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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 81101A Pulse Generator, 50 MHz

The Agilent 81101A is a one-channel 50 MHz pulse generator in the 81100 family, sharing the 8110A-style graphical interface and SCPI command set. OEM technical specifications list 1 mHz–50 MHz operation, variable transitions from 5 ns, up to 10 Vpp into 50 ohm (20 Vpp with 1 kΩ source), and glitch-free timing changes. Used for CMOS/TTL logic testing, general pulse stimulus in R&D and manufacturing, triggerable burst and double-pulse work, and ATE systems needing upward-compatible SCPI programming within the 81100 family. Amplitude 1 kΩ into 50 ohm: 200 mVpp to 20.0 Vpp Source impedance: 50 ohm or 1 kΩ selectable Overshoot ringing: ±5% of amplitude ±20 mV Specifications are from Agilent 81100 Family Pulse/Pattern Generator technical specifications for mainframe 81101A. PLL versus VCO jitter/accuracy depends on clock-source configuration.



MODEL

HP / Agilent 81101A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

81101A

LISTING

<https://aumictechlabs.com/products/81101a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent 81101A is a single-channel pulse generator delivering precision signal generation across a 1 mHz to 50 MHz frequency range. It has independent control over pulse width, amplitude, delay, and transition time with timing resolution to 5 ps and frequency accuracy of 0.01%. The instrument generates output amplitudes up to 10 Vpp into 50 Ω or 20 Vpp into 1 kΩ load impedance, with selectable output impedance and level accuracy of ±(3% + 75 mV) into 50 Ω. Period range extends from 20 ns to 999.5 s, while pulse width is continuously adjustable from

1.25 ns to (period - 1.25 ns) across multiple resolution modes. Transition times range from 5 ns to 200 ms with 10/90 accuracy of $\pm 10\%$ ± 200 ps. The graphical display and full SCPI programmability via HP-IB enable remote operation and integration into automated test systems. Glitch-free timing with repeatability typically four times better than stated accuracy ensures reliable pulse generation for circuit validation and digital signal simulation.

Technical Specifications

Timing & Frequency Frequency range: 1 mHz to 50 MHz Frequency accuracy: 0.01% Period range: 20 ns to 999.5 s Timing resolution: 5 ps (best case) Pulse width range: 1.25 ns to (period - 1.25 ns) at 5 ps resolution Pulse width accuracy: $\pm 5\%$ ± 250 ps (valid to 5.5 Vpp) Transition time range (10/90): 5 ns to 200 ms Transition time accuracy: $\pm 10\%$ ± 200 ps Delay accuracy: $\pm 5\%$ ± 1 ns Double pulse delay accuracy: $\pm 5\%$ ± 500 ps

Output Specifications Output amplitude into 50 Ω : 100 mVpp to 10.0 Vpp Output amplitude into 1 k Ω : 200 mVpp to 20.0 Vpp Output impedance: Selectable 50 Ω or 1 k Ω Level accuracy into 50 Ω : $\pm(3\% + 75$ mV) Level accuracy into 1 k Ω : $\pm(3\% + 150$ mV) Level window into 50 Ω : -10.0 V to +10.0 V Level window into 1 k Ω : -20.0 V to +20.0 V Level settling time: 30 ns typical

General Output channels: 1 Interface: SCPI programmable via HP-IB Display: Graphical Power: 100–240 VAC $\pm 10\%$, 50–60 Hz; 300 VA max Operating temperature: 0°C to 55°C Dimensions: 8.9 cm height, full rack width

Key Features Continuously variable timing parameters - period, delay, and pulse width - without glitches or dropouts Multiple pulse width resolution modes down to 1.25 ns for fine control Programmable transition time from 5 ns to 200 ms with asymmetric leading/trailing edge control Load compensation for non-50 Ω impedances Timing repeatability typically 4 $\times$ better than accuracy specifications

Typical Applications Digital circuit testing and characterization Protocol signal simulation and validation Device switching and edge-triggering analysis High-speed logic and timing verification

Compatibility & Integration Full SCPI command compatibility with the 81100 family enables straightforward integration into existing test platforms and automated measurement systems.

