

Installation Note

Option 611 6 GHz Operation Upgrade Kit

For HP 8753E Option 011 and HP 8753ES Option 011 Network Analyzers

Network Analyzer Model Number and Options	Applicable Upgrade Kit Model Number
HP 8753E Option 011	HP 8753EU Option 611
HP 8753ES Option 011	HP 8753ESU Option 611



HP Part Number 08753-90418 Supersedes March 1998

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6 GHz Operation Upgrade Kit

Products Affected:	HP 8753E Option 011 Network Analyzer HP 8753ES Option 011 Network Analyzer
To Be Performed By:	Personnel Qualified by HP
Estimated Installation Time:	45 minutes
Estimated Verification Time:	2.0 hours (includes instrument warmup time)

Purpose

This Option 611 upgrade kit provides the Option 011 network analyzer with optional 6 GHz operation. The upgrade kit is keyed to the serial number of an individual network analyzer and cannot be used to upgrade other instruments.

Items Included in the Kit

Table 1 describes the parts included in this upgrade kit. Check the contents of this kit against Table 1.

Table 1 **Option 611 Upgrade Kit Contents**

Quantity	Description	HP Part Number
1	6 GHz source assembly	08753-60230
1	Coax cable assembly	8120-5026
1	Keyword label (affixed to page 6)	9320-6215
1	Keyword label (to affix to instrument)	9320-5805
1	Installation note	08753-90418
1	6 GHz nameplate	08753-80157 (HP 8753E Option 011 only)
1	6 GHz nameplate	08753-80205 (HP 8753ES Option 011 only)
1	Envelope	9230-0023

Equipment and Tools Required

Table 2 Required Equipment and Tools

Item	HP Part or Model Number
Power meter	HP 436A/437B/438A or HP E4418/E4419B
Power sensor	HP 8482A
Power sensor	HP 8481A
Power splitter, 2 way 50Ω (2)	HP 11667A Option 001
Frequency counter	HP 5350B
Cable set, RF 24-inch (2)	HP 11500B
Cable set, RF 50 Ω-Type-N (2)	HP 11851B
Cable, BNC-to-BNC	8120-1840
Adapter, APC 3.5 mm (f) to Type-N (f)	1250-1745
Adapter, Type-N (f) to BNC (m)	1250-0077
Adapter, Type-N (m) to Type-N (m)	1250-1475
Adapter, Type-N (f) to Type-N (f)	1250-1472
Adapter, Type-N (m) to SMA (f)	1250-1250
Adapter, Type-N (f) to SMA (m)	1250-1562
Adapter, BNC Alligator clip	8120-1292
HP-IB cable assembly	HP 10833A
Low-pass filter	9135-0198
Attenuator, 10 dB (Option 002 only)	HP 8491A Option 010
Attenuator, 20 dB (2)	HP 8491A Option 020
Attenuator, 30 dB (Option 002 only)	HP 8491A Option 030
3.5-inch floppy disk	HP 92192A (box of 10)
Small needle-nose pliers	
T-10 TORX screwdriver	
T-15 TORX screwdriver	
5/16 inch open-end wrench	
5/16 inch torque wrench (10 in-lbs)	
Electrostatic discharge (ESD) grounding wrist strap and mat	
HP 8753E Option 011 Network Analyzer Service Guide (required for upgrades to 8753E Option 011 models only)	08753-90404
HP 8753ES Option 011 Network Analyzer Service Guide (required for upgrades to 8753ES Option 011 models only)	08753-90485

Safety Considerations

WARNING **Before you disassemble the instrument, turn the power switch OFF and unplug the instrument. Failure to unplug the instrument can result in personal injury.**

CAUTION Electrostatic discharge (ESD) can damage or destroy electronic components. Perform these procedures only at a static-safe workstation and wear a grounding strap. Refer to the documentation that pertains to your instrument for information about static-safe workstations and ordering static-safe accessories.

Conventions

This installation note uses the following conventions for front-panel keys and softkeys.

Front-Panel Key represents a key physically located on the instrument. **SOFTKEY** represents a “softkey,” a key whose label is determined by the instrument’s firmware.

