

TABLE 5 FAULT IDENTIFICATION

Fault ref	RF power output	Audio/squelch (150 Hz) modulation on transmitted signal?	Sidetone	Audio output in * mode	Table 4 action No.
A	No	-	No	No	1
B	No	-	No	Yes	22
C	No	-	Yes	Yes	27
D	No	No	Yes	No	43
E	Yes	No	Yes	Yes	31
F	Yes	Yes	No	Yes	37
G	Yes	Yes	Yes	No	38
H	Yes	Yes	No	No	35
J	Yes	No	No	No	42
K	Yes	No	Yes	No	44
L	Yes	No	No	Yes	30
Fault description					
<u>Receiver faults</u>					
M	No audio in L and W, but present in * mode.				46
N	Noise present in L and W modes.				46
O	Audio output at some frequencies only.				45
P	Low sensitivity.				41
Q	Audio distorted.				41
R	No difference between L and W positions of SSW.				49
<u>Transmitter faults</u>					
S	RF power output at some frequencies only.				45
T	Low RF power output.				29
U	Audio distorted.				47
V	No difference between L and W positions of SSW.				48

FAULT FINDING TO ASSEMBLY LEVEL

215 If, after replacing an assembly, the fault still exists, **always refit the original assembly to the radio.** Continuity and short-circuit (S/C) checks should be made using the DMM set to the ohms range, and the battery supply disconnected.

216 In Table 6, the 'Result and next action' column gives the next action to go to for the 'Yes' and 'No' conditions. Where a particular action points to more than one further action (actions 26, 42, 43 and 44), attempt the actions in the order given and follow each action to its conclusion in the table.

TABLE 6 FAULT RECTIFICATION

Action No	Action	Result and next action	
		Yes	No
1	Disconnect 1PL3: check 1PL3 pin 1 for presence of +VE BATT.	12	2
2	Check 1LK1 for continuity.	21	3
3	Renew 1LK1; connect 1PL3: fault cleared?	50	4
4	Check 1LK1 for continuity.	1	5
5	Set SSW to O. Check 3SK9/6 ((9VRx) for S/C to earth.	16	6
6	Set SSW to O. Check 3SK8/7 (9VTx) for S/C to earth.	17	7
7	Set SSW to O. Check 3SK9/11 (9V) for S/C to earth.	18	8
8	Set SSW to O. Check 3SK9/12 (BATT) for S/C to earth.	19	9
9	Set SSW to O. Check 3SK5/2 (9V CONST) for S/C to earth.	20	10
10	Insert new assembly 9: fault cleared?	50	11
11	Remove test point location overlay and check appropriate connections.	-	-
12	Connect the DMM to 3SK9/6 (9VRx). Check for 9 V.	13	10
13	Connect the DMM to 3SK9/11 (9V). Check for 9 V.	14	10
14	Connect the DMM to 3SK9/3 (L _k). Check for 0 V (L _k information).	10	15
15	Remove test cover and check wiring of flying leads 10SK8 (VT COARSE), 10SK10 (VT FINE), 10SK13 (VCO); attempt alignment of oscillators (Paras 158 to 162); if unsuccessful, fit a new assembly 7. Fault cleared?	50	Syn [†]

(continued)

[†] Para 217 to 228

TABLE 6 FAULT RECTIFICATION (continued)

Action No	Action	Result and next action	
		Yes	No
16	Remove, in turn, assemblies 4, 6 and 7 and disconnect flying lead 10SK9 (9VRx) until S/C disappears; insert new assembly, as appropriate, or fault-find within assembly 10 (Para 217 to 228). Fault cleared?	50	10
17	Remove, in turn, assemblies 7 and 8 and disconnect flying lead 10SK6 (9VTx) until S/C disappears; insert new assembly, as appropriate, or fault-find within assembly 10 (Para 217 to 228). Fault cleared?	50	10
18	Remove test cover and disconnect flying lead 10SK11 (9V). If S/C disappears, fault-find within assembly 10 (Para 217 to 228). Fault cleared?	Syn [†]	10
19	Remove, in turn, assemblies 4 and 8 and disconnect flying lead 10SK12 (+V BATT) and 10SK2 (+V BATT O/P) until S/C disappears; insert new assembly, as appropriate, or fault-find within assembly 10 (Para 217 to 228). Fault cleared?	50	10
20	Remove assembly 5; if S/C disappears, fit new assembly 5. Fault cleared?	50	10
21	Check battery connections and wiring continuity of the audio socket, SSW and wiring harness assembly. Fault cleared?	50	-
22	Connect the DMM to 3SK9/3 (L _k); depress PRESSEL and check for 0 V (L _k information correct).	26	23
23	Connect the DMM to 3SK8/7 (9VTx); depress PRESSEL and check for 9 V.	15	24
24	Check 3SK8/7 (9VTx) for S/C to earth.	17	25
25	Insert new assembly 9. Fault cleared?	50	-
26	Carry out 27 and then 37.	-	-
27	Connect the DMM to 3SK9/12 (+V BATT) and check for battery volts.	28	29
28	Connect the DMM to 3SK9/1 (T _w); depress PRESSEL and check for 9 V.	29	10
29	Insert new assembly 4, followed by 7, if necessary. Fault cleared?	50	-
30	Insert new assembly 8. Fault cleared?	50	33
31	Insert new assembly 8. Fault cleared?	50	32
32	Insert new assembly 7. Fault cleared?	50	-

(continued)

[†] Para 217 to 228

TABLE 6 FAULT RECTIFICATION (continued)

Action No	Action	Result and next action	
		Yes	No
33	Check continuity between 3SK8/11 (mic) and 1SK1, pin A.	50	34
34	Insert new audio socket, SSW and wiring harness assembly. Fault cleared?	50	-
35	Insert new assembly 5. Fault cleared?	50	36
36	Check continuity between 3SK5/4 (AF) and 1SK1, pin D.	25	34
37	Insert new assembly 8, followed by assembly 5, if necessary. Fault cleared?	50	11
38	Connect the DMM to 3SK9/6 (9VRx) and check for 9 V.	39	40
39	Connect the DMM to 3SK9/3 (L _k) and check for 0 V (L _k information correct).	41	15
40	Check 3SK6/9 (9VRx) for S/C to earth.	16	10
41	Insert new assemblies 4, 6 and 5, in turn, and check that radio is satisfactory.	50	11
42	Carry out 38 then 30.	-	-
43	Carry out 27 then 38.	-	-
44	Carry out 38 then 31	-	-
45	Try re-alignment of oscillators, or fitting a new assembly 7 and/or fault-find within assembly 10 (Para 217 to 228). Fault cleared?	50	-
46	Try re-setting squelch level (SET SQU) or fitting a new assembly 5, followed by assembly 9. Fault cleared?	50	-
47	Insert new assembly 8, followed by assembly 7. Fault cleared?	50	-
48	Insert new assembly 8. Fault cleared?	50	11
49	Insert new assembly 5. Fault cleared?	50	11
50	Having located and replaced faulty assemblies, check alignment and re-align as necessary. Carry out specification tests after any re-alignment.		

FAULT FINDING WITHIN ASSEMBLY 10 (SYNTHESIZER)

217 Fault finding is carried out with the motherboard (with all assemblies) fitted into the motherboard assembly test jig (Para 50 and 51). When carrying out the following fault finding procedures, it may be necessary to refer to Fig 8 and EMER Tels F 602, Figs 2003 and 2005.

Initial settings

218 Set up the 8920C and EUT controls and conditions as follows:

218.1 FSU.

- (1) Voltage : 12 V
- (2) Current Limit : 1 A

218.2 2955B.

- (1) SET AF LOAD : 300R
- (2) Skeleton Test Set-up : Transmitter - Output and Modulation

218.3 CIP.

- (1) AUDIO/HARNESS : RADIO
- (2) POWER : OFF
- (3) LINE RESISTANCE : OC

218.4 EUT.

- (1) FSS : See text
- (2) SSW : • (Noise on)

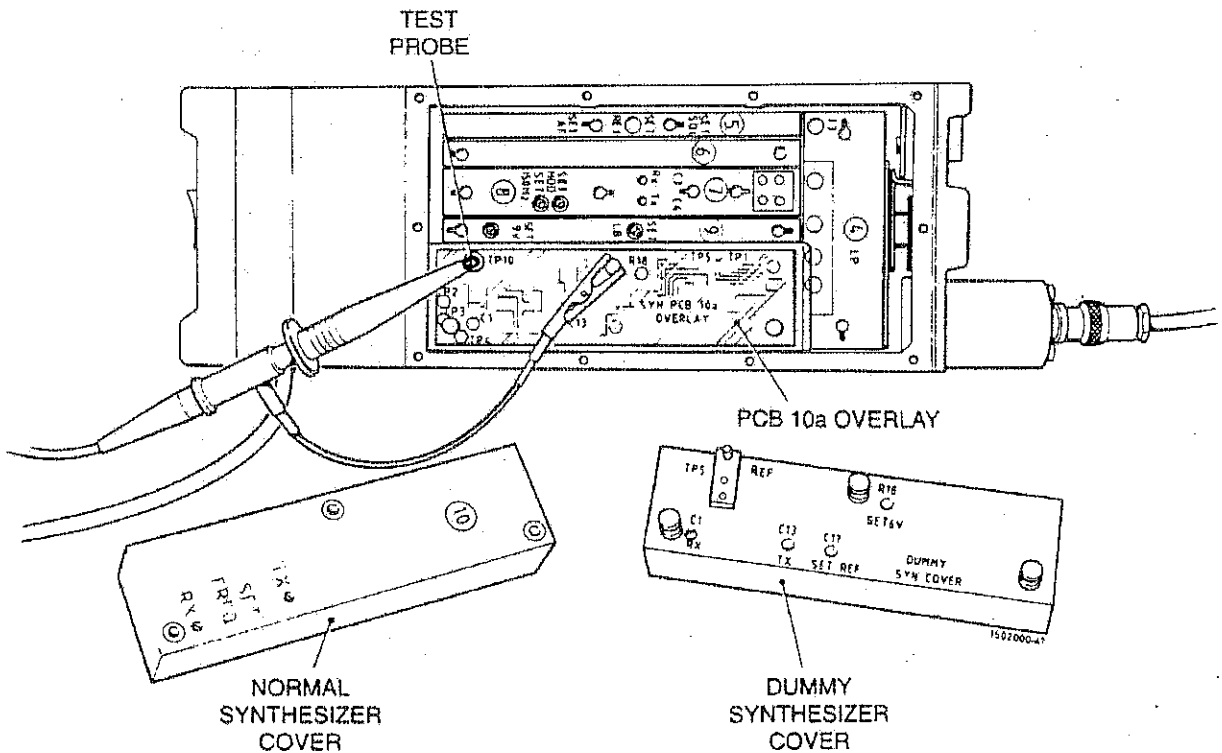


Fig 8 Fault location - Synthesizer (assembly 10)

Fault finding procedure

219 Carry out a physical check of all flying leads to the synthesizer.

220 Connect the CRO CH1 input to 3SK8/1 (3TP1) (comparison frequency output) on the motherboard via a high impedance ($\times 10 - 11$ pF) probe. Check for stable 3.125 kHz pulses, with PRESSEL switch pressed and released. Repeat these checks for a number of settings of the FSS.

221 If, in Para 220, the pulses are present in only the transmit or receive mode, remove the synthesizer cover and fit the synthesizer PCB 10a overlay (Table 2, Serial 7). Connect the DMM to 10aTP2 and check for 9 V (Rx), and to 10aTP3 and check for 9 V (Tx) with the PRESSEL switch depressed. If the correct voltage is present, board 10a has a possible Tx or Rx oscillator fault. Fit the dummy synthesizer cover (Table 2, Serial 6) and attempt to align the faulty oscillator (Paras 158 to 162). If the oscillator cannot be aligned, change board 10a.

222 If, in Para 220, the pulses are not present at certain MHz settings of the FSS, connect the DMM to 3SK7/8 (V_t COARSE STEP VOLTS) and, for these FSS settings, refer to EMER Tels F 602, Table 2004 and check for a correct DMM indication. If incorrect, change board 10b.

223 If, in Para 222, the step voltages measured are present and correct, observe the effect of various settings of the 100 kHz and kHz switches. If the synthesizer fails at certain settings, proceed as follows:

223.1 Set the MHz switch to one of the settings (Para 220) which gave the expected step voltages.

223.2 Set the 100 kHz and kHz switches to one of the positions which indicated a fault condition.

224 If, on each of the MHz steps, the 100 kHz and kHz do not function correctly, the data information is incorrect. Remove and dismantle the synthesizer, and disconnect the appropriate data line. Refer to EMER Tels F 602, Table 2003 and check the switch data. If this data is correct, board 10b is faulty.

225 If, in Para 220, the pulses are not present at any frequency setting in both the transmit and receive modes. Remove the synthesizer cover and fit the synthesizer PCB 10a overlay (Table 2, Serial 7). Connect the DMM to 10aTP4 and check for 9 V and then connect to 10aTP10 and check for 6 V. If 9 V is present, but 6 V is incorrect, attempt to reset 6 V (Para 170). If unsuccessful, change board 10a.

226 If 6 V is present, check the divide-by-four prescaler, as follows:

226.1 Switch the EUT off.

226.2 Press Rx to select the 2955B Receiver Test Page.

226.3 Select the 2955B RF BNC connector and remove the RIU cable from the 2955B RF BNC connector

226.4 Set up a RF generator frequency of 38.475 MHz, set the level to -12.5 dBm and set the RF generator on. Ensure the modulation is off.

226.5 Disconnect the flying lead at 10SK13 (VCO IN).

226.6 Connect the lead of a $\times 1$ probe to the 2955B RF BNC connector and the probe to the disconnected flying lead, or to 10aTP1.

226.7 Connect the lead of a x10 probe to the CRO and the probe to 10aTP6.

226.8 Set SSW on the EUT to * (Noise on).

226.9 Press and hold in the PRESSEL switch and check for the presence of a 1 MHz signal (see Note) on the CRO display. If the 1 MHz signal is correct, change board 10b. If not, change board 10a.

NOTE

This 1 MHz signal is a result of the RF generator setting of 38.475 MHz, which can be derived from the following expression:

$$\frac{f_1 - f_2}{4} \quad \text{where } f_1 = \text{RF generator frequency} \\ \text{and } f_2 = \text{the Transmit Crystal Oscillator frequency (34.475 MHz)}$$

$$\text{Hence, signal frequency at 10aTP6} = \frac{38.475 - 34.475}{4} = 1 \text{ MHz}$$

226.10 Select the 2955B RF N connector, disconnect the probes from the CRO, 2955B and EUT and reconnect the RIU cable to the 2955B RF BNC connector.

