RADIO COMMUNICATIONS TEST SET 2955A
SOFTWARE UPDATE

PROBLEM

Software update to issue 6.

The software version in the 2955A is being updated to issue 6. See page 2 and 3 for a list of the changes.

SERIAL NO's AFFECTED

Below J132221

REMEDIAL ACTION

If required then update the system software on AB4/1 from issue 5 to issue 6 (M.I. Part No 44533/247).

Note: When updating to issue 6 their are a number of earom locations that will need to be poked to ensure correct operation. See page 3.

IMPLEMENTATION

Only if necessary.

PRODUCT SUPPORT GROUP
Wk:GS/RW 41/90
I/13/11376

SOFTWARE UPDATE FROM ISSUE 5 TO ISSUE 6

1) PRESSING RX=TX KEY NO LONGER CORRUPTS MOD LEVEL SETTING IN RX TEST.

2) FAILURES IN SELF TEST ARE NOW STORED IN EAROM.

3) AF LEVEL CAN NOT NOW BE ENTERED IN DBM IF THE 600OHM ACCESSORY IS NOT SELECTED IN THE CHANGE PARAMETERS MENU.

4) POSITION OF THE FIRST DIGIT AFTER 'STORE' CORRECTED IN THE SPANISH VERSION.

5) NUMBER OF GRATICULES FOR SINAD BAR CHART IN TX CORRECTED. (I.E. IF FULL SCALE IS 50 DB THEN THERE ARE 5 DIVISIONS IF 30DB THEN 3 DIVISIONS).

6) BAR CHART RANGE NOW ALWAYS UPDATED WHEN SINAD OR S/N KEY IS PRESSED.

7) DISTORTION, SINAD AND S/N READINGS ARE NOW STABLE WITH THE EXTERNAL FILTER SELECTED IN TX TEST.

8) ACCURACY OF DISTORTION, SINAD AND S/N READINGS IMPROVED IN TX TEST.

9) DIGITS AFTER STORE/RECALL REMOVED WHEN RECALL/STORE PRESSED.

10) SETTING A LARGE RF LEVEL OFFSET IN THE CHANGE PARAMETERS MENU NO LONGER CAUSES SELF TEST TO FAIL.

11) SETTING OF RF LEVEL OFFSET CAN NOW ONLY BE TERMINATED BY 'DB'.

12) GPIB COMMANDS PD,EM,SE,SD,CM0 AND CM1 NOW ONLY UPDATE SCREEN IF IN CHANGE PARAMETERS MENU TO ALLOW 'STORE 37' FROM CELLULAR TO WORK.

13) DTMF TONES NO LONGER SLOW DOWN WHEN RECEIVED DATA SCROLLS.

14) IN THE USER DEFINED TONES MENU PRESSING 'DURATION', 'ms', 'RETURN' NO LONGER DISPLAYS 0ms BUT IGNORES THE ENTRY.

15) STORE AND RECALLS ABOVE 26 (EXCEPT 37 USED IN CELLULAR) ARE NOW TRAPPED OUT AND MUST BE RE-ENTERED.

16) LIMITS ON SELF TEST 2.1 (849MHZ POWER CHECK) HAVE BEEN RAISED BY 0.8 dB TO COMPENSATE FOR HIGH RF HARDWARE COMPENSATION. A SMALL NUMBER OF UNITS WERE PREVIOUSLY SEEN TO FAIL SELF TEST 2.1 ON PRODUCTION ALTHOUGH THE POWER MEASUREMENT AND SIG GEN LEVELS WERE PERFECTLY CORRECT AT THE RF SOCKETS.

17) REVERSE VIDEO '/' CHANGED TO ' ' FOR GPIB WRITES IN 2955 EMULATION MODE FOR COMPATIBILITY WITH CELLULAR IN 'PRINTER PORT COMMAND MENU'.

