WIRELESS SET, NO 31, MK 2

TECHNICAL HANDBOOK - UNIT REPAIRS

Setting up instructions

1. Release the battery case, by unfastening the six lower clip catch fasteners, and check that the battery is strapped in position on the bottom of the set. If the battery is in position replace the cover and fasten the clip catch fasteners.

2. When fitting a new battery, ensure that the arrow on the power cable plug is matched to the arrow on the battery socket, point to point. The two battery retainer straps should always be securely fastened.

3. Screw the 5 ft 4 in. quarter-wave whip aerial into the aerial socket, and plug the headset/handset into the six-point socket on the control panel. The set is then ready for switching on.

4. Unless the aerial is properly connected to the set do not switch the set to send by pressing the pressel switch, otherwise the sending valves will be damaged.

Routine technical servicing

Routine adjustments and calibration

5. To check the calibration of the set, release the TUNING control by turning the knurled thumbscrew marked DIAL LOCK approximately two turns anti-clockwise. Turn the TUNING control until the calibration mark CAL, located at channel 15, is visible through the CHANNEL window.

6. Press the button marked PRESS FOR DIAL LIGHT AND CALIB. The dial lamp will light, and an audio note should be heard in the headphones. Adjust the TUNING knob exactly to zero beat.

7. Lock the TUNING control by turning the DIAL LOCK to the right and set the cursor line directly over the calibration mark CAL by turning the CURSOR ADJUSTMENT with a coin.

8. Unlock the TUNING control and turn to the calibration mark CAL located midway between channels 36 and 37. If the set is operating correctly another zero beat will occur at this calibration mark when the CALIB button is pressed. If the calibration mark is partly, if not entirely, under the cursor line the calibration error is acceptable. If it is not, repeat as above. If the error persists the set is faulty and should be returned to workshop for repair.

Operational checks

9. Power is obtained from a single battery secured to the bottom of the set. The approximate voltage and consumption of the set is given in Table 1.

Supply voltages			
	Sender	Receiver	L.T.
Maximum	150V	90V	4.5V
Normal	140V	85V	4.0V
Minimum	110V	66V	3.6V
Current drain			
	Send	Receive	
H.T.	62mA	28mA	
L.T.	450mA	250mA	
Note: Current drain measurement with set tuned to 44Mc/s.			

Table 1 - Battery supply and consumption

Repair information

Permissive adjustments and repairs

10. The set should only be opened if it is quite certain that the fault is not an external one. If the set is opened great care should be taken to see that the gasket is not damaged. If it is, it should be replaced by a new one.

11. Tongs, valve extractor, B7G/B9A, ZZ 970287 should be used when pulling out valves to avoid breaking the glass. Care must be taken when replacing valves, as excessive force will fracture the valve bases.

12. Repair by replacement is permissible, but when any of the valves are changed the alignment of the set may be disturbed and unless special apparatus is available for re-alignment, the subsequent performance of the set will be impaired. If after changing certain valves, the performance of the set is impaired, the set should be despatched as soon as possible to a workshop for re-alignment. A report showing which valves have been changed should accompany the set.

13. To remove the crystals, first remove the valve nearest the crystal mounting, (V3 for the 6.815Mc/s crystal and V2 for the 4.3Mc/s crystal) pull back the clip and withdraw the crystal, using the extractor tongs. When replacing ensure that the correct crystal is inserted.

14. The dial lamp assembly is spring mounted on a mounting bracket. To facilitate the replacement of the dial lamp, the assembly can be slid upwards off the mounting bracket.

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END