HP/Agilent 8922 GSM Test Set

Firmware Upgrade Kit

Agilent Technologies

Agilent Part No. 08922-90236
Printed in UK
July 1999

© Copyright 1999, Agilent Technologies. All rights reserved. Reproduction, adaptation, or translation without prior written permission is prohibited, except as allowed under the copyright laws.

1 HP/Agilent 8922 Upgrade Kit Instructions

The HP/Agilent 8922 Upgrade Kit instructions apply to the following upgrade kits:

- **HP/Agilent 8922A/B GSM Test Set**

  Agilent Part Number 08922-61087 Firmware Upgrade Kit
- **HP/Agilent 8922E GSM Test Set**

  Agilent Part Number 08922-61088 Firmware Upgrade Kit
- **HP/Agilent 8922F GSM Test Set**

  Agilent Part Number 08922-61116 Firmware Upgrade Kit
- **HP/Agilent 8922G GSM Test Set**

  Agilent Part Number 08922-61089 Firmware Upgrade Kit
- **HP/Agilent 8922H GSM Test Set**

  Agilent Part Number 08922-61117 Firmware Upgrade Kit
- **HP/Agilent 8922S GSM Test Set**

  Agilent Part Number 08922-61149 Firmware Upgrade Kit
- **HP/Agilent 8922S opt 010 GSM Test Set**

  Agilent Part Number 08922-61184 Firmware Upgrade Kit

Purpose of firmware upgrade kits

The Agilent 8922 firmware upgrade kits allow you to upgrade the HP/ Agilent 8922A/B/E/F/G/H/S Operating System firmware to the latest revision. The firmware of these products is revised regularly to improve performance and fix problems. It is recommended that you upgrade the firmware to the latest revision whenever an instrument is repaired or a performance problem is found. This is especially important if an assembly level repair is performed because exchange assemblies may be a later revision than the one replaced and require a later version of the firmware to function. When the firmware changes, the contents of this kit change to reflect the latest version of the firmware.

NOTE A32U17 must not be installed in an HP/Agilent 8922E, HP/Agilent 8922G Option 005, HP/Agilent 8922S or HP/Agilent 8922S Option 010. Installation of this ROM in instruments with Option 005 disables the ciphering/ encryption capabilities. Factory authorization to upgrade this option is required.

NOTE Ensure proper ESD precautions are taken when the instrument covers are removed. Failure to observe this may result in static electricity damaging your instrument.

HP/Agilent 8922A/B Firmware Upgrade Kit, 08922-61087, Revision A.05.04

Table 1-1 **ROM Parts List for Agilent 08922-61087, HP/Agilent 8922A/B Firmware Upgrade Kit**

Item	Agilent Part Number	Quantity	Description	FW Type
1	08922-87193	1	ROM, A8U18	Host
2	08922-87194	1	ROM, A8U19	Host
3	08922-87195	1	ROM, A8U20	Host
4	08922-87196	1	ROM, A8U21	Host
5	08922-87197	1	ROM, A8U22	Host
6	08922-87198	1	ROM, A8U23	Host
7	08922-87104	1	ROM, A9U26	DSP
8	08922-87057	1	ROM, A33U62	Hop

HP/Agilent 8922E Firmware Upgrade Kit, 08922-61088, Revision A.04.02

Table 1-2 **ROM Parts List for Agilent 08922-61088, HP/Agilent 8922E Firmware Upgrade Kit**

Item	Agilent Part Number	Quantity	Description	FW Type
1	08922-87124	1	ROM, A8U18	Host
2	08922-87125	1	ROM, A8U19	Host
3	08922-87126	1	ROM, A8U20	Host
4	08922-87127	1	ROM, A8U21	Host
5	08922-87128	1	ROM, A8U22	Host
6	08922-87129	1	ROM, A8U23	Host
7	08922-87104	1	ROM, A9U26	DSP
8	08922-87057	1	ROM, A33U62	Hop
9	08922-87102	1	ROM, A32U15	GSM
10	08922-87040	1	ROM, A32U16	GSM
11	08922-87041	1	ROM, A32U17	GSM
12	08922-87103	1	ROM, A32U18	GSM

HP/Agilent 8922F Firmware Upgrade Kit, 08922-61116, Revision B.06.07

Table 1-3 **ROM Parts List for Agilent 08922-61116, HP/Agilent 8922F Firmware Upgrade Kit**

