



Agilent CXA Signal Analyzer

Configuration Guide

N9000A

9 kHz to 3.0 or 7.5 GHz



Agilent CXA Signal Analyzer

This step-by-step process will help you configure your CXA. 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 the time of purchase provides the lowest overall cost. For detailed specifications, refer to the CXA Signal Analyzer Specification Guide, (literature number N9000-90016). For a summary of specifications, refer to the CXA Signal Analyzer Data Sheet (literature number 5990-4327EN).

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

Description	Option number	Additional information
Frequency range, 9 kHz to 3.0 GHz	N9000A-503	Comes standard with 10 MHz analysis bandwidth
Frequency range, 9 kHz to 7.5 GHz	N9000A-507	Comes standard with 10 MHz analysis bandwidth

Step 2. Choose an attenuator

Description	Option number	Additional information
Electronic attenuator	Standard	10 dB steps, 0 to 50 dB
Fine resolution step attenuator	N9000A-FSA	Allows 2 dB steps for the full 50 dB range of the electronic attenuator

Step 3. Add a preamplifier (preamplifiers are not standard)

Description	Option number	For low level signal detection
Preamplifier, 100 kHz to 3.0 GHz	N9000A-P03	+20 dB nominal: 100 kHz to 3.0 GHz
Preamplifier, 100 kHz to 7.5 GHz	N9000A-P07	+20 dB nominal: 100 kHz to 7.5 GHz

Step 4. Add optional features

Description	Option number	Additional information
Basic precompliance EMI features	N9000A-EMC	Perform precompliance EMI measurements with CISPR 16-1-1 detectors and bandwidths. Tune & listen and measure at marker are also available.

Step 5. Choose measurement application software

Note: The last two letters of ordering numbers indicate the license type. FP stands for Fixed Perpetual. The CXA only offers fixed perpetual.

Description	Ordering number Fixed Licenses	Additional information
Spectrum analyzer measurement application	Standard	Traditional spectrum analysis; plus many new and enhanced functions; power measurements based on industry specifications; SCPI programmable
Analog demodulation measurement application	W9063A-2FP	Adds one-button measurement for AM/FM/PM demodulation with metrics, tune and listenand AF spectrum
Phase noise measurement application	W9068A-2FP	Adds one-button measurements for analyzing phase noise in frequency domain (log plot) and time domain (spot frequency)
Noise figure measurement application	W9069A-1FP (requires preamplifier)	Adds one-button measurements for noise figure, gain, and related metrics; requires preamplifier to meet specifications; works with Agilent N400xA Series smart noise sources and 346 Series noise sources
VXA vector signal analyzer measurement application	89601X	Brings vector signal analysis to the test rack with SCPI programming and hardkey/softkey interface. See www.agilent.com/find/vxa for more information
VXA Basic VSA-Lite	89601XFP-205	Adds high resolution FFT-based spectrum and time-domain measurements, time gating, AM/FM/PM demodulation, statistical measurements; required option at initial order of 89601X
VXA X-Series connectivity	89601XFP-333 (requires 205)	Required option at initial order of 89601X
VXA vector modulation analysis	89601XFP-AYA (requires 205/333)	Adds general purpose digital modulation for 2-16 FSK, 2-8 PSK and 16-1024 QAM as well as over 15 additional formats
MATLAB® - Basic Signal Analysis Package	N6171A-M01	Adds MATLAB software environment and the Instrument Control Toolbox – use this configuration to configure, control, and acquire data from the CXA for basic signal analysis; not upgradable after the instrument shipped
MATLAB - Standard Signal Analysis Package	N6171A-M02	Adds MATLAB Basic Signal Package plus the Communications Toolbox and Signal Processing Toolbox – use this configuration to filter or demodulate signals, automate measurements, analyze or visualize data, or build test systems; not upgradable after the instrument shipped
MATLAB - Advanced Signal Analysis Package	N6171A-M03	Adds MATLAB Standard Signal Package plus the Filter Design Toolbox, RF Toolbox, and System Test – use System Test software to develop, manage, and execute test routines developed in MATLAB; not upgradable after the instrument shipped

Step 6. Add the following options if you choose 89601A with CXA

Description	Option number	Additional information
Basic VSA software	89601A-200	Required
Hardware connectivity	89601A-300	Required
Flexible vector modulation analysis	89601A-AYA	
cdma2000 [®] / 1 x EV-DV modulation analysis	89601A-B7T	
1xEV-DO modulation analysis	89601A-B7W	
TD-SCDMA modulation analysis	89601A-B7X	
TEDS modulation analysis & test	89601A-BHA	
RFID modulation analysis	89601A-BHC	
Link to ADS software	89601A-105	
Link to MathWorks Simulink Simulation and Model-Based Design	89601A-106	

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	N9000A-PRC	Provides a convenient, pivoting carrying handle and rubber protective corners and end guards. This configuration is intended for applications requiring more rugged packaging.

