

# Installation Note

---

## Extended Frequency Range Upgrade Kit

**Upgrade Kit Number: E8363-60101**

**For E8363A/B/C PNA Series Microwave Network Analyzers**



**Agilent Part Number: E8363-90001**

**Printed in USA December 2007**

Supersedes print date January 2005

© Agilent Technologies, Inc. 2003, 2005, 2007



E8363-90001

---

## WARRANTY STATEMENT

THE MATERIAL CONTAINED IN THIS DOCUMENT IS PROVIDED “AS IS,” AND IS SUBJECT TO BEING CHANGED, WITHOUT NOTICE, IN FUTURE EDITIONS. FURTHER, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, AGILENT DISCLAIMS ALL WARRANTIES, EITHER EXPRESS OR IMPLIED WITH REGARD TO THIS MANUAL AND ANY INFORMATION CONTAINED HEREIN, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. AGILENT SHALL NOT BE LIABLE FOR ERRORS OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE FURNISHING, USE, OR PERFORMANCE OF THIS DOCUMENT OR ANY INFORMATION CONTAINED HEREIN. SHOULD AGILENT AND THE USER HAVE A SEPARATE WRITTEN AGREEMENT WITH WARRANTY TERMS COVERING THE MATERIAL IN THIS DOCUMENT THAT CONFLICT WITH THESE TERMS, THE WARRANTY TERMS IN THE SEPARATE AGREEMENT WILL CONTROL.

---

## DFARS/Restricted Rights Notice

If software is for use in the performance of a U.S. Government prime contract or subcontract, Software is delivered and licensed as “Commercial computer software” as defined in DFAR 252.227-7014 (June 1995), or as a “commercial item” as defined in FAR 2.101(a) or as “Restricted computer software” as defined in FAR 52.227-19 (June 1987) or any equivalent agency regulation or contract clause. Use, duplication or disclosure of Software is subject to Agilent Technologies’ standard commercial license terms, and non-DOD Departments and Agencies of the U.S. Government will receive no greater than Restricted Rights as defined in FAR 52.227-19(c)(1-2) (June 1987). U.S. Government users will receive no greater than Limited Rights as defined in FAR 52.227-14 (June 1987) or DFAR 252.227-7015 (b)(2) (November 1995), as applicable in any technical data.

---

## Safety Notes

The following safety notes are used throughout this document. Familiarize yourself with each of these notes and its meaning before performing any of the procedures in this document.

---

<b>WARNING</b>	<b>Warning denotes a hazard. It calls attention to a procedure which, if not correctly performed or adhered to, could result in injury or loss of life. Do not proceed beyond a warning note until the indicated conditions are fully understood and met.</b>
----------------	---

---

<b>CAUTION</b>	Caution denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in damage to or destruction of the instrument. Do not proceed beyond a caution sign until the indicated conditions are fully understood and met.
----------------	---

---

---

## Getting Assistance from Agilent

By internet, phone, or fax, get assistance with all your test and measurement needs.

### Contacting Agilent

Assistance with test and measurements needs and information on finding a local Agilent office are available on the Web at:

[www.agilent.com/find/assist](http://www.agilent.com/find/assist)

If you do not have access to the Internet, please contact your Agilent field engineer.

---

**NOTE** In any correspondence or telephone conversation, refer to the Agilent product by its model number and full serial number. With this information, the Agilent representative can determine whether your product is still within its warranty period.

---

---

## About the Upgrade Kit

Products affected. . . . .	E8363A/B/C; all options (See <b>NOTE</b> below.)
Installation to be performed by . . . . .	Agilent service center, personnel qualified by Agilent, or customer
Estimated installation time . . . . .	0.5 hour
Estimated adjustment time . . . . .	1.0 hour
Estimated full instrument calibration time . . . .	4.5 hours

---

**NOTE** If the Time Domain option, Option 010, or the Frequency Converter Measurement Application, Option 083, are already installed on your analyzer, you will need a new license key for that option to function after installation of the extended frequency upgrade. Contact Agilent for this new license key.

---

If you need assistance, refer to [“Getting Assistance from Agilent” on page 3](#).

---

## Description of the Extended Frequency Upgrade

This upgrade kit is used to extend the frequency range of the E8363A/B/C PNA series microwave network analyzer from 40 GHz to 50 GHz.

---

## Items Included in the Upgrade Kit

Check the contents of your kit against the following list. If any item is missing or damaged, contact Agilent Technologies. Refer to [“Getting Assistance from Agilent” on page 3](#).

**Table 1 Upgrade Kit to Extend the E8363A/B/C to 50 GHz (E8363-60101)**

Description	Qty	Part Number
Installation note (this document)	1	E8363-90001
License key certificate	1	5964-5136
Model number nameplate (for 50 GHz analyzer E8364A)	1	E8364-80001
Model number nameplate (for 50 GHz analyzer E8364B)	1	E8364-80023
Model number nameplate (for 50 GHz analyzer E8364C)	1	E8364-80046

---

## Installation Procedure for the Upgrade Kit

The network analyzer must be in proper working condition prior to installing this option. Any necessary repairs must be made before proceeding with this installation.