227 If the radio does not function, and a synthesizer fault is suspected, but the check in Para 220 proves that the synthesizer is operational, proceed as follows:

227.1 Ensure that the synthesizer cover is fitted and disconnect flying lead at 10SK3.

227.2 To this flying lead, connect the DMM.

227.3 Measure the lock output, which should be zero. If 6 V, the lock pulse monostable is faulty and board 10a should be changed.

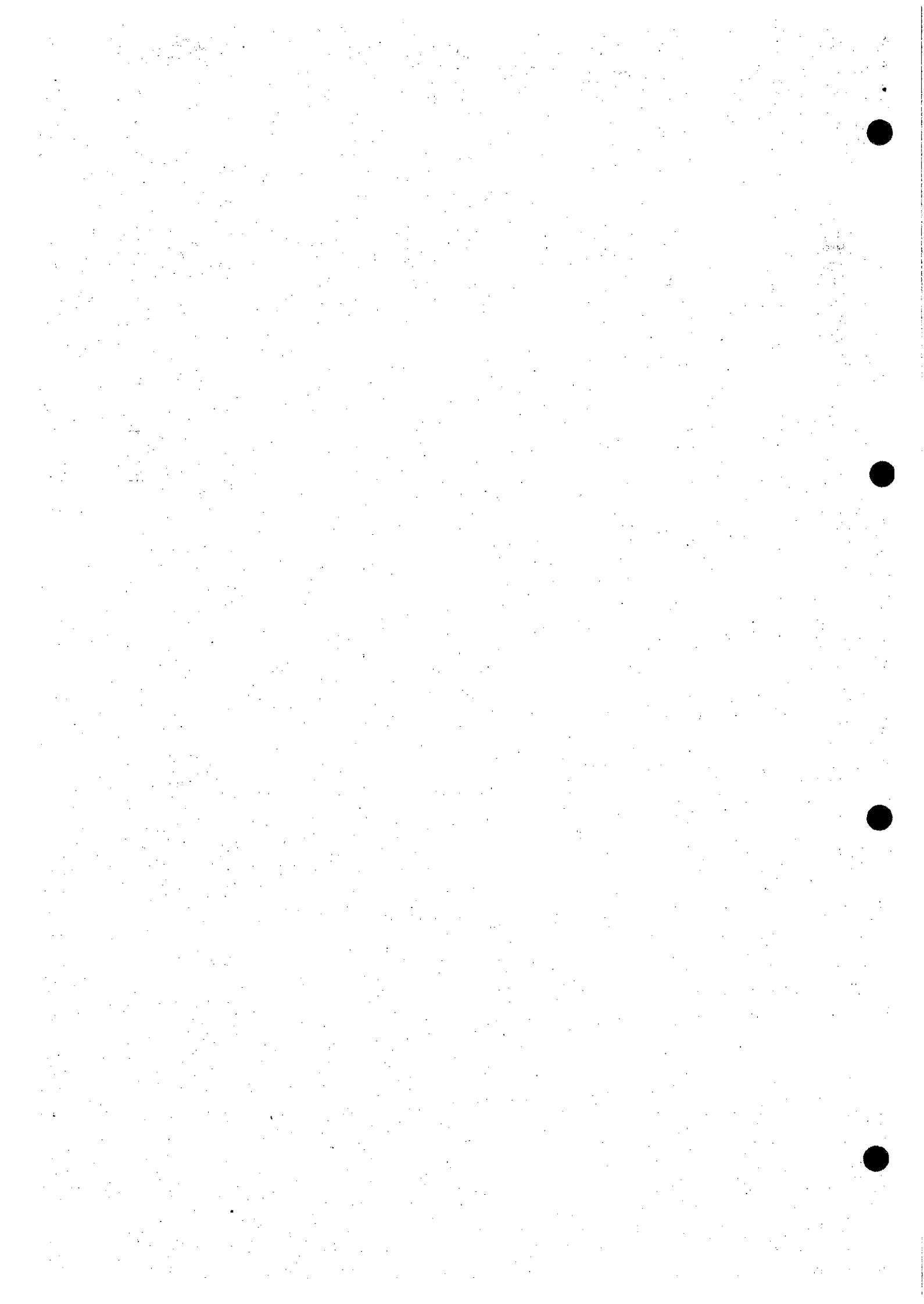
228 If, when switching from 'receive' to 'transmit', or vice-versa, the audio does not momentarily mute, proceed as follows:

228.1 Disconnect flying lead at 10SK3.

228.2 To this flying lead, connect the DMM.

228.3 Measure the lock output which should be zero.

228.4 Disconnect 10SK8 (VT COARSE), which artificially unlocks the synthesizer. Note the DMM reading, which should be 6 V. If not, the lock pulse monostable is faulty and hence board 10a should be changed.



MANUAL TESTING/AUTOMATIC TESTING

- 500.1 INTRODUCTION
- 500.2 CONTROLS AND CONNECTORS
- 500.3 SYSTEM START UP
- 500.4 SYSTEM OPERATION (AUTOMATIC MODE)
- 500.5 2955B Screen Prompt Options Selection
- 500.6 Using the RADIO SELECTION Option
- 500.7 SYSTEM SHUTDOWN
- 500.8 RT320 TEST CONNECTION DETAILS OPTION
- 500.9 LOG RADIO OPTION
- 500.10 MANUAL TESTING/AUTOMATIC TESTING CROSS REFERENCES

Table		Page
19	Radio Test Program Prompts	78
20	Part 4 Test Number/Part 2 Paragraph Number Cross References	83

500.1 INTRODUCTION

The information contained in this regulation applies to the testing of the RT349 using the 8920C Radio Test System. For details of the operation of the 8920C Radio Test Station, reference should be made to AESP 6625-K-112-201 Test System Radio Communications (Marconi 8920C).

500.2 CONTROLS AND CONNECTORS

Before operating the 8920C Radio Test System it is first necessary to refer to the Operating Manual AESP 6625-K-112-201 and become familiar with the location and function of all external system controls and connectors.

500.3 SYSTEM START UP

To start up the 8920C system, proceed as follows:

Check that the mains input leads to the system equipment are connected to the mains supply.

Switch on the 2955B, RIU, DMM and PSU.

After a few seconds the Power On Self Test screen appears stating that the self test has been successfully completed. This is followed by the Receiver Test screen appearing momentarily on the 2955B display. The RIU then initiates an automatic "exercising relays" routine prior to the Clansman Main Menu appearing.

NOTES

If a printer is not connected, the Instrument Check screen appears before the Power On Self Test screen asking the operator to either continue without one or to exit. If 'continue' is selected, the Power On Self Test screen is displayed.

If the system does not complete the power on self test, the errors are indicated. For full details on the error indications and the remedial actions, refer to the 8920C Operating Manual (AESP 6625-K-112-201).

If the operator 'audio prompt' and/or the 'remote switch' facility(s) is required, select option 7 (Audio Prompt/Remote Switch) before selecting option 2 (Radio Selection) to enter automatic test mode.

For descriptions of the remaining Clansman Main Menu options, refer to the 8920C Operating Manual (AESP 6625-K-112-201).

500.4 SYSTEM OPERATION (AUTOMATIC MODE)

500.5 2955B Screen Prompt Options Selection

System operation is set up by selecting the appropriate menu options in response to prompts displayed on the 2955B. Selections are made using the appropriate keys on the 2955B. Some options are selected using the numeric keys and others by using the MODE keys, which are re-assigned by the software. The eight MODE keys make up the first column to the right of the screen. An option selected by a MODE key is displayed alongside the key used to select it.

500.6 Using the RADIO SELECTION Option

Option 2, RADIO SELECTION, on the Clansman Main Menu enables selection of the application test program (ATP) for the radio under test and the required print mode.

Option 4, RT349 on the Select Radio Type menu, invokes the RT349 application test program (ATP) which issues a series of prompts, as given in Table 19.

Option 8, PRINT OPTION on the Radio Selection menu, enables selection of the available print modes, but is only applicable for field testing.

Option 9, MAIN MENU, returns to the Main Menu screen.

TABLE 19 RADIO TEST PROGRAM PROMPTS

Screen Prompt (1)	Option (2)	Function (3)
<u>RT349 EQUIPMENT LIST</u>	SKIP	No equipment information is given.
INCORRECT KEYPRESS DEFAULTS TO SKIP DISPLAY	DISPLAY	An equipment list is displayed.
<u>RT349 CONNECTION DETAILS</u>	SKIP	No connection details are given
INCORRECT KEYPRESS DEFAULTS TO SKIP DISPLAY	DISPLAY	Connection details are given (Para 11).
<u>LOG RADIO OPTION</u>	SKIP LOG	No information requested for logging.
INCORRECT KEYPRESS DEFAULTS TO SKIP LOG	LOG RADIO	Equip No. Build Standard, Operator No. and Station No. are requested to be printed with the test results.
CLANSMAN RT349 TESTS	NEXT RADIO	Enables selection of a different radio.
Note		
Safety tests must be completed before Run All or Select Test options are run		

500.7 SYSTEM SHUTDOWN

The 8920C system software does not require a sequenced shutdown operation. To shut the system down, switch the 2955B, RIU, PSU and DMM equipment off and disconnect the a.c. supply cables from the source.

On completing test activities, it is good practice to disconnect test cables from the system equipment and stow them in a suitable storage place.

500.8 RT349 TEST CONNECTION DETAILS OPTION

When the operator selects the RT349 and then the DISPLAY option of the CONNECTION DETAILS screen prompt (Table 1), the following information is displayed on the 2955B:

SET SYSTEM AS FOLLOWS :-

SWITCH FARNELL OUTPUT ENABLE OUT.

ENSURE FARNELL 6050 PSU OVER
VOLTAGE IS SET TO 35.0 VOLTS.

SET FARNELL PSU VOLTAGE
ADJUST FULLY COUNTER
CLOCKWISE.

SET RIU LINE CURRENT FULLY
COUNTER CLOCKWISE.

-1-

PAGE 2

SET SYSTEM AS FOLLOWS :-

SET CIP LINE RESISTANCE
SWITCH TO OC.

SET CIP AUDIO/HARNESS
SWITCH TO RADIO.

SET CIP POWER SWITCH TO OFF.

-2-

PAGE 3

CONNECT AS FOLLOWS :-

N-BNC ADAPTOR TO RIU ANTENNA IN
CONNECTOR.

BNC-BNC CABLE BETWEEN RIU AF IN
AND 2955B AF INPUT.

BNC-BNC CABLE BETWEEN RIU AF GEN
AND 2955B AF GEN OUTPUT.

N-N CABLE BETWEEN RIU RF
IN/OUT AND 2955B RF IN/OUT
CONNECTOR.

-3-

PAGE 4

CONNECT AS FOLLOWS:

BNC-BNC CABLE BETWEEN RIU EXT MOD
AND 2955B EXT MOD INPUT.

BNC-BNC CABLE BETWEEN RIU RF
IN/OUT AND 2955B RF IN/OUT.

CIP CABLE BETWEEN CIP-RIU
INTERFACE AND RIU AUDIO,
HARNESS, CONTROL AND REMOTE.

REMOTE SWITCH CABLE TO
CIP REMOTE SWITCH.

-4-

PAGE 5

DISCONNECT HP34401A
DMM VOLTS HIGH AND
DMM VOLTS LOW INPUTS.

CONNECT AS FOLLOWS:

DMM LEAD RED BETWEEN CIP
MONITOR +VE AND HP34401A DMM
VOLTS HIGH.

DMM LEAD BLACK BETWEEN CIP
MONITOR -VE AND HP34401A DMM
VOLTS LOW.

-5-

PAGE 6

CONNECT AS FOLLOWS :-

REMOVE LINK BETWEEN E.U.T. T/R
SOCKET AND E.U.T. INT. TUNER
SOCKET.

CONNECT BNC-BNC CABLE BETWEEN
RIU N-BNC ADAPTOR AND
E.U.T. T/R SOCKET.

CONNECT AUDIO LEAD BETWEEN CIP
AUDIO SOCKET AND E.U.T AUDIO
SOCKET 1.

-6-

PAGE 7

CONNECT AS FOLLOWS :-

CONNECT RADIO POWER SUPPLY LEAD
BETWEEN RADIO SUPPLY SOCKET AND
CIP DC SUPPLY SOCKET.

-7-

PAGE 1

CONTINUE

Note :- To improve Electro-Magnetic Compatibility (EMC), the E.U.T./8920C interconnection cables are fitted with round ferrite blocks which appear as a bulge in the cable. However, the connector closest to the ferrite block must be connected to the CIP.

500.9 LOG RADIO OPTION

When the operator selects CONTINUE on the Page 7 display of the CONNECTION DETAILS option, the program continues to the LOG RADIO screen. The RADIO TYPE, NSN, TEST DATE and TIME responses are automatically completed by the 8920C and the operator is invited to complete the SERIAL NO, MOD STRIKE, OPERATOR I.D. and STATION NO. responses. The following information is displayed on the 2955B for the LOG RADIO option:

ENTER THE FOLLOWING :-

RADIO TYPE : RT349
NSN : 5820-99-643-4564
TEST DATE : xx/xx/xx
TIME : xx:xx:xx
SERIAL NO. :
MOD STRIKE :
OPERATOR I.D. :

PLEASE USE 2955B KEYPAD :-

PRESS DELETE FOR CORRECTIONS.
PRESS SELECT FOR NEXT LINE.

Note :- When the operator presses SELECT after completing the OPERATOR I.D. response, the program continues to Safety test 1 (Table 20).

500.10 MANUAL TESTING/AUTOMATIC TESTING CROSS REFERENCES

The Field Test No. column of Table 20 identifies the test numbers of specification tests which are carried out with the 8920C in the automatic mode. These specification tests can also be carried out with the 8920C in the manual mode.

To assist the operator, a cross reference of the field test numbers (for the automatic tests) and manual paragraph numbers (for the equivalent part 2 tests) are given in Table 20.

