

WIRELESS STATION A 510

TRANSMITTER AND RECEIVER

REFERENCE:- Aust. Change in W.M. 13061.

1. Since the commencement of manufacture of this equipment several changes in design and construction have occurred, with the result that early sets now require modification. This instruction details all modifications since production commenced and provides a guide list of equipment serial numbers showing their state of modification in manufacture.

2. Serial Numbers of Transmitters and Modifications

Modification	Equipment still to be Modified
A	B1 - B 150 : 21 - 56
B	- -
C	- -
D	E1 - B 199 : 21 - 56
E	B1 - Approx : 21 - Approx 81 B 500
F	- -

3. Serial Number of Receivers and Modifications

Modification	Equipment still to be Modified
A	B1 - B 150 : 21 - 56
B	B1 - B 150 : 21 - 56
C	B1 - B 400 : 21 - 81
D	B1 - B 199 : 21 - 56
E	B1 - B 649 : 21 - 81 (approx)
F	B1 - B 400 : 21 - 81

PART A - SIDETONE

This modification has been allotted the modification record reference:-

WS A 510/TSE(W)8-297/1
WS A 510/TSE(W)8-4/1

SUMMARY

1. This change is introduced in order to improve the transmitter sidetone oscillator keying speed from 8 W.P.M. to 20 W.P.M. Estimated manhours to perform: 1.

2. Priority: Group 2.

3. Items affected:

Z1/TSE(W)8-297	Transmitters A 510	Serial Nos 21-56 B1-B150
Z1/TSE(W)8-4	Receivers A 510	Serial Nos 21-56 B1-B150

4. Action required by personnel in second to fourth line workshops, provided that the modification is carried out in dry room conditions.

5. Stores required:

Circuit Code No	Cat No	Designation	No of per Eqpt
C 109	Z/Z 115626	Capacitors, pap., ins., tub., .005uF ±25%, 350V DC wkg., No 2	1
C 129	Z/Z 115626	" " " " " " " "	1
R 117	Z/Z 223079	Resistors, composition, grade 2, insulated, ¼W, 220,000 ohms, ±10%	1
		Yellow PVC sleeving as required	

6. Stores removed:

C 109 0.01uF; C 111 0.005uF

DETAIL

7. Remove transmitter chassis from case.

8. Change C 109 in the following manner; (see Fig. 1):-

- (a) Unsolder and remove C 109 (0.01uF).
- (b) Solder new C 109 (0.005uF) into position vacated by the 0.01uF, one end to earth point directly below the spacing pillar, and the other to the top tag diagonally opposite to the earth point.

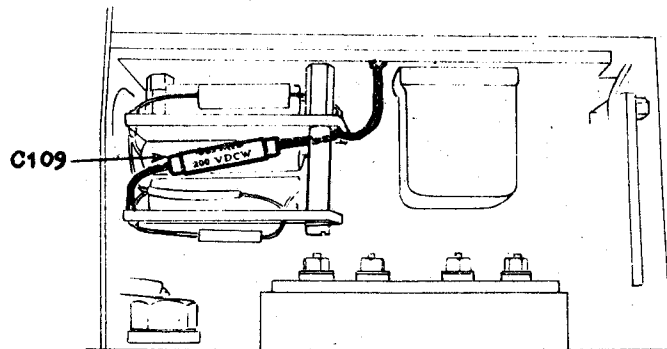


FIG. 1

9. Remove C 111 and install C 129 in the following manner (see Fig. 2 and 3):-

- (a) Unsolder and remove C 111 (0.005uF) which is connected from pin 2 of V6 to terminal plate and lies beneath C 127 (0.01uF).
- (b) Place capacitor C 129 in space vacated by C 111 and cut leads to required length.
- (c) Sleeve the pigtails with yellow 1½MM PVC sleeving and solder one lead to pin 3 of V6 and one to the earthed spigot of V7.

