

MARCONIPHONE MODEL 209 FIVE-VALVE SUPERHET

Service Engineer Section

CIRCUIT ALIGNMENT NOTES

I.F. Circuits.—Connect a modulated oscillator tuned to 125 kc. between the grid of V2 and earth and output meter across external speaker terminals. Adjust TC6 and TC7 for maximum reading.

Transfer oscillator to the grid of V1 and adjust TC4 for maximum reading at 127 kc., and TC3 for maximum at 123 kc.

Check up the preceding and make a final check by sweeping the oscillator between 123, 125 and 127 kc.

The output should be greatest at 125 kc. Should this not be so, readjust TC6 and TC7.

Medium-wave Band.—Connect modulated oscillator across aerial and earth terminals of receiver and tune both to 220 metres. Adjust VC3, VC2 and the series aerial condenser TC1 for maximum reading.

Tune oscillator and set to 525 metres and adjust the trimmer on top of the oscillator coil for maximum reading.

Long-wave Band.—Tune oscillator and receiver to 1,000 metres and adjust TC5 and TC2 for maximum reading on output meter.

(Continued from previous page.)

A.V.C. bias to the preceding valves in the orthodox manner.

The output of V3 then passes through a volume control, VR1, to the L.F. valve, V4, a triode, which is resistance capacity coupled to the output pentode, V5.

Mains equipment consists of transformer, full-wave rectifier, electrolytic condensers, and the speaker field.

Special Notes.—The dial lights are rated at 6.2 volts, .3 amp. To remove them, remove the knurled-headed bolt by the side of the lamps and the carrier will lift out.

The external speaker is connected on the low-resistance side of the output transformer and should have a speech coil impedance of about 5 ohms.

Removing Chassis.—Remove the five knobs from the front of the cabinet. The mains on-off and the tone-control knobs are spring fitted and pull off. The other three are fixed by grub screws.

Remove four bolts from underneath the cabinet and release the speaker cable from its cleats, and the chassis will slide out freely.

VALVE READINGS

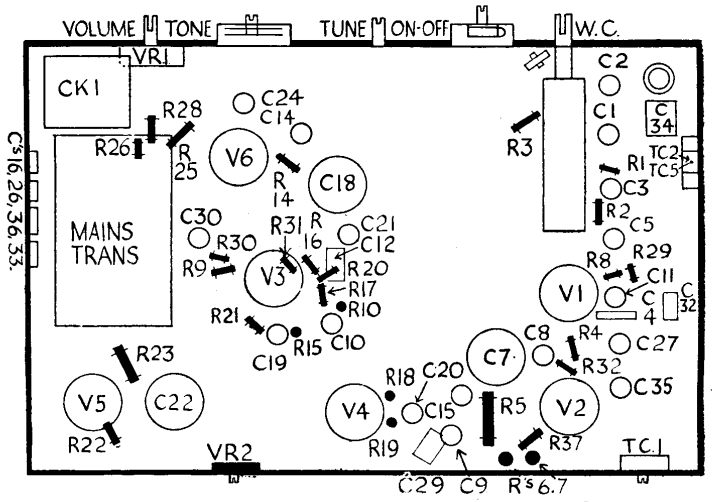
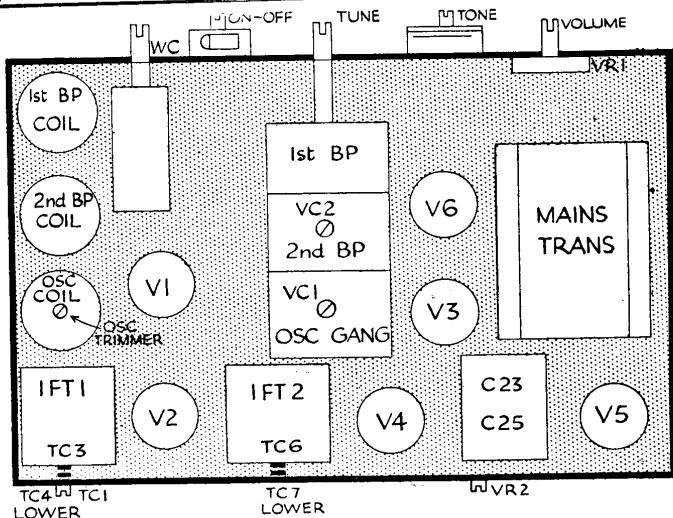
No signal. Volume control maximum, tone brilliant.

V.	Type.	Electrode.	Volts.	Ma.
1	MX40 (7) Met.	anode ..	210	2.0
		screen ..	60	2.0
		osc. anode ..	90	2.5
2	VMP4G (7) Met.	anode ..	152	3.5
		screen ..	80	2.8
3	D41 (5) Met.	diode ..	—	—
4	MH4 (5) Met.	anode ..	96	2.0
5	MPT4 (5) Met.	anode ..	220	30.0
		screen ..	208	5.0
6	U12 (4)	filament ..	242	—

(All Marconi)

QUICK TESTS

Volts between the terminal strip on the speaker and the chassis should be:—
Red lead (7), smoothed H.T., 240 volts.
Yellow and red lead (8), V5 anode, 220 volts.
Black lead (3), earth to chassis.
Yellow (black tracer) (6), negative bias, 150 volts.
When measuring negative bias volts the chassis is positive in respect to terminal 3.



There are a number of refinements in the 209 which ensure efficient functioning. These layouts, showing the top of the chassis (left) and the underside enable the components to be recognised.

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