Installation Procedure for the Option 611 Upgrade Kit

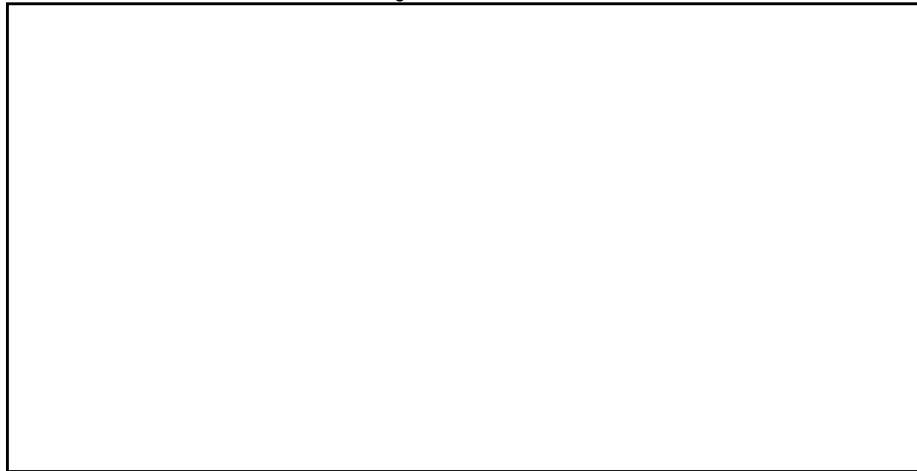
The Option 011 Network Analyzer must be in proper working condition prior to installing this option. Any necessary repairs must be made before proceeding with this installation.

NOTE The HP 8753E Option 011 network analyzer is shown in the illustrations of this installation procedure. If you have an HP 8753ES Option 011 network analyzer, the details of these illustrations may vary slightly. However, these slight differences will not affect the procedures of this installation.

Verify the Serial Number

Refer to the keyword label in the box below. First, verify that the analyzer's serial number matches the serial number on the keyword label. Second, verify that the option number on the keyword label matches the option number for this installation note. If in either step, the serial number or the option number does not match the expected results, the keyword will not enable the option. If this is the case, refer to [Table 3, "Hewlett-Packard Sales and Service Offices," on page 14](#) and contact the nearest sales or service office for assistance.

