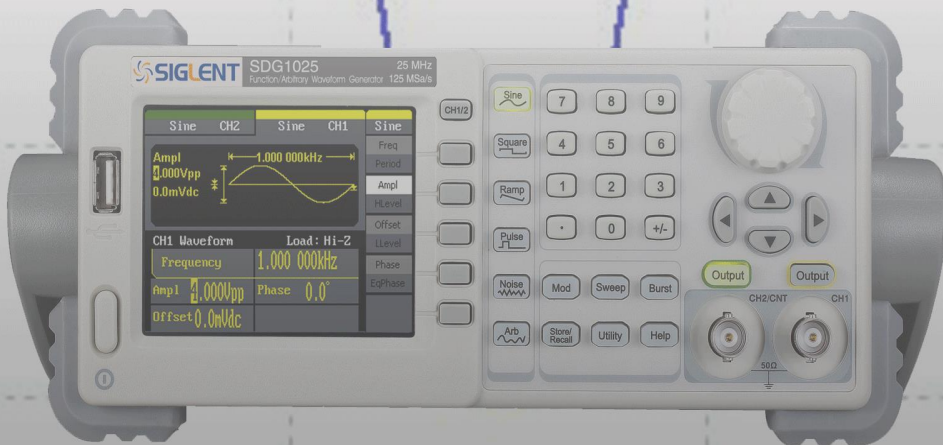


Logicbus

INSTRUMENTS SOLUTION GUIDE BY LOGICBUS





SDS2000X Super Phosphor Oscilloscope

Key Features

- 70 MHz, 100 MHz, 200 MHz, 300 MHz models
- Real-time sampling rate up to 2 GSa/s
- New generation of SPO technology
 - Waveform capture rate up to 140,000 wfm/s (normal mode), and 500,000 wfm/s (sequence mode)
 - Supports 256-level intensity grading and color temperature display
 - Record length up to 140 Mpts
 - Digital trigger system
- Intelligent trigger: Edge, Slope, Pulse, Window, Runt, Interval, Dropout, Pattern and Video (HDTV supported)
- Serial bus trigger and decoder, supports protocols IIC, SPI, UART, RS232, CAN and LIN
- Low background noise, supports 1 mV/div to 10 V/div voltage scales
- 10 types of one-button shortcuts, including Auto Setup, Default, Cursors, Measure, Roll, History, Display/Persist, Clear Sweeps, Zoom and Print
- Segmented acquisition (Sequence) mode, dividing the maximum record length into multiple segments (up to 80,000), according to trigger conditions set by the user, with a very small dead time segment to capture the qualifying event
- History waveform record (History) function, the maximum recorded waveform length is 80,000 frames
- Automatic measurement function on 37 parameters, supports statistics, Gating measurement, Math measurement, History measurement and Ref measurement
- Math function (FFT, addition, subtraction, multiplication, division, integration, differential, square root)
- High Speed hardware based Pass/ Fail function
- 16 Digital channels (MSO), Maximum waveform capture rate up to 500 MSa/s, Record length up to 140 Mpts/CH
- 25 MHz function/arbitrary waveform generator, built-in 10 types of waveforms
- Large 8 inch TFT-LCD display with 800 * 480 resolution
- Abundant interfaces: USB Host, USB Device (USBTMC), LAN (VXI-11), Pass/Fail, Trigger Out
- Supports SCPI remote control commands
- Supports Multi-language display and embedded online help



Automation



Sensors



Industrial
Computers



Data
Acquisition



Test & Measurement
Equipment



North
America



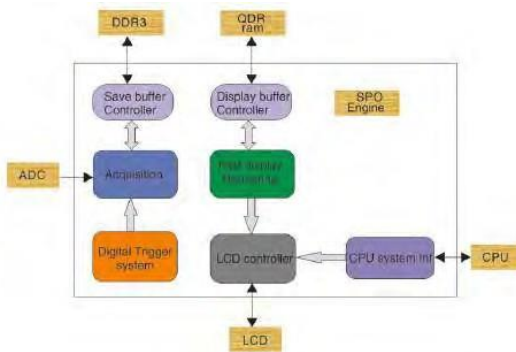
Central and South
America

Characteristics

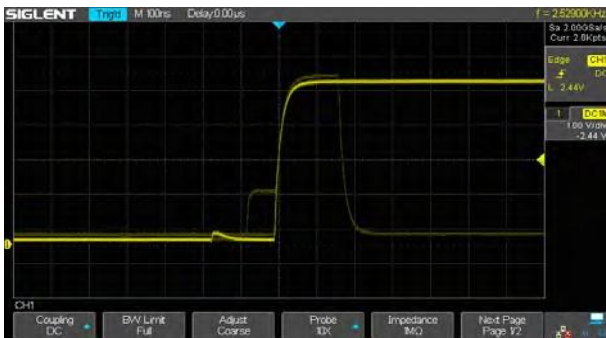


• 8 inch TFT-LCD Display and 10 One-button Menus

- 8-inch TFT-LCD display with 800 * 480 resolution
- Most commonly used functions are accessible using 10 different one-button operation keys: Auto Setup, Default, Cursors, Measure, Roll, History, Display/Persist, Clear Sweeps, Zoom and Print
- Supports auto detection of 10X probe with read-out port (200 MHz and 300 MHz versions only)



• Waveform Capture Rate up to 500,000 wfm/s



With a waveform capture rate of up to 500,000 wfm/s (sequence mode), the oscilloscope can easily capture the unusual or low-probability events.

SPO Super Phosphor Oscilloscope

- Waveform capture rate up to 140,000 wfm/s (normal mode), and 500,000 wfm/s (sequence mode)
- Supports 256-level intensity grading and color temperature display
- Record length up to 140 Mpts
- Digital trigger system

• Record Length of up to 140 Mpts

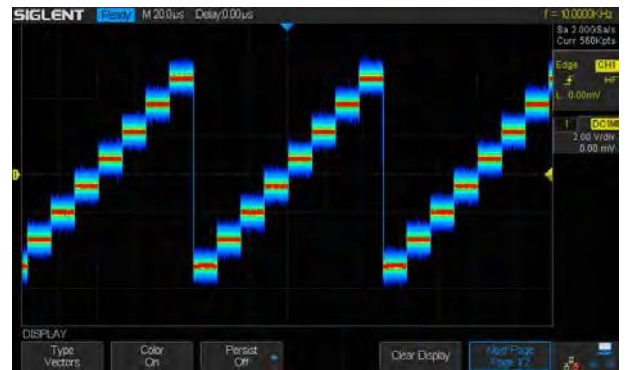


Using hardware-based Zoom technique and record length of up to 140 Mpts, users are able to use a higher sampling rate to capture more of the signal, and then quickly zoom in to focus on the area of interest.

• 256-level Intensity Grading and Color Temperature Display

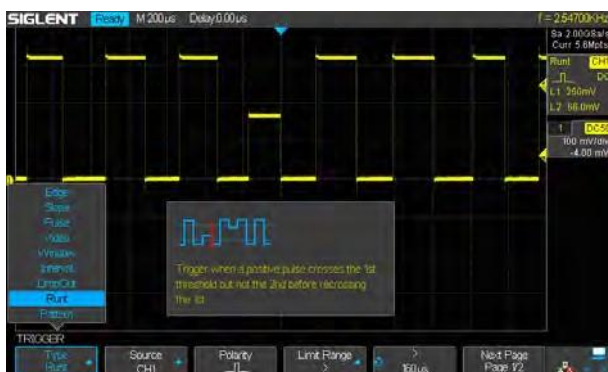


256-level intensity grading display on waveform.



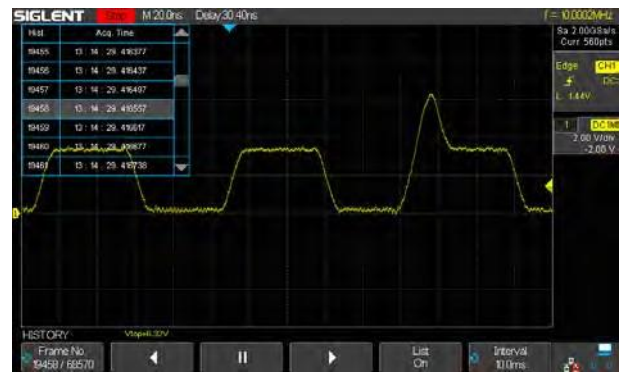
Color temperature display.

• Abundant Trigger Functions



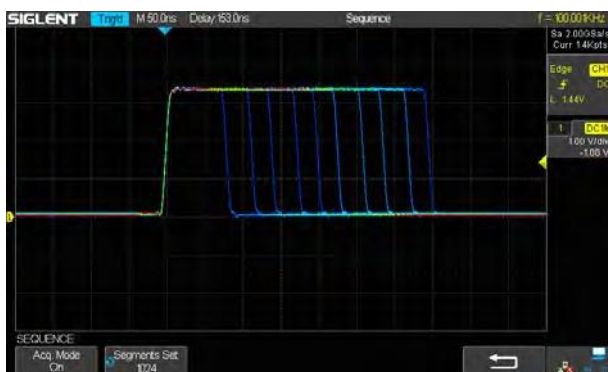
Edge, Slope, Pulse, Video, Windows, Runt, Interval, Dropout, Pattern, IIC, SPI, UART/RS232, LIN and CAN.

• History Mode



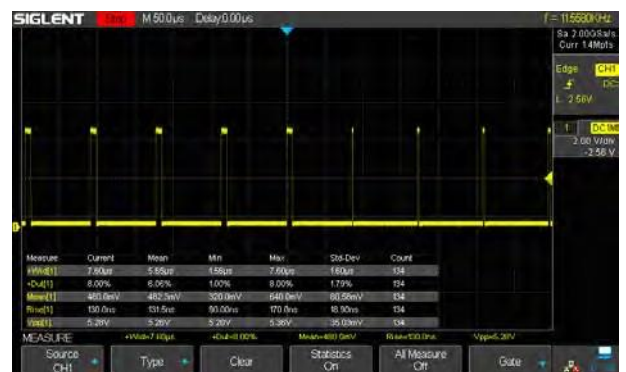
History function can record up to 80,000 frames of waveforms. The recording is executed automatically, so that the customer can play back the history waveforms at any time to observe unusual events, and locate the source quickly through the cursors or measurements. Located on the keyboard Panel, this function is easily accessible.

• Sequence Mode



Segmented memory collection will store the waveform into multiple (up to 80,000) memory segments and each segment will store a triggered waveform, as well the dead time information. The dead time between segments could be as small as 2 μs. All the segments can be play back using History function.

• Comprehensive Statistical Functions



Parametric statistical functions to display 5 parameters of any measurements: current, mean, minimum value, maximum value, and standard deviation. The measurement count is also displayed. The maximum number of measurements that can be run and simultaneously analyzed statistically is five. Supports Gating measurements, Math measurement, History measurement and Ref measurement.

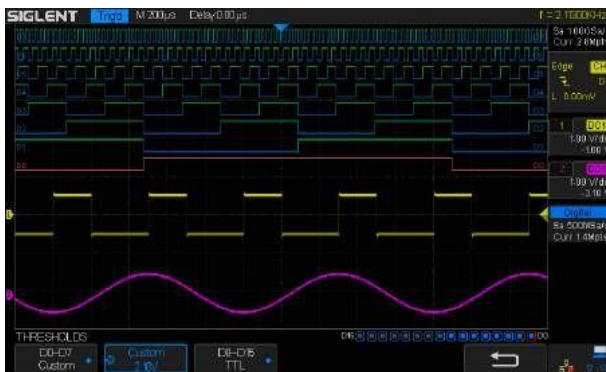


• **Advanced Math Function**



In addition to the traditional (+, -, X, /) operations, FFT, integration, differential, and square root operations are supported. The integration operation supports gating, which uses cursors to define the domain of integration.

• **16 Digital Channels / MSO (Optional)**



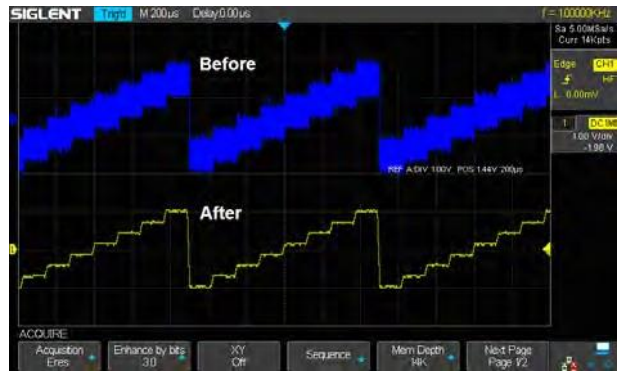
4 analog channels plus 16 digital channels enables users to acquire and trigger on the waveforms then analyze the pattern, simultaneously with one instrument.

• **Built-in 25 MHz Function/Arbitrary Waveform Generator (Optional)**



10 built-in waveforms plus 4 ARBs. The arbitrary waveforms can be accessed and edited by the EasyWave PC software.

• **Eres Mode**



Eres mode can improve the SNR effectively, without the dependence on the periodicity of signal and stable triggering.

• **Serial Bus Decoding Function (Optional)**



Displays the decoding through the events list. Bus protocol information can be quickly and intuitively displayed in table form.

• **Complete Connectivity**



USB Host, USB Device (USBTMC), LAN(VXI-11), Pass/Fail and Trigger Out.

Specifications

Model	SDS2072X (2 CH) SDS2074X (4 CH)	SDS2102X (2 CH) SDS2104X (4 CH)	SDS2202X (2 CH) SDS2204X (4 CH)	SDS2302X (2 CH) SDS2304X (4 CH)
Bandwidth	70 MHz	100 MHz	200 MHz	300 MHz
Sampling Rate (Max.)	2 GSa/s			
Channels	2 + EXT 4 + EXT			
Memory Depth (Max.)	140 Mpts (Single-Channel), 70 Mpts (Dual-Channel)			
Waveform Capture Rate (Max.)	140,000 wfm/s (normal mode), 500,000 wfm/s (sequence mode)			
Trigger Type	Edge, Slope, Pulse width, Window, Runt, Interval, Dropout, Pattern, Video			
Serial Trigger	IIC, SPI, UART/RS232, CAN, LIN			
Decoder Type (Optional)	IIC, SPI, UART/RS232, CAN, LIN			
16 Digital Channels (MSO Option)	Maximum waveform capture rate up to 500 MSa/s, Record length up to 140 Mpts/CH			
Waveform Generator (Optional)	Single channel, Max. frequency up to 25 MHz, 125 MSa/s sampling rate, 16 Kpts wave length			
I/O	USB Host, USB Device, LAN, Pass/Fail, Trigger Out			
Probe (Std)	PB470 70 MHz 1 pcs for each channel	PP510 100 MHz 1 pcs for each channel	SP2030A 300 MHz 1 pcs for each channel	SP2030A 300 MHz 1 pcs for each channel
Display	8 inch TFT LCD (800x480)			

Ordering Information

Description	Model
70 MHz, 2 CH, 2 GSa/s (Max.), 140 Mpts	SDS2072X
70 MHz, 4 CH, 2 GSa/s (Max.), 140 Mpts	SDS2074X
100 MHz, 2 CH, 2 GSa/s (Max.), 140 Mpts	SDS2102X
100 MHz, 4 CH, 2 GSa/s (Max.), 140 Mpts	SDS2104X
200 MHz, 2 CH, 2 GSa/s (Max.), 140 Mpts	SDS2202X
200 MHz, 4 CH, 2 GSa/s (Max.), 140 Mpts	SDS2204X
300 MHz, 2 CH, 2 GSa/s (Max.), 140 Mpts	SDS2302X
300 MHz, 4 CH, 2 GSa/s (Max.), 140 Mpts	SDS2304X

