

KEYSIGHT TECHNOLOGIES (AGILENT HP)

3325B

The Keysight (Agilent HP) 3325B is a highly accurate synthesized function generator and waveform synthesizer operating up to 21 MHz. It leverages advanced synthesis technology to provide outstanding frequency resolution, stability, and signal purity, making it an industry standard for testing filters, communication systems, audio systems, and digital components. Equipped with built-in modulation capabilities and multi-mode sweeps, the 3325B integrates easily into automated test systems via standard HP-IB connectivity.

SPECIFICATIONS

General

Interfaces	HP-IB (GPIB)
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Physical

Power Supply	100/120/220/240 V (+5%, -10%), 48 to 66 Hz, 90 VA (120 VA with all options)
Operating Temperature	0 to 55 °C °C
Weight	9.0 kg kg

Frequency Specifications

Sine Wave Frequency Range	1 μHz to 20.999 999 999 MHz
Square Wave Frequency Range	1 μHz to 10.999 999 999 MHz
Triangle Wave Frequency Range	1 μHz to 10.999 999 999 kHz
Ramp Wave Frequency Range	1 μHz to 10.999 999 999 kHz
Frequency Accuracy	$\pm 5 \times 10^{-6}$ of setting (at time of calibration)

Amplitude and Output

Output Impedance	50 Ω
Main Output Amplitude Range	1 mV to 10 Vpp (into 50 Ω)
Amplitude Units	Vpp, Vrms, dBm (into 50 Ω)
Amplitude Resolution	4 digits
DC Offset Range	Up to ±5.0 V (AC + DC peak, into 50 Ω)
DC Offset Resolution	4 digits
Output Isolation	Chassis ground isolated, float up to ±42 V peak
Sync Output Logic Level	TTL-compatible square wave

Waveform Purity and Distortion

Square Wave Rise and Fall Time	< 20 ns (10% to 90% at full output)
Square Wave Overshoot	< 5% of peak-to-peak amplitude at full output
Square Wave Duty Cycle	50% nominal
Triangle/Ramp Linearity Deviation	< 0.05% of full output (at 100 Hz, 10% to 90%)

Phase Control and Synchronization

Phase Offset Range	$\pm 719.9^\circ$
Phase Resolution	0.1°
Reference Clock Input Frequency	1, 2, 5, or 10 MHz (at least 0 dBm into 50 Ω)

Modulation

Amplitude Modulation Depth Range	0% to 100%
Amplitude Modulation Carrier Frequency	1 μ Hz to 21 MHz
Amplitude Modulation Modulating Frequency (External)	DC to 400 kHz
Phase Modulation Deviation Range	$\pm 850^\circ$
Phase Modulation Modulating Frequency (External)	DC to 5 kHz

Frequency Sweep

Sweep Type	Linear, Logarithmic, discrete
Sweep Time Range (Linear)	10 ms to 1000 s
X-Drive Output Range	0 to > +10 V (proportional to sweep, rear panel)
Z-Blanking Output Level	TTL levels (rear panel)

Power and Mechanical

Form Factor	Benchtop with optional rackmount kit
Shipping Weight	14.5 kg (32 lbs)

Environmental and Regulatory

Relative Humidity Range	95% (0 to 40 $^\circ$ C)
Operating Altitude Limit	4,572 m (15,000 ft)

Option 002 High Voltage Output

High Voltage Option Frequency Range	1 μ Hz to 1 MHz (Option 002)
High Voltage Option Amplitude Range	4.00 mVp-p to 40.00 Vp-p (Option 002, into $\geq 500 \Omega$ ≤ 500 pF)
High Voltage Option Max Output Current	40 mA peak (Option 002)
High Voltage Option Output Impedance	< 2 Ω at DC, < 10 Ω at 1 MHz (Option 002)

Spectral Purity

Phase Noise	<-60 dBc in a 30 kHz band centered on carrier (excluding ± 1 Hz band)
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Sweep

Discrete Sweep Maximum Segments	100
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Rear Panel Inputs & Outputs

Auxiliary Output Frequency Range	21 MHz to 60.99999999 MHz
Auxiliary Output Impedance	50 Ω
10 MHz Reference Output Level	≥ 0 dBm into 50 Ω
10 MHz Reference Output Impedance	50 Ω
1 MHz Reference Output Level	≥ 0 dBm into 50 Ω
1 MHz Reference Output Impedance	50 Ω

Power Requirements

Line Voltage Options	100 / 120 / 220 / 240 V (+5%, -10%)
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Environmental

Storage Temperature Range	-40 °C to +75 °C
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TECHNOLOGY

Fractional-N Synthesis

APPLICATIONS

Electronic Test and Measurement, Signal Stimulation, Calibration, Filter Testing

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.