TABLE 20 FIELD TEST NUMBER / MANUAL CROSS REFERENCES

Test Frequency (MHz)	Field Test Number	Manual Para. Number	Test Frequency (MHz)
42.075	Safety 1	65	42.050
42.075	Safety 2	71	42.050
42.075	Safety 3	71	42.050
42.075	Safety 4	66	42.050
42.075	1	71	42.050
42.050	2	123	42.050
42.050	3	114	42.050
42.050	4	114	42.050
42.075	5	92	42.050
42.075	6	98	42.050
42.075	7	88	42.000
42.050	8	110	42.050
42.050	9	102	42.050
42.050	10	118	42.050
42.050	11	118	42.050
37.000	12	83	37.000
37.000	13	87	37.000
37.025	14	106	37.025
37.050	15	77	37.050
37.050	16	78	37.050
38.150	17	83	38.125
39.025	18	106	39.025
39.050	19	77	39.050
39.050	20	78	39.050
39.250	21	83	39.250
40.375	22	83	40.375
41.450	23	83	41.400
42.000	24	87	42.000
42.025	25	106	42.025
42.075	26	77	42.050
42.075	27	78	42.050
42.500	28	83	42.500
43.600	29	83	43.600
44.700	30	83	44.700
45.050	31	77	45.050
45.050	32	78	45.050
45.525	33	106	45.525
45.800	34	83	45.800
46.900	35	83	46.900
46.900	36	83	46.900
46.900	37	87	46.900
46.925	38	106	46.925
46.950	39	77	46.950
46.950	40	78	46.950

AMENDMENT SHEETS

SHEETS	ISSUE	DATE	COMMENT
ALL	1	Jan 1995	PART 2
1, 5, 9, 10, 28 to 30, 33 to 35, 75 to 84.	2	May 2002	MINOR CHANGES AND PART 4 ADDED TO DOCUMENT

CONDITIONS OF RELEASE	
1.	[REDACTED]
	[REDACTED]
	[REDACTED]

UK/PRC 349

TECHNICAL HANDBOOK - AUTOMATIC TESTING FIELD

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Note...

These Pages 1-23/24, Issue 2 supersede Pages 1-26, Issue 1 dated Jan 79. The regulation has been completely revised and relates to Issue 2 of the test tape.

CONTENTS

Para

- 1 Introduction
- 3 General instructions
- 10 Searching into tests
- 11 Operator action warning
- 13 Bar tests.
- Test conditions
- 14 Power supplies
- 15 R.F. input voltages
- 16 A.F. output termination
- 17 Variations in test peripherals
- ATE test methods
- 19 General
- 20 Signal + noise/noise ratio
- 21 Current consumption
- 22 Transmitter power measurement
- 23 150 Hz pilot tone deviation
- 25 Squelch sensitivity
- 27 Low battery warning
- Initial setting up instructions
- 29 Switching Unit, Manual Control (SUMC)
- 30 Tape Reader (reader)
- 31 Programmer, Electronic Control (programmer)
- 32 Switching Unit, Monitor (SUM)
- 33 Line Printer (printer)

Para

- 34 Thorn Power Supply (p.s.u.)
- 35 Counter, Electronic CT 574/3 (CT 574/3 counter)
- 36 Modulation Meter 9008M (9008M mod meter)
- 37 Voltmeter, Digital CT 577/3 (DVM)
- 38 Converter, Signal Data (CSD)
- 39 Signal Processor 9062 (9062 processor)
- 40 Synthesiser, Frequency 9061 (9061 synthesiser)
- 41 Signal Generator Set 2-tone 9063 (9063 sig gen)
- 42 Test description and detailed operating instructions

Table

Page

1	Test description	8
2	Machine code	19

INTRODUCTION

- 1 The information contained in this regulation applies to the testing of the RT 349 using the Clansman/Larkspur Automatic Test Equipment (ATE).
- 2 For details of the operation of the ATE reference should be made to Tels M 391.

GENERAL INSTRUCTIONS

3 The RT 349 test tape, identified by the plain language leader, will be used for:

- 3.1 The examination of equipment in the hands of the user.
- 3.2 In and out inspections of equipment undergoing repair in REME workshops.
- 3.3 The examination of depot stocks.

4 The printout of the high limit of the first test in the programme will identify the type and issue of tape. The high limit printout and its interpretation is:

Coding:	HM 0349	HL 0202
	///	
Key:	RT 349	Issue 2
		Inspection standard

- 5 The test sequence has been arranged so that a minimum of operator intervention is required to set the ATE controls.
- 6 Table 1 of this regulation contains a description of each test in the programme together with the operator action required.
- 7 Table 2 contains a printout of the test programme machine code.

8 Test procedures and frequencies contained in the tape, whilst substantially those in the test procedure detailed in Tels F 604 Part 1, have been considerably rationalized and adopted for ATE testing. Corresponding tests have been related by the insertion, under the main test number, of the relevant Tels F 604 Part 1 paragraph number.

9 Blocks of blank test numbers have been left throughout the test programme. These are to facilitate programme modification should this prove necessary.

Searching into tests

10 The annotation ■ against a test number in Table 1 indicates that the test is one of a composite series of tests and that the test is not to be searched into as the programmed information (normally inserted at the start of a series of tests) will not be present. All other tests are complete in themselves.

Operator action warning

11 The operator will receive warning that he is required to intervene in the test in two ways:

11.1 The audible warning will bleep for approximately two seconds and the OPERATOR ACTION lamp on the Programmer, Electronic Control (programmer) front panel will illuminate.

11.2 The tape will stop and the CONT ENCODE lamp on the programmer will illuminate.

12 Condition 11.1 is indicated in the operating instructions by the annotation @ and condition 11.2 by the annotation *.

Bar tests

13 A number of bar tests are inserted at the start of the test programme. These tests can either indicate catastrophic equipment failures or faults which could cause damage to the ATE. Should any of these tests fail, then testing, using the ATE, should be discontinued. Bar tests are indicated by the words 'bar test' in the test description heading. Should a bar test fail, the test sequence will automatically stop.

TEST CONDITIONS

Power supplies

14 Under normal conditions the d.c. supply to the equipment under test (e.u.t.) is 12 V unless otherwise stated in the test description.

R.F. input voltages

15 All r.f. input voltages are quoted in terms of the open circuit voltage at the synthesiser attenuator output.

A.F. output termination

16 The e.u.t. receiver a.f. output is terminated in the ATE by 300 Ω unless otherwise stated.

Variations in test peripherals

17 The frequency analyser (FAXD 120S) has been found unsuitable for testing the RT 349. As a result, the RT 349 test tape (Issue 2) has been designed for use with ATEs fitted with the Modulation Meter 9008M only.

18 The r.f. output level of the Racal synthesiser is twice that of the Schlumberger synthesiser and, to ensure compatibility, a 6 dB attenuator must be inserted in its output line.

ATE TEST METHODS

General

19 ATE test methods are described fully in Tels M 391. However, in the subsequent paragraphs of this text, a number of tests in the RT 349 test programme are described in some detail to facilitate the interpretation of results.

Signal + noise/noise ratio

20 The signal + noise/noise ratio measurements, at any frequency, require two tests. In the first test, a signal carrying standard modulation is applied to the e.u.t. antenna and the resultant a.f. output measured via 13 dB of attenuation. This result is recorded as the comparator high limit. In the second test, the modulation and a.f. attenuation are removed. The resultant a.f. output shall be less than that recorded as the comparator high limit.

Current consumption

21 The e.u.t. current consumption, for the receive or transmit condition, is measured indirectly by measuring the voltage drop produced by passing the current through a 0.1 Ω resistor. Thus a current of 1 A will produce a voltage drop of 100 mV.

Transmitter power measurement

22 Transmitter power is measured by applying the e.u.t. power output to a power monitor in the ATE and measuring the resultant d.c. voltage output. The RT 349 transmitter output is routed to the power monitor via the 20 dB attenuation route in the Switching Unit, Monitor (SUM). The conversion law is

$$1 \text{ W} \equiv 0.1 \text{ V}$$

150 Hz pilot tone deviation

23 There is no 150 Hz bandpass filter in the 9008M mod meter. To ensure accurate measurement of the 150 Hz tone, tests 0028 to 0031 have been programmed to fail. At the end of testing, the operator is required to carry out the following:

23.1 Ensure that the noise deviation in test 0028 is within the numerical high limit on the printout.

23.2 Subtract the measurement obtained in test 0028 for noise deviation, from each of the measurements obtained in tests 0029 to 0031 ensuring that the result of each calculation is within the numerical limits indicated on the printout.

23.3 Write PASS or FAIL against tests 0028 to 0031 on the printout.

24. In the second test, the e.u.t. is switched to LOUD. The deviation is measured with the input level set as far as the PASS condition recorded in the first test. The deviation shall be:

$$\pm (0.6 - 1.6 \text{ kHz})$$

Squelch sensitivity

25 The squelch sensitivity is measured by the ATE in tests 0012 to 0017. The requirement is that a signal strength, at the e.u.t. antenna, which produces a quieting level of 2 dB shall not open the squelch and that a signal level which produces a quieting level of 9 dB will open the squelch.

26 To test each of these conditions, these tests are required on the ATE. In test 0012 (0015), the e.u.t. is switched to NOISE and the a.f. output measured via 2 dB (9 dB) of a.f. attenuation. The result is recorded as a reference level for the second test. In test 0013 (0016), the a.f. attenuation is reduced to 0 dB and an r.f. signal (1.3 kHz deviation at 150 Hz) is applied to the e.u.t. antenna. This signal is automatically increased (ramped) in 1 dB steps until the level of the a.f. output equals that of the reference level in the first test. In test 0014 (0017), the e.u.t. is switched to LOUD and the a.f. shall be muted (unmuted in the 9 dB case).

Low battery warning

27 The low battery warning requirement is tested in tests 0010 to 0011. In test 0010, the e.u.t. supply voltage is set to 10 V and the a.f. output routed to the loud speaker in the Switching Unit, Manual Control (SUMC). The operator is required to listen to the loudspeaker output to ensure that there is no low battery indication. In test 0011, the e.u.t. supply voltage is reduced to 9.5 V. The operator shall hear an intermittent a.f. output, ie low battery warning.

Battery saving delay

28 The battery saving delay is the time interval from the end of a transmission until the battery saving condition occurs. Equipments tested by the ATE may have a delay of between 9 s and 17 s. This requirement is checked in test 0009.

INITIAL SETTING UP INSTRUCTIONS

Switching Unit, Manual Control (SUMC)

29 Press MAINS ON switch.

Tape Reader (reader)

30

- 30.1 Fit RT 349 test tape.
- 30.2 Depress POWER switch.
- 30.3 Press RUN.

Programmer, Electronic Control (programmer)

- 31 Ensure all switches are deselected.

Switching Unit, Monitor (SUM)

32

- 32.1 Select MANUAL.
- 32.2 Press RESET.
- 32.3 Select AUTO.

Line Printer (printer)

- 33 Depress the ON switch.

Thorn Power Supply (p.s.u.)

34

- 34.1 Switch to REMOTE.
- 34.2 Ensure that SET CURRENT, SET VOLTAGE and SET O/V controls are set to zero.
- 34.3 Set power switch to ON.

Counter, Electronic CT 574/3 (CT 574/3 counter)

35

- 35.1 Set to REMOTE.
- 35.2 Set sensitivity to 0.01.
- 35.3 Set power switch to OFF.

Modulation Meter 9008M (9008M mod meter)

36

- 36.1 Set power switch to 'power on'.
- 36.2 Select 'remote'.

36.3 Set function switch to LEVEL.

36.4 Set a.f. filters to OUT.

Voltmeter, Digital CT 577/3 (DVM)

37

37.1 Switch the power ON.

37.2 Select MANUAL.

37.3 Select REMOTE.

37.4 Switch AC RESPONSE TIME to 1 s.

37.5 Switch DC FILTER to OUT.

Converter, Signal Data (CSD)

38 Press 5 V switch.

Signal Processor 9062 (9062 processor)

39

39.1 Switch to 'operate'.

39.2 Switch attenuator to 'remote'.

39.3 Switch mode to 'remote'.

39.4 Fit 6 dB attenuator to 'output 50 Ω '.

Synthesiser, Frequency 9061 (9061 synthesiser)

40 Select 'remote'.

Signal Generator Set 2-tone 9063 (9063 sig gen)

41

41.1 Set power switch to on.

41.2 Select 'remote'.

41.3 Set tone A: frequency 150 Hz, output level 15 mV, tone selector switch to off.

TABLE 1 TEST DESCRIPTION

Test No. (1)	Test description (2)	Operator action (3)
0001	<u>START</u> <u>Tape identification as per Para 4</u>	Press START on programmer
0002	<u>Overvolts safety test</u> The e.u.t. power supply is programmed to 25 V. The voltage applied to the e.u.t. shall not exceed 17 V.	@1 Connect AUDIO HARNESS lead to Interconnecting Box 20. 2 Connect RT 349 power lead to <u>SUMC only</u> . 3 Press STEP.
0003	<u>Connect e.u.t. and Control Converter</u>	@1 Connect RT 350 Control Converter to ATE. 2 Fit RT 349 Control Con- verter to RT 350 Control Converter. 3 Press 30 V button on CSD to ON. 4 Press RESET on CSD. 5 Press JOG and observe that all Control Converter switches rotate clockwise. 6 Press FIT and hold. Observe that all Control Converter switches rotate to their fully counter clockwise position and stop. 7 Rotate all e.u.t. switches fully counter clockwise. 8 Fit e.u.t. to Control Con- verter. 9 Press AUTO. 10 Connect power lead to e.u.t. 11 Connect antenna coax from e.u.t. to SUMC EUT ANTENNA port. 12 Connect audio lead from e.u.t. to Interconnecting Box 20 AUDIO Skt 1. 13 Press STEP.

(continued)

TABLE 1 TEST DESCRIPTION (continued)

Test No. (1)	Test description (2)	Operator action (3)
0004	<u>Power monitor zero</u> With no r.f. input, the power monitor is adjusted until the d.c. output is 0 ± 1 mV.	*1 Adjust power monitor zero controls on the SUM for zero DVM indication. When the DVM indication is 0 ± 1 mV, the PASS lamp will illuminate. Press PASS.
0005 (Para 67)	<u>Current consumption-Off, 42.050 MHz (bar test)</u> Current consumption with the e.u.t. mode switch set to 'O' (off) shall be zero.	<u>CAUTION...</u> <u>If any test (0005 to 0008) fails, do not continue testing (see Para 13)</u>
0006 (Para 67)	<u>Safety test - 42.050 MHz (bar test)</u> With the e.u.t. in the receive mode, the e.u.t. antenna is routed to the frequency counter which shall indicate zero frequency.	
0007 (Para 68)	<u>Current consumption-receive, 42.050 MHz (bar test)</u> Current consumption in the receive condition shall be 57 mA to 82 mA. (DVM indication 5.7 mV to 8.2 mV).	
0008 (Para 68)	<u>Current consumption - transmit, 42.050 MHz (bar test)</u> Current consumption in the transmit condition shall be 130 mA to 166 mA. (DVM indication 13.0 mV to 16.6 mV).	
0009 (Paras 68 and 80)	<u>Battery saving delay - 42.050 MHz</u> The time interval between transmission and battery saving occurs shall be between 9 s and 17 s and the period of supply switching shall be between 1 s and 2 s approx.	*Observe that: 1 The battery saving condition does not occur before 9 s approx. 2 The battery saving condition does occur between 9 s and 17 s. 3 The DVM indication fluctuates from between 5.7 mV and 8.2 mV to 1.0 μ V approx. 4 The route of DVM fluctuations is between 1 s and 2 s. 5 Press STEP.