Item	Agilent Part Number	Quantity	Description	FW Type
1	08922-87290	1	ROM, A8U18	Host
2	08922-87291	1	ROM, A8U19	Host
3	08922-87292	1	ROM, A8U20	Host
4	08922-87293	1	ROM, A8U21	Host
5	08922-87294	1	ROM, A8U22	Host
6	08922-87295	1	ROM, A8U23	Host
7	08922-87312	1	ROM, A32U15	GSM
8	08922-87314	1	ROM, A32U16	GSM
9	08922-87315	1	ROM, A32U17	GSM
10	08922-87313	1	ROM, A32U18	GSM

HP/Agilent 8922G Firmware Upgrade Kit, 08922-61089, Revision A.04.02

Table 1-4 **ROM Parts List for Agilent 08922-61089, HP/Agilent 8922G Firmware Upgrade Kit**

Item	Agilent Part Number	Quantity	Description	FW Type
1	08922-87118	1	ROM, A8U18	Host
2	08922-87119	1	ROM, A8U19	Host
3	08922-87120	1	ROM, A8U20	Host
4	08922-87121	1	ROM, A8U21	Host
5	08922-87122	1	ROM, A8U22	Host
6	08922-87123	1	ROM, A8U23	Host
7	08922-87104	1	ROM, A9U26	DSP
8	08922-87057	1	ROM, A33U62	Hop
9	08922-87102	1	ROM, A32U15	GSM
10	08922-87040	1	ROM, A32U16	GSM
11	08922-87041	1	ROM, A32U17	GSM
12	08922-87103	1	ROM, A32U18	GSM

HP/Agilent 8922H Firmware Upgrade Kit, 08922-61117, Revision B.06.07

Table 1-5 **ROM Parts List for Agilent 08922-61117, HP/Agilent 8922H Firmware Upgrade Kit**

Item	Agilent Part Number	Quantity	Description	FW Type
1	08922-87296	1	ROM, A8U12	Host
2	08922-87297	1	ROM, A8U18	Host
3	08922-87298	1	ROM, A8U14	Host
4	08922-87299	1	ROM, A8U19	Host
5	08922-87300	1	ROM, A8U15	Host
6	08922-87301	1	ROM, A8U16	Host
7	08922-87302	1	ROM, A8U13	Host
8	08922-87303	1	ROM, A8U17	Host
9	08922-87312	1	ROM, A32U15	GSM
10	08922-87314	1	ROM, A32U16	GSM
11	08922-87315	1	ROM, A32U17	GSM
12	08922-87313	1	ROM, A32U18	GSM

HP/Agilent 8922S Firmware Upgrade Kit, 08922-61149, Revision B.07.11

Table 1-6 **ROM Parts List for Agilent 08922-61149, HP/Agilent 8922S Firmware Upgrade Kit**

Item	Agilent Part Number	Quantity	Description	FW Type
1	08922-87431	1	ROM, A8U12	Host
2	08922-87432	1	ROM, A8U13	Host
3	08922-87433	1	ROM, A8U14	Host
4	08922-87434	1	ROM, A8U15	Host
5	08922-87435	1	ROM, A8U16	Host
6	08922-87436	1	ROM, A8U17	Host
7	08922-87437	1	ROM, A8U18	Host
8	08922-87438	1	ROM, A8U19	Host
9	08922-87426	1	ROM, A32U15	GSM
10	08922-87427	1	ROM, A32U16	GSM
11	08922-87428	1	ROM, A32U17	GSM
12	08922-87429	1	ROM, A32U18	GSM

HP/Agilent 8922S Option 010 Firmware Upgrade Kit, 08922-61184, Revision C.01.08

Table 1-7 **ROM Parts List for Agilent 08922-61184, HP/Agilent 8922S Option 010 Firmware Upgrade Kit**

Item	Agilent Part Number	Quantity	Description	FW Type
1	08922-87439	1	ROM, A8U12	Host
2	08922-87440	1	ROM, A8U13	Host
3	08922-87441	1	ROM, A8U14	Host
4	08922-87442	1	ROM, A8U15	Host
5	08922-87443	1	ROM, A8U16	Host
6	08922-87444	1	ROM, A8U17	Host
7	08922-87445	1	ROM, A8U18	Host
8	08922-87446	1	ROM, A8U19	Host
9	08922-87426	1	ROM, A32U15	GSM
10	08922-87427	1	ROM, A32U16	GSM
11	08922-87428	1	ROM, A32U17	GSM
12	08922-87429	1	ROM, A32U18	GSM

Clearing Non-Volatile Memory

NOTE It is important to **Clear** the HP/Agilent 8922 non-volatile RAM **before** and **after** the firmware upgrade.