### Overview of the Installation Procedure

[Step 1. Verify the Model, Serial, and Option Numbers of the Analyzer.](#)

[Step 2. Enter the New Model Number](#)

[Step 3. Replace the Model Number Nameplate on the Front Panel](#)

[Step 4. Perform Post-Upgrade Adjustments and Calibration](#)

### Equipment Required for Post-Upgrade Adjustments

Equipment Type	Model or Part Number	Alternate Model or Part Number
Power meter	E4418B/E4419B	E4418A/E4419A
Power sensor, 2.4 mm	8487A	None
Adapter, 2.4 mm (f) to 2.4 mm (f)	11900B	85056-60007
RF cable, 2.4 mm (f) to 2.4 mm (f)	85133C	85133E

### Step 1. Verify the Model, Serial, and Option Numbers of the Analyzer

Refer to the License Key Certificate supplied with the kit:

- Verify that the analyzer's model and serial numbers match those on the certificate.
- Verify that the option number on the certificate matches the option described in this installation note.

If the model number, serial number, or option number do not match the expected results, you will not be able to install the option. If this is the case, contact Agilent for assistance. Refer to [“Getting Assistance from Agilent” on page 3.](#)

## Step 2. Enter the New Model Number

### Procedure Requirements

- The analyzer must be powered up and operating to perform this procedure.
- The Network Analyzer program must be running.
- A keyboard and mouse are required for this procedure.

### Enter the New Model Number

1. On the analyzer's **System** menu, point to **Service**, then click **Option Enable**.
2. Click **Repair**.
3. Check **Model shown is incorrect!**, then click **Begin Repair**.
4. In the **Model Change** box, select the appropriate new model number: **E8364A** or **E8364B**.
5. Using the keyboard, enter the keyword in the box provided. The keyword is printed on the License Key Certificate. Enter this keyword *exactly* as it is printed on the certificate.
6. Click **Enter Model**.
7. Verify that the new model number displayed is correct, then click **YES**. If it is not correct, click **NO** and repeat the repair.
8. When the installation is complete, click **Exit**.

### Verify that the New Model Number is Shown Correctly

1. On the analyzer's **Help** menu, click **About Network Analyzer**.
2. Verify that the new model number is shown correctly in the display. Click **OK**.
3. On the analyzer front panel, press **Preset**. Verify that the full frequency range of the analyzer is correct.

### Step 3. Replace the Model Number Nameplate on the Front Panel

Refer to [Figure 1](#) for this procedure.

#### Remove the Old Nameplate

1. Using a sharp object such as a knife blade, lift one end of the old nameplate (item ①). Be careful not to scratch the painted surface.
2. Using your fingers, pull the nameplate completely off of the front panel and discard it.
3. If any adhesive remains on the front panel surface, it can be removed by rubbing it with your finger. Do not use a sharp object to remove this adhesive. If necessary, the surface can be cleaned with isopropyl alcohol.

#### Install the New Nameplate

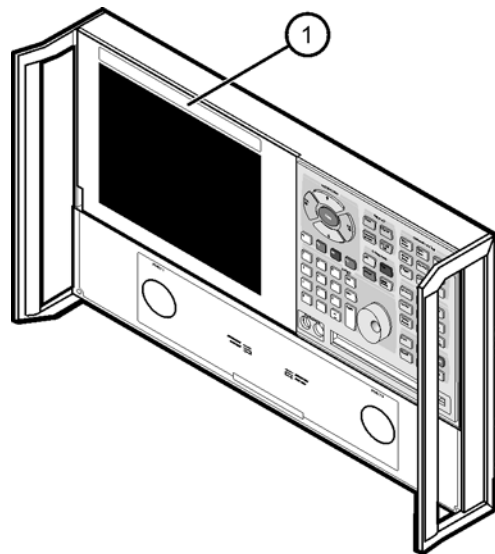
---

**NOTE** There are two nameplates included in the upgrade kit—one for the “A” model and a different one for the “B” model. Be sure to select the proper nameplate for your analyzer model.

---

1. Remove the protective backing from the new nameplate to expose the adhesive. Avoid touching the adhesive with your fingers as this may affect its ability to adhere to the front panel surface.
2. *Loosely* align the new nameplate over the recess in the front panel and apply lightly.
3. Once the overlay is properly aligned, press it firmly onto the surface to secure it.

**Figure 1 Model Number Nameplate Replacement**



8363\_001\_01

---

**NOTE** The figure above shows the E8363A/B front panel and floppy disk drive. The E8363C front panel has a slightly different appearance and does not include a floppy disk drive.

---

## Step 4. Perform Post-Upgrade Adjustments and Calibration

### Adjustments

The following adjustments must be made due to the change in the full frequency range of the analyzer.

- LO power
- source calibration
- receiver calibration

These adjustments are described in the PNA service guide and in the PNA on-line HELP. A list of equipment required to perform these adjustments can be found at [“Equipment Required for Post-Upgrade Adjustments” on page 5](#).

### Calibration

The analyzer should now operate and phase lock over its entire frequency range.

If you experience difficulty with the basic functioning of the analyzer, contact Agilent. Refer to [“Getting Assistance from Agilent” on page 3](#).

- Although the analyzer functions, its performance relative to its specifications has not been verified.
- It is recommended that a full instrument calibration be performed using the PNA performance test software.
- Refer to the analyzer’s service guide for information on the performance test software.