

KEYSIGHT TECHNOLOGIES (AGILENT HP)

81160A

The Keysight (Agilent) 81160A is a high-performance pulse, function, arbitrary, and noise generator designed for precise electronic stress testing. It features exceptionally low intrinsic jitter of 7 ps RMS, an ultra-fast 2.5 GSa/s sample rate, and up to 500 MHz sine wave output, making it highly versatile for benchtop characterization and advanced serial data testing. Offering single- or dual-channel coupled/uncoupled configurations with glitch-free parameter adjustments, the 81160A is ideal for high-speed digital and mixed-signal test applications.

SPECIFICATIONS

Timing and Channel Configurations

Number of Channels	1 or 2 channels (coupled/uncoupled)
Sine Waveform Frequency Range	1 μ Hz to 500 MHz
Pulse Frequency Range	1 μ Hz to 330 MHz
Frequency Resolution	1 μ Hz

Pulse and Pattern Generation

Pulse Width Range	1.5 ns to (period - 1.5 ns)
Pattern Generator Bit Rate	Up to 330 Mbit/s (Option 330) or 660 Mbit/s (Option 660)

Standard Waveforms

Supported Waveform Types	Pulse, sine, square, ramp, noise, arbitrary
Square Wave Frequency Range	1 μ Hz to 330 MHz
Square Wave Duty Cycle Range	(Frequency/660 MHz) to 1 - (Frequency/660 MHz)
Square Wave Transition Time	1.0 ns typical fixed (10% to 90%)
Noise Crest Factor	3.1, 4.8, 6.0, 7.0 typical (Gaussian distribution)
Noise Type	Deterministic, triggerable

Arbitrary Waveform Specifications

Arbitrary DAC Sample Rate	2.5 GSa/s fixed
Arbitrary Vertical Resolution	14 bits

Modulation, Sweep and Burst

Supported Modulation Types	FM, AM, PM, PWM, FSK
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Electrical Inputs and Outputs

Output Configuration	Differential outputs
Output Amplitude (into 50 Ω)	50 mVp-p to 5 Vp-p (50 Ω into 50 Ω)
Output Amplitude (into Open Circuit)	100 mVp-p to 10 Vp-p (50 Ω into open)
Voltage Window (into 50 Ω)	±5 V (50 Ω into 50 Ω)
Voltage Window (into Open Circuit)	±10 V (50 Ω into open)
External Reference Output Frequency	10 MHz

System, Control and Interfaces

LXI Compliance	LXI Class C compliant
Command Emulation Compatibility	Agilent 81101A, 81104A, 81105A, 81110A, 81130A, 81150A

Triggering & Modulation

External Trigger Input Impedance	50 Ω or 10 kΩ (selectable)
External Trigger Input Threshold Range	-10 V to +10 V

Sweep Characteristics

Sweep Type	Linear or Logarithmic
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General Specifications

Warm-up Time	30 minutes
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TECHNOLOGY

Direct Digital Synthesis (DDS) & Arbitrary Waveform Generation

APPLICATIONS

Electronic Device Stress Testing, Serial Data Testing, Benchtop General Purpose Testing

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