

LEAFLET No. 13

5820-99-745-1241 RECEIVER RADIO RA1792 GB/S2/S/D/1/A
5820-99-745-1242 RECEIVER RADIO RA1792 GC/S2/S/D/1/A
5820-99-745-1243 RECEIVER RADIO RA1792 GE/S2/S/D/1/A
5820-99-745-1244 RECEIVER RADIO RA1792 GC/S2/I/O/1/A
5820-99-745-1245 RECEIVER RADIO RA1792 GB/S2/S/S/1/A
5820-99-745-1246 RECEIVER RADIO RA1792 GB/S2/I/S/1/A
5820-99-758-8335 RECEIVER RADIO RA1792 GA/S2/O/S/1/A
5820-99-758-8336 RECEIVER RADIO RA1792 GA/S2/O/D/1/A
5820-99-758-8337 RECEIVER RADIO RA1792 GB/S2/S/O/1/A
5820-99-758-8338 RECEIVER RADIO RA1792 GB/S2/S/O/1/D
5820-99-758-8339 RECEIVER RADIO RA1792 GB/S2/O/O/1/A

MODIFICATION SERIAL NO. 6111

RAF MODIFICATION SERIAL NO. TC 6111

MODIFICATION STRIKE 13

SUB-TITLE: Modification to reduce the possibility of "lock-up"
and memory corruption at switch-on.

1. INTRODUCTION

Some receivers can sometimes go into a "lock-up" condition where all front panel control is lost. Corruption of the memory may also occur. This leaflet gives details of a modification to reduce the possibility of these conditions occurring.

- a. Fitting of an additional Printed Circuit Board A6A2A1 to the Microcomputer Board A6A2.
- b. Fitting of Integrated Circuit Type Fairchild 3853 SM1 in the U2 position of Microcomputer Board A6A2 where not already fitted.
- c. Cleaning of the edge connector pins of the Interface board A6A1 (where fitted), to ensure a good connection with the Microcomputer Board A6A2.

2. PRIORITY

Category A/1.

3. ESTIMATED TIME REQUIRED

1.0 manhour.

4. ITEMS AFFECTED

RECEIVER RADIO RA1792:- 5820-99-745-1241
5820-99-745-1242
5820-99-745-1243
5820-99-745-1244
5820-99-745-1245
5820-99-745-1246
5820-99-758-8335
5820-99-758-8336
5820-99-758-8337
5820-99-758-8338
5820-99-758-8339

5. ACTION REQUIRED BY

a. Units and establishments holding this equipment

b. Units authorised to carry out field or base repairs

6. STORES, TOOLS AND EQUIPMENT

a. Stores to be demanded from contractor

<u>Item No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty Per Equipment</u>
	5820-99-794-7014	Modification Kit Electronic Equipment (RACAL COMMS. LTD DA48063)	1
	Comprising:-		
1	5820-99-794-7015	Panel Electronic Circuit (RACAL COMMS. LTD ST85361)	(1)
2	5820-99-794-7016	Cable Assembly (RACAL COMMS. LTD BA85365X)	(1)
3	5305-99-135-0693	Screw M3 x 25mm Pan Head (RACAL COMMS. LTD 917873)	(2)
4	5310-99-630-5600	Nut M3 (RACAL COMMS. LTD 917825)	(2)
5	6145-99-631-9914	Tinned Copper Wire 0.45mm (26 SWG) (RACAL COMMS. LTD 919061)	(100mm)
6	5970-99-946-9950	Sleeving PTFE TW24 (RACAL COMMS. LTD 919028)	(100mm)
7	5962-99-783-8816	Integrated Circuit Fairchild 3853 SMI (RACAL COMMS. LTD 938527)	(1)

b. Stores from Service Supply

<u>Item</u>	<u>Description</u>	<u>Qty</u>
8	Brush, $\frac{1}{2}$ inch, short bristle	1
9	Cleaning fluid, specialised for use on electronic equipment	as req'd.
10	Modification Record Label (Black) 9905-99-620-0811	1

c. Stores to be discarded

<u>Cct. Ref.</u>	<u>Part No.</u>	<u>Designation</u>
A6A2 U2	Mostek MK3853	Integrated Circuit (where fitted)

