Agilent E8267D PSG Vector Signal Generator

Configuration Guide

You Can Upgrade!
Options can be added after initial purchase.

This guide assists in the ordering process of the E8267D PSG vector signal generator.

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Standard product includes installation guide, electronic documentation set (CD-ROM), adapters, and country specific power cord.

High output power (Option 1EU) and step attenuator (Option 1E1) are standard features in the E8267D vector signal generator.

Agilent PSG Vector Signal Generator Options

Step 1. Choose a frequency range (required)

All frequency range options support underrange to 100 kHz. However, performance specifications are not provided between 100 kHz and 250 kHz.

Ordering number	Description	Purpose	Requires
E8267D-520	Frequency range from 250 kHz to 20 GHz	Selects the maximum frequency of the signal generator	
E8267D-532	Frequency range from 250 kHz to 31.8 GHz	Selects the maximum frequency of the signal generator	
E8267D-544	Frequency range from 250 kHz to 44 GHz	Selects the maximum frequency of the signal generator	

Step 2. Choose spectral purity

Ordering number	Description	Purpose	Requires
Standard	Standard spectral purity	Provides low phase noise	
E8267D-UNX [1]	Ultra-low phase noise	Improves phase noise performance close-to-carrier	
E8267D-UNY [1]	Enhanced ultra-low phase noise	Improves phase noise for carrier offsets from 1 Hz to 300 kHz	
E8267D-1EH	Improved harmonics below 2 GHz	Improves harmonic performance for carrier frequencies below 2 GHz	

Step 3. Choose modulation

Ordering number	Description	Purpose	Requires
Standard	CW signal generation, vector (IQ) modulation capability	Generates continuous wave (CW) signals and can modulate IQ waveforms provided by the optional internal baseband generator (Option 602) or an external baseband source	
E8267D-UNT	AM, FM, phase modulation, and LF output	Generates analog modulated signals	
E8267D-UNU [2]	Pulse modulation	Generates pulse modulated signals (150 ns minimum pulse width)	
E8267D-UNW [2]	Narrow pulse modulation	Generates pulse modulated signals (20 ns minimum pulse width)	

Step 4. Choose ramp sweep

Ordering number	Description	Purpose	Requires
E8267D-007	Analog ramp sweep	Generates a fully synthesized ramp (analog) sweep of frequency and amplitude	

Step 5. Choose internal baseband generator

Ordering number	Description	Purpose	Requires
E8267D-602	Internal baseband generator, 64 Msa memory	Generates arbitrary and real-time I/Q waveforms (80 MHz of RF modulation bandwidth)	
E8267D-009	Removable flash memory	Provides 8 GB of removable compact flash memory; all user-accessible files are located on this memory card	

1. E8267D-UNX and E8267D-UNY are mutually exclusive; choose one or the other or neither.
2. Option E8267D-UNU and E8267D-UNW are mutually exclusive; choose one or the other or neither. However, option E8267D-UNU can be upgraded to E8267D-UNW.

Step 6. Choose wideband external I/Q

Ordering number	Description	Purpose	Requires
E8267D-016	Wideband external differential I/Q inputs	Provides up to 2 GHz RF modulation bandwidth for carrier frequency above 3.2 GHz and up to 260 MHz below 3.2 GHz; standard external I/Q inputs provide 160 MHz RF modulation bandwidth	
E8267D-H18	Wideband modulation less than 3.2 GHz	Provides up to 2 GHz of modulation bandwidth below 3.2 GHz; actual bandwidth depends on what other options are installed, e.g. 016 or HBQ	E8267D-016 (recommended) E8267D-HBQ (recommended) (China/Russia)
E8267D-HBQ	Band limited wideband differential external I/Q inputs	Provides greater than 300 MHz of modulation bandwidths for carrier frequency above 3.2 GHz and up to 260 MHz below 3.2 GHz	

