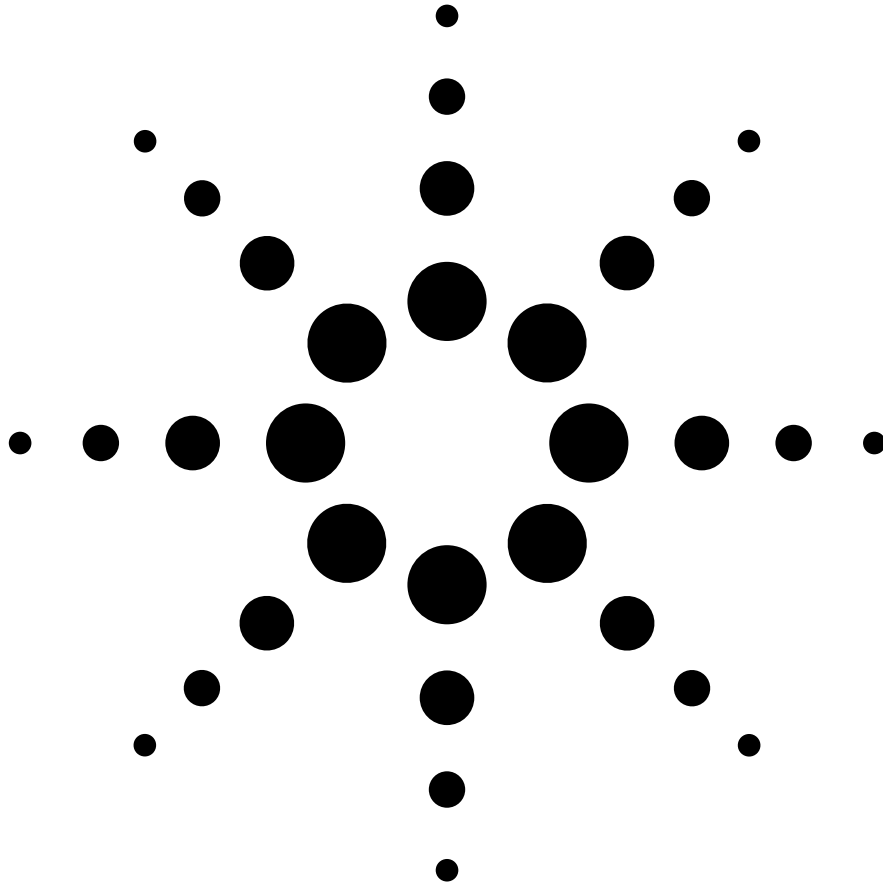


# Agilent E8267D PSG Vector Signal Generator

## Configuration Guide



This guide is intended to assist you with the ordering process of the PSG vector signal generators.



Agilent Technologies

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

High output power (Option 1EA) 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

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	Ultra low phase noise	Improves phase noise performance at carrier frequency offsets ranging from 1 Hz to 10 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 <sup>1</sup>	Pulse modulation	Generates pulse modulated signals (150 ns minimum pulse width).	
E8267D-UNW <sup>1</sup>	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		

1. 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.	