7. SEQUENCE OF OPERATIONS

NOTE: BEFORE ANY WORK IS CARRIED OUT ON THIS EQUIPMENT ALL POWER SUPPLIES MUST BE DISCONNECTED. POWER SUPPLIES ARE TO BE RECONNECTED ONLY WHEN THE PERSON RESPONSIBLE FOR EMBODYING OR INSPECTING THE MODIFICATION IS SATISFIED THAT ALL ACTION HAS BEEN TAKEN TO MAKE THE EQUIPMENT SAFE FOR RECONNECTION.

- (1) Place the receiver on a suitable working surface.
- (2) Unlock the seven fasteners securing the top cover then remove and retain the cover.
- (3) Identify the Microcomputer Module A6A2 positioned vertically on the right hand side chassis member, remove and retain the three fixing screws and washers, then carefully lift out the module and disconnect the ribbon cable at the PL1/J1 interface.

NOTE: If any optional interface module is fitted it will be necessary to slide the A6A2 module towards the front of the receiver to unplug it from the interface module before attempting to lift it out.

- (4) With the A6A2 module on a suitable working surface and component side uppermost, locate the plated through hole adjacent R11 and the '+' sign for C14 (see Figure 1 attached), and drill out the plating using a 1 mm drill.
- (5) With IC U1 removed from the board check by using an ohmmeter that there is now no connection through the hole. Refit IC U1 to the board.

- (6) NOTE: The Integrated Circuit fitted in the U2 position of Microcomputer Board A6A2 must be Type FAIRCHILD 3853 SM1.
 - a. Inspect the Integrated Circuit fitted in the U2 position of Microcomputer Board A6A2.
 - b. If Integrated Circuit Type MOSTEK MK3853 is fitted in the U2 position, replace with FAIRCHILD 3853 SM1 (Item 7).
- (7) Mount the additional PCB (Item 1) on the A6A2 module as shown in Figure 1 attached and fix in position temporarily with screws and nuts (Items 3 and 4).
- (8) Mate the ribbon cable (Item 2) to the header on the additional PCB (Item 1) looping the free end back underneath the additional PCB and around onto the trackside of the A6A2 module.
- (9) Referring to Figure 2 attached, connect the collector of Q2 to Pin 3 of U13 on the trackside using single strand wire (Item 5) and sleeving (Item 6).
- (10) On the trackside of A6A2 module form the ribbon cable between the protruding rows of pins of IC sockets for U1 and U2 with the BROWN wire nearest the row of pins for U1. See Figure 2.
- (11) Connect the BROWN wire to U1 socket Pin 24 (0V).
- (12) Connect the ORANGE wire to U13 Pin 4 (Inverted original RESET).
- (13) Connect the RED wire to U2 socket Pin 40 (+5 V).
- (14) Connect the YELLOW wire to U2 socket Pin 2 (0).
- (15) Connect the GREEN wire to U1 socket Pin 37 (New RESET).
- (16) Lay the Microcomputer Board carefully to one side.
- (17) Identify the Interface Board A6A1 (if fitted), remove and retain the three fixing screws and washers, then carefully lift out the board and lay to one side.

- (18) NOTE 1:- It is essential that the mating parts of the interface connector particularly the male portion between Microcomputer Board A6A2 and the Interface Board A6A1 are not allowed to become contaminated with foreign substances, e.g. grease, dust, fibres from cloth or packing materials and particularly soldering flux. Any momentary bad connection, for even the shortest period, can cause the microcomputer to malfunction, producing corruption of stored data or possibly "lock-up" conditions.

NOTE 2:- Before carrying out Step 19, careful attention should be paid to any safety precautions issued with the cleaning fluid regarding ventilation, eye or skin protection, etc.

