

MARCONIPHONE TYPE 269 PORTABLE

Circuit.—The H.F. valve, S21 (V1) is preceded by the frame aerial, which is tuned by one of the three ganged condensers and by a trimmer concentric with the main tuning knob. The frame aerial is connected directly to the grid and, as A.V.C. is applied to the valve, the low potential end of the aerial is connected to chassis through a condenser C2, and is decoupled from the A.V.C. system by R2. A tuned-anode coil couples this valve to the next.

The combined first detector oscillator, S21 (V2) operates with reaction in the cathode circuit by means of a coil in series with each

filament lead. Coupling to the next valve is by a bandpass I.F. transformer (I.F. frequency 125 kc.).

The I.F. valve, VS2 (V3) is a variable-mu type controlled by the A.V.C. It is coupled to the second detector by a similar I.F. band-pass transformer.

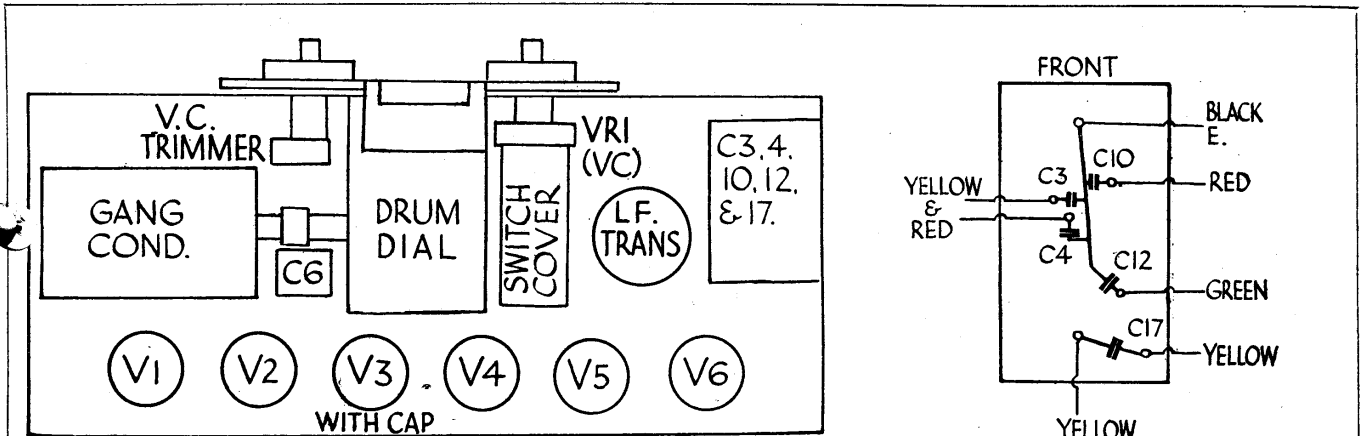
Next is a double metal rectifier, one half of which is fed through a condenser from the primary of the second I.F. transformer, and provides the A.V.C. potential for V1 and V3. The other (rectifier) half is fed from the secondary, and delivers the A.C. output to a

quarter megohm potentiometer, which acts as a volume control. The slider is connected to the L.F. coupling condenser.