18) PAGE 2 ADDED TO DTMF TONES MENU TO ALLOW DURATION OF TONES AND GAPS TO BE ALTERED. THE DEFAULTS ARE 150ms FOR TONES AND 50ms FOR GAPS.

EAROM DATA

When issue 6 software is fitted the following data needs to be entered into earom. If only the following data is altered then the 2955A calibration will not be affected. In order to enter this data the 2955A needs to be unlocked to the data insertion menu. The procedure for this is given on page 4.

Data to be entered:-

Address	data
63052	234
63053	215
63054	163
63055	000
63056	000
63057	000
63058	000
63059	016
63060	000
63061	016
63062	000
63063	016
63064	000
63065	016
63066	000
63067	016
63068	000
63069	016
63070	000
63071	016
63072	000

Change to 001 for 55A.

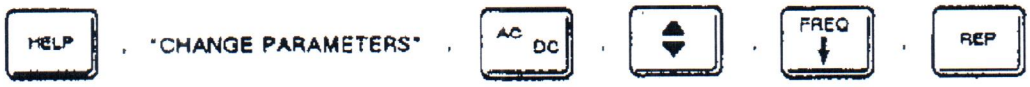
Address	data
63073	016
63074	000
63075	016
63076	238
63077	228
63078	165
63079	255
63080	235
63081	231
63082	150
63083	000
63084	247
63085	212
63086	165
63087	000
63088	234
63089	012
63090	172
63091	000
63092	240
63093	085

Address	data
63094	148
63095	000
63096	242
63097	010
63098	135
63099	000
63100	216
63101	083
63102	150
63103	000
63104	140

Address	data
63164	000
63165	000
63166	000
63190	220
63191	005
63192	244
63193	001

2955A UNLOCKING PROCEDURE

To unlock the 2955A and enter the Data Insertion menu press the following keys in the order shown.



The heading on the instrument display should now be Calibration Data.

To enter the required address press SET ADDRESS. ADDRESS will now appear in reverse field video.

Enter the address required using the white data keys. Once the LSB (5th digit) is entered ADDRESS will revert to normal video and the data stored in that location will be shown under the read column.

To alter the data stored enter the new data required by using the white data keys. The data entered will now appear under the write column. To store this data press ENTER DATA. The figure you have entered should now have been transferred to the read column.

Note

The effect of changing the data is not immediate and will only be seen upon returning into one of the normal operating modes i.e. RX, TX or DUPLEX.

To enter the information manually takes approximately 10 minutes. If there are a number of units to be updated it may be worthwile writing a small program to enter these figures automatically via the g.p.i.b. The following is an example program written in t-basic to carry this out.

```
10 REM Program to poke default data to EAROM for 55A issue 6 update.
20 !
30 !  15-Jan-90
40 !
50 Uut = 6 ! Usual gpib address for 2955A.
60 PRINT @Uut:"SE" ! store enable
70 !
80 CLEAR
90 !
100 Start_addr = 63052.0 ! End_addr = 63104.0
110 GOSUB Poke_data
120 !
130 Start_addr = 63164.0 ! End_addr = 63166.0
140 GOSUB Poke_data
150 !
160 Start_addr = 63190.0 ! End_addr = 63193.0
170 GOSUB Poke_data
180 END

190 REM DATA BLOCK
200 DATA 234,215,163,0,0,0,0,16,0,16,0,16,0,16,0,16,0,16,0,16,0,16,0,16,238
210 DATA 228,165,255,235,231,150,0,247,212,165,0,234,12,172,0,240,85,148,0
220 DATA 242,10,135,0,216,83,150,0,140
230 !
240 DATA 0,0,0
250 !
260 DATA 220,5,244,1
270 !

280 REM
290 Poke_data:
300 !
310 FOR Address = Start_addr TO End_addr
320   READ Value
330   PRINT AT 10,10 USING "'Poking address ',5d,' to ',3d":Address,Value
340   PRINT @Uut:"PO";Address;",";Value
350   CALL Delay(500)
360 NEXT Address
370 RETURN

380 SUB Delay(Milliseconds)
390   FOR I = 1 TO Milliseconds
400     ! Adjust the length of this
410     ! subroutine to suit the
420     ! speed of your computer.
430     !
440   NEXT I
450 END SUB
```

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service note

RADIO COMMUNICATIONS TEST SETS 2955A, 2955R
SOFTWARE UPDATE

PROBLEM

SOFTWARE UPDATE TO ISSUE 8.

