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Data Sheet

August 5, 2026

KEYSIGHT / AGILENT

Keysight (Agilent) 81150A Pulse Function Arbitrary Noise Generator

Keysight (Agilent) 81150A Pulse Function Arbitrary Noise Generator The Keysight/Agilent 81150A is a 4-in-1 pulse / function / arbitrary / noise generator. Pulse to 120 MHz; sine to 240 MHz; 14-bit 2 GSa/s arbitrary waveforms with 512 ksamples/channel; deterministic white Gaussian noise with ~26-day repetition. 1- or 2-channel versions with differential outputs; channels couple/uncouple or add. Optional pattern generator to 120 Mbit/s. LXI Class C; GPIB/USB/LAN. Device characterization and stress test; mixed-signal stimulus; noise-distorted waveforms; pattern emulation (Option PAT). The Keysight/Agilent 81150A is a 4-in-1 pulse / function / arbitrary / noise generator. Pulse to 120 MHz; sine to 240 MHz; 14-bit 2 GSa/s arbitrary waveforms with 512 ksamples/channel; deterministic white Gaussian noise with ~26-day repetition. 1- or 2-channel versions with differential outputs; channels couple/uncouple or add. Optional pattern generator to 120 Mbit/s. LXI Class C; GPIB/USB/LAN. Device characterization and stress test; mixed-signal stimulus; noise-distorted waveforms; pattern emulation (Option PAT).



MODEL

**Keysight / Agilent
81150A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81150A

LISTING

<https://aumictechlabs.com/products/81150a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight (Agilent) 81150A Pulse Function Arbitrary Noise Generator is a dual-channel signal source combining pulse, function, arbitrary waveform, and noise generation in a single instrument. It delivers precise test signals across frequencies from 1 μ Hz to 240 MHz, with deterministic white Gaussian noise featuring selectable crest factor and modulation capabilities up to 50 MHz. The instrument generates standard waveforms - pulse, sine, square, ramp, noise - plus predefined arbitrary waveforms including exponential rise/fall, $\sin(x)/x$, cardiac, and DC profiles. Two independent or synchronized channels support AM, FM, PM, PWM, and FSK modulation from internal or external sources. Arbitrary waveform generation operates at 14-bit resolution with 2 GSa/s sample rate and 512 k samples per channel memory. Output impedance selects between 50 Ω and 5 Ω with differential output support. Amplitude ranges from 50 mVpp to 20 Vpp depending on load impedance and amplifier configuration. Pulse transition times span 2.5 ns to 1000 s (10% to 90%) with 100 ps width resolution. Noise generation supports arbitrary distributions and triggering with signal repetition times up to 26 days, eliminating repetitive test patterns. Optional pattern generator enables analog, digital, and mixed-signal device testing. The integrated two-channel architecture reduces cabling, minimizes footprint, and accelerates test cycles.

Technical Specifications

Pulse generation: 1 μ Hz to 120 MHz with variable rise/fall times
Sine output: 1 μ Hz to 240 MHz
Arbitrary waveforms: 14-bit, 2 GSa/s, 512 k samples per channel
Modulation types: AM, FM, PM, PWM, FSK (up to 50 MHz)
Output channels: 2 (independent, synchronized, coupled, or added)
Output impedance: 50 Ω or 5 Ω selectable
Amplitude: 50 mVpp to 5 Vpp standard; up to 20 Vpp with high voltage amplifier
Pulse rise/fall times: 2.5 ns to 1000 s (10% to 90%)
Pulse width resolution: 100 ps
Noise: Deterministic white Gaussian with arbitrary distributions; repetition time to 26 days
Differential outputs supported

Key Features

Dual independent generators or synchronized coupled operation
Internal and external modulation sources
Glitch-free parameter changes
Predefined waveforms: exponential rise/fall, $\sin(x)/x$, cardiac, DC
Optional pattern generator for mixed-signal testing

Typical Applications

Device stress testing to component limits
Analog, digital, and mixed-signal device validation
Deterministic noise characterization
Modulation and signal integrity testing

Compatibility & Integration

Two-channel architecture enables time-synchronized operation, reduces external cabling, and consolidates measurement resources.