To clear non-volatile RAM

Step 1. Move the cursor to the CONFIG field and select.

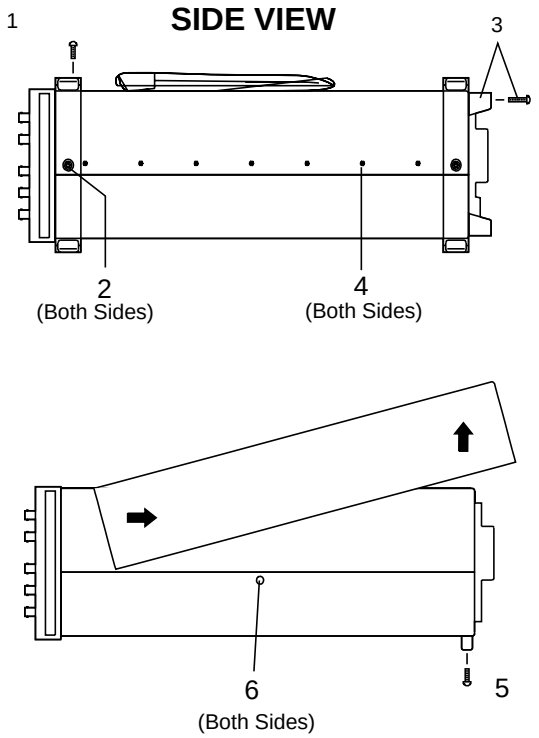
Step 2. In the CONFIGURE screen, move the cursor to the SERVICE field and select.

Step 3. In the SERVICE screen, locate the RAM Initialize field and select.

Step 4. Select YES on the front panel keypad to clear the registers.

Removal Instructions

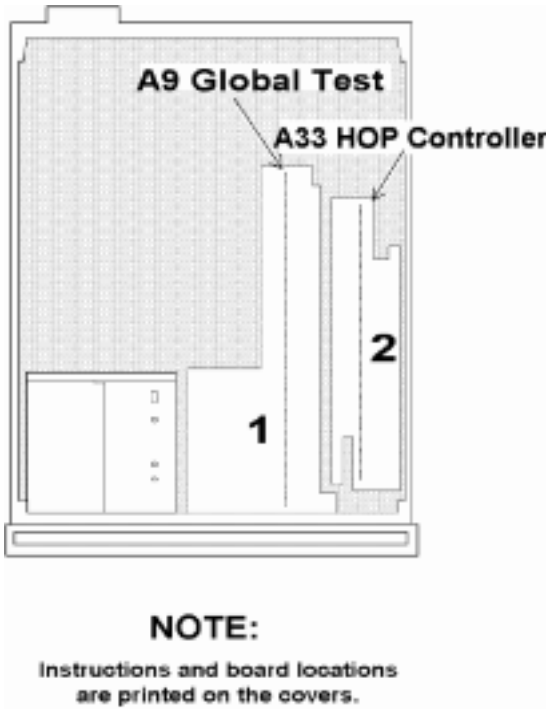
Step 1. Remove the instrument's top cover.



1. Remove the top bumper mounting screws (4 places).
2. Remove the side bumper mounting screws and remove bumpers.
3. Remove the side cover screws.
4. Remove the top standoffs.
5. Pull the sides slightly apart, slide back a few inches and lift off.

Step 2. Remove covers 1 and 2.

Figure 1-1 Location of A9 global test board and A33 Hop controller



NOTE If you are upgrading an HP/Agilent 8922F/H/S, go to step 5.

Step 3. Replace A9 U26 ROM.

1. Remove the A9 Global Test board.
2. Remove A9U26 from the board, prising it upwards with a small flat blade screw driver.
3. Install the new A9U26 supplied with the kit.

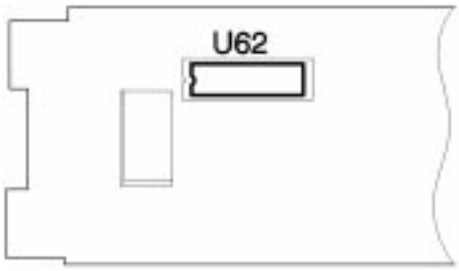
Figure 1-2 Location and orientation of A9 U26

4. Check the orientation of the EPROM A9U26 matches the template shown on the board.
5. Re-install the A9 Global Test board.

