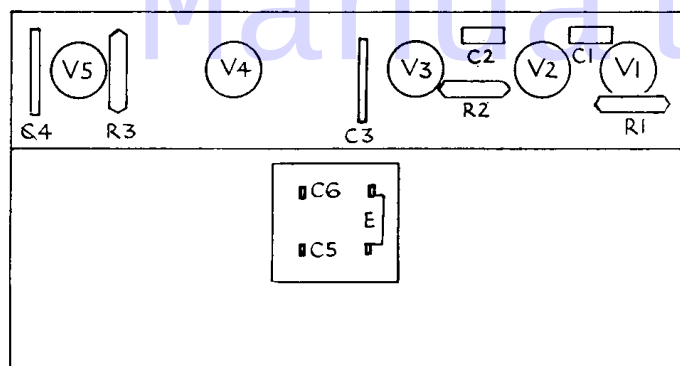


MARCONIPHONE "55" PORTABLE

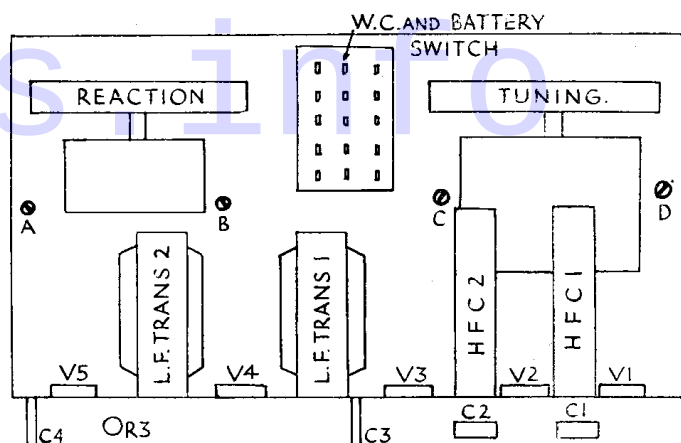
(Continued)



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 leak	.25 meg
2	V3 grid leak	1 meg
3	Across secondary of LFT2	.25 meg

CONDENSERS

C.	Purpose.	Mfd.
1	Coupling V1 to V2	.00025
2	Coupling V2 to V3	.00025
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 tuning	.00038
	Reaction	.00015

TANNOY G.A.60 AMPLIFIER

Circuit.—The first valve, 164V (V1), has its grid circuit capacitatively coupled to the input. The input circuit is properly decoupled as is the anode circuit, which is resistance capacity coupled to the second valve.

This is a 104V (V2). Both grid and anode circuits are decoupled, and coupling to the third valve is by parallel-fed transformer.

The output valve, DA60, (V3) has grid circuit decoupling and stabilising. The output transformer secondary has two ratios providing for speakers in series or in parallel.

Mains equipment consists of transformer, two G.U.I's in push-pull for full-wave recti-

fication, and a smoothing choke with hum neutralising circuit in the positive H.T. lead.

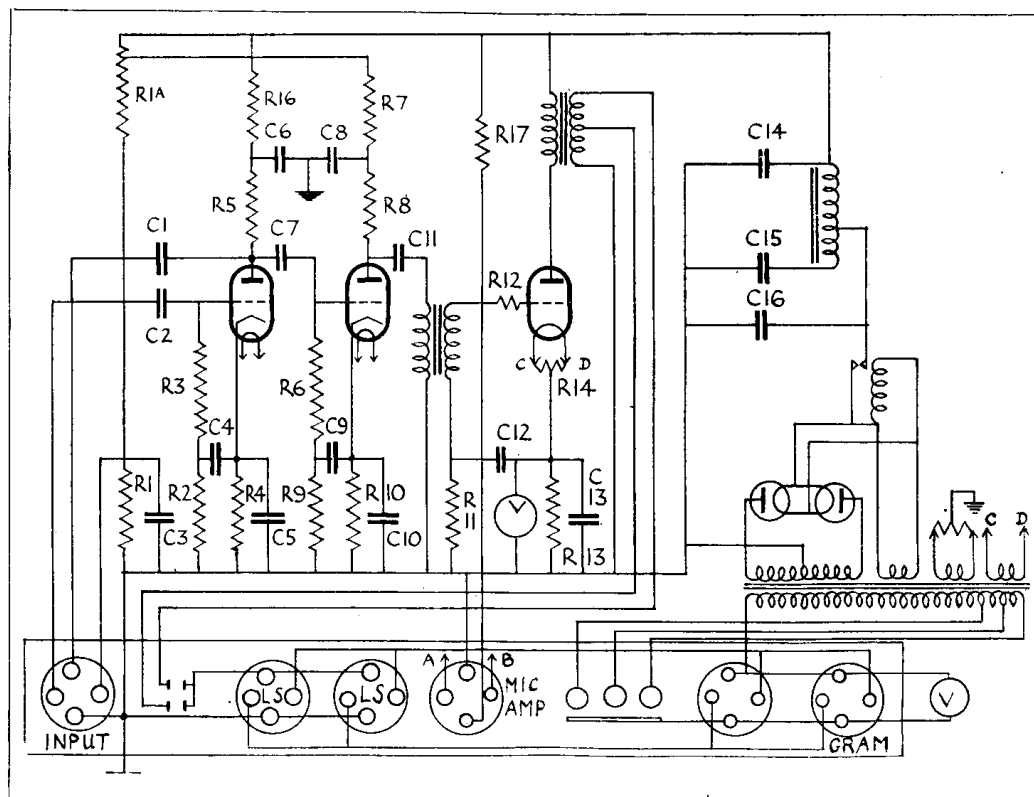
Owing to the high surges a delay switch is included in the H.T. circuit.

