

Abbreviated Technical Specifications

Waveforms Standard

Sine, square, triangle, ramp, noise, $\sin(x)/x$, exponential rise, exponential fall, heartbeat, dc

Arbitrary

Waveform length 8 to 16,000 points
Amplitude resolution 12 bits
Sample rate 40 MSa/s
Non-volatile memory Four (4) 16k waveforms or Eight (8) 8k waveforms

Frequency Characteristics

Sine 100 μ Hz to 15 MHz
Square 100 μ Hz to 15 MHz
Triangle 100 μ Hz to 100 kHz
Ramp 100 μ Hz to 100 kHz
Noise (Gaussian) 10 MHz bandwidth

Resolution 10 μ Hz or 10 digits

Accuracy 10 ppm in 90 days, 18° C to 28° C
Temp. Coeff < 2 ppm/°C
Aging < 10 ppm/yr

Sinewave Spectral Purity

Harmonic distortion
 dc to 20 kHz -70 dBc
 20 kHz to 100 kHz -60 dBc
 1000 kHz to 1 MHz -45 dBc
 1 MHz to 15 MHz -35 dBc

Spurious (non-harmonic)

dc to 1 MHz < -65 dBc
 1 MHz to 15 MHz < -65 dBc + 6 dB/octave
Sub-Harmonic < -70 dBc
Phase Noise < -55 dBc in a 30 kHz band

Signal Characteristics

Squarewave
Rise/fall time < 25 ns
Overshoot < 2%
Assymetry < 1% + 5 ns
Duty cycle Adjustable 30% to 70%
Triangle, Ramp, Arb
Rise/fall time 100 ns (*typical*)
Linearity < 0.1% of peak output
Settling time < 250 ns to 0.5% of final value
Jitter < 25 ns

Output Characteristics

Amplitude (into 50 Ω) 50 mV p-p to 10 V p-p
Accuracy (at 1 kHz) $\pm 1\%$ of specified output
Flatness (*sinewave relative to 1 kHz*)
 < 100 kHz $\pm 1\%$ (0.1 dB)
 100 kHz to 1 MHz $\pm 1.5\%$ (0.15 dB)
 1 MHz to 15 MHz $\pm 2\%$ (0.2 dB)

Output Impedance

50 Ω
Offset (into 50 Ω) +5 Vpk ac + dc
Accuracy $\pm 2\%$ of setting + 2 mV
Resolution 3 digits, amplitude and offset
Units V p-p, V rms, dBm
Isolation 42 Vpk maximum to earth
Protection Short circuit protected
 ± 15 Vpk overdrive < 1 minute

Modulation

AM
Carrier -3dB freq. 15 MHz (*typical*)
Modulation Any internal waveform incl. Arb
Frequency 10 mHz to 20 kHz
Depth 0% to 120%
Source Internal/External

FM

Modulation Any internal waveform incl. Arb
Frequency 10 mHz to 10 kHz
Deviation 10 mHz to 15 MHz
Source Internal only

FSK

Internal rate 10 mHz to 50 kHz
Deviation 10 mHz to 15 MHz
Source Internal or external (1 MHz max)

Burst

Carrier freq. 5 MHz max.
Count 1 to 50,000 cycles
Start phase -360° to +360°
Internal rate 10 mHz to 50 kHz
Gate source Internal or external gate
Trigger source Single, external, or internal rate

Sweep

Type Linear or logarithmic
Direction Up or Down
Start F/Stop F 10 mHz to 15 MHz
Speed 1 ms to 500 s
Trigger Internal, external, single

Rear Panel Inputs

Ext. AM Modulation ± 5 Vpk = 100% modulation
 5 k Ω input resistance

External Trigger/

FSK/Burst Gate TTL low true

General Specifications

State Storage Memory Power off state automatically saved.
 3 user-configurable stored states.
Interface IEEE-488 and RS-232 standard
Language SCPI-1991
Warranty 3-years standard

Ordering Information

HP 33120A Function Generator
Opt 1CM Rack Mount Kit
HP 34811A BenchLink/Arb Software
HP 34161A Accessory Pouch

☎ For off-the-shelf shipment, call 800-452-4844.

Price

\$1695 ☎
 \$51 ☎
 \$295 ☎
 \$38 ☎