

## SDG1000X Function/Arbitrary Waveform Generator



### Application

- IC test
- Simulate sensor
- Simulate environment signals
- Electrical circuit function test
- Education and training

### Key Features

- Dual-channel, with bandwidth up to 60 MHz, and amplitude up to 20 Vpp
- 150 MSa/s sampling rate, 14-bit vertical resolution, and 16 kpts waveform length
- Innovative EasyPulse technology, capable of generating lower jitter Pulse waveforms, brings a wide range and extremely high precision in pulse width and rise/fall times adjustment
- Special circuit for Square wave function, can generate Square waves up to 60 MHz with jitter less than 300 ps+0.05 ppm of period
- Plenty of analog and digital modulation types: AM, DSB-AM, FM, PM, FSK, ASK, PSK and PWM
- Sweep and Burst functions
- Harmonics Generator function
- Waveform Combining function
- High precision Frequency Counter
- Standard interfaces: USB Host, USB Device (USBTMC), LAN (VXI-11)
- Optional interface: GPIB
- 4.3" TFT-LCD display

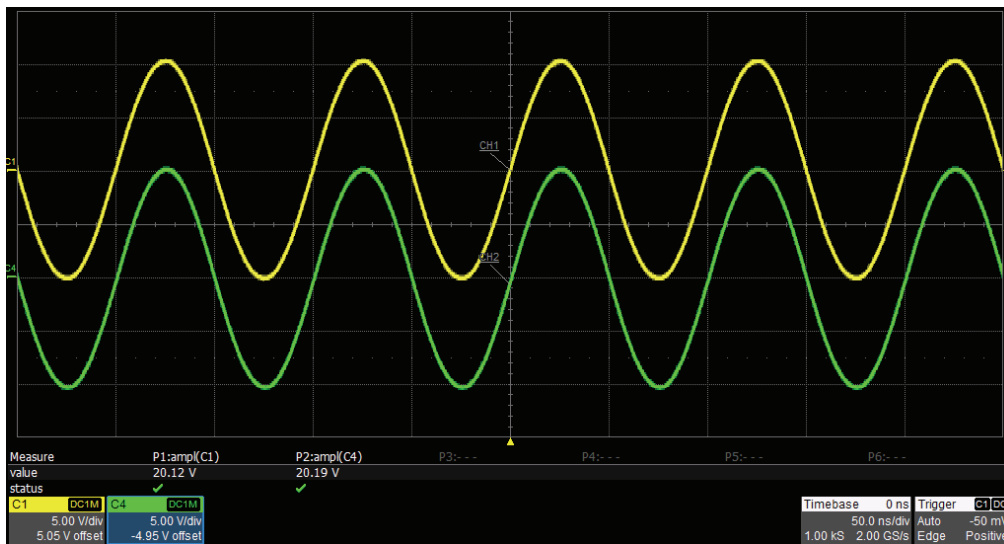
## Models and Key Specifications

Product Model	SDG1032X	SDG1062X
Bandwidth	30 MHz	60 MHz
Sampling rate	150 MSa/s	
Vertical resolution	14-bit	
Waveform Length	16 kpts	
Num. of channels	2	
Max. amplitude	±10 V	
Display	4.3" display, 480 x 272 x RGB	
Interface	Standard: USB Host, USB Device, LAN Optional: GPIB (USB-GPIB adaptor)	

## Characteristics

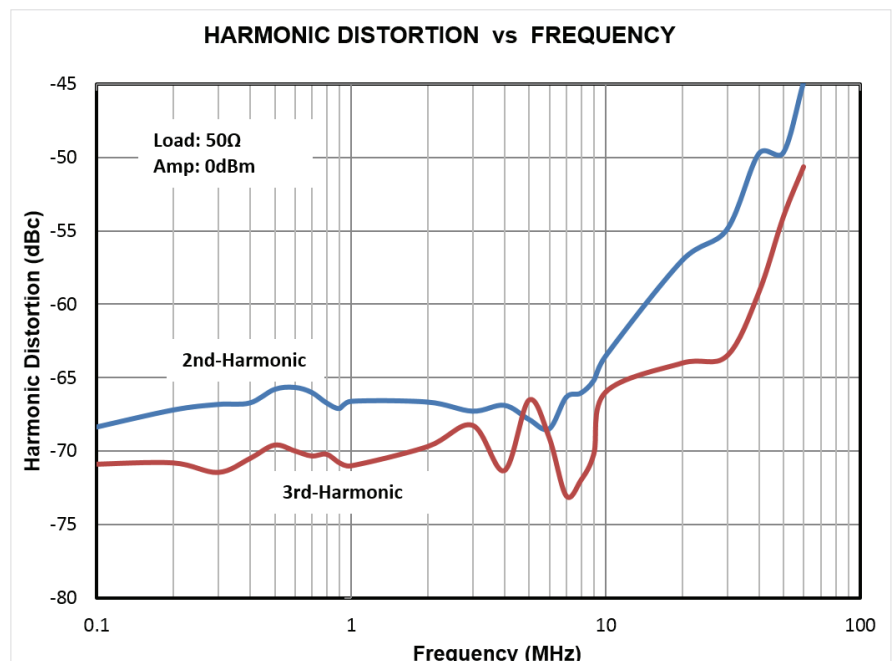
### • Identical dual output-channels with high performance