Keyword Label

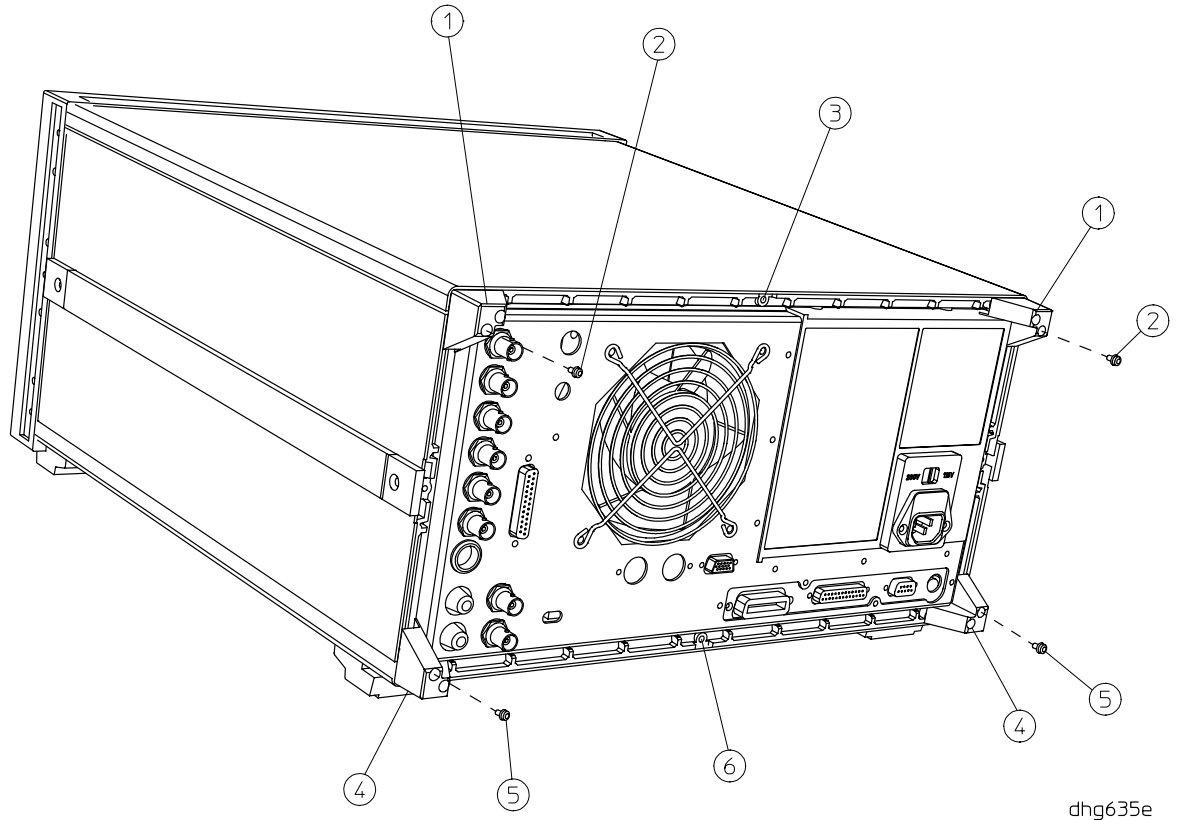


Remove the Top Cover

Refer to *Figure 1*.

1. Disconnect the power cord.
2. Remove both of the upper rear feet (item 1) by loosening the TORX T-10 screws (item 2).
3. Loosen the top cover screw (item 3).
4. Slide the cover off towards the rear of the analyzer.

Figure 1 Cover and Feet Removal



Remove the 3 GHz Source Assembly

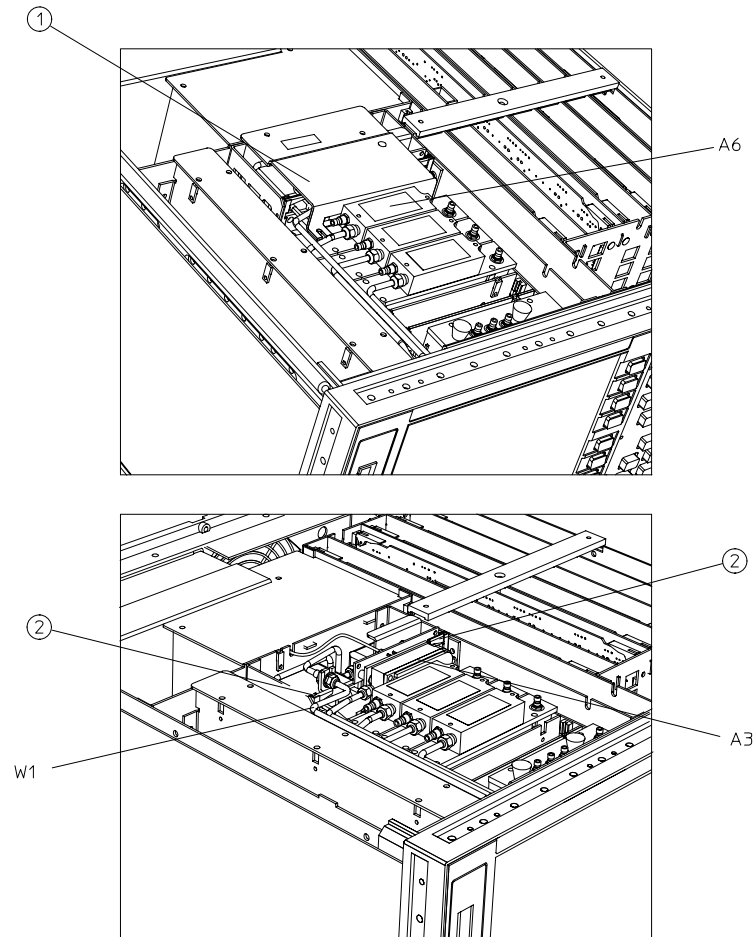
Refer to [Figure 2](#).

5. Remove the source bracket (item 1) by removing four screws.

NOTE It might be necessary to disconnect the flexible cable from A6 (the sampler next to the source assembly). To disconnect the cable, use a small needle-nose pliers to grasp the metal connector of the cable and carefully loosen it from its mating connector on A6. See item 7 of [Figure 3](#).

