

**S**EVEN valve AM/FM table radio, released May, 1961, at £31 3s. 11d., later changed to 28½gns.

**Mains.** 200-250V AC/DC.

**Consumption.** 40W.

**Wavebands:** LW, 1050-1935m; MW, 187-560m; VHF, 87.5-100mc/s.

**Valves.** UCC85, UCH81, UF89, UABC80, UM80, UL84, UY85.

**Pilot lights.** Two, 6.3V, 0.115A.

**IFs.** AM 470kc/s; FM, 10.7mc/s.

**Output.** 2W.

**Speakers.** 6 x 4in. elliptical, 3ohms; electrostatic tweeter.

**Aerial.** Internal ferrite rod for AM, mounted on a rotatable cradle; balanced dipole fitted in cabinet back for FM. Sockets for external

aerials on all bands are provided for use where necessary.

**Manufacturer.** Bush Radio, Ltd.

**Service department.** Kew Works, Mortlake Road, Kew, Richmond, Surrey.

### SERVICE NOTES

**Voltages.** Readings given on circuit are taken with a 20K-per-volt meter. All figures except those on VHF tuner taken on MW.

**Circuit notes.** Circuit switching is shown in AM/MW position. Circuit shows mains tap set for 200-230V; for 230-250V connections A and B are reversed.

### ALIGNMENT

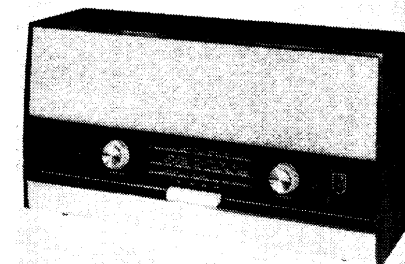
**Equipment required.** Signal generator covering 200-1500kc/s, with 30 per cent. AM modulation. Output meter. Two 47K, 5 per cent. resistors. 1K resistor. 0.1mF capacitor. Avo 8 or a DC

valve voltmeter and a microammeter (50 microamps fsd). Non-metallic trimming tool.

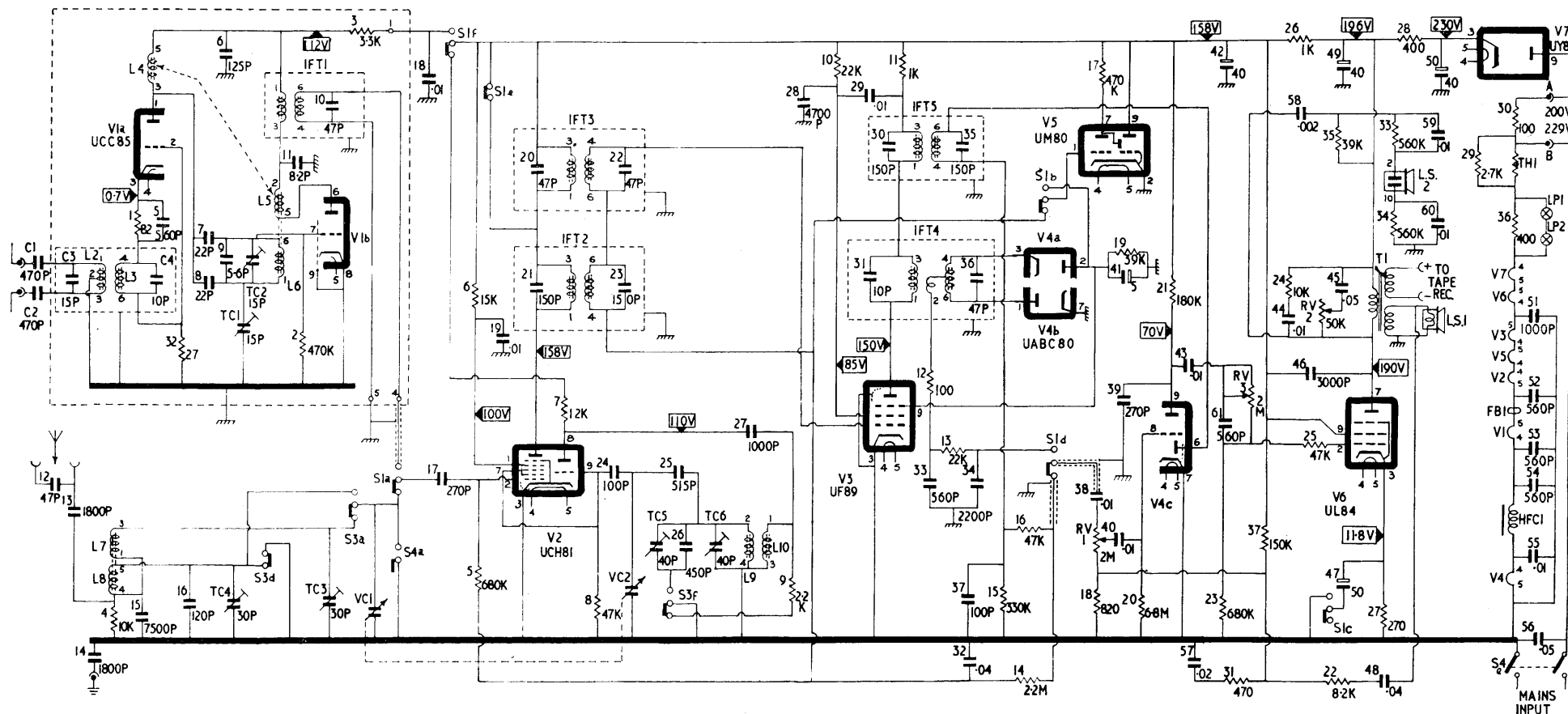
**Setting up.** Remove receiver from its cabinet and allow 15 minutes for both receiver and generator to warm up. Connect output meter across speaker and maintain an output of 50mW (0.4V in 3ohms) during AM alignment. Connect DC output meter (volt meter) between negative end of C41 and chassis; connect two 47Ks in series across voltmeter and connect balance meter (microammeter) between junction of two 47Ks and junction R12/R13/C33.