Step 4. Replace A33 U62 ROM.

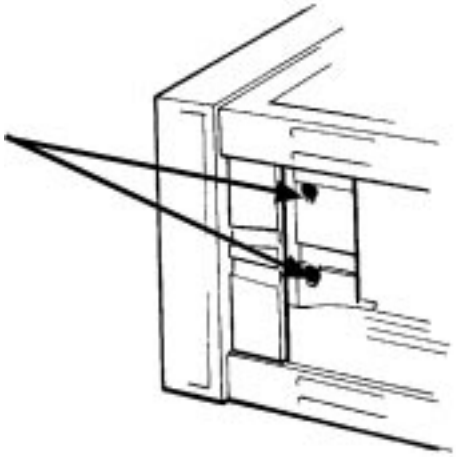
1. Remove the A33 Hop Controller board.
2. Remove A33U62 from the board.
3. Install the new A33U62 supplied with the kit.
4. Check the orientation of the EPROM A33U62 matches the template shown on the board.
5. Re-install the A33 Hop Controller board.

Figure 1-3 Location and orientation of A33 U62



Step 5. Loosen the A8 Memory Board mounting screws.

Figure 1-4 **Loosening the A8 memory board mounting screws**

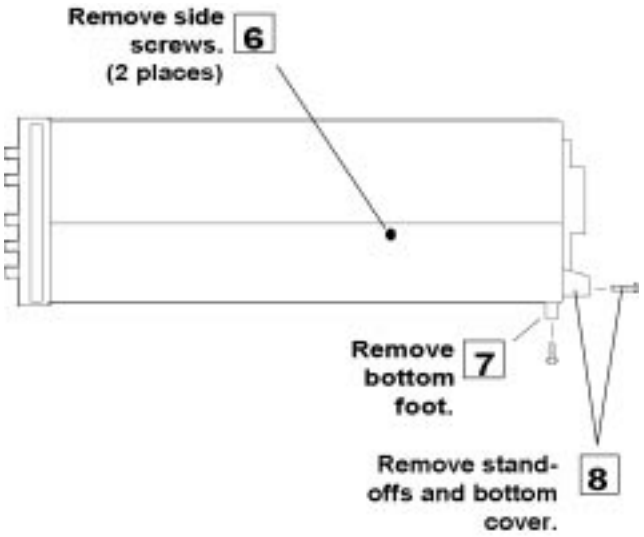


NOTE If your Memory Board is secured with two screws, remove the bottom cover for access (explained in page 17) and loosen both screws. There is no need to remove the screws. If it has only one screw, simply loosen it. There is no need to remove the bottom cover at this stage.

Step 6. If you need to remove the bottom cover to access the second screw on the A8 Memory Board, then do so as follows:

1. Remove the bottom cover.

Figure 1-5 Removing the bottom cover



2. Remove the A8 Memory board only.
3. Replace ROMs supplied in the kit in accordance with the diagram below.

Figure 1-6 HP/Agilent 8922F Memory board IC replacement diagram

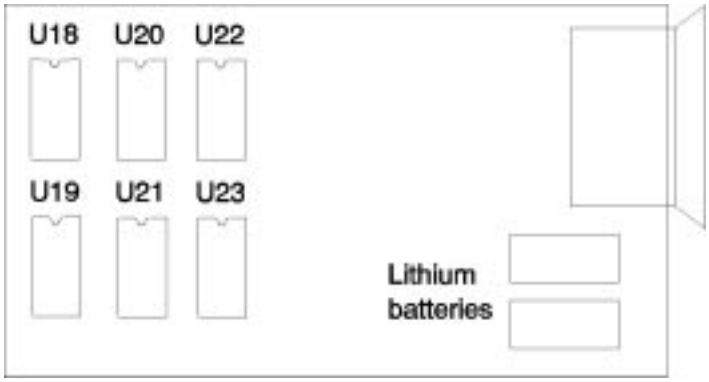
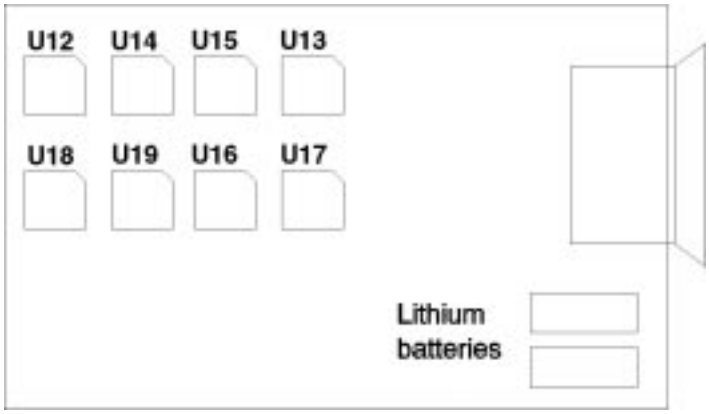


