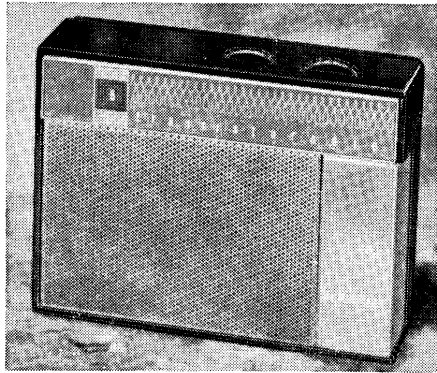


1407

'E R T' SERVICE CHART

McMICHAEL M107, M113



M113 is in shatter-proof cycloc case finished metallic blue, black and gold. Dimensions $4\frac{1}{4} \times 3\frac{1}{4} \times 1\frac{1}{4}$ ins.

SIX transistor two-waveband pocket portables. M107 incorporates clock which can be set to switch on radio or sound buzz alarm.

Batteries. Ever Ready U16, Vidor 0036, or equivalent. Six required.

Consumption. 7-9mA quiescent.

Wavebands. MW 183-577m (1640-520kc/s), LW 1430-1570m (210-190kc/s).

Transistors. OC44M osc/mixer, OC45M first IF amplifier, OC45M second IF amplifier, GET114 driver, GET114 (2) output.

Semiconductors. GEX12 detector.

IF. 470kc/s.

Speaker. 2½in. dia., 30ohms impedance.

Aerial. Internal ferrite rod covering MW and pre-tuned to LW Light programme.

Manufacturer. Radio and Allied Industries.

Service Department. Langley House, Hanger Lane, Ealing, London W5. Tel.: Alperton 1741.

DISMANTLING

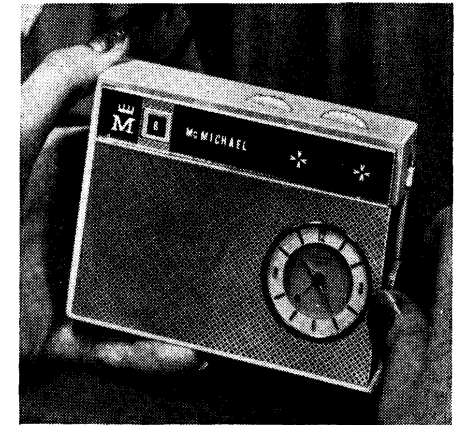
Chassis removal. Remove back and batteries. Take out three chassis fixing screws (see diagram). Chassis can now be eased out taking care to clear protruding controls.

When reassembling ensure that notch on chassis locates with spigot inside case.

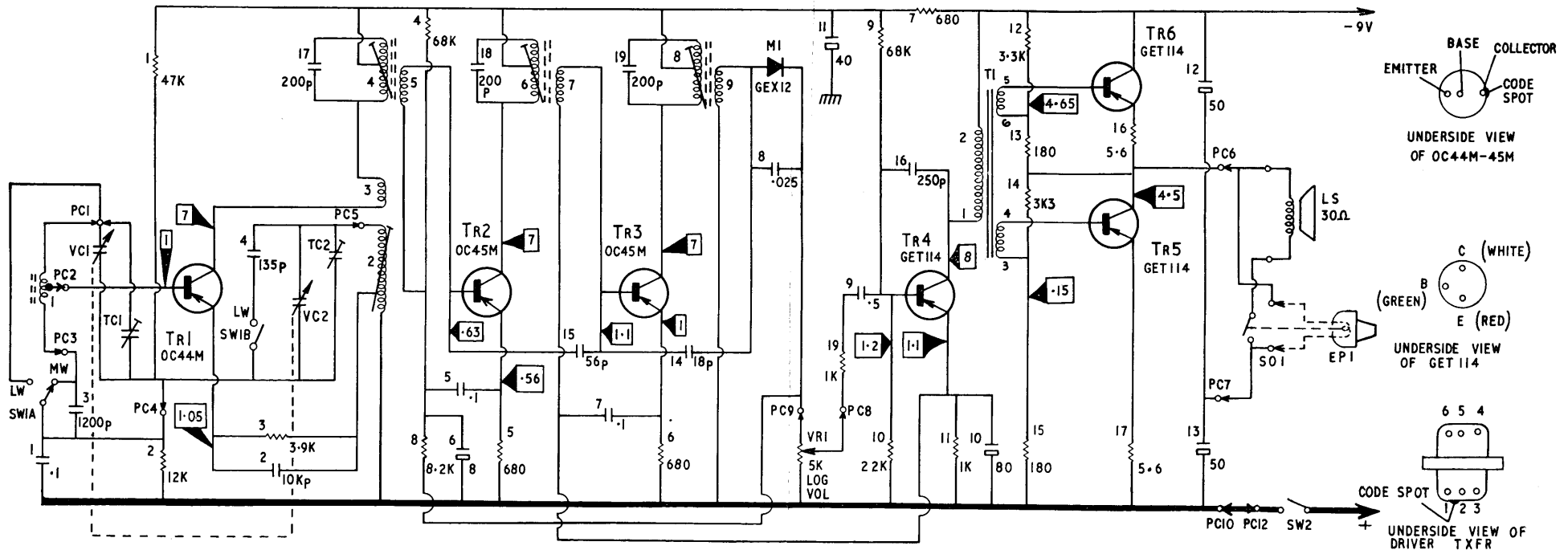
Tuning assembly removal. Remove two tuner bracket retaining screws. Disconnect leads from printed board and C4 from SW1B. Assembly can now be removed.