## 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-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 <i>Bluetooth</i>	Configure fully-coded <i>Bluetooth</i> packets and <i>Bluetooth</i> modulated data streams for both basic and enhanced data rate (v2.1+EDR)	E8267D-602
N7613A	Signal Studio for 802.16-2004 (WiMAX)	Create IEEE 802.16-2004 (WiMAX) test signals at baseband and RF	E8267D-602
N7613A-102			
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	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
N7619A-117			
N7620A	Signal Studio for pulse building	Generates customized wide bandwidth pulse patterns for simulation. Requires a PSA or ESA spectrum analyzer for waveform corrections	E8267D-016 E8267D-UNX, E8267D-UNW, N6030A or N8241A wideband arbitrary waveform generators
N7620A-117 or 118	(wideband waveforms)		
N7620A	Signal Studio for pulse building	Generates customized pulse patterns for simulation. Requires a PSA or ESA spectrum analyzer for waveform corrections	E8267D-602, E8267D-009 E8267E-UNX (recommended)
N7620A-102			
N7621A	Signal Studio for multitone distortion	Generates wide bandwidth multiple tone signals and applies pre-distortion techniques to remove the nonlinear distortion of the signal generator. Generates a simulated broadband noise signal to facilitate NPR measurements. Pre-distortion techniques are used to improve flatness and increase notch depth. Requires a PSA spectrum analyzer.	E8267D-016 E8267D-009 (recommended) N6030A or N8241A wideband arbitrary waveform generator
N7621A-117	(wideband waveforms)		
-203	(multi tone)		
-204	(noise power ratio)		
N7621B	Signal Studio for multitone distortion	Generates multiple tone signals and applies pre-distortion techniques to remove the nonlinear distortion of the signal generator. Generates a simulated broadband noise signal to facilitate NPR measurements. Pre-distortion techniques are used to improve flatness and increase notch depth. Requires a PSA spectrum analyzer.	E8267D-602 E8267D-009 E8267D-UNX (recommended)
N7623B	Signal Studio for digital video	Create DVB-T/H/C/S/S2, ISDB-T, DTMB, CMMB, J.83 Annex A/B/C and ATSC software	E8267D-602

## Step 8. Choose special options

Special 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		E8267D-016 E8267D-HBQ (China)
E8267D-HCC	Add input and output of phase reference LO	Provides multi-source phase coherency	Z5623AKxx Distribution Amplifier (recommended)
E8267D-H1G	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 arbitrary waveform generator	E8267D-602
E8267D-HSQ <sup>2</sup>	Add second set of IQ inputs	Provides ability to switch between two different external IQ inputs	E8267D-602
E8267D-H1S	Add 1 GHz external frequency reference input	Enables use of an external frequency reference to improve spectral purity	

## Step 9. Choose instrument connector configuration and accessories

Note: Standard 20 GHz models include a 3.5 mm (m) RF output connector on the front panel.

Standard 31.8 GHz and 44 GHz models include 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)	Adapter set 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) 2.4 mm (f) to 2.9 mm (f)	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 <sup>1</sup>	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 5063-9215	Rackmount flange kit	Provides a flange kit to mount the signal generator into a standard EIA 19" rack.	
E8267D-1CN 5063-9228	Front handle kit	Provides front handles for carrying the instrument (not for rack mount).	
E8267D-1CP 5063-9222	Rack mount flange and front handle kit	Provides front handles and a flange kit to mount the signal generator into a standard EIA 19" rack.	
8120-8806	Master/slave interface cable	Provides an interface cable to use two PSG's in master/slave mode.	
9211-2656	Transit case	Provides a hard transit case to protect the instrument during transit.	
9211-7481	Transit case with wheels	Provides a hard transit case with wheels to protect the instrument during transit.	
N5101A	Baseband Studio PCI card	Enables N5110B Baseband Studio	E8267D-602, N5110B
N5101A-022	512 MSamples of waveform memory	Waveform memory for the Baseband Studio PCI card	N5101A
N5102A	Baseband Studio 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
N5110B	Baseband Studio for waveform capture and playback	Allows playback of I/Q waveform data directly from a PC hard drive or the optional 512 MSa waveform memory on the N5101A to the E4438C ESG or the E8267D PSG vector signal generator.	N5101A, E8267D-602

1. E8267D-1ED is not compatible with the 31.8 GHz or 44 GHz models.

2. E8267D-HSQ is not compatible with E8267D-1EH or E8267D-HCC.

## 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
E8267D-UK6	Commercial calibration certificate and test data

## Step 11. Choose a warranty plan

Ordering number	Description
Standard	1-year return-to-Agilent warranty and service
3 years	Extended return-to-Agilent warranty and service
5 years	Extended return-to-Agilent warranty and service

## Step 12. Choose a calibration plan

There is no calibration plan standard with the E8267D. For a calibration plan, specify 3 or 5 years for one of the appropriate plans below when ordering. For more information, please visit: [www.agilent.com/find/services\\_upfront\\_options](http://www.agilent.com/find/services_upfront_options).

