

# Keysight CXA N9000B and EXA N9010B Signal Analyzer

Option FSA - Fine Step Attenuator

Installation Note

Notice.

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## Option FSA, Fine Step Attenuator Installation Kit

Products Affected:	CXA N9000B EXA N9010B
Serial Numbers:	All
To Be Performed By:	(X) Keysight Service Center (X) Personnel Qualified by Keysight (X) Customer
Estimated Installation Time:	0.5 Hours
Estimated Adjustment and Verification Time:	2.5 Hours (see Note 2)

### Introduction

This kit contains all of the instructions required to install Option FSA on an Keysight X-Series Signal Analyzer. No tools are required.

#### NOTE

1. At the time of manufacture the hardware related to this option was fully adjusted and the option performance was verified to be within its warranted specifications. Within two years of the initial calibration date of the instrument this option is fully calibrated with no further adjustment or verification testing.

To determine the initial calibration date, locate the original calibration certificate that was shipped with the instrument at the time of purchase. The Date of Calibration is printed on the original calibration certificate.

No factory test data is available for this option. If you require test data for this option then a full calibration is required after installation of this option. Arrangements regarding the level of calibration must be made with the calibration provider.

2. If this instrument has been adjusted as part of a repair or calibration during its first two years, or if the instrument is more than two years old, additional adjustments and performance verification tests are required to ensure that this newly installed option is functioning properly. However, the completion of these tests does not guarantee that the instrument meets all warranted specifications.

3. The latest revision of the instrument software may be downloaded from

[http://www.keysight.com/find/Xseries\\_software](http://www.keysight.com/find/Xseries_software)

4. This option is licensed for one instrument model/serial number combination. The license key will only install on the designated instrument.

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## Contents

Quantity	Description	Keysight Part Number
1	Installation Note	This note
1	Option Upgrade Entitlement Certificate	5964-5178

## Tools Required

- Instrument Service Guide
  - CXA: Download from [www.keysight.com/find/N9000B\\_service\\_guide](http://www.keysight.com/find/N9000B_service_guide)
  - EXA: Download from [www.keysight.com/find/N9010B\\_service\\_guide](http://www.keysight.com/find/N9010B_service_guide)
- Personal computer with internet access and USB port
- USB Storage Device with >2 GB free memory

## Installation Procedure over USB

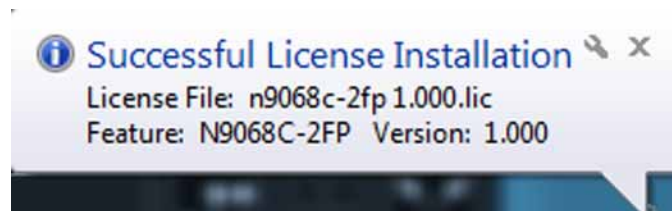
1. Locate the Option Upgrade Entitlement Certificate (5964-5178) from the kit.
2. Redeem the Option Upgrade Entitlement Certificate by following the instructions on the Certificate.
3. After redeeming your Option Upgrade Entitlement Certificate you will receive an email with an attached License File.
4. Locate a USB storage device. Perform a virus scan on this device before use.
5. Save the License File to the root directory of the USB Storage Device.
6. Connect the USB Storage Device to one of the instrument USB ports. Windows will detect the new hardware and may display the configuration menu shown in [Figure 1](#). This menu may be configured according to your preferences.

**Figure 1** USB Storage Device Configuration Menu



7. The instrument will automatically consume the License File. (This may take a few minutes) When the License File is consumed the Keysight License Manager will display a “Successful License Installation” message similar to the one shown in [Figure 2](#).

**Figure 2** Successful License Installation



### Alternate Installation Procedure

The License File can be manually installed over USB or LAN by placing the license file in the following folder on the instrument.

C:\Program Files\Agilent\licensing

### Verify the Installation

1. Cycle power on the signal analyzer.
2. Press **System, Show System** to display a list of installed options.
3. Verify that the newly installed option appears on the list.

## Utilities, Adjustments, and Performance Verification Tests

Calibration Software and specified test equipment is required to perform the adjustments, and can be used to automate the performance verification testing. Information on how to obtain this software can be found at:

<http://www.keysight.com/find/calibrationsoftware>

### Utilities Required

None

### Adjustments Required

If the instrument is more than two years old, or if this instrument has been adjusted as part of a repair or calibration during its first two years, the following adjustments are the minimum set required to ensure that this newly installed option is functioning properly.

#### Adjustments

Frequency Response (all adjustments)

Attenuator Slope (except CXA Options 503 and 507)

### Performance Testing Required

If the instrument is more than two years old, or if the instrument has been adjusted as part of a repair or calibration during its first two years, the following performance verification tests are the minimum set required to ensure that this newly installed option is functioning properly. Performing only these tests does not guarantee the instrument meets all specifications.

#### CXA (N9000B) Performance Verification Tests

Absolute Amplitude Accuracy

Frequency Response < 100 kHz

Frequency Response 100 kHz to 3.0 GHz (Preamp Off)

Frequency Response Above 3.0 GHz (Preamp Off)

Displayed Average Noise Level

Residual Responses

Input Attenuator Switching Uncertainty

**EXA (N9010B) Performance Verification Tests**

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Absolute Amplitude Accuracy

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Frequency Response < 300 kHz

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Frequency Response 300 kHz to 3.6 GHz (Preamp Off)

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Frequency Response Above 3.6 GHz (Preamp Off) (Except Option 503)

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Displayed Average Noise Level

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Residual Responses

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Input Attenuator Switching Uncertainty

**A full calibration is required to assure the instrument meets all specifications**

The end user must ultimately determine whether they want a full calibration to be performed after the installation of this upgrade or not. If a full calibration is required, arrangements regarding the level of calibration must be made between the end user and the calibration provider.

For assistance, contact your nearest Keysight Technologies Sales and Service Office. To find your local Keysight office access the following URL, or if in the United States, call the following telephone number:

<http://www.keysight.com/find/assist>

1-800-829-4444 (8 am - 8 pm ET, Monday - Friday)





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