Capable of outputting large signals at high frequencies. dual-channels, 20 Vpp amplitude can be guaranteed at up to 10 MHz.

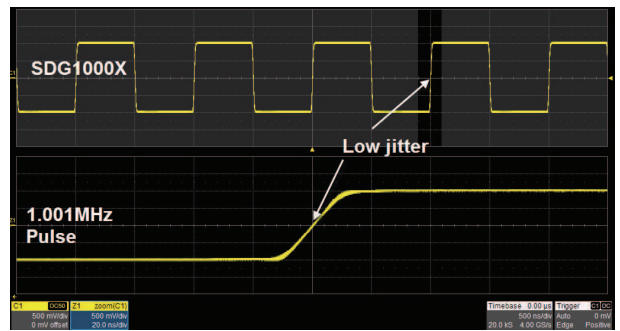
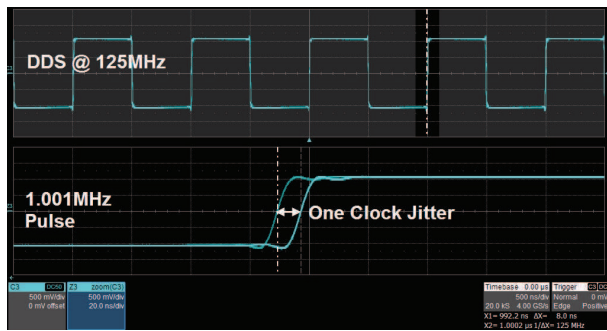


### • Low Distortion Output

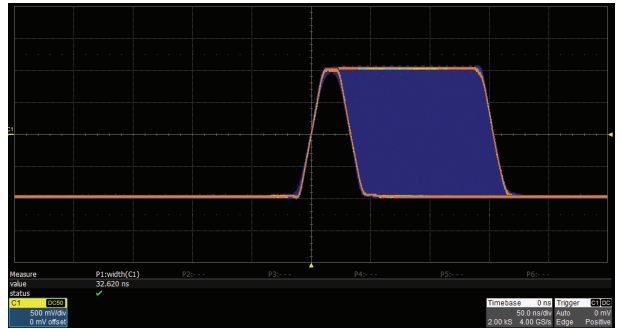
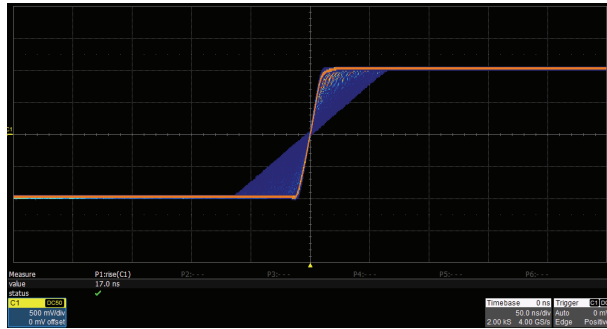
With 0 dBm output, the THD (Total Harmonic Distortion) is less than 0.075%. Harmonics and spurs are less than -40 dBc throughout the entire bandwidth.



