

MARCONIPHONE 279 FORTABLE

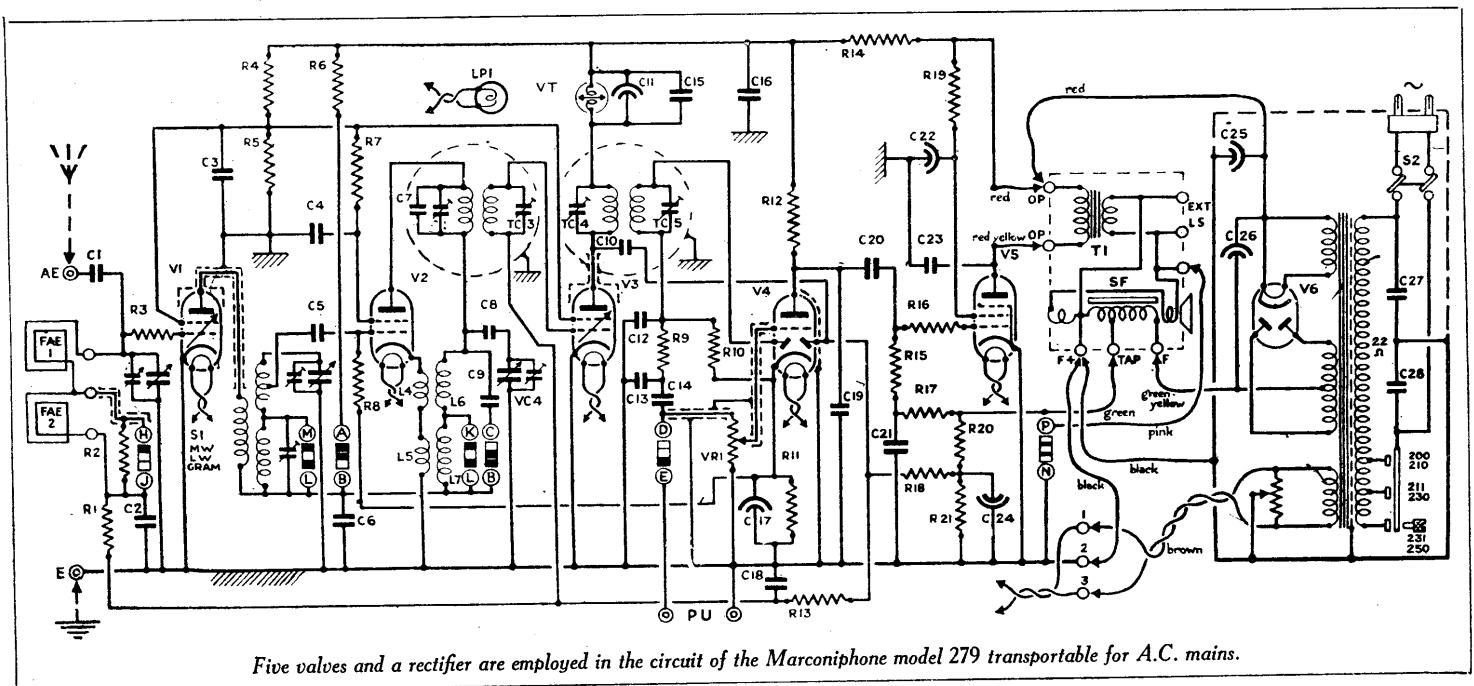
Circuit.—The H.F. valve, VMS4B (V1), is preceded by the frame aerial, of which the L.W. section is short circuited for use on M.W. Bias is controlled entirely from A.V.C. line. Coupling to the next valve is by H.F. transformer and the grid connection taken from a tapping on the secondary. The first detector-oscillator, MS4B (V2),

has reaction applied by coupling coils in the cathode lead, and the tuned oscillator coil is in series with the primary of the first band-pass I.F. transformer (frequency 125 k.c.). Bias is obtained by connecting the grid leak, R8, to the cathode of the second detector, which is positive with relation to chassis.

The I.F. valve, VMS4B (V3), is biased from the A.V.C. line and is coupled to the second detector by a second band-pass I.F. transformer. The I.F. feed to the A.V.C. diode anode is taken from the anode of V3 through a condenser, C10.

The second detector valve, MHD4 (V4), is

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Five valves and a rectifier are employed in the circuit of the Marconiphone model 279 transportable for A.C. mains.

MARCONIPHONE 279 PORTABLE (Cont.)

