

MARCONIPHONE

891

H.M.V. 1403

Four-valve, two waveband, super-het in portable case with self-contained aerial, and for operation from all-dry batteries. Marketed by the Marconiphone Co., Ltd., and "His Master's Voice."

Circuit.—The frame aerial winding, L1, acts as the tuning inductance for M.W. and is loaded, by means of the iron core coil, L2, for L.W. This input circuit feeds V1, a heptode frequency-changer.

Oscillations are produced from the tuned grid coils, L3 and L5, with a coupling coil, L4, on M.W.

Two iron-cored I.F. transformers couple V2, the amplifier, and V3, a single-diode triode.

The A.V.C. is taken from the demodulation diode load via R1 and C2. The L.F. voltage is taken via a filter R6, C7. V3 is resistance-capacity coupled to V4.

V4 is an output pentode biased by the voltage drop across R9 in the main H.T. negative lead and with a shunt tone correction condenser C12.

Battery.—The standard battery is a Marconiphone B140, combined 99v. H.T. and 1.5v. L.T. A 99v. (B631) or 90v. (B628) can be used with a 1.5v. bell cell. An accumulator must not be used for L.T. The consumption is: L.T., .25 amp.; H.T. 10 ma.

NOTE.—The combined H.T. and L.T. battery should be replaced if the H.T. falls below 60 or the L.T. below .9.

If separate batteries are used it may be found impracticable to replace the H.T. without also replacing the L.T.

Wavebands, 200-565 and 880-2,000 m. Provision for external aerial and earth. The speaker has a speech coil resistance of 3 ohms.

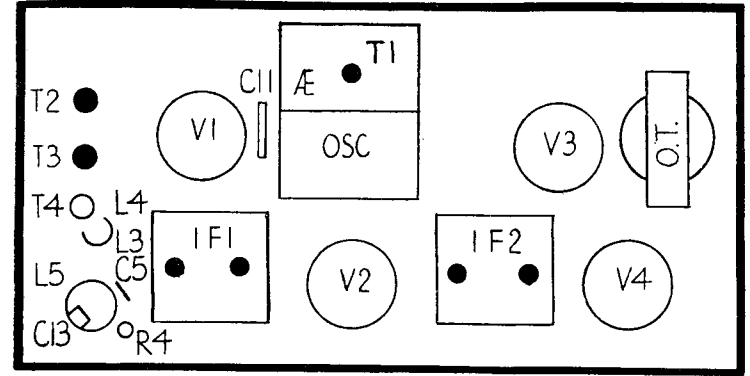
Replacing Drive "Wire."—Form loop in end of wire and pass over stud on drive disc. Slip small tube, held in pointer clamp, on to wire. Turn gang to maximum and, passing loop end through the hole in the periphery, hook it on the stud in the drive disc.

Pass wire round right-hand pulley, then left-hand (see that tubing is between pulleys) and almost once round drive disc. Form loop in end of wire and attach to spring. Fit pointer.

GANGING

After any I.F. adjustments, realign all M. and L.W. circuits.

Reassemble frame, battery, chassis and connecting wires on bench in correct



This set is an all-dry battery portable and a 2-volt accumulator, must not be used for L.T., as the valves run at 1.4 volt.

respective positions. Keep input very low.

I.F. Circuits.—Adjust I.F. trimmers at 465 kc.

M.W. Band.—Connect earthed oscillator lead to chassis and leave other lead free. See pointer is on special mark with gang at maximum.

Inject 200 m. and adjust T3. Inject 225 m. and adjust T1. Inject 520 m. and adjust core of L3, while rocking gang.

Repeat all operations.
L.W. Band.—Inject 800 m. and adjust T4. Inject 1,350 m. and adjust T2 while rocking gang.

Inject 1,900 m. and adjust core of L5. Adjust core of L2, while rocking gang.

Repeat adjustments to L5 and L2 and then to T4 and T2.

VALVE VOLTAGES

V	Type	Electrode	Volts	Ma.
1	X14	Anode	89	.5
		Screen	50	.6
		Osc. anode	80	1
		Bias	Nil	
2	Z14	Anode	89	1.1
		Screen	89	.3
		Bias	Nil	
3	HD14	Anode	15	.02
		Bias	Nil	
		Bias	Nil	
4	N14	Anode	85	4.4
		Screen	89	.7
		Bias	8.5	

CONDENSERS

C	Mfds.
1	15 mmfds.
2	.1
3	.05
4	.75 mmfds.
5	.350 mmfds.
6	.100 mmfds.
7	.05
8	.05
9	.15
10	.8
11	.500 mmfds.
12	.0035
13	.50 mmfds.
14	.150 mmfds.
15	.150 mmfds.
16	.150 mmfds.
17	.150 mmfds.

RESISTANCES

R	Ohms.	R	Ohms.
1	1 meg.	7	1 meg.
2	50,000	8	2.3 meg.
3	.15 meg.	9	1,000
4	7,500	10	.5 meg.
5	.23 meg.	11	.23 meg.
6	50,000	VR1	2 meg.

WINDINGS

L	Ohms.	L	Ohms.
1	.6	5	7.3
2	8.7	6	.4
3	2.6	7	.4
4	2.2	8	.4
		9	.4