The software in the 2955A and R is being updated to issue 8. The update contains many useful enhancements. See page 2 for a list of changes. Page 3 is a copy of the form that will initially be supplied with new instruments fitted with issue 8 software.

SERIAL NO's AFFECTED

All instruments leaving production from the following serial numbers will contain Issue 8 software.

2955R s/n 132329-000 2955A s/n 132328-000

REMEDIAL ACTION

If your customers wish to upgrade their instruments to make use of the new features then the software can be updated.

There will be a nominal charge (£55 as at 04/01/91) for this software to cover materials and programming time.

The M.I. Part No for the software is as follows:

English 44533-247 issue 8
French 44533-369 issue 8
Spanish 44533-370 issue 8

IMPLEMENTATION

Only if required.

PRODUCT SUPPORT GROUP
Wk:40/90 GS/JW

Registered at London No. 317241 Registered Office: Longacres, St. Albans, Herts. AL4 0JN
Holding Company – The General Electric Company, p.l.c.

Changes incorporated in issue 8

1) Inverted POCSAG facility added.

2) Facility to read TX power in dBm added to TX and DX modes. GPIB command RD 2 reads power in dBm if selected and Watts if not.

3) 152.24 MHz default RF frequency is now set up in POCSAG when US tones standard is selected.

4) Squelch in TX MONITOR mode added. GPIB command RD 110 added to read squelch status. 0 = signal off (squelched), 1 = signal on (not squelched).

5) Auto repeat added to FREQ and LEVEL increment keys in TX MONITOR.

6) Maximum RF GEN frequency raised from 1000MHz to 1060MHz in RX, DX and TX MON.

7) Issue number added into ROM in ascii at CF20H so that typical info at CF00H is:

CF00H '44533-247' LF
CF10H '26/11/1990' LF
CF20H 'ISSUE 8.1' LF

8) In RX test, if DISTN, SINAD or S/N was selected with MOD OFF then the barchart reading went negative.

9) In French POCSAG screen, alphanumeric message 3 read 'PRIMIER' instead of 'PREMIER'.

10) Pressing tones in DUPLEX mode selected AF in to speaker instead of demod. It now selects demod. Pressing DTMF then selects AF IN.

11) PEP now works correctly in directional power meter mode.

12) Spanish TX sequential tones menu said 'PAGINA:1 of 1'. This has been corrected to 'PAGINA:1 DE 1'

13) Problem cured in Spanish TX MONITOR so that selecting scope does not prevent proper TX MON operation.

14) Problem fixed in the English ticket printout so that 'OFF' for RF, AF and MOD GENS is printed when appropriate.

15) Default mod level in DTMF changed to 2.15KHz and '[/TONE]' displayed beside the setting.

2955A-65 2955R-50

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service note

RADIO COMMUNICATIONS TEST SETS 2955/A/R SOFTWARE UPDATE FROM ISSUE 9 TO ISSUE 10

PROBLEM

2955A/R SOFTWARE IS BEING UPDATED FROM ISSUE 9 TO 10.

The software is being updated to incorporate additional G.P.I.B. commands that are required when the instrument is used to form part of a DAMPS system i.e. 2957D or 2960D. Attached to this service note is a description of the new g.p.i.b. commands.

As well as the above there have been a number of "fixes". These are detailed on page 2.

SERIAL NO's AFFECTED

Instruments fitted with ISSUE 9 software and below.