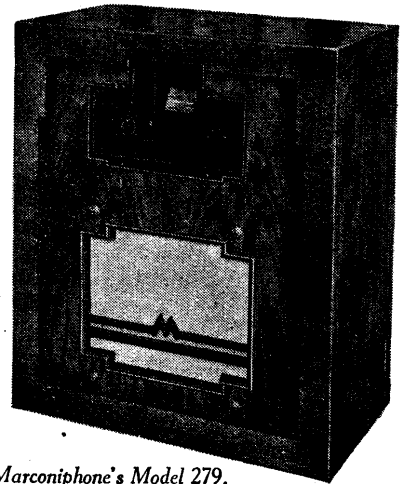
a double-diode triode, one diode anode being used for L.F. purposes and the other for A.V.C. The diode load is R10 and the L.F. coupling to the triode grid is C14. The grid leak is a variable potentiometer which forms the volume control. Bias for the triode is obtained from a resistance in the cathode lead, and "delay" is accomplished by biasing the A.V.C. anode from a potentiometer across part of the L.S. field. The triode section is followed by resistance capacity coupling.

The output valve, MPT4, has a grid stabilising resistance and obtains its bias from a tapping on the L.S. field, which is in the negative H.T. lead.

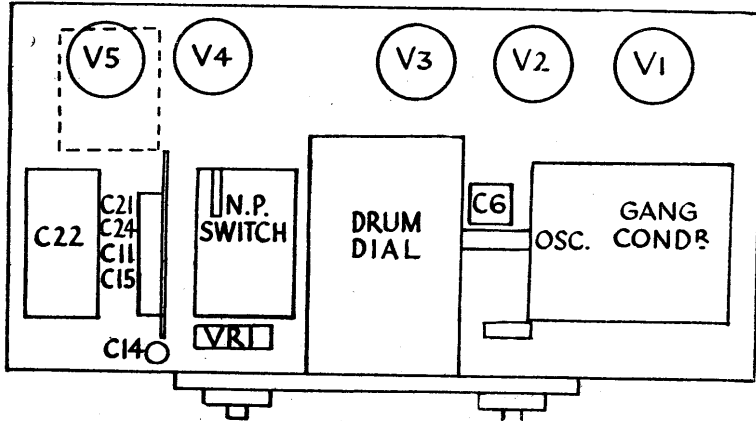
Mains equipment (in separate unit) consists of transformer, full-wave indirectly-heated rectifier, MU12, and the L.S. field in conjunction with electrolytic condensers for smoothing. As usual, an artificial centre tap of the filament winding is obtained by a potentiometer which acts as a hum control.

Special Notes.—The visual tuning meter is connected in the anode of the I.F. valve. The terminals on the L.S. transformer panel

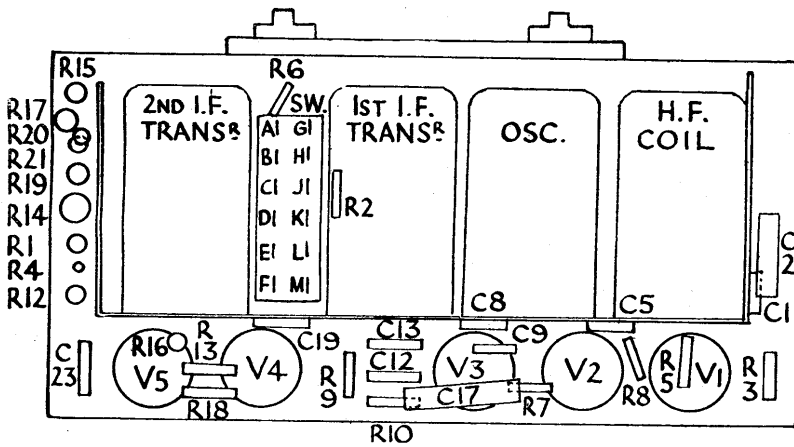
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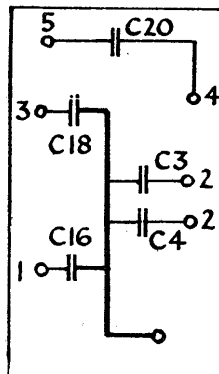
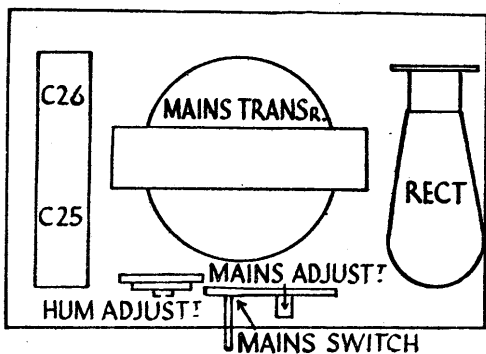
Marconiphone's Model 279.