(continued)

TABLE 1 TEST DESCRIPTION (continued)

Test No. (1)	Test description (2)	Operator action (3)
0010 (Para 79)	<p><u>Low battery indication - 42.050 MHz (10 V)</u></p> <p>With the supply voltage set to 10 V, the low battery indication shall not operate.</p>	<p>@1 Press loudspeaker button on SUMC (ON). There shall be no audible output.</p> <p>2 Press STEP.</p>
0011 (Para 79)■	<p><u>Low battery indication - 42.050 MHz (9.5 V)</u></p> <p>With the supply voltage set to 9.5 V, the low battery indication shall operate.</p>	<p>@1 An intermittent a.f. output shall be heard, ie low battery warning signal.</p> <p>Note... Allow up to 10 s for the output to become intermittent</p> <p>2 Press loudspeaker button on SUMC (OFF).</p> <p>3 Press STEP.</p>
0012 (Para 77)	<p><u>Squelch sensitivity - 42.050 MHz (1)</u></p> <p>With the e.u.t. switched to NOISE and no signal at the antenna, the receiver a.f. output is measured via 2 dB of attenuation and stored in the comparator high limit.</p>	
0013 (Para 77)■	<p><u>Squelch sensitivity - 42.050 MHz (2)</u></p> <p>With the e.u.t. switched to NOISE and the a.f. attenuation at zero, an r.f. signal (1.3 kHz deviation at 150 Hz) is applied to the antenna and automatically increased in 1 dB steps until the a.f. output is the same as that recorded in test 0012.</p>	<p>@1 Select PRINTER OFF.</p> <p>2 Press STEP.</p> <p>Note... Should this test fail, testing will stop. To continue testing, press STEP.</p>
0014 (Para 77)■	<p><u>Squelch sensitivity - 42.050 MHz (3)</u></p> <p>With the r.f. signal set as in test 0013, the e.u.t. is switched to LOUD. The e.u.t. a.f. output shall be muted. (DVM indication less than 10 mV).</p>	<p>@1 Deselect PRINTER OFF.</p> <p>2 Press STEP.</p>

(continued)

TABLE 1 TEST DESCRIPTION (continued)

Test No. (1)	Test description (2)	Operator action (3)
0015 (Para 77)	<u>Squelch sensitivity - 42.050 MHz (4)</u> With the e.u.t. switched to NOISE and no signal at the antenna, the receiver a.f. output is measured via 9 dB of attenuation and stored in the comparator high limit.	
0016 (Para 77) ■	<u>Squelch sensitivity - 42.050 MHz (5)</u> With the e.u.t. switched to NOISE and the a.f. attenuation at zero, an r.f. signal (1.3 kHz deviation at 150 Hz) is applied to the antenna and automatically increased in 1 dB steps until the a.f. output is the same as that recorded in test 0015.	@1 Select PRINTER OFF 2 Press STEP. Note... Should this test fail, testing will stop. To continue testing, press STEP.
0017 (Para 77) ■	<u>Squelch sensitivity - 42.050 MHz (6)</u> With the r.f. signal set as in test 0016, the e.u.t. is switched to LOUD. The e.u.t. a.f. output shall be unmuted. (DVM indication greater than 20 mV).	@1 Deselect PRINTER OFF. 2 Press STEP.
0018 (Para 72)	<u>Modulation sensitivity - 42.050 MHz, WHISPER</u> With the e.u.t. in the transmit condition, a 1 kHz signal is applied to the microphone and automatically increased (ramped) from 0.08 mV to 0.3 mV in 0.02 mV steps to produce a deviation of 3.2 kHz to 3.8 kHz. (DVM indication 320 mV to 380 mV).	@1 Select PRINTER OFF. 2 Press STEP. Note... Should this test fail, testing will stop. To continue testing, press STEP.
0019 (Para 72) ■	<u>Modulation sensitivity - 42.050 MHz, LOUD</u> With the microphone input as for test 0018, the e.u.t. is switched to LOUD. The deviation shall be 0.68 kHz to 1.48 kHz. (DVM indication 218 mV to 474 mV).	@1 Deselect PRINTER OFF. 2 Press STEP.

(continued)

TABLE 1 TEST DESCRIPTION (continued)

Test No. (1)	Test description (2)	Operator action (3)
0026 (Para 73)	<p><u>Modulation control -</u> <u>42.050 MHz</u></p> <p>With a microphone input of 20 mV at 1 kHz and the e.u.t. in the transmit condition, the deviation shall not exceed 6.5 kHz. (DVM indication not greater than 65 mV).</p>	<p>@1 Switch 3 kHz a.f. filter on 9008M mod meter to IN.</p> <p>2 Press STEP.</p>
0027 (Para 72)	<p><u>Pilot tone frequency -</u> <u>42.050 MHz</u></p> <p>With the e.u.t. in the transmit condition, the frequency of the demodulated pilot tone shall be 148 Hz to 152 Hz.</p>	<p>@1 Switch 3 kHz a.f. filter on 9008M mod meter to OUT.</p> <p>2 Press STEP.</p>
0028 (Para 71)	<p><u>Noise deviation -</u> <u>46.900 MHz</u></p> <p>With the e.u.t. in the transmit condition, the deviation due to noise shall not be greater than 550 Hz. (DVM indication not greater than 176 mV).</p>	<p>Note...</p> <p>Tests 0028 to 0031 have been programmed to give a fail result (see Para 23).</p>
0029 (Para 71) ■	<p><u>Pilot tone deviation -</u> <u>46.900 MHz</u></p> <p>With the e.u.t. in the transmit condition, the deviation due to the 150 Hz tone above shall be 1.55 kHz to 2.5 kHz. (DVM indication 496 mV to 800 mV).</p>	
0030 (Para 71) ■	<p><u>Pilot tone deviation -</u> <u>42.000 MHz</u></p> <p>Test 0029 is repeated at a frequency of 42.000 MHz. (DVM indication 496 mV to 800 mV).</p>	
0031 (Para 71) ■	<p><u>Pilot tone deviation -</u> <u>37.000 MHz</u></p> <p>Test 0029 is repeated at a frequency of 37.000 MHz. (DVM indication 496 mV to 800 mV).</p>	

(continued)

TABLE 1 TEST DESCRIPTION (continued)

Test No. (1)	Test description (2)	Operator action (3)
0034 (Para 70)	<u>Transmitter frequency accuracy</u> - 37.000 MHz The transmitter frequency shall be 37.000 MHz \pm 500 Hz.	
0035 (Para 75)	<u>Signal + noise/noise ratio</u> - 37.025 MHz (1) A 2 μ V signal (5 kHz deviation at 1 kHz) is applied to the e.u.t. antenna. The e.u.t. a.f. output is measured via 14 dB of attenuation and recorded as the comparator high limit.	
0036 (Para 75) ■	<u>Signal + noise/noise ratio</u> - 37.025 MHz (2) The modulation is removed and the a.f. attenuation reduced to zero. The resultant a.f. output shall be less than that recorded in test 0035.	
0037 (Para 69)	<u>Transmitter power -</u> 37.050 MHz (9.5 V) With the supply voltage set to 9.5 V, the transmitter power output shall be not less than 100 mW. (DVM indication not less than 10 mV).	
0038 (Para 69) ■	<u>Transmitter power -</u> 37.050 MHz (16 V) With the supply voltage set to 16 V, the transmitter power output shall be not greater than 475 mW. (DVM indication not greater than 47.5 mV).	
0039 (Para 70)	<u>Transmitter frequency accuracy -</u> 38.150 MHz The transmitter frequency shall be 38.150 MHz \pm 500 Hz.	

(continued)

TABLE 1 TEST DESCRIPTION (continued)

Test No. (1)	Test description (2)	Operator action (3)
0040 (Para 69)	<u>Transmitter power -</u> <u>39.050 MHz (9,5 V)</u> With the supply voltage set to 9.5 V, the transmitter power output shall be not less than 100 mW. (DVM indication not less than 10 mV).	
0041 (Para 69) ■	<u>Transmitter power -</u> <u>39.050 MHz (16 V)</u> With the supply voltage set to 16 V, the transmitter power output shall not be greater than 475 mW. (DVM indication not greater than 47.5 mV).	
0042 (Para 75)	<u>Signal + noise/noise ratio -</u> <u>39.025 MHz (1)</u> A 2 μ V signal (5 kHz deviation at 1 kHz) is applied to the e.u.t. antenna. The e.u.t. a.f. output is measured via 14 dB of attenuation and recorded as the comparator high limit.	
0043 (Para 75) ■	<u>Signal + noise/noise ratio -</u> <u>39.025 MHz (2)</u> The modulation is removed and the a.f. attenuation reduced to zero. The resultant a.f. output shall be less than that recorded in test 0042.	
0044 (Para 70)	<u>Transmitter frequency accuracy -</u> <u>39.250 MHz</u> The transmitted frequency shall be 39.250 MHz \pm 500 Hz.	
0045 (Para 70)	<u>Transmitter frequency accuracy -</u> <u>40.375 MHz</u> The transmitted frequency shall be 40.375 MHz \pm 500 Hz.	

(continued)

TABLE 1 TEST DESCRIPTION (continued)

Test No. (1)	Test description (2)	Operator action (3)
0046 (Para 70)	<u>Transmitter frequency accuracy - 41.450 MHz</u> The transmitted frequency shall be 41.450 MHz \pm 500 Hz.	
0047 (Para 75)	<u>Signal + noise/noise ratio - 42.025 MHz (1)</u> A 2 μ V signal (5 kHz deviation at 1 kHz) is applied to the e.u.t. antenna. The e.u.t. a.f. output is measured via 14 dB of attenuation and recorded as the comparator high limit.	
0048 (Para 75) ■	<u>Signal + noise/noise ratio - 42.025 MHz (2)</u> The modulation is removed and the a.f. attenuation reduced to zero. The resultant a.f. output shall be less than that recorded in the previous test.	
0049 (Para 69)	<u>Transmitter power - 42.025 MHz (9.5 V).</u> With the supply voltage set to 9.5 V, the transmitter power output shall be not less than 100 mW. (DVM indication greater than 10 mV).	
0055 (Para 69) ■	<u>Transmitter power - 42.025 MHz (16 V)</u> With the supply voltage set to 16 V, the transmitter power output shall be not greater than 475 mW. (DVM indication not greater than 47.5 mV).	
0056 (Para 76)	<u>Limiting - 42.050 MHz (1)</u> With an antenna input of 2 μ V (5 kHz deviation at 1 kHz) the e.u.t. a.f. output is measured and recorded as the comparator high limit.	

(continued)

TABLE 1 TEST DESCRIPTION (continued)

Test No. (1)	Test description (2)	Operator action (3)
0057 (Para 76) ■	<u>Limiting - 42.050 MHz (2)</u> The antenna input is increased to 100 mV and the e.u.t. a.f. output measured via 3 dB of attenuation. The resultant a.f. output shall be less than that recorded in test 0056.	
0058 (Para 74)	<u>Sidetone - 42.050 MHz</u> With a microphone input of 10 mV at 1 kHz, the sidetone a.f. output into 300 Ω shall be 240 mV to 360 mV. (DVM indication 240 mV to 360 mV).	
0059 (Para 78)	<u>Receiver a.f. output - 42.050 MHz, LOUD</u> With an antenna input of 1 mV (5 kHz deviation at 1 kHz and 1.5 kHz deviation at 150 Hz) the e.u.t. a.f. output, into 300 Ω, shall be 460 mV to 640 mV. (DVM indication 460 mV to 640 mV).	
0060 (Para 78) ■	<u>Receiver a.f. output - 42.050 MHz, LOUD</u> With antenna input as in test 0059, the e.u.t. a.f. output is measured via 17 dB of attenuation and recorded as the comparator high limit.	
0061 (Para 78) ■	<u>Receiver a.f. output - 42.050 MHz, LOUD</u> With antenna input as in test 0059, the e.u.t. a.f. output is measured via 23 dB of attenuation and recorded as the comparator low limit.	
0062 (Para 78) ■	<u>Receiver a.f. output - 42.050, WHISPER</u> With antenna input as in test 0059, the a.f. attenuation is reduced to zero and the e.u.t. switched to WHISPER. The resultant a.f. output shall be within the limits set in tests 0060 and 0061.	

(continued)

TABLE 1 TEST DESCRIPTION (continued)

Test No. (1)	Test description (2)	Operator action (3)
0063 (Para 69)	<u>Transmitter power -</u> <u>45.050 MHz (9.5 V)</u> With the supply voltage set to 9.5 V, the transmitter power output shall be not less than 100 mW. (DVM indication not less than 10 mV).	
0064 (Para 69) ■	<u>Transmitter power -</u> <u>45.050 MHz (16 V)</u> With the supply voltage set to 16 V, the transmitter power output shall be not greater than 475 mW. (DVM indication not greater than 47.5 mV).	
0065 (Para 75)	<u>Signal + noise/noise ratio -</u> <u>45.525 MHz (1)</u> A 2 μ V signal (5 kHz deviation at 1 kHz) is applied to the e.u.t. antenna. The e.u.t. a.f. output is measured via 14 dB of attenuation and recorded as the comparator high limit.	
0066 (Para 75) ■	<u>Signal + noise/noise ratio -</u> <u>45.525 MHz (2)</u> The modulation is removed and the a.f. attenuation reduced to zero. The resultant a.f. output shall be less than that recorded in test 0065.	
0067 (Para 70)	<u>Transmitter frequency accuracy -</u> <u>42.500 MHz</u> The transmitted frequency shall be 42.500 MHz \pm 500 Hz.	
0068 (Para 70)	<u>Transmitter frequency accuracy -</u> <u>43.600 MHz</u> The transmitted frequency shall be 43.600 MHz \pm 500 Hz.	
0069 (Para 70)	<u>Transmitter frequency accuracy -</u> <u>44.700 MHz</u> The transmitted frequency shall be 44.700 MHz \pm 500 Hz.	