Features & description

From manufacturer datasheet

Features

- Pulse: 1 μ Hz to 120 MHz; sine: 1 μ Hz to 240 MHz • Arbitrary: 14-bit, 2 GSa/s, 512 k samples/channel • Transition times: 2.5 ns to 1000 s (10%–90%) • Noise: adjustable crest factor; ~26-day repetition • Modulation: AM, FM, PM, PWM, FSK (internal/external) • Channels: 1 or 2; differential; couple/add • Two amplifier paths: high bandwidth (50 mV–5 Vpp into 50 Ω) and high voltage (100 mV–10 Vpp into 50 Ω ; up to 20 Vpp into open/5 Ω paths) • Pattern option: to 120 Mbit/s; 16 Mbit pattern memory; PRBS to 2^{31} • Interfaces: LAN, GPIB, USB; SCPI 1992 / IEEE 488.2

81150A Characteristics / Specifications

PARAMETER	VALUE
Model	81150A
Manufacturer	Keysight Technologies (Agilent)
Instrument Type	Pulse Function Arbitrary Noise Generator
Alias	81150A; Agilent 81150A Frequency / Sampling
Pulse	1 μ Hz to 120 MHz; sine: 1 μ Hz to 240 MHz
AWG	14-bit, 2 GSa/s; memory 512 kSa/ch Amplitude (50 Ω into 50 Ω)
High BW amp	50 mVpp–5 Vpp
High voltage amp	100 mVpp–10 Vpp Operational Notes Related 81160A extends to 330 MHz. Prefer Keysight datasheet 5989-6433.
Arbitrary	14-bit, 2 GSa/s, 512 k samples/channel
Transition times	2.5 ns to 1000 s (10%–90%)
Noise	adjustable crest factor; ~26-day repetition
Modulation	AM, FM, PM, PWM, FSK (internal/external)
Channels	1 or 2; differential; couple/add
Two amplifier paths	high bandwidth (50 mV–5 Vpp into 50 Ω) and high voltage (100 mV–10 Vpp into 50 Ω ; up to 20 Vpp into open/5 Ω paths)
Pattern option	to 120 Mbit/s; 16 Mbit pattern memory; PRBS to 2 ³¹
Interfaces	LAN, GPIB, USB; SCPI 1992 / IEEE 488.2
Bandwidth	(50 mV–5 Vpp into 50 Ω) and high voltage (100 mV–10 Vpp into 50 Ω ; up to 20 Vpp into open/5 Ω paths) - Pattern option: to 120 Mbit/s; 16 Mbit pattern memory; PRBS to 2 ³¹

81150A Specifications

PARAMETER	VALUE
Key Features	- Pulse: 1 μHz to 120 MHz; sine: 1 μHz to 240 MHz
Technical Specifications	Model: 81150A
Frequency / Sampling	Pulse: 1 μHz–120 MHz; Sine: 1 μHz–240 MHz
Operational Notes	Related 81160A extends to 330 MHz. Prefer Keysight datasheet 5989-6433.

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	81150A
Manufacturer	Keysight Technologies (Agilent)
Instrument Type	Pulse Function Arbitrary Noise Generator
Alias	81150A; Agilent 81150A

Frequency / Sampling

Pulse: 1 μHz–120 MHz; Sine: 1 μHz–240 MHz

AWG: 14-bit, 2 GSa/s; memory 512 kSa/ch

Amplitude (50 Ω into 50 Ω)

High BW amp: 50 mVpp–5 Vpp

High voltage amp: 100 mVpp–10 Vpp

Operational Notes

Related 81160A extends to 330 MHz. Prefer Keysight datasheet 5989-6433.

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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NIST-traceable calibration · SAM registered ·
30-day returns
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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.