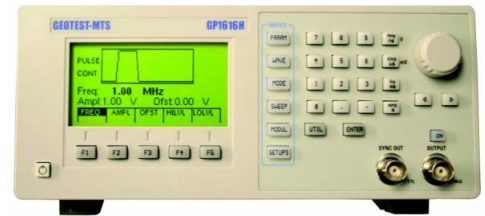


GP1616H SERIES

PROGRAMMABLE SIGNAL SOURCE / FUNCTION GENERATOR - HP 8116A COMPATIBLE

- Fully compatible with the Hewlett Packard 8116A
- Generates sine, square, triangle, and pulse waveforms
- Frequency range from 1 mHz to 50 MHz
- Up to 32 V



DESCRIPTION

The GP1616H function generator is a programmable instrument capable of generating predefined Sine, Square, Triangle, Ramp, Haversine, Haver triangle and Pulse waveforms as well as a programmable DC output. The firmware is customized to be fully compatible with the HP 8116A GPIB command set. Software test procedures using the original HP8116A instrument require no code modification when upgrading to the GP1616H.

FEATURES

The GP1616H offers phase-lock loop (PLL) stability and accuracy for generating signals up to 50 MHz. Full programmability of all waveforms as well as pulse width and duty cycle parameters are supported.

Additionally, the GP1616H supports internal / external logarithmic sweep and counted burst functionality. Frequency, amplitude, and pulse width modulation modes are also supported when used with an external modulation source.

APPLICATIONS

- Automatic Test Equipment (ATE)
- Component Analysis
- Communication Signals
- Process Control
- Sonar

GP1616H SERIES

SPECIFICATIONS

OPERATING MODES	
Continuous	Continuous waveform is generated, phase locked to an internal crystal reference
Trigger	Active input edge generates one output cycle. Trigger slope: Positive or negative Minimum pulse width: 10 ns Minimum amplitude: 500 mV _{pp} Input impedance: 10 kΩ
Gate	Active level enables output cycles. First and last output cycles are always completed.
Counted Burst	A preprogrammed number of output cycles (1 to 1999) are generated. Minimum time between bursts is 100 ns when triggered by an external trigger.
Logarithmic Sweep	Provides logarithmic up / down sweep between start and stop frequencies. Sweep time per decade is selectable between 10 ms and 500 sec
TIMING PARAMETERS	
Frequency	0.001 Hz - 50 MHz, sine, square, triangle, and pulse
Resolution	3 digits
Accuracy	50 ppm
Jitter	<0.1% + 100 ps
Stability	50 ppm
Duty Cycle	10% to 90% in 1% steps, < 1 MHz 20% to 80% in 1% steps, 1 MHz to 10 MHz 50% fixed, 10 MHz to 50 MHz
OUTPUT CHARACTERISTICS	
Range	10 mV - 16 V _{pp} into 50 Ω
Resolution	3 digits
Accuracy	±5% at 1 kHz, sine, triangle and square
Waveforms	Sine, Triangle, Pulse, Square
Output Modes	Complement, disable, output limit
DC OUTPUT	
Range	0 to ± 7.95 V into 50 Ω
Resolution	Up to 6 digits limited to 0.1 ns
Accuracy	±2% of setting ± 2 ns
Jitter	<0.1% of setting + 50 ps, decreasing to 0.005% on slowest range
DUTY CYCLE	
Range	1 to 99%
Resolution	3 digits
Accuracy	±0.5% setting, ±40 mV

WAVEFORM PERFORMANCE	
Sine THD	<-45 dBc, 10 Hz to 100 kHz <-40 dBc, to 1 MHz <-30 dBc for frequencies > 1 MHz
Triangle and Ramp Non-Linearity	< ±3% (10% to 90% of amplitude, 100 mHz to 1 MHz)
Square and Pulse Transition Time	<7 ns, 10% to 90%
Pulse Aberrations	< ±5% of amplitude
MODULATION	
FM	Deviation: > ±5% (max) for ±6 V input Mod bw: DC to 20 kHz
AM	Modulation: 100%, ±2.5 V input Mod bw: DC to 20 kHz
Pulse Width	Range: Maximum of one decade with ± 6.5 V input Pulse width range: 10 ns to 1 s, in eight decade ranges
INPUTS AND OUTPUTS	
Trigger Output	> 2 V into 50 Ω 50 Ω impedance
External Trigger	Threshold level: TTL levels Trigger slope: pos or neg Minimum pulse width: 10 ns Input impedance: 10 kΩ
Modulation Input	Maximum ±20 V, 10 kΩ impedance
Main Output	Range: ±8 V into 50 Ω
Marker Output	High level: > 2 V into 50 Ω Low level: 0 V Edges: Positive at marker frequency Negative at start of sweep
X-Output	Levels: 0 V to 10 V, 1.5 V per sweep decade into Hi Z.
GENERAL	
Power Requirements	100 - 240 V selectable, 50 VA (max)
Weight	3.5 kg
Dimensions	89 mm H x 213 mm W x 30 cm L (3.5" x 8.4" x 12")
Operating Temperature	0 °C to +50 °C
Humidity	To 95% RH, 0 °C to +40 °C

Note: Specifications are subject to change without notice

GP1616H SERIES

ORDERING INFORMATION

GP1616H	Programmable Signal Source / Function Generator - Hewlett Packard 8116A Compatible
GP1616HR	HP8116 Pulse Generator Replacement Product with Rack Mount Ear
ACCESSORY	
GP1616H-EAR	Rack Mount Adapter for GP1616H
GT90002	GPIB Cable, Double-shielded, 1 meter
GT90003	GPIB Cable, Double-shielded, 2 meters

GP1616H SERIES

THIS PAGE INTENTIONALLY LEFT BLANK