Aumictech
Test & measurement · bought, sold, repaired, calibrated

Data Sheet
August 13, 2026

HP / AGILENT

HP / Agilent 8165A 50 MHZ PULSE/FUNCTION GENERATOR

HP 8165A Programmable Signal Source 1 mHz to 50 MHz The HP 8165A Programmable Signal Source provides sine, triangle, and square waveforms from 1 mHz to 50 MHz. Operating modes include normal (internal trigger), VCO, external trigger, gate, burst, and FM. Output amplitude is variable up to 20 Vpp with offset up to plus/minus 10 V, selectable source impedance, and full HP-IB programmability. Option 002 adds AM and log sweep. General-purpose function generation; digital and analog circuit stimulus; automated test via HP-IB; FM/AM modulation benches with Option 002. The HP 8165A Programmable Signal Source provides sine, triangle, and square waveforms from 1 mHz to 50 MHz. Operating modes include normal (internal trigger), VCO, external trigger, gate, burst, and FM. Output amplitude is variable up to 20 Vpp with offset up to plus/minus 10 V, selectable source impedance, and full HP-IB programmability. Option 002 adds AM and log sweep. General-purpose function generation; digital and analog circuit stimulus; automated test via HP-IB; FM/AM modulation benches with Option 002.

MODEL HP / Agilent 8165A	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU 8165A	LISTING https://aumictechlabs.com/products/8165a-2/

NIST-traceable cal · SAM registered · 30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 8165A is a 50 MHz programmable pulse and function generator delivering precise, multi-waveform signal generation across 1.000 mHz to 50.00 MHz. Built for laboratory and field testing, it generates sine, square, and triangle waveforms to 50.00 MHz, plus pulse and ramp outputs to 19.99 MHz with selectable duty cycles and symmetry. Frequency resolution reaches 1 µHz in the millihertz band, with ±0.001% accuracy and $\pm 1 \times 10^{-4}$ synthesizer stability - enabling tight tolerance measurements in component characterization, circuit validation, and system integration workflows. Technical Specifications Frequency Performance Range: 1.000 mHz to 50.00 MHz Resolution: 1 µHz (1 to 9.999 mHz range) Accuracy: ±0.001% Stability: $\pm 1 \times 10^{-4}$ (synthesizer) Waveform Generation Sine, Square, Triangle: DC to 50.00 MHz (50% duty cycle for square) Pulse, Ramp: DC to 19.99 MHz (20%, 80% symmetry options) Haversine/Havertriangle: Available via special option Output Parameters Amplitude into 50 Ω: 10.0 mVpp to 10.0 Vpp Amplitude into 1 kΩ: 2.00 Vpp to 20.0 Vpp DC Offset into 50 Ω: ±0 to ±5.00 V DC Offset into 1 kΩ: ±0 to ±10.0 V Independent amplitude and offset control within ±10 V window Source Impedance: 50 Ω ±1% or 1 kΩ ±10% (selectable) Signal Quality Sine THD (fundamental to 1 MHz): 38 dB Harmonic distortion (fundamental >1 MHz): ≤ -30 dBc Key Features Operating modes: Normal, VCO (external), Triggered, Gated, Burst, FM, AM Sweep and Amplitude Modulation (Option 002) Trigger, gate, and counted burst capabilities Non-volatile storage: Ten complete parameter sets with battery backup HP-IB interface: Full programmability via front panel or remote command Typical Applications Component testing, circuit characterization, frequency response analysis, modulation studies, and system integration validation. Compatibility & Integration HP-IB control enables integration into automated test benches and remote measurement systems. Rear panel connector option (Option 003) accommodates fixed-installation configurations. Operating temperature minimum: -10 °C.

