

## MARCONIPHONE 4120 portable transistor receiver

This is a seven-transistor receiver operating from a 9V battery. It covers l.w. (1120m to 2026m or 268kc/s to 148kc/s); s.w. (17.6m to 51m or 17Mc/s to 5.9Mc/s); and m.w. There is also a bandspread position for Radio Luxembourg. The m.w. coverage depends upon the Schedule of the receiver; for Schedule A, the coverage is 195m to 570m or 1540kc/s to 525kc/s, and for Schedule B, 209m to 565m or 1439kc/s to 530kc/s. The Luxembourg bandspread coverage is 176m to 214m or 1700kc/s to 1400kc/s for Schedule A receivers, and 184m to 218m or 1630kc/s to 1380kc/s for Schedule B receivers.

The H.M.V. Model 2128 is equivalent to the Marconiphone 4120.

Internal ferrite rod aeriels are fitted for m.w. and l.w. while for s.w. there is a six-section (1ft 11in) telescopic aerial. A socket is fitted for the use of a car aerial and there is also one for a personal earpiece of 15Ω to 100Ω impedance—the latter socket may also be used to feed a tape recorder. The maximum power output is 300mW from a complementary push-pull output stage which feeds a round 15Ω loud-speaker.

### DISMANTLING

Pull the lower edge of the cabinet to release the back, and then take out the battery. Pull off the tuning and volume knobs and unscrew the handle fixings. Take out the fixing-screw and washer from the bottom right-hand corner of the printed board and the screw and washer which fasten the bracket of the tuning capacitor. The printed board may now be withdrawn.

To gain access to the drive cord, unscrew the milled-edge of the telescopic aerial to release the tag connection and then withdraw the aerial. Remove the nut which fastens the volume control and unsolder the leads of the tuning capacitor and the car aerial socket. Next, take out the six screws which fasten the printed board to the front-panel and the bracket on the tuning capacitor. Also remove the clamp for the leads of the battery. The

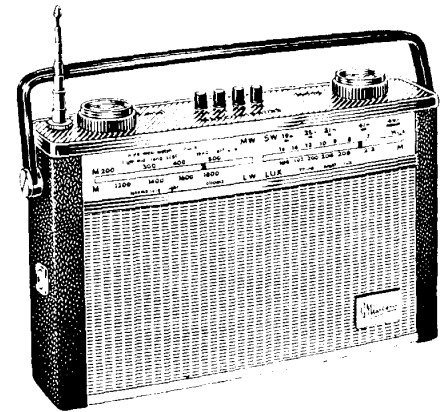
tuning capacitor and cord drive assembly may now be removed.

### ALIGNMENT PROCEDURE

Remove the receiver from its case and connect a 15Ω output meter in place of the loudspeaker. Alternatively, leave the l.s. connected and wire an a.c. voltmeter (10V f.s.d.) across the l.s. During the alignment, keep the level of the signals injected such that an output of 50mW or 0.87V is obtained. Set the volume control to maximum and check that with the tuning capacitor at maximum capacitance the cursor coincides with the zero marker at the right-hand end of the calibration strip.

Switch the receiver to m.w. and turn the tuning capacitor to maximum capacitance. Inject signals at 475kc/s (30% modulated at 400c/s) to C5 via an isolating capacitor of 0.1μF. Adjust i.f.t.3, i.f.t.2, and i.f.t.1, in that order, for maximum output. Repeat the adjustments until no further improvements result.

Connect the signal generator to a coil of twelve turns of insulated copper wire



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### RELEASE DATES AND ORIGINAL PRICES

Marconiphone 4120: January 1965; 14gn  
H.M.V. 2128: January 1965; 14gn

about 12in in diameter placed on the axis of the ferrite rod aerial of the receiver and about 2ft from it. Switch the receiver to m.w. and tune it to 600kc/s (the 'm.w. pad' marker). Inject signals at 600kc/s and adjust L9 for maximum output. Then adjust the position of L2 on the ferrite rod for maximum output. Switch the receiver to 'Lux' and tune it to the 'Lux. trim' marker. Inject 1500kc/s and adjust C12 and then C4 for maximum output.