81101A Characteristics / Specifications

PARAMETER	VALUE
Frequency range	1 mHz to 50 MHz
Timing resolution	3.5 digits, 5 ps best case
RMS jitter with PLL	0.001% + 15 ps
RMS jitter with VCO	0.01% + 15 ps
Period range	20 ns to 999.5 s
Period accuracy with PLL	±0.01% (±5% without noted conditions)
Width range	10.0 ns to (period – 10.0 ns)
Width accuracy	±5% ±250 ps
Additional variable delay range	0 ns to (period – 20 ns)
Delay accuracy	±5% ±1 ns
Double pulse delay range	(width + 10.0 ns) to (period – width – 10.0 ns)
Double pulse delay accuracy	±5% ±500 ps
Transition time range 10% to 90%	5 ns to 200 ms variable
Transition time accuracy	±10% ±200 ps
Transition linearity	3% typical for transitions greater than 100 ns
Amplitude 50 ohm into 50 ohm	100 mVpp to 10.0 Vpp
Level window 50 ohm	–10.0 V to +10.0 V
Level accuracy 50 ohm	±(3% + 75 mV)
Level resolution 50 ohm	10 mV
Source impedance	50 ohm or 1 kΩ selectable
Overshoot ringing	±5% of amplitude ±20 mV
Max external voltage	±24 V
Short circuit current	±400 mA max
Burst count	2 to 65536
Operating temperature	0 °C to 55 °C

PARAMETER	VALUE
Power consumption	300 VA max
Dimensions	89 mm × 426 mm × 521 mm

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 °C to 55 °C
Operating Temperature	0 °C to 55 °C
Power consumption	300 VA max
Dimensions	89 mm × 426 mm × 521 mm Notes Specifications are from Agilent 81100 Family Pulse/Pattern Generator technical specifications for mainframe 81101A. PLL versus VCO jitter/accuracy depends on clock-source configuration.

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 list 1 mHz-50 MHz operation, variable transitions from 5 ns, up to 10 Vpp into 50 ohm (20 Vpp with 1 kΩ source), and glitch-free timing changes.

Applications

Used for CMOS/TTL logic testing, general pulse stimulus in R&D and manufacturing, triggerable burst and double-pulse work, and ATE systems needing upward-compatible SCPI programming within the 81100 family.

Key Features

8110A-compatible graphical UI and common SCPI/GPIB commands

Variable leading and trailing edges in overlapping 1:20 segments

Continuous period/delay/width changes without glitches or dropouts

Selectable 50 ohm or 1 kΩ source impedance with load compensation

Burst, double-pulse, trigger, gate, and external-width modes

Form/fit compatibility with other 81100 mainframes for migration

Technical Specifications

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Transition time range 10% to 90%	5 ns to 200 ms variable
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Transition linearity	3% typical for transitions greater than 100 ns
Amplitude 50 ohm into 50 ohm	100 mVpp to 10.0 Vpp

Amplitude 1 kΩ into 50 ohm: 200 mVpp to 20.0 Vpp

Specifications

PARAMETER	VALUE
Level window 50 ohm	-10.0 V to +10.0 V
Level accuracy 50 ohm	±(3% + 75 mV)
Level resolution 50 ohm	10 mV
Source impedance	50 ohm or 1 kΩ selectable
Overshoot ringing	±5% of amplitude ±20 mV
Max external voltage	±24 V
Short circuit current	±400 mA max
Burst count	2 to 65536
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Notes

Specifications are from Agilent 81100 Family Pulse/Pattern Generator technical specifications for mainframe 81101A. PLL versus VCO jitter/accuracy depends on clock-source 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.