6. Disconnect the semirigid cable W1.
7. Lift the two retention clips (item 2) at the sides of the source assembly to an upright position.
8. Lift the A3 source assembly using the source bracket handle. See item 3 of [Figure 3](#).
9. Remove the source assembly from the instrument.

Figure 2 A3 Source Assembly



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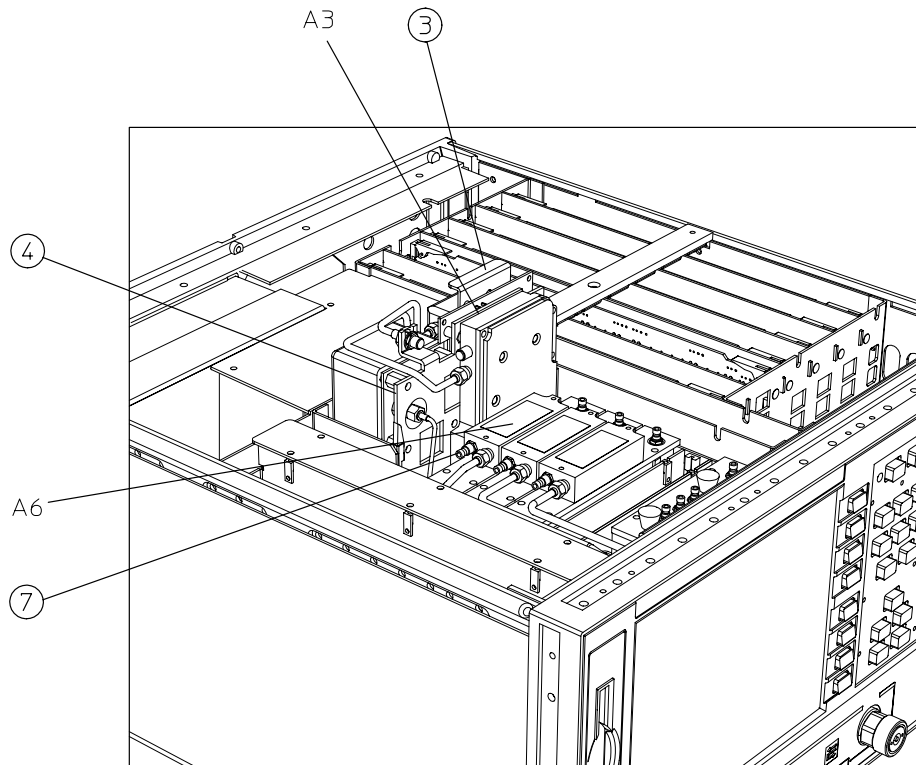
Installing the 6 GHz Source Assembly

Refer to *Figure 3*.

10. Check the connector pins to the motherboard before reinstallation.
11. Slide the edges of the sheet metal partition (item 4) of the 6 GHz source assembly into the guides at the front and back of the source compartment.
12. Press down on the assembly to ensure that it is well seated in the motherboard connector.
13. Push down the retention clips. Reconnect the semirigid cable, W1, to the source assembly.

NOTE When connecting semirigid cables, it is recommended that the connections be torqued to 10 in-lb.