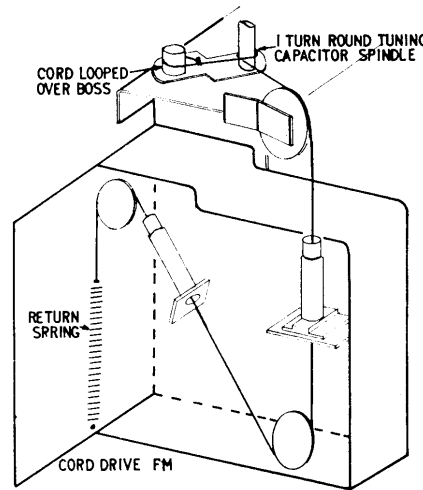
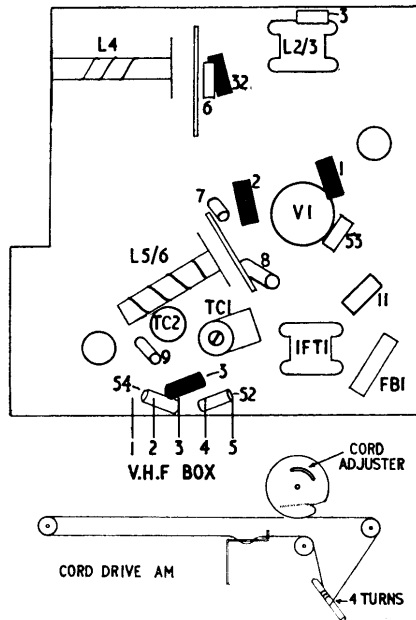
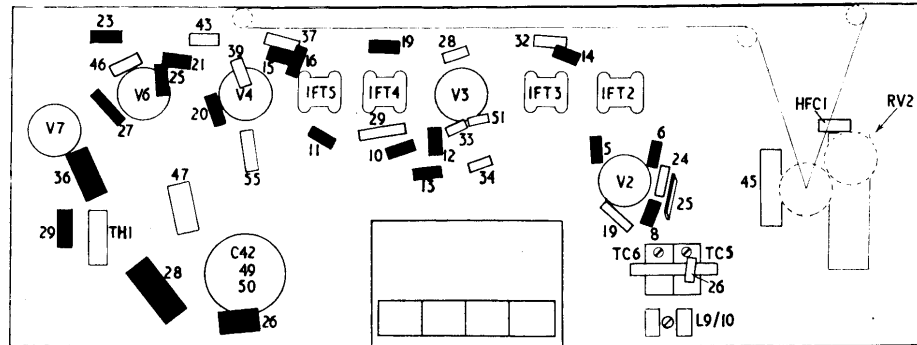
**Procedure, IF.** Switch to MW, set tuning pointer to 1mc/s, turn volume and tone controls to maximum, then inject a 470kc/s modulated signal via a 0.1mF at pin 2 of V3. Adjust IFT5 (top and bot.) for maximum output, transfer signal to pin 2 of V2 and adjust IFT2 (top and bot.) for maximum.