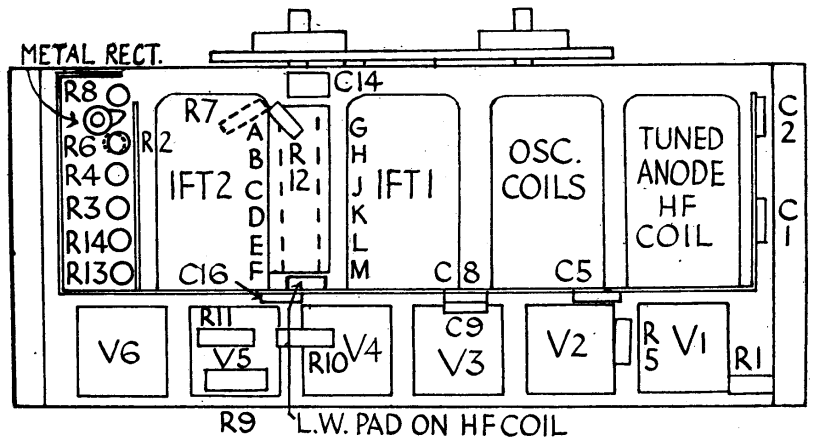
The L.F. valve, HL2 (met) (V4) has an H.F. stopping resistance in its grid circuit. The H.T. is decoupled by R14 and C10, and it should be noted that the current for V3 also passes through this resistance. Coupling to the output is by parallel-fed push-pull transformer.

The output stage consists of two PT2's in quiescent, push-pull. Balancing is obtained

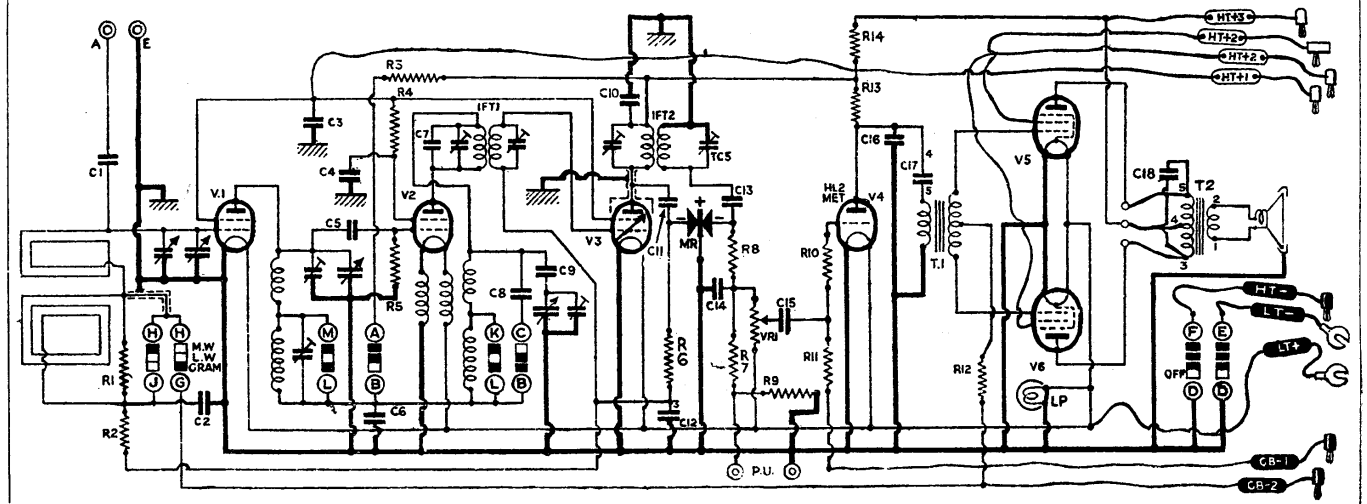
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A more accessible valve arrangement could not be found than that in the Marconiphone six-valve battery portable known as the 269. On the right of the layout above is a diagram giving the connections of the condenser block.



On the right the below-deck arrangement of the Marconiphone 269 is shown. Below is the circuit diagram. A feature is the use of two Westectors for second detection and A.V.C.



MARCONIPHONE 269 PORTABLE (Contd.)