Figure 3 A3 Source Assembly Removal



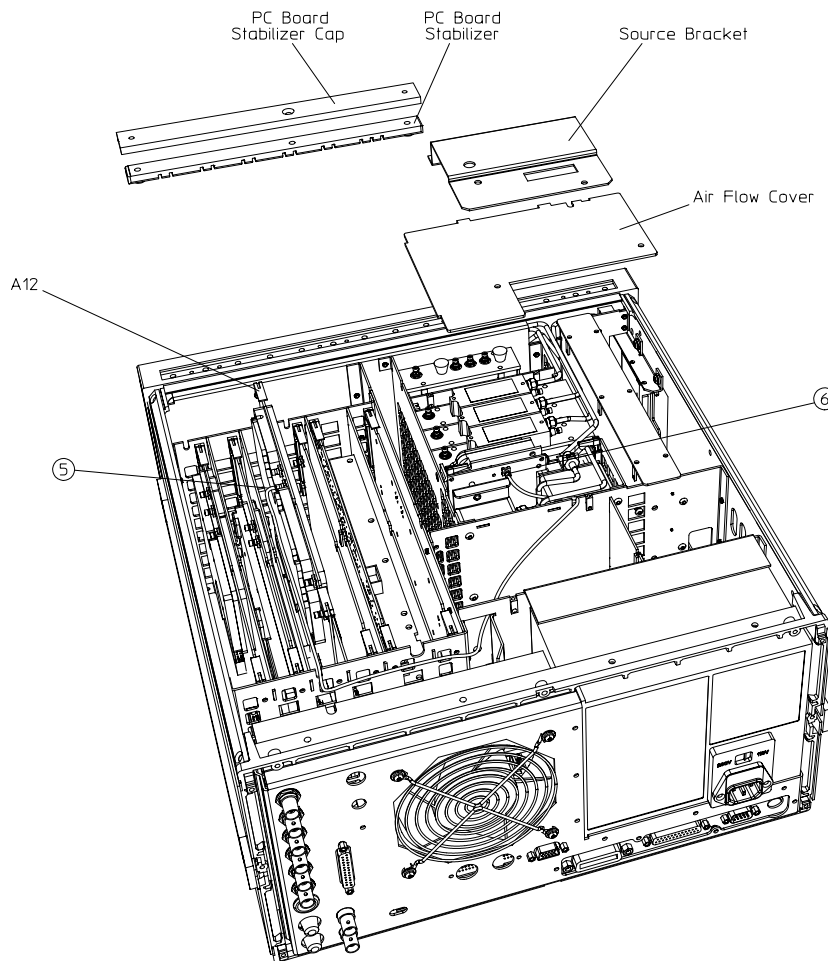
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Cable Installation

Refer to [Figure 4](#).

14. Remove the two screws from the air flow cover and remove the cover.
15. Remove the screw from the PC board stabilizer and remove the stabilizer.
16. Lift the two extractors located at each end of the A12 board. Lift the board from the card cage slot just enough to connect the flexible cable, provided with the kit (HP part number 8120-5026), to the second connector from the front A12J4 (item 5).
17. Slide the board back into position and route the cable along the board towards the rear of the analyzer and through the notch on the end of the card cage.
18. Route the flexible cable as shown in [Figure 4](#) and connect it to its connector P2 (item 6) on the board of the source assembly.
19. Lower the two extractors, replace the PC board stabilizer, and secure it with the screw.

Figure 4 Cable Connections



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20. Replace the air flow cover and secure with the two screws.

21. Reinstall the source bracket, item 1 of [Figure 2](#).

22. Reconnect the flexible cable to the A6 sampler.

Configure the Network Analyzer for 6 GHz Operation

Refer to [Figure 1](#).

23. Remove the instrument bottom cover.

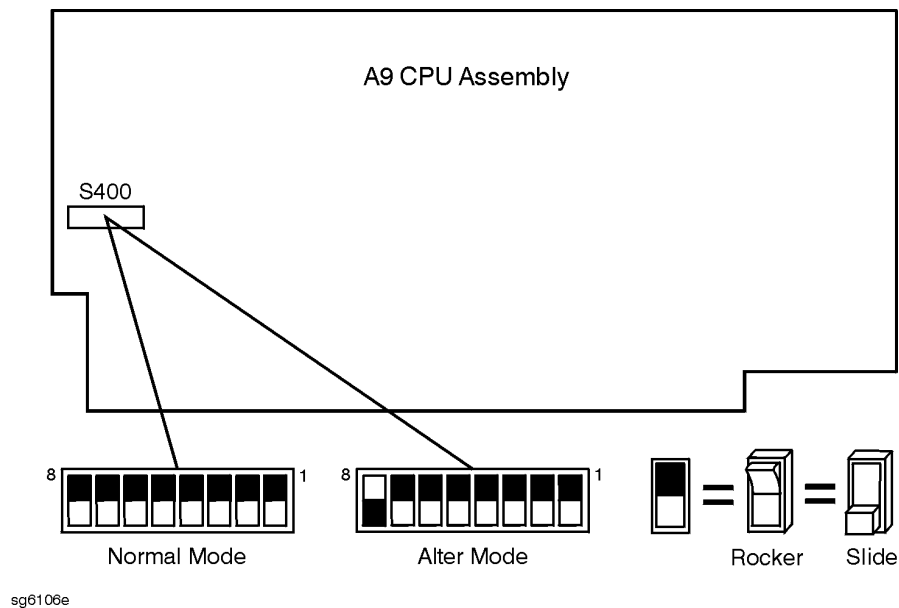
- a. Remove both lower rear feet (item 4) by loosening the TORX T-10 screws (item 5).
- b. Loosen the bottom cover screw (item 6).
- c. Slide the cover off towards the rear of the instrument.

