

Keysight Technologies
N9010B EXA
N9020B/N9021B MXA Signal Analyzers

Option MPB Microwave Preselector Bypass

Notice.

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Option MPB Installation Kit

Products Affected:	N9010B EXA, Options 507, 513, and 526 N9020B MXA, Options 508, 513, 526, 532, 544, 550 N9021B MXA, Options 532, 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 B40 or DP2 enabled, the instrument is assembled with hardware that also supports Option MPB. Therefore, instruments that currently contain either Option B40 or DP2 can be upgraded to also contain Option MPB by licensing Option MPB.

This installation note explains how to install Option MPB into instruments that already contain Option B40 and/or Option DP2.

If the instrument DOES NOT currently contain either Option B40 or Option DP2, the hardware required to support Option MPB is not contained in the instrument and the N9010BU-B40 or N9020BU-B40 retrofit kit is required.

All N9021B MXA signal analyzers have Options B40 and DP2.

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 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 year, or if the instrument is more than one year 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 X-Series signal analyzer software may be downloaded from:

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

- Personal computer with internet access and USB port

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.
- USB storage device with >2GB free memory

Optional tools:

- Instrument Service Guide - available online at the following URL:
 N9010B EXA: www.keysight.com/find/N9010B_service_guide
 N9020B MXA: www.keysight.com/find/N9020B_service_guide
 N9021B MXA: www.keysight.com/find/N9021B_service_guide

Installation Procedure over USB

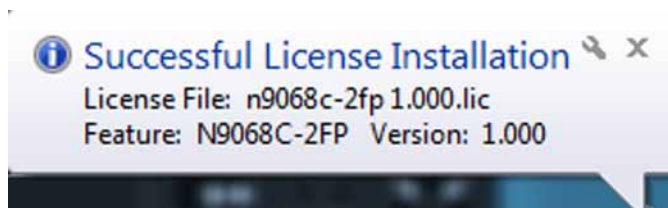
1. Locate the Option Upgrade Entitlement Certificate (5964-5178) from the kit.
2. Redeem the Option Upgrade Entitlement Certificate by following the instructions on the Certificate.
3. After redeeming your Option Upgrade Entitlement Certificate you will receive an email with an attached License File.
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 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 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 N9010B-MPB, N9020B-MPB, or N9021B-MPB, as appropriate, appears 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** from the RF Calibrator drop-down menu, and select **4.8 GHz**.

Press **Frequency, Center Frequency** and enter **4.8 GHz**. Press **Span**, enter **5 MHz**.

Enable the Low Noise Path or the Preselector Bypass:

Press **Amplitude, Signal Path, uW Path Ctrl**.

Verify that the selections appear labeled "Standard Path" and "uW Presel Bypass".

Tap **uW Presel Bypass**. If the path was previously set to Standard Path, you should hear a "click".

Tap **Standard Path**. If the path was previously set to uW Presel Bypass, you should hear a "click".

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
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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
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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)

