

# MARCONIPHONE

## 893A

### H.M.V. 1351A

Four-valve, plus rectifier and tuning indicator, table model super-het covering three wavebands, with pre-set press-button tuning, and for 200-255v., 25-60 cycle A.C., or D.C. Made by the Gramophone Co., Ltd., and Marconiphone Co., Ltd., Hayes, Middlesex.

**Circuit.**—High-impedance inductive coupling on all bands links the aerial to V1, the frequency-changer. M. and L.W. coils have iron cores, and the push-buttons switch pre-set condensers across these. In the oscillator section inductive and capacitive coupled circuits are used on M. and S.W., while on L.W. capacity coupling by C18 is used. C28 tunes the push-button oscillator coils.

Permeability-cored I.F. transformers join up V2, the I.F. valve, and V3, the double-diode. V1's A.V.C. controlled on M. and L.W., and V2 on all bands, the second diode of V3 providing the control in the standard way.

The demodulation diode circuit energises the tuning indicator, V6, and provides a switched pick-up connection. The pick-up is connected through an L.F. transformer which isolates it from the live chassis.

Capacity coupling follows to V4, the output tetraode.

H.T. is obtained on every positive half-wave

through V5, the rectifier, smoothing being by C30, CK1 and C29. The valve heaters are series connected, the current being regulated by a ballast resistance (R27, 28, 29) on an octal base. CK2, CK3 are H.F. chokes.

**WAVEBANDS:** 16-52, 192-570, 900-2,000 m. Provision for P.U. (a 7,500 ohms resistance in parallel is recommended) and 4-5 ohm extension speaker. Mains consumption, 100 watts.

#### GANGING

**I.F. CIRCUITS.**—Inject 465 kc. to V1 grid and adjust I.F. trimmer condensers for maximum, constantly reducing input.

**CALIBRATION.**—See that pointer indicates 192 m. with gang at minimum.

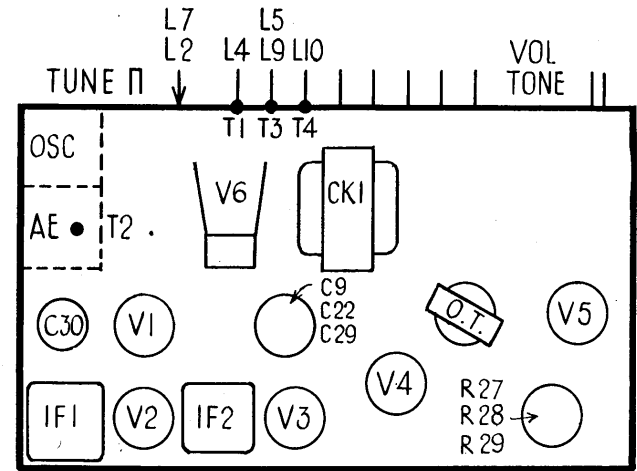
**S.W. BAND.**—Inject 6 mc. through S.W. dummy aerial device, tune to 50 m., and adjust loops in L7 and L2 for max.

Check that set will tune to 16.8 m. (17.86 mc.).

**M.W. BAND.**—Tune to 192 m., inject 1,562.5 kc., and adjust T1.

Tune to 220 m., inject 1,363.6 kc., and adjust T2.

Tune to 530 m., inject 566 kc., and adjust cores of L9 and L4.



L7 and L2 are the thick coils, L7 being nearer the chassis deck. In the case of L9 and L5, the former is nearer the deck. After any M. and L.W. ganging adjustments, the aerial circuit push-button trimmers must be reset.

Repeat operations.  
L.W. BAND.—Tune to 1,000 m., inject 300 kc., adjust T3 and T4.  
Tune to 1,750 m., inject 171.4 kc., adjust L10 and L5.

Repeat adjustments.  
**IMPORTANT.**—If adjustments are made to L4 and L5, the aerial push-button trimmers must all be re-adjusted.

#### PUSH-BUTTONS

Select a suitable button and adjust the adjoining oscillator and aerial trimmers, taking comparisons with manual reception of the station.

Adjustments should be carried out on the customer's aerial and with the set thoroughly warm.

#### CONDENSERS

C	Mfds.	C	Mfds.
1	35 mmfds.	23	100 mmfds.
4	500 mmfds.	24	.05
6	.1	25	500 mmfds.
7	.05	26	.15
8	75 mmfds.	27	.25
9	.4	28	230 mmfds.
10	.2	29	.32
11	50 mmfds.	30	.16
12	.005	31	250 mmfds.
13	.05	32	.0023
15	100 mmfds.	37	500 mmfds.
16	500 mmfds.	38	.01
17	.05	39	.01
20	.05	40	.005
21	.50	41	.001
22	.4		

#### VALVE READINGS

V.	Type.	Electrode.	Volts.	Ma.
1	X61M	Anode	205	2
		Screen	90	3.7
		Osc. anode	110	6
		Cathode	2.6	11.7
2	KTW61	Anode	205	7
		Screen	90	2.3
		Cathode	3.2	9.3
3	DH63	Anode	120	.7
		Cathode	.7	.3
4	KT35	Anode	193	49
		Screen	205	5
		Cathode	12	54
5	U31	Anode	215 A.C.	
		Cathode	215	85
6	Y62	Target	205	3
		Cathode	.8	3

Pilot lamp, 6v., .3 amp.

#### RESISTANCES

R	Ohms.	R	Ohms.
2	.23 meg.	18	200
3	.230	20	23,000
4	50,000	22	10,000
5	10,000	24	15
6	5,000	25	1 meg.
8	350	27	50
9	.1 meg.	28	400
10	.5 meg.	29	20
11	2,300	31	50
12	10,000	32	75,000
13	35,000	33	15,000
14	.5 meg.	34	2.3 meg.
16	1.5 meg.	VR1	2 meg.
17	23 meg.	VR2	50,000

#### WINDINGS

L	Ohms.	L	Ohms.
1	.7	13	5.5
2	.1	14	10
3	24	15	10
4	2.25	16	6.5
5	17.5	17	2.75
6	.8	18	4
7	.1	19	4
8	1.75	20	59
9	.3	CK1	150
10	7.5	CK2	3
11	3.5	CK3	3
12	5.5		