Standard Accessories

- USB Cable -1
- Passive Probe -4
- Power Cord -1
- Quick Start -1
- Certification -1
- Certificate of Calibration -1

Optional Accessories

SDS-2000X-DC	IIC, SPI, UART/RS232, CAN, LIN Decoder
SDS-2000X-FG	25 MHz Function/Arbitrary Waveform Generator
SDS-2000X-PA	Power Analyze Software
SDS-2000X-16LA	16 Digital Channels (Software)
SPL2016	16 Channel Logic Probe
ISFE	Isolated Front End
STB-3	STB Demo Source
DF2001A	Power analysis Deskew Fixture
HPB4010	High Voltage Probe
CP4020/CP4050/CP4070/ CP4070A/CP5030/ CP5030A/CP5150/CP5500	Current Probe
DPB4080/DPB5150/ DPB5150A/DPB5700/ DPB5700A	High Voltage Differential Probe



Automation



Sensors



Industrial Computers



Data Acquisition



Test & Measurement Equipment



North America



Central and South America



SDS1000X / SDS1000X+ Super Phosphor Oscilloscope

Key Features

- 100 MHz, 200 MHz bandwidth models
- New generation of SPO technology
 - Waveform capture rate up to 60,000 wfm/s (normal mode), and 400,000 wfm/s (sequence mode)
 - Supports 256-level intensity grading and color temperature display
 - Record length up to 14 Mpts
 - Digital trigger system
- Intelligent trigger: Edge, Slope, Pulse, Window, Runt, Interval, Time out (Dropout), Pattern
- Serial bus triggering and decode, supports protocols I²C, SPI, UART/RS232, CAN, LIN
- Video trigger, supports HDTV
- Low background noise, supports 500 μ V / div to 10 V / div voltage scales
- 10 types of one-button shortcuts, supports Auto Setup, Default Setup, Cursor, Measure, Roll, History, Persistence, Clear Sweep, Zoom and Print
- Segmented acquisition (Sequence) mode, the maximum record length can be divided into 80,000 segments, according to trigger conditions set by the user, with a very small dead time segment to capture qualifying event
- History waveform record (History) function, the maximum recorded waveform length is 80,000 frames
- Automatic measurement function on 37 parameters, supports statistics calculations, Gating measurement, Math measurement, History measuring, Ref measurement
- Waveform math function (FFT, addition, subtraction, multiplication, division, integration, differentiation, square root)
- High Speed hardware based Pass/ Fail function
- 16 Digital channels (MSO), Maximum waveform capture rate up to 500 MSa/s, Record length up to 14 Mpts/CH (Optional for SDS1000X+ models)
- 25 MHz DDS arbitrary waveform generator, built-in 10 kinds of waveforms (Standard for SDS1000X+ Series)
- Large 8 inch TFT-LCD display with 800 * 480 resolution, Abundant interfaces: USB Host, USB Device (USBTMC), LAN (VXI-11), Pass / Fail, Trigger Out
- Supports SCPI remote control commands
- Supports Multi-language display and embedded online help



Characteristics

- 8 inch TFT-LCD display and 10 one-button menus



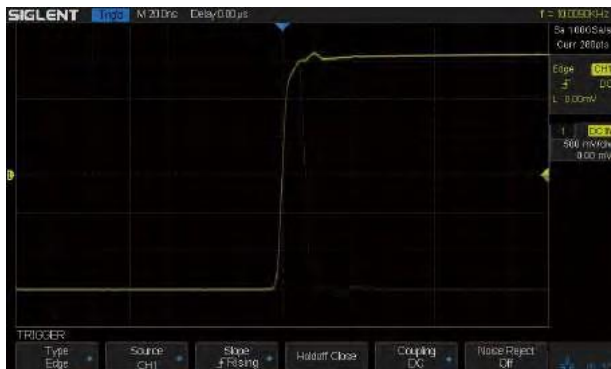
Equipped with 8" TFT-LCD display with a resolution of 800 * 480
 Most commonly used functions are accessible using 10 different one-button operation keys: Auto Setup, Default Setup, Cursor, Measure, Roll, History, Persist, Clear Sweep, Zoom, Print.

- 16 Digital Channels/MSO (Optional for SDS1000X +)



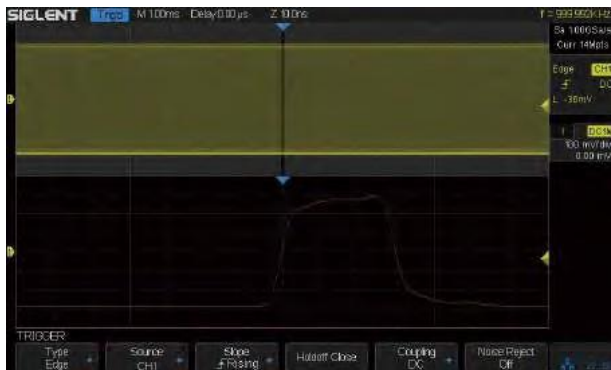
2 analog channels plus 16 digital channels enables users to acquire and trigger on the waveforms then analyze the pattern, simultaneously with one instrument.

- Waveform capture rate up to 60,000 wfm/s



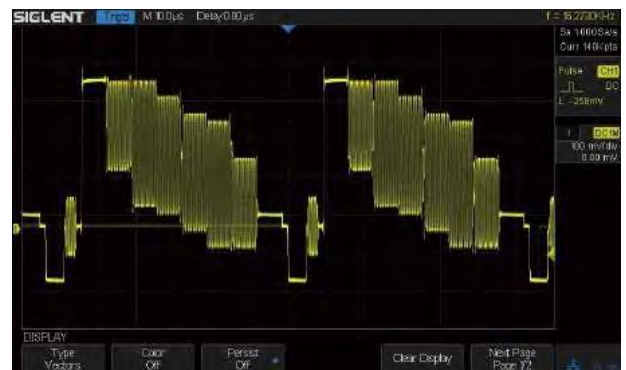
Up to 60,000 frames / second waveform capture rate, the oscilloscope can easily capture the transient events or low-probability events.

- Record length of up to 14 Mpts



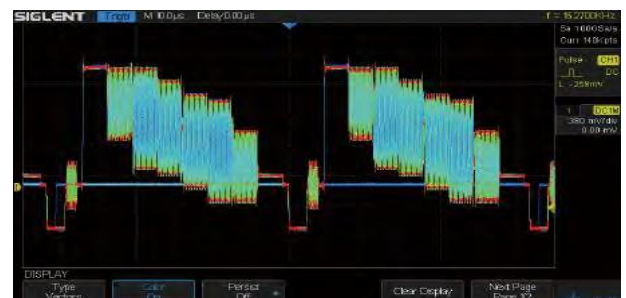
Using hardware-based Zoom technologies and record length of up to 14 Mpts, users are able to use a higher sampling rate to capture more of the signal, and then quickly zoom in to focus on the area of interest.

- 256-level intensity grading and color temperature display



SPO display technology provides for fast refresh rates. The resulting intensity-graded trace is brighter for more often-occurring display points and dimmer in less-often-occurring points.

↓ Color Temperature Display



The color temperature display is similar to the intensity-graded trace except that the trace occurrence is represented by different colors (color "temperature") as opposed to changes in the intensity of one color. Red represents the most common occurrences or probabilities while blue are the least common points.



Automation



Sensors



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Data Acquisition



Test & Measurement Equipment



North America



Central and South America

• Serial bus decoding Function (optional)



SDS1000X/SDS1000X+ displays the decoding through the events list. Bus protocol information can be quickly and intuitively displayed in table form.

• Built-in 25 MHz function/arbitrary waveform Generator (Standard for SDS1000X + Models)

The SDS1000X+ has a built-in 25 MHz function / arbitrary waveform generator (standard), including 10 built-in waveforms plus 4 ARBs. The arbitrary waveforms can be accessed and edited by the EasyWave PC software.

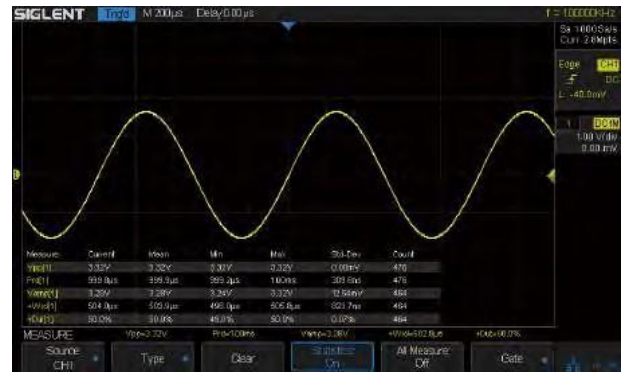


Advanced Math Function



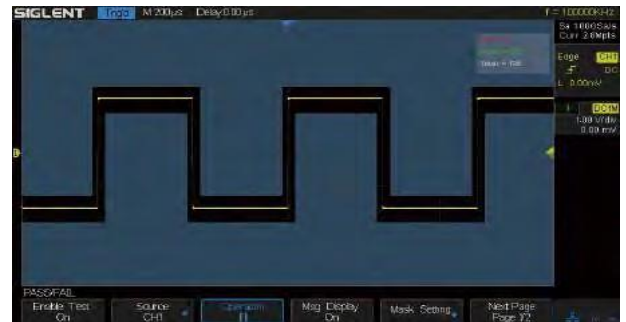
In addition to the traditional (+, -, X, /) operation, SDS1000X/SDS1000X+ oscilloscopes supports FFT, integration, differentiation, and square root operations.

Comprehensive statistical functions



Parametric statistical functions to display any parameters of the five measurements: current, average, Minimum value, Maximum value, and the standard deviation. The measurement count is also displayed. The maximum number of parameters that can be measured and simultaneously analyzed statistically is five. Support Gating measurements, Math measurement, History measurement, Ref measurement.

• Hardware-Based High Speed Pass/Fail Function



The SDS1000X/SDS1000X+ utilizes a hardware-based Pass / Fail function, performing up to 40,000 Pass / Fail decisions each second. With easy to generate user-defined test templates, the SDS1000X/SDS1000X+ compares the current measured trace to the template mask trace making it suitable for long-term signal monitoring or automated production line testing

• Complete connectivity



SDS1000X/SDS1000X+ supports USB Host, USB Device (USB-TMC), LAN (VXI-11), Pass/Fail and Trigger Out.

Specifications

Model	SDS1102X	SDS1102X +	SDS1202X	SDS1202X +
Bandwidth	100 MHz		200 MHz	
Sample Rate (Max)	1 GSa/s			
Channels	2+EXT			
Memory Depth (Max)	7 Mpts/CH (Dual-Channel); 14 Mpts/CH (Single-Channel)			
Waveform Capture Rate	60,000 wfms/s (normal mode), 400,000 wfms/s (sequence mode)			
Trigger Type	Edge, Slope, Pulse width, Window, Runt, Interval, Dropout, Pattern, Video			
Serial Trigger	I ² C, SPI, UART/RS232, CAN, LIN			
Decode Type (Optional)	I ² C, SPI, UART/RS232, CAN, LIN			
DDS Waveform Generator	No	Yes	No	Yes
	Single Channel, Max. Frequency up to 25 MHz, 125 MSa/s sampling rate, 16 Kpts wave length SDS1000X+ Supported (Standard); SDS1000X Not supported			
16 Digital Channels (MSO Option)	Maximum waveform capture rate up to 500 MSa/s, Record length up to 14 Mpts/CH SDS1000X+ Supported (Optional); SDS1000X Not supported			
Logic Probe	SPL1016 (Optional)			
I/O	USB Host, USB Device, LAN, Pass/Fail, Trigger Out, 1 KHz Cal			
Probe (Std)	2 pcs passive probe PP510		2 pcs passive probe PP215	
Display	8 inch TFT LCD (800x480)			
Weight	Net weight 3.26 Kg, Gross weight 4.25 Kg			

Ordering Information

Product Description	Product Name
100 MHz Two Channels	SDS1102X
200 MHz Two Channels	SDS1202X
100 MHz Two Channels, Built-In Waveform Generator (Standard), 16 Digital Channels (Option, *Requires SPL1016 & SDS-1000X-16LA)	SDS1102X+
200 MHz Two Channels, Built-In Waveform Generator (Standard), 16 Digital Channels (Option, *Requires SPL1016 & SDS-1000X-16LA)	SDS1202X+
Standard Accessories	
USB Cable -1	
Quick Start -1	
Certificate -1	
Passive Probe -2	
Power Cord -1	
Optional Accessories	
I2C,SPI,UART/RS232,CAN,LIN Decode key	SDS-1000X-DC
16 Channels MSO (Software)	SDS-1000X-16LA
16 Digital Channels Logic Probe	SPL1016
Isolated Front End	ISFE
STB Demo Source	STB-3
High Voltage Probe	HPB4010
Current Probe	CP4020/CP4050/CP4070/ CP4070A/CP5030/CP5030A/ CP5150/ CP5500
Differential Probe	DPB4080/ DPB5150/ DPB5150A/ DPB5700/ DPB5700A



Automation



Sensors



Industrial Computers



Data Acquisition



Test & Measurement Equipment



North America



Central and South America



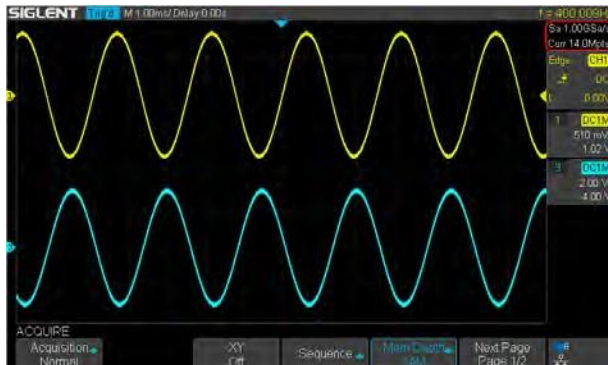
SDS1000X-E Super Phosphor Oscilloscope

Key Features

- Two channel series have one 1 GSa/s ADC, four channel series have two 1 GSa/s ADCs. When all channels are enabled, each channel has a maximum sample rate of 500 MSa/s. When a single channel per ADC is active, it has sample rate of 1 GSa/s
- The newest generation of SPO technology
 - Waveform capture rate up to 100,000 wfm/s (normal mode), and 400,000 wfm/s (sequence mode)
 - Supports 256-level intensity grading and color display modes
 - Record length up to 14 Mpts
 - Digital trigger system
- Intelligent trigger: Edge, Slope, Pulse Width, Window, Runt, Interval, Time out (Dropout), Pattern
- Serial bus triggering and decoding (Standard), supports protocols IIC, SPI, UART, RS232, CAN, LIN
- Segmented acquisition (Sequence) mode, divides the maximum record length into multiple segments (up to 80,000), according to trigger conditions set by the user, with a very small dead time segment to capture the qualifying event
- 1 Mpts FFT
- Math and measurement functions use all sampled data points (up to 14 Mpts)
- MSO, 16 digital channels (four channel series only, optional)
- Search and navigate (four channel series only)
- USB AWG module (four channel series only, optional)
- USB WIFI adapter (four channel series only, optional)

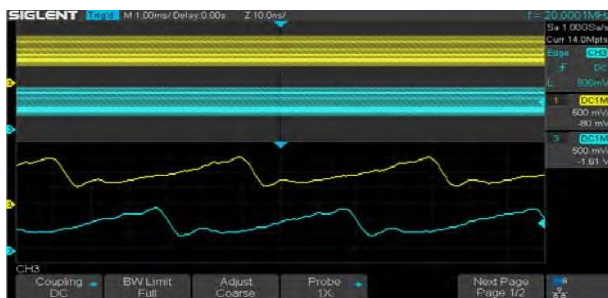
Function & Characteristics

- When all channels are enabled, each channel has a maximum sample rate of 500 MSa/s. When a single channel per pair is active, that channel has sample rate of 1 GSa/s



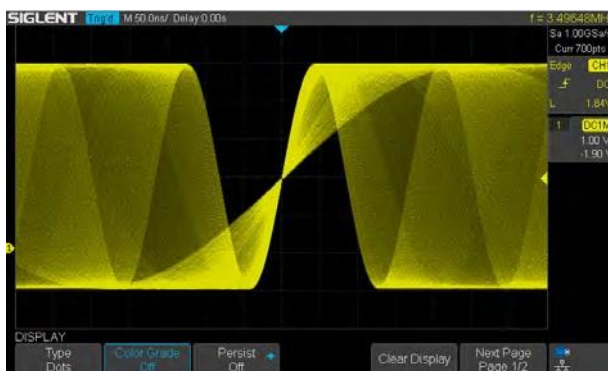
The four channel series has two 1 GSa/s ADC chips (channel 1 and 2 share one, channel 3 and 4 share another), so that each channel can achieve sample rates up to 500 MSa/s and work on bandwidths of 200 MHz when all channels are enabled.