(continued)

TABLE 1 TEST DESCRIPTION (continued)

Test No. (1)	Test description (2)	Operator action (3)
0070 (Para 70)	<u>Transmitter frequency accuracy - 45.800 MHz</u> The transmitted frequency shall be 45.800 MHz \pm 500 Hz.	
0071 (Para 70)	<u>Transmitter frequency accuracy - 46.900 MHz</u> The transmitted frequency shall be 46.900 MHz \pm 500 Hz.	
0072 (Para 75)	<u>Signal + noise/noise ratio - 46.925 MHz (1)</u> A 2 μ V signal (5 kHz deviation at 1 kHz) is applied to the e.u.t. antenna. The e.u.t. a.f. output is measured via 14 dB of attenuation and recorded as the comparator high limit.	
0073 (Para 75) ■	<u>Signal + noise/noise ratio - 46.925 MHz (2)</u> The modulation is removed and the a.f. attenuation reduced to zero. The resultant a.f. output shall be less than that recorded in test 0072.	
0074 (Para 69)	<u>Transmitter power - 46.950 MHz (9.5 V)</u> With the supply voltage set to 9.5 V, the transmitter power output shall be not less than 100 mW. (DVM indication not less than 10 mV).	
0075 (Para 69) ■	<u>Transmitter power - 46.950 MHz (16 V)</u> With the supply voltage set to 16 V, the transmitter power output shall be not greater than 475 mW. (DVM indication not greater than 47.5 mV).	
0076	<u>Rewind and clear stores</u> ATE stores are cleared and tape automatically rewinds to start of test programme.	

TABLE 2 MACHINE CODE

RESTRICTED		RT 349	ISSUE 2	APR 84	TELS	F 604	PT 3	START.
MT0001	CS0000	IS0000	VS0000	HM0349	HL0202	LM0000	LL0000	*
CF6850	*							
MT0002	CS0000	IS0001	VS0250	SP0000	*			
DV0004	AS6000	HM0170	HL0000	LM0030	LL0000	TD1010	CF0070	*
MT0003	VS0000	SP0000	*					
MT0004	CS0000	DV0000	RS2000	HM0010	HL0000	LM0010	LL0000	*
CF1160	*							
MT0005	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5000	*
DV0000	AS3000	HM0010	HL0000	LM0010	LL0000	TD1010	CF5060	*
MT0006	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5001	*
RS4000	HM0000	HL0000	LM0000	LL0000	TD1010	FC0005	TD1010	*
FC0005	TD1010	CF6070	*					
MT0007	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5003	*
DV0000	SU0420	SL5000	SA2060	RS0002	MM0100	AS3000	HM0082	*
HL0000	LM0057	LL0000	TD1010	CF5070	*			
MT0008	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5002	*
DV0000	RS1000	AS3000	HM0166	HL0000	LM0130	LL0000	TD1010	*
CF5070	*							
MT0009	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5002	*
DV0000	AS3000	HM9999	HL9999	LM9999	LL9999	RS1000	TD1020	*
RS0000	CF1160	*						
MT0010	CS0000	IS0001	VS0100	TD0050	MU0050	TD0050	ML5002	*
DV0012	AS4010	SP0000	*					
MT0011	VS0095	SP0000	*					
MT0012	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5003	*
DV0012	AA0002	AS4010	HM9999	HL9999	LM9999	LL9999	TD1020	*
CF1062	*							
MT0013	SP0000	*						
SG0014	SU0420	SL5000	MM0500	MF4215	MA2013	RS0002	AA0000	*
SA0139	LM0000	LL0000	TD1010	CF1070	SA0138	TD1005	CF1070	*
SA0137	TD1005	CF1070	SA0136	TD1005	CF1070	SA0135	TD1005	*
CF1070	SA0134	TD1005	CF1070	SA0133	TD1005	CF1070	SA0132	*
TD1005	CF1070	SA0131	TD1005	CF1070	SA0130	TD1005	CF1070	*
SA0129	TD1005	CF1070	SA0128	TD1005	CF1070	SA0127	TD1005	*
CF1070	SA0126	TD1005	CF1070	SA0125	TD1005	CF1070	SP0000	*
MT0014	TD0050	ML5002	SP0000	*				
DV0001	HM0100	HL0000	LM0100	LL0000	TD1020	CF1060	*	

(continued)

TABLE 2 - MACHINE CODE (continued)

MT0015	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5003	*
DV0012	AA0009	AS4010	HM9999	HL9999	LM9999	LL9999	TD1020	*
CF1062	*							
MT0016	SP0000	*						
SG0017	SU0420	SL5000	MM0500	MF4215	MA2013	RS0002	AA0000	*
SA0136	LM0000	LL0000	TD1010	CF1070	SA0135	TD1005	CF1070	*
SA0134	TD1005	CF1070	SA0133	TD1005	CF1070	SA0132	TD1005	*
CF1070	SA0131	TD1005	CF1070	SA0130	TD1005	CF1070	SA0129	*
TD1005	CF1070	SA0128	TD1005	CF1070	SA0127	TD1005	CF1070	*
SA0126	TD1005	CF1070	SA0125	TD1005	CF1070	SA0124	TD1005	*
CF1070	SA0123	TD1005	CF1070	SA0122	TD1005	CF1070	SP0000	*
MT0017	TD0050	ML5002	SP0000	*				
HM9999	HL9999	LM0200	LL0000	TD1020	CF1070	*		
MT0018	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5001	*
SP0000	*							
SG0019	DV0002	MF4410	AS5110	HC0008	FA0005	MA1016	RS1000	*
HM3800	HL0000	LM3200	LL0000	TD1050	CF1070	MA1020	TD1005	*
CF1070	MA1024	TD1005	CF1070	MA1028	TD1005	CF1070	MA1032	*
TD1005	CF1070	MA1036	TD1005	CF1070	MA1040	TD1005	CF1070	*
MA1040	TD1005	CF1070	MA1044	TD1005	CF1070	MA1048	TD1005	*
CF1070	MA1052	TD1005	CF1070	MA1056	TD1005	CF1070	MA1060	*
TD1005	CF1070	SP0000	*					
MT0019	TD0050	ML5002	SP0000	*				
FA0004	HM4740	LM2180	TD1060	CF1070	*			
MT0026	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5002	*
SP0000	*							
DV0002	MA2040	MF4410	AS5110	HC0008	FA0005	RS1000	HM6500	*
HL0000	LM0500	LL0000	TD1060	CF1070	*			
MT0027	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5002	*
SP0000	*							
FA0000	HC2000	RS1040	HM0000	HL0152	LM0000	LL0148	TD1020	*
FC0005	TD1020	FC0005	TD1010	CF6070	*			
MT0028	CS0000	IS0001	VS0120	TD0050	MU0099	TD0050	ML0002	*
DV0002	FA0004	AS5010	HC0008	RS1000	HM1760	HL0000	LM0000	*
LL0000	TD1050	CF1050	*					
MT0029	FA0000	HM8000	HL0000	LM4960	LL0000	TD1050	CF1050	*
MT0030	TD0050	MU0050	TD1050	CF1050	*			
MT0031	TD0050	MU0000	TD1050	CF1050	*			
MT0034	CS0000	IS0001	VS0120	TD0050	MU0000	TD0050	ML0003	*
RS5000	HM3700	HL0500	LM3699	LL9500	TD1020	FC0005	TD1020	*
FC0005	TD1010	CF6070	*					

(continued)

TABLE 2 MACHINE CODE (continued)

MT0035	CS0000	IS0001	VS0120	TD0050	MU0000	TD0050	ML2503	*
SU0370	SL2500	SA0114	MA2050	MF4410	MM0500	DV0012	AA0014	*
RS0002	AS4010	HM9999	HL9999	LM9999	LL9999	TD1020	CF1062	*
MT0036	MM0100	AA0000	LM0000	LL0000	TD1010	TD1010	CF1070	*
MT0037	CS0000	IS0001	VS0095	TD0050	MU0000	TD0050	ML5003	*
DV0001	SC2000	RS3000	HM9999	HL9999	LM0100	LL0000	TD1020	*
CF1070	*							
MT0038	VS0160	HMO475	HL0000	LM0050	TD1020	CF1070	*	
MT0039	CS0000	IS0001	VS0120	TD0050	MU0011	TD0050	ML5003	*
RS5000	HM3815	HL0500	LM3814	LL9500	TD1020	FC0005	TD1020	*
FC0005	TD1010	CF6070	*					
MT0040	CS0000	IS0001	VS0095	TD0050	MU0020	TD0050	ML5003	*
DV0001	SC2000	RS3000	HM9999	HL9999	LM0100	LL0000	TD1020	*
CF1070	*							
MT0041	VS0160	HMO475	HL0000	LM0050	TD1020	CF1070	*	
MT0042	CS0000	IS0001	VS0120	TD0050	MU0020	TD0050	ML2503	*
SU0390	SL2500	SA0114	MA2050	MF4410	MM0500	DV0012	AA0014	*
RS0002	AS4010	HM9999	HL9999	LM9999	LL9999	TD1020	CF1062	*
MT0043	MM0100	AA0000	LM0000	LL0000	TD1010	CF1070	*	
MT0044	CS0000	IS0001	VS0120	TD0050	MU0022	TD0050	ML5003	*
RS5000	HM3925	HL0500	LM3924	LL9500	TD1020	FC0005	TD1020	*
FC0005	TD1010	CF6070	*					
MT0045	CS0000	IS0001	VS0120	TD0050	MU0033	TD0050	ML7503	*
RS5000	HM4037	HL5500	LM4037	LL4500	TD1020	FC0005	TD1020	*
FC0005	TD1010	CF6070	*					
MT0046	CS0000	IS0001	VS0120	TD0050	MU0044	TD0050	ML5003	*
RS5000	HM4145	HL0500	LM4144	LL9500	TD1020	FC0005	TD1020	*
FC0005	TD1010	CF6070	*					
MT0047	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML2503	*
SU0420	SL2500	SA0114	MA2050	MF4410	MM0500	DV0012	AA0014	*
RS0002	AS4010	HM9999	HL9999	LM9999	LL9999	TD1020	CF1062	*
MT0048	MM0100	AA0000	LM0000	LL0000	TD1010	CF1070	*	
MT0049	CS0000	IS0001	VS0095	TD0050	MU0050	TD0050	ML5003	*
DV0001	SC2000	RS3000	HM9999	HL9999	LM0100	LL0000	TD1020	*
CF1070	*							

(continued)

TABLE 2 MACHINE CODE (continued)

MT0055	VS0160	HM0475	HL0000	LM0050	TD1020	CF1070	*		
MT0056	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5003	*	
SU0420	SL5000	SA0114	RS0002	DV0012	MA2050	MF4410	MM0500	*	
AS4010	HM9999	HL9999	LM9999	LL9999	TD1020	CF1062	*		
MT0057	SA2020	AA0002	LM0000	LL0000	TD1010	CF1070	*		
MT0058	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5002	*	
DV0012	RS1000	FA0001	MA2200	MF4410	AS4110	HM3600	HL0000	*	
LM2400	LL0000	TD1030	CF1070	*					
MT0059	CS0000	IS0001	VS0120	TD0050	MU0050	TD0050	ML5003	*	
SU0420	SL5000	SA2060	MA2050	MF5410	MM0500	RS0002	DV0012	*	
AS4010	HM6400	HL0000	LM4600	LL0000	TD1010	CF1070	*		
MT0060	AA0017	HM9999	HL9999	LM9999	LL9999	TD1020	CF1062	*	
MT0061	AA0023	TD1015	CF1061	*					
MT0062	TD0050	ML5001	AA0000	TD1010	CF1070	*			
MT0063	CS0000	IS0001	VS0095	TD0050	MU0080	TD0050	ML5003	*	
DV0001	SC2000	RS3000	HM9999	HL9999	LM0100	LL0000	TD1020	*	
CF1070	*								
MT0064	VS0160	HM0475	HL0000	LM0050	LL0000	TD1020	CF1070	*	
MT0065	CS0000	IS0001	VS0120	TD0050	MU0085	TD0050	ML2503	*	
SU0455	SL2500	SA0114	MA2050	MF4410	MM0500	DV0012	AA0014	*	
RS0002	AS4010	HM9999	HL9999	LM9999	LL9999	TD1020	CF1062	*	
MT0066	MM0100	AA0000	LM0000	LL0000	TD1010	CF1070	*		
MT0067	CS0000	IS0001	VS0120	TD0050	MU0055	TD0050	ML0003	*	
RS5000	HM4250	HL0500	LM4249	LL9500	TD1020	FC0005	TD1020	*	
FC0005	TD1010	CF6070	*						
MT0068	CS0000	IS0001	VS0120	TD0050	MU0066	TD0050	ML0003	*	
RS5000	HM4360	HL0500	LM4359	LL9500	TD1020	FC0005	TD1020	*	
FC0005	TD1010	CF6070	*						
MT0069	CS0000	IS0001	VS0120	TD0050	MU0077	TD0050	ML0003	*	
RS5000	HM4470	HL0500	LM4469	LL9500	TD1020	FC0005	TD1020	*	
FC0005	TD1010	CF6070	*						
MT0070	CS0000	IS0001	VS0120	TD0050	MU0088	TD0050	ML0003	*	
RS5000	HM4580	HL0500	LM4579	LL9500	TD1020	FC0005	TD1020	*	
FC0005	TD1010	CF6070	*						