Step 8. Add accessories

Description	Option number	Additional information
USB DVD-ROM/CD-R/RW drive	N9000A-DVR ¹	Enhances the usability of the Windows® XP Professional operating system
Hard transit case	N9000A-HTC ¹	Ultra-durable wheeled carrying case offers maximum protection and portability
Keyboard, USB interface	N9000A-KYB ¹	Enhances the usability of the Windows® XP Professional operating system (Note: Does not fit N9000A-BAG accessory pouch)
US 65 Key USB keyboard	N9000A-KB2 ¹	Compact design fits in N9000A-BAG accessory pouch for convenient storage
Accessory pouch	N9000A-BAG ¹	Easily store and carry the N9000A-KB2 keyboard and USB mouse in this attachable pouch
Minimum loss pad, 50 to 75 Ohms (Type-N to BNC)	N9000A-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
Rack mount	N9000A-1CM	Adds rack mount flanges to the CXA
Front handles	N9000A-1CN	Adds front handles to the CXA
Rack mount with handles	N9000A-1CP	Adds rack mount flanges and front handles to the CXA
Rack slide	N9000A-1CR	Adds a non-tilting rack slide to the instrument
Getting Started Guide and User's Guide printed manuals	Standard	US – English localization. All user documentation is included in the CXA embedded context help system inside the CXA and on a CD that is shipped with the instrument. User documentation can be downloaded from: www.agilent.com/find/CXA_manuals
Getting Started Guide simplified Chinese localized printed manual	N9000A-AB2	Simplified Chinese localization.

For more information visit: www.agilent.com/find/accessories

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

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

Description	Ordering number	Additional information
Commercial calibration certificate with test data	N9000A-UK6	Calibration certificate only available at time of instrument purchase; only provides measurement results
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
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

Instrument Upgrades

Upgrade your existing CXA

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 and latest software in the CXA
4. Begin using the new capability

Installation and testing information is available at: www.agilent.com/find/CXA_upgrades

Description	Upgrade number	Additional information
Preamplifier, 3.0 GHz	N9000AK-P03	
Preamplifier, 7.5 GHz	N9000AK-P07	
Basic EMC functionality	N9000AK-EMC	
Fine resolution step attenuator	N9000AK-FSA	
Portable configuration	N9000AK-PRC ¹	Not compatible with 1CM, 1CP, 1CN, 1CR
Front panel cover, additional	N9000AK-CVR ¹	
USB DVD-ROM/CD-R/RW drive	N9000AK-DVR ¹	
USB storage device, 4 GB	N9000AK-EFM ¹	
Hard transit case	N9000AK-HTC ¹	
Keyboard, USB interface	N9000AK-KYB ¹	Enhances the usability of the Windows XP Professional operating system (Note: Does not fit N9000A-BAG accessory pouch)
US 65 key USB keyboard	N9000AK-KB2 ¹	Compact design fits in N9000A-BAG accessory pouch for convenient storage
Mouse, USB interface	N9000AK-MSE	
CXA Instrument Software on USB media	N9000AK-SWM	

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

Instrument Upgrades (continued)

Description	Upgrade number	Additional information
Accessory pouch	N9000AK-BAG ¹	
Minimum loss pad, 50 to 75 ohms (Type-N to BNC)	N9000AK-MLP	
Rack mount kit	N9000AK-1CM	Not compatible with PRC, 1CP, 1CN, 1CR
Front handle kit	N9000AK-1CN	Not compatible with PRC, 1CP, 1CM, 1CR
Rack mount and handle kit	N9000AK-1CP	Not compatible with PRC, 1CM, 1CN, 1CR
Rack slide kit	N9000AK-1CR	Not compatible with PRC, 1CM, 1CN

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

Other Information

Connectivity (included standard)

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

- two on front
- four on the back

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

100Base-T LAN interface

GPIB: Controller or Device

LXI: Class-C compliant

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:	14.0 kg (30.8 lbs)
Portable configuration:	15.0 kg (33.0 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)
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Transit case weight and dimensions

Weight (empty)	20.4 kg (45 lbs)
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Dimensions

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

Accessories



N9000A CXA signal analyzer and N9000A-BAG optional bag



Hard transit case – N9000A-HTC



Portable configuration includes pivoting carrying handle and protective corner rubber guards (front protective cover comes standard) – N9000A-PRC

Literature Resources

Literature title	Literature number
Agilent CXA Signal Analyzers	
Brochure	5990-3927EN
Data Sheet	5990-4327EN
Configuration Guide	5990-4341EN

For more information on the CXA, visit: www.agilent.com/find/CXA

For information about X-Series applications, visit: www.agilent.com/find/xseries_apps

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LXI

www.lxistandard.org
LXI is the LAN-based successor to GPIB, providing faster, more efficient connectivity. Agilent is a founding member of the LXI consortium.

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