SIX transistor portable radios, released April, 1961 at 15gns.

Batteries. Ever Ready PP7, Drydex DT7, Vidor T6007.

Consumption. 14mA (Mullard transistors), 12mA (Newmarket transistors) both under nosignal conditions.

Wavebands. LW, 1180-2060m; MW, 183-555m.

**Transistors.** Mullard: OC44, OC45 (2), OC81D, OC81 (2); or Newmarket: NKT152, NKT153/35, NKT154/35, NKT254, NKT251 (2).

**Diode.** Mullard OC81 or Newmarket NKT251.

IF. 470kc/s.

Speaker. 5in. round, 30hms.

Aerial. Internal ferrite rod, with socket for external aerial.

Manufacturers. Ekco Radio and Television Ltd., and Ferranti Radio and Television, Ltd.

Service Department. Radio and Television Services, Ltd., P.O. Box 11, Cambridge.

### DISMANTLING

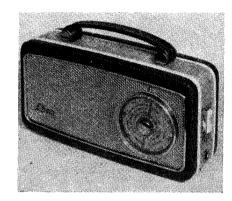
Chassis removal. Release two coin-slotted captive screws at back, disengage lower clip and remove cover. Take off side escutcheon, secured by two wood screws, and when replacing escutcheon ensure that switch slider slot is in line with switch arm before pressing home. Remove tuning knobs: these are held

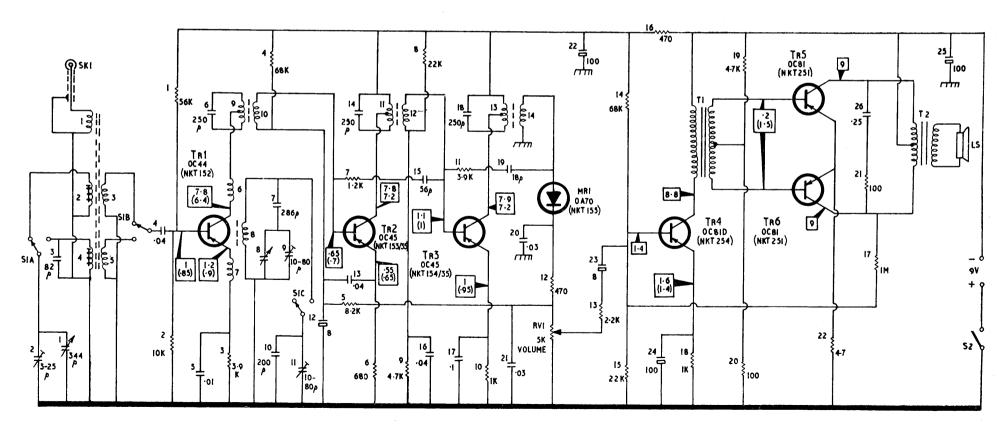
by a special central screw which should be released with fine nose pliers or tweezers. Remove screw thus exposed. Finally, remove screw in cable clamp on rear of printed panel and lift out panel to extent of speaker leads.

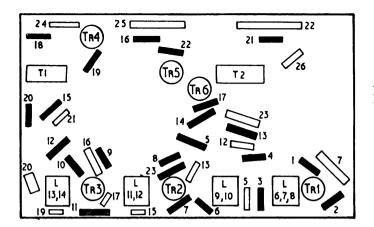
**Battery replacement.** Remove back cover for access to battery. Battery is secured by a sponge pad when rear cover is replaced.

### SERVICE NOTES

Voltages. Two readings are given on circuit at each electrode; the first is for models using Mullard transistors, the figure in brackets applies to Newmarket transistors. Conditions for measurement are: 20K-per-voltmeter, receiver tuned to a quiet point near 450m., and volume control turned to minimum.

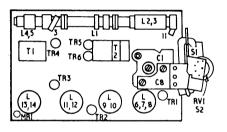






#### WINDING RESISTANCES

			ohms
L2			1.4
L4			11.2
T1 (	prim)		153.0
T1 (	each sec		37.0
T2	(prim)	each	
	alf)		3.6
All	others	less	than
lohm,			



Circuit differences. Receivers may incorporate either Mullard or Newmarket transistors. Circuit diagram and panel layout are for Mullard models, and following differences occur on Newmarket sets.

An additional resistor, 4.7K, is connected in series with top end of L9/R1, this point being decoupled with a 0.04mF. R7 is omitted, C15 becoming 175pF and connected directly to base of Tr2. R11 is omitted, C19 becoming 60pF and connected directly to base of Tr3. C20 omitted. 0.03mF added across R15. R16 becomes 680ohms. R20 becomes 91ohms.

On either group of models an additional resistor, R23, 8.2K, may be fitted across L11 when overall gain is excessive and gives a tendency to instability.

### ALIGNMENT

Equipment required. Signal generator covering 200-1,500kc/s, with 30 per cent modulation. Output meter with 0-5V AC range. Standard search coil. Two 0.1mF capacitors.

Setting up. Remove chassis from cabinet. set volume control to maximum and connect output meter across speaker. Switch to MW and tune receiver to a quiet spot near 450m. During alignment restrict output to 50mW (0.4V in 3 ohms).

Procedure. Insert a 0.1mF capacitor in each generator lead and inject a 470kc/s modulated signal across L3. Adjust cores of L13, L11 and L9, in that order, for maximum output, repeating as necessary.

Disconnect output meter and generator, replace printed panel in cabinet and fit tuning knob. Adjust knob so that with gang fully meshed the datum mark coincides with pointers on the case.

Connect output meter at panel end of speaker leads, then position search coil at 15ins, distance from, and coaxial with, the centre of ferrite rod. MW coil should be nearest to search coil. Connect generator to search coil.

Set receiver dial to 500m, and inject a 600kc/s signal, then adjust oscillator core (L8), through rear of printed panel, for calibration, and L2 core for maximum output. Set dial to 200m and inject 1,500kc/s, then adjust C9 for calibration. Change input to 1,400kc/s and dial to 214.3m, then adjust C2 for maximum output. Repeat as necessary. Gang trimmers C2 and C9 may be adjusted via escutcheon aperture; C2 is at front and C9 at

Switch to LW, set dial to 1,400m and generator to 214.3kc/s, then adjust C11 for calibration and L4 core for maximum output. C11 is below MW end of ferrite rod.

Where it is not possible to inject signal via a search coil, the coaxial aerial socket may be used, though this may introduce an error at the HF end of the MW band.

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