REMEDIAL ACTION

If the 2955A/R is being used or is to be used to form part of a 2957D/2960D system or if a customer is complaining of problems associated with the "fixes" then the software should be updated to issue 10 M.I. Part Number 44533-247.

IMPLEMENTATION

Only if necessary [3]. See remedial action.

PRODUCT SUPPORT GROUP
Wk:31/92 GS/JW
I/13/21752

2955A-65 2955R-50

Software changes between issue 9 and 10

1) Problem fixed where on occasion incrementing the frequency of one audio generator would cause the second audio generator to also change frequency.

2) There was a problem where the D.T.M.F. generator would give the wrong frequencies if AF GEN 1 or AF GEN 2 were set to frequencies below 910 Hz before going into DTMF generator mode.

3) When in bar chart mode it was possible for the wrong internal ranging to get switched in causing problems with the audio counter readings in RX/TX/AF/DX modes.

4) A reverse video "A" is now displayed in POCSAG mode next to the RF LEVEL to indicate an RF LEVEL OFFSET in the CHANGE PARAMETERS menu.

5) There was a problem in POCSAG where on some occasions the last part of the message was not sent and the pager shows this as errors in the message. This was first noted on Philips pagers.

6) If an extended tone was deleted in SEQUENTIAL TONES and hence became a NULL the 'EXTENDED' identifier was not removed from the display. This is now removed.

7) GPIB commands 'RD14' to 'RD24' now give tone frequencies after a 'TF' command in REVERTIVE TONES.

8) There was a problem noted when using the instrument with a CELLULAR ADAPTER and carrying out the TX NOISE test. The peak detectors were being switched in too early, measuring glitches and hence giving noise deviations worse than the true performance of the mobile under test. This has now been cured.

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service note

RADIO COMMUNICATIONS TEST SET 2955A, 2955R
SOFTWARE UPDATE TO ISSUE 7

PROBLEM

SOFTWARE UPDATE TO ISSUE 7.

The software in the 2955A and R is being updated to issue 7. The major reason for update is to prevent "CALL MTX TO MS" failure when the instrument is used with the cellular radio adapters.

For a full list of changes see sheet 2.

SERIAL NO's AFFECTED

Below J132236. All instruments with software below issue 7.

REMEDIAL ACTION

If the instrument contains software below issue 7 then update the software.

The M.I. Part No for the software is as follows:

English 44533-247 issue 7.
French 44533-369 issue 7.
Spanish 44533-370 issue 7.

IMPLEMENTATION

Modify at the first opportunity.

PRODUCT SUPPORT GROUP
Wk:52/89 GS/JW
I/13/13959

Registered at London No. 317241 Registered Office: Longacres, St. Albans, Herts. AL4 0JN
Holding Company – The General Electric Company, p.l.c.

CHANGES INCORPORATED IN ISSUE 7

1) EXT MOD input reading in SETUP menu now reads correct units depending on RX mod type.

2) Held barchart ranges no longer change when SELECT key is pressed.

3) In TX MON, TX FREQ can now be entered straight after exiting the calibration menu if TX FREQ was previously selected.

4) Delay for earom added after CMO/1 GPIB command.

5) Entering 3.2KHz for AF freq now sets up 3.2KHz instead of 3.2001KHz.

6) In Spanish RX TEST screen, AF 'FREQ' now reads 'FREC'.

7) Mod meter is now prevented from auto-tuning when TX FREQ is selected to cure CALL MTX to MS problems on NMT.

8) DTMF received tones no longer corrupt RX sequential tones.

9) Revertive tones timeout increased to 2 seconds.

10) In TX MON, strength reading now reads '0.0dBR' instead of '-0.0dBR'.

11) DCS tones in TX MON no longer get inverted for upper RF image.

12) In DCS tones in TX/TX MON, topping characters for reverse video decoded tone codes are now always removed when codes change.

13) In RX sequential tones, extended tone can now be set or reset after shift has been used.