- Record Length of Up to 14 Mpts (single channel/pair mode), 7 Mpts/CH (two channels/pair mode)

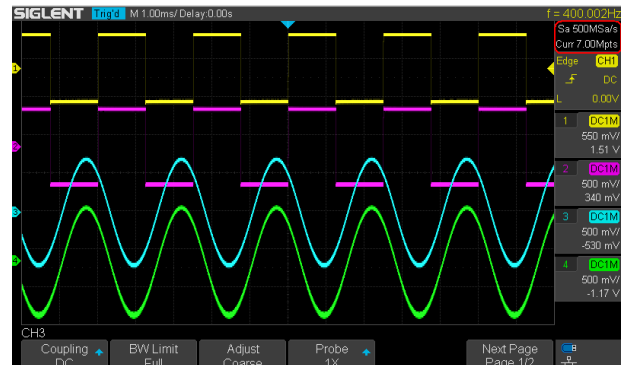


Using hardware-based Zoom technologies and max record length of up to 14 Mpts, users are able to oversample to capture for longer time periods at higher resolution and use the zoom feature to see more details within each signal.

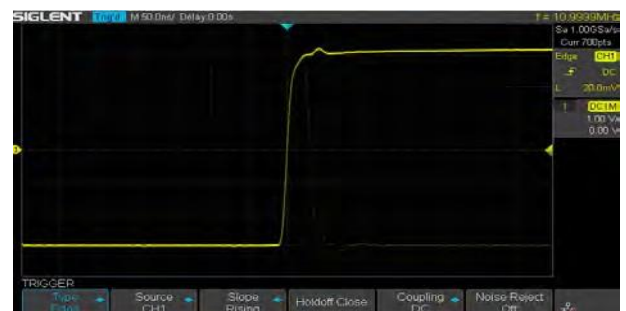
- 256 -Level Intensity Grading and Color Temperature Display



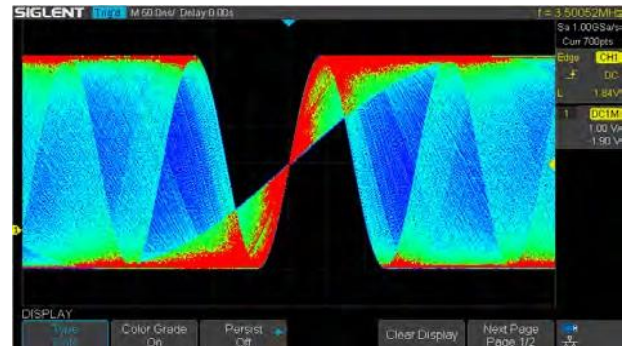
SPO display technology provides for fast refresh rates. The resulting intensity-graded trace is brighter for events that occur with more frequency and dims when the events occur with less frequency.



- Waveform Capture Rate Up to 400,000 wfms/s



With a waveform capture rate of up to 400,000 wfms/s (sequence mode), the oscilloscope can easily capture the unusual or low-probability event

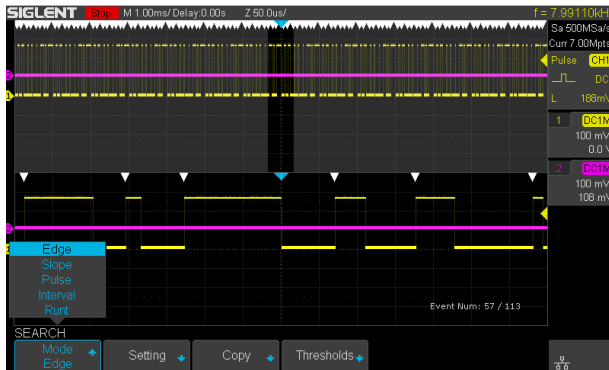


The color temperature display is similar to the intensity-graded trace function, but the trace occurrence is represented by different colors (color "temperature") as opposed to changes in the intensity of one color. Red colors represents the more frequent events, while blue is used to mark points that occur least frequently.

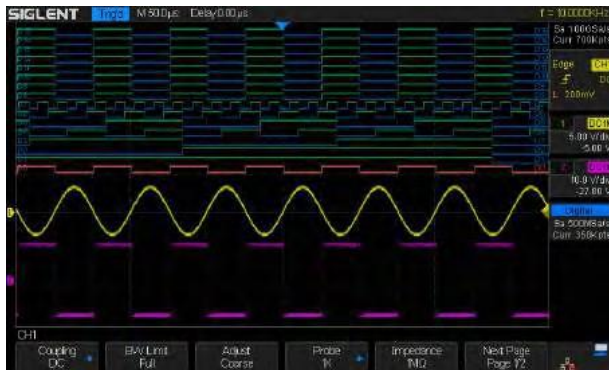


• Search and Navigate (four channel series only)

The SDS1000X-E can search events specified by the user in a frame. It can also navigate by time (delay position) and historical frames.



• 16 Digital Channels/MSO (four channel series only, optional)



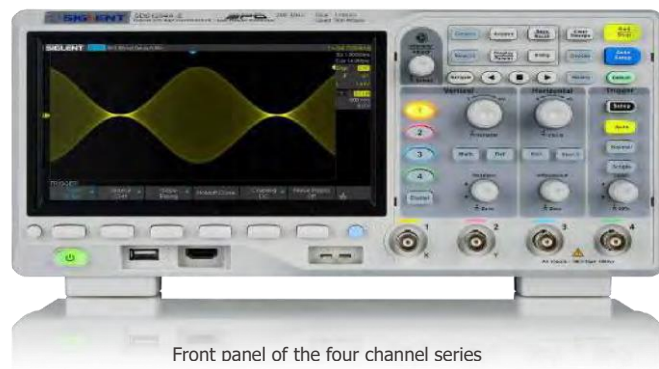
16 digital channels enables users to acquire and trigger on the waveforms then analyze the pattern, simultaneously with one instrument.

• USB 25 MHz AWG Module (four channel series only, optional)

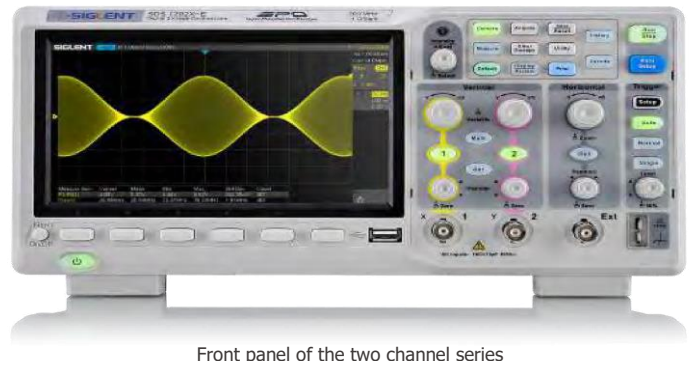


The four channel series supports a USB 25 MHz function/arbitrary waveform generator that is operated from the USB host connection. Functions include Sine, Square, Ramp, Pulse, Noise, DC and 45 built-in waveforms. The arbitrary waveforms can be accessed and edited by the SIGLENT EasyWave PC software.

• 7 inch TFT-LCD display and 10 one-button menus



Front panel of the four channel series



Front panel of the two channel series

- 7-inch TFT -LCD display with 800 * 480 resolution
- Most commonly used functions are accessible using 10 different one-button operation keys: Auto Setup, Default, Cursor, Measure, Roll, History, Persist, Clear Sweep, Zoom, Print

Models and key Specification

Model	SDS1104X-E	SDS1204X -E SDS1202X-E
Bandwidth	100 MHz	200 MHz
SamplingRate (Max.)	Two channel series have a single 1 GSa/s ADC, four channel series have two 1 GSa/s ADCs. When all channels are enabled, each channel has a maximum sample rate of 500 MSa/s. When a single channel per pair is active, that channel has sample rate of 1 GSa/s	
Channels	4 (four channel series) 2+EXT (two channel series)	
Memory Depth (Max.)	7 Mpts/CH (not interleave mode); 14 Mpts/CH (interleave mode)	
Waveform Capture Rate (Max.)	100,000 wfm/s (normal mode), 400,000 wfm/s (sequence mode)	
Trigger Type	Edge, Slope, Pulse Width, Window, Runt, Interval, Dropout, Pattern, Video	
Serial Trigger and decoder (Standard)	IIC, SPI, UART/RS232, CAN, LIN	
16 Digital Channels (four channel series only, optional)	Maximum waveform capture rate up to 1 GSa/s, Record length up to 14 Mpts/CH	
USB AWG module (four channel series only, optional)	One channel, 25 MHz, sample rate of 125 MHz, wave length of 16 kpts	
Bode plot (four channel series only)	Minimum start frequency of 10 Hz, minimum scan bandwidth of 500 Hz, maximum scan bandwidth of 120 MHz (dependent on Oscilloscope and AWG bandwidth), 500 maximum scan frequency points	
USB WIFI adapter (four channel series only, optional)	802.11b/g/b, WPA-PSK	
I/O	USB Host, USB Device, LAN, Pass/Fail, Trigger Out, Sbus (Siglent MSO)	
Probe (Std)	4 pcs passive probe PP510	4/2 pcs passive probe PP215
Display	7 inch TFT -LCD (800x480)	
Weight	Four channel series: Without package 2.6 Kg; With package 3.8 Kg Two channel series: Without package 2.5 Kg; With package 3.5 Kg	

Ordering information

Product Name	SDS1104X-E 100 MHz Four Channels	
	SDS1204X-E 200 MHz Four Channels	
	SDS1202X-E 200 MHz Two Channels	
Standard Accessories	USB Cable -1	
	Quick Start -1	
	Passive Probe -2/4	
	Certification -1	
	Power Cord -1	
Optional Accessories	16 Channels MSO Software (four channel series only)	SDS1000X-E-16LA
	16 Channels Logic Analyzer (four channel series only)	SLA1016
	AWG Software (four channel series only)	SDS1000X-E-FG
	USB AWG Module Hardware (four channel series only)	SAG1021
	WIFI Software (four channel series only)	SDS1000X-E-WIFI
	USB WIFI Adapter (four channel series only)	TL_WN725N
	Isolated Front End	ISFE
	STB Demo Source	STB-3
	High Voltage Probe	HPB4010
	Current Probes	CP4020/CP4050/CP4070/CP4070A/CP5030/CP5030A/ CP5150/CP5500
	Differential Probes	DPB4080/DPB5150/DPB5150A/DPB5700/DPB5700A



Automation



Sensors



Industrial
Computers



Data
Acquisition



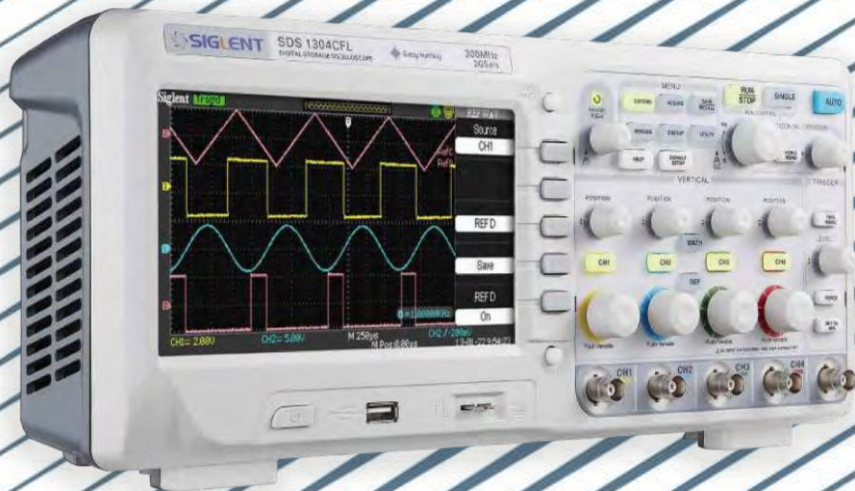
Test & Measurement
Equipment



North
America



Central and South
America



SDS100CFL Digital Storage Oscilloscope

Application

- Embedded electronic circuit design and test
- Mechanical and electrical products design and analysis
- Education and research
- Product quality control
- Real-time signal display
- Product test, circuit function test

Key Features

- Up to 300 MHz bandwidth, 2 GSa/s real time sampling rate
- Channels: 2/4 CH + 1 EXT
- 7 inch (8*18 div) color TFT-LCD
- 6 digits hardware frequency counter, real time counting display
- Waveform record and play back function
- Unique digital filter and data recorder function
- Embedded 12 languages, online help, one key storing and one key printing
- Interface: Double USB Host, USB Device, LAN, Pass/Fail
- Support USB-TMC and VXI-11 protocol, support SCPI programming command control.

