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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 33120A Function / Arbitrary Waveform Generator, 15 MHz

HP Agilent Keysight 33120A 15 MHz Function Arbitrary Waveform Generator The Agilent/Keysight 33120A is a 15 MHz DDS function/arbitrary waveform generator with 12-bit 40 MSa/s arb waveforms to 16000 points. Keysight datasheet specifications list sine/square 100 uHz to 15 MHz, triangle/ramp to 100 kHz, amplitude 50 mVpp to 10 Vpp into 50 Ω , and frequency accuracy 10 ppm/90 days and 20 ppm/1 year at 18 C to 28 C. General-purpose laboratory waveform stimulus, arbitrary waveform download for custom signals, AM/FM/FSK and burst/sweep testing, and multi-unit phase lock with Option 001 TCXO/reference I/O. The Agilent/Keysight 33120A is a 15 MHz DDS function/arbitrary waveform generator with 12-bit 40 MSa/s arb waveforms to 16000 points. Keysight datasheet specifications list sine/square 100 uHz to 15 MHz, triangle/ramp to 100 kHz, amplitude 50 mVpp to 10 Vpp into 50 Ω , and frequency accuracy 10 ppm/90 days and 20 ppm/1 year at 18 C to 28 C. General-purpose laboratory waveform stimulus, arbitrary waveform download for custom signals, AM/FM/FSK and burst/sweep testing, and multi-unit phase lock with Option 001 TCXO/reference I/O.



MODEL

**HP / Agilent
33120A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

33120A

LISTING

<https://aumictechlabs.com/products/33120a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 33120A is a 15 MHz function and arbitrary waveform generator employing direct digital synthesis for signal generation across testing, measurement, and validation applications. It delivers standard waveforms - sine, square, triangle, ramp, noise, and specialized functions - plus user-defined arbitrary waveforms with 12-bit resolution and 40 MSa/s sampling. The instrument supports internal modulation (AM, FM, FSK, Burst), linear and logarithmic sweeps, and external modulation inputs, making it suitable for component characterization, circuit validation, and system-level testing.

Technical Specifications

Frequency Range Standard waveforms (sine, square, ramp, triangle): 10 mHz to 15 MHz Arbitrary waveforms: 10 mHz to 50 kHz Internal modulation rate: DC to 20 kHz External modulation input: 1 MHz maximum

Waveform Capabilities Standard types: Sine, square, triangle, ramp, noise (Gaussian), $\sin(x)/x$, exponential rise, exponential fall, cardiac, DC volts Arbitrary: 12-bit resolution, 40 MSa/s sampling rate, up to 16,000 points per waveform Non-volatile storage: Four 16,000-point arbitrary waveforms

Output Specifications Amplitude: 100 μ Vpp to 20 Vpp (open circuit) Amplitude accuracy: $\pm(0.05\%$ of setting + 0.05% of range) for sine wave DC offset: $\pm(2 \times \text{peak-to-peak amplitude})$ Output impedance: 50 Ω fixed

Modulation & Sweep Modulation types: AM, FM, FSK, Burst (internal); external modulation source supported Sweep modes: Linear and logarithmic Sweep rate: 1 ms to 500 s selectable

Timebase Standard accuracy: $\pm 0.05\%$ from 0 Hz to 600 Hz, $\pm 4\%$ at upper limit Option 001 (TCXO): 2 ppm stability, 4 ppm/year accuracy

Key Features Direct digital synthesis ensures frequency stability and precision Dual interface support: GPIB (IEEE-488) and RS-232 for instrument control Phase-lock option (Option 001) with external 10 MHz clock synchronization

Compact bench-top form factor: 255 mm W $\times$ 104 mm H $\times$ 374 mm D

Typical Applications Analog and mixed-signal circuit testing Frequency response and transient analysis Modulation technique validation Sensor and transducer characterization Educational and R&D measurement work

Compatibility & Integration SCPI-compliant for programmable automation Agilent BenchLink Arb (HP 34811A) for arbitrary waveform creation and transfer IntuiLink connectivity software support

Accepts 100/120/220/240 VAC $\pm 10\%$, 45–66 Hz / 360–440 Hz

Features & description

From manufacturer datasheet

Built-in arbitrary waveforms including sin(x)/x exponential cardiac DC

Internal AM FM FSK and burst modulation without external source Linear and log sweeps from 1 ms to 500 s Standard GPIB and RS-232 SCPI control Technical Specifications Sine Frequency Range: 100 uHz to 15 MHz Square Frequency Range: 100 uHz to 15 MHz Triangle Frequency Range: 100 uHz to 100 kHz Ramp Frequency Range: 100 uHz to 100 kHz White Noise Bandwidth: 10 MHz Frequency Resolution: 10 uHz or 10 digits Frequency Accuracy 90 Days 18 to 28 C: 10 ppm Frequency Accuracy 1 Year 18 to 28 C: 20 ppm Temperature Coefficient: less than 2 ppm/C Aging: less than 10 ppm/yr Arbitrary Waveform Length: 8 to 16000 points Arbitrary Amplitude Resolution: 12 bits including sign Arbitrary Sample Rate: 40 MSa/s Nonvolatile Arb Stores: Four 16000-point waveforms Amplitude Into 50 Ohm: 50 mVpp to 10 Vpp Amplitude Accuracy At 1 kHz: $\pm 1\%$ of specified output Sine Flatness Below 100 kHz: $\pm 1\%$ (0.1 dB) Sine Flatness 100 kHz to 1 MHz: $\pm 1.5\%$ (0.15 dB) Sine Flatness 1 MHz to 15 MHz Ampl At Or Above 3 Vrms: $\pm 2\%$ (0.2 dB) Offset Into 50 Ohm: ± 5 Vpk ac + dc Offset Accuracy: $\pm 2\%$ of setting + 2 mV Output Impedance: 50 ohm fixed Option 001 Timebase Stability: ± 1 ppm 0 C to 50 C Option 001 Aging After 30 Days: 0.1 ppm/month class