Switch to FM. Note that the correct peak for all FM IF cores is the outer position, with the



exception of the primary of the discriminator (IFT4) which should be peaked on the inner core position.





Inject a 10.7mc/s unmodulated signal at pin 2 of V2 via a 0.1mF and during FM alignment maintain an input level sufficient to produce an output of 4V on DC output meter.

Adjust primary of IFT4 (top) for maximum on DC meter, then adjust secondary of IFT4 for zero on DC balance meter. Connect a 1K damper across IFT3 secondary and adjust primary (bot.) for maximum on DC meter; transfer damper to primary and adjust secondary (top) for maximum. Remove damper. Repeat adjustments of IFT4 at beginning of this paragraph.

Transfer generator to FM aerial socket and adjust both cores of IFT1 for maximum on DC meter. Disconnect DC meter, balance meter and 47Ks; seal cores.

**Procedure, RF.** Switch to MW, couple generator to receiver by a single loop of wire placed 3ft. from receiver with plane of loop at right-angles to ferrite rod. Check datum setting of

scale pointer against datum line on auxiliary scale with tuning capacitor at maximum.

Apply a 600kc/s modulated signal, set auxiliary scale to 0.6mc/s and adjust L9/10 for maximum on output meter. Change input to 1500kc/s and scale to 1.5 mc/s, then adjust TC6 and TC3 for maximum. Repeat these two operations and check calibration.

Switch to LW, apply 214kc/s, set auxiliary scale to 0.215mc/s and adjust TC5 and TC4 for maximum. Repeat and seal cores and trimmers.

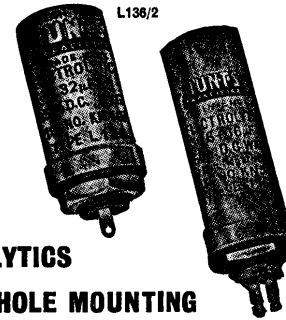
Switch to FM, connect generator to FM aerial socket and connect DC output meter as in IF procedure. Set pointer to 87.5mc/s on auxiliary scale and inject a signal of the same frequency; slacken locking screw on core adjuster and slide adjuster along slot in the drive for maximum on DC meter; retighten locking screw. This adjustment affects cores of L5/6 and L4.

Set pointer on auxiliary scale to 94mc/s, inject a signal of the same frequency and adjust core of L2/3 for maximum on DC meter. Seal all cores and trimmers.

Trimmers TC1 and TC2 are set at factory for minimum radiation and optimum calibration respectively and should not need further attention.



TYPE  
**L 136**



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WITH SINGLE HOLE MOUNTING

**STANDARDISE  
ON HUNTS**

TYPE L136/2 SINGLE CAPACITANCE UNITS							
µF	DC Wkg. Volts	Max Surge Volts	Ripple Current m/a	Dimensions (Inches)		List No.	List Price s. d.
				L	D		
16	350	400	160	2	1	KNQ405	5 3
24	350	400	210	2	1	KNQ406	5 6
32	350	400	260	2	1	KNQ407	6 0
50	350	400	450	2	1	KNQ409	7 6
8	450	525	120	2	1	KNQ553	5 0
16	450	525	200	2	1	KNQ554	5 9
24	450	525	260	2	1	KNQ573	6 6
32	450	525	330	2	1	KNQ555	7 6
50	450	525	500	2½	1	KNQ556	8 6
TYPE L136/4 DUAL CAPACITANCE UNITS							
50+50	350	400	450	3½	1	KNQ418	12 6
8+8	450	525	120	2	1	KNQ558	7 6
8+16	450	525	120	2	1	KNQ561	8 0
16+16	450	525	200	2	1	KNQ562	9 0
16+32	450	525	200	2½	1	KNQ574	10 0
32+32	450	525	330	3½	1	KNQ564	11 6



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