Step 7. Choose signal creation software for your baseband generator

Ordering number	Description	Purpose	Requires
E8267D-403	Calibrated Noise (AWGN) generation	Provides settable E_b/N_o and C/N	E8267D-602
E8267D-409	GPS personality	Create multi-satellite GPS signals for testing GPS receivers	E8267D-602
E8267D-423	Scenario generator for MS-GPS personality	Create, edit, and playback custom GPS scenario files	E8267D-409, E8267D-602
E8267D-SP1	Signal Studio for jitter injection	Create repeatable additive calibrated jitter with variable rate and deviation for tolerance measurements	E8267D-602
N7600B	Signal Studio for 3GPP W-CDMA FDD	Create W-CDMA FDD single/multi-carrier uplink/downlink test signals at baseband and RF, for basestations, mobile transceivers, and their components	E8267D-602
N7601B	Signal Studio for 3GPP2 CDMA	Create cdma2000® and IS-95-A single/multi-carrier, forward/reverse link test signals at baseband and RF, for basestations, mobile transceivers, and their components	E8267D-602
N7602B	Signal Studio for GSM/EDGE	Create GSM and EDGE single or multi-carrier test signals at baseband or RF	E8267D-602
N7606B	Signal Studio for *Bluetooth*®	Configure fully-coded *Bluetooth* packets and and *Bluetooth* modulated data streams for both basic and enhanced date rate (v2.1+EDR)	E8267D-602
N7609B	Signal Studio for Global Navigational Satellite Systems (GNSS)	Enables creation of real-time signals to simulate GPS/GLONASS/Galileo satellites. Simulate ≤ 15 satellites with GPS L1 or GLONASS L1 signals with C/A code, ≤ 32 channels for line-of-sight/multipath signals, or 16 for Galileo.	E8267D-602
N7613A N7613A-102	Signal Studio for 802.16-2004 (WiMAX™)	Create IEEE 802.16-2004 (WiMAX) test signals at baseband and RF	E8267D-602
N7615B	Signal Studio for 802.16 WiMAX	Create Mobile WiMAX arbitrary waveforms compliant with IEEE 802.16-2004, 802.16e-2005, and 802.16Rev2/D6 standards	E8267D-602
N7617B	Signal Studio for 802.11 WLAN	Create arbitrary waveforms that comply with the WLAN standards 802.11a/b/g/j/p/n	E8267D-602
N7619A N7619A-117	Signal Studio for multiband OFDM UWB	Create UWB (Ultra Wideband) signals that comply with the proposed Multi-band OFDM Alliance (MBOA) physical layer specification	N6030A wideband arbitrary waveform generator and 860 MHz external clock source
N7620B	Signal Studio for pulse building (wideband waveforms)	Generates customized wide bandwidth pulse patterns for simulation; requires a PXA/MXA/EXA/PSA/ESA spectrum analyzer for waveform corrections	E8267D-016 E8267D-UNX or UNY E8267D-UNW N603xA, M933xA, N824xA, or M8190A wideband arbitrary waveform generators
N7620B	Signal Studio for pulse building	Generates customized pulse patterns for simulation; requires a PXA/MXA/EXA/PSA/ESA spectrum analyzer for waveform corrections	E8267D-602, E8267D-009 E8267D-UNX or UNY (recommended)
N7621B N7621B -AFP -EFP -FFP	Signal Studio for multitone distortion connect to M8190A (multi tone) (noise power ratio)	Generates wide bandwidth mutiple tone signals and applies pre-distortion techniques to remove the nonlinear distortion of the signal generator; generates a simulated broadband noise signal to M8190A facilitate NPR measurements; pre-distortion techniques are used to improve flatness and increase notch depth; requires a PXA/MXA/EXA/PSA/ESA spectrum analyzer	E8267D-016 E8267D-009 (recommended) M8190A wideband arbitrary waveform generator

Step 7. Choose signal creation software for your baseband generator

Ordering number	Description	Purpose	Requires
N7622B	Signal Studio Toolkit	This free software utility simplifies download and playback of custom I/Q waveforms	E8267D-602
N7623B	Signal Studio for digital video	Create arbitrary waveforms for DVB-T/H/C/S/S2, ISDB-T, DTMB, CMMB, J.83 Annex A/B/C and ATSC software	E8267D-602
N7624B	Signal Studio for 3GPP LTE FDD	Create LTE-FDD and LTE-Advanced signals compliant with the 3GPP Release 9 June 2010 and December 2010 Release 10	E8267D-602
N7625B	Signal Studio for 3GPP LTE TDD	Create LTE-TDD and LTE-Advanced signals compliant with the 3GPP Release 9 June 2010 and December 2010 Release 10	E8267D-602
N6171A	MATLAB Software	Matlab is a software environment and programming language created by MathWorks that provides interactive tools and command-line functions for signal processing, signal modulation, digital filtering, curve fitting, and more.	E8267D-602

Step 8. Choose custom options

Custom options add unique capabilities to the signal generator for specific applications.