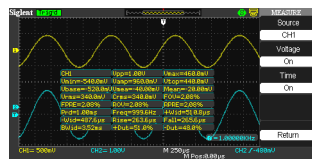


Specifications

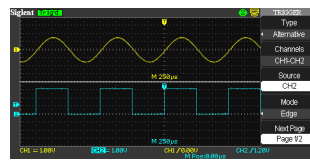
Model	SDS1074CFL (4 CH)	SDS1104CFL (4 CH)	SDS1202CFL (2 CH) SDS1204CFL (4 CH)	SDS1302CFL (2 CH) SDS1304CFL (4 CH)
Bandwidth	70 MHz	100 MHz	200 MHz	300 MHz
Channels	4 CH+1 EXT		4 CH +1 EXT/2 CH +1 EXT	
Real time sampling rate	2 GSa/s (half channel),1 GSa/s (each channel)			
Equivalent sampling rate	50 GSa/s			
Memory depth	24 Kpts (half channel),12 Kpts (each channel)			
Rise time	<5.0 ns	<3.5 ns	<1.7 ns	<1.2 ns
Input impedance	1 MΩ 13 pF		1 MΩ 13 pF, 50 Ω	
Time base range	5 ns/div-50 s/div Scan:100 ms-50 s/div	2.5 ns/div-50 s/div	2.5 ns/div-50 s/div	1.0 ns/div-50 s/div
Vertical sensitivity	2 mv-5 v/div(1-2-5 order)			
Vertical resolution	8 bit			
Trigger source	CH1, CH2, CH3, CH4, Ext, Ext/5, AC Line			
Trigger types	Edge, Pulse, Video, Slope, Alternative			
Math operation	+, -, *, /, FFT			
Digital filter	High pass, Low pass, Band pass, Band stop			
Max input voltage	±400 V (DC+AC Pk-Pk) CATI CAT II			
Internal storage	2/4 groups of reference waveform, 20 groups of settings,20 groups of waveforms			
External storage	Bitmap save, CSV save, Waveform save, Setting save			
Language	English, French, German, Russian, Spanish, Simplified Chinese, Traditional Chinese, Portuguese, Japanese, Korean, Italian, Arabic			
Interface	Double USB Host, USB Device, LAN, Pass/Fail			
Display	7 inch color TFT- LCD			



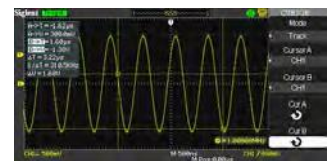
8x18 div widescreen



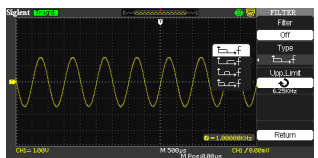
32 types of auto measurements



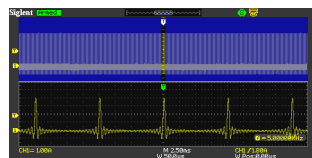
Alternative-trigger



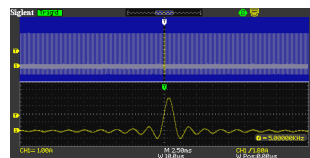
Cursor-measurement



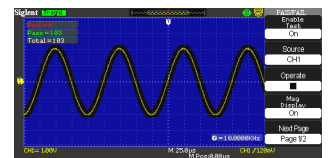
Digital-filter



Onekey Zoom-1



Onekey Zoom-2



Pass-fail



Automation



Sensors



Industrial Computers



Data Acquisition



Test & Measurement Equipment



North America



Central and South America



SDS100DL+/CML+ Series Digital Oscilloscope

Application

- Electronic circuit design and debugging
- Electrical circuit function test
- Inspect instantaneous signal
- Industrial control and measuring
- Products quality control
- Education and training

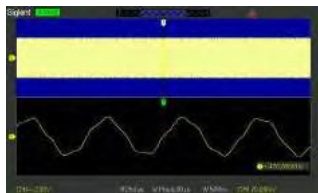
Key Features

- 50 MHz to 150 MHz Bandwidth
- 500 MSa/s~1 GSa/s sampling rate, 32 Kpts~2 Mpts memory depth
- 7 inch (8*18 div) color TFT-LCD display
- 6 digits hardware frequency counter, real time counting display
- Waveform record and play back function
- Unique digital filter and data recorder function
- Embedded 12 languages, online help, one key storing and one key printing
- Interface: USB Device, USB Host, LAN, Pass/Fail
- Supports USB-TMC protocol and SCPI programming command control

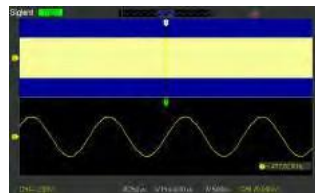


Specifications

Model	SDS1052DL +	SDS1072CML +	SDS1102CML +	SDS1152CML +
Bandwidth	50 MHz	70 MHz	100 MHz	150 MHz
Channels	2 CH +1 EXT			
Real time sampling rate	500 MSa/s	1 GSa/s	1 GSa/s	1 GSa/s
Equivalent sampling rate	50 GSa/s			
Memory depth	32 Kpts	2 Mpts	2 Mpts	2 Mpts
Input impedance	1 MΩ 17 pF	1 MΩ 17 pF	1 MΩ 17 pF	1 MΩ 17 pF
Vertical sensitivity	2 mv~10 v/div	2 mv~10 v/div	2 mv~10 v/div	2 mv~10 v/div
Vertical resolution	8 bit			
Trigger source	CH1, CH2, Ext, Ext/5, AC Line			
Trigger types	Edge, Pulse, Video, Slope, Alternative			
Math operation	+, -, *, /, FFT			
Digital filter	High pass, Low pass, Band pass, Band stop			
Data recorder function	√	√	√	√
Max input voltage	± 400 V (DC+AC Pk-Pk)			
Internal storage	2 groups of reference waveform, 20 groups of setting,10 groups of waveform			
External storage	Bitmap save, CSV save, Waveform save, Setting save			
Lasting	Turn off, 1 s, 2 s, 5 s, infinite			
Language	English, French, German, Russian, Spanish, SimplifiedChinese, TraditionalChinese, Portuguese, Japanese, Korean, Italian, Arabic			
Interface	USB Host, USB Device, LAN, Pass/Fail			
Display	7 inch color TFT-LCD			
Power	AC 100-240 V, 45 Hz-440 Hz, 50 VA Max			



Normal Memory (40 Kpts)



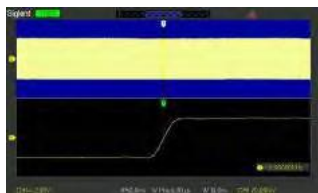
Long Memory (2 Mpts)



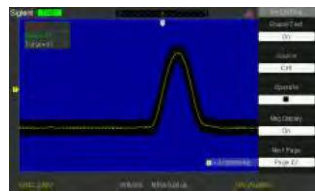
32 types of auto measurements



5 parameters display



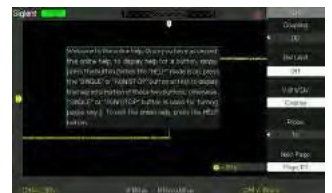
Zoom Function



Pass/Fail Function



Math Function



Embedded Online Help

Standard Accessories





SDG6000X Series Pulse/Arbitrary Waveform Generator

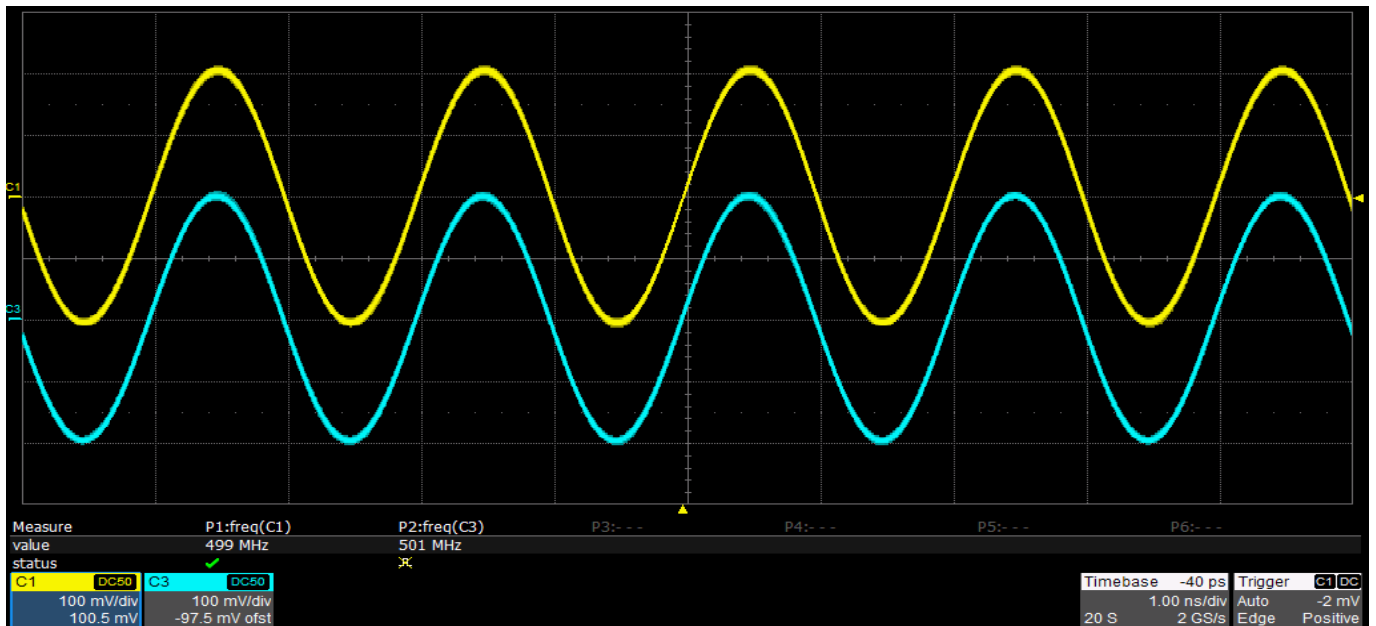
Key Features

- Dual-Channel, 500 MHz maximum bandwidth, 20 Vpp maximum output amplitude, high fidelity output with 80 dB dynamic range
- High-performance sampling system with 2.4 GSa/s sampling rate and 16-bit vertical resolution
- Multi-function signal generator, meeting requirements in wide range, Continuous Wave Generator, Pulse Generator, Function Arbitrary Waveform Generator, IQ Signal Generator (optional), Noise Generator, PRBS Generator
- Sweep and Burst function
- Harmonics function
- Waveform Combining function
- Channel Coupling, Copy and Tracking function
- 196 built-in arbitrary waveforms
- High precision Frequency Counter
- Standard interfaces include: USB Host, USB Device (USBTMC) , LAN (VXI-11, Socket, Telnet) , GPIB (Optional)
- 4.3" touch screen display for easier operation

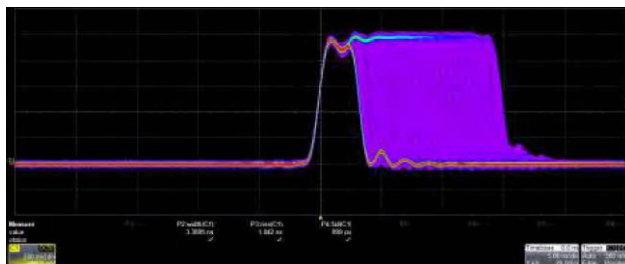


Characteristics

• Continuous Wave



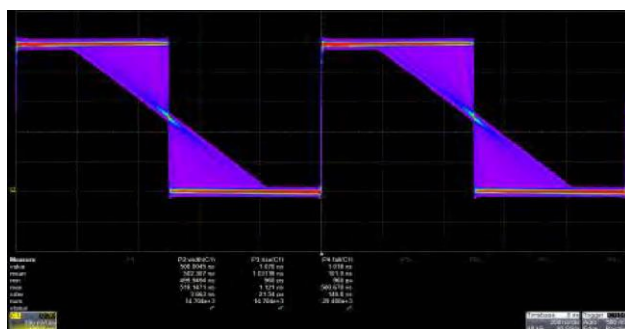
Up to 500 MHz continuous sine wave.



• Pulse

◀ Adjustable Pulse Width

The pulse width can be fine-tuned to the minimum of 3.3 ns with an adjustment step as small as 100 ps, at any frequency.



◀ Adjustable Edge

The rise/fall times can be set independently to the minimum of 1 ns at any frequency with a minimum adjustment step as small as 100 ps.



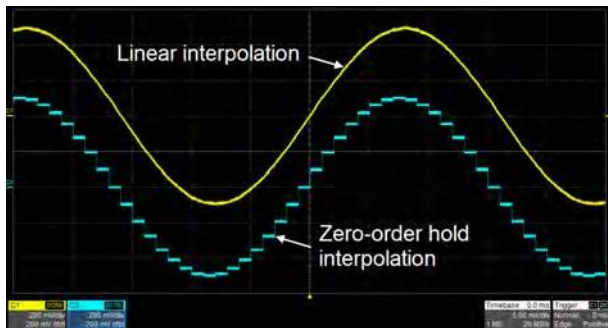
◀ Low Jitter

When a Square/Pulse waveform is generated by traditional DDS, there can be additional jitter if the sampling rate is not an integer-related multiple of the output frequency. EasyPulse technology successfully overcomes this weakness in DDS designs and helps to produce low jitter Square/Pulse waveforms.



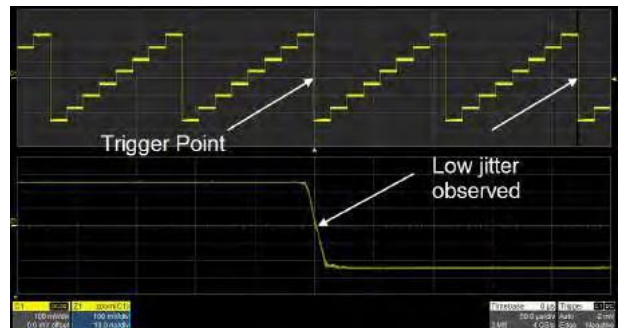
• **Arbitrary Waveform**

Traditional DDS designs can lead to additional jitter and distortion when sourcing arbitrary waveforms. The SIGLENT TrueArb design minimizes jitter and distortion to help deliver high fidelity arbitrary waveforms.



Point by Point Output

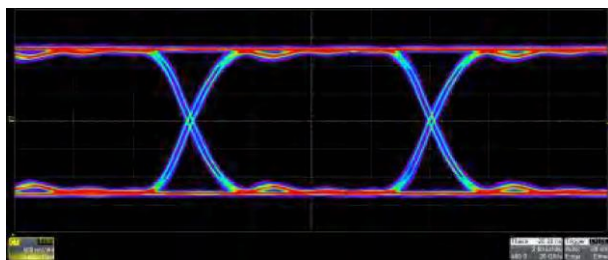
TrueArb generates arbitrary waveforms point-by-point. It never skips any point so that it can reconstruct all the details of the waveform, as defined. Two interpolation modes are available: linear and zero-order hold.



Low Jitter

As with EasyPulse, TrueArb effectively overcomes the clock jitter that can effect traditional DDS generators.

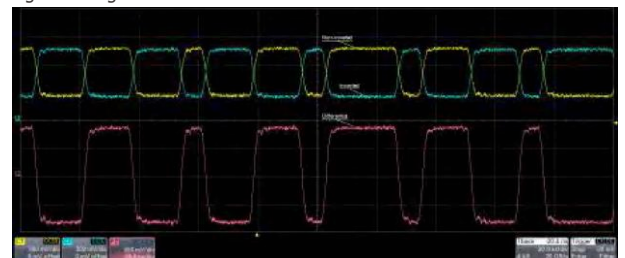
• **PRBS**



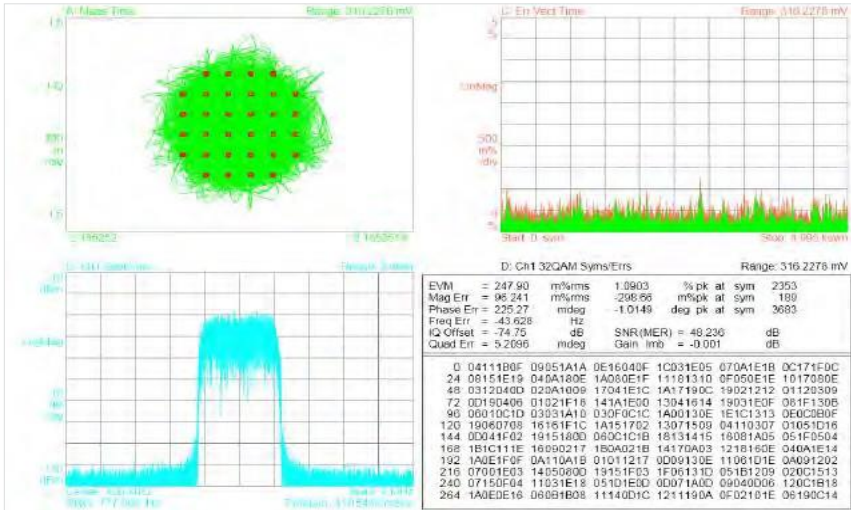
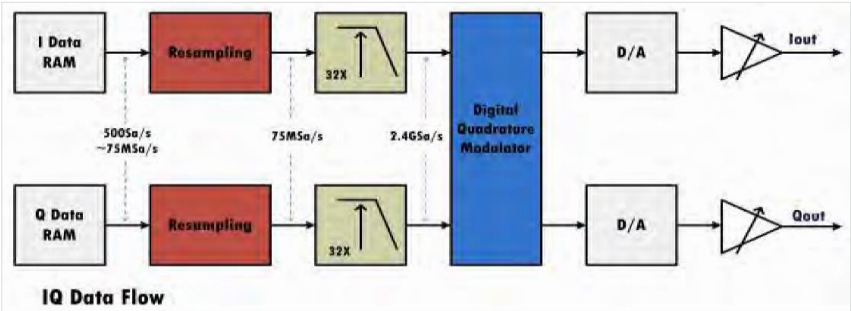
PRBS3 ~ PRBS32 with finely adjustable 10^6 bps ~ 300 Mbps bit rate and 1 ns ~ 1us edge.

