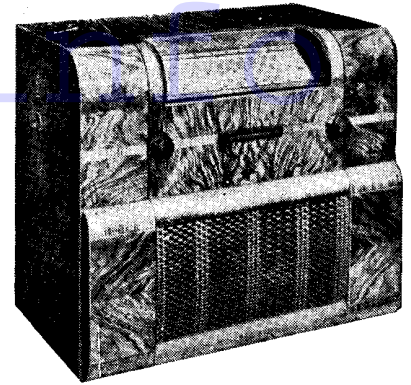


MARCONIPHONE MODEL 382



Marconiphone 382, a three wave-band, four-valve and rectifier superhet for A.C. or D.C. mains operation.

CIRCUIT.—A capacity-coupled band-pass input circuit couples the aerial to V1, the frequency changer. A special coupling coil is employed, so that a doublet aerial may be used, and an image rejector coil is incorporated. A single tuned circuit comes in operation on the short-wave band.

An I.F. transformer, tuned to 465 kc., passes the signal to V2, an H.F. pentode, which is in turn coupled to V3, a double diode, through a second I.F. transformer.

One diode of V3 is used for demodulation, and the other, which is fed via C13, to supply A.V.C. bias to the grids of the preceding valves.

A resistance capacity and inductance filter network couples the L.F. output of V3 to the output pentode V4.

Tone is controlled by a three-position switch, which selects condensers of different sizes.

Filter chokes and condensers are included in the mains input leads to by-pass interference that might be introduced into the receiver.

Mains equipment consists of barretter, half-wave rectifier, and a smoothing choke; no voltage adjustment is necessary.

Special Notes.—The dial lights are rated at 6.5 volts .3 amp., and are secured to the dial assembly by spring clip holders. They may be removed easily if V2 is first taken from its socket.

They are connected in series with the

valve heaters, so that failure of one of them will result in the receiver ceasing to operate.

The chassis is connected to one side of the mains, so that great care must be exercised to see that, firstly, the correct fuses are used in the receiver—these should be rated at 1.25 amp.—and secondly, that no earth connection is made direct to the chassis. Failure to observe the above may result in damage to the valves.

Wire Colour Code.—H.T. positive, red; anodes of valves when not direct to H.T., red/yellow; screening grids when not direct to H.T.+, red/black; grid circuits, green; mains, orange; heaters, filaments and cathodes, brown; earth, black; general purpose colour, yellow.

Yellow is used for leads not falling in the general scheme and when stocks of any colour are temporarily exhausted in the factory.

Cord Drive.—In the event of the cord needing replacement, only strong line should be used—flax fishing line is best. A length of 48 in. will be needed.

Tie one end to the right-hand anchor tag on the pointer carriage and fully mesh the condenser vanes.

With the pointer about $\frac{3}{8}$ in. from the end of the transparent scale channels, hold the pointer carriage and take the cord round the right-hand pulley and then *anti-clockwise* round the tuning drive spindle for six turns; then through the gap in the collar on the spindle and round for one more turn.

Now take the cord round the left-hand pulleys and tie the end to the second anchor point.

Tune in a station at about 350 metres and adjust pointer by slackening the two anchor tag fixing screws.

Removing Chassis.—Remove the four knobs from the front of the cabinet (the two inner knobs pull off, and the two outer are secured by grub screws, which are covered by wax) and remove the mains switch from the side of the cabinet by unscrewing the

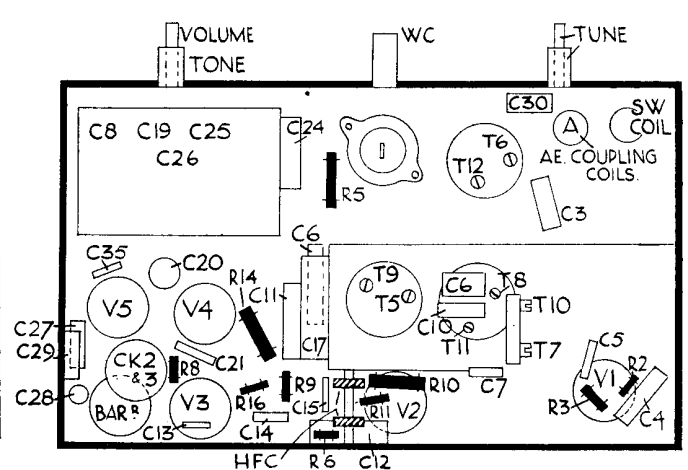
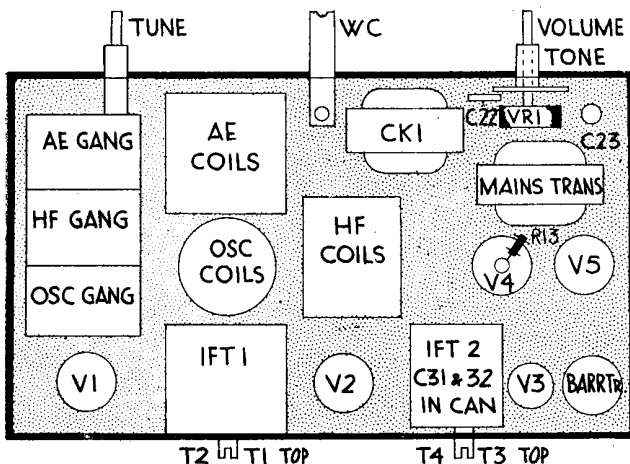
CONDENSERS