Ordering number	Description	Purpose	Requires
E8267D-H18	Wideband modulation less than 3.2 GHz	Provides up to 2 GHz of modulation bandwidth below 3.2 GHz. Actual bandwidth depends on what other options are installed, e.g. 016 or HBQ	E8267D-016 (recommended) E8267D-HBQ (recommended) (China/Russia)
E8267D-HBQ [1]	Modified wideband differential external I/Q inputs	Provides greater than 300 MHz of modulation bandwidth for carrier frequency above 3.2 GHz and up to 260 MHz below 3.2 GHz	
E8267D-HCC	Add input and output of phase reference LO	Provides multi-source phase coherency	U3035P distribution network (recommended)
E8267D-H1G [2]	Add 1 GHz external phase reference	Provides multi-source phase coherency for carrier frequencies 100 kHz to 250 MHz	
E8267D-SP2	Dynamic sequencing	Provides ability to change sequences on command in the arbitary waveform generator	E8267D-602
E8267D-H1S [2]	Add 1 GHz external frequency reference input	Enables use of an external frequency reference to improve spectral purity	E8267D-UNX or -UNY
E8267D-HNS [1]	Modified narrow pulse modulation	Provides the pulse performance of Option UNW below 31.8 GHz and the performance of Option UNU above 31.8 GHz.	E8267D-544
E8267D-HFA [1]	Modified upper frequency limit	Limits maximum upper frequency to 10.35 GHz.	E8267D-520
E8267D-HBR [1]	Modified wideband differential external I/Q inputs	Band-limited wideband differential external I/Q inputs for signals in the 3.2 to 10.35 GHz range. Modulation bandwidth of: > 1.3 GHz (3 dB) typ < 1.6 GHz (35 dB) typ	E8267D-HFA

1. Recommended for customers in countries subject to export regulations.
2. E8267D-H1G and E8267D-H1S are mutually exclusive. Order one or the other or neither.

Step 9. Choose instrument connector configuration and accessories

Note: Option 520 instruments ship with a 3.5 mm (m) RF output connector on the front panel.
Option 532 and 544 instruments ship with a 2.4 mm (m) RF output connector on the front panel.

Ordering number	Description	Purpose	Requires
Standard with E8267D-520	3.5 mm (f) to 3.5 mm (f) Connector adapter	Adapter is included with the purchase of the 20 GHz models to connect to 3.5 mm (m)	
Standard with E8267D-532 and E8267D-544	2.4 mm (f) to 2.4 mm (f) and 2.4 mm (f) to 2.9 mm (f) connector adapter(s)	Adapter set is included with the purchase of the 31.8 GHz and 44 GHz models to connect to 2.4 mm (m) and 2.9 mm (m)	
E8267D-1ED [1]	Type-N (f) RF output connector	Type-N (m) to 3.5 mm (f) adapter set is included with the purchase of the type-N (m) connector.	E8267D-520
E8267D-1EM	Moves all front panel connectors to the rear panel	Simplifies cable management in rack mount environments	
E8267D-003	PSG digital output connectivity with N5102A		E8267D-602, N5102A
E8267D-004	PSG digital input connectivity with N5102A		E8267D-602, N5102A
E8267D-1CM	Rackmount flange kit	Provides a flange kit to mount the signal generator into a standard EIA 19" rack	
E8267D-1CN	Front handle kit instrument (not for rack mount)	Provides front handles for carrying the	
E8267D-1CP	Rackmount kit with front handles mount the signal generator into a standard EIA 19″ rack	Provides front handles and a flange kit to	
E8267D-1CR	Rack slide kit	Provides a non-tilting rack slide kit	
N5102A	Digital signal interface module	Provides digital I/Q and digital IF inputs/outputs to/from the E4438C ESG and E8267D PSG vector signal generators	E8267D-602, E8267D-003, E8267D-004
E8257DS15	OML Inc. model number S15MS-AG	Millimeter source module, 50 GHz to 75 GHz at +8 dBm	
E8257DS12	OML Inc. model number S12MS-AG	Millimeter source module, 60 GHz to 90 GHz at +6 dBm	
E8257DS10	OML Inc. model number S10MS-AG	Millimeter source module, 75 GHz to 110 GHz at +5 dBm	
E8257DS08	OML Inc. model number S08MS-AG	Millimeter source module, 90 GHz to 140 GHz at –5 dBm	
E8257DS06	OML Inc. model number S06MS-AG	Millimeter source module, 110 GHz to 170 GHz at –13 dBm	
E8257DS05	OML Inc. model number S05MS-AG	Millimeter source module, 140 GHz to 220 GHz at –15 dBm	
E8257DS03	OML Inc. model number S03MS-AG	Millimeter source module, 220 GHz to 325 GHz at –25 dBm	
E8257DS02	OML Inc. model number SM02MS-AG	Millimeter source module, 325 GHz to 500 GHz at -27 dBm	
E8257DV10 [2]	VDI model number WR10 SGX	Millimeter frequency extension module, 75 to 110 GHz at +14 dBm	
E8257DV08 [2]	VDI model number WR8.0 SGX	Millimeter frequency extension module, 90 to 140 GHz at +9 dBm	
E8257DV05 [2]	VDI model number WR5.1 SGX	Millimeter frequency extension module, 140 to 220 GHz at +4 dBm	
E8257DV03 [2]	VDI model number WR3.4 SGX	Millimeter frequency extension module, 220 to 330 GHz at –2 dBm	
E8257DV02 [2]	VDI model number WR2.2 SGX	Millimeter frequency extension module, 325 to 500 GHz at –10 dBm	
E8257DV1B [2]	VDI model number WR1.5 SGX	Millimeter frequency extension module, 500 to 750 GHz at –21 dBm	
E8257DV01 [2]	VDI model number WR1.0 SGX	Millimeter frequency extension module, 750 to 1100 GHz at –23 dBm	
U3035P	Distribution network - PSG	Distribute master LO signal to multiple signal generators for phase coherent applications	E8267D-HCC