Features & description

From manufacturer datasheet

Features

• 1 mHz to 50 MHz sine/triangle/square • Amplitude to 20 Vpp; offset to plus/minus 10 V • Modes: normal, VCO, trigger, gate, burst, FM • Option 002: AM plus up/down logarithmic sweep • Microprocessor control with error reporting on bus and panel

8165A Characteristics / Specifications

PARAMETER	VALUE
Model	8165A
Manufacturer	Hewlett Packard
Instrument Type	Programmable signal source / function generator
Frequency Range	1 mHz to 50 MHz
Waveforms	sine triangle square
Maximum Amplitude	20 Vpp
Maximum Offset	plus/minus 10 V
Operating Modes	normal VCO external trigger gate burst FM
Sync Output Amplitude	3 Vpp open circuit (1.5 Vpp into 50 ohm)
FM Deviation Maximum	1 percent of carrier for plus/minus 1 V external
FM Input Impedance Typical	10 kohm
AM Option 002 Depth	0 to 100 percent for 0 to 2.5 Vpp external
AM Option 002 Bandwidth	DC to 10 kHz (-3 dB)
Mod Input Maximum	20 V
External 10 MHz Reference	TTL system clock selectable
Frequency Settling Typical	less than 20 ms to plus/minus 5 percent
Frequency Settling Fine Typical	less than 70 ms to plus/minus 2 percent below 1 kHz Norm
Mains	100/120/220/240 V; +5 to -10 percent; 48 to 66 Hz; 200 VA max
Operating Temperature	0 to 50 C
Relative Humidity	to 95 percent at 40 C
Storage Temperature	-20 to +70 C
Remote Interface	HP-IB
Display	frequency and parameter readout
Alias	HP 8165A
Bandwidth	DC to 10 kHz (-3 dB)

PARAMETER	VALUE
Humidity	to 95 percent at 40 C

8165A Specifications

PARAMETER	VALUE
HP 8165A Programmable Signal Source 1 mHz to 50 MHz	Overview
Key Features	- 1 mHz to 50 MHz sine/triangle/square
Technical Specifications	Model: 8165A

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	20 to +70 C
Operating temperature	0 to 50 C
Operating Temperature	0 to 50 C
Humidity	to 95 percent at 40 C
Relative Humidity	to 95 percent at 40 C
Remote Interface	HP-IB
Display	frequency and parameter readout
Alias	HP 8165A Notes Specs from HP 8165A operating and service manual (08165-90005). Confirm Option 002/003 and source/load impedance configuration when quoting amplitude into 50 ohm.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Specifications

PARAMETER	VALUE
Model	8165A
Manufacturer	Hewlett Packard
Instrument Type	Programmable signal source / function generator
Frequency Range	1 mHz to 50 MHz
Waveforms	sine triangle square
Maximum Amplitude	20 Vpp
Maximum Offset	plus/minus 10 V
Operating Modes	normal VCO external trigger gate burst FM
Sync Output Amplitude	3 Vpp open circuit (1.5 Vpp into 50 ohm)
FM Deviation Maximum	1 percent of carrier for plus/minus 1 V external
FM Input Impedance Typical	10 kohm
AM Option 002 Depth	0 to 100 percent for 0 to 2.5 Vpp external
AM Option 002 Bandwidth	DC to 10 kHz (-3 dB)
Mod Input Maximum	20 V
External 10 MHz Reference	TTL system clock selectable
Frequency Settling Typical	less than 20 ms to plus/minus 5 percent
Frequency Settling Fine Typical	less than 70 ms to plus/minus 2 percent below 1 kHz Norm
Mains	100/120/220/240 V; +5 to -10 percent; 48 to 66 Hz; 200 VA max
Operating Temperature	0 to 50 C
Relative Humidity	to 95 percent at 40 C
Storage Temperature	-20 to +70 C

Option 002: sweep and amplitude modulation
Option 003: rear panel I/O

Specifications

PARAMETER	VALUE
Remote Interface	HP-IB

PARAMETER	VALUE
Display	frequency and parameter readout
Alias	HP 8165A

Notes

Specs from HP 8165A operating and service manual (08165-90005). Confirm Option 002/003 and source/load impedance configuration when quoting amplitude into 50 ohm.

Ordering Information

OPTION	DESCRIPTION
Option 002	adds AM and log sweep.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: **sales@aumictech.com** · +1 (484) 841-9341

Aumictech
788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
https://aumictechlabs.com

NIST-traceable calibration · SAM registered · 30-day returns
NAICS 423690 · 811210 · 541380
Generated August 13, 2026