*CH1:PRBS.ON.50Ω		CH2:PRBS.ON.50Ω	
		Bit Rate	122.880 000Mbps
		Amplitude	800.0mVpp
		Offset	850.0mVdc
		Length	PRBS-30
		Rise/Fall	2.0ns
		Load	50 Ω
		Output	ON
TTL/CMOS	LVTTTL LVCOMS	ECL	LVPECL
			LVDS
			Differential ON

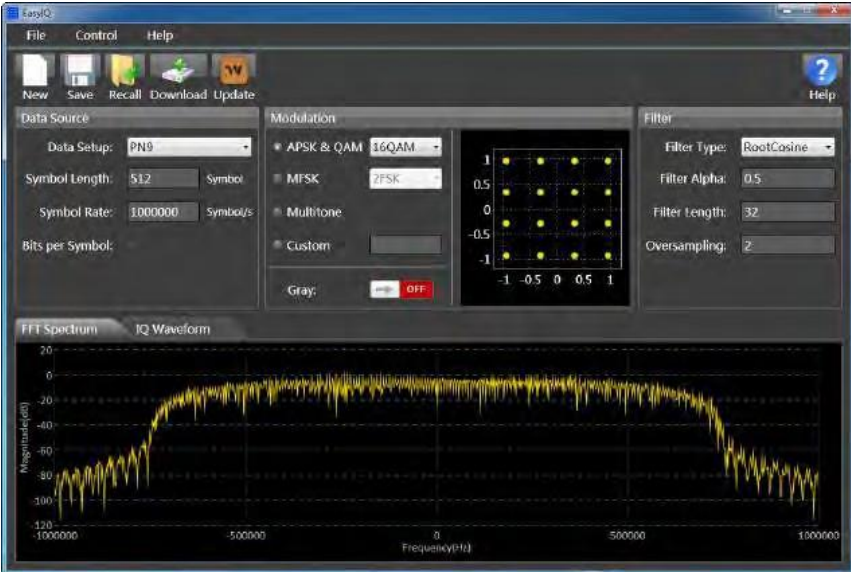
Preset common logic levels such as TTL, LVCMOS, LVPECL and LVDS. An added differential mode provides an easy way to generate differential signals using the both channels.



• IQ (optional)

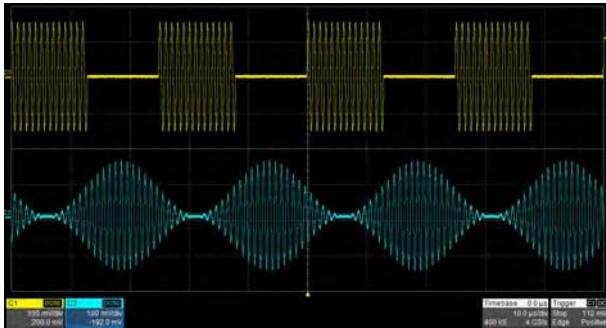


The SDG6000X supports popular modulation types such as ASK, FSK, PSK, and QAM. Proprietary resampling technology provides excellent EVM performance at arbitrary symbol rates between 250 Symb/s ~ 37.5 MSymb/s. Built-in digital quadrature modulator provides the possibility to generate IQ signals from baseband to 500 MHz intermediate frequency.



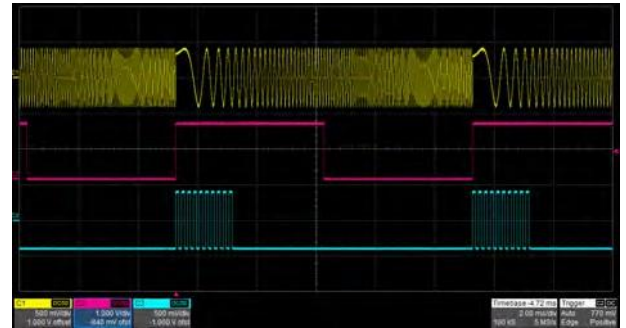
IQ waveforms can be generated by the PC software EasyIQ.

• Complex Signals Generation



Modulation

Plenty of modulation types, such as AM, FM, PM, FSK, ASK, PSK, DSB-AM, PWM are supported. The modulation source can be configured as "Internal" or "External".

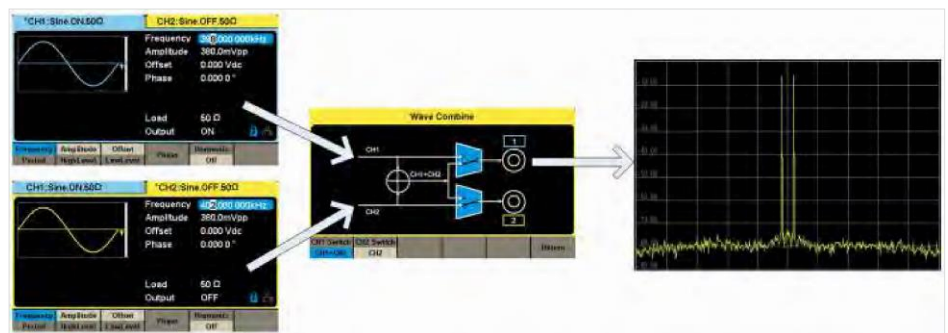


Sweep and Burst

Sweep modes include "Linear" and "Log". Burst modes includes "N cycle" and "Gated". Both Sweep and Burst can be triggered by "Internal", "External" or "Manual" source.

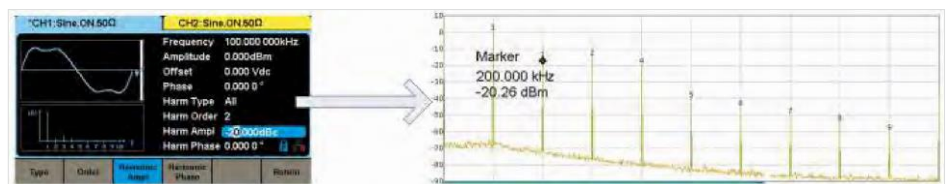
Waveform Combining

The waveform combining function superimposes CH1 and CH2 waveforms internally and provides the combined waveform to a user-selected output. Easily combine basic waveforms, random noise, modulation signals, sweep signals, burst signals, EasyPulse waveforms and TrueArb waveforms.



Harmonics Function

Harmonics function gives you the ability to add higher-order elements to your signal.



• Two Dual-channel Operation Mode

Mode: PHASE-LOCKED

PHASE-LOCKED

Both DDSs reset when changing frequency. Phase deviation between CH1&2 is maintained.

INDEPENDENT

No DDS resets when changing frequency. Phase deviation between CH1&2 is random.

Phase Locked
Independent
Return

"Phase-Locked" mode automatically aligns the phases of each output. While "Independent" mode permit the two channels to be used as two independent generators. Independent mode also smoothes parameter (frequency, amplitude) changes made to an active channel.

• Frequency Counter

Counter: ON

	Frequency	Pwidth	Duty	Freq Dev
Value	9.999 997 0MHz	50.2ns	50.2 %	-0.300ppm
Mean	9.999 996 8MHz	50.2ns	50.2 %	-0.322ppm
Min	9.999 996 6MHz	50.1ns	50.1 %	-0.340ppm
Max	9.999 997 0MHz	50.2ns	50.2 %	-0.300ppm
Sdev	0.000 000 0 Hz	0.000 000 s	13 m%	0.010ppm
Num	122	122	122	122

Ref Freq 10.000 000MHz

State On
Frequency Period
Pwidth Nwidth
RefFreq TrigLev
Setup
Clear

8-digit hardware frequency counter with statistics function and input range of 0.1 Hz ~ 400 MHz.

Specifications

Model	SDG6022X	SDG6032X	SDG6052X
Bandwidth	200 MHz	350 MHz	500 MHz
Number of channels	2		
Sampling rate	2.4 GSa/s (2X Interpolation)		
Vertical resolution	16 bit		
Arbitrary waveform length	2 ~ 20 Mpts		
Display	4.3" touch screen display, 480 x 272 x RGB		
Interface	Standard: USB Host, USB Device, LAN Optional: GPIB (USB-GPIB adaptor)		

Frequency	
Resolution	±1 ppm (25°C)
	±2 ppm (0-40°C)
1st-year aging	±1 ppm (25°C)
10-year aging	±3.5 ppm (25°C)

Sine	
Harmonic distortion	0~1 MHz (included) < -65 dBc
	1~60 MHz (included) < -60 dBc
	60~100 MHz (included) < -50 dBc
	100~200 MHz (included) < -40 dBc
	200~300 MHz (included) < -30 dBc
	300 MHz (included) < -28 dBc
Total Harmonic Distortion	10 Hz ~ 20 kHz < 0.075%
Non-harmonic spurious	≤350 MHz < -60 dBc
	>350 MHz < -55 dBc

Pulse	
Frequency	1 μHz ~ 150 MHz (SDG6052X, SDG6032X) 1 μHz ~ 80 MHz (SDG6022X)
Pulse Width	≥3.3 ns
Pulse width accuracy	±(0.01%+0.3 ns)
Rise time (setting range)	1 ns (10% ~ 90%) SDG6052X, SDG6032X 2 ns (10% ~ 90%) SDG6022X
Overshoot	3%, 100 kHz, 1 Vpp, 50 Ω load , 2 ns edge
Duty cycle	0.001% ~ 99.999% Limited by frequency setting
Duty cycle resolution	0.001%
Jitter (rms) cycle to cycle	<100 ps, 1 Vpp, 50 Ω load

Arbitrary Wave	
Frequency setting range	1 μHz ~ 50 MHz
Waveform length	2 pts ~ 20 Mpts
Sampling rate	1 uSa/s ~ 300 MSa/s (TrueArb mode)
	1.2 GSa/s (DDS mode)
Vertical resolution	16 bit
Jitter (rms) cycle to cycle	≤100 ps (1 Vpp, 50 Ω load , TrueArb mode)



Automation



Sensors

Industrial
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America

Square	
Frequency	1 μ Hz~ 120 MHz (SDG6052X, SDG6032X) 1 μ Hz~ 80 MHz (SDG6022X)
Rise /fall times	2 ns~2.4 ns (10% ~ 90%, 1 Vpp, 50 Ω load)
Overshoot	\leq 3% (100 kHz, 1 Vpp, 50 Ω load)
Duty cycle	10% ~ 90% (Limited by frequency setting)
Jitter (rms) cycle to cycle	<100 ps (1 Vpp, 50 Ω load)

Output	
Accuracy	\pm (1%+1 mVpp) (10 kHz sine, 0 V offset)
Amplitude flatness	\pm 0.3 dB (50 Ω load, 0.5 Vpp, compare to 1 MHz Sine)
Output impedance	50 \pm 0.5 Ω (100 kHz sine)
Output current	-200 ~ 200 mA
Crosstalk	< -60 dBc (CH1=CH2=0 dBm, Sine, 50 Ω load)

IQ (optional)	
Symbol rate	250 Symb/s ~ 37.5 MSymb/s (Limited by the oversampling factor)
Vertical resolution	16 bit
Modulation type	2ASK, 4ASK, 8ASK, BPSK, QPSK, 8PSK, DBPSK, DQPSK, D8PSK, 8QAM, 16QAM, 32QAM, 64QAM, 128QAM, 256QAM, 2FSK, 4FSK, 8FSK, 16FSK, MSK, MultiTone, custom (Supported by EasyIQ software)
Pattern	PN7, PN9, PN15, PN23, User file, Custom (Supported by EasyIQ software)
Output Range	1 mVrms ~ 0.5 Vrms ($\sqrt{I^2 + Q^2}$, 50 Ω load)
Carrier frequency	500 MHz (IF Output)

PRBS	
Bit rate	1 ubps~ 300 Mbps (SDG6052X, SDG6032X) 1 ubps~ 160 Mbps (SDG6022X)
Sequence length	2 ^{m-1} , m = 3, 4, ... , 32
Rise/fall times	1 ns ~ 1 us (SDG6052X, SDG6032X. 10% ~ 90%, 1 Vpp, 50 Ω load) 2 ns ~ 1 us (SDG6022X. 10% ~ 90%, 1 Vpp, 50 Ω load)
Output Range (Note)	2 mVpp ~ 20 Vpp \leq (40 Mbps, HiZ load) 2 mVpp ~ 10 Vpp (40 ~ 240 Mbps (included), HiZ load) 2 mVpp ~ 5 Vpp (240 Mbps, HiZ load)

Ordering Information

Product Description	
SDG6052X	500 MHz, 2-CH, 2.4 GSa/s, 16-bit
SDG6032X	350 MHz, 2-CH, 2.4 GSa/s, 16-bit
SDG6022X	200 MHz, 2-CH, 2.4 GSa/s, 16-bit
Standard Configurations	
Quick start	\times 1
Power cord	\times 1
Calibration certificate	\times 1
USB cable	\times 1
BNC coaxial cable	\times 2
Optional Configurations	
SPA1010	10 W Power Amplifier
ATT-20dB	20 dB Attenuator
USB-GPIB	USB-GPIB Adapter
SDG-6000X-IQ	IQ Signal Generator Function





SDG5000 Function/Arbitrary Waveform Generator

Application

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

Key Features

- DDS technology, double channels output, phase adjustable
- Output frequency up to 160 MHz, 500 MSa/s sampling rate, 14 bit vertical resolution, 512 Kpts max wave length
- 2 ppm high frequency stability, -116 dBc/Hz low phase noise
- Abundant modulation functions, sweep-frequency output, burst output
- Built-in high precision frequency counter, frequency range: 100 mHz - 200 MHz
- Unique EasyPulse technology, can output the pulse signal which have low jitter, fast rising and falling edge, very small duty cycle. Edge and pulse width can be a wide range of adjustment
- Seamless work with siglent Digital Storage Oscilloscope
- Supports USB-TMC protocol and SCPI programming command control



Automation



Sensors



Industrial
Computers



Data
Acquisition



Test & Measurement
Equipment



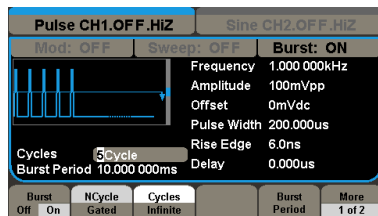
North
America



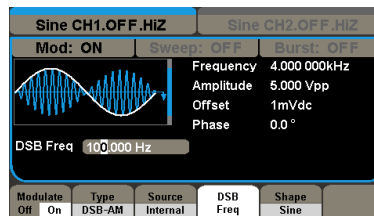
Central and South
America

Specifications

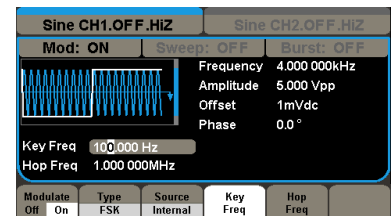
Model	SDG5162	SDG5122	SDG5082
Maximum output frequency	160 MHz	120 MHz	80 MHz
Output channels	2		
Sampling rate	500 MSa/s		
Wave length	CH1:16 Kpts,CH2:512 Kpts		
Frequency resolution	1 μ Hz		
Vertical resolution	14 bit		
Waveform	Sine, Square, Ramp, Pulse, Gaussian white noise, Arb		
Modulation function	AM, DSB-AM, FM, PM, FSK, ASK, PWM, Sweep, Burst		
Amplitude	CH1/CH2 \leq 40 MHz: 1 mVpp~10 Vpp (50 Ω), 2 mVpp~20 Vpp (high impedance) 40 MHz~100 MHz: 1 mVpp~5 Vpp (50 Ω), 2 mVpp~10 Vpp (high impedance) 100 MHz~160 MHz: 1 mVpp~1.5 Vpp (50 Ω), 2 mVpp~3 Vpp (high impedance)		
Frequency counter	Frequency range: 100 mHz ~ 200 MHz		
Interface	USB Host, USB Device		
Optional interface	USB-GPIB Adapter		
Dimension	261 mm*104.85 mm*343.8 mm		