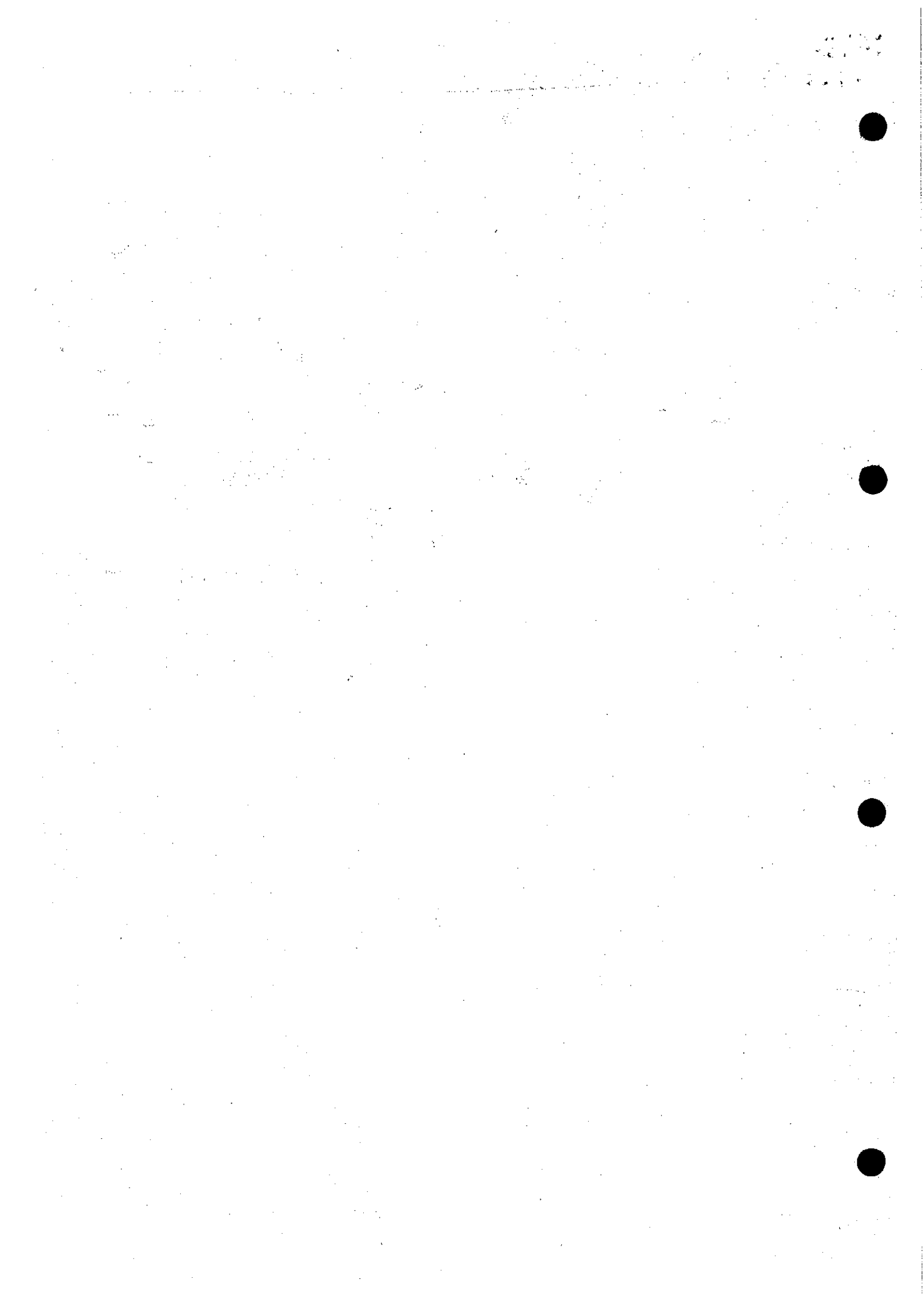
(continued)

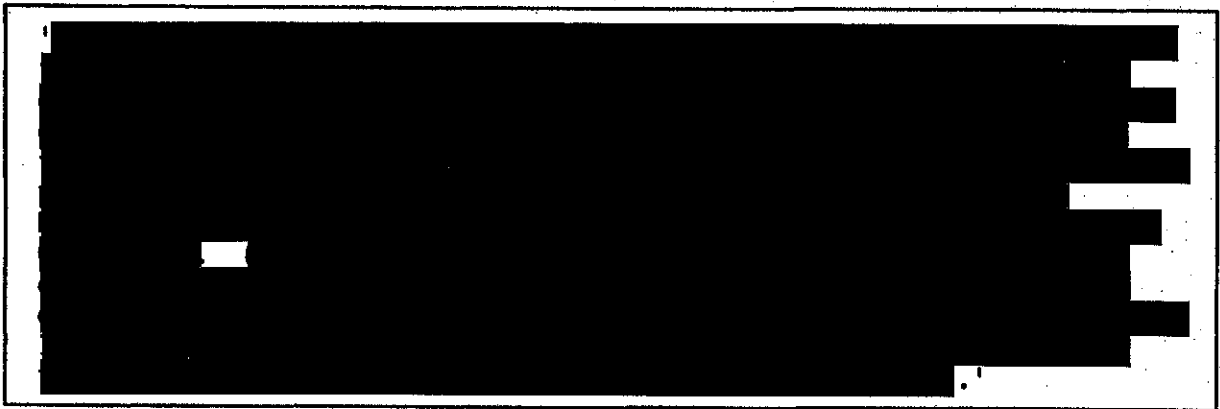
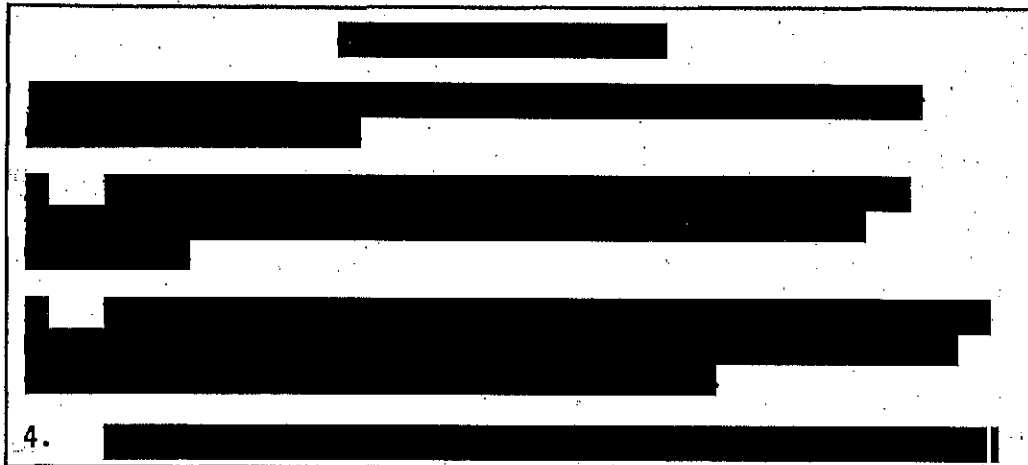
TABLE 2 MACHINE CODE (continued)

MT0071	CS0000	IS0001	VS0120	TD0050	MU0099	TD0050	ML0003	*
RS5000	HM4690	HL0500	LM4689	LL9500	TD1020	FC0005	TD1020	*
FC0005	TD1010	CF6070	*					
MT0072	CS0000	IS0001	VS0120	TD0050	MU0099	TD0050	ML2503	*
SU0469	SL2500	SA0114	MA2050	MF4410	MM0500	DV0012	AA0014	*
RS0002	AS4010	HM9999	HL9999	LM9999	LL9999	TD1020	CF1062	*
MT0073	MM0100	AA0000	LM0000	LL0000	TD1010	CF1070	*	
MT0074	CS0000	IS0001	VS0095	TD0050	MU0099	TD0050	ML5003	*
DV0001	SC2000	RS3000	HM9999	HL9999	LM0100	LL0000	TD1020	*
CF1070	*							
MT0075	VS0160	HMO475	HL0000	LM0050	TD1020	CF1070	*	
MT0076	CS0000	IS0000	VS0000	††0000	††0000	*		

END RT 349 ISSUE 2 APR 84 TELS F 604 PT 3 RESTRICTED.

END





STATION, RADIO, UK/PRC 349

TECHNICAL HANDBOOK - AUTOMATIC TESTING (8920C RADIO TEST SYSTEM)

CONTENTS

Para

- 1 INTRODUCTION
- 2 CONTROLS AND CONNECTORS
- 3 SYSTEM START UP
- SYSTEM OPERATION (AUTOMATIC MODE)
 - 4 2955B Screen Prompt Options Selection
 - 5 RADIO SELECTION Option
 - 6 Using the RADIO SELECTION Option
- 10 SYSTEM SHUT DOWN
- 12 RT349 TEST CONNECTION DETAILS OPTION
- 13 LOG RADIO OPTION
- 15 MANUAL TESTING/AUTOMATIC TESTING CROSS REFERENCES
- 17 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION

Table	Page
1 Radio Test Program Prompts	4
2 Part 4 Test Number/Part 2 Paragraph Number Cross References	8
3 Test Description and Displayed Operator Information	9

INTRODUCTION

1 The information contained in this regulation applies to the testing of the RT349 using the 8920C Radio Test System. For details of the operation of the 8920C Radio Test Station, reference should be made to AESP 6625-K-112 Test System Radio Communications (Marconi 8920C).

CONTROLS AND CONNECTORS

2 Before operating the 8920C Radio Test System it is first necessary to refer to the Operating Manual AESP 6625-K-112 and become familiar with the location and function of all external system controls and connectors.

SYSTEM START UP

3 To start up the 8920C system, proceed as follows:

3.1 Check that the mains input leads to the system equipment are connected to the mains supply.

3.2 Switch on the 2955B, RIU, DMM and PSU.

3.3 The Receiver Test screen appears momentarily on the 2955B display, followed by the Power On Self Test screen stating that the self test was completed successfully.

NOTES

(1) If a printer is not connected, the Instrument Check screen appears before the Power On Self Test screen asking the operator to either continue without one or to exit. If 'continue' is selected, the Power On Self Test screen is displayed.

(2) If the system does not complete the power on self test, the errors are indicated. For full details on the error indications and the remedial actions, refer to the 8920C Operating Manual (AESP 6625-K-112).

3.4 A few seconds after the Power On Self Test screen is presented, the Receiver Test screen is momentarily displayed followed by the Clansman Main Menu.

3.5 If the operator 'audio prompt' and/or the 'remote switch' facility(s) is required, select option 7 (Audio Prompt/Remote Switch) before selecting option 2 (Radio Selection) to enter automatic test mode.

3.6 For descriptions of the remaining Clansman Main Menu options, refer to the 8920C Operating Manual (AESP 6625-K-112).

SYSTEM OPERATION (AUTOMATIC MODE).

2955B Screen Prompt Options Selection

4 System operation is set up by selecting the appropriate menu options in response to prompts displayed on the 2955B. Selections are made using the appropriate keys on the 2955B. Some options are selected using the numeric keys and others by using the MODE keys, which are re-assigned by the software. The eight MODE keys make up the first column to the right of the screen. An option selected by a MODE key is displayed alongside the key used to select it.

RADIO SELECTION Option

5 Option 2, RADIO SELECTION, on the Clansman Main Menu enables selection of the application test program (ATP) for the radio under test and the required print mode.

Using the RADIO SELECTION Option

6 Option 2, RADIO SELECTION on the Main Menu, displays the Radio Selection menu.

7 Option 4, RT349 on the Radio Selection menu, invokes the RT349 application test program (ATP) which issues a series of prompts, as given in Table 1.

8 Option 8, PRINT OPTION on the Radio Selection menu, enables selection of the available print modes, as follows:

8.1 Select either Print at End of a run or Print During (default setting) a run.

8.2 Then select one of the following options:

8.2.1 Print None - nothing will be printed.

8.2.2 Print All - print all test results.

8.2.3 Print on Fail - print test failures only (default setting).

8.3 Then select Return.

9 Option 9, MAIN MENU, returns to the Main Menu screen.

TABLE 1 RADIO TEST PROGRAM PROMPTS

Screen Prompt (1)	Option (2)	Function (3)
EQUIPMENT LIST	SKIP	No equipment information is given.
	DISPLAY	An equipment list is displayed.
CONNECTION DETAILS	SKIP	No connection details are given.
	DISPLAY	Connection details are given (Para 12).
LOG RADIO OPTION	SKIP LOG	No information requested for logging.
	LOG RADIO	Date, Equip No. and Operator No. are requested to be printed with the test results
CLANSMAN RTXXX TESTS	RUN ALL TESTS	All tests in the selected module are run.
Note ...	SELECT TEST	Gives a further screen prompt to enable individual tests to be run.
Safety tests must be completed before Run All or Select Test options are run	CHANGE PRINT OPTION	Enables all test results to be printed or test failures only or no results printed - printing can be at the end of a run or during a run.
	NEXT RADIO	Enables selection of a different radio.

SYSTEM SHUT-DOWN

10 The 8920C system software does not require a sequenced shut-down operation. To shut the system down, switch the 2955B, RIU, PSU and DMM equipment off and disconnect the a.c. supply cables from the source.

11 On completing test activities, it is good practice to disconnect test cables from the system equipment and stow them in a suitable storage place.

RT349 TEST CONNECTION DETAILS OPTION

12 When the operator selects the RT349 and then the DISPLAY option of the CONNECTION DETAILS screen prompt (Table 1), the following information is displayed on the 2955B:

SET SYSTEM AS FOLLOWS :-

SWITCH FARNELL OUTPUT ENABLE OUT.

ENSURE FARNELL 6050 PSU OVER
VOLTAGE IS SET TO 17.0 VOLTS.

SET FARNELL PSU VOLTAGE
ADJUST FULLY COUNTER
CLOCKWISE.

SET RIU LINE CURRENT FULLY
COUNTER CLOCKWISE.

-1-

PAGE 2

SET SYSTEM AS FOLLOWS :-

SET CIP LINE RESISTANCE
SWITCH TO OC.

SET CIP AUDIO/HARNESS
SWITCH TO RADIO.

SET CIP POWER SWITCH
TO OFF.

-2-

PAGE 3

CONNECT AS FOLLOWS :-

N-BNC ADAPTOR TO RIU ANTENNA IN
CONNECTOR.

BNC-BNC CABLE BETWEEN RIU AF IN
AND 2955B AF INPUT.

BNC-BNC CABLE BETWEEN RIU AF GEN
AND 2955B AF GEN OUTPUT.

N-N CABLE BETWEEN RIU RF
IN/OUT AND 2955B RF IN/OUT
CONNECTOR.

-3-

PAGE 4

CONNECT AS FOLLOWS:

BNC-BNC CABLE BETWEEN RIU EXT MOD
AND 2955B EXT MOD INPUT.

BNC-BNC CABLE BETWEEN RIU RF
IN/OUT AND 2955B RF IN/OUT.

CIP CABLE BETWEEN CIP-RIU
INTERFACE AND RIU AUDIO,
HARNESS, CONTROL AND REMOTE.

REMOTE SWITCH CABLE TO
CIP REMOTE SWITCH.

-4-

PAGE 5

DISCONNECT SYSTEM 7150
DMM VOLTS HIGH AND
DMM VOLTS LOW INPUTS.