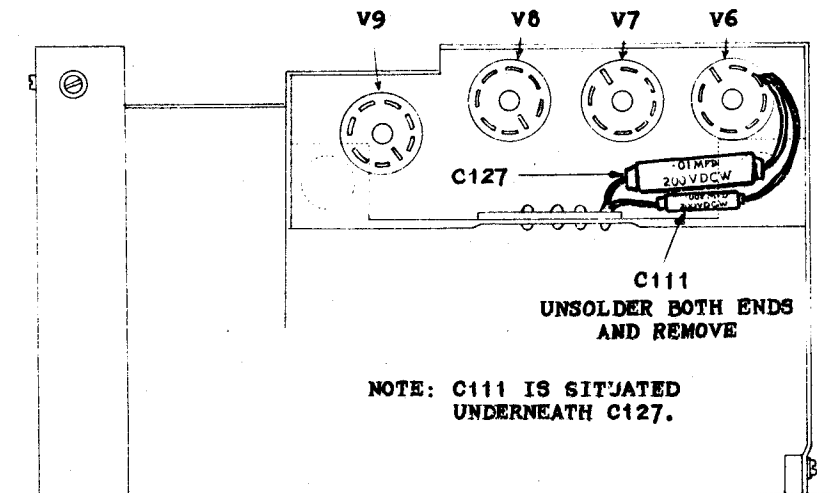


FIG. 2

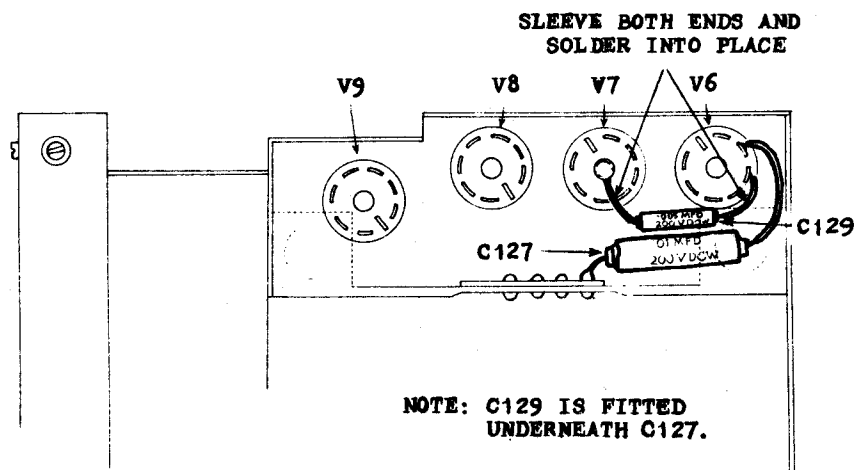


FIG. 3

10. Install R 117 in the following manner (see Fig. 4):-
 - (a) Unsolder and remove lead from centre tag of SK3 to pin 7 of switch SWE.
 - (b) Solder R 117 (220,000 ohms $\frac{1}{2}$ W) in position formerly occupied by removed lead.
11. Strike out No "1" on the transmitter and receiver modification plate.
12. Replace transmitter and receiver in cases.
13. Check side tone oscillator keying speed and general function of transmitter.

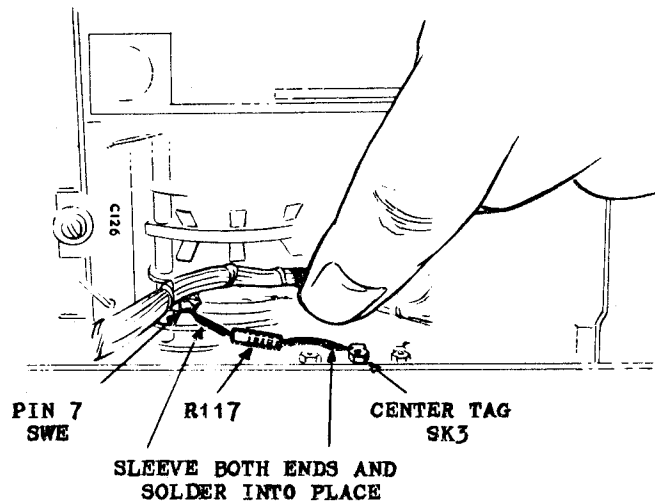


FIG. 4

PART B - NETTING

Modification Record Reference WS A 510/TSE(W)8-4/2

SUMMARY

1. This modification has been introduced in order to improve the netting of the receiver by reducing the spurious responses. Additional bias is provided to the detector diode during netting. Estimated manhours to perform: 1.5.

2. **Priority:** Group 2.

3. **Items affected:**

Z1/TSE(W)8-4 Receivers, A 510 Serial Nos 21 - 56
B1 - B150

4. **Action required** by personnel in second to fourth line workshops, provided that the modification is carried out in dry room conditions.