Refer to [Figure 5](#).

24. Locate the A9 switch on the A9 CPU assembly at location S400.

25. Set the A9 switch to Alter Mode.

Figure 5 A9 Switch Location



Refer to [Figure 1](#).

26. Install the instrument top and bottom covers.

27. Reconnect the analyzer power cord and switch on the power.

28. Press **Preset** **Display** **MORE** **TITLE** **ERASE TITLE** to erase the HP logo.

29. Enter the keyword from the label located on [page 6](#). Use a keyboard attached to the analyzer or rotate the front panel knob to position the arrow below each character of the keyword. Press **SELECT LETTER** to enter each character. When all characters are entered, press **DONE**.

NOTE *Be sure to use upper-case letters when entering via a keyboard.*

30. Press **(System) SERVICE MENU TESTS (56) (x1)**. At the prompt, press **EXECUTE TEST YES**.

The analyzer will display **Option Cor DONE** when the test is complete.

31. Press **RETURN TESTS (44) (x1)**. At the prompt, press **EXECUTE TEST YES**.

The analyzer will display ***Source Def DONE** when the test is complete.

32. Press **RETURN TESTS (45) (x1)**. At the prompt, press **EXECUTE TEST YES**.

The analyzer will display ***Pretune Def DONE** when the test is complete.

33. Press **RETURN TESTS (46) (x1)**. At the prompt, press **EXECUTE TEST YES**.

The analyzer will display **ABUS Cor DONE** when the test is complete.

34. Press **RETURN TESTS (48) (x1)**. At the prompt, press **EXECUTE TEST YES**.

The analyzer will display **Pretune Cor DONE** when the test is complete.

35. Refer to "Adjustments and Correction Constants" in the network analyzer's service guide. After the required warmup times, perform the following adjustments:

- RF Output Power Correction Constants
- Sampler Magnitude and Phase Correction Constants
- Cavity Oscillator Frequency Correction Constants
- Source Spur Avoidance Tracking Adjustment
- EEPROM Backup Disk Procedure

36. Refer to "System Verification and Performance Tests" in the network analyzer's service guide and perform the following system tests:

- Source Frequency Range and Accuracy
- Source Power Range, Linearity and Accuracy
- Source and Receiver Harmonics (required only for analyzers with Option 002)

37. Switch off the analyzer and disconnect the power cord.

Refer to [Figure 1](#).