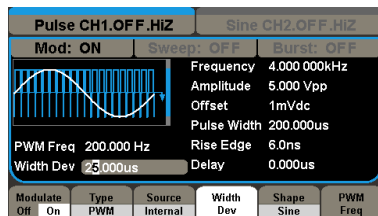
Burst



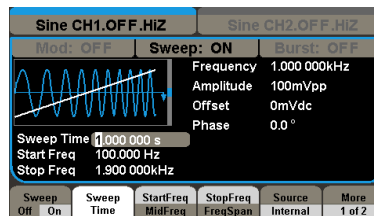
DSB-AM



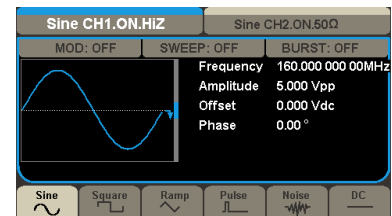
FSK



PWM



Sweep



Up to 160 MHz



SDG2000X Series Function/Arbitrary Waveform Generator

Key Features

- Dual-channel, 120 MHz maximum bandwidth, 20 Vpp maximum output amplitude, high fidelity output with 80 dB dynamic range
- High-performance sampling system with 1.2 GSa/s sampling rate and 16-bit vertical resolution. No detail in the waveforms will be lost
- Innovative TrueArb technology, based on a point-by-point architecture, supports any 8 pts~8 Mpts Arb waveform with a sampling rate in range of 1 μ Sa/s~75 MSa/s
- Innovative EasyPulse technology, capable of generating lower jitter Square or Pulse waveforms, brings a wide range and extremely high precision in pulse width and rise/fall times adjustment
- Plenty of analog and digital modulation types: AM、DSB-AM、FM、PM、PSK、FSK、ASK and PWM
- Practical functions: Channel Copy, Channel Coupling, Channel Track, harmonic generator, overvoltage protection function
- Sweep and Burst function, Harmonics mode supported
- High precision Frequency Counter
- Standard interfaces: USB Host, USB Device (USBTMC) , LAN (VXI-11)
- Optional interface: USB-GPIB
- 4.3" touch screen display for easier operation



Automation



Sensors



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Data
Acquisition



Test & Measurement
Equipment

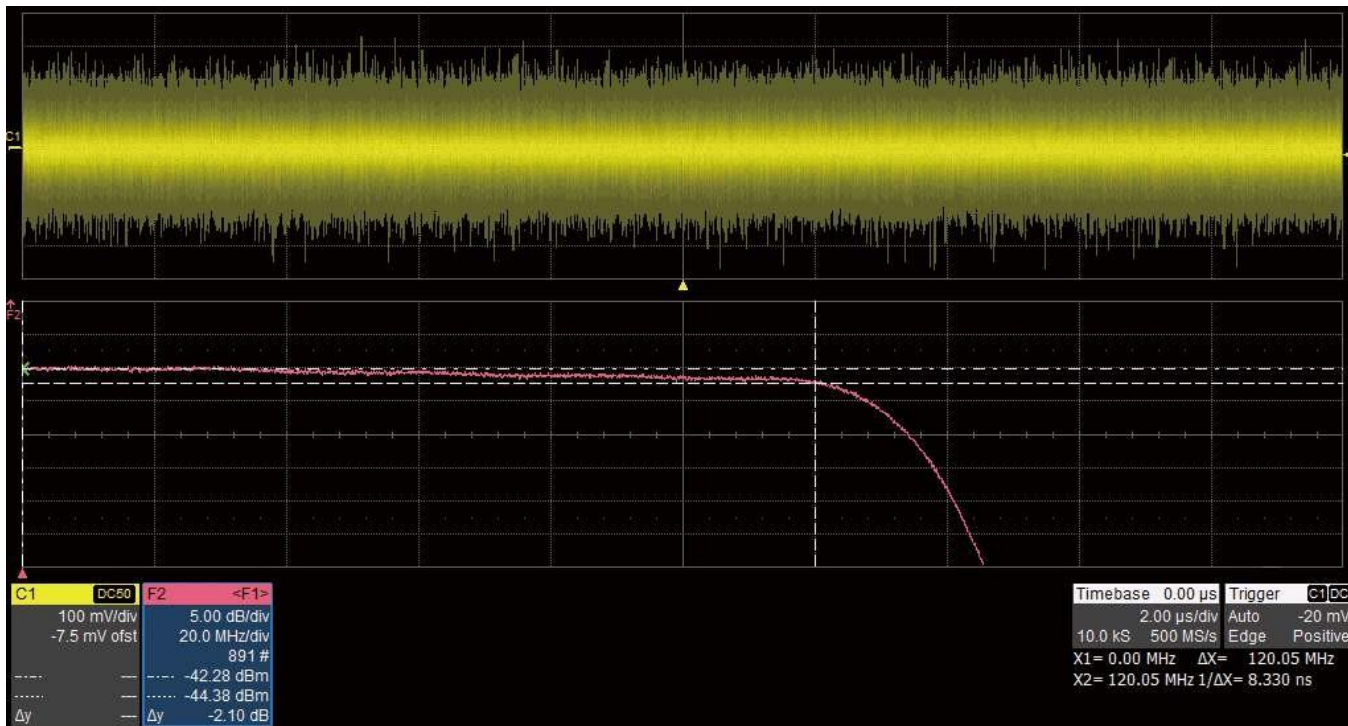


North
America

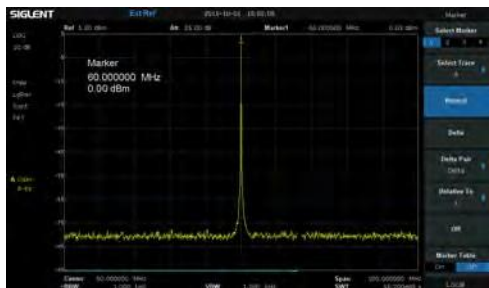


Central and South
America

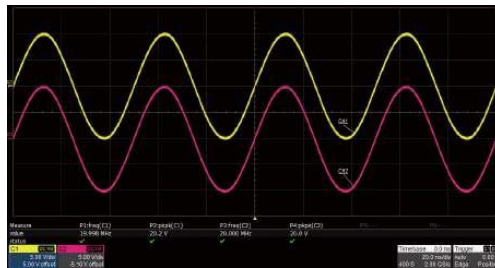
• Excellent Analog Channel Performance



▶ The bandwidth of analog channels proves to be greater than 120 MHz, via doing a frequency response test with white noise.



▶ High fidelity sine output. Almost no spurious observed @60 MHz, 0 dBm.



▶ Capacity of outputting large signal at high frequency. Dual-channel, 20 Vpp amplitude can be guaranteed even @20 MHz.

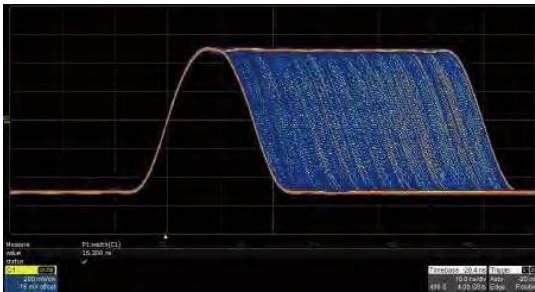
▶ Low noise floor, improves signal-noise ratio.



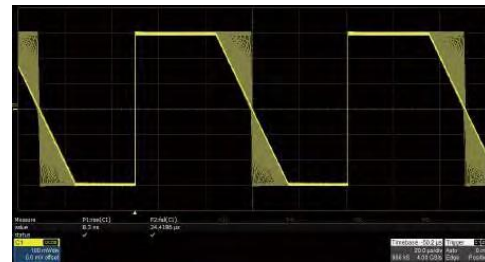


• Innovative EasyPulse Technology

When a Square/Pulse waveform is generated by DDS, there will be a one-clock-jitter if the sampling rate is not an integer-related multiple of the output frequency. SDG2000X EasyPulse technology successfully overcomes this weakness in DDS designs and helps to produce low jitter Square/Pulse waveforms.



The Pulse width can be fine-tuned to the minimum of 16.3 ns with the adjustment step as small as 100 ps.



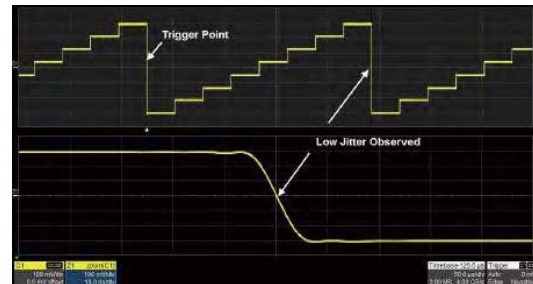
The rise/fall times can be set independently to the minimum of 8.4 ns at any frequency and to the maximum of 22.4 s. The adjustment step is as small as 100 ps.

• Innovative TrueArb Technology

For arbitrary waveforms, TrueArb not only has all the advantages of traditional DDS, but also eliminates the probability that DDS may cause serious jitter and distortion.

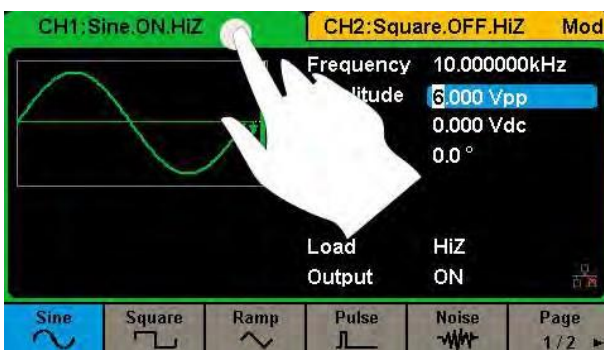


TrueArb generates arbitrary waveforms point by point, never skips any point so that it can reconstruct all the details of the waveform as defined.



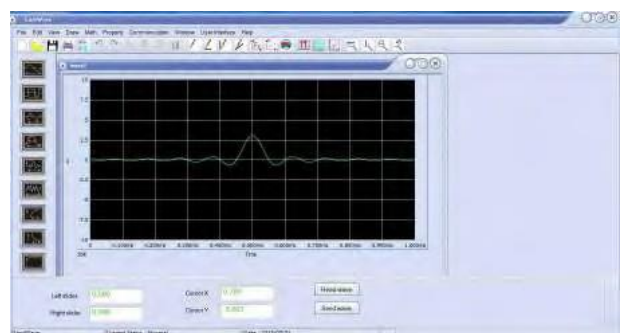
As with EasyPulse, TrueArb effectively overcomes the defect that DDS may cause the one-clock-jitter in arbitrary waveforms.

• 4.3" Touch Screen Display



4.3" touch screen display, makes operation much more convenient.

• Arbitrary Waveform Software EasyWave

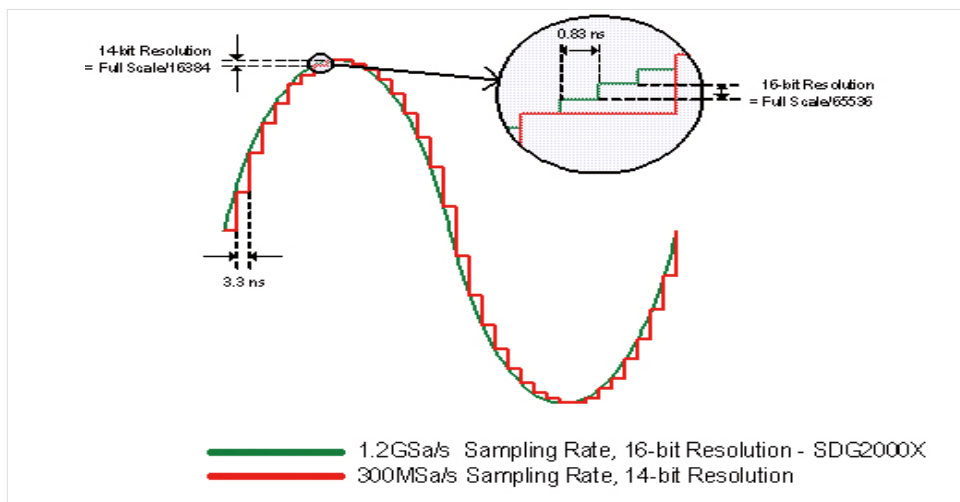


EasyWave is a powerful arbitrary waveform editing software that supports several ways to generate arbitrary waveform such as manual drawing, line-drawing, equation-drawing, coordinate-drawing, etc. It is quite convenient for users to edit their own arbitrary waveforms through EasyWave.



• High-performance Sampling System

Benefiting from a 1.2 GSa/s and 16-bit system, SDG2000X achieves extremely high accuracy performance in both time domain and amplitude, which results in more accurately reconstructed waveforms and lower distortion.



Specifications

Product Model	SDG2042X	SDG2082X	SDG2122X
Bandwidth	40 MHz	80 MHz	120 MHz
Sampling rate	1.2 GSa/s (4 X Interpolation)		
Vertical resolution	16 bit		
Num. of channels	2		
Max. amplitude	±10 V		
Display	4.3" touch screen display, 480 x 272 x RGB		
Interface	Standard: USB Host, USB Device, LAN Optional: GPIB (USB-GPIB adaptor)		

Frequency Characteristics

Parameter	Min.	Typ.	Max.	Unit	Condition
Resolution			1 μ	Hz	
Initial accuracy	-1		+1	ppm	25°C
	-2		+2	ppm	0~40°C
1 st -year aging	-1		+1	ppm	25°C
10-year aging	-3.5		+3.5	ppm	25°C

Sine Characteristics

Parameter	Min.	Typ.	Max.	Unit	Condition
Frequency	1 μ		120 M	Hz	
Harmonic distortion			-65	dBc	0 dBm, 0~10 MHz (Included)
			-60	dBc	0 dBm, 10~20 MHz (Included)
			-55	dBc	0 dBm, 20~40 MHz (Included)
			-50	dBc	0 dBm, 40~60 MHz (Included)
			-45	dBc	0 dBm, 60~80 MHz (Included)
			-40	dBc	0 dBm, 80~100 MHz (Included)
			-38	dBc	0 dBm, 100~120 MHz (Included)
Total Harmonic Distortion			0.075	%	0 dBm, 10 Hz ~ 20 kHz
Non-harmonic spurious			-70	dBc	≤50 MHz
			-65	dBc	>50 MHz

Square Characteristics

Parameter	Min.	Typ.	Max.	Unit	Condition
Frequency	1 μ		25 M	Hz	
Rise/fall times			9	ns	10% ~ 90%, 1 Vpp, 50 Ω Load
Overshoot			3	%	100 kHz, 1 Vpp, 50 Ω Load
Duty cycle	0.001		99.999	%	Limited by frequency setting
Jitter (rms), Cycle to cycle			150	ps	1 Vpp, 50 Ω Load

Pulse Characteristics

Parameter	Min.	Typ.	Max.	Unit	Condition
Frequency	1 μ		25 M	Hz	
Pulse width	16.3			ns	
Pulse width accuracy			$\pm(0.01\%+0.3 \text{ ns})$		
Rise/fall times	8.4 n		22.4	s	10% ~ 90%, 1 Vpp, 50 Ω Load, Subject to pulse width limits
Overshoot			3	%	100 kHz, 1 Vpp
Duty cycle	0.001		99.999	%	Limited by frequency setting
Duty cycle resolution	0.001			%	
Jitter (rms) cycle to cycle			150	ps	1 Vpp, 50 Ω Load

Arbitrary Wave characteristics

Parameter	Min.	Typ.	Max.	Unit	Condition
Frequency	1 μ		20 M	Hz	
Waveform length	8		8 M	pts	
Sampling rate	1 μ 300		75 M	Sa/s MSa/s	TrueArb mode DDS mode
Vertical resolution	16			bit	
jitter (rms)			150	ps	1 Vpp, 50 Ω Load, TrueArb mode

Output Characteristics

Parameter	Min.	Typ.	Max.	Unit	Condition
Range	2 m		20	Vpp	≤ 20 MHz, HiZ load
(Note 1)	2 m		10	Vpp	> 20 MHz, HiZ load
	1 m		10	vpp	≤ 20 MHz, 50 Ω load
	1 m		5	vpp	> 20 MHz, 50 Ω load
Accuracy	$\pm (1\%+1 \text{ mVpp})$				10 kHz sine, 0 V offset
Amplitude flatness	-0.3		+0.3	dB	0~100 MHz (Included), 50 Ω load, 2.5 Vpp, compare to 10 kHz Sine
	-0.4		+0.4	dB	100~120 MHz (Included), 50 Ω load, 2.5 Vpp, compare to 10 kHz Sine
Output impedance	49.5	50	50.5	Ω	10 kHz sine
Output current	-200		200	mA	
Crosstalk			-60	dBc	CH1 - CH2/CH2 - CH1

Note 1: The specification will be divided by 2 while applied to a 50 Ω load.

