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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 8133A Pulse Generator, 3 GHz

The Agilent 8133A is a programmable 3 GHz pulse generator providing full-rate pulse capability on all channels with programmable period from 333 ps to 30.303 ns. OEM datasheets specify transition times under 100 ps (60 ps typical), sub-5 ps RMS jitter, optional second pulse or pulse/data channel, and SCPI/GPIB automation for high-speed digital characterization. Used for high-speed ECL and GaAs device characterization, eye-diagram stimulus with PRBS, parametric timing margin tests, and ATE environments needing clean picosecond-class edges with programmable width, delay, and interchannel skew. PRBS length Option 002: $2^{23}-1$ CCITT 0.151 Power: 110–120/220–240 Vrms $\pm 10\%$, 250 VA max, 47–63 Hz Dimensions: 145 mm H $\times$ 426 mm W $\times$ 525 mm D Remote control: IEEE-488.2 and SCPI 1992.0 Values are from the Agilent Technologies 8133A 3 GHz Pulse Generator data sheet (5980-1214E). Channel count and data modes depend on Option 001/002/003 configuration.



MODEL

HP / Agilent 8133A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

8133A

LISTING

<https://aumictechlabs.com/products/8133a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 8133A is a 3 GHz pulse generator engineered for high-speed digital and communications testing. It delivers precise, programmable control of pulse parameters - period, width, delay, amplitude, and transition times - with minimal jitter for signal integrity in demanding test scenarios. The instrument generates programmable data patterns and PRBS sequences, supporting eye diagram measurements and advanced characterization. IEEE 488.1/488.2 and

SCPI compliance enable seamless integration into automated test systems. Technical Specifications Frequency & Timing Frequency range: 33 MHz to 3 GHz Programmable period: 333 ps to 30 ns Transition time (rise/fall): <100 ps typical, <60 ps Jitter: 1 ps typical, <5 ps maximum Internal timebase minimum: 33 MHz (all specs) Operation down to 3 MHz (reduced capability) External timebase divisors: 1, 2, 4, 8, 16, 32, 64 Output Characteristics Output amplitude: 2 Vpp AC-coupled (Channel X); 50 mV to 2 V for LVDS Output impedance: 50 Ω Connectors: SMA (f) 3.5 mm Programmable pulse width and delay Programmable interchannel delay Variable cross-over point for eye deformation simulation Data Generation (Option 002) Data modes: 32-bit programmable patterns or PRBS PRBS: CCITT 0.151 ($2^{23}-1$) Pattern types: NRZ and RZ (50% duty cycle) Trigger output: Synchronized to Bit 0 of 32-bit word Configuration Options Single or dual channel configurations available Option 002: Pulse/Data Channel Option 003: Pulse Channel Non-volatile memory: Stores 20 complete instrument setups Key Features All modes and parameters fully programmable via GPIB Jitter emulation capability for delay modulation testing Transition times <100 ps ensure signal fidelity Channel 2 minimum frequency: 1 MHz Operates 0°C to 55°C Typical Applications High-speed digital circuit characterization Eye diagram and timing analysis Communications system testing LVDS and differential signal validation Compatibility & Integration Full GPIB programmability per IEEE 488.1/488.2 and SCPI 1992.0 standards. Settings stored in non-volatile memory across power cycles.

8133A Characteristics / Specifications

PARAMETER	VALUE
Frequency range	33.0 MHz to 3.0000 GHz
Period range	333 ps to 30.303 ns
Timing resolution	3.5 digits, 1 ps best case
RMS jitter period delay width	less than 5 ps (1 ps typical)
Period accuracy	±0.5% ±0.1% typical
Width range pulse mode	150 ps to (period minus 150 ps) maximum 10.000 ns
Width resolution	1 ps
Width accuracy	±100 ps typical
Duty cycle range	0% to 100% (square mode fixed 50%)
Duty cycle resolution	0.1% best case
Variable delay pulse mode Channel 1 Option 0	0.000 ns to 10.000 ns
Interchannel delay accuracy	±150 ps (±30 ps typical)
Phase range	−3600° to +3600°
Phase resolution	0.1° best case or 1 ps
Transition times 10% to 90%	less than 100 ps (60 ps typical)
Transition times 20% to 80%	less than 60 ps (40 ps typical)
Amplitude into 50 ohm	0.30 V to 3.00 V
Level window	−2 V to +4 V (−3 V to +4 V typical)
Level resolution	10 mV
Level accuracy	±2% of amplitude ±2% of setting ±20 mV
Source impedance	50 ohm
Settling time	1 ns
Overshoot preshoot ringing	less than 15% of amplitude ±20 mV
Differential output skew	less than 20 ps nominal
PRBS length Option 0	2 ²³ −1 CCITT 0.151

PARAMETER	VALUE
Operating temperature	0 °C to 55 °C
Storage temperature	−40 °C to +70 °C
Power	110–120/220–240 Vrms ±10%, 250 VA max, 47–63 Hz
Net weight	21.5 kg
Dimensions	145 mm H × 426 mm W × 525 mmDRemote control: IEEE-488.2 and SCPI 1992.0

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	−40 °C to +70 °C
Operating temperature	0 °C to 55 °C
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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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Remote control	IEEE-488.2 and SCPI 1992.0
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Period accuracy	±0.5% ±0.1% typical
Width range pulse mode	150 ps to (period minus 150 ps) maximum 10.000 ns
Width resolution	1 ps
Width accuracy	±100 ps typical
Duty cycle range	0% to 100% (square mode fixed 50%)
Duty cycle resolution	0.1% best case

Variable delay pulse mode Channel 1 Option 001: 0.000 ns to 10.000 ns

Specifications

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Interchannel delay accuracy	±150 ps (±30 ps typical)
Phase range	−3600° to +3600°
Phase resolution	0.1° best case or 1 ps
Transition times 10% to 90%	less than 100 ps (60 ps typical)
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Notes

Values are from the Agilent Technologies 8133A 3 GHz Pulse Generator data sheet (5980-1214E). Channel count and data modes depend on Option 001/002/003 configuration.

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.