



EXG X-Series Signal Generators N5171B Analog & N5172B Vector

Configuration Guide

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



Configure Your EXG X-Series Signal Generator

This step-by-step process will help you configure your EXG signal generator. Tailor the performance to meet your requirements. For detailed specifications, refer to the EXG signal generator data sheet (5991-0039EN).

N5171B EXG X-Series RF Analog Signal Generator

Configure your new EXG analog signal generator

| Step 1. Select maximum frequency range (required option; frequency range not upgradeable) | | |
|---|---------------|------------------------------|
| Description | Option number | Additional information |
| Frequency range from 9 kHz to 1 GHz | N5171B-501 | Not compatible with 503, 506 |
| Frequency range from 9 kHz to 3 GHz | N5171B-503 | Not compatible with 501, 506 |
| Frequency range from 9 kHz to 6 GHz | N5171B-506 | Not compatible with 501, 503 |

| Step 2. Choose connector configuration | | |
|--|---------------|------------------------|
| Description | Option number | Additional information |
| Move all connectors to rear panel | N5171B-1EM | Not upgradeable |

| Step 3. Choose performance enhancement options | | |
|--|---------------|--|
| Description | Option number | Additional information |
| AM, FM, phase modulation | N5171B-UNT | |
| Narrow pulse modulation | N5171B-UNW | |
| Multifunction generator | N5171B-303 | |
| Pulse train generator | N5171B-320 | Requires UNW |
| Instrument security and removable memory card | N5171B-006 | |
| Fast switching | N5171B-UNZ | |
| High output power | N5171B-1EA | |
| Flexible reference input (1-50 MHz) | N5171B-1ER | |
| Expanded license key upgradability | N5171B-099 | Option 099 is recommended for anyone considering future upgrades. Option 099 simplifies the upgrade process by enabling upgrades via a license key for Options 1EA and UNZ. Without Option 099, upgrades for these options require purchase and installation of hardware in a field retrofit kit. For more information, visit www.agilent.com/find/SSupgrades . |

Step 4. Choose accessory and documentation options

| Description | Option number |
|---|---------------|
| Rack slide kit | 1CR012A |
| Front handle kit | 1CN006A |
| Rack mount flange kit | 1CM010A |
| Rack mount flange kit with front handles | 1CP004A |
| Hard transit case | N5171B-AXT |
| CD-ROM containing English documentation set | N5171B-CD1 |
| Service documentation, assembly and component | N5171B-0BW |

Step 5. Choose warranty and calibration options

| Description | Option number |
|---|---------------------|
| Warranty Assurance Plan, Return to Agilent, 3 years | standard, no charge |
| Warranty Assurance Plan, Return to Agilent, 5 years | R-51B-001-5C |
| Onsite warranty – 1 year | R-51C-001-1CU |
| Onsite warranty – 3 year | R-51C-001-3CU |
| Commercial calibration certificate with test data | N5171B-UK6 |
| Agilent Cal + Uncertainties + Guardbanding (accredited cal) | N5171B-AMG |
| Agilent Calibration + Uncertainties + Guardbanding, 3 years | R-50C-016-3 |
| Agilent Calibration + Uncertainties + Guardbanding, 5 years | R-50C-016-5 |
| ANSI Z540-1-1994 calibration | N5171B-A6J |
| ANSI Z540-1-1994 Calibration, 3 years | R-50C-021-3 |
| ANSI Z540-1-1994 Calibration, 5 years | R-50C-021-5 |
| Calibration Assurance Plan, Return-to-Agilent, 5 years | R-50C-011-5 |

Step 6. Choose startup assistance service options

| Description | Option number |
|---|---------------|
| Remote scheduled assistance 1- 999 hours | PS-S10 |
| Daily productivity assistance | PS-S20 |
| Signal generator and source basics; half-day, maximum of eight students on site | PS-T10-ASG |
| Custom services to be qualified by Agilent | PS-X10 |

Upgrade your existing EXG analog signal generator

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

1. Place an order for the upgrade with Agilent 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 Agilent License Manager
4. Begin using the new capability

