CONDITIONS OF RELEASE
(Applicable to copies supplied with War Office approval to Commonwealth and Foreign Governments)

1. This document contains classified UK information.

2. This information is disclosed only for official use by the recipient Government and (if so agreed by HM Government) such of its contractors, under seal of secrecy, as may be engaged on a defence project. Disclosure or release to any other Government, national of another country, any unauthorized person, the Press, or in any other way would be a breach of the conditions under which the document is issued.

3. This information will be safeguarded under rules designed to give the same standard of security as those maintained by HM Government in the UK.

B.C.C. HF 156

TECHNICAL HANDBOOK - UNIT REPAIRS

This EMER must be read in conjunction with Tels F 192 Part 2 which contains figures and tables to which reference is made.

GENERAL

1. The transmitter-receiver is sealed and seals may be broken only in the event of an emergency.

2. If in an emergency the unit is opened the following provision must be observed:-

(a) It must be opened under the driest possible conditions and in any case should not remain open for more than one hour.

(b) A new desiccator must be fitted immediately before resealing.

(c) The unit must be returned to workshops for drying and seal-testing as soon as possible after an emergency repair.

Instructions for opening

3. To remove the set from the case unscrew the six No 4 BA socket headed steel screws at the top of the case using a 3/32 in. socket wrench. Lift the set from the case automatically disengaging the 12-pin plug bolted to the chassis from its mating socket located on the shelf inside the case.

4. To obtain access to the transistorised power supply unit, unscrew the two wing nuts at the bottom of the case allowing the base plate containing the batteries and power pack to be removed, then disconnect the 12-pin connecting plug from the unit. Loosen the four No 6 BA cheese-headed screws located round the base of the power pack and remove the cover by sliding upwards.

5. To replace any components located in the base of the power unit remove the four cheese-headed No 4 BA screws from the base plate which allows the power unit to be lifted clear, then remove the bottom cover which is held in place by two screws.

REPAIRS

6. Repairs will be confined to the replacement of those parts which are provided in the station kit.

Removal and replacement of collet type knobs

7. Unscrew the central dome-headed cap at the same time holding the knob firmly to ensure that the unscrewing torque is not absorbed by the mechanical stops of the controls. The plastic knob can then be withdrawn, leaving the metal insert clamped to the spindle; this insert can now be carefully eased off.

8. To replace, refit the collet and knob over the spindle engaging the knob in the hexagon. Refit the dome-headed cap and tighten. To avoid binding, pressure must be exerted to pull the knob away from the panel when tightening. Check that the orientation of the knob is correct with respect to the spindle then finally tighten the dome cap with a screw-driver.

SIMPLE FAULT FINDING

9. If the meter shows no deflection when the system switch (SB) is in the OFF position the set may have one of the following faults.

(a) Accumulators or battery discharged.

(b) 7A fuse located on the power pack blown.

(c) Connections between power supply unit open circuit or not properly made.

10. If the meter needle shows only a small deflection, ie below the green portion of the dial, when the system switch is in any position other than OFF the accumulators require charging.

11. If the equipment ceases to function and the accumulator voltage is correct, loosen the base plate from the equipment case leaving the 12-pin wandering lead plugged in, and listen for the sound of a faint 'whine' from the power supply unit when the system switch is in either R, RT, or AE position. If no 'whine' is heard the s.u.t. is probably faulty and needs adjustment.

Adjustment of power unit

12. To adjust the unit for optimum performance select the system switch to the R position and turn RV1 to the full extent of its travel clockwise. Gradually adjust RV1 anticlockwise until the unit starts oscillating; note this point then continue to turn anticlockwise until the unit stops oscillating. Finally reset RV1 midway between these two points.

13. Select the system switch to the S position, press the morse key and turn RV2 fully clockwise. Gradually adjust RV2 anticlockwise until the unit starts working and finally find a mid point as described in para 12.

14. These adjustments should be carried out at the lowest ambient temperatures likely to be encountered. If this is not possible, adjust both potentiometers as far anticlockwise as possible with consistent operation of the unit while maintaining the HT voltage at a value of approximately 50V on receive and 145V on transmit.

15. After adjustment return the system switch to S position and make sure that the oscillator does not function unless the morse key is pressed. Incorrect settings of RV2 will sometimes cause the unit to operate when the key is up. This can be corrected by a slight adjustment of RV2 clockwise.

Transmitter

16. If it is suspected that the transmitter is not functioning fit the rod aerial and set the system switch to T AE.

17. With the channel switch (SA) set to each range position in turn adjust the aerial tuning unit for maximum deviation on the meter; this indicates the accurate tuning point on each range. This tuning point is quite sharp and any movement of the tuning control knob, either clockwise or anticlockwise should cause the meter reading to decrease. If, however, the meter needle remains steady throughout the whole range of the tuning scale on any range the equipment should be returned for workshop repair.

EME8c/2361

END