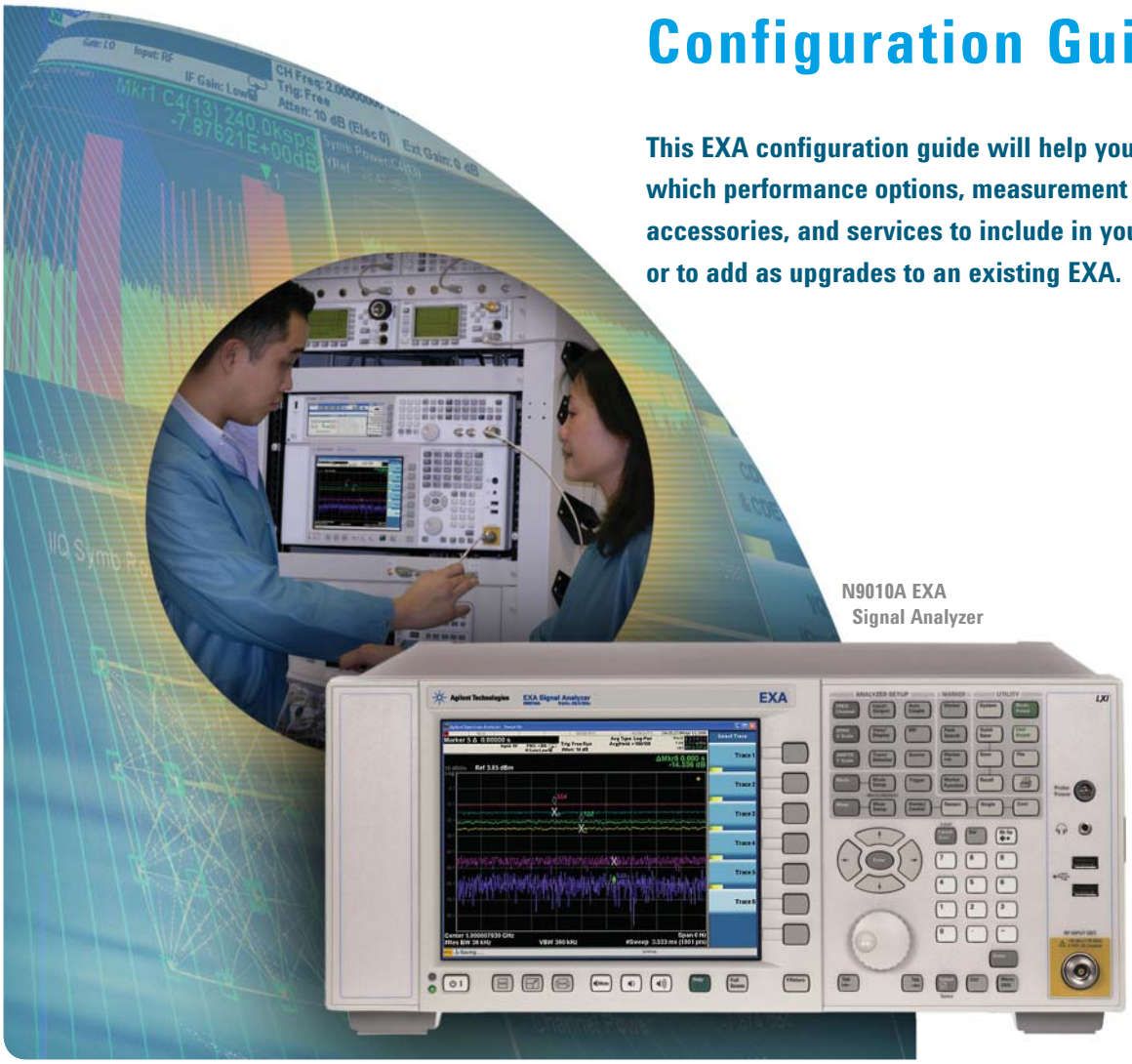
Agilent EXA Signal Analyzer N9010A

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: ±1 x 10^{-7} / year
Precision frequency reference, 10 MHz	N9010A-PFR	Reduces frequency drift resulting in more accurate measurements Aging rate: ±1 x 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 Compatble with all frequency range options

