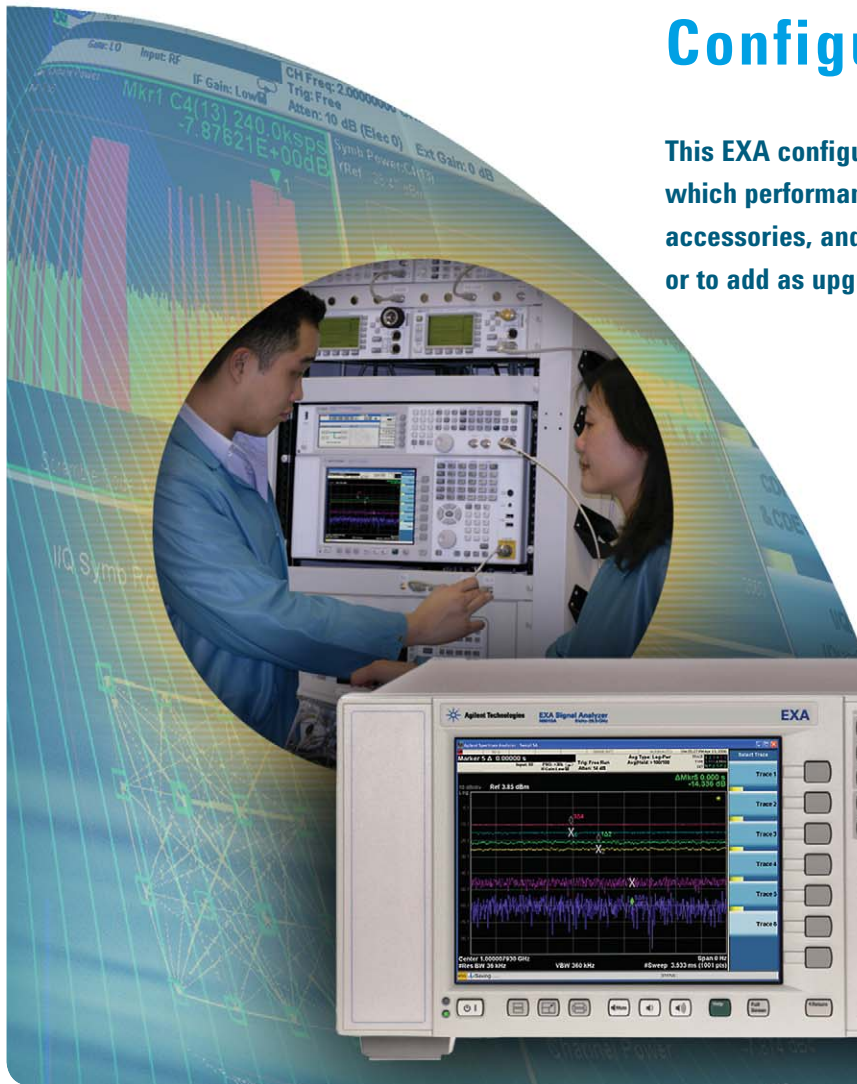


# Agilent EXA Signal Analyzer N9010A

## Configuration Guide

This EXA configuration guide will help you determine which performance options, measurement applications, accessories, and services to include in your new EXA or to add as upgrades to an existing EXA.



N9010A EXA  
Signal Analyzer



Agilent Technologies

# Agilent EXA Signal Analyzer

This step-by-step process will help you configure your EXA. Capabilities that are listed as standard come with the instrument at no additional charge. Tailor the performance, exterior, and service packages to meet your requirements. Ordering optional capabilities at time of purchase provides the lowest overall cost. For detailed specifications, refer to the *EXA Signal Analyzer Specification Guide*, (Literature number N9020-90001). For a summary of specifications, refer to the *EXA Signal Analyzer Data Sheet* (Literature number 5989-6529EN).

## Step 1. Select maximum frequency range (required option; frequency range not upgradeable)

Description	Option number	Additional information
Frequency range, 9 kHz to 3.6 GHz	N9010A-503	Comes standard with 10 MHz analysis bandwidth
Frequency range, 9 kHz to 7 GHz	N9010A-507	Comes standard with 10 MHz analysis bandwidth
Frequency range, 9 kHz to 13.6 GHz	N9010A-513	Comes standard with 10 MHz analysis bandwidth
Frequency range, 9 kHz to 26.5 GHz	N9010A-526	Comes standard with 10 MHz analysis bandwidth

## Step 2. Choose frequency reference

Description	Option number	Additional information
Frequency reference	Standard	Aging rate: $\pm 1 \times 10^{-7}$ / year
Precision frequency reference, 10 MHz	N9010A-PFR	Reduces frequency drift resulting in more accurate measurements Aging rate: $\pm 1 \times 10^{-6}$ / year