## • Innovative EasyPulse Technology

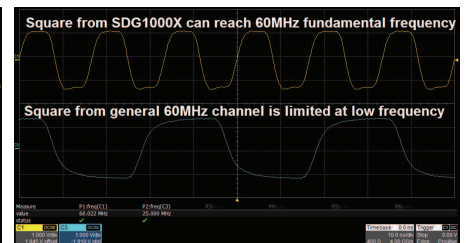
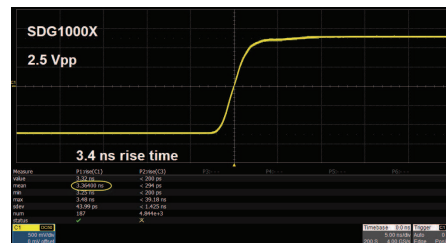
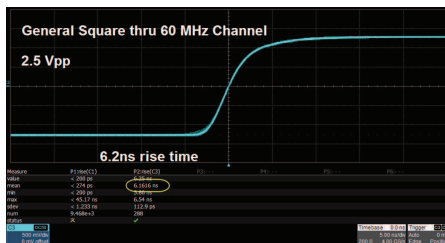


When a Pulse waveform is generated by a common DDS generator, there will be a one-clock-jitter if the sampling rate is not an integer-related multiple of the output frequency. SDG1000X EasyPulse technology successfully overcomes this weakness in DDS designs and helps to produce low jitter Pulse waveforms.



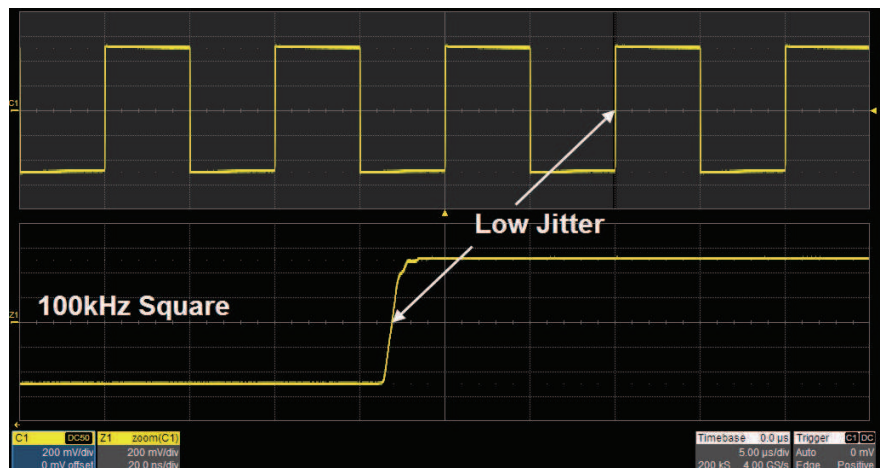
The rise/fall times can be set independently to the minimum of 16.8 ns at any frequency and to the maximum of 22.4 s. The adjustment step is as small as 100 ps. The Pulse width can be fine-tuned to the minimum of 32.6 ns with the adjustment step as small as 100 ps.

## • High performance Square Waves



Benefiting from a special square-wave generating circuitry, the Square from the SDG1000X breaks the 60 MHz bandwidth barrier, reaching rise/fall times of less than 4.2 ns, and frequencies up to 60 MHz.

▶ The Square wave exhibits the same excellent jitter performance as the Pulse waveform.



## Characteristics

### • Modulation

Type	Source	AM Depth	Shape	AM Freq
AM	Internal	120.0 %	Sine	100.000 000 Hz

Multiple modulation types: AM, DSB-AM, FM, PM, FSK, ASK, PSK and PWM. The modulation source can be configured as "Internal" or "External".

### • Harmonics Function

Type	Order	Harmonic Ampl	Harmonic Phase	Cancel
	3	800.0mVpp	0.00°	

Up to 10 harmonics may be generated. Amplitude and phase of each harmonic can be set independently.

### • Frequency Counter

State	Frequency	Pwidth	RefFreq	Setup	Clear
On	Period	Nwidth	TrigLev		

High precision Frequency Counter with an input frequency range of 0.1 Hz~200 MHz.

### • Waveform Combining

CH1 Switch	CH2 Switch	Return
CH1+CH2	CH2	

Capable of combining the waveforms of 2 channels from internal, providing more flexible tools to generate complex waveforms.

## Ordering Information

Product Description	
30 MHz, 2 CH, 150 MSa/s, 14 bit	SDG1032X
60 MHz, 2 CH, 150 MSa/s, 14 bit	SDG1062X
Standard configurations	
Quick Start -1	
Power Cord-1	
Calibration Certificate -1	
USB Cable -1	
Optional configurations	
BNC Coaxial Cable	SDG-BNC
20 dB Attenuator	ATT-20dB
USB-GPIB Adapter	USB-GPIB