Switch back to m.w. and inject a signal at 1500kc/s (for Schedule A

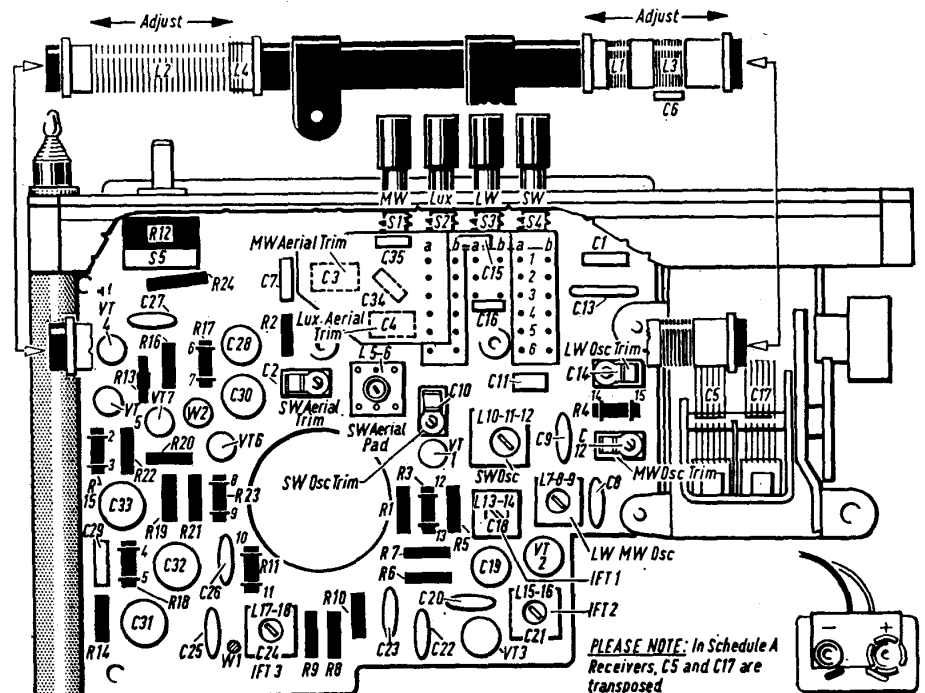
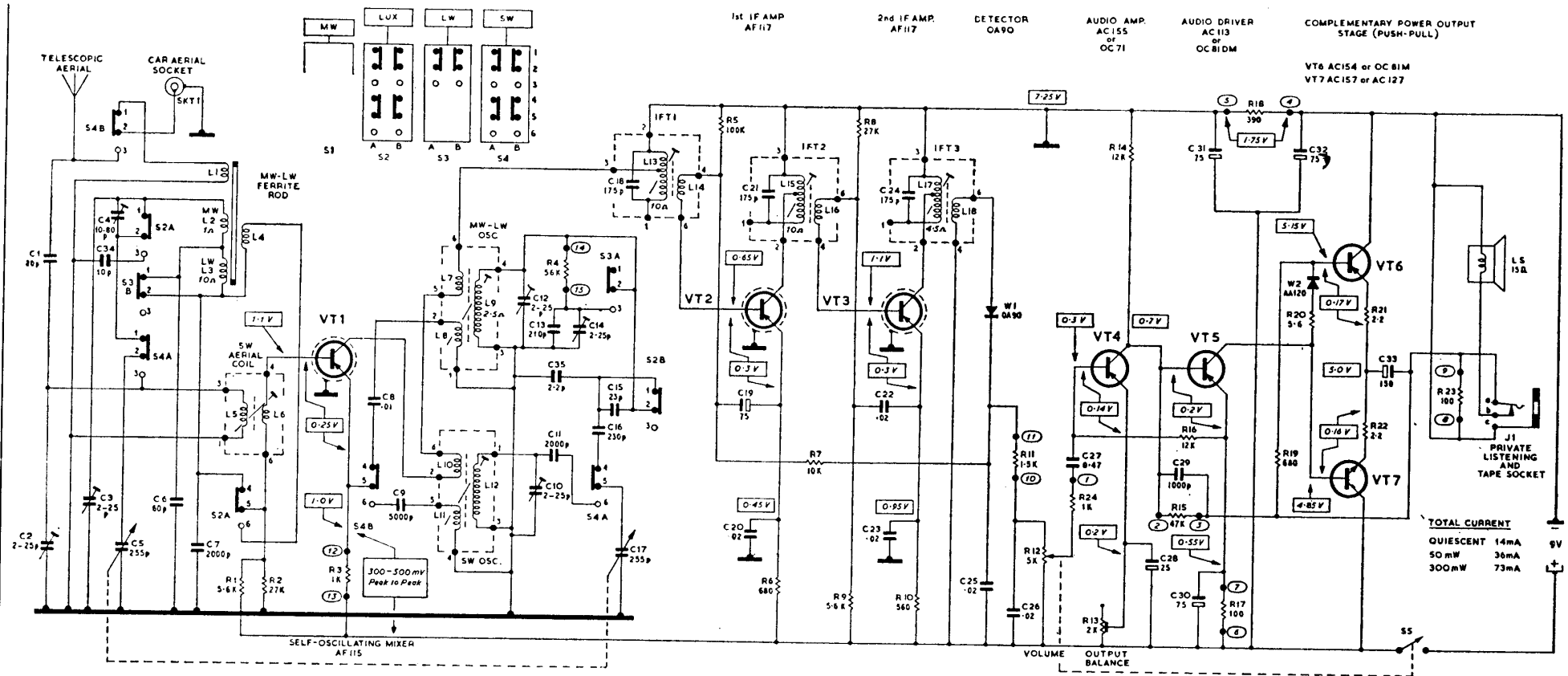
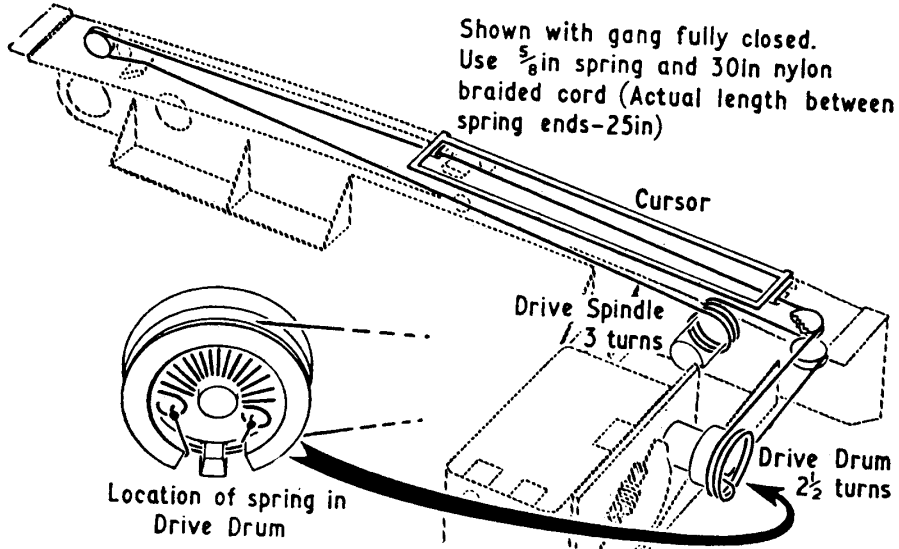


Fig. 1—Layout of the parts on the printed board.



CIRCUIT SHOWN WITH MW BUTTON DEPRESSED



**Fig. 2 (above)**—The circuit diagram. Voltages were measured with a meter of 20k $\Omega$ /V sensitivity. In most Schedule A receivers, C13 is 200pF and C35 is not fitted. R13 may be 1k $\Omega$ .

**Fig. 3 (left)**—The drive-cord system.

followed by the position of L3 on the ferrite rod.

**Short Waves**

Extend the telescopic aerial and position a lead from the signal generator close to it to provide a loose coupling. Inject a signal at 6.77Mc/s and tune the receiver to the 's.w. pad' marker. Adjust L12 and L6 for maximum output. Inject 15.45Mc/s and tune the receiver to the 's.w. trim' marker and adjust C10 and C2 for maximum output. Repeat the s.w. adjustments until no further improvements result.

**Long Waves**

Switch the receiver to l.w. and inject 200kc/s (or use the Light Programme). Adjust C14 for maximum output

Replace the receiver in the cabinet and adjust C3 and C4 (as described earlier) for optimum results.