## Step 3. Choose an attenuator

Description	Option number	Additional information
Mechanical attenuator	Standard	10 dB steps, 0 to 60 dB
Fine step attenuator	N9010A-FSA	Allows 2 dB steps for the full 60 dB range of the mechanical attenuator.
Electronic attenuator up to 3.6 GHz	N9010A-EA3	Add in addition to the mechanical attenuator; 1 dB steps, 0 to 24 dB

## Step 4. Add a preamplifier (preamplifiers are not standard)

Description	Option number	For low level signal detection
Preamplifier, 100 kHz to 3.6 GHz	N9010A-P03	+20 dB: 100 kHz to 3.6 GHz Compatible with all frequency range options

## Step 5. Add additional hardware

Description	Option number	Additional information
Instrument security, additional CPU/HDD	N9010A-CPU	An additional removable CPU/HDD with matched instrument calibration files for secure test facilities

## Step 6. Add measurement application software

Description	Ordering number	Additional information
Analog demodulation measurement application	N9063A	Adds one-button measurement for AM/FM/PM demodulation with metrics; tune and listen and AF spectrum
Phase noise measurement application	N9068A	Adds one-button measurements for analyzing phase noise in frequency domain (log plot) and time domain (spot frequency)
Noise figure measurement application	N9069A	Automated measurements allowing all the required calculations for noise figure, gain, and related metric at the touch of a button; this option will work with Agilent's smart noise sources
GSM/EDGE measurement application	N9071A	Adds one-button, standard compliant, GSM/GPRS/EDGE measurement capability
cdma2000® measurement application	N9072A-2FP	Adds one-button power measurements and modulation analysis to help you quickly and easily test your cdma2000/cdmaOne base stations and user equipment
W-CDMA measurement application	N9073A-1FP	Standards-based, one-button W-CDMA measurements
HSDPA/HSUPA measurement application	N9073A-2FP	Adds HSDPA/HSUPA measurements to the W-CDMA application; requires N9073A-1FP
802.16 OFDMA measurement application	N9075A	Standards-based, one-button Mobile WiMAX™ measurements; programmable
TD-SCDMA measurement application	N9079A-1FP	Quick power measurements such as transmit power, power versus time, occupied bandwidth, adjacent channel power, spectrum emission mask, and more
HSDPA/8PSK measurement application	N9079A-2FP	Allows modulation analysis measurements viewable as composite EVM, constellation diagram, code domain power, I/Q error, and more; requires TD-SCDMA (N9079A-1FP)
89601A vector signal analysis (VSA) software application	89601A	Enables complex signal analysis—adds general purpose and standards-specific modulation analysis, including W-CDMA, and WiMax, as well as mouse and keyboard control or .COM API; see <a href="http://www.agilent.com/find/89600">www.agilent.com/find/89600</a> for a complete list of ordering numbers and options
89601X signal measurement application	89601X	Adds general purpose modulation analysis for AM/FM/PM, 2-16FSK, 2-8PSK, and 16-1024QAM modulation types via front panel control or SCPI programming

## Step 7. Choose physical instrument configuration

Description	Option number	Additional information
Bench top configuration	Standard	Provides two side carrying straps, four rear feet and four bottom feet with a tilt stand; a front panel protective cover is included
Portable configuration	N9010A-PRC	Provides a convenient, pivoting carrying handle and rubber protective corners and end guards; this configuration is intended for applications requiring more rugged packaging, such as in the field



**EXA bench top configuration**



**EXA portable configuration**

## Step 8. Add accessories

Description	Option number	Additional information
USB DVD-ROM/CD-R/RW drive	N9010A-DVR	Enhances the usability of the Windows® XP Professional operating system
USB storage device, 1 GB	N9010A-EFM	Enhances the usability of the Windows® XP Professional operating system
Hard transit case	N9010A-HTC	Ultra-durable wheeled carrying case offers maximum protection and portability
Keyboard, USB interface	N9010A-KYB	Enhances the usability of the Windows® XP Professional operating system
Minimum loss pad, 50 to 75 Ohms (type-N to BNC)	N9010A-MLP	50-ohm type-N male to 75 ohm BNC female adapter Frequency range: 9 MHz to 2 GHz Input/output return loss: 20 db and 11 dB Insertion loss: 5.7 dB
Mouse, USB interface	N9010A-MSE	Enhances the usability of the Windows® XP Professional operating system
Rack mount	N9010A-1CM	Adds rack mount flanges to the EXA
Front handles	N9010A-1CN	Adds front handles to the EXA
Rack mount with handles	N9010A-1CP	Adds rack mount flanges and front handles to the EXA
Rack slide	N9010A-1CR	Adds a non-tilting rack slide to the instrument
Getting Started Guide and User's Guide printed manuals	Standard	US – English localization, other languages to follow. All user documentation is included in the EXA embedded context help system inside the EXA and on a CD that is shipped with the instrument. User documentation can be downloaded from: <a href="http://www.agilent.com/find/exa_manuals">www.agilent.com/find/exa_manuals</a>

