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Data Sheet
August 14, 2026

HP / AGILENT

HP / Agilent 81133A Pulse Pattern Generator, 3.35 GHz, single channel

HP Agilent 81133A 3.35 GHz Pulse Pattern Generator The Agilent/Keysight 81133A isasingle-channel 3.35 GHz pulse/pattern generator with programmable periods from 298.5 ps to 66.6 ns. OEM datasheets specify transition times under 60 ps (20%–80%), typical 1.5 ps RMS jitter, differential outputs, deep pattern/PRBS memory, and delay-control jitter emulation for signal-integrity stress testing. Used for high-speed digital device characterization, eye-diagram and jitter stress tests, PLL and microprocessor clock sweeps in direct mode, NRZ/RZ/R1 pattern stimulus, and ATE integration via GPIB, LAN, and USB. The Agilent/Keysight 81133A isasingle-channel 3.35 GHz pulse/pattern generator with programmable periods from 298.5 ps to 66.6 ns. OEM datasheets specify transition times under 60 ps (20%–80%), typical 1.5 ps RMS jitter, differential outputs, deep pattern/PRBS memory, and delay-control jitter emulation for signal-integrity stress testing. Used for high-speed digital device characterization, eye-diagram and jitter stress tests, PLL and microprocessor clock sweeps in direct mode, NRZ/RZ/R1 pattern stimulus, and ATE integration via GPIB, LAN, and USB.

MODEL **HP / Agilent 81133A**	CALIBRATION **Available on request**
CONDITION **Used**	STATUS **In stock**
RFQ / SKU **81133A**	LISTING **https://aumictechlabs.com/products/81133a-2/**

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NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 81133A is a single-channel pulse pattern generator delivering precise signal generation from 15 MHz to 3.35 GHz. Engineered for high-speed digital circuit validation and communication system testing, this instrument generates NRZ, RZ, R1, and DNRZ data formats with pattern memory depths up to 12 Mbit per channel. It combines low jitter performance - 1.5 ps typical - with programmable jitter emulation to ± 250 ps, enabling realistic signal integrity assessment and stress testing of receiver circuits. Technical Specifications Frequency & Timing Operating frequency: 15 MHz to 3.35 GHz Pulse period range: 298.5 ps to 66.6 ns Internal clock period resolution: 0.001 ps Transition time (20% to 80%): <60 ps typical RMS jitter: 1.5 ps typical Frequency divider options: 1, 2, 4, 8, 16, 32, 64, 128 Output Characteristics Output amplitude: 50 mV to 2.00 Vpp Output impedance: 50 Ω nominal Level window: -2.00 V to +3.00 V Overshoot/ringing: <10% + 10 mV (differential outputs) Short circuit current: -80 mA to +120 mA nominal Variable crossover point: 30% to 70% typical Data Generation Pattern memory: 8 Kbit standard; 12 Mbit extended per channel PRBS capability: 2^5-1 through 2^31-1 Operating modes: Square (50% duty cycle), Pulse, Data, Burst Jitter modulation: ± 250 ps or ± 25 ps selectable Environmental Operating temperature: 0 to 55 °C Humidity: Maximum 95% RH Altitude: Up to 2000 m Key Features Single-channel architecture with 8 Kbit or extended 12 Mbit pattern memory Programmable jitter emulation up to ± 250 ps for receiver margin testing AC-coupled clock input with 50 Ω impedance and optional DC termination External trigger and delay control inputs for synchronized operation Support for ECL, LVPECL, and LVDS logic families Typical Applications High-speed digital circuit characterization and validation Serial communication system receiver stress testing Signal integrity measurements and jitter analysis PRBS pattern generation for bit error rate testing Clock and data distribution network emulation Compatibility & Integration Remote control via GPIB, LAN, or USB 2.0 Integrates with Keysight 54850A and 86100C DCA-J oscilloscopes Compatible with ECL, LVPECL, and LVDS output termination schemes

81133A Characteristics / Specifications

PARAMETER	VALUE
Number of channels	1
Frequency range	15 MHz to 3.35 GHz
Period range	298.5 ps to 66.6 ns
Period resolution	6 digits, 0.001 ps best case
Frequency resolution	1 Hz
Frequency accuracy	50 ppm
Transition times 10% to 90%	less than 90 ps
Transition times 20% to 80%	less than 60 ps
Random jitter clock mode	less than 4 ps RMS (1.5 ps typical)
Total jitter data mode	less than 5 ps RMS (2 ps typical)
Delay variation	−5 ns to 230 ns
Delay resolution	1 ps
Delay accuracy	±20 ps
Width range	100 ps to (period − 100 ps)
Width resolution	1 ps
Width accuracy	±40 ps
Duty cycle range	0.15% to 99.85%
Duty cycle resolution	0.002% or 1 ps
Channel divide ratios	1, 2, 4, 8, 16, 32, 64, 128
Amplitude	50 mV to 2.00 V
Level window	−2.00 V to +3.00 V
Level resolution	10 mV
Level accuracy	2% of setting ±20 mV
Settling time	1 ns
Source impedance	50 ohm nominal

PARAMETER	VALUE
Variable crossover	30% to 70% typical
Pattern memory	8 kbit per channel (12 Mbit extended)
PRBS polynomials	2^n−1 for n = 5 to 15, 23, 31
Jitter modulation range	±25 ps or ±250 ps selectable
Delay control modulation frequency	0 Hz to 200 MHz
Remote interfaces	GPIB, LAN, USB 2.0
Operating temperature	0 °C to 55 °C

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
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

Specifications

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Level resolution	10 mV
Level accuracy	2% of setting ±20 mV
Settling time	1 ns
Source impedance	50 ohm nominal
Variable crossover	30% to 70% typical

PARAMETER	VALUE
Pattern memory	8 kbit per channel (12 Mbit extended)
PRBS polynomials	2^n−1 for n = 5 to 15, 23, 31
Jitter modulation range	±25 ps or ±250 ps selectable
Delay control modulation frequency	0 Hz to 200 MHz
Remote interfaces	GPIB, LAN, USB 2.0
Operating temperature	0 °C to 55 °C

Notes
Specifications are from Agilent/Keysight 81133A and 81134A 3.35 GHz Pulse Pattern Generators data sheets (5988-5549 family). Timing specs apply after auto calibration with temperature variation within ±10 °C per OEM note.

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

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