CONNECT AS FOLLOWS:

7150 DMM LEAD RED BETWEEN CIP
MONITOR +VE AND 7150 DMM
VOLTS HIGH.

7150 DMM LEAD BLACK BETWEEN CIP
MONITOR -VE AND 7150 DMM
VOLTS LOW.

-5-

PAGE 6

CONNECT AS FOLLOWS :-

E.U.T. ANTENNA ADAPTOR TO E.U.T.
ANTENNA SOCKET.

BNC-BNC CABLE BETWEEN RIU N-BNC
ADAPTOR AND E.U.T. ANTENNA ADAPTOR.

AUDIO LEAD BETWEEN CIP AUDIO
SOCKET AND E.U.T AUDIO SOCKET.

CONNECT RADIO POWER SUPPLY LEAD
BETWEEN RADIO SUPPLY SOCKET AND
CIP DC SUPPLY SOCKET.

-6-

PAGE 1

CONTINUE

Note :- To improve Electro-Magnetic Compatibility (EMC), the E.U.T./8920C interconnection cables are fitted with round ferrite blocks which appear as a bulge in the cable. However, the connector closest to the ferrite block must be connected to the CIP.

LOG RADIO OPTION

13 When the operator selects CONTINUE on the Page 4 display of the CONNECTION DETAILS option, the program continues to the LOG RADIO option and the first LOG RADIO option display appears on the 2955B. If the operator then selects SKIP, the program continues to Safety test 1 (Table 3) and starts E.U.T. testing.

14 If LOG RADIO is selected the second LOG RADIO display appears on the 2955B. The RADIO TYPE, NSN, TEST DATE and TIME responses are automatically completed by the 8920C and the operator is invited to complete the SERIAL NO, MOD STRIKE and OPERATOR I.D. responses. The following information is displayed on the 2955B for the LOG RADIO option:

LOG RADIO OPTION

SKIP

LOG RADIO

ENTER THE FOLLOWING :-

RADIO TYPE : RT349

NSN : 5820-99-643-4564

TEST DATE : 20/09/94

TIME : 11:40:02

SERIAL NO. :

MOD STRIKE :

OPERATOR I.D. :

PLEASE USE 2955 KEYPAD :-

PRESS DELETE FOR CORRECTIONS
PRESS SELECT FOR NEXT LINE

Note :- When the operator presses SELECT after completing the OPERATOR I.D. response the program continues to Safety test 1 (Table 3).

MANUAL TESTING/AUTOMATIC TESTING CROSS REFERENCES

15 The Test No. column of Table 3 (in this Part 4) identifies the test numbers of specification tests which are carried out with the 8920C in the automatic mode. These specification tests can also be carried out with the 8920C in the manual mode. Details of the manual tests are included in Part 2 of this EMER.

16 To assist the operator, a cross reference of the Part 4 test numbers (for the automatic tests) and Part 2 paragraph numbers (for the equivalent manual tests) are given in Table 2.

TABLE 2 PART 4 TEST NUMBER/PART 2 PARAGRAPH NUMBER CROSS REFERENCES

PART 4 TEST NUMBER	PART 2 PARAGRAPH NUMBER
Safety 1	65
Safety 2	71
Safety 3	71
Safety 4	66
1	71
2	123
3	114
4	114
5	92
6	98
7	88
8	110
9	102
10	118
11	118
12	83
13	87
14	106
15	77
16	78
17	83
18	106
19	77
20	78
21	83
22	83
23	83
24	87
25	106
26	77
27	78
28	83
29	83
30	83
31	77
32	78
33	106
34	83
35	83
36	--
37	87
38	106
39	77
40	78

TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION

17 Table 3 lists all the tests in the test program. To simplify the information shown in the Displayed Operator Information column of Table 3, only the information associated with the RUN ALL TESTS option and test PASS condition is included.

- NOTE:- (1) Bold text in the Information Column indicates that the operator is required to press a key for the program to continue.
- (2) The rectangular box following TEST: which is displayed with YES/NO is replaced by either PASS or FAIL, after the operator has pressed the key for either YES or NO.

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION

Test No.	Test Description	Displayed Operator Information
Safety 1 (Para 65)	<p>SYSTEM START-UP (refer to Para 3).</p> <p><u>Current consumption-off, 42.050 MHz (bar test)</u></p> <p>Current consumption with the E.U.T. mode switch set to OFF (0) shall be zero.</p>	<p>SET RADIO AS FOLLOWS :-</p> <p>FSS 42.050MHZ. SSW 0.</p> <p>CONTINUE</p> <p>CHANNEL - 42.050MHZ.</p> <p>DC CURRENT ZERO</p> <p>TEST IN PROGRESS</p> <p>EMER TEST SAFETY 1</p> <p>TEST : PASS</p>
Safety 2 (Para 71)	<p><u>Current consumption - receive, 42.050 MHz (bar test)</u></p> <p>Current consumption with the E.U.T. in the receive condition shall be 57 mA to 82 mA.</p>	<p>SET RADIO AS FOLLOWS:-</p> <p>SW *.</p> <p>CONTINUE</p> <p>CHANNEL - 42.050MHZ.</p> <p>CURRENT CONSUMPTION - RECEIVE</p> <p>TEST IN PROGRESS</p> <p>EMER TEST SAFETY 2</p> <p>TEST : PASS</p>

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
Safety 3 (Para 71)	<p><u>Current consumption - transmit</u> <u>42.050 MHz (bar test)</u></p> <p>Current consumption with the E.U.T. in the transmit condition shall be 130 mA to 166 mA.</p>	<p>CHANNEL - 42.050MHZ.</p> <p>CURRENT CONSUMPTION - TRANSMIT</p> <p>TEST IN PROGRESS</p> <p>EMER TEST SAFETY 3</p> <p>TEST : PASS</p>
Safety 4 (Para 66)	<p><u>Safety test- 42.050 MHz</u> <u>(bar test)</u></p> <p>With the E.U.T. in the receive mode, the E.U.T. transmit frequency is measured, this shall be 0 Hz.</p>	<p>CHANNEL - 42.050MHZ.</p> <p>SAFETY TEST - NO TRANSMIT</p> <p>TEST IN PROGRESS</p> <p>EMER TEST SAFETY 4</p> <p>TEST : PASS</p> <p>DISCONNECT AS FOLLOWS:-</p> <p>7150 DMM LEAD RED FROM CIP MONITOR +VE AND 7150 DMM VOLTS HIGH</p> <p>7150 DMM LEAD BLACK FROM CIP MONITOR -VE AND 7150 DMM VOLTS LOW</p> <p>RECONNECT 7150 SYSTEM DMM VOLTS HIGH AND DMM VOLTS LOW INPUTS</p> <p style="text-align: right;">CONTINUE</p> <p><u>CLANSMAN RT349 TESTS</u></p> <p style="text-align: right;">RUN ALL TESTS SELECT TEST PRINT OPTION NEXT RADIO</p> <p style="text-align: center;"><u>RUN ALL TESTS</u></p>

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
<p>1 (Para 71)</p>	<p><u>Battery saving delay -</u> <u>42.050 MHz</u></p> <p>The time interval between transmission and when battery saving occurs shall be between 9 seconds and 17 seconds and the period of supply switching shall be between 1.2 seconds and 1.95 seconds approx.</p>	<p>SET RADIO AS FOLLOWS:</p> <p>SSW L.</p> <p style="text-align: right;">CONTINUE</p> <p>CONNECT AS FOLLOWS:</p> <p>7150 DMM LEAD RED BETWEEN CIP MONITOR -VE AND RIU DMM RED.</p> <p>7150 DMM LEAD BLACK BETWEEN CIP MONITOR +VE AND RIU DMM BLACK.</p> <p>CHANNEL - 42.050MHZ.</p> <p>BATTERY SAVING DELAY</p> <p>TEST IN PROGRESS</p> <p>EMER TEST 1</p> <p>TEST : PASS</p> <p>IS PERIOD OF DISPLAYED WAVEFORM BETWEEN 1.0 AND 2.0 SECS?</p> <p>PLEASE USE 2955 SCOPE POSITION KNOBS TO CENTRALISE TRACE.</p> <p style="text-align: right;">YES NO</p> <p>DISCONNECT AS FOLLOWS:</p> <p>7150 DMM LEAD RED FROM CIP MONITOR -VE AND RIU DMM RED.</p> <p>7150 DMM LEAD BLACK FROM CIP MONITOR +VE AND RIU DMM BLACK.</p> <p style="text-align: right;">CONTINUE</p>

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
2 (Para 123)	<p><u>Low battery indication - 42.050 MHz (10 V)</u></p> <p>With the supply voltage set to 10 V, the low battery indication shall not operate. With the supply voltage set to 9.5 V, the low battery indication shall operate.</p>	<p><u>LOW BATTERY WARNING</u></p> <p>PLEASE PRESS STEP VOLTAGE TO REDUCE POWER SUPPLY VOLTAGE.</p> <p>PRESS CONTINUE WHEN BURSTS OF NOISE ARE HEARD IN LOUDSPEAKER.</p> <p>ADJUST 2955 VOLUME FOR OPTIMUM POSITION.</p> <p>STEP VOLTAGE</p> <p>CONTINUE</p> <p>CHANNEL - 42.050MHZ.</p> <p>LOW BATTERY INDICATION</p> <p>TEST IN PROGRESS</p> <p>EMER TEST 2</p> <p>TEST : PASS</p>
3 (Para 114)	<p><u>Squelch sensitivity - 42.050 MHz</u></p> <p>With the E.U.T. switched to NOISE (*) and no signal at the antenna, the receiver a.f. output is measured and recorded as the 0 dB reference level. A -135 dBm r.f. signal (1.3 kHz deviation at 150 Hz) is applied to the E.U.T. antenna and is automatically increased in 1 dB steps until the a.f. output is -2 dB. The E.U.T. is switched to LOUD (L) and the a.f. output shall be muted.</p>	<p>SET RADIO AS FOLLOWS :-</p> <p>SSW *</p> <p>CONTINUE</p> <p>CHANNEL - 42.050MHZ.</p> <p>SQUELCH SENSITIVITY - CLOSED</p> <p>TEST REFERENCE SETUP</p> <p>EMER TEST 3</p> <p>SET RADIO AS FOLLOWS :-</p> <p>SSW L.</p> <p>CONTINUE</p> <p>CHANNEL - 42.050MHZ.</p> <p>SQUELCH SENSITIVITY - CLOSED</p> <p>TEST IN PROGRESS</p> <p>EMER TEST 3</p> <p>TEST : PASS</p>

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
<p>4 (Para 114)</p>	<p><u>Squelch sensitivity - 42.050 MHz</u></p> <p>With the E.U.T. switched to NOISE (*) and no signal at the antenna, the receiver a.f. output is measured and recorded as the 0 dB reference level. A -135 dBm r.f. signal (1.3 kHz deviation at 150 Hz) is applied to the E.U.T. antenna and is automatically increased in 1 dB steps until the a.f. output is -9 dB. The E.U.T. is switched to LOUD (L) and the a.f. output shall be un-muted.</p>	<p>SET RADIO AS FOLLOWS :- SSW *. CONTINUE CHANNEL - 42.050MHZ. SQUELCH SENSITIVITY - OPEN TEST REFERENCE SETUP EMER TEST 4 SET RADIO AS FOLLOWS :- SSW L. CONTINUE CHANNEL - 42.050MHZ. SQUELCH SENSITIVITY - OPEN TEST IN PROGRESS EMER TEST 4 TEST : PASS</p>
<p>5 (Para 92)</p>	<p><u>Modulation sensitivity - 42.050 MHz, WHISPER/LOUD</u></p> <p>With the E.U.T. in the transmit condition, a 1 kHz signal is applied to the microphone and automatically increased (ramped) from 300 mV to 80 mV in 5 mV steps to produce a deviation of 3.2 kHz to 3.8 kHz. With the microphone input as above, the E.U.T. is switched to LOUD and the deviation shall be 0.68 kHz to 1.48 kHz.</p>	<p>SET RADIO AS FOLLOWS :- SSW W. CONTINUE CHANNEL - 42.050MHZ. MODULATION SENSITIVITY - WHISPER TEST IN PROGRESS EMER TEST 5 TEST : PASS</p>

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
5 (Para 92)	(Test continued)	SET RADIO AS FOLLOWS :- SSW L. CONTINUE CHANNEL - 42.050MHZ. MODULATION SENSITIVITY - LOUD TEST IN PROGRESS EMER TEST 5 TEST : PASS
6 (Para 98)	<u>Modulation control - 42.050 MHz</u> With a microphone input of 200 mV at 1 kHz and the E.U.T. in the transmit condition, the deviation shall not exceed 6.5 kHz.	CHANNEL - 42.050MHZ. MODULATION CONTROL TEST IN PROGRESS EMER TEST 6 TEST : PASS
7 (Para 88)	<u>Pilot tone frequency - 42.050 MHz</u> With the E.U.T. in the transmit condition, the frequency of the demodulated pilot tone shall be 148 Hz to 152 Hz.	CHANNEL - 42.050MHZ. PILOT TONE FREQUENCY TEST IN PROGRESS EMER TEST 7 TEST : PASS
8 (Para 110)	<u>Limiting - 42.050 MHz</u> A -107 dBm r.f. signal (5 kHz deviation at 1 kHz) is applied to the E.U.T antenna, the E.U.T. a.f. output is measured and recorded as the 0 dB reference level. The r.f. signal level is increased to -13 dBm, the E.U.T. a.f. output is measured and must not be greater than 3 dB.	SET RADIO AS FOLLOWS :- SSW *. CONTINUE CHANNEL - 42.050MHZ. LIMITING - AUDIO FREQUENCY TEST REFERENCE SETUP EMER TEST 8

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
8 (Para 110)	(Test continued)	CHANNEL - 42.050MHZ. LIMITING - AUDIO LEVEL TEST IN PROGRESS EMER TEST 8 TEST : PASS
9 (Para 102)	<u>Sidetone - 42.050 MHz</u> With a microphone input of 100 mV at 1kHz, the sidetone a.f. output into 300 Ω shall be 240 mV to 360 mV.	SET RADIO AS FOLLOWS :- SSW L. CHANNEL - 42.050MHZ. SIDETONE TEST IN PROGRESS EMER TEST 9 TEST : PASS
10 (Para 118)	<u>Receiver a.f. output - 42.050 MHz, LOUD</u> A - 53 dBm r.f. input signal (5 kHz deviation at 1 kHz and 1.5 kHz deviation at 150 Hz) is applied to the E.U.T. antenna, the a.f. output into 300 Ω shall be 460 mV to 640 mV	CHANNEL - 42.050MHZ. AF VOLTAGE OUTPUT TEST IN PROGRESS EMER TEST 10 TEST : PASS
11 (Para 118)	<u>Receiver a.f. output - 42.050 MHz, LOUD/WHISPER</u> With the antenna input as in Test 10, the E.U.T. a.f. output is measured and recorded as the 0 dB reference level. The E.U.T. is switched to WHISPER (W), the E.U.T. a.f. output is measured and shall be -17 dB to -23 dB.	CHANNEL - 42.050MHZ. AF VOLTAGE OUTPUT - DB TEST REFERENCE SETUP EMER TEST 11 SET RADIO AS FOLLOWS :- SSW W.