For more information visit: [www.agilent.com/find/accessories](http://www.agilent.com/find/accessories)

## Step 9. Choose warranty length

Description	Ordering number	Additional information
1-year return-to-Agilent warranty and service	Standard (R-51B-001-C)	1-year warranty is included at no additional charge
3-year return-to-Agilent warranty and service	R-51B-001-3C	Recommended upgrade

## Step 10. Add calibration, technical training and support services

Description	Ordering number	Additional information
Calibration service: Agilent upfront support plan, 3-year term	R-50C-011-3	Agilent tests your instrument against its original specifications, and automatically makes adjustments if outside of specified parameters; pre and post-adjustment measurement data reports are also provided
Calibration software: Agilent inclusive	R-52A-001-3: 3-year term R-52A-001-L: perpetual term	Software used to automate Agilent instrument calibrations; a 3-year term or perpetual licenses are available
Compliant calibrations: ISO 17025 and ANSI Z540	R-52A-002-3: 3-year term R-52A-002-L: perpetual license	Software used to automate Agilent instrument calibrations; includes measurement uncertainty calculations and reports that are compliant to ISO/IEC 17025 and ANSI/NCCL Z540 standards; 3-year term or perpetual licenses available
Service: remote scheduled productivity assistance	PS-S10-100	Hourly phone-in technical support service designed to help you understand and operate your equipment through convenient phone and Web access
Service: 1-day start-up assistance	PS-S20-01	Training on how to operate your instrument effectively; recommended
Service: productivity assistance	PS-S20-100	Daily instrument and application consulting using your equipment and device-under-test
Service: custom engineering service	PS-X10-100	Application specific technical assistance

Other calibration options may be available. For more information on calibration go to: [www.agilent.com/find/calibration](http://www.agilent.com/find/calibration).

For more information on training and application support services go to: [www.agilent.com/find/training](http://www.agilent.com/find/training)

## Hardware Upgrades

Add additional options or upgrade your existing EXA

**In order to utilize the fast upgrade process, purchase these additional options within one year of original purchase. Any upgrades purchased after one year may require calibration.**

1. Place an order for the upgrade with Agilent and request to receive the option upgrade entitlement certificate through email
2. Redeem the certificate through the Web by following the instructions on the certificate
3. Install the license file in the EXA
4. Begin using the new capability

Installation and testing information is available at: [www.agilent.com/find/exa\\_upgrades](http://www.agilent.com/find/exa_upgrades)

Description	Upgrade number	Requirements (instrument must already include the following)	Incompatibilities
Front panel cover, additional	N9010AK-CVR <sup>1</sup>	None	None
USB DVD-ROM/CD-R/RW drive	N9010AK-DVR <sup>1</sup>	None	None
Electronic attenuator, 3.6 GHz	N9010AK-EA3	None	None
USB storage device, 1 GB	N9010AK-EFM <sup>1</sup>	None	None
Fine step attenuator	N9010AK-FSA	None	None
Hard transit case	N9010AK-HTC <sup>1</sup>	None	None
Keyboard, USB interface	N9010AK-KYB <sup>1</sup>	None	None
Preamplifier, 3.6 GHz	N9010AK-P03	None	None
Upgrade to the precision frequency reference	N9010AK-PFR	None	None
Portable configuration	N9010AK-PRC	None	1CM, 1CP, 1CN, 1CR
Minimum loss pad, 50 to 75 ohms (type-N to BNC)	N9010AK-MLP <sup>1</sup>	None	None
Mouse, USB interface	N9010AK-MSE <sup>1</sup>	None	None
USB storage device loaded with EXA instrument software	N9010AK-SWM	None	None
Rack mount kit	N9010AK-1CM	None	PRC, 1CP, 1CN, 1CR
Front handle kit	N9010AK-1CN	None	PRC, 1CP, 1CM, 1CR
Rack mount and handle kit	N9010AK-1CP	None	PRC, 1CM, 1CN, 1CR
Rack slide kit	N9010AK-1CR	None	PRC, 1CM, 1CN

**1. Please see page 10 for a picture of this option**

## Application Software Upgrades

Application software is periodically updated to add new functionality, improve performance, and to fix software issues. Major updates require a license file to activate the new functionality. Minor revisions are activated with existing license files.