Using a short bristle brush (Item 8), and cleaning fluid (Item 9), give the mating parts of the Microcomputer/Interface connector a good scrub. Shake off any surplus fluid, and when dry, inspect the contacts and ensure that they are perfectly clean.

- (19) Remove and discard the two nuts (Item 4) used in Operation (7), from the Microcomputer Board A6A2. Remove and retain the two screws (Item 3).
- (20) Mate the Microcomputer Board A6A2 (along with additional PCB A6A2A1), to the Interface Board A6A1 (where fitted) and replace both boards into the Receiver. Reconnect the ribbon cable at the PL1/J1 interface on the Microcomputer Board A6A2.
- (21) Refix the Microcomputer Board A6A2 by using one of the three screws and washers retained at Operation (3). Discard the remaining two short screws, but fit the washers to the two 25mm screws (Item 3). Use Item 3 screws, and washers, to fix both the additional PCB A6A2A1 and A6A2 Boards.
- (22) If applicable, refix the Interface Board A6A1 by using the three screws and washers removed and retained at Operation (18).
- (23) After checking that all relevant connectors have been remated, refit to the receiver the top cover removed in Operation 2 and relock the seven fasteners.

- (24) Transfer Mod Strikes from existing modification record label on Receiver Front Panel, to new modification record label (Item 10).
- (25) Remove existing modification record label and replace with new modification record label (Item 10). Strike through without obliterating the Numeral 13.

8. TESTS AFTER EMBODIMENT

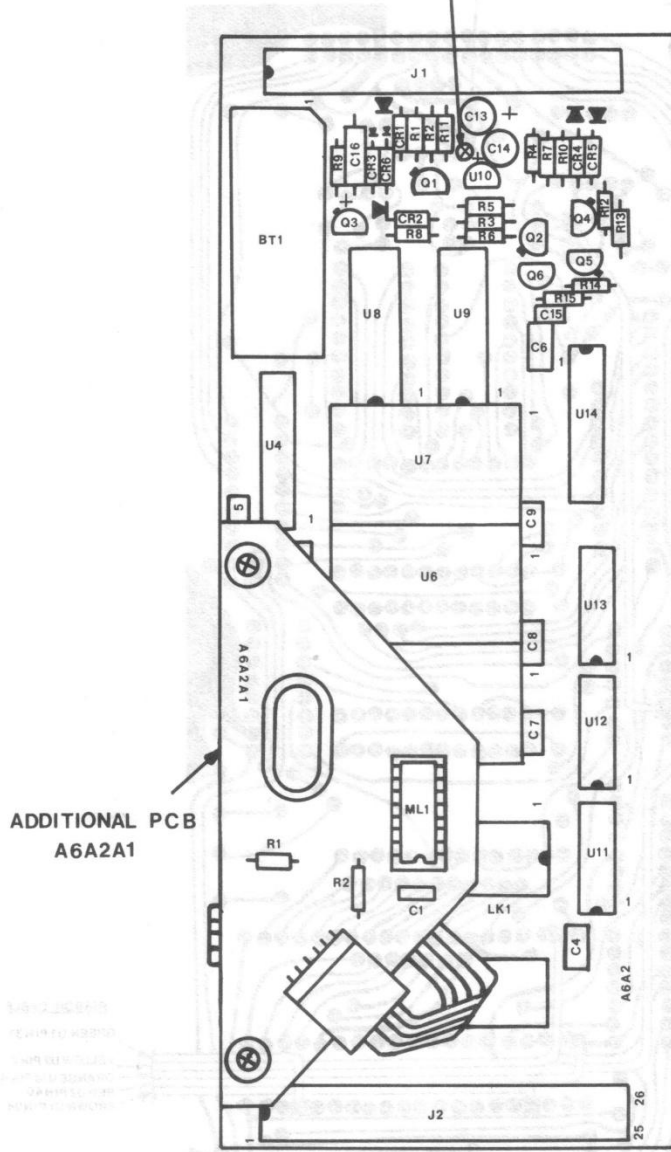
Carry out a functional check of the Receiver.