Installation, calibration, and verification information is available at:

www.agilent.com/find/exg_upgrades



| Description | Upgrade number | Requirements | Additional information |
|---|----------------|--------------|--|
| Service documentation, assembly and component | N5171BU-0BW | None | Printed copy of service guide |
| Instrument security and removable memory card | N5171BU-006 | None | Hardware and license key upgrade |
| Expanded license key upgradability | N5171BU-099 | None | Hardware and license key upgrade |
| High output power | N5171BU-1EA | 099 | Customer installable – software, license key |
| Flexible reference input (1-50 MHz) | N5171BU-1ER | None | Customer installable – software, license key |
| Multifunction generator | N5171BU-303 | None | Customer installable – software, license key |
| Pulse train generator | N5171BU-320 | UNW | Customer installable – software, license key |
| Hard transit case | N5171BU-AXT | None | |
| CD-ROM containing English documentation set | N5171BU-CD1 | None | |
| Commercial calibration certificate with test data | N5171BU-UK6 | None | |
| AM, FM, phase modulation | N5171BU-UNT | None | Customer installable – software, license key |
| Narrow pulse modulation | N5171BU-UNW | None | Customer installable – software, license key |
| Fast switching | N5171BU-UNZ | 099 | Customer installable – software, license key |
| Rack slide kit | 1CR012A | None | Hardware |
| Front handle kit | 1CN006A | None | Hardware |
| Rack mount flange kit | 1CM010A | None | Hardware |
| Rack mount flange kit with front handles | 1CP004A | None | Hardware |

N5172B EXG X-Series RF Vector Signal Generator

Configure your new EXG vector signal generator

| Step 1. Select maximum frequency range (required option; frequency range not upgradeable) | | |
|---|---------------|-------------------------|
| Description | Option number | Additional information |
| Frequency range from 9 kHz to 3 GHz | N5172B-503 | Not compatible with 506 |
| Frequency range from 9 kHz to 6 GHz | N5172B-506 | Not compatible with 503 |

| Step 2. Choose connector configuration | | |
|--|---------------|------------------------|
| Description | Option number | Additional information |
| Move all connectors to rear panel | N5172B-1EM | Not upgradeable |
| Differential I/Q outputs | N5172B-1EL | |

| Step 3. Choose performance enhancement options | | |
|--|---------------|--|
| Description | Option number | Additional information |
| AM, FM, phase modulation | N5172B-UNT | |
| Enhanced dynamic range | N5172B-UNV | Requires 653 |
| Narrow pulse modulation | N5172B-UNW | |
| Fast switching | N5172B-UNZ | |
| Multifunction generator | N5172B-303 | |
| Pulse train generator | N5172B-320 | Requires UNW |
| Instrument security and removable memory card | N5172B-006 | |
| Internal solid-state memory | N5172B-009 | |
| High output power | N5172B-1EA | |
| Flexible reference input (1-50 MHz) | N5172B-1ER | |
| LO in/out for phase coherency | N5172B-012 | |
| Expanded license key upgradability | N5172B-099 | Option 099 is recommended for anyone considering future upgrades. Option 099 simplifies the upgrade process by enabling upgrades via a license key for Options 1EA, UNV, and UNZ. Without Option 099, upgrades for these options require purchase and installation of hardware in a field retrofit kit. For more information, visit www.agilent.com/find/SSupgrades . |

| Step 4. Choose baseband generator options | | |
|--|---------------|------------------------|
| Description | Option number | Additional information |
| ARB baseband generator (60 MHz RF bandwidth, 32 MSa) | N5172B-653 | |
| Upgrade baseband generator from 60 to 120 MHz RF bandwidth | N5172B-655 | Requires 653 |
| Upgrade baseband generator memory from 32 to 256 MSa | N5172B-021 | Requires 653 |
| Upgrade baseband generator memory from 32 to 512 MSa | N5172B-022 | Requires 653 |
| Upgrade baseband generator with real-time capability | N5172B-660 | Requires 653 |
| Digital output connectivity with the N5102A | N5172B-003 | Requires 653 |
| Digital input connectivity with the N5102A | N5172B-004 | Requires 653 |