RESISTANCES

R.	Purpose.	Ohms.
1	Across L.W. frame ...	15,000
2	Decoupling V1 grid ...	1 meg.
3	HF decoupling anodes V1 and V2 ...	1,000
4	Decoupling V2 screen ...	15,000
5	V2 grid leak ...	1 meg.
6	HF stopper in AVC system ...	.5 meg.
7	Part of load across detector ...	230,000
8	HF stopper ...	23,000
9	Across P.U. ...	23,000
10	HF stopper grid V4 ...	100,000
11	V4 grid leak ...	2.3 meg.
12	Stabiliser in grid return lead to V5, V6 ...	230,000
13	LF coupling V4 to LF transformer ...	50,000
14	Decoupling anode V4 ...	7,500

CONDENSERS

C.	Purpose.	Mfd.
1	Series aerial condenser ...	.00005
2	Preventing short circuiting of bias to V1 ...	.01
3	Decoupling screening grids of V1 and V3 from HT ...	.2
4	Decoupling screening grid of V2 ...	.2
5	V2 grid condenser ...	.0001
6	Decoupling anode V1 and V2 from HT ...	.4
8	L.W. padding on osc. ...	.00015
9	Tweaking cond. on osc. ...	.0017
10	Decoupling anode V3 ...	.2
11	IF feed to A.V.C. rectifier ...	.0002
12	Decoupling A.V.C. ...	.1
13	IF feed to detector ...	.0002
14	HF by-pass across rectifier ...	.0001
15	LF coupling, rectifier to V4 ...	.01
16	V4 anode by-pass ...	.002 or .003
17	Filter feed to LF transformer ...	.1
18	Tone correction between V5 and V6 anodes ...	.001

by providing the aux. grids with separate H.T. leads. The valves are compensated for top note distortion by a condenser across the primary of the output transformer.

A permanent magnet speaker completes the set.

Special Notes.—Owing to the special circuit employed, the matching of the valves is not so important, as with other methods, and results can be judged aurally.

Battery voltages are: H.T.+1, 60 volts; 2 x H.T.+2, 155 v. (for PT2 aux. grids); H.T.+3, 175 v. G.B.—1, —1.5 v.; —2, —9 v.

Removing Chassis.—There is no need to remove the knobs. Remove batteries and unscrew four holding screws from underneath the side brackets. Unsolder the leads to the terminal strip next V1, and, after releasing the cleats, lift the chassis out.

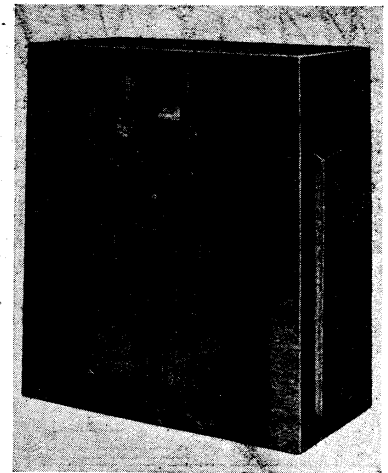
If valve tests indicate that a fault lies in R9, R10, R11, R5, or R1, these may be reached by undoing the four screws holding the sloping screen under the valves.

VALVE READINGS

No signal and new batteries. Set switched to L.W

Valve	Type.	Electrode.	Volts.	M.A.
1	S21 (met)	anode ...	105	.6
		screen ...	60	
2	S21	anode ...	108	1
		screen ...	48	
3	VS2 (met)	anode ...	*140	1
		screen ...	60	
4	HL2 (met)	anode ...	70	.7
5	PT2	anodes ...	170	.6
6		aux. grids...	170	.6

*With screen removed by undoing two nuts. Set current no signal 12.5 m.a. Set current moderate 9 m.a. Leads should be as short as possible as AVC motor boating will occur.



A special form of pentode quiescent push-pull is a feature of the 269 6-valve portable by the Marconiphone Co., Ltd.

General Notes.—To reach the resistance panel at the output end, remove the screws by undoing two screws on the flange at front and two at the end of the coil support. To reach the terminals of the block condenser also undo the support bracket.

The screws used are all of the self-threading type, and grip the chassis without nuts.

Replacing Chassis.—Lay chassis on the side brackets and press forward while inserting the holding screws. Do not forget the earthing lead under the screw above the accumulator.

Replace the cleats holding the frame aerial leads.