33120A Characteristics / Specifications

PARAMETER	VALUE
Sine Frequency Range	100 uHz to 15 MHz
Square Frequency Range	100 uHz to 15 MHz
Triangle Frequency Range	100 uHz to 100 kHz
Ramp Frequency Range	100 uHz to 100 kHz
White Noise Bandwidth	10 MHz
Frequency Resolution	10 uHz or 10 digits
Frequency Accuracy 90 Days 18 to 28 C	10 ppm
Frequency Accuracy 1 Year 18 to 28 C	20 ppm
Temperature Coefficient	less than 2 ppm/C
Aging	less than 10 ppm/yr
Arbitrary Waveform Length	8 to 16000 points
Arbitrary Amplitude Resolution	12 bits including sign
Arbitrary Sample Rate	40 MSa/s
Nonvolatile Arb Stores	Four 16000-point waveforms
Amplitude Into 50 Ohm	50 mVpp to 10 Vpp
Amplitude Accuracy At 1 kHz	±1% of specified output
Sine Flatness Below 100 kHz	±1% (0.1 dB)
Sine Flatness 100 kHz to 1 MHz	±1.5% (0.15 dB)
Sine Flatness 1 MHz to 15 MHz Ampl At Or Above 3 Vrms	±2% (0.2 dB)
Offset Into 50 Ohm	±5 Vpk ac + dc
Offset Accuracy	±2% of setting + 2 mV
Output Impedance	50 ohm fixed
External Reference Lock Range	10 MHz ±50 Hz
Power Consumption	50 VA peak (28 W average)
Operating Temperature	0 C to 55 C

PARAMETER	VALUE
Bench Dimensions WxHxD	254.4 × 103.6 × 374 mm
Weight	4 kg (8.8 lb)
Interfaces	IEEE-488 and RS-232
Bandwidth	10 MHz

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to 55 C
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Bench Dimensions WxHxD	254.4 × 103.6 × 374 mm
Weight	4 kg (8.8 lb)
Interfaces	IEEE-488 and RS-232 Notes Specifications from Keysight/Agilent 33120A Function/Arbitrary Waveform Generator data sheet (5968-0125 family). Option 001 improves timebase and adds phase-lock reference I/O; confirm option on the unit.

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 sine/square 100 uHz to 15 MHz, triangle/ramp to 100 kHz, amplitude 50 mVpp to 10 Vpp into 50 Ω , and frequency accuracy 10 ppm/90 days and 20 ppm/1 year at 18 C to 28 C.

Applications

General-purpose laboratory waveform stimulus, arbitrary waveform download for custom signals, AM/FM/FSK and burst/sweep testing, and multi-unit phase lock with Option 001 TCXO/reference I/O.

Key Features

Direct digital synthesis with 10 uHz frequency resolution

Built-in arbitrary waveforms including sin(x)/x exponential cardiac DC

Internal AM FM FSK and burst modulation without external source

Linear and log sweeps from 1 ms to 500 s

Standard GPIB and RS-232 SCPI control

Technical Specifications

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PARAMETER	VALUE
Sine Frequency Range	100 uHz to 15 MHz
Square Frequency Range	100 uHz to 15 MHz
Triangle Frequency Range	100 uHz to 100 kHz
Ramp Frequency Range	100 uHz to 100 kHz
White Noise Bandwidth	10 MHz
Frequency Resolution	10 uHz or 10 digits

Frequency Accuracy 90 Days 18 to 28 C: 10 ppm

Frequency Accuracy 1 Year 18 to 28 C: 20 ppm

Specifications

PARAMETER	VALUE
Temperature Coefficient	less than 2 ppm/C
Aging	less than 10 ppm/yr
Arbitrary Waveform Length	8 to 16000 points
Arbitrary Amplitude Resolution	12 bits including sign
Arbitrary Sample Rate	40 MSa/s
Nonvolatile Arb Stores	Four 16000-point waveforms
Amplitude Into 50 Ohm	50 mVpp to 10 Vpp
Amplitude Accuracy At 1 kHz	±1% of specified output
Sine Flatness Below 100 kHz	±1% (0.1 dB)

PARAMETER	VALUE
Sine Flatness 100 kHz to 1 MHz	±1.5% (0.15 dB)

Sine Flatness 1 MHz to 15 MHz Ampl At Or Above 3 Vrms: ±2% (0.2 dB)

Specifications

PARAMETER	VALUE
Offset Into 50 Ohm	±5 Vpk ac + dc
Offset Accuracy	±2% of setting + 2 mV
Output Impedance	50 ohm fixed

Option 001 Timebase Stability: ±1 ppm 0 C to 50 C
Option 001 Aging After 30 Days: 0.1 ppm/month class

Specifications

PARAMETER	VALUE
External Reference Lock Range	10 MHz ±50 Hz
Power Consumption	50 VA peak (28 W average)
Operating Temperature	0 C to 55 C
Bench Dimensions WxHxD	254.4 x 103.6 x 374 mm
Weight	4 kg (8.8 lb)
Interfaces	IEEE-488 and RS-232

Notes
Specifications from Keysight/Agilent 33120A Function/Arbitrary Waveform Generator data sheet (5968-0125 family). Option 001 improves timebase and adds phase-lock reference I/O; confirm option on the unit.

Ordering Information

OPTION	DESCRIPTION
Option 001	TCXO/reference I/O.

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.