

# Installation Note

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## Extended Frequency Range Upgrade Kit

For PNA Series Microwave Network Analyzers (E8363A and E8363B)

Network Analyzer Model Number	Upgrade Kit Part Number	Frequency Extension
E8363A and E8363B	E8363-60101	40 GHz to 50 GHz



**Agilent Technologies**

**Agilent Part Number: E8363-90001**

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E8363-90001

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## About the Upgrade Kit

Products affected. . . . .	E8363A and E8363B; all options (See <b>NOTE</b> below.)
Installation to be performed by . . . . .	Agilent service center, personnel qualified by Agilent, or customer
Estimated installation time . . . . .	5 minutes
Estimated verification time . . . . .	5 minutes
Estimated calibration adjustment time. . . . .	45 minutes

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**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.

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If you need assistance, refer to [“Getting Assistance from Agilent” on page 2](#).

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## Description of the Extended Frequency Upgrade

This upgrade kit is used to extend the frequency range of the E8363A or E8363B PNA series microwave network analyzer from 40 GHz to 50 GHz.

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## 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 2](#).

**Table 1 Upgrade Kit to Extend the E8363A and E8363B 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 E8363A (E8364A)	1	E8364-80001
Model number nameplate for E8363B (E8364B)	1	E8364-80023

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## 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. [Verify that the New Model Number Is Shown Correctly](#)

Step 4. [Replace the Model Number Nameplate on the Front Panel](#)

Step 5. [Perform Source and Receiver Calibration Adjustments](#)

### Equipment Required for Calibration 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 2.

## 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 is required for this procedure.
- A mouse is recommended for this procedure but is not required.

### Mouse Procedure

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**.

### Front Panel Keys Procedure

1. In the **COMMAND** block, press **Menu/Dialog**.
2. In the **NAVIGATION** block, press the right tab and arrow keys to move over to the **System** menu and down to the **Service** selection. Press the right tab to display the extended menu and the arrows to select **Option Enable**. Press **Click**.
3. Press **Menu/Dialog**, then press **R** on the keyboard to select **Repair**.
4. Tab to **Model shown is incorrect!**, then press **Click**.
5. Tab to the **Model Change** box, then use the arrows to select the appropriate new model number: **E8364A** or **E8364B**.
6. Tab to the **Keyword** box and, using the keyboard, enter the keyword. The keyword is printed on the License Key Certificate. Enter this keyword *exactly* as it is printed on the certificate.
7. Tab to **Enter Model**, then press **Click**.
8. Verify that the new model number displayed is correct, then tab to **Yes** and press **Click**. If it is not correct, tab to **NO**, press **Click**, and repeat the repair.
9. When the installation is complete, Tab to **Exit**, then press **Click**.

## Step 3. Verify that the New Model Number Is Shown Correctly

### Procedure Requirements

- The analyzer must be powered up and operating to perform this procedure.
- The Network Analyzer program must be running.
- A mouse is recommended for this procedure but is not required.

### Mouse Procedure

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.

### Front Panel Keys Procedure

1. In the **COMMAND** block, press **Menu/Dialog**.
2. In the **NAVIGATION** block, press the right tab and arrow keys to move over to the **Help** menu, and down to the **About Network Analyzer** selection. Press **Click**.
3. Verify that the new model number is shown correctly, then press **Click**.
4. On the analyzer front panel, press **Preset**. Verify that the full frequency range of the analyzer is correct.

## Step 4. Replace the Model Number Nameplate on the Front Panel

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

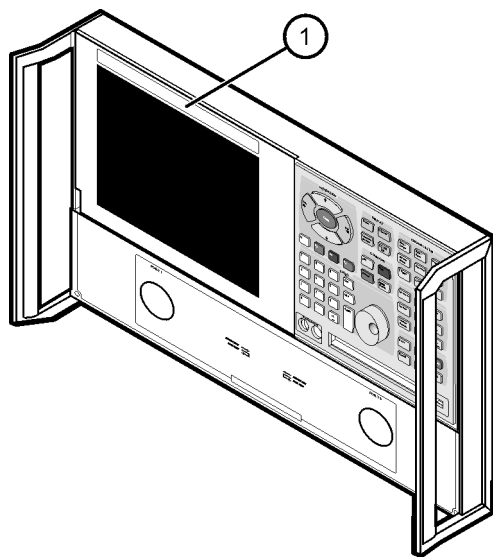
### Remove the Old Nameplate

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

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**



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## **Step 5. Perform Source and Receiver Calibration Adjustments**

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

- 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 Calibration Adjustments” on page 4.](#)

### **Performance Tests and System Verification**

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 2.](#)

Although the analyzer functions, its performance relative to its specifications has not been verified for the additional frequency range enabled by this upgrade.

It is recommended that a full instrument calibration be performed using the N2721A performance test software.

If the testing of the analyzer’s full range of specifications is not required, a system verification can be performed.

Refer to the analyzer’s service guide for information on performance tests and system verification.