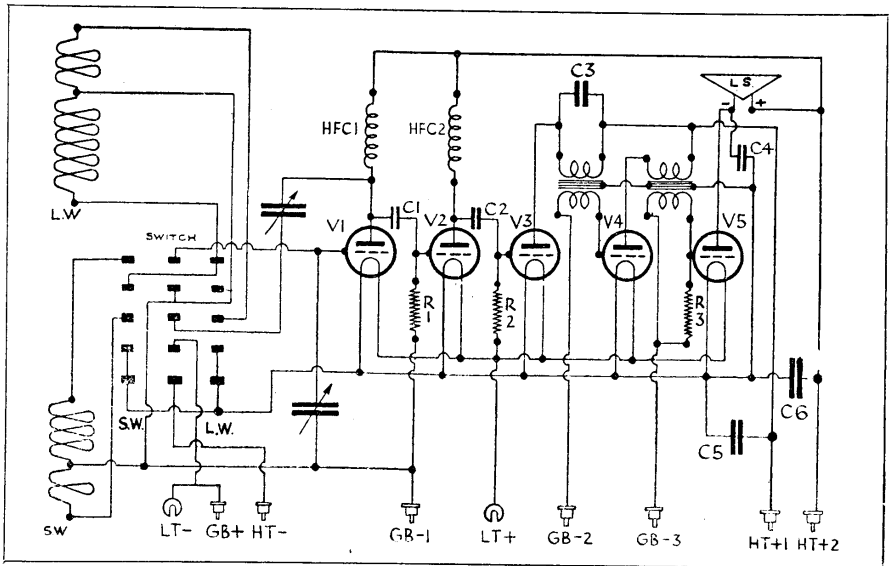
In the event of the remaining condensers and resistances requiring replacement, tubular condensers and resistances with soldering wires can easily be suspended in the wiring.

Should either of the transformers be defective, L.F.T.1 should be replaced by a 2.5:1 or 3:1 transformer, and L.F.T.2 by a 4:1 or 5:1.

Switching.—The switch connections are given in the circuit diagram exactly as they are wired.

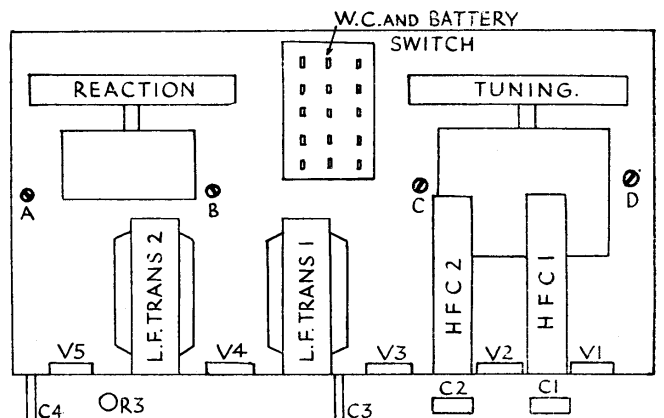
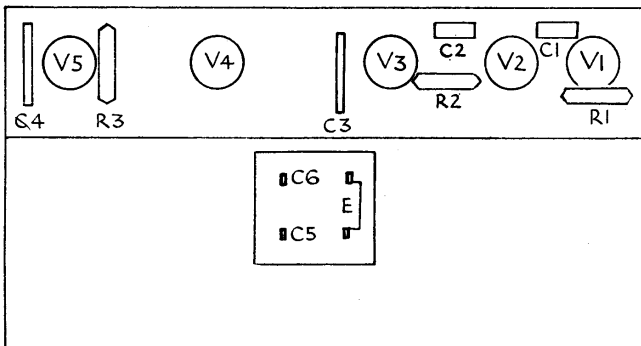
As the leads are not coded they should be traced to their respective components. It has frequently been found that the fulcrum pin has worn through. To replace this a thin wire nail should be riveted into position.

The effect of acid on the copper of the L.W. winding, though not severing the wire, has



Two triode H.F. amplifiers and a single tuned stage—provided by the frame aerial—are the prominent circuit characteristics of the Marconiphone "55."

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been found to render the aerial useless. The only remedy for this is to rewind the aerial.

Aerial details are: Short-wave winding, 14 turns, No. 26 d.c.c.; S.W. reaction, 4 turns No. 34; L.W., 61 turns No. 32; L.W. reaction, 13 turns No. 34.

Replacing Chassis—Slide chassis into position. Replace holding screws and resolder L.W. frame and L.S. leads.

Left, the valve panel of the Marconiphone "55." Right, the under-panel layout diagram.

RESISTANCES

R.	Purpose.	Ohms.
1	V2 grid leak25 meg
2	V3 grid leak	1 meg
3	Across secondary of LFT2 ..	.25 meg

CONDENSERS

C.	Purpose.	Mfd.
1	Coupling V1 to V200025
2	Coupling V2 to V300025
3	Across P of first LF transformer ..	.002
4	Tone-compensating V5 anode ..	.001
5	Between HT+1 and H.T.— ..	.2
6	Between HT+2 and H.T.— ..	.2
	Aerial tuning00038
	Reaction00015