1242 'E R T' SERVICE CHART BUSH VHF80

SEVEN VALVE AM/FM transportable radio, with push-button wave change, released January, 1960, at 20gns. inclusive.

Mains. 200–250V AC (40–100c/s) or DC.
Consumption. 45W.
Wavebands. LW, 155–285kc/s; MW, 535–1,605kc/s; VHF, 87.5–100mc/s.
Valves. UCC85, UCH81, UF89 (2), UABC80, UL84, UY85.
Pilot lights. Two MES, 6.3V, 0.1A.
IF frequencies. AM, 470kc/s; FM, 10.7mc/s
Speaker. Elliptical 6 x 4in., 3ohm.
Output. 2W.
Aerial. Internal ferrite rod is provided for MW and LW; balanced dipole is fitted for VHF, with provision for use of external dipole.
Manufacturer. Bush Radio, Ltd.
Service department. Kew Works, Mortlake Road, Kew, Richmond, Surrey.

CHASSIS REMOVAL

Remove cabinet back and unscrew five chassis retaining screws, four of which are situated around the chassis edges and the other just above V1. Tilt chassis slightly to clear retaining brackets and withdraw. This will give sufficient access for alignment, but complete removal is obtained by disconnecting speaker leads from output transformer.

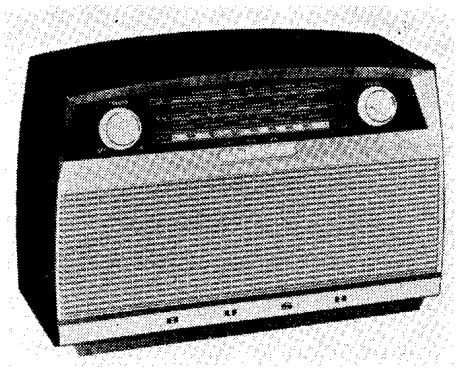
VHF BOX REMOVAL

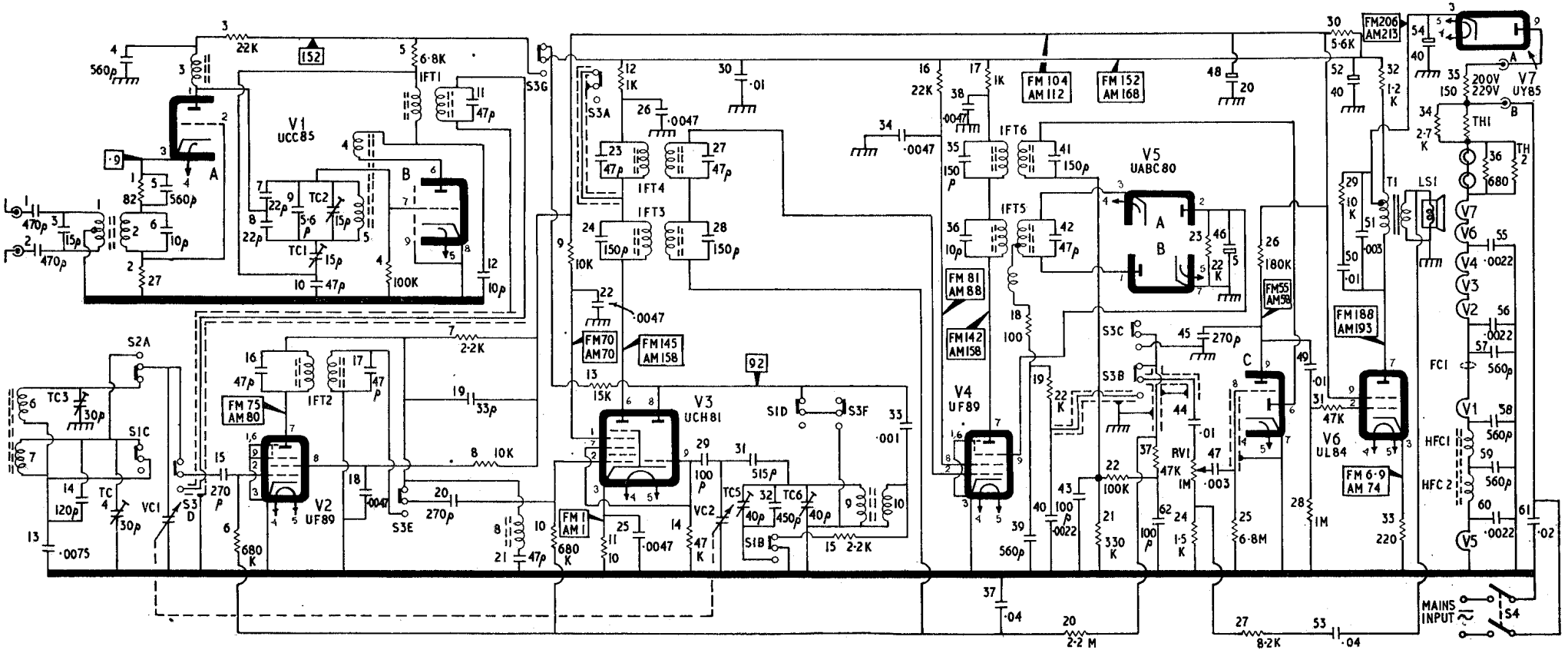
Unsolder five leads to box and remove screw and washer holding pivoted adjuster. Remove cord loop from boss on adjuster and also two screws holding box and aerial socket panel to tuning condenser. Finally, extract screw retaining box to tuning gang bracket and two screws holding box to lower fixing bracket.

