

Rigol DG3000 Series Series Function Sweep Arbitrary Generators

Models DG3061A, DG3101A, DG3121A

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Model	DG3061A	DG3101A	DG3121A
Maximum Output Frequency	60 MHz	100 MHz	120 MHz
I/O	USB Device <input type="checkbox"/> RS-232 <input type="checkbox"/> LAN/GPIB		
Optional Configuration	Digital Logic Output Module		

Advanced Features

1. Optional Digital Logic Module - Create true mixed signals with 1 analog and up to 16 digital channels of stimulus
2. DDS Technology: Provides for a superior signal with low distortion and noise
3. 300 MSa/s of sample rate, 14 bits of vertical resolution, 1M points of memory depth
4. 4.0" QVGA color LCD
5. 10 standard waveforms: Sine, Square, Ramp, Pulse, Noise, Exponential Rise, Exponential Fall, Sin(x)/x, Cardiac, DC
6. Arbitrary Waveform generation as defined by the user
7. Versatile modulation and variety of waveforms: AM, FM, PM, FSK, PWM, Sweep, Burst
8. Versatile input and output signals: Waveforms output, Digital synchronous signals output, External Modulation Source, Clock Reference (10 MHz), External Trigger and Internal Clock Output (10 MHz)
9. I/O: USB Device, RS-232, GPIB, LAN
10. Remote access and control signal generators through 10/100M LAN interface
11. USB Host to support USB flash memory, USB printer and direct system upgrade
12. Seamless connectivity with DS series digital oscilloscopes: Ability to generate signals from stored waveforms from our DSO
13. Multi-language user interface, built-in help system

Performance Characteristics

Model	DG3121A	DG3101A	DG3061A
Standard Waveforms	Sine <input type="checkbox"/> Square <input type="checkbox"/> Ramp <input type="checkbox"/> Pluse <input type="checkbox"/> Noise <input type="checkbox"/> Exponential Rise <input type="checkbox"/> Exponential Fall <input type="checkbox"/> Sinc <input type="checkbox"/> Cardiac <input type="checkbox"/> DC		
Sine	1 μ Hz to 120MHz	1 μ Hz to 100MHz	1 μ Hz to 60MHz
Square	1 μ Hz to 120MHz	1 μ Hz to 100MHz	1 μ Hz to 60MHz
Pluse	500 μ Hz to 36 MHz		500 μ Hz to 30 MHz
Ramp	1 μ Hz to 1 MHz		
White Noise	50 MHz bandwidth (-3dB)	40 MHz bandwidth (-3dB)	30 MHz bandwidth (-3dB)
Arb	1 μ Hz to 25MHz		
Resolution	1 μ Hz		
Accuracy	Within 90 days: 10 ppm Within 1 year: 20 ppm, 18°C - 28°		

Temperature index	< 2 ppm/°C
Frequency Characteristic	
Waveforms	Sine, Square, Ramp, Triangle, Pulse, Noise, DC, Arb
Sine	1 µHz to 120 MHz
Square	1 µHz to 120 MHz
Pulse	500 µHz to 36 MHz
Ramp	1 µHz to 1 MHz
White Noise	50 MHz bandwidth (-3 dB)
Square Wave Characteristic	
Rise/Fall Time	< 8 ns (10% to 90%)
Overshoot	< 2%
Duty Cycle	20% to 80% (to 10 MHz)
Asymmetry (below 50% Duty Cycle)	1% of period + 5 ns
Ramp	1 µHz to 1 MHz
Jitter	300 ps + 100 ppm of period
Pulse Wave Characteristics	
Pulse Width	2000 s max period; 8ns min period; 1ns resolution
Variable Edge Time	5 ns to 1 ms
Overshoot	< 2%
Jitter	300 ps + 0.1 ppm of the period
Arb Wave Characteristics	
Frequency Range	1 µHz to 25 MHz
Waveform Length	2 to 512 K points
Amplitude Accuracy	14 bits (including sign)
Sample Rate	300 MSa/s
Minimum Edge Time	10 ns
Jitter (RMS)	2.5 ns + 30 ppm
Non-Volatile Storage	4 waveforms
Output Characteristics	
Amplitude	10 mVpp - 10 Vpp (50 Ω)
Amplitude Accuracy (100 kHz)	20 m Vpp - 20 Vpp (High Z) ± 1% of setting ± 1 mVpp
Amplitude Flatness (sinewave relative to 100 kHz)	< 60 MHz 0.2 dB (± 1%)
	60 MHz to 100 MHz 0.6 dB (± 1.5%) 100 MHz to 120 MHz 1.0 dB (± 4.0%)
Other Parameters	
Clock Reference	10 MHz
I/O	USB Host, USB Device, RS-232, LAN/GPIB
Optional Configuration	Digital Logic Output Module
AM Modulation	
Carrier Waveforms	Sine, Square, Ramp, Arb
Source	Internal/ External
Modulating Waveforms	Sine, Square, Ramp, Noise, Arb (2 mHz to 20 kHz)
Depth	0% - 120%
FM Modulation	
Carrier Waveforms	Sine, Square, Ramp, Arb
Source	Internal/ External
Modulating Waveforms	Sine, Square, Ramp, Noise, Arb (2 mHz to 20 kHz)
Frequency Deviation	DC to 60 MHz
PM Modulation	
Carrier Waveforms	Sine, Square, Ramp, Arb
Source	Internal/ External
Modulating Waveforms	Sine, Square, Ramp, Noise, Arb (2 mHz to 20 kHz)

Phase Deviation	0 to 360°
FSK Modulation	
Carrier Waveforms	Pulse
Source	Internal/ External
Modulating Waveforms	50% duty cycle square (2 mHz to 100 kHz)
PWM Modulation	
Carrier Waveforms	Pulse
Source	Internal/ External
Modulating Waveforms	Pulse width 0% to 100%
Sweep	
Carrier Waveforms	Sine, Square, Ramp, Arb
Type	Linear or Logarithmic
Direction	Up or Down
Sweep Time	1 ms to 500 s \pm 0.1%
Source	Internal/External/Manual
Marker	Falling edge of Sync signal (Programmable Frequency)
Burst	
Waveforms	Sine, Square, Ramp, Pulse, Noise, Arb
Types	count (1 to 50,000 periods), infinite, gated
Start Phase	-360° to +360°
Internal Period	1 ms – 500 s \pm 1%
Gate Source	External Trigger
Trigger Source	Internal/External/Manual
Other Parameters	
Built-in Help	Multiple language
Power	100-240 VACRMS, 45-440 Hz, 50 W
Weight	3.5 kg