Both the filament circuits are "centred" by 30 ohm potentiometers.

(Continued in column 3.)

VALVE READINGS

V.	Type.	Electrode.	Volts.	M.A.
1	164V	anode	210	8
2	104V	anode	235	16
3	DA60	anode	450	120



The G.A.60 public address amplifier by Tannoy Products has an output of 60 watts. As the circuit diagram shows, it employs three stages with a D.A.60 output valve.

Special Notes.—The DA60 has a rectangular base. The grid and anode terminals are as shown in the diagram, and on the valve base the thumb mark should be at the back opposite the pointer on the holder. Owing to the fact that all the high voltage points in the amplifier are screened, the best method of taking a quick test is by taking the valve readings.

The meter behind the G.U.I's is across the biasing resistance of V3, and should show a reading of

(Continued on opposite page.)

TANNOY TYPE G.A.60 AMPLIFIER (Cont).

approximately 145 volts when V3 is in order.

The H.T. potentiometer, consisting of R1 and R1A, is for polarising an external microphone.

Removing Chassis.—Remove the connecting plugs. Undo the six screws underneath the case, and slide the chassis out.

General Notes.—The circuit is perfectly straightforward, and though the chassis appears complicated, the wiring is easily traced, and all components can be reached.

Do not run the amplifier with a DA60 suspected of being faulty.

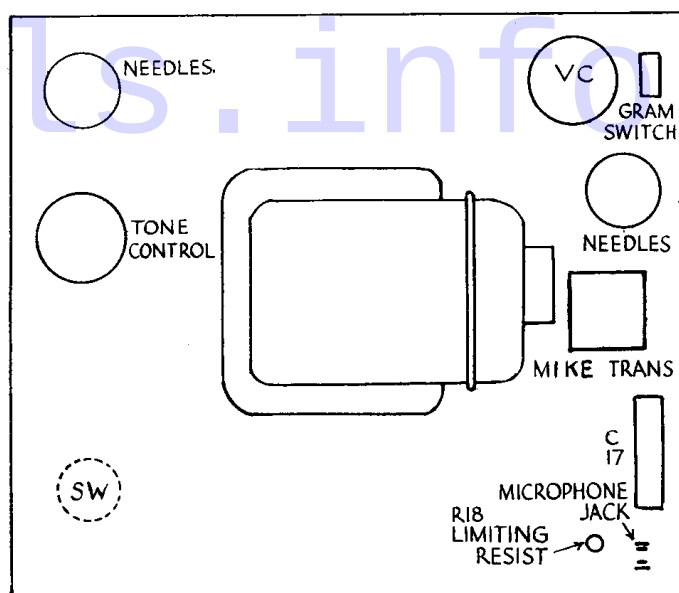
Replacing Chassis.—Lay chassis inside cabinet, replace holding screws and insert connecting plugs.

