

# Keysight Technologies

## UXG Agile Signal Generator

### N5193A

## Configuration Guide



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

## Configure Your New UXG

This step-by-step process will help you configure your UXG agile signal generator. Tailor the performance to meet your requirements.

### Included in base product

Standard options and accessories come with the UXG base model at no additional charge and do not need to be ordered. They include:

- 10 kHz frequency resolution
- 100  $\mu$ s switching speed
- Amplitude range of +10 to -10 dBm
- Standard phase noise of -117 dBc/Hz (typ) at 20 kHz offset for a 10 GHz carrier frequency
- 3-year return-to-Keysight warranty
- One day of on-site startup assistance

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

Description	Option number	Additional information
Frequency range from 10 MHz to 20 GHz	N5193A-520	Not compatible with Option 540 Includes standard adapter 3.5 mm female to 3.5 mm female
Frequency range from 10 MHz to 40 GHz	N5193A-540	Not compatible with Option 520 Includes standard adapter set, 2.4 mm female-female and 2.4 mm female - 2.9 mm female

#### Step 2. Choose frequency resolution

Description	Option number	Additional information
Frequency resolution 10 kHz	Standard	
Frequency resolution 0.001 Hz	N5193A-FR1	

#### Step 3. Choose switching speed options

Description	Option number	Additional information
Switching speed 100 $\mu$ s	Standard	List update rate 100 $\mu$ s
Switching speed 1 $\mu$ s	N5193A-SS1	List update rate 1 $\mu$ s; not compatible with Option SS2
Switching speed 370 ns	N5193A-SS2	List update rate < 180 ns; switching speed of 370 ns applies in fast CW mode; not compatible with Option SS1

#### Step 4. Choose amplitude range

Description	Option number	Additional information
Amplitude range +10 to -10 dBm	Standard	
Mechanical and solid-state attenuator	N5193A-AT1	80 dB agile range and 120 dB overall range

#### Step 5. Choose spectral purity options

Description	Option number	Additional information
Standard phase noise	Standard	-117 dBc/Hz (typ) at 20 kHz offset for a 10 GHz carrier frequency
Enhanced phase noise	N5193A-EP1	-126 dBc/Hz (typ) at 10 kHz offset for a 10 GHz carrier frequency

**Step 6. Choose modulation options**

Description	Option number	Additional information
AM, FM, phase modulation, narrowband chirp, and LF output	N5193A-UNT	Chirp is settable in List mode or through SCPI commands only.
Wideband chirp (min 10%)	N5193A-WC1	Requires UNT wideband chirp is settable in List and Streaming modes, via the FCP connector, or through SCPI commands.
Pulse modulation	N5193A-PM1	

**Step 7. Choose connector configuration**

Description	Option number	Additional information
Move all connectors to rear panel	N5193A-1EM	Not upgradable
Type-N (f) RF output connector	N5193A-1ED	Only available on 520 units Includes standard adapter Type-N male to 3.5 mm female
100-pin LVDS I/O interface	N5193A-CC1	Must select CC1 or CC2
50-pin BCD I/O interface	N5193A-CC2	Must select CC1 or CC2

**Step 8. Choose signal creation software**

Description	Option number	Additional information
Signal Studio for multi-emitter scenario generation (MESG)	N7660B	

**Step 9. Choose accessory and documentation options**

Description	Option number
Additional LVDS I/O interface	N5193AU-CC1
Additional BCD I/O interface	N5193AU-CC2
Additional removable 480 GByte solid-state drive	N5193AU-SSD
Front handle kit	1CN007A
Rack mount flange kit	34192A
Rack mount flange kit with front handles	1CP008A
CD-ROM containing English documentation set	N5193A-CD1
100-pin LVDS cable, 1.5m length	N5193A-CA1
50-pin BCD cable, 1.5m length	N5193A-CA2
Hard transit case	N5193A-AXT

Step 10. Choose warranty and calibration options	
Description	Option number
Return-to-Keysight warranty, 3 years	Standard
Return-to-Keysight warranty, 5 years	R-51B-001-5Z
Return-to-Keysight warranty, 7 years	R-51B-001-7Z
Return-to-Keysight warranty, 10 years	R-51B-001-10Z
Commercial calibration certificate with test data	N5193A-UK6
UXG Keysight calibration + uncertainties + guardbanding (compliant calibration)	N5193A-1A7
UXG ANSI Z540-1-1994 calibration	N5193A-A6J
Calibration assurance plan, Return-to-Keysight, 3 years	R-50C-011-3
Calibration assurance plan, Return-to-Keysight, 5 years	R-50C-011-5
Calibration assurance plan, Return-to-Keysight, 7 years	R-50C-011-7
Calibration assurance plan, Return-to-Keysight, 10 years	R-50C-011-10

Step 11. Choose startup assistance service options	
Description	Option number
Remote scheduled assistance 1- 999 hours	PS-S10
Startup assistance (one-day included standard)	PS-S20-UXG
Signal generator and source basics; half-day, maximum of eight students on site	PS-T10-ASG
Custom services to be qualified by Keysight	PS-X10

## Upgrade Your Existing UXG

Fast license-key upgrades for options that do not require additional hardware:

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

Installation, calibration, and verification information is available at:

[www.keysight.com/find/UXG\\_upgrades](http://www.keysight.com/find/UXG_upgrades)

### You Can Upgrade!

Options can be added after your initial purchase. Most UXG options are license-key upgradeable.



Description	Upgrade number	Requirements	Additional information
Switching speed 1 $\mu$ s	N5193AU-SS1	None	Customer installable – software, license key
Switching speed 370 ns	N5193AU-SS2	None	Customer installable – software, license key
Frequency resolution 1 Hz	N5193AU-FR1	None	Customer installable – software, license key
CD-ROM containing English documentation set	N5193A-CD1	None	
Commercial calibration certificate with test data	N5193AU-UK6	None	
AM, FM, phase modulation, narrowband chirp, and LF output	N5193AU-UNT	None	Customer installable – software, license key
Add wideband chirp (min 10%)	N5193AU-WC1	UNT	Customer-installable – software, license key
Pulse modulation	N5193AU-PM1	None	Customer installable – software, license key
Add mechanical and solid-state attenuator	N5193AU-AT1	None	Return to service center – hardware, license key
Add enhanced phase noise	N5193AU-EP1	None	Return to service center – software, license key
Add core instrument firmware enhancements	N5193AU-R2C	None	Customer installable – software, license key
Front handle kit, 3U	1CN007A	None	Hardware
Rack mount flange kit, 3U	34192A	None	Hardware
Rack mount flange kit with front handles, 3U	1CP008A	None	Hardware