### Measurement Application Software Upgrades

#### Add measurement application software to an existing EXA signal analyzer

Order any measurement application software option listed in step 3 as an upgrade to your existing EXA. Some options may require a calibration before meeting full specifications. Please see the EXA upgrades website for full details: [www.agilent.com/find/exa\\_upgrades](http://www.agilent.com/find/exa_upgrades). Before installing a new measurement application license file in the EXA, it is recommended that the EXA have the latest version of software. The EXA instrument software package includes all the software that controls and operates the EXA hardware and enables it to perform spectrum analysis, as well as all the measurement application software.

**The fast upgrade process below will minimize your instrument's downtime when upgrading to add this capability.**

1. Place an order for the upgrade with Agilent and request to receive the option upgrade entitlement certificate through email
2. Redeem the certificate through the Web by following the instructions on the certificate
3. Install license file in EXA
4. Begin using the new capability

Additional installation and testing information is available from the following Web page: [www.agilent.com/find/exa\\_upgrades](http://www.agilent.com/find/exa_upgrades)



## Other Information

### Connectivity (included standard)

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6 USB 2.0 type-A ports connect up to six USB devices to the EXA without using a hub; EXA behaves like a host controller; USB 2.0 compatible ports

- two on front
- four on the back

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1 USB 2.0 type-B port EXA behaves like a USB device(client);  
USB 2.0 compatible port)

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100 Based-T LAN interface

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GPIB

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LXI C

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### Standard software

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Open Windows XP Professional operating system including

- Remote Desktop, Internet Explorer, File Explorer and other standard programs
- Embedded web server (LXI class-C compliant)
- Adobe® Reader

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### Instrument weight and dimensions

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#### Weight

Bench top configuration:	16 kg (35 lbs)
Portable configuration:	17 kg (37 lbs)

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#### Dimensions (bench top configuration)

Height:	17.7 cm (7.0 in)
Width:	42.6 cm (16.8 in)
Length:	36.8 cm (14.5 in)

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#### Display

Diagonal:	21.4 cm (8.4 in)
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### Transit case weight and dimensions

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Weight (empty)	20.4 kg (45 pounds).
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#### Dimensions

Height:	42.6 cm (16.8 in)
Width:	68.5 cm (27 in)
Length:	73.6 (29 in)

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# Accessories



Instrument security, additional CPU/HDD – N9010A-CPU



Portable configuration includes pivoting carrying handle and protective corner rubber guards (front protective cover comes standard) – N9010A-PRC



Hard transit case – N9010A-HTC

## Literature Resources

<b>Publication title</b>	<b>Publication number</b>
<b>Agilent MXA Signal Analyzer</b>	
<i>Agilent MXA Signal Analyzer, Brochure</i>	5989-5047EN
<i>Agilent MXA Signal Analyzer, Data Sheet</i>	5989-4942EN
<i>Agilent MXA Signal Analyzer, Configuration Guide</i>	5989-4943EN
<b>Agilent EXA Signal Analyzer</b>	
<i>Agilent EXA Signal Analyzer, Brochure</i>	5989-6527EN
<i>Agilent EXA Signal Analyzer, Data Sheet</i>	5989-6529EN
<i>Agilent EXA Signal Analyzer, Configuration Guide</i>	5989-6531EN
<b>Agilent X-Series Signal Analyzers</b>	
<i>Agilent X-Series Signal Analyzer (MXA/EXA), Demonstration Guide</i>	5989-6126EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) W-CDMA, HSDPA/HSUPA, Technical Overview</i>	5989-5352EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) 802.16 OFDMA, Technical Overview</i>	5989-5353EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) Phase Noise, Technical Overview</i>	5989-5354EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) GSM/EDGE, Technical Overview</i>	5989-6532EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) TD-SCDMA, Technical Overview</i>	5989-6534EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) Analog Demodulation, Technical Overview</i>	5989-6535EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) Noise Figure, Technical Overview</i>	5989-6536EN
<i>Using Agilent X-Series Signal Analyzers (MXA/EXA) for Measuring and Troubleshooting Digitally Modulated Signals, Application Note</i>	5989-4944EN
<i>Using Agilent X-Series Signal Analyzers (MXA/EXA) Preselector Tuning for Amplitude Accuracy in Microwave Spectrum Analysis, Application Note</i>	5989-4946EN
<i>Maximizing Measurement Speed with Agilent X-Series Signal Analyzers (MXA/EXA), Application Note</i>	5989-4947EN



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

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Malaysia	1 800 888 848
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Thailand	1 800 226 008

### Europe & Middle East

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Switzerland (German)	0800 80 53 53 (Opt 1)
United Kingdom	44 (0) 118 9276201

Other European Countries:

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