CONTINUE

CONTINUE

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
11 (Para 118)	(Test continued)	CHANNEL - 42.050MHZ. AF VOLTAGE OUTPUT - DB TEST IN PROGRESS EMER TEST 11 TEST : PASS
12 (Para 83)	<u>Transmitter frequency accuracy</u> <u>37.00 MHz</u> The transmitter frequency shall be 37.000 MHz ± 500 Hz.	SET RADIO AS FOLLOWS :- FSS 37.000MHZ. SSW L. CONTINUE CHANNEL - 37.000MHZ. FREQUENCY ACCURACY TEST IN PROGRESS EMER TEST 12 TEST : PASS
13 (Para 87)	<u>Pilot tone deviation -</u> <u>37.000 MHz</u> With the E.U.T. in the transmit mode, the deviation due to the 150 Hz tone shall be 1.55 kHz to 2.5 kHz.	CHANNEL - 37.000MHZ. PILOT TONE DEVIATION TEST IN PROGRESS EMER TEST 13 TEST : PASS
14 (Para 106)	<u>Signal + noise/noise ratio</u> <u>37.025 MHz</u> A -107 dBm r.f. signal (5 kHz deviation at 1 kHz) is applied to the E.U.T. antenna, the E.U.T. a.f. output is measured and recorded as the 0 dB reference level. The modulation is removed, the E.U.T. a.f. output is measured and shall be less than -14 dB.	SET RADIO AS FOLLOWS :- FSS 37.025MHZ. SSW *. CONTINUE CHANNEL - 37.025MHZ. S+N/N RATIO TEST IN PROGRESS EMER TEST 14 TEST : PASS

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
<p>15 (Para 77)</p>	<p><u>Transmitter power -</u> <u>37.050 MHz (9.5 V)</u></p> <p>With the supply voltage set to 9.5 V, the transmitter power output shall be not less than 100 mW.</p>	<p>SET RADIO AS FOLLOWS :- FSS 37.050MHZ. CONTINUE</p> <p>CHANNEL - 37.050MHZ. TX POWER OUTPUT - 9.5V TEST IN PROGRESS EMER TEST 15 TEST : PASS</p>
<p>16 (Para 78)</p>	<p><u>Transmitter power -</u> <u>37.050 MHz (16 V)</u></p> <p>With the supply voltage set to 16 V, the transmitter power output shall be between 100 mW and 475 mW.</p>	<p>CHANNEL - 37.050MHZ. TX POWER OUTPUT - 16V TEST IN PROGRESS EMER TEST 16 TEST : PASS</p>
<p>17 (Para 83)</p>	<p><u>Transmitter frequency accuracy</u> <u>38.150 MHz</u></p> <p>The transmitter frequency shall be 38.150 MHz ± 500 Hz.</p>	<p>SET RADIO AS FOLLOWS :- FSS 38.150MHZ SSW L. CONTINUE</p> <p>CHANNEL - 38.150MHZ. FREQUENCY ACCURACY TEST IN PROGRESS EMER TEST 17 TEST : PASS</p>

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
18 (Para 106)	<p><u>Signal + noise/noise ratio -</u> <u>39.025 MHz</u></p> <p>A -107 dBm r.f. signal (5 kHz deviation at 1 kHz) is applied to the E.U.T. antenna, the E.U.T. a.f. output is measured and recorded as the 0 dB reference level. The modulation is removed, the E.U.T. a.f. output is measured and shall be less than -14 dB.</p>	<p>SET RADIO AS FOLLOWS :-</p> <p>FSS 39.025MHZ. SSW *</p> <p style="text-align: right;">CONTINUE</p> <p>CHANNEL - 39.025MHZ.</p> <p>S+N/N RATIO</p> <p>TEST IN PROGRESS</p> <p>EMER TEST 18</p> <p>TEST : PASS</p>
19 (Para 77)	<p><u>Transmitter power -</u> <u>39.050 MHz (9.5 V)</u></p> <p>With the supply voltage set to 9.5 V, the transmitter power output shall be not less than 100 mW.</p>	<p>SET RADIO AS FOLLOWS :-</p> <p>FSS 39.050MHZ.</p> <p style="text-align: right;">CONTINUE</p> <p>CHANNEL - 39.050MHZ.</p> <p>TX POWER OUTPUT - 9.5V</p> <p>TEST IN PROGRESS</p> <p>EMER TEST 19</p> <p>TEST : PASS</p>
20 (Para 78)	<p><u>Transmitter power -</u> <u>39.050 MHz (16 V)</u></p> <p>With the supply voltage set to 16 V, the transmitter power output shall be between 100 mW and 475 mW.</p>	<p>CHANNEL - 39.050MHZ</p> <p>TX POWER OUTPUT - 16V</p> <p>TEST IN PROGRESS</p> <p>EMER TEST 20</p> <p>TEST : PASS</p>
21 (Para 83)	<p><u>Transmitter frequency accuracy</u> <u>39.250 MHz</u></p> <p>The transmitted frequency shall be 39.250 MHz ± 500 Hz.</p>	<p>SET RADIO AS FOLLOWS :-</p> <p>FSS 39.250MHZ. SSW L.</p>

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
21 (Para 83)	(Test continued)	CHANNEL - 39.250MHZ. FREQUENCY ACCURACY TEST IN PROGRESS EMER TEST 21 TEST : PASS
22 (Para 83)	<u>Transmitter frequency accuracy</u> <u>40.375 MHz</u> The transmitted frequency shall be 40.375 MHz \pm 500 Hz.	SET RADIO AS FOLLOWS :- FSS 40.375MHZ. CONTINUE CHANNEL - 40.375MHZ. FREQUENCY ACCURACY TEST IN PROGRESS EMER TEST 22 TEST : PASS
23 (Para 83)	<u>Transmitter frequency accuracy</u> <u>41.450 MHz</u> The transmitted frequency shall be 41.450 MHz \pm 500 Hz.	SET RADIO AS FOLLOWS :- FSS 41.450MHZ. CONTINUE CHANNEL - 41.450MHZ. FREQUENCY ACCURACY TEST IN PROGRESS EMER TEST 23 TEST : PASS
24 (Para 87)	<u>Pilot tone deviation -</u> <u>42.000 MHz</u> With the E.U.T. in the transmit mode, the deviation due to the 150 Hz tone shall be 1.55 kHz to 2.5 kHz.	SET RADIO AS FOLLOWS :- FSS 42.000MHZ. CONTINUE

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
24 (Para 87)	(Test continued)	CHANNEL - 42.000MHZ. PILOT TONE DEVIATION TEST IN PROGRESS EMER TEST 24 TEST : PASS
25 (Para 106)	<u>Signal + noise/noise ratio -</u> 42.025 MHz A -107 dBm r.f. signal (5 kHz deviation at 1 kHz) is applied to the E.U.T. antenna, the E.U.T. a.f. output is measured and recorded as the 0 dB reference level. The modulation is removed, the E.U.T. a.f. output is measured and shall be less than -14 dB.	SET RADIO AS FOLLOWS :- FSS 42.025MHZ. SSW *. CHANNEL - 42.050MHZ. S+N/N RATIO TEST IN PROGRESS EMER TEST 25 TEST : PASS
26 (Para 77)	<u>Transmitter power -</u> 42.025 MHz (9.5 V) With the supply voltage set to 9.5 V, the transmitter power output shall be not less than 100 mW.	CHANNEL - 42.025MHZ. TX POWER OUTPUT - 9.5V TEST IN PROGRESS EMER TEST 26 TEST : PASS
27 (Para 78)	<u>Transmitter power -</u> 42.025 MHz (16 V) With the supply voltage set to 16 V, the transmitter power output shall be between 100 mW and 475 mW.	CHANNEL - 42.025MHZ. TX POWER OUTPUT - 16V TEST IN PROGRESS EMER TEST 27 TEST : PASS
28 (Para 83)	<u>Transmitter frequency accuracy</u> 42.500 MHz The transmitted frequency shall be 42.500 MHz ± 500 Hz.	SET RADIO AS FOLLOWS :- FSS 42.500MHZ. SSW L. CONTINUE

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
28 (Para 83)	(Test continued)	CHANNEL - 42.500MHZ. FREQUENCY ACCURACY TEST IN PROGRESS EMER TEST 28 TEST : PASS
29 (Para 83)	<u>Transmitter frequency accuracy</u> <u>43.600 MHz</u> The transmitted frequency shall be 43.600 MHz ± 500 Hz.	SET RADIO AS FOLLOWS :- FSS 43.600MHZ. CONTINUE CHANNEL - 43.600MHZ. FREQUENCY ACCURACY TEST IN PROGRESS EMER TEST 29 TEST : PASS
30 (Para 83)	<u>Transmitter frequency accuracy</u> <u>44.700 MHz</u> The transmitted frequency shall be 44.700 MHz ± 500 Hz.	SET RADIO AS FOLLOWS :- FSS 44.700MHZ. CONTINUE CHANNEL - 44.700MHZ. FREQUENCY ACCURACY TEST IN PROGRESS EMER TEST 30 TEST : PASS
31 (Para 77)	<u>Transmitter power -</u> <u>45.050 MHz (9.5 V)</u> With the supply voltage set to 9.5 V, the transmitter power output shall be not less than 100 mW.	SET RADIO AS FOLLOWS :- FSS 45.050MHZ. SSW *. CONTINUE

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
31 (Para 77)	(Test continued)	CHANNEL - 45.050MHZ. TX POWER OUTPUT - 9.5V TEST IN PROGRESS EMER TEST 31 TEST : PASS
32 (Para 78)	<u>Transmitter power -</u> <u>45.050 MHz (16 V)</u> With the supply voltage set to 16 V, the transmitter power output shall be between 100 mW and 475 mW.	CHANNEL - 45.050MHZ. TX POWER OUTPUT - 16V TEST IN PROGRESS EMER TEST 32 TEST : PASS
33 (Para 106)	<u>Signal + noise/noise ratio -</u> <u>45.525 MHz</u> A -107 dBm r.f. signal (5 kHz deviation at 1 kHz) is applied to the E.U.T. antenna, the E.U.T. a.f. output is measured and recorded as the 0 dB reference level. The modulation is removed, the E.U.T. a.f. output is measured and shall less than -14 dB.	SET RADIO AS FOLLOWS :- FSS 45.525MHZ. CHANNEL - 45.525MHZ. CONTINUE S+N/N RATIO TEST IN PROGRESS EMER TEST 33 TEST : PASS
34 (Para 83)	<u>Transmitter frequency accuracy</u> <u>45.800 MHz</u> The transmitted frequency shall be 45.800 MHz \pm 500 Hz.	SET RADIO AS FOLLOWS :- FSS 45.800MHZ. SSW L. CHANNEL - 45.800MHZ. CONTINUE FREQUENCY ACCURACY TEST IN PROGRESS EMER TEST 34 TEST : PASS

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
35 (Para 83)	<p><u>Transmitter frequency accuracy</u> <u>46.900 MHz</u></p> <p>The transmitted frequency shall be 46.900 MHz \pm 500 Hz.</p>	<p>SET RADIO AS FOLLOWS :-</p> <p>FSS 46.900MHZ.</p> <p>CHANNEL - 46.900MHZ.</p> <p>FREQUENCY ACCURACY</p> <p>TEST IN PROGRESS</p> <p>EMER TEST 35</p> <p>TEST : PASS</p> <p style="text-align: right;">CONTINUE</p>
36	<p><u>Noise deviation -</u> <u>46.900 MHz</u></p> <p>With the E.U.T. in the transmit condition, the deviation due to noise shall not be greater than 0.55 kHz.</p>	<p>CHANNEL - 46.900MHZ.</p> <p>NOISE DEVIATION</p> <p>TEST IN PROGRESS</p> <p>EMER TEST 36</p> <p>TEST : PASS</p>
37 (Para 87)	<p><u>Pilot tone deviation -</u> <u>46.900 MHz</u></p> <p>With the E.U.T. in the transmit condition, the deviation due to the pilot tone shall be 1.55 kHz to 2.5 kHz.</p>	<p>CHANNEL - 46.900MHZ.</p> <p>PILOT TONE DEVIATION</p> <p>TEST IN PROGRESS</p> <p>EMER TEST 37</p> <p>TEST : PASS</p>
38 (Para 106)	<p><u>Signal + noise/noise ratio -</u> <u>46.925 MHz</u></p> <p>A -107 dBm r.f. signal (5 kHz deviation at 1 kHz) is applied to the E.U.T. antenna, the E.U.T. a.f. output is measured and recorded as the 0 dB reference level. The modulation is removed, the E.U.T. a.f. output is measured and shall be less than -14 dB.</p>	<p>SET RADIO AS FOLLOWS :-</p> <p>FSS 46.925MHZ.</p> <p>SSW *</p> <p>CHANNEL - 46.925MHZ.</p> <p>S+N/N RATIO</p> <p>TEST IN PROGRESS</p> <p>EMER TEST 38</p> <p>TEST : PASS</p> <p style="text-align: right;">CONTINUE</p>

(continued)

TABLE 3 TEST DESCRIPTION AND DISPLAYED OPERATOR INFORMATION (continued)

Test No.	Test Description	Displayed Operator Information
39 (Para 77)	<u>Transmitter power -</u> <u>46.950 MHz (9.5 V)</u> With the supply voltage set to 9.5 V, the transmitter power output shall be not less than 100 mW.	SET RADIO AS FOLLOWS:- FSS 46.950MHZ CONTINUE CHANNEL - 46.950MHZ. TX POWER OUTPUT - 9.5V TEST IN PROGRESS EMER TEST 39 TEST : PASS
40 (Para 78)	<u>Transmitter power -</u> <u>46.950 MHz (16 V)</u> With the supply voltage set to 16 V, the transmitter power output shall be not greater than 475 mW.	CHANNEL - 46.950MHZ. TX POWER OUTPUT - 16V TEST IN PROGRESS EMER TEST 40 TEST : PASS



[REDACTED]



[REDACTED]