9. DRAWINGS REQUIRED

Figure 1 - Component layout

Figure 2 - A6A2 PCB Trackside

PLATED THROUGH HOLE



ADDITIONAL PCB
A6A2A1

FIG.1

COMPONENT LAYOUT:
MICROCOMPUTER BOARD A6A2

THICKSIDE OF MICROCOMPUTER BOARD A6A2 SHOWING ADDITIONAL CONNECTORS

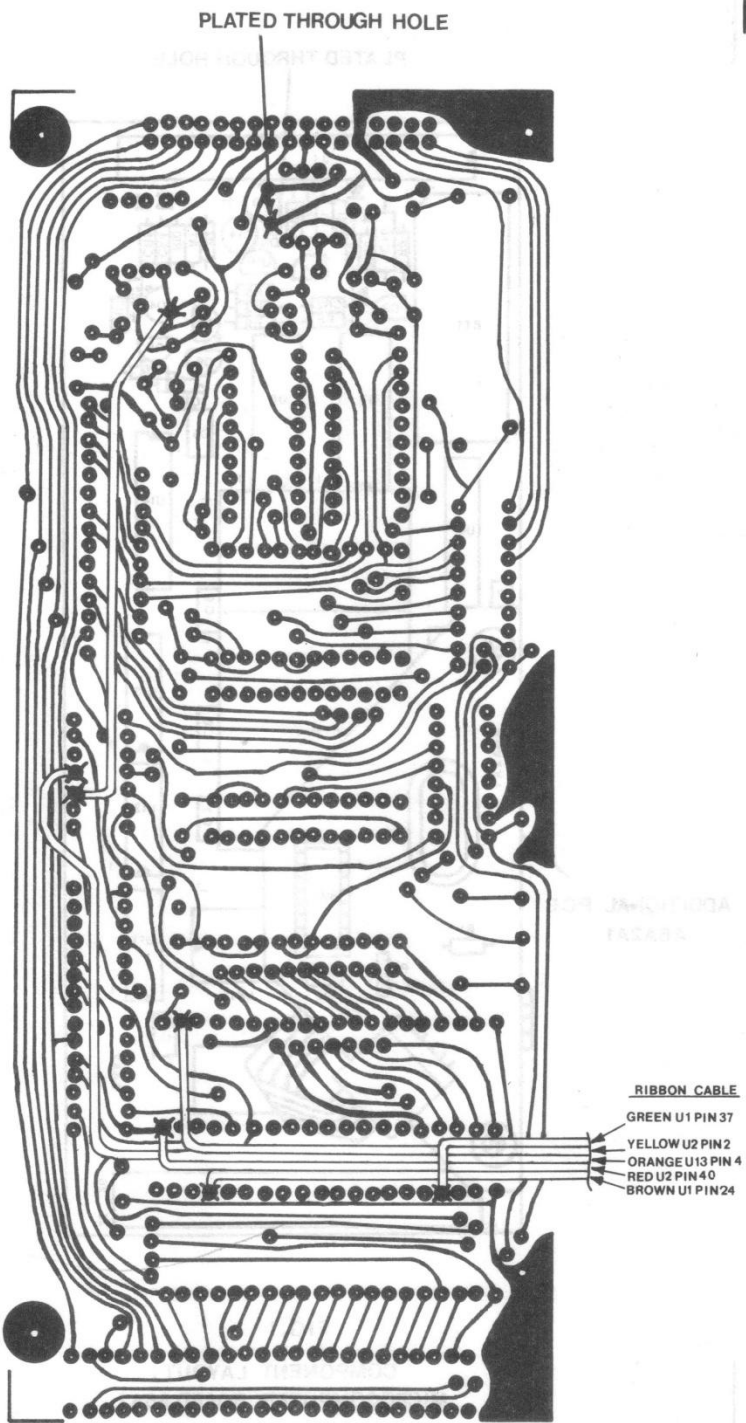


FIG 2
TRACKSIDE OF MICROCOMPUTER BOARD A6A2 SHOWING ADDITIONAL CONNECTIONS