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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 8116A 50 MHZ PULSE/FUNCTION GENERATOR

HP Agilent 8116A 50 MHz Pulse Function Generator The HP 8116A combines pulse and function generation from 1 mHz to 50 MHz in one programmable instrument. OEM literature specifies sine, triangle, square, pulse, and haversine waveforms with up to 32 Vpp into open circuit, variable pulse width, and HP-IB control for versatile bench and system stimulus. Suitable for mixed analog/digital stimulus, pulse and CW function testing, VCO-style swept drive when optioned, and automated setups needing both function-generator purity and pulse timing control to 50 MHz. The HP 8116A combines pulse and function generation from 1 mHz to 50 MHz in one programmable instrument. OEM literature specifies sine, triangle, square, pulse, and haversine waveforms with up to 32 Vpp into open circuit, variable pulse width, and HP-IB control for versatile bench and system stimulus. Suitable for mixed analog/digital stimulus, pulse and CW function testing, VCO-style swept drive when optioned, and automated setups needing both function-generator purity and pulse timing control to 50 MHz.



MODEL

HP / Agilent 8116A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

8116A

LISTING

<https://aumictechlabs.com/products/8116a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent 8116A is a 50 MHz pulse/function generator that combines waveform synthesis and pulse generation in a single microprocessor-controlled instrument. It delivers sine, triangle,

ramp, square, pulse, haversine, haversine, and DC outputs across a 1 MHz to 50 MHz frequency range with 3-digit resolution. The unit operates with 10.0 mVpp to 16.0 Vpp amplitude into 50 ohm $\pm 5\%$ impedance, with voltage doubling into high-impedance loads.

Technical Specifications

Frequency & Timing: Range: 1 MHz to 50 MHz (3-digit resolution) Accuracy (pulse mode, 50% duty cycle): $\pm 3\%$ ± 0.3 MHz below 100 kHz; $\pm 5\%$ above 100 kHz Stability: $\pm 2\%$ over 1 hour; $\pm 5\%$ over 24 hours Pulse width: 10.0 ns to 999 ms ($\pm 5\%$ ± 2 ns accuracy) Jitter: $< 0.1\%$ + 100 ps (pulse mode, 50% duty cycle) Edge transitions: < 7 ns

Output & Amplitude: Amplitude range: 10.0 mVpp to 16.0 Vpp Output impedance: 50 ohm $\pm 5\%$ Offset range: 0.00 V to ± 7.95 V (0.00 V to ± 795 mV for amplitude < 100 mVpp) Offset accuracy: 0.5% of setting $\pm 1\%$ of amplitude ± 40 mV

Duty Cycle: Range: 10% to 90% (20% to 80% above 1 MHz; 50% above 10 MHz) Accuracy: ± 0.5 digits (± 3 digits above 1 MHz)

Modulation: Frequency modulation supports $\pm 5\%$ maximum deviation with 1 V/1% sensitivity and DC to 20 kHz modulating frequency. Amplitude modulation provides ± 2.5 V for 100% modulation (DC to 1 MHz). Pulse width modulation spans 10 ns to 1 s with 10:1 maximum ratio. VCO operation covers 2 decades within the 1 MHz–50 MHz range (0.1 V to 10 V sensitivity, DC to 1 kHz modulating frequency).

Key Features Fully programmable with microprocessor control and auto-vernier adjustment Configurable high/low levels or amplitude/offset programming for device compatibility Built-in limit feature protects connected devices

Standard modes: Normal, Trigger, Gate, External Width

Optional logarithmic sweep (Option 001) with user-selectable start/stop frequencies and sweep times from 10 ms to 500 seconds per decade

Typical Applications Protocol testing, timing characterization, device validation, and signal injection across telecommunications, digital electronics, and analog circuit design.

Compatibility & Integration The 50 ohm output impedance with high-impedance load doubling accommodates both matched and test configurations. Modulation inputs and external sweep control enable integration with automated test systems and closed-loop measurement setups.

8116A Characteristics / Specifications

PARAMETER	VALUE
Frequency range	1 mHz to 50 MHz
Frequency resolution	3 digits
Pulse width range	10.0 ns to 999 ms
Pulse width resolution	3 digits
Width accuracy	±5% of setting class
Width jitter	less than 0.1% + 200 ps class
Maximum amplitude into open circuit	32 Vpp
Waveforms	sine, triangle, square, pulse, haversine functions
Operating modes	continuous, trigger, gate (and option-dependent VCO/burst)
HPIB	programmable instrument
Repetition capability	to 50 MHz pulse/function band
Minimum pulse width	10.0 ns
Duty and timing control	programmable pulse parameters
Display entry	digital programmed parameters
Form factor	half-rack programmable generator family
Power line options	standard HP selectable line voltages
Operating temperature class	0 °C to 55 °C typical for series
Trigger modes	continuous trigger and gate
Haversine support	yes
Havertriangle support	yes
Amplitude programming	digital with offset capability
Remote programming bus	HPIB
Operating temperature	class: 0 °C to 55 °C typical for series

General Specifications & Supplementary Characteristics

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Amplitude programming	digital with offset capability
Remote programming bus	HPIB Notes Headline numeric limits are from Keysight/HP 8116A Pulse/Function Generator datasheet excerpts. Where the public OCR of older catalog pages is incomplete, finer THD and level-accuracy figures should be taken from the unit's operating/service manual calibration tables.

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	
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Option dependent modes: VCO and burst when optioned	
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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

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.