C.	Purpose.	Mfds.
1	Band-pass shunt ..	.00023
2	Aerial shunt ..	.0005
3	Band-pass coupling ..	.015
4	V1 cathode bias shunt ..	.1
5	V1 osc. grid ..	.0001
6	Short wave osc. padding ..	.005
7	Medium wave osc. padding ..	.00035
8	V1 screen and osc. anode decoupling ..	.4
9	Osc. regeneration modifier ..	.00015
10	V1 osc. anode decoupling ..	.1
11	A.V.C. decoupling ..	.1
12	V2 cathode bias shunt ..	.1
13	A.V.C. diode coupling ..	.0001
14	H.F. filter ..	.0001
15	H.F. filter ..	.0001
16	L.F. coupling ..	.1
17	V2 screen pot. decoupling ..	.5
19	V4 screen decoupling ..	.2
20	V4 cathode bias shunt ..	.50
21	Pentode compensating ..	.0023
22	Tone control ..	.005
23	Tone control ..	.025
24	Smoothing shunt ..	.1
25	H.T. smoothing ..	.12
26	H.T. smoothing ..	.12
27	Mains filter ..	.005
28	Mains filter ..	.01
29	Mains filter ..	.005
30	Aerial coupling ..	.001
31	I.F.T.2 shunt ..	.0001
32	I.F.T.2 shunt ..	.001
35	Rectifier shunt ..	.0005

VALVE READINGS

No signal. Volume maximum. 200-volt A.C. mains.

V.	Type.	Electrode.	Volts.	M.a.
1	All Marconi. X31 met. (7)	Anode ..	200	1.5
		Screen ..	45	2.4
		Osc. anode ..	45	1.7
2	W31 met. (7)	Anode ..	200	4.4
		Screen ..	95	2.9
3	D41 met. (5)	Diode ..	—	—
4	N31 (7)	Anode ..	185	35
		Screen ..	150	8.5
5	U30 (7)	Cathode ..	220	—



How the components are arranged on (left) the top and (right) the underside of the chassis of the 382.

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escutcheon. Unscrew the earthing tag from the bottom left hand corner of the cabinet.

Next remove four bolts fixing the chassis to the shelf on which it stands. Clearance holes will be found in the bottom of the cabinet, so that a screw-driver may be used to remove them.

The chassis may then be removed to the extent of the speaker leads, which will be enough for the usual inspection and test.

Care must be taken when replacing the chassis to see that the wave-change switch arm locates correctly in its slot in the front of the cabinet.

Circuit Alignment Notes

I.F. Circuits.—With the receiver tuned to the bottom of the medium-wave band, turn the tone control fully anti-clockwise, and the volume control to maximum.

Inject a signal of 465 kc. to the grid of V1 through a .1-mfd. condenser. As the chassis of the receiver is live it is advisable to include a .1 mfd. condenser in the lead from the oscillator to the chassis during all adjustments.

Adjust T1, T2, T3, T4 for maximum output.

Medium Waves.—Inject a signal of 200 metres to the aerial and earth terminals through a dummy aerial and tune the receiver to 200 metres. Adjust T5 and T6 for maximum output.

Tune the oscillator and the receiver to 550 metres and, while rocking the gang condenser, trim T7 for maximum.

Repeat the above until no further improvement results, and then inject and tune-in a signal of 350 metres and set pointer accurately to the 350 metre index.

Long Waves.—Tune the oscillator and the receiver to 800 metres, and adjust T8 for maximum.

Tune the oscillator and the receiver to 1,950 metres. Adjust T10 for maximum output while rocking the gang condenser. Repeat the above for best results.

Short Waves.—Connect the the oscillator to the aerial and earth sockets through a 400-ohm resistance. Tune the receiver to 16.8 metres and inject a signal of this wavelength, adjusting T11 for maximum.

Inject and tune-in a signal of 20 metres. Rock the gang condenser and trim T12 for maximum output.

Inject and tune-in a signal of 50 metres and alter the inductance of the short-wave aerial coil by moving the loop of wire inside the former towards or away from the chassis. This is marked "A" on the under-chassis diagram.

Marconi 382 on Test

MODEL 382.—Standard model for 200-250 volt A.C. or D.C. mains (25-60 cycle A.C.). Price 13½ gns.

DESCRIPTION.—A three-waveband, five-valve, including rectifier, superhet table receiver. Modern design, well built, wood cabinet.

FEATURES.— Full-vision, name-calibrated scale. Concentric slow-motion tuning for short waves.