5. **Stores required:**

Circuit Code No	Cat No	Designation	No off per Eqpt
C 40	Z/AZ 1756	Capacitors, silvered, ceramic, tubular, 12pF ±5%, 500V DC wkg.	1
C 41	" "	" " " " " " " "	1
C42	Z/AZ 1761	Capacitors, silvered, ceramic, tubular, 4.7pF, ±20% 500V DC wkg.	1
R 21	Z/Z 222130	Resistors, composition, grade 2, insulated, 1/4W, 10,000 Ohms, ±10%	1

DETAIL

6. Remove receiver chassis from case and install the following as detailed (refer Fig. 1).

7. C40 -

- (a) Unsolder and lift end of R17 (47,000 ohms $\frac{1}{2}W$) connected to tag marked C32.
- (b) Cover body of C40 with $\frac{3}{8}$ in. of 10MM. PVC sleeving and solder into place, connecting between pin 1 (green spot) of L10 and the tag marked R17.
- (c) Solder floating end of R17 back to tag marked C32.

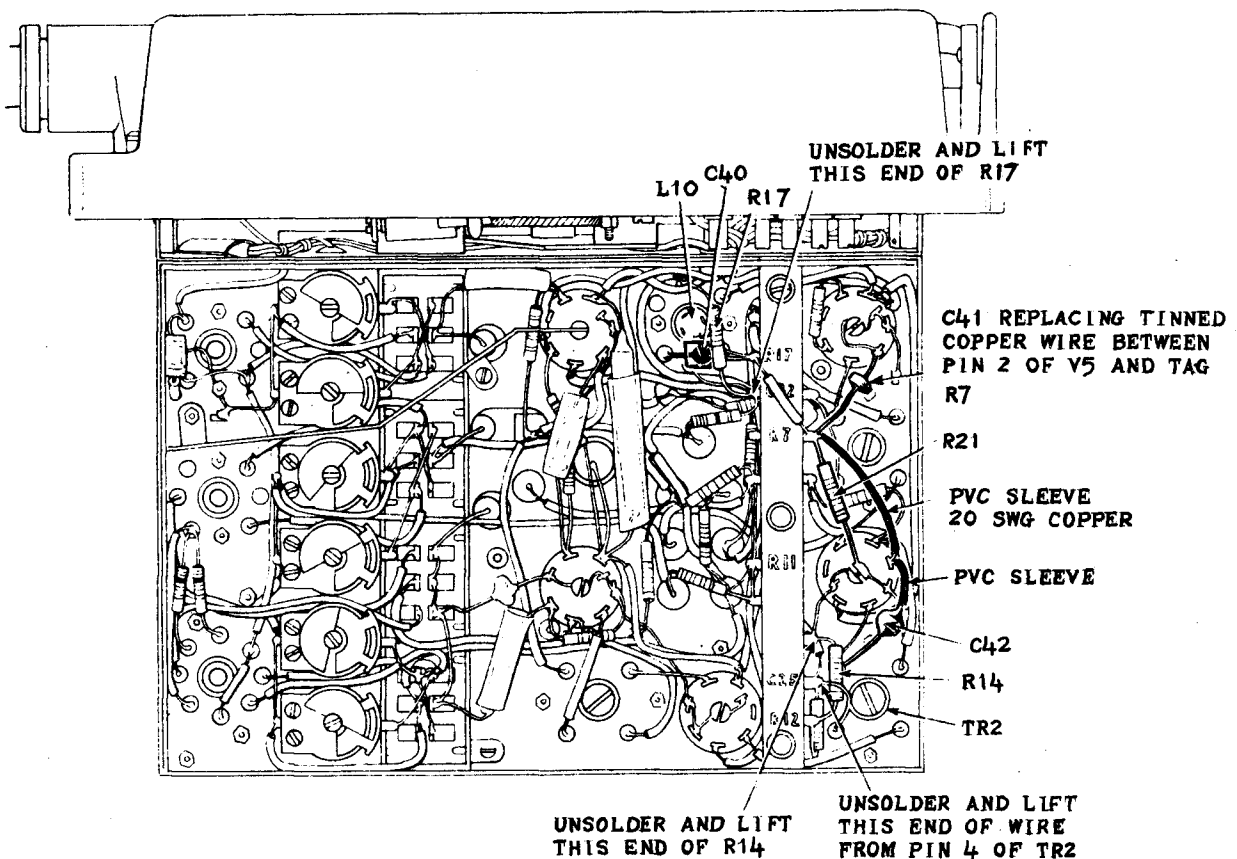


FIG. 1

8. C41 -
 - (a) Unsolder and remove wire lead connecting pin 2 of V5 to tag marked R7.
 - (b) Connect C41 between pin 2 of V5 and tag marked R7.
9. R21 -
 - (a) Connect R21 between tag marked R7 and centre spigot of V4.
10. C42 -
 - (a) Connect tag marked R7 to pin 4 of V4 using 20 SWG tinned copper wire covered with 1½ MM. yellow PVC sleeving.
 - (b) Unsolder and lift wire lead at tag marked C25 (this lead joins tag marked C25 and pin 4 of TR2).
 - (c) Unsolder and lift earth end of R14.
 - (d) Sleeve one end of C42 with yellow 1½ MM. PVC sleeving and connect this end to pin 4 of V4.
 - (e) Connect other end of C42 to pin 1 (red spot) of TR2.
 - (f) Replace R14 and lead wire which were removed as in (b) and (c) above.
11. Strike out the number "2" on the receiver modification plate.
12. Replace unit in case and check netting and general function of receiver.

PART C - WAVE CHANGE SWITCH

Modification Record Reference WS A 510/TSE(W)8-4/3

SUMMARY

1. This modification deals with a change in the wave change switch as and when failure occurs. Estimated manhours to perform: 1.
2. **Priority:** Group 2.
3. **Items affected:**

Z1/TSE(W)8-4	Receivers, A 510	Serial Nos 21-81
		B1-B400
4. **Action required** by personnel in second to fourth line workshops provided that the modification is carried out in dry room conditions.
5. **Stores required:**

Cat No	Designation	Qty per Eqpt