The components on the top of the 279 chassis can be identified with the aid of this diagrammatic layout.



Below the chassis of the Marconiphone mains transportable the components are grouped round the coils as shown here.



On the left is the layout of the mains unit housed in the bottom of the cabinet. On the right are details of the condenser block.

VALVE READINGS

Valve.	Type.	No signal.		
		Electrode.	Volts.	N.A.
1	VMS4B	anode	140	2.4
		screen	55	
2	MS4B	anode	140	.3
		screen	30	
3	VMS4B	anode	130	2.7
		screen	55	
4	MHD4	anode	80	1.2
		aux.grid	225	.33
5	MPT4	anode	225	6
		aux.grid	225	

RESISTANCES

R.	Purpose.	Ohms.
1	Decoupling A.V.C. to V1	1 meg.
2	Across L.W. frame aerial	35,000
3	H.F. stabiliser V1 grid	1,000
4	V1 and V3 screen ptr.	23,000
5	V1 and V3 screen ptr.	23,000
6	H.F. decoupling V1 and V2 from H.T.	1,000
7	Voltage dropping to V2 screen)	100,000
8	V2 grid leak	.5 meg.
9	H.F. stopper from diode anode	50,000
10	Diode load	.5 meg.
11	V4 cathode bias	1,000
12	V4 anode coupling	50,000
13	Decoupling A.V.C. line	.5 meg.
14	Voltage dropping to V1, V2, V3 and V4	10,000
15	V5 grid leak	.5 meg.
16	V5 grid stabiliser	230,000
17	Decoupling V5 bias	230,000
18	Decoupling delay bias for A.V.C. diode	.5 meg.
19	Voltage dropping to V5 aux. grid	5,000
20	Delay bias ptr.	100,000
21	Delay bias ptr.	10,000
—	L.S. field	{ 250+ 2,000
—	P. of output transformer	750

CONDENSERS

C.	Purpose.	Mfd.
1	Series aerial	.00005
2	Decoupling AVC to V1	.1
3	V1 screen	.2
4	V2 screen	.2
5	V2 grid	.0001
6	Decoupling V1 and V2 from H.T.	.4
7	Across P. of I.F.T.I.	.0001
8	Tracking for osc. tuning	.0017
9	Pad. on L.W. osc. coil	.00015
10	I.F. feed to A.V.C. anode	.0002
11	Across tuning indicator meter	10 el.
12	Diode H.F. filter	.0002
13	Diode H.F. filter	.0002
14	L.F. feed to triode grid	.1
15	Across tuning indicator meter	.1
16	Decoupling V1, V2 and V3 from H.T.	2
17	V4 cathode	25 el.
18	Decoupling A.V.C.	.1
19	V4 anode by-pass	.001
20	L.F. coupling V4 to V5	.1
21	Decoupling bias to V5	.1
22	V5 aux. grid	4 el.
23	Tone compensating V5 anode	.003
24	Decoupling delay bias to A.V.C. anode	25 el.
25	H.T. smoothing	4 el.
26	H.T. smoothing	8 el.
27	H.F. by-pass from mains	.002
28	H.F. by-pass from mains	.003

MARCONIPHONE 279 (PORTABLE Cont.)

are labelled, and the wiring is colour coded with the new system:

H.T., red.

Valve anodes not direct to H.T., red and

screening and auxiliary grids not direct to H.T., red and black.

Grid circuits, green.

Earth, black.

Mains, orange.

Heaters, filaments and cathodes, brown.

When leads not included in the above are needed, yellow systoflex will be used, and this colour will also be used if stocks of

any one colour are temporarily exhausted.

Quick Tests.—Between the following terminals on L.S. transformer and chassis (note the polarity):—

F. (green and yellow), 113 volts negative (H.T.—).

Tap (green), 10 volts negative (MPT4 bias).

O.P. (red), 250 volts positive H.T.+ smoothed.

O.P. (red and yellow), 225 volts positive V5 anode.

Removing Chassis.—There is no need to remove the knobs as the whole escutcheon is free from the cabinet. Remove four screws from underneath the support brackets. Unsolder the aerial leads

from the frame (green on top, maroon on bottom) and release the cleat.

Removing Power-pack.—Remove four screws underneath, and after lifting unit out remove three screws at each end and one between the mains connector and switch. The cover can then be removed by easing it towards the switch side.

General Notes.—The H.T. to V1 and V2 is switched off for gram. See that switch is on radio when taking voltages.

To reach valve holders remove the screening plate.

Replacing Chassis.—Replace cover over valve sockets, slide chassis into cabinet and replace four holding screws. Resolder aerial leads and clip the leads.