

Keysight PXA Signal Analyzers

Option LNP Low Noise Path

or

Option MPB Microwave Preselector Bypass

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Manual Part Number

N9020-90181

Edition

Edition 1, May 2015

Printed in USA/Malaysia

Published by:

Keysight Technologies, Inc.
1400 Fountaingrove Parkway
Santa Rosa, CA 95403

Option LNP or Option MPB Installation Kit

Products Affected:	PXA N9030A, Options 508, 513, 526, 543, 544, and 550
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:	4 Hours (see Note 2)

Introduction

When a new instrument is ordered from the factory with either Option LNP or MPB enabled, the instrument is assembled with hardware that supports both options. Therefore, instruments that currently contain Option LNP can be upgraded to also contain Option MPB by licensing Option MPB. Instruments that currently contain Option MPB can be upgraded to also contain Option LNP by licensing Option LNP.

This installation note explains how to install Option LNP or Option MPB into instruments that already contain one of these options.

If the instrument HAS frequency range option 508, 513, or 526 and DOES NOT currently contain either Option LNP, or Option MPB, the hardware required to support these two options is not contained in the instrument and the N9030AK-HL1 retrofit kit is required.

If the instrument HAS frequency range option 543, 544, or 550 and DOES NOT currently contain either Option LNP, or Option MPB, the hardware required to support these two options is not contained in the instrument and the N9030AK-HL2 retrofit kit is required.

Option LNP provides a switchable Low Noise Path, for input frequencies 3.6 GHz and greater. This low noise path when activated allows enhanced DANL and SHI performance.

Option MPB provides a switchable microwave preselector filter bypass path for input frequencies 3.6 GHz and above. The preselector filter limits the bandwidth of the input signal and can cause slight amplitude errors if the filter drifts.

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 one year 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 these options. If you require test data for these options then a full calibration is required after installation of these options. 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 year, or if the instrument is more than one year old, additional adjustments and performance verification tests are required to ensure that the 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 MXA software may be downloaded from http://www.keysight.com/find/Xseries_software
 4. These options are 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

- Personal computer with internet access and USB port
- USB storage device with > 2 GB free memory

If adjustments and performance testing is required:

- Keysight Calibration and Adjustment Software, N7814A
- Test equipment and computer supported by the X-Series Performance Tests and Adjustment Software.

Optional tools:

- Instrument Service Guide - purchase as N9030AK-OBW or N9030-90015

Installation Procedure over USB

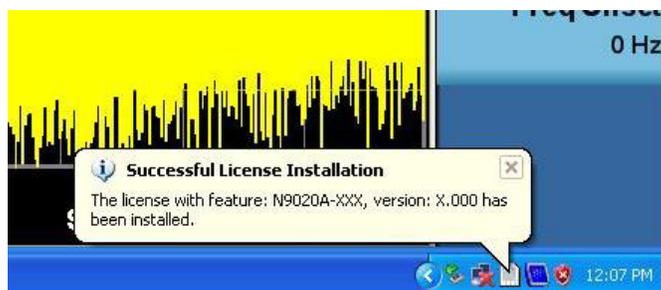
- 1.** Locate the Option Upgrade Entitlement Certificate (5964-5178) from the kit.
- 2.** Redeem the Option Upgrade Entitlement Certificate by following the instructions on the Certificate.
- 3.** After redeeming your Option Upgrade Entitlement Certificate you will receive an email with an attached License 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 the signal analyzer USB port. 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 signal analyzer 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 as 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 signal analyzer

C:\Program Files\Agilent\licensing

Verify the Installation

1. Cycle the instrument power and allow the instrument to boot to the measurement screen.
2. Press **System, Show, System** to display a list of installed options.
3. Verify that Options LNP and MPB appear on the list.

Manually Control the Option

Assure the signal analyzer is in Spectrum Analyzer mode.

View the 4.8 GHz calibrator signal:

Preset the analyzer by pressing the green **Mode Preset** key.

Press **Input/Output, RF Calibrator, 4.8 GHz**.

Press **Freq/Channel**, enter **4.8 GHz**. Press **Span**, enter **5 MHz**.

Enable the Low Noise Path or the Preselector Bypass:

Press **AMPTD, More, uW Path Ctrl**.

Softkeys will appear that let you select Low Noise Path Enable or uW Preselector Bypass.

Pressing either of these softkeys will result in an audible “click” that is caused by mechanical switches activating. The 4.8 GHz calibrator signal will remain on screen.

Option LNP or Option MPB Installation Kit

Utilities, Adjustments, and Performance Verification Tests

Calibration Software and specified test equipment is required to perform the adjustments and 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 one year old, or if this instrument has been adjusted as part of calibration during its first year, the following adjustments are the minimum set required to ensure that this newly installed option is functioning properly.

Adjustments

Adjustments dependent on performance verification test results

Performance Testing Required

If the instrument is more than one year old, or if the instrument has been adjusted as part of a calibration during its first year, 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.

Performance Verification Tests

Perform all performance verification tests

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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Edition 1, May 2015



N9020-90181

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