Ordering Information

Product Description	SDG2000X Series Function/Arbitrary Waveform Generator	
Product code	SDG2042X	40 MHz
	SDG2082X	80 MHz
	SDG2122X	120 MHz
Standard configurations	A Quick Start, A Power Cord, A USB Cable, A Calibration Certificate, A BNC Coaxial Cable	
Optional configurations	USB-GPIB adapter	



Automation



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North
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Central and South
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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



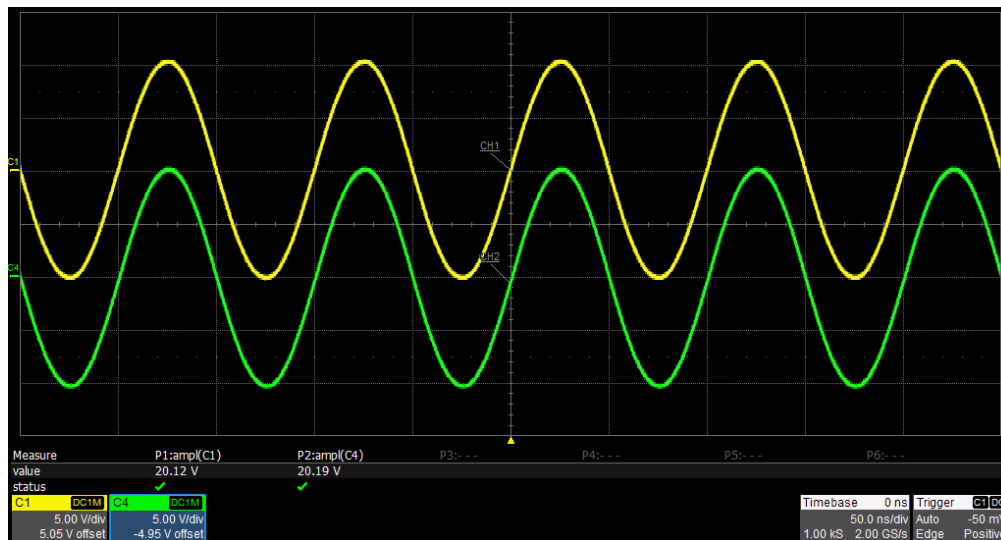
Models and Key Specifications

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

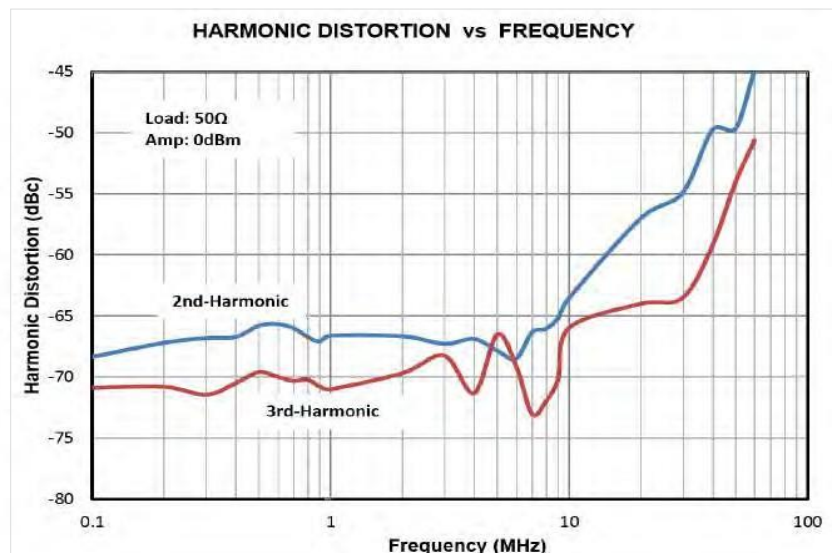
- **Identical dual output-channels with high performance**

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.



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Data Acquisition



Test & Measurement Equipment

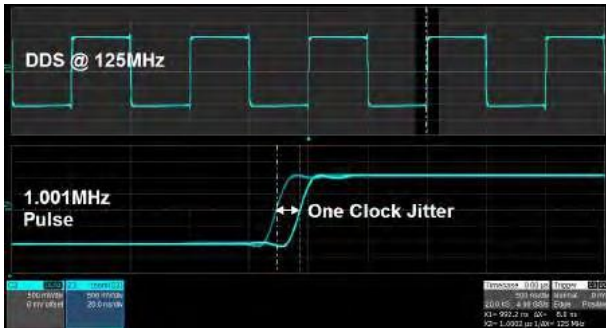


North America

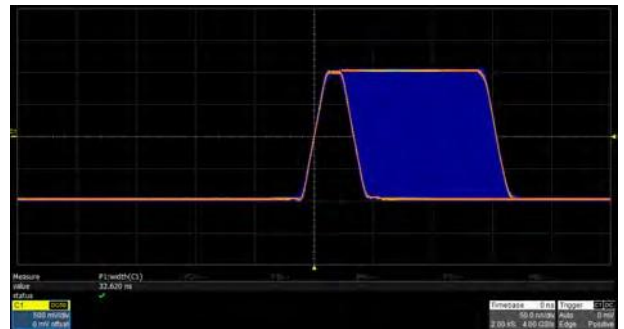
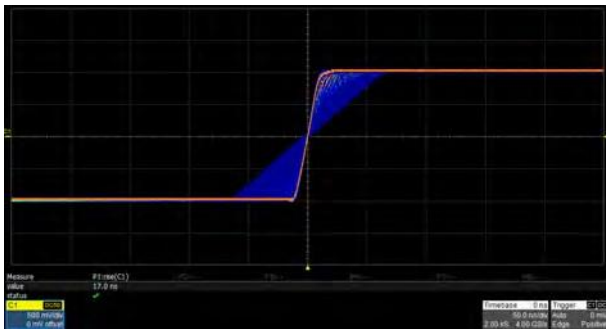


Central and South America

Innovative EasyPulse Technology

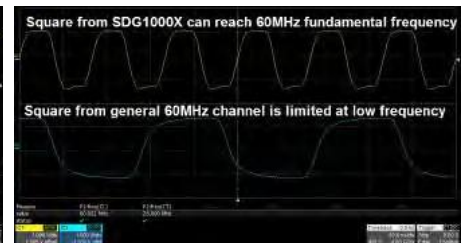
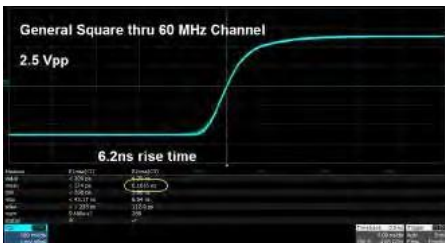


When a Pulse waveform is generated by a common DDS generator, there will be a one-clock-jitter if the sampling rate is not an integer-related multiple of the output frequency. SDG1000X EasyPulse technology successfully overcomes this weakness in DDS designs and helps to produce low jitter Pulse waveforms.



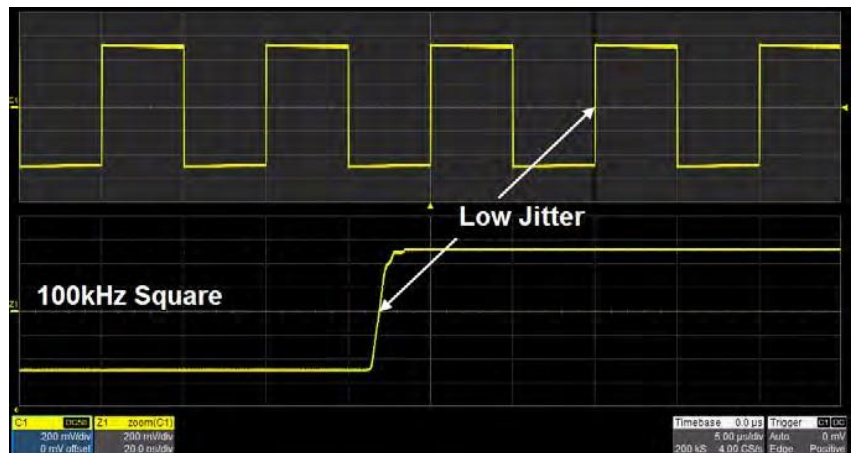
The rise/fall times can be set independently to the minimum of 16.8 ns at any frequency and to the maximum of 22.4 s. The adjustment step is as small as 100 ps. The Pulse width can be fine-tuned to the minimum of 32.6 ns with the adjustment step as small as 100 ps.

High performance Square Waves



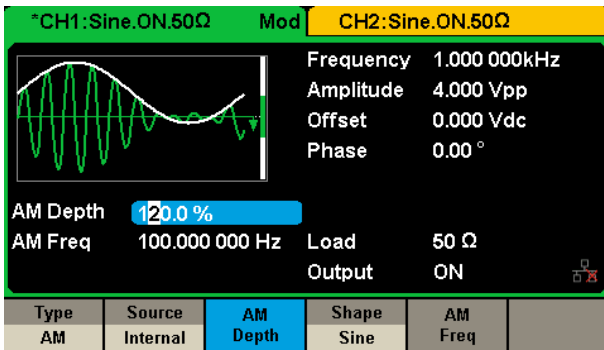
Benefiting from a special square-wave generating circuitry, the Square from the SDG1000X breaks the 60 MHz bandwidth barrier, reaching rise/fall times of less than 4.2 ns, and frequencies up to 60 MHz.

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



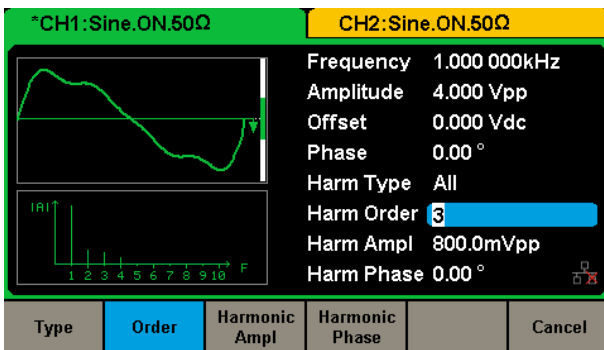
Characteristics

• Modulation



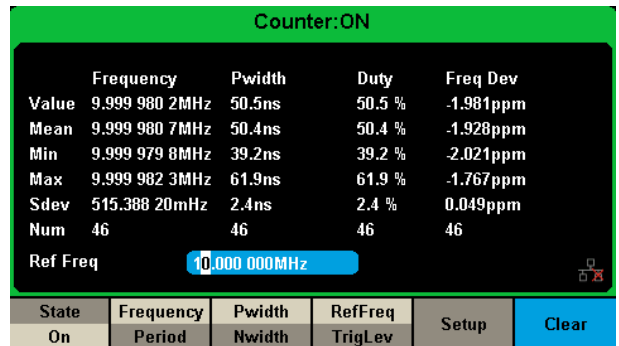
Multiple modulation types: AM, DSB-AM, FM, PM, FSK, ASK, PSK and PWM. The modulation source can be configured as "Internal" or "External".

• Harmonics Function



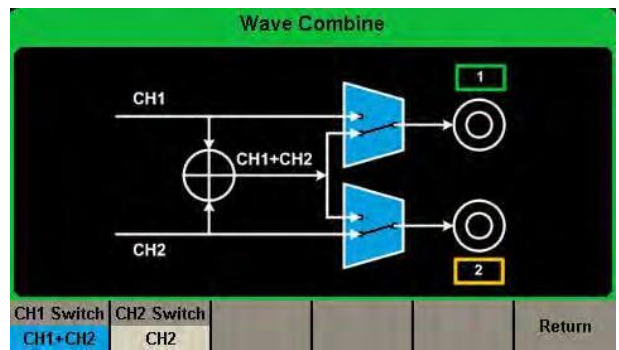
Up to 10 harmonics may be generated. Amplitude and phase of each harmonic can be set independently.