Step 5. Add additional hardware

Description	Option number	Additional information
Analog video out	N9010A-AV1	Provides 0 to 1.0 V output, proportional to the vertical position of the trace from the bottom to top of screen. Orderable December 2007.
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. Orderable December 2007.
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. Orderable December 2007.
GSM/EDGE measurement application	N9071A	Adds one button, standard compliant, GSM/GPRS/EDGE measurement capability.
cdma2000® measurement application	N9072A	Adds one-button power measurements and modulation analysis to help you quickly and easily test your cdma2000/cdmaOne base stations and user equipment. Orderable December 2007.
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. Orderable December 2007.
HSDPA/8PSK measurement application	N9079A-2FP	Allows modulation analysis measurements viewable as composite EVM, constellation diagram, code domain power, I/Q error, and more. Orderable December 2007. Requires TD-SCDMA (N9079A-1FP).
89601A vector signal analysis (VSA) software application	89601A	Add to enable complex signal analysis. Adds general purpose and standards-specific modulation analysis, including W-CDMA, WLAN, and WiMax. Also adds mouse and keyboard control or .COM API. See **www.agilent.com/find/89600** for a complete list of ordering numbers and options.
89601X vector signal analysis (VSA) for X-Series platform	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. Orderable early 2008.

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, 512 MB	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: **www.agilent.com/find/exa_manuals**

For more information visit: **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
Commercial calibration certificate	N9010A-UK6	Commercial calibration certificate with test data
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
Calibration software: 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/NCSL 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**.

For more information on training and application support services go to: **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**

Description	Upgrade number	Requirements (instrument must already include the following)	Incompatibilities
Analog video out	N9010AK-AV1	None	None
Front panel cover	N9010AK-CVR[1]	None	None
USB DVD-ROM/CD-R/RW drive	N9010AK-DVR[1]	None	None
Electronic attenuator, 3.6 GHz	N9010AK-EA3	None	None
USB storage device, 512 MB	N9010AK-EFM[1]	None	None
Fine step attenuator	N9010AK-FSA	None	None
Hard transit case	N9010AK-HTC[1]	None	None
Keyboard, USB interface	N9010AK-KYB[1]	None	None
Preamplifier, 3.6 GHz	N9010AK-P03	None	None
Upgrade to the precision frequency reference	N9010AK-PFR	None	None
Portable configuration (includes front panel protective cover)	N9010AK-PRC[1]	None	1CM, 1CP, 1CN, 1CR
Minimum loss pad, 50 to 75 ohms (type-N to BNC)	N9010AK-MLP[1]	None	None
Mouse, USB interface	N9010AK-MSE[1]	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 fix software issues. Minor revisions are free. Major revisions will be available as pay-for updates. Updates include license files that activate the new functionality and capabilities. All EXA software revisions are provided the first year, including major revisions, at no additional charge.

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**. 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**

Other Information

Connectivity (included standard)

6 USB 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
1 USB type-B port	EXA behaves like a USB device(client); USB 2.0 compatible port
100 based-T LAN interface	
GPIB	

Standard software

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

Instrument weight and dimensions

Weight	
Bench top configuration:	16 kg (35 lbs)
Portable configuration:	17 kg (37 lbs)
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)
Display	
Diagonal:	21.4 cm (8.4 in)

Transit case weight and dimensions

Weight (empty)	20.4 kg (45 pounds).
Dimensions	
Height:	42.6 cm (16.8 in)
Width:	68.5 cm (27 in)
Length:	73.6 (29 in)

Accessories

Front panel protective cover included with new instrument purchase; for additional covers – N9010AK-CVR

USB DVD-ROM/CD-R/RW drive – N9010A-DVR

Kit to add portable configuration – N9010AK-PRC

Keyboard, USB interface – N9010A-KYB

Minimum loss pad, 50 to 75-Ω (type-N to BNC) – N9010A-MLP

Mouse, USB interface – N9010A-MSE

USB storage device, 512 MB – N9010A-EFM

Instrument security, additional CPU/HDD

Front

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

Angled

Hard transit case – N9010A-HTC

Literature Resources

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

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United Kingdom	44 (0) 7004 666666

Other European Countries:
www.agilent.com/find/contactus

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Product specifications and descriptions in this document subject to change without notice.

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