14) Operation of NOVRAM NE line corrected for store/recall 00.

15) On Spanish RX sequential tones, after a tone burst has been sent the word 'SALVAS' (TONE BURST) is now written in the correct place so that 'ACTIVO' is overwritten instead of just 'CTIVO'.

16) In French and Spanish versions, PS4 GPIB command to select the 4TH POCSAG message is now 'out of range' as there are only 3 messages available.

17) Problem cured so that when GPIB command 'BC' is sent in duplex after 'SC' (blank lower half of screen) 'WO PORT' of 'TWO PORT' is not blanked out.

18) Reading increments via the GPIB now gives 'NULL' instead of previous value after increment has been set to 0Hz.

19) DCS tones being sent no longer causes the instrument to lock up when TX MON and /or PTT switch is used.

20) In duplex, when TONES is pressed, the audio is now always selected. If DTMF is then pressed, the audio is now correctly routed so that received DTMF tones can be decoded.

21) In TX and DX displayed RF FREQ (as well as GPIB RD1 and RD39) now reads '0Hz' if ADC power reading is less than 8 on the lowest range. This cures the random RF counter readings that can sometimes occur with no signal applied.

22) Part No and date of software issue added into memory at CF00H (52992) and CF10H (53008) respectively.

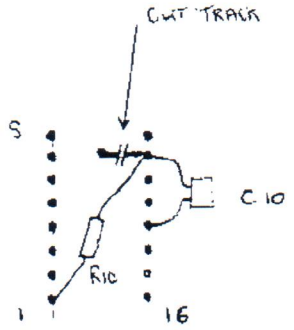

FIG 1 IC 31 TRACKSIDE OF BOARD (EDGE CONNECTOR AT TOP)

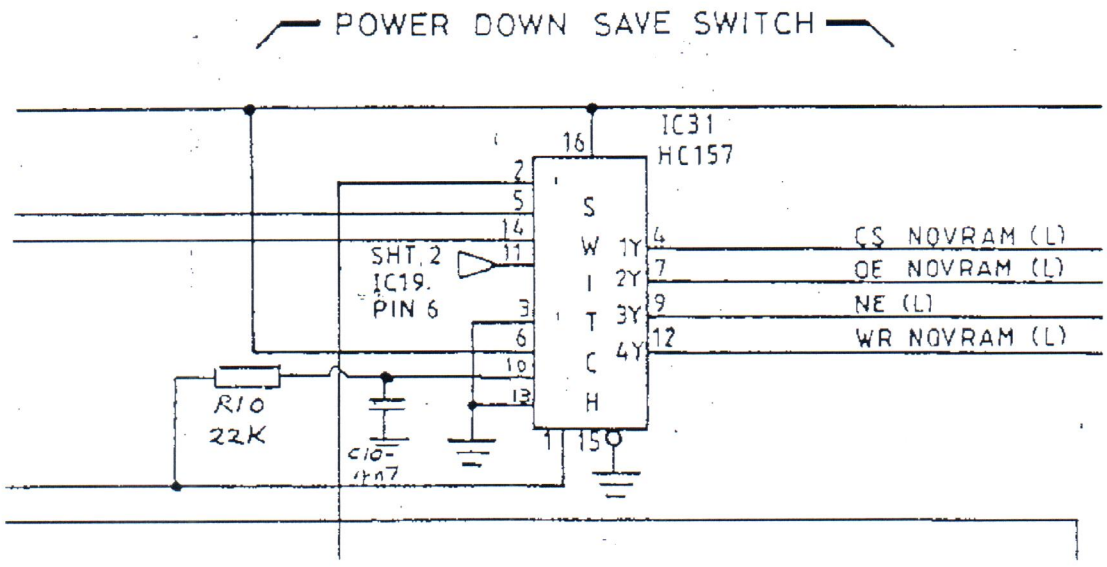

FIG 2 PART OF CIRCUIT DIAGRAM AB4/1