Figure 1-7 HP/Agilent 8922H/S Memory board IC replacement diagram



4. Re-install the A8 Memory Board.

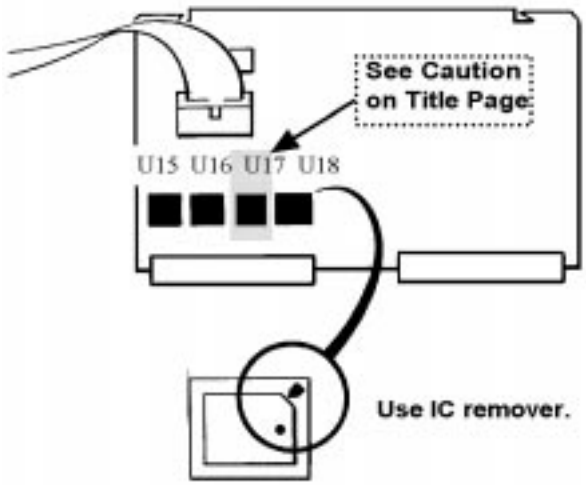
NOTE Use the templates marked on the boards to correctly orientate the ROMs. This is an important feature for correct operation of the HP/ Agilent 8922.

Step 7.

1. Remove the A32 GSM Controller Board, (refer to the note on page 4 regarding U17).
2. Replace the ROMs U15 to U18 with the new ROMs supplied in the kit.

NOTE You may need to use force to remove and replace these ROMs.

Figure 1-8 ROM U15 to U18 replacement



3. Re-install the A32 GSM Controller board.

Completing the ROM upgrade

Upon initial power up

When new ROMs are installed in the HP/Agilent 8922, and the instrument is first powered on, there may be a delay of up to two minutes before anything appears on the display. Do not power cycle during this time.

When the instrument successfully powers on, the following three messages appear:

- `Cal file checksum incorrect. File reset to default values.`
- `All Self Tests Passed.`
- `Frequency Reference Cal Lost. Perform Reference Calibration.`

The first two messages appear and disappear quickly as they are replaced by the third message. To view all messages, use the message (MSSG) screen.

To clear RAM

It is good practice to clear the instrument RAM following the instrument upgrade. To do this:

Step 1. Move the cursor to the `CONFIG` field and select.

Step 2. In the CONFIGURE screen, move the cursor to the `SERVICE` field and select.

Step 3. In the SERVICE screen, locate the `RAM Initialize` field and select.

Step 4. Select YES on the front panel keypad to clear the registers.

Calibrating the Internal Reference

To complete the ROM upgrade, you must recalibrate the internal reference.

NOTE

Before recalibrating the internal reference, allow the instrument to warm up for at least 10 minutes. It must be performed after replacement of the reference section A15, or if the instrument displays the error message

`Frequency reference cal lost. Perform reference calibration.`

Step 1. Connect a reference 10 MHz source to the rear panel REF IN.

Step 2. On the Configuration screen, select the field and highlight Calibrate.

Step 3. **HP/Agilent 8922A/B only:** At power up, select (PUSH) (PUSH) . This takes you to the Configure screen. At the Configure screen, select `Reference` and highlight Calibrate.

HP/Agilent 8922E/F/G/H/S only: At turn on, the instrument is at the Cell Configuration or Cell Status screen. Move the cursor to the `To Screen` section and select `More`. This takes you to the `Choices` section. Select `CONFIG`. At the Configure screen, select `Reference` and highlight Calibrate.

After approximately 15 seconds the reference is calibrated.

Verifying correct upgrade

After the frequency reference is calibrated, cycle the instrument power. If successfully calibrated, the instrument powers up with the message `All Self Tests Passed` only.

Agilent Technologies

Manufacturing Part Number

08922-90236

Printed in UK