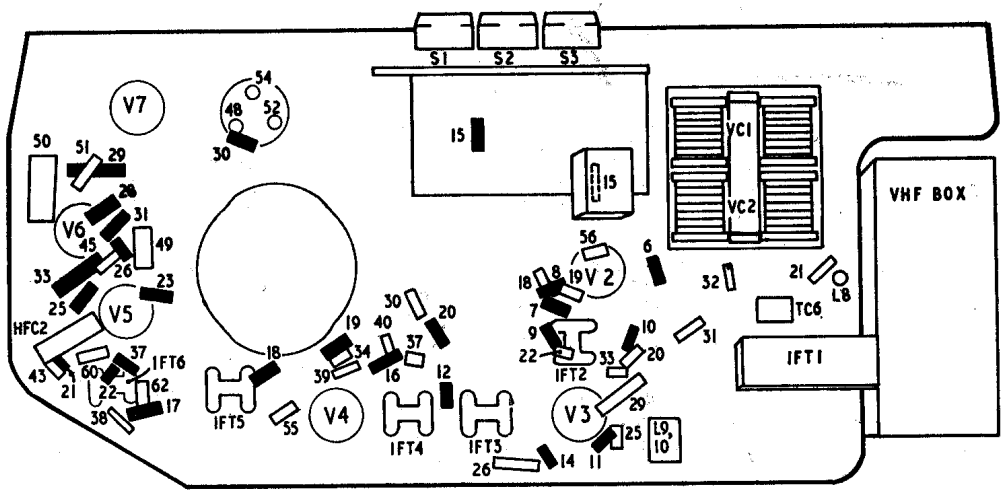
ALIGNMENT

Equipment required. AM modulated signal generator covering 200–1,500kc/s, 10.7mc/s and 87.5–100mc/s; audio output meter for 3ohms impedance; non-metallic trimming tool for adjustment of IFT1 (about 10in. long); special trimming tool for 470kc/s IF transformers; high impedance DC voltmeter; microammeter with 50 micramps FSD; two matched 47K resistors; one 1K resistor.

IF, AM. Remove chassis from cabinet and allow 15 minutes for both receiver and generator to warm up. Switch to MW, set tuning scale to 300m and turn volume control to maximum. Inject 470kc/s, 30 per cent modulated at 400c/s, via 0.1mF to pin 2 of V4; adjust IFT6 for maximum output on audio meter (prim at bot and sec at top).







Transfer generator to pin 2 of V3, adjust IFT3 in same manner. Transfer to pin 2 of V2 and tune L8 for minimum output. During these operations adjust input so as to maintain output at approx. 50mW.

IF, FM. IF transformers 1, 2 and 4 have primaries at base and secondaries at top of can; in discriminator transformer (IFT5) this is reversed. Correct peak for cores is that in outer position (except IFT5 primary).

Switch to VHF, connect voltmeter between negative end of C46 and chassis, connect two 47K resistors in series across voltmeter, and connect microammeter between junction of 47Ks and junction R18/R19/C39.

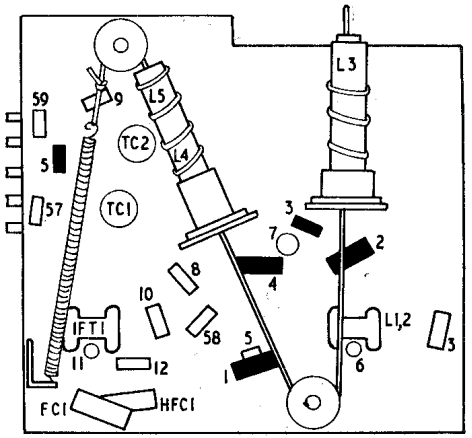
Inject 10.7mc/s unmodulated via 0.1mF to pin 2 of V3, set volume to minimum and adjust signal input to give 4V DC on voltmeter. Maintain this output level during all subsequent operations.

Tune primary of IFT5 for maximum on voltmeter and secondary for zero on microammeter. Connect 1K resistor across secondary of IFT4 and tune primary for maximum on voltmeter; transfer 1K to primary and tune secondary.

Connect generator to pin 2 of V2 and adjust IFT2 in same manner as IFT4. Readjust cores of IFT5 as previously. Transfer generator to VHF aerial sockets, connect 1K across IFT3 primary and adjust secondary of IFT1 for maximum on voltmeter.

Disconnect resistors and meters, seal cores.

RF, AM. Couple generator to receiver by means of loop of wire placed about 3 ft. from set, turn volume to maximum and slightly unscrew adjusting screw on each LW and MW trimming condenser. Signal used should be 30 per cent modulated at 400c/s and kept at level which ensures output of 50mW. Set



tuning capacitor to maximum and check that datum setting of scale pointer is at low frequency end.

Switch to MW, set input to 600kc/s and dial to 500m, adjust L9/L10 for maximum. Reset input to 1,500kc/s and dial to 200m, tune TC6 and TC3 for maximum. Repeat these two operations.

Switch to LW, set input to 214kc/s and dial to 1,400m, adjust TC5 and TC4 for maximum. Seal trimmers.

RF, FM. Switch to VHF, reconnect resistors and meters as in IF, FM, set dial to 87.5mc/s. Inject this frequency, unmodulated, at FM aerial socket.

Adjust cores of L3 and L4/L5 for maximum output on voltmeter by slackening locking screw on pivoted adjuster and rotating arm. Set generator and dial to 94mc/s and adjust L1/L2 for maximum on voltmeter. Seal L1/L2 core.

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