38. Remove the instrument top and bottom covers.

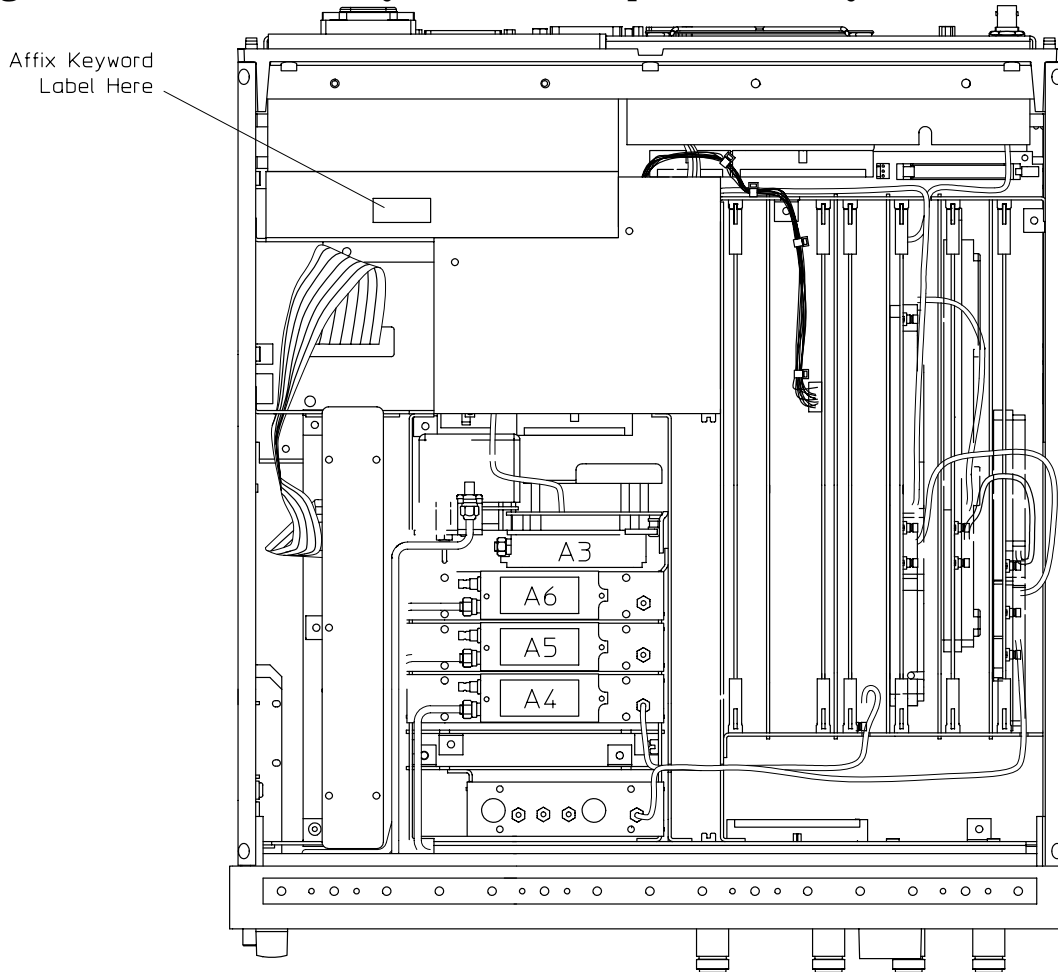
Refer to [Figure 5](#).

39. Set the A9 switch to Normal Mode.

Affix the Keyword Label

40. Locate the keyword label in the small envelope and remove it from its backing. Affix the label onto the location shown in [Figure 6](#).

Figure 6 Location of Keyword Label, Top View of Analyzer



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Reassemble the Instrument

Refer to [Figure 1](#).

41. Replace the instrument top and bottom covers by reversing the order of removal.

Replace the Analyzer's Nameplate

42. Use a sharp knife to carefully peel away the old nameplate located on the analyzer's front panel.

43. Adhere the new nameplate, which is included in the upgrade kit.

Table 3 Hewlett-Packard Sales and Service Offices

UNITED STATES		
Instrument Support Center Hewlett-Packard Company (800) 403-0801		
EUROPEAN FIELD OPERATIONS		
Headquarters Hewlett-Packard S.A. 150, Route du Nant-d'Avril 1217 Meyrin 2/ Geneva Switzerland (41 22) 780.8111	France Hewlett-Packard France 1 Avenue Du Canada Zone D'Activite De Courtaboeuf F-91947 Les Ulis Cedex France (33 1) 69 82 60 60	Germany Hewlett-Packard GmbH Hewlett-Packard Strasse 61352 Bad Homburg v.d.H Germany (49 6172) 16-0
Great Britain Hewlett-Packard Ltd. Eskdale Road, Winnersh Triangle Wokingham, Berkshire RG41 5DZ England (44 118) 9696622		
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Japan Hewlett-Packard Japan, Ltd. Measurement Assistance Center 9-1, Takakura-Cho, Hachioji- Shi, Tokyo 192-8510, Japan TEL (81) -426-56-7832 FAX (81) -426-56-7840	Singapore Hewlett-Packard Singapore (Pte.) Ltd. 150 Beach Road #29-00 Gateway West Singapore 0718 (65) 291-9088	Taiwan Hewlett-Packard Taiwan 8th Floor, H-P Building 337 Fu Hsing North Road Taipei, Taiwan (886 2) 712-0404
China China Hewlett-Packard Co. 38 Bei San Huan X1 Road Shuang Yu Shu Hai Dian District Beijing, China (86 1) 256-6888		