



XDG3000 Series Waveform Generator

- + Max 250MHz frequency output
- + Max 1.25GS/s sample rate, and 1 μ Hz frequency resolution
- + Vertical Resolution :14 bits, max 1M arb waveform length
- + Comprehensive waveform output : 6 basic waveforms, and 152 built-in arbitrary waveforms
- + Comprehensive modulation functions : AM, FM, PM, FSK, 3FSK, 4FSK, PSK, OSK, ASK, BPSK, PWM, Sweep, and Burst
- + High-accuracy frequency counter integrated, supported range 100mHz - 200MHz
- + SCPI, and LabVIEW supported
- + 8 inch (800 × 600 pixels) multi-touch screen

+ Performance Specifications

Model	XDG3252	XDG3202	XDG3162	XDG3102	XDG3082
Channel	2				
Frequency Output	250MHz	200MHz	160MHz	100MHz	80MHz
Sample Rate	1.25GSa/s				
Vertical Resolution	14 bits				

Waveform

Standard Waveform	sine, square, pulse, ramp, noise, and harmonic
Arbitrary Waveform	exponential rise, exponential fall, sin(x)/x, step wave, and others, total 150 built-in waveforms, and user-defined arbitrary waveform

Frequency (resolution 1 μ Hz)

Sine	1 μ Hz - 250MHz	1 μ Hz - 200MHz	1 μ Hz - 160MHz	1 μ Hz - 100MHz	1 μ Hz - 80MHz
Square	1 μ Hz - 50MHz			1 μ Hz - 40MHz	1 μ Hz - 30MHz
Pulse	1 μ Hz - 25MHz				
Ramp	1 μ Hz - 5MHz				
Harmonic	1 μ Hz - 125MHz	1 μ Hz - 100MHz	1 μ Hz - 80MHz	1 μ Hz - 50MHz	1 μ Hz - 40MHz
Noise	120MHz (-3dB, typical)				
Arbitrary Waveform	built-in waveform: 1uHz - 15MHz user-defined waveform: 1uHz - 50MHz				
Accuracy	\pm 1ppm, 0°C - 40°C				

Amplitude

into 50 Ω load	1mVpp - 10Vpp (\leq 40MHz); 1mVpp - 5Vpp (\leq 80MHz) 1mVpp - 2.5Vpp (\leq 120MHz); 1mVpp - 1Vpp (\leq 250MHz)				
into open circuit, or high-Z	2mVpp - 20Vpp (\leq 40MHz); 2mVpp - 10Vpp (\leq 80MHz); 2mVpp - 5Vpp (\leq 120MHz); 2mVpp - 2Vpp (\leq 250MHz)				
Accuracy	\pm (1% of setting + 1mVpp) (typical, 1kHz sine, 0V offset)				
Resolution	1mV or 4 digits				
Load Impedance	50 Ω (typical)				
DC Offset	Range (50 Ω)	\pm (5 Vpk - Amplitude Vpp/2)			
	Range (open circuit, high-Z)	\pm (10 Vpk - Amplitude Vpp/2)			
Offset	Accuracy	\pm (1% of setting + 1mV + Amplitude Vpp x 0.5%)			
	Resolution	1mV or 4 digits			

Sine Wave Spectrum Purity

Harmonic Distortion (typical (0dB))	DC - 1MHz: <-65dBc 1MHz - 10MHz: <-60dBc 10MHz - 120MHz: <-50dBc 120MHz - 250MHz: <-45dBc
Total Harmonic Distortion	< 0.05 %, 10 Hz to 20 kHz, 1 Vpp
Spurious (non-harmonic) (typical (0dB))	≤10MHz: <-70dBc >10MHz: <-70dBc + 6dB/ octave
Phase Noise (typical (0 dBm, 10 kHz deviation))	10MHz: ≤-110dBc/Hz

Square

Rise / Fall Time	<5ns
Overshoot	<3%
Duty Cycle	50.0% (fixed)
Jitter (rms)	300ps + 100ppm

Pulse

Pulse Width	12ns - 996875s
Leading/Trailing Edge Time	≥7ns
Overshoot	<3%
Jitter (rms)	300ps + 100ppm

Ramp

Linearity	≤1% of peak output (typical, 1kHz, 1 Vpp, 50% symmetry)
Symmetry	0% to 100%

Harmonic

Harmonic Order	≤16
Harmonic Type	even, odd, all, user
Harmonic Amplitude	could be set for all the harmonics
Harmonic Phase	

Arbitrary

Waveform Length	2 points - 1M points
Vertical Resolution	14 bits
Minimum Rise/Fall Time	<7ns
Jitter (rms)	3ns

Modulation

Type	AM, FM, PM, PWM, FSK, 3FSK, 4FSK, PSK, OSK, ASK, BPSK, sweep, and burst
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AM

Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external
Modulating Waveform	sine, square, ramp, noise, and arbitrary
Depth	0.0% - 100.0%
Modulating Frequency	2 mHz - 100 kHz

FM

Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external

Modulating Waveform	sine, square, ramp, noise, and arbitrary
Modulating Frequency	2 mHz - 100 kHz
PM	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external
Modulating Waveform	sine, square, ramp, noise, and arbitrary
Phase Deviation	0° - 180°
Modulating Frequency	2 mHz - 100 kHz
PWM	
Carrier Waveform	pulse
Source	internal / external
Modulating Waveform	sine, square, ramp, noise, and arbitrary
Width Deviation	0 ~ minimum (pulse duty ratio, 100% - pulse duty ratio)
Modulating Frequency	2 mHz - 100 kHz
FSK / 3FSK / 4FSK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external
Modulating Waveform	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
PSK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external
Modulating Waveform	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
OSK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal
Oscillation Time	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
ASK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external
Modulating Waveform	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
BPSK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal
Modulating Waveform	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
Sweep	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Type	linear, and log
Sweep Time	1 ms to 500s, ± 0.1%
Trigger Source	internal, external, and manual
Burst	

Carrier Waveform	sine, square, ramp, pulse, and arbitrary (except DC)
Burst Count	1 to 50,000 period, infinite, gating
Internal Period	10 ns - 500 s
Gated Source	external trigger

Frequency Counter

Function	frequency period, +width, -width, +duty, and -duty
Frequency Range	100mHz - 200MHz
Frequency Resolution	7 digits

Input / Output

Display	8" 800 x 600 pixels touch screen LCD
Type	frequency counter, external modulation input, external trigger input, external reference clock input / output
Communication Interface	USB Host, USB Device, and LAN

Specifications subject to change without prior notice.

+ Accessories

The accessories subject to final delivery.



Power Cord



CD Rom



Manual



USB Cable



Q9 Cable