M107 clock. No attempt should be made to remove a defective clock from the receiver or to repair a faulty clock. The receiver should be returned complete to maker's service department if fault in clock mechanism is indicated.

Continued overleaf



M107 has built-in clock alarm



Circuit above relates to M113. Additional circuit for automatic switching and "buzzer" incorporated in M107 is shown overleaf

ALIGNMENT

Equipment required. AM signal generator covering MW and LW plus IF frequency. Output meter or DC 0-50mA meter. 0.1mF capacitor. Trimming tool.

Setting up. Connect output meter in place of speaker. Output should not exceed 20mW during alignment. If using DC 50mA meter this should be inserted in the battery supply lead. Current taken during alignment should not exceed 18mA. Connect generator via 0.1mF capacitor to base of TR1.

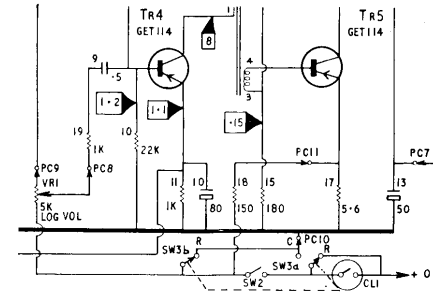
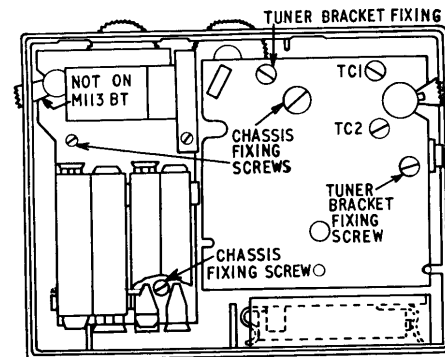
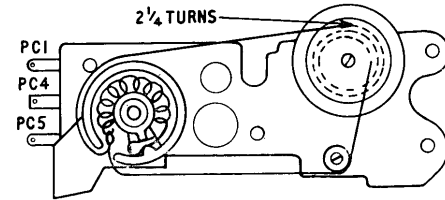
IF. Set receiver to MW and inject signal of 470kc/s. Adjust L8, L6 and L4 for maximum output. Input of approximately 10 microvolts should give 20mW output.

RF. Connect generator to receiver by loosely coupling to ferrite rod. 14 turns of 18swg wire on 1in. dia. former makes suitable coupling coil.

Set generator to 520kc/s and receiver gang fully clockwise. Adjust L2 for maximum output. Tune generator to 1640kc/s and with gang fully anti-clockwise trim TC2 for maximum. Repeat last two operations.

Alter generator to 660kc/s and tune in on receiver. Adjust aerial coil L1 for maximum output. Set generator to 1500kc/s and tune in on receiver. Trim TC1 for maximum output. Repeat last two operations.

On LW the ferrite rod is pre-tuned to 1500m and scale setting is controlled by value of C4.



Above, M107 only. Clock-switch CL1 switches onr adio at preset time. When SW2 is open positive feedback is introduced and the amplified oscillation is heard from speaker

Below, layout viewed from tin dip side of printed circuit with components as seen through panel