1. E8267D-1ED is not compatible with the 31.8 GHz or 44 GHz models.
2. E8257DVxx frequency extension modules require an N5262VDI-175 external power supply.

Step 10. Choose documentation

Standard products ship with an installation guide and an electronic documentation set (CD-ROM). The CD-ROM includes: user's guide, installation guide, programming guide, service guide, SCPI command reference, error messages, key reference, data sheets, and additional product literature.

Ordering number	Description
E8267D-CD1	CD-ROM containing the English documentation set
E8267D-ABA	Printed copy of the English documentation set (user's guide, programming guide, SCPI reference, key reference, and data sheets)
E8267D-AB2	Printed copy of the Chinese User's Guide
E8267D-ABJ	Printed copy of the Japanese User's Guide
E8267D-0BW	Printed copy of the assembly-level service guide

Step 11. Choose a warranty plan

Ordering number	Description
Included	Warranty Assurance Plan, Return to Agilent, 3 years, standard
R-51B-001-5C	Warranty Assurance Plan, Return to Agilent, 5 years

Step 12. Choose a calibration plan

Ordering information	Description
E8267D-UK6	Commercial calibration certificate with test data
E8267D-A6J	ANSI Z540-1-1994 calibration
E8257D-AMG	Agilent Cal + Uncertainties + Guradbanding (accredited cal)
E8267D-1A7 (Opt 532 and 544 only)	Agilent Cal + Uncertainties + Guradbanding (compliant cal)
R-50C-011-3	Calibration Assurance Plan, Return-to-Agilent, 3 years
R-50C-011-5	Calibration Assurance Plan, Return-to-Agilent, 5 years
R-50C-016-3	Agilent Calibration + Uncertainties + Guardbanding, 3 years
R-50C-016-5	Agilent Calibration + Uncertainties + Guardbanding, 5 years
R-50C-021-3	ANSI Z540-1-1994 Calibration, 3 years
R-50C-021-5	ANSI Z540-1-1994 Calibration, 5 years

Step 13. Choose start-up assistance options

Ordering number	Description
PS-S10	Remote scheduled assistance 1 – 999 hours
PS-S20	Daily productivity assistance
PS-T10-ASG	Signal generator and source basics; 0.5 day, max. 8 students on site
PS-X10	Custom services to be qualified by Agilent

Upgradeable Options

For complete upgrade details, including firmware, visit: **www.agilent.com/find/E8267d_upgrade**

Customer-installable and service center-installable upgrade kits are available for the E8267D signal generators. If an option is not mentioned that you would like to have upgraded on your PSG, please contact your local Agilent representative about our customized upgradeable options.