Step 5. Choose Signal Studio and embedded software

Note: The following software can be added at purchase or as an upgrade. To configure Signal Studio applications, refer to the configuration assistant at: www.agilent.com/find/signalstudio. For more information on Signal Studio configuration and licenses, go to www.agilent.com/find/SS_licensing.

| Product number | Description | Hardware requirements | Recommended hardware options |
|---|---|--------------------------|------------------------------|
| Cellular communications | | | |
| N7600B | Signal Studio for W-CDMA/HSPA+ (ARB and real-time) | 653 660 for real-time | 660, 503, UNV, 403 |
| N7601B | Signal Studio for cdma2000/1xEV-DO (ARB and real-time) | 653 660 for real-time | 660, 503, 403, UNV |
| N7602B | Signal Studio for GSM/EDGE/Evo (ARB and real-time) | 653 660 for real-time | 403, 660, 503, 1ER, UNV, UNZ |
| N7612B | Signal Studio for TD-SCDMA/HSDPA | 653 | 503, 403, UNV |
| N7624B | Signal Studio for LTE/LTE-Advanced FDD (ARB and real-time) | 653 660 for real-time | 655, 660, 506, UNV, 403 |
| N7625B | Signal Studio for LTE/LTE-Advanced TDD (ARB and real-time) | 653 660 for real-time | 655, 660, 506, UNV, 403 |
| Wireless connectivity | | | |
| N7606B | Signal Studio for <i>Bluetooth</i> ® | 653 | 506, 403, UNV |
| N7615B | Signal Studio for Mobile WiMAX | 653 | 506, 403, UNV |
| N7617B | Signal Studio for WLAN 802.11a/b/g/j/p/n/ac | 653 | 655, 506, 403, UNV |
| Audio/video broadcasting | | | |
| N7623B | Signal Studio for digital video (ARB and real-time) | 653 660 for real-time | 660, 506, 022, UNV |
| N7611B | Signal Studio for broadcast radio | 653 | 506, 403, UNV |
| Detection, positioning, tracking, and navigation | | | |
| N7609B | Signal Studio for Global Navigation Satellite Systems (GNSS) (real-time) | 653 660 for real-time | 660, 503, 022, 403 |
| General purpose | | | |
| N5172B-403 | Calibrated AWGN | 653 | |
| N5172B-430 | Multitone and two-tone | 653 | |
| N5172B-431 | Custom digital modulation | 653 | |
| N5172B-432 | Phase noise impairment | 653 | |
| N7622B | Signal Studio toolkit – free utility | 653 | 503, UNV |
| N5172B 221-229 | Waveform license 5-pack 1 to 9 (purchase up to 9-pack for 45 Signal Studio waveforms) | 653 | 503, UNV |
| N5172B 250-259 | Waveform license 50-pack 1 to 10 (purchase up to 10 packs for 500 Signal Studio waveforms) | 653 | 503, UNV |
| N6171A | MATLAB software | | 653, 503, UNV |

Step 6. Choose accessory and documentation options

| Description | Option number |
|---|---------------|
| Rack slide kit | 1CR012A |
| Front handle kit | 1CN006A |
| Rack mount flange kit | 1CM010A |
| Rack mount flange kit with front handles | 1CP004A |
| Hard transit case | N5172B-AXT |
| CD-ROM containing English documentation set | N5172B-CD1 |
| Service documentation, assembly and component | N5172B-0BW |

Step 7. Choose warranty and calibration options

| Description | Option number |
|---|---------------|
| Return-to-Agilent warranty, 3 years | Standard |
| Return-to-Agilent warranty, 5 years | R-51B-001-5C |
| Onsite warranty – 1 year | R-51C-001-1CU |
| Onsite warranty – 3 year | R-51C-001-3CU |
| Commercial calibration certificate with test data | N5172B-UK6 |
| Agilent Cal + Uncertainties + Guardbanding (accredited cal) | N5172B-AMG |
| Agilent Calibration + Uncertainties + Guardbanding, 3 years | R-50C-016-3 |
| Agilent Calibration + Uncertainties + Guardbanding, 5 years | R-50C-016-5 |
| ANSI Z540-1-1994 calibration | N5172B-A6J |
| ANSI Z540-1-1994 Calibration, 3 years | R-50C-021-3 |
| ANSI Z540-1-1994 Calibration, 5 years | R-50C-021-5 |
| Calibration Assurance Plan, Return-to-Agilent, 5 years | R-50C-011-5 |