Z1/TSE(W)8-700	Clicker Plate and Spindle Assemblies	1
Z1/TSE(W)8-26	Plates, index, wave change switch	1
LV6/MT7/BG-418-Z	Balls, steel, 1/8 in. dia.	1

6. **Stores removed:**

Will be disposed of as scrap.

DETAIL

7. Remove receiver from case.

- (a) Open hinged front panel assembly as detailed in TELS F394.
 - (b) Existing "Clicker Plate and Spindle Assemblies" and "Plates, index, wave change switch" will be replaced by new stores. The indexing pin has been deleted from this new assembly and will be replaced by the "Balls, steel, 1/8 in. dia."
 - (c) Reassemble front panel.
8. Strike out number "3" on the receiver modification plate.
9. Replace chassis in case and check operation of wave change switch and general function of receiver.

PART D - CONE LOCK CABLE CONNECTOR

Modification Record Reference WS A 510/TSE(W)8-297/2
WS A 510/TSE(W)8-4/4

PART E - COVER CABLE CONNECTOR

Modification Record Reference WS A 510/TSE(W)8-297/3
WS A 510/TSE(W)8-4/5

SUMMARY

1. These modifications have been introduced to provide a more reliable sealing and to lessen the risk of damage in the cone-lock and cover cable connection (when repairs to the cable are being made.) Estimated manhours to perform: 4.

2. Priority: Group 2.

3. Items affected:

		Part D	Part E
Z1/TSE(W)8-4	Receivers A 510 Serial Nos	21 - 56 B1-B199	21 - 81 B1-B649
Z1/TSE(W)-297	Transmitters A 510 Serial Nos	21 - 56 B1-B199	21 - 81 B1-B500

4. Action required by personnel in second to fourth line workshops, only when repairs to cable become necessary and under dry room conditions.

5. Stores required:

TSE(W)8-242	Cones	2
TSE(W)8-246	Covers, cable entry, front panel 3MM. yellow PVC sleeving as required Lubricant - glycerine or french chalk as required	2

6. Stores removed:

Will be disposed of as scrap.

DETAIL

7. Remove cable and cover from the receiver in the following manner:-

- (a) Lubricate outer sheath with glycerine or french chalk and unscrew gland nut.
- (b) Remove the four holding screws from cable cover and lift cover.
- (c) Unsolder all leads and slide cover from cable.

8. Remove cone-lock.

9. Place new cone-lock in position and spread braid as evenly as possible. Trim if necessary.

NOTE:- Paras 8 and 9 above refer to only those sets Serial Nos 21 to 56 - B1-B199.

