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Data Sheet

August 5, 2026

KEYSIGHT / AGILENT

Keysight (Agilent) M3201A PXIe Arbitrary Waveform Generator

Keysight (Agilent) M3201A PXIe Arbitrary Waveform Generator The Keysight M3201A is a 1-slot 3U PXIe AWG with 4 channels, 16-bit resolution, 500 MSa/s, and about 200 MHz analog bandwidth (400 MHz IQ). Embedded function generators and frequency/phase/amplitude modulators; optional Hard Virtual Instrumentation (HVI) real-time sequencing and FPGA programming. Up to ~2 GB onboard RAM (~1 Gsample). SFDR ~64 dBc at 80 MHz typical; average noise density down to ~-145 dBm/Hz typical. Broadband/IF stimulus; MIMO/wireless baseband; quantum/control AWG; synchronized multi-module PXIe systems. The Keysight M3201A is a 1-slot 3U PXIe AWG with 4 channels, 16-bit resolution, 500 MSa/s, and about 200 MHz analog bandwidth (400 MHz IQ). Embedded function generators and frequency/phase/amplitude modulators; optional Hard Virtual Instrumentation (HVI) real-time sequencing and FPGA programming. Up to ~2 GB onboard RAM (~1 Gsample). SFDR ~64 dBc at 80 MHz typical; average noise density down to ~-145 dBm/Hz typical. Broadband/IF stimulus; MIMO/wireless baseband; quantum/control AWG; synchronized multi-module PXIe systems.



MODEL

**Keysight / Agilent
M3201A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

M3201A

LISTING

<https://aumictechlabs.com/products/m3201a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keysight M3201A is a 4-channel PXIe arbitrary waveform generator delivering 500 MSa/s output speed with 16-bit resolution across a DC to 200 MHz bandwidth. Built for high-fidelity signal generation in aerospace, defense, automotive, communications, and semiconductor test environments, the M3201A combines onboard waveform storage of up to 2 GB with advanced modulation capabilities including amplitude, frequency, and phase modulation. The instrument achieves 64 dBc spurious-free dynamic range at 80 MHz and noise density down to -145 dBm/Hz.

Technical Specifications

Form Factor: 1-slot PXIe Channels: 4 Output Speed: 500 MSa/s (16-bit); 4 GSa/s aggregated (16-bit); 2 GSa/s aggregated (32-bit) Output Resolution: 16 bits Bandwidth: DC to 200 MHz Onboard Memory: Up to 2 GB (approximately 1 Gsamples) Clock Frequency: 500 MHz Frequency Resolution: 45-bit (approximately 5.68 μ Hz) Phase Resolution: 24-bit (approximately 21.5 μ deg) SFDR: Approximately 64 dBc @ 80 MHz (typical) Average Noise Density: Approximately -145 dBm/Hz (typical)

Key Features

Sinusoidal, triangular, square, and DC waveform generation Amplitude, frequency, and phase modulation Real-time sequencing with Hard Virtual Instrumentation (HVI) technology for time-deterministic execution Waveform queue system supporting cycles, delays, and prescalers Up to 8 reconfigurable I/Os for advanced triggering and marking Optional graphical FPGA programming via PathWave FPGA Design Environment (KF9000A) Multi-instrument synchronization and control through PathWave Test Sync Executive (KS2201A)

Typical Applications

Aerospace and defense signal generation Automotive test and validation Communications system characterization Semiconductor device testing Broadband and IF signal synthesis

Compatibility & Integration

Operating System: Windows 10 Programming Support: C, C++, Visual Studio, LabVIEW, MATLAB, Python (HVI with Python 3.7) Software: Keysight SD1 3.x with Board Support Packages (BSPs) Multi-Module Control: Enabled via PathWave Test Sync Executive

Features & description

From manufacturer datasheet

Features

- Sample rate: 500 MSa/s (prescaler 0); lower rates via prescaler ($f_s=100/n$ MSa/s for $n \geq 1$) • Resolution: 16 bits; Channels: 4 • Bandwidth: DC to ~200 MHz (400 MHz IQ) • Onboard RAM: up to 2 GB (~1 GSa) • Embedded FG: sine, triangle, square, DC; 45-bit frequency resolution (~5.68 μ Hz); 24-bit phase (~21.5 μ deg) • Waveform queue with cycles, delays, prescalers • Up to 8 reconfigurable trigger/marker I/Os • Form factor: 1-slot PXIe; PCIe Gen1 • Programming: C/C++, LabVIEW, MATLAB, Python; optional HVI and FPGA design flow

M3201A Characteristics / Specifications

PARAMETER	VALUE
Model	M3201A
Manufacturer	Keysight Technologies
Instrument Type	PXIe Arbitrary Waveform Generator
Alias	M3201A Sampling / Channels 500 MSa/s, 16-bit, 4 ch, ~200 MHz BW Memory / Dynamic Up to 2 GB RAM; SFDR ~64 dBc @ 80 MHz (typ.); noise ~-145 dBm/Hz (typ.) Operational Notes Related M3202A is 1 GSa/s. Prefer Keysight datasheet 5992-1797.
Sample rate	500 MSa/s (prescaler 0); lower rates via prescaler ($f_s=100/n$ MSa/s for $n \geq 1$)
Resolution	16 bits; Channels: 4
Bandwidth	DC to ~200 MHz (400 MHz IQ)
Onboard RAM	up to 2 GB (~1 GSa)
Embedded FG	sine, triangle, square, DC; 45-bit frequency resolution (~5.68 μ Hz); 24-bit phase (~21.5 μ deg)
Form factor	1-slot PXIe; PCIe Gen1
Programming	C/C++, LabVIEW, MATLAB, Python; optional HVI and FPGA design flow

M3201A Specifications

PARAMETER	VALUE
Applications	Broadband/IF stimulus; MIMO/wireless baseband; quantum/control AWG; synchronized multi-module PXIe systems.
Key Features	- Sample rate: 500 MSa/s (prescaler 0); lower rates via prescaler (fs=100/n MSa/s for n≥1)
Technical Specifications	Model: M3201A
Sampling / Channels	500 MSa/s, 16-bit, 4 ch, ~200 MHz BW
Memory / Dynamic	Up to 2 GB RAM; SFDR ~64 dBc @ 80 MHz (typ.); noise ~-145 dBm/Hz (typ.)
Operational Notes	Related M3202A is 1 GSa/s. Prefer Keysight datasheet 5992-1797.

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	M3201A
Manufacturer	Keysight Technologies
Instrument Type	PXIe Arbitrary Waveform Generator
Alias	M3201A

Sampling / Channels

500 MSa/s, 16-bit, 4 ch, ~200 MHz BW

Memory / Dynamic

Up to 2 GB RAM; SFDR ~64 dBc @ 80 MHz (typ.); noise ~-145 dBm/Hz (typ.)

Operational Notes

Related M3202A is 1 GSa/s. Prefer Keysight datasheet 5992-1797.

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.