CONDENSERS

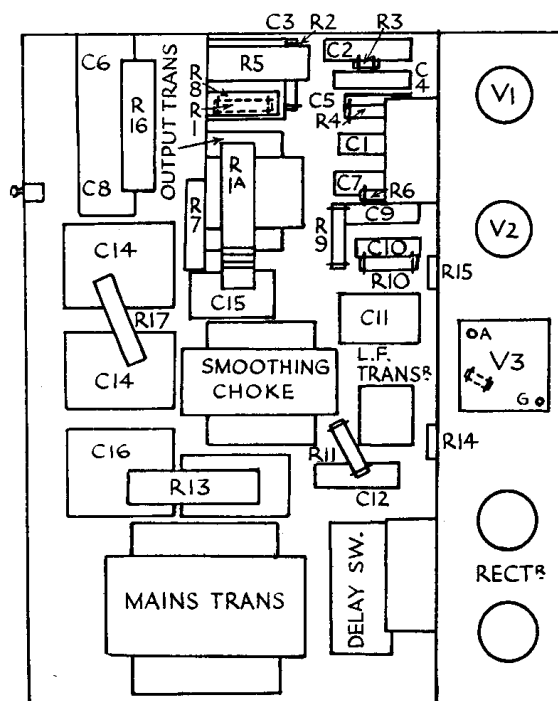
C.	Purpose.	Mfd.
1	Tone control circuit V1 anode ..	.03
2	V1 grid coupling ..	.02
3	Decoupling input H.T. ..	200 el.
4	Decoupling V1 grid ..	1
5	V1 cathode by-pass ..	10 el.
6	Decoupling V1 anode ..	4
7	L.F. coupling V1 to V2 ..	.02
8	Decoupling V2 anode ..	4
9	V2 grid decoupling ..	1
10	V2 cathode by-pass ..	10 el.
11	L.F. coupling V2 to V3 ..	1
12	Decoupling V3 grid ..	1
13	V3 heater (cathode) by-pass ..	8
14	H.T. smoothing ..	4 + 4
15	H.T. smoothing ..	1
16	H.T. smoothing ..	4
17	Preventing D.C. through microphone transformer ..	10 el.

RESISTANCES

R.	Purpose.	Ohms.
1	H.T. potentiometer, top part ..	2,000
1A	H.T. potentiometer, lower part ..	30,000
2	Decoupling V1 grid ..	50,000
3	V1 grid leak ..	1 meg.
4	V1 cathode bias ..	1,000
5	V1 anode, L.F. coupling ..	30,000
6	V2 grid leak ..	1 meg.
7	V2 anode decoupling ..	10,000
8	V2 anode, L.F. coupling ..	10,000
9	V2 grid decoupling ..	50,000
10	V2 cathode bias ..	1,000
11	V3 grid decoupling ..	30,000
12	V3 grid stabiliser ..	5,000
13	V3 bias ..	1,200
14	V3 heater potentiometer (artificial C.T.) ..	30
15	V1 and V2 heater potentiometer (artificial C.T.) ..	30
16	V1 anode decoupling ..	30,000
17	Voltage drop to microphone amplifier ..	10,000
18	Microphone limiting resistance ..	800
	Volume control ptr. ..	.5 meg.
	Tone control ..	50,000



Above is a layout showing how the parts are disposed under the motor-board of the Tannoy amplifier.



On the right is the layout of the Tannoy amplifier itself. The output valve, V3, has a square base.

AERODYNE DRAKE MAINS THREE

Circuit.—The H.F. valve, VP4 met. (V1), has a band-pass aerial circuit. The variable mu characteristics are used for controlling volume, and bias is limited by fixed cathode resistance. Coupling to the next valve is by tuned anode coil with reaction.

An SP4 met. detector valve (V2) operates as a power grid detector with low values of grid condenser and leak, and is coupled to the next valve by straight R.C. coupling with the H.T. decoupled.

The output valve, Pen 4 VA (V3), has a grid stabilising resistance, and is compensated by a condenser across the primary of the output transformer.

Mains equipment consists of transformer with screened primary, full-wave R2 rectifier, and smoothing is effected by the L.S. field in the positive H.T. lead with two 8 mfd. electrolytic condensers.

Quick Tests.—As the output transformer is inside the chassis, quick tests should be carried out by taking the voltages on the output valve. The aux. grid reading is H.T. smoothed.

Removing Chassis.—Undo the screws at

VALVE READINGS

Valve.	Type.	Electrode.	Volts.	M.A.
1	VP4 met.(7)	anode ..	210	3.8
		aux.grid ..	90	
2	SP4 met.(7)	anode ..	*	1.2
		aux.grid ..	*	
3	Pen.4VA ..	anode ..	213	32
		aux.grid ..	245	4

* Owing to the very high value of resistances in circuit inaccurate readings will be taken by any current-consuming meter. The important reading is the anode current.

the top of the dial bracket, pull off the knobs, and remove the four holding screws from underneath the cabinet.

General Notes.—The lay-out and wiring of the set are particularly simple.

The condenser C4 consists of a few turns of bare wire wound round the sistoflex covering of a wire from the second band-pass coil, and is situated alongside the switch. In handling the wiring, take care that this is not disturbed.

To clean the switch contacts, rotate the spindle quickly and turn the contact makers to the outside. Wipe with a clean duster.

Mains transformer connections are:—

Outside: Two red and yellow sistoflex rectifier heaters; two blue covered with yellow

(Continued on next page.)