Step 8. Choose startup assistance service options

| Description | Option number |
|---|---------------|
| Remote scheduled assistance 1- 999 hours | PS-S10 |
| Daily productivity assistance | PS-S20 |
| Signal generator and source basics; half-day, maximum of eight students on site | PS-T10-ASG |
| Custom services to be qualified by Agilent | PS-X10 |

Upgrade your existing EXG vector signal generator

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

1. Place an order for the upgrade with Agilent 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 Agilent License Manager
4. Begin using the new capability

Installation, calibration, and verification information is available at:

www.agilent.com/find/exg_upgrades



| Description | Upgrade number | Requirements | Additional information |
|--|----------------|--------------|--|
| Service documentation, assembly and component | N5172BU-0BW | None | Printed copy of service guide |
| Instrument security and removable memory card | N5172BU-006 | None | Hardware and license key upgrade |
| Internal solid-state memory | N5172BU-009 | None | Customer installable – software, license key |
| LO in/out for phase coherency | N5172BU-012 | None | Hardware and license key upgrade |
| Upgrade baseband generator memory from 32 to 256 MSa | N5172BU-021 | 653 | Customer installable – software, license key |
| Upgrade baseband generator memory from 32 to 512 MSa | N5172BU-022 | 653 | Customer installable – software, license key |
| Upgrade baseband generator memory from 256 to 512 MSa | N5172BU-042 | 021 and 653 | Customer installable – software, license key |
| Expanded license key upgradability | N5172BU-099 | None | Hardware and license key upgrade |
| High output power | N5172BU-1EA | 099 | Customer installable – software, license key |
| Differential I/Q outputs | N5172BU-1EL | None | Customer installable – software, license key |
| Flexible reference input (1-50 MHz) | N5172BU-1ER | None | Customer installable – software, license key |
| 5-pack waveform license | N5172BU-221 | 653 | Customer installable – software, license key |
| 50-pack waveform license | N5172BU-250 | 653 | Customer installable – software, license key |
| Multifunction generator | N5172BU-303 | None | Customer installable – software, license key |
| Pulse train generator | N5172BU-320 | UNW | Customer installable – software, license key |
| Calibrated AWGN | N5172BU-403 | 653 | Customer installable – software, license key |
| Multitone and two-tone | N5172BU-430 | 653 | Customer installable – software, license key |
| Custom digital modulation | N5172BU-431 | 653 | Customer installable – software, license key |
| Phase noise impairment | N5172BU-432 | 653 | Customer installable – software, license key |
| ARB baseband generator (60 MHz RF bandwidth, 32 MSa) | N5172BU-653 | None | Customer installable – software, license key |
| Upgrade baseband generator from 60 to 120 MHz RF bandwidth | N5172BU-655 | Requires 653 | Customer installable – software, license key |
| Upgrade baseband generator with real-time capability | N5172BU-660 | Requires 653 | Hardware and license key upgrade |

| | | | |
|---|-------------|--------------|--|
| Digital output connectivity with the N5102A | N5172BU-003 | Requires 653 | |
| Digital input connectivity with the N5102A | N5172BU-004 | Requires 653 | |
| Hard transit case | N5172BU-AXT | None | Hard transit case |
| CD-ROM containing English documentation set | N5172BU-CD1 | None | CD |
| AM, FM, phase modulation | N5172BU-UNT | None | Customer installable – software, license key |
| Enhanced dynamic range | N5172BU-UNV | 653, 099 | Customer installable – software, license key |
| Narrow pulse modulation | N5172BU-UNW | None | Customer installable – software, license key |
| Fast switching | N5172BU-UNZ | 099 | Customer installable – software, license key |
| Rack slide kit | 1CR012A | None | Hardware |
| Front handle kit | 1CN006A | None | Hardware |
| Rack mount flange kit | 1CM010A | None | Hardware |
| Rack mount flange kit with front handles | 1CP004A | None | Hardware |

Related Literature

Agilent EXG signal generators

Brochure 5990-9957EN

Data Sheet 5991-0039EN



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