### Plan

Agilent Calibration Upfront Plan

Agilent Calibration Plus Upfront Plan

Z540 Calibration Upfront Plan

## Upgradeable Options

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.

### Choose customer- installable upgrade kits <sup>1, 3</sup>

Ordering number	Upgrade description	Information required with order
E8267DK-403	Complete upgrade kit with installation guide	
E8267DK-SP1	Complete upgrade kit with installation guide	
E8267DK-602 <sup>2</sup>	Complete upgrade kit with installation guide	
E8267DK-005 <sup>5</sup>	Complete upgrade kit with installation guide	
E8267DK-009 <sup>4</sup>	Complete upgrade kit with installation guide	
E8267DK-016 <sup>7</sup>	Complete upgrade kit with installation guide	
E8267DK-1ED <sup>2</sup>	Complete upgrade kit with installation guide	
E8267DK-1EH <sup>2</sup>	Complete upgrade kit with installation guide	
E8267DK-UNX <sup>2</sup>	Complete upgrade kit with installation guide	
E8267DK-UNW <sup>2</sup>	Complete upgrade kit with installation guide	
E8267DK-007	License key	Customer's email address
E8267DK-UNT	License key	Customer's email address
E8267DK-UNU	License key	Customer's email address
E8267DK-015 <sup>6</sup>	License key	

1. Latest firmware is recommended for upgrades. Firmware can be found at [www.agilent.com/find/upgradeassistant](http://www.agilent.com/find/upgradeassistant).

2. Calibration required.

3. Calibration and installation costs are not included in the price of upgrade installation performed at a service center. Consult your Agilent Sales representative for details.

4. E8267DK-009 is only available for instrument prefix greater than or equal to 4829xxxx.

5. E8267DK-005 is only available for instrument prefix less than 4829xxxx.

6. E8267DK-015 is only available for instrument prefix less than 4722xxxx.

7. E8267DK-016 is only available for instrument prefix greater than or equal to 4722xxxx.

## Web Resources

For additional product information, visit: [www.agilent.com/find/psg](http://www.agilent.com/find/psg)

For information about renting, leasing or financing Agilent's latest technology, visit: [www.agilent.com/find/buyalternatives](http://www.agilent.com/find/buyalternatives)

For accessory information, visit: [www.agilent.com/find/accessories](http://www.agilent.com/find/accessories)

## Related Agilent Literature

### *Agilent PSG Signal Generators*

Brochure, Literature number 5989-1324EN

### *E8257D PSG Analog Signal Generator*

Data Sheet, Literature number 5989-0698EN

### *E8267D PSG Vector Signal Generator*

Data Sheet, Literature number 5989-0697EN

### *E8257D PSG Analog Signal Generator*

Configuration Guide, Literature number 5989-1325EN

### *PSG Two-Tone and Multitone Personalities*

Application Note 1410, Literature number 5988-7689EN

### *Signal Studio for Pulse Building*

Technical Overview, Literature number 5988-8134EN

### *Signal Studio for Noise Power Ratio*

Technical Overview, Literature number 5988-9161EN

### *Signal Studio for Enhanced Multitone*

Technical Overview, Literature number 5988-5639EN

### *N5102A Baseband Studio Digital Signal Interface Module*

Technical Overview, Literature number 5988-9495EN

### *N5110B Baseband Studio for Waveform Capture and Playback*

Technical Overview, Literature number 5989-2095EN

### *Digital Modulation in Communications Systems — An Introduction*

Application Note 1298, Literature number 5965-7160E

## 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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United Kingdom	44 (0) 118 9276201

Other European Countries:

[www.agilent.com/find/contactus](http://www.agilent.com/find/contactus)

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