Product	Order number	Description	Upgrade contents	Additional requirements	Incompatible with
003	E8267DK-003	Digital output connectivity with N5102A	Customer installable - License key	E8267D-602	None
004	E8267DK-004	Digital input connectivity with N5102A	Customer installable - License key	E8267D-602	None
005	E8267DK-005	6 GB internal hard drive	Customer installable - License key	S/N prefix < xx4829	S/N prefix ≥ xx4829
007	E8267DK-007	Fully synthesized analog frequency and power ramp sweep	Customer installable - License key	None	None
009	E8267DK-009	Removable flash memory (8 GB)	Customer installable - License key	S/N prefix ≥ xx4829	S/N prefix < xx4829
016	E8267DK-016	Wide band external I/Q inputs	Customer installable - License key	S/N prefix ≥ xx4722	S/N prefix < xx4722
1EH	E8267DK-1EH	Improved harmonics below 2 GHz	Customer installable - License key	S/N prefix < xx5042	S/N prefix ≥ xx5042
2EH	E8267DK-2EH	Improved harmonics below 2 GHz	Customer installable License key	S/N prefix ≥ xx5042	S/N prefix < xx5042
403	E8267DK-403	Calibrated noise, AWGN	Customer installable - License key	E8267D-602	None
409	E8267DK-409	GPS personality	Customer installable - License key	E2867D-602	None
423	E8267DK-423	Add scenario generator for MS-GPS personality	Customer installable - License key	E8267D-009, 409, E8267D-602	None
520	Not upgradeable	Frequency range from 250 kHz to 20 GHz	n/a	n/a	n/a
532	Not upgradeable	Frequency Range from 250 kHz to 31.8 GHz	n/a	n/a	n/a
544	Not upgradeable	Frequency range from 250 kHz to 44 GHz	n/a	n/a	n/a
602	E8267DK-602	Internal baseband generator, 64 MSa memory	Customer installable - hardware, License key	None	None
H18	Not upgradeable	Wideband modulation less than 3.2 GHz	n/a	n/a	n/a
UNT	E8267DK-UNT	AM, FM, phase modulation, and LF output	Customer installable - License key	None	None
UNU	E8267DK-UNU	Pulse modulation	Customer installable - License key	None	Option UNW
UNW	E8267DK-UNW	Narrow pulse modulation	Customer installable - hardware, License key	S/N prefix < xx5042	S/N prefix ≥ xx5042
2NW	E8267DK-2NW	Narrow pulse modulation	Customer installable - License key	S/N prefix ≥ xx5042	S/N prefix < xx5042
UNX	E8267DK-UNX (kit number E8251-60417 for serial prefix < US4805/ MY4805 & kit number E8251-60980 for serial prefix ≥ xx4805)	Ultra-low phase noise performance	Customer installable - hardware, License key	None	None
UNY	E8267DK-UNY[2]	Enhanced ultra low phase noise	Service center installable hardware, license key	S/N prefix ≥ xx5042	S/N Prefix < xx5042
1ED	E8267DK-1ED	Type-N (f) RF output connector	Customer installable - hardware, License key	520	31.8 GHz or 44 GHz models
SP1	E8267DK-SP1	Kit to provide Signal Studio for Jitter Injection connectivity	Customer installable - License key	None	None
3EU	E8267DK-3EU[1]	Adds 5 to 7 dB more output power < 3.2 GHz for S/N prefix ≥ xx4805 and < xx5042	Factory installation only	S/N prefix ≥ xx4805 and < xx5042	S/N prefix < xx4805 and ≥ xx5042
R2C	E8267DK-R2C	Core instrument firmware enhancements	Customer installable - License key	None	None

1. Agilent factory installation only. Requires an additional factory installation and calibration charge (E8267DK-700).
2. Agilent service center installation only.

Web Resources

For additional product information, visit: **www.agilent.com/find/psg**

For information about renting, leasing or financing Agilent's latest technology, visit: **www.agilent.com/find/buyalternatives**

For accessory information, visit: **www.agilent.com/find/accessories**

Related Agilent Literature

Agilent PSG Microwave Signal Generators
Brochure, Literature number 5989-1324EN

E8257D PSG Microwave Analog Signal Generator
Data Sheet, Literature number 5989-0698EN
Configuration Guide, Literature number 5989-1325EN

E8267D PSG Microwave Vector Signal Generator
Data Sheet, Literature number 5989-0697EN

E8663D PSG RF Analog Signal Generator
Data Sheet, Literature number 5990-4136EN
Configuration Guide, Literature number 5990-4137EN

Free Agilent Software
Agilent software can be found by selecting the Software, Firmware & Drivers embedded link located on each of the PSG E8267D and PSG E8257D web pages.

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