LOADING.—75 watts.

Sensitivity and Selectivity

SHORT WAVES (16.5-50 metres).— Good performance with easy tuning and no appreciable frequency drift.

MEDIUM WAVES (195-580 metres).—Sensitivity and selectivity very good for the valve combination. Reasonable freedom from whistles, though slight one occurs near London Regional.

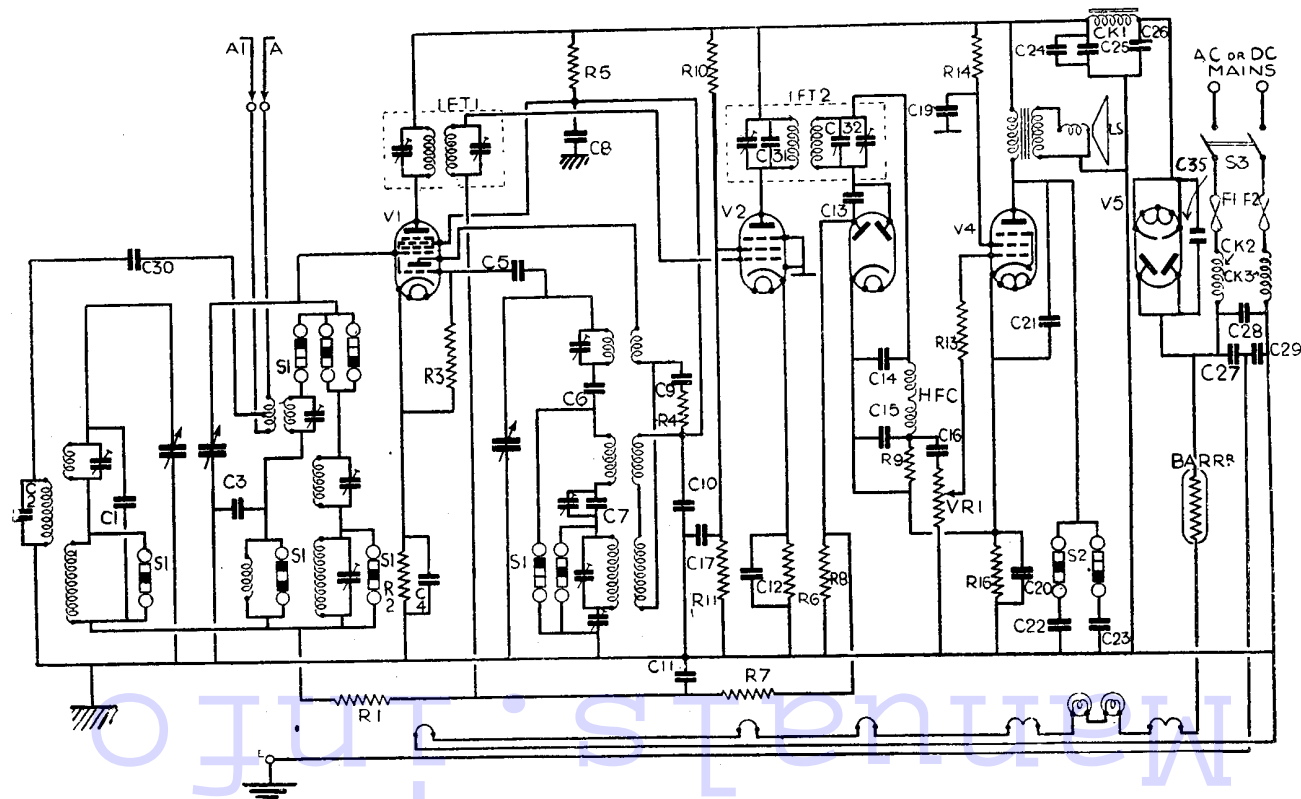
LONG WAVES (750-2,000 metres).— Particularly good results. Sensitivity is high and selectivity such that Deutschlandsender is easily separated. Gain well maintained over whole band.

Acoustic Output

Good room volume with very good balance. Neither treble nor bass predominate, but reproduction has attack and crispness.

RESISTANCES

R.	Purpose.	Ohms.
1	V1 A.V.C. decoupling	100,000
2	V1 cathode bias	150
3	V1 osc. grid leak	50,000
4	Osc. regeneration modifier	100
5	V1 screen and osc. anode decoupling	35,000
6	V2 cathode bias	150
7	A.V.C. decoupling	500,000
8	A.V.C. diode load	500,000
9	Demod. diode load	230,000
10	V2 screen decoupling ptr.	15,000
11	V2 screen decoupling ptr.	23,000
13	V4 grid stopper	50,000
14	V4 screen decoupling	5,000
16	V4 cathode bias	100
VR1	Volume control	.5 meg.



Circuit of the 382. Each square of the oblong switch symbols represents a wave-band; top, short; centre, medium; bottom, long. A white square means that the switch or contact is open on that band; a black square that it is closed.