



Product Dimensions:2.7 Kg
 Width×Height×Depth = 232mm×108mm×288mm

Application

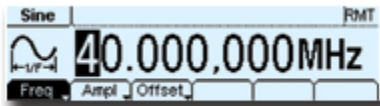
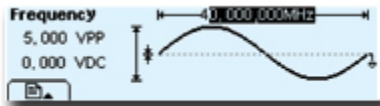
1. Simulation of sensors and Real Word Signals
2. In Circuit Function Test
3. Serial Bus Test
4. IC test

Model	DG2021A	DG2041A
Maximum Output Frequency	25 MHz	40 MHz
I/O	USB Host,USB Device,RS-232,LAN/GPIB	
Optional Configuration	Digital Logic Output Module	

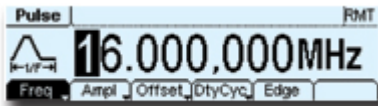
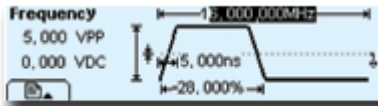
Advanced Features

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. 100 MSa/s of sample rate, 14 bits of vertical resolution, 512K points of memory depth
4. 10 standard waveforms: Sine, Square, Ramp, Pulse, Noise, Exponential Rise, Exponential Fall, Sin(x)/x, Cardiac, DC
5. Arbitrary waveform generation as defined by user
6. Versatile modulation and variety of waveforms: AM, FM, PM, FSK, PWM, Sweep, Burst
7. 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)
8. I/O: USB Device, RS-232, GPIB, LAN
9. USB Host, to support USB disk, USB printer and direct system upgrade
10. Seamless connectivity with DS series digital oscilloscopes: Ability to generate signals from stored waveforms from our DSO
11. Multi-language user interface, built-in help system

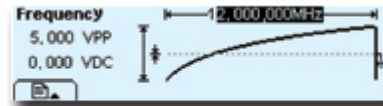
Typical Output



Sine



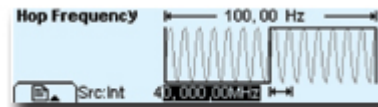
Pulse



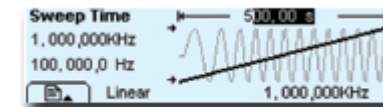
Arbitrary Waveform



AM

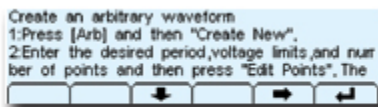


FSK



Sweep

Easy to Use Features



Press key to enter help system



File system (USB Disk)

Digital Logic Output Module

The 1st Mixed Signal Generator (MSG) with 16 digital data channels and 2 clock channels.



Digital Logic Output Module

Standard Accessories



Power Cord



USB Data Wire



User Manual

Optional Accessories



BNC Cable



RS-232 Cable



Digital Logic Module



Data Connection Cable

Performance Characteristics

Model	DG2041A	DG2021A	
Standard Waveforms	Sine, Square, Ramp, Pluse, Noise, Exponential Rise, Exponential Fall, Sinc, Cardiac, DC		
Sine	1 μ Hz to 40 MHz	1 μ Hz to 25 MHz	
Square	1 μ Hz to 40 MHz	1 μ Hz to 25 MHz	
Pluse	500 μ Hz to 16 MHz	500 μ Hz to 10 MHz	
Ramp	1 μ Hz to 500 kHz	1 μ Hz to 250 kHz	
Arb	1 μ Hz to 12 MHz		
White Noise	20 MHz bandwidth (-3 dB)		
Resolution	1 μ Hz		
Accuracy	Within 90 days: 10 ppm Within 1 year: 20 ppm, 18°C - 28°C		
Temperature index	< 2 ppm/°C		
Sine Wave Spectral Purity			
Harmonic Distorion		< 1 Vpp	> 1 Vpp
	DC to 20 kHz	-70 dBc	-70 dBc
	20 kHz to 100 kHz	-65 dBc	-60 dBc
	100 kHz to 1 MHz	-50 dBc	-45 dBc
	1 MHz to 10 MHz	-40 dBc	-35 dBc
Total Harmonic Distorion	DC to 20 kHz 0.04%		
Spurious (non-harmonic)	DC to 1 MHz < -70 dBc 1 MHz to 10 MHz < -70 dBc + 6 dB/octave		
Phase Noise	10kHz Offset -115 dBc / Hz, typical		
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 μ Hz to 1 MHz		
Jitter	300 ps + 0.1% of period		
Pulse Wave Characteristics			
Pulse Width	2000 s max period; 12ns min period; 1ns resolution		
Variable Edge Time	5 ns to 1 ms		
Overshoot	< 2%		
Jitter	300 ps + 0.1% of the period		

Arb Wave Characteristics	
Frequency Range	1 μ Hz to 12 MHz
Waveform Length	2 to 512 K points
Amplitude Accuracy	14 bits (including sign)
Sample Rate	100 MSa/s
Minimum Edge Time	10 ns
Jitter (RMS)	2.5 ns + 30 ppm
Non-Volatile Storage	4 waveforms
Output Characteristics	
Amplitude	20 mVpp - 10 Vpp (50 Ω)
	40 mVpp - 20 Vpp (High Z) [Note1]
Amplitude Accuracy (100 kHz)	\pm 1% of setting \pm 1 mVpp
Amplitude Flatness (sinewave relative to 100 kHz)	< 10 MHz 0.1 dB (\pm 1%)
	10 MHz to 25 MHz 0.15 dB (\pm 1.5%)
	25 MHz to 40 MHz 0.4 dB (\pm 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 20 MHz [Note2]
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 $^\circ$
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	The 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	2.7 kg

Note 1:

The setting range of the amplitude (50):

If the output frequency \leq 20MHz, the amplitude range: 20mVpp~10Vpp

If the output frequency $>$ 20MHz, the amplitude range: 20mVpp~5Vpp

The setting range of the amplitude (High Z):

If the output frequency \leq 20MHz, the amplitude range: 40mVpp~20Vpp

If the output frequency $>$ 20MHz, the amplitude range: 40mVpp~10Vpp

Note2:

The value are dissimilar for different types, as for the type of 25MHz, it will be 12.5MHz.