• Frequency Counter



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

• Waveform Combining



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



Waveform Generator



SDG1000 Function/Arbitrary Waveform Generator

Application

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

Features and Benefits

- Apply DDS technology, double channels output, phase adjustable
- Output frequency up to 50 MHz, 125 MSa/s sampling rate, 14 bit vertical resolution, 16 Kpts wave length



- 5 types of standard waveforms, built-in 46 types of arbitrary waveforms
- Abundant modulation functions, sweep-frequency output, burst output
- Built-in high precision frequency counter, frequency up to 200 MHz
- Interfaces: USB Device, USB Host, USB-GPIB Adapter (optional)
- Seamlessly work with siglent Digital Storage Oscilloscope
- Support USB-TMC protocol and SCPI programming command control



Automation



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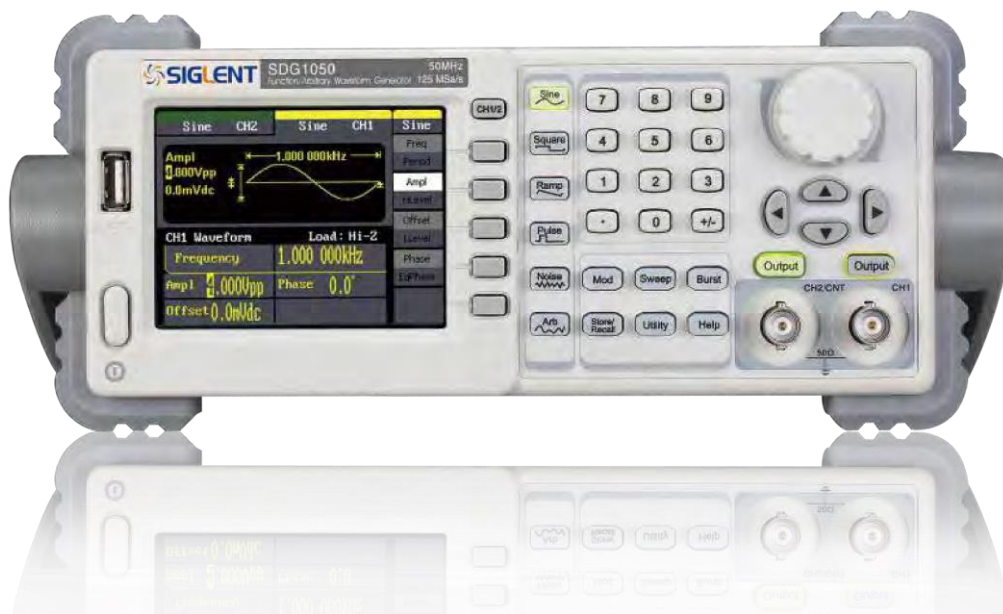
**North
America**



**Central and South
America**

Specifications

Model	SDG1050	SDG1025
Maximum output frequency	50 MHz	25 MHz
Output channels	2	
Sampling rate	125 MSa/s	
Wave length	16 Kpts	
Frequency resolution	1 μ Hz	
Vertical resolution	14 bit	
Waveform	Sine, Square, Ramp, Pulse, Gaussian white noise, 48 types of built-in function waveforms, Arb	
Modulation function	AM, DSB-AM, FM, PM, FSK, ASK, PWM, Sweep, Burst	
Amplitude	CH1: 2 mVpp~10 Vpp (50 Ω), 4 mVpp~20 Vpp (high impedance) \leq 10 MHz mVpp~5 Vpp (50 Ω), 4 mVpp~10 Vpp (high impedance) $>$ 10 MHz CH2: 2 mVpp~3 Vpp (50 Ω), 4 mVpp~6 Vpp (high impedance)	
Frequency counter	Frequency range: 100 mHz ~ 200 MHz	
Interface	USB Host, USB Device	
Optional interface	USB-GPIB adapter	
Dimension	229 mm*105 mm*281 mm	





SDG800 Function/Arbitrary Waveform Generator

Application

- Simulate sensor
- Simulate environmental signal
- Circuit function test
- IC chip test
- Research and education

Key Features

- Advanced DDS technology, 125 MSa/s sampling rate, 14 bit vertical resolution
- Single channel output, 5 kinds of standard waveforms, built-in 46 kinds of arbitrary waveforms (including DC)
- Complete modulation functions: AM, DSB-AM, FM, PM, FSK, ASK, PWM, linear/logarithmic sweep and burst
- Innovative EasyPulse technology, can output pulse of low jitter, quick rising/falling edge
- Standard interfaces: USB Device, USB Host, support U-Disk storage and software update
- Provide 10 nonvolatile storage spaces for user's arbitrary waveforms
- Be capable of seamlessly connected to SIGLENT Digital Storage Oscilloscope
- Configurable with powerful arbitrary waveform editing software EasyWave



Automation



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Specifications

Model	SDG805	SDG810	SDG830
Maximum output frequency	5 MHz	10 MHz	30 MHz
Output channels	1		
Sampling rate	125 MSa/s		
Wave length	16 kpts		
Frequency resolution	1 μ Hz		
Vertical resolution	14 bit		
Waveform	Sine, Square, Ramp, Pulse, Gaussian white noise, Arbitrary waveform, 46 types of built-in arbitrary waveforms		
Sine wave	1 μ Hz ~ 5 MHz	1 μ Hz ~ 10 MHz	1 μ Hz ~30 MHz
Square wave	1 μ Hz ~ 5 MHz	1 μ Hz ~ 10 MHz	1 μ Hz ~10 MHz
Pulse	500 μ Hz ~ 5 MHz	500 μ Hz ~ 5 MHz	500 μ Hz ~5 MHz
Ramp/Triangular	1 μ Hz ~ 300 KHz	1 μ Hz ~ 300 KHz	1 μ Hz ~ 300 KHz
Gaussian white noise	>5 MHz bandwidth (-3 dB)	>10 MHz bandwidth (-3 dB)	>30 MHz bandwidth (-3 dB)
Arbitrary waveform	1 μ Hz ~ 5 MHz	1 μ Hz ~ 5 MHz	1 μ Hz ~ 5 MHz
Modulation function	AM, FM, PM, DSB-AM, FSK, ASK, PWM, Sweep, Burst		
Standard configuration	USB Host & USB Device		
Amplitude (high impedance)	4 mVpp~20 Vpp (\leq 10 MHz) 4 mVpp~10 Vpp ($>$ 10 MHz)		



SPD3303

Programmable Linear DC Power Supply

Application

- R&D lab general purpose testing
- Teaching lab experiment
- Automotive electronic test
- Production testing and quality assessment inspection

Key Features (SPD3303X/SPD3303X-E)

- 3 independent controlled and isolated output, 32 V/3.2 A×2, 2.5 V/3.3 V/5 V/3.2 A×1, total 220 W
- Max 5 digits Voltage, 4 digits Current Display, Minimum Resolution: 1 mV/1 mA
- Supports panel timing output functions
- 4.3 inch true color TFT- LCD 480x272 display
- 3 types of output modes: independent, series, parallel
- 100 V/120 V/220 V/230 V compatible design to meet the needs of different power grids.
- Intelligent temperature-controlled fan , effectively reducing noise
- Clear graphical interface, with the waveform display function
- Internal 5 groups of system parameter save/recall, supports data storage space expansion
- Provides PC software: Easypower , supports SCPI , LabView driver

Key Features (SPD3303C)

- 3 independent high precision output: 32 V/3.2 A×2, 2.5 V/3.3 V/5 V/3.2 A×1, total 220 W
- 4 digits voltage and 3 digits current display, min resolution: 10 mV, 10 mA
- Three output modes: independent, series and parallel
- 100 V/120 V/220 V/230 V compatible design, to meet the need of different power grids
- Smart temperature controlled fan, effectively reduce the noise
- Save/Recall 5 group system specifications, support data storage expansion
- Connected to PC via USB Device, support SCPI command, to meet the control and communication needs



Automation



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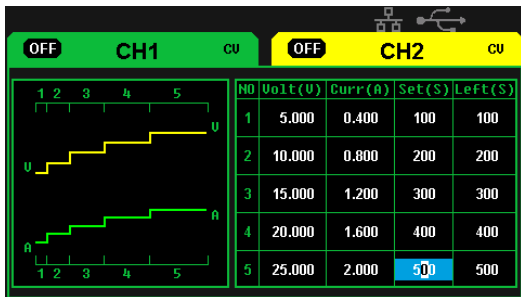
Central and South
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Specifications

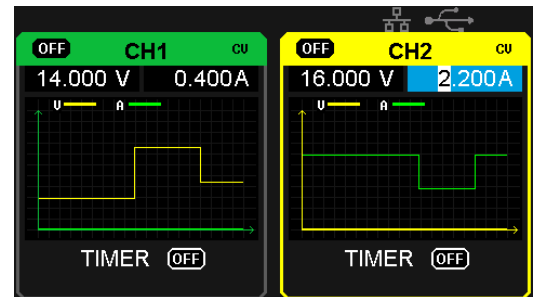
Model	SPD3303C	SPD3303X-E	SPD3303X
Channels	CH1: DC voltage range: 0-32 V, DC current range: 0-3.2 A CH2: DC voltage range: 0-32 V, DC current range: 0-3.2 A CH3: DC voltage range: 2.5/3.3/5.0 V, DC current range: 0-3.2 A		
Max output power	220 W		
Resolution	10 mV / 10 mA		1 mV / 1 mA
Display digits	LED display 4 digits voltage 3 digits current	4.3 inch TFT-LCD display 4 digits voltage 3 digits current	4.3 inch TFT-LCD display 5 digits voltage 4 digits current
Ripple noise	CV/CH3: ≤ 1 mVrms (5 Hz~1 MHz) CC: ≤ 3 mArms		
Standard interface	USB Device	USB Device, LAN	
Dimension	225 mm (W)×136 mm (H)×275 mm (D)		
Weight	7.5 kg (SPD3303C) 8 kg (SPD3303X/X-E)		

• Panel displays the timing output

Through front panel operation, 5 groups of timing settings and output control can be displayed, which provides users a simple power programming function. Also a connection can be made with Siglent's EasyPower PC software providing a full range of communication and control requirements.



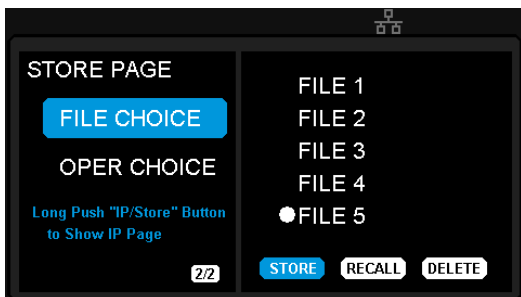
Panel timing output



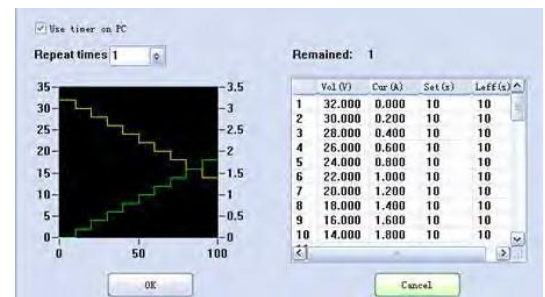
Real time wave display

• Save/Recall setting parameters

SPD3000X series programmable power supply can save or recall 5 groups of setting parameter in internal storage, also supports external storage expansion. You can easily obtain the settings you needed.



Internal Storage



PC Timer



SPD1000X Programmable Linear DC Power Supply

Main Features

- Single path high-precision programmable voltage output : 16 V/8 A, total power up to 128 W
- Stable, reliable, Low ripple and noise : $\leq 350 \mu\text{Vrms}/3 \text{ mVpp}$; $< 2 \text{ mArms}$
- Fast transient response time: $< 50 \mu\text{s}$
- 5 digit Voltage, 4 digit Current Display, Minimum Resolution: 1 mV/1 mA
- Supports front panel timing output functions
- 2.8 inch true color TFT- LCD 240 *320 display
- 2 types of output modes : Two-wire output mode, 4-wire compensation output mode, Maximum compensation voltage 1 V
- 100/120/220/230 V compatible design to meet the needs of different power grids
- Intelligent temperature-controlled fan reduces noise
- Clear graphical interface, with the waveform display function
- Internal 5 groups of system parameter save/recall
- Includes PC software: Easypower, supports SCPI, LabView driver



Automation



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Design Features

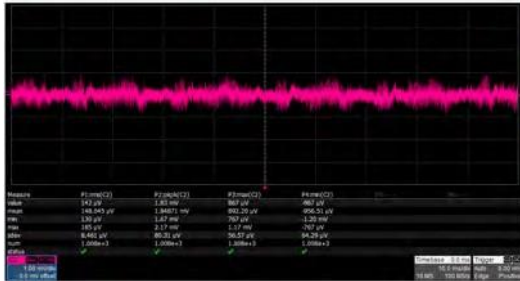
- **High-resolution and high-precision output**

The SPD1168X power supply features a high measurement resolution of 1 mV/1 mA . This ensures accurate output even with very small changes in voltage or current. This is impossible for a low resolution power supply.

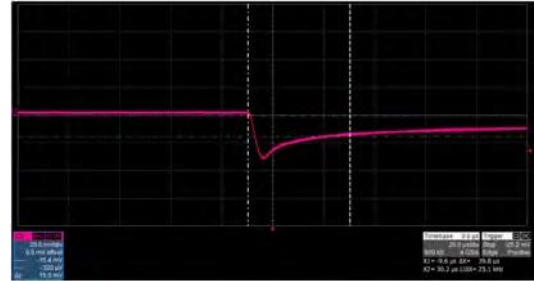
- **4-wire SENSE compensation mode function**

In the 4-wire SENSE compensation output mode: By using a separate measurement circuit, the supply can more accurately compensate for any voltage drops due to high resistance connections or long cables. Maximum compensation voltage is 1 V.

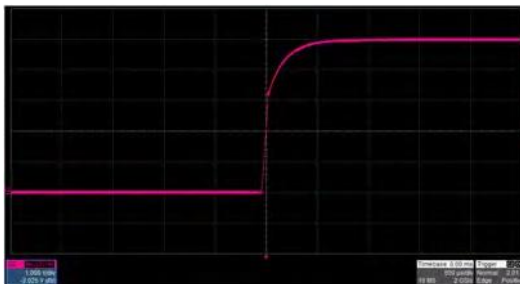
- **Low ripple and noise**



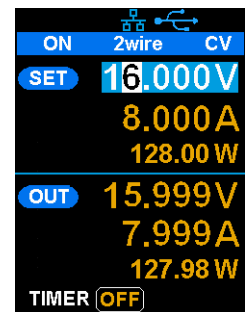
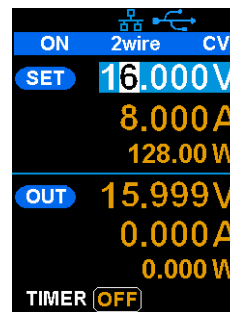
- **Fast transient response time**



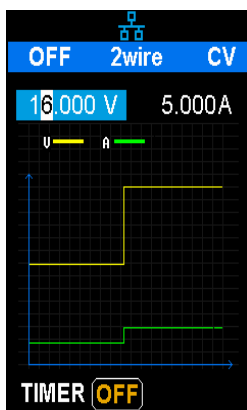
- **Low voltage overshoot**



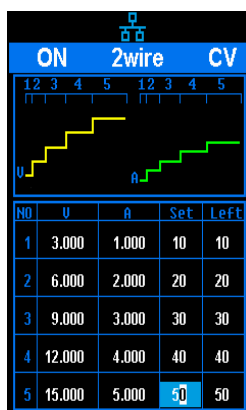
- **0.01% Load Regulation & 0.2% Line Regulation**



- **Panel displays the timing output**



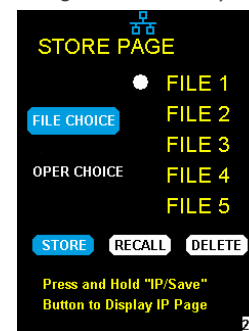
Panel timing output



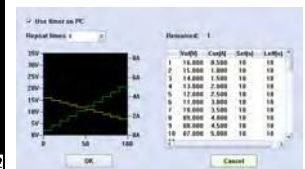
Real time wave display

- **Save/Recall setting parameters**

SPD1168X programmable power supply can save or recall 5 groups of setting parameters in internal storage. You can easily recall the settings you need.



Internal Storage



PC Timer

Specifications

All the specifications are guaranteed when the instrument has been working for more than 30 minutes under the specified operating temperature. Unless otherwise noted, the specifications are applicable to all the channels of the specified model.

Model		SPD1168X
DC Output (0 °C to 40°C)		Output Voltage: 0 to 16 V Output Current: 0 to 8 A
Display		2.8 inch true color TFT-LCD 5 digit voltage/4 digit current
Resolution		1 mV/1 mA
Program Accuracy (25 ± 5 °C)		Voltage: ±(0.03% of reading+10 mV)
		Current: ±(0.3% of reading+10 mA)
Program Accuracy (25 ± 5 °C)		Voltage: ±(0.03% of reading+10 mV)
		Current: ±(0.3% of reading+10 mA)
Temperature Coefficient per °C (Output Percentage + Offset)		Voltage: ±(0.01% of reading+3 mV)
		Current: ±(0.01% of reading+3 mA)
Constant Voltage Mode	Load Regulation	≤ 0.01% + 2 mV
	Ripple & Noise	≤ 350 uVrms/3 mVpp (20 Hz to 20 MHz)
	Recovery Time	< 50 μs (50% load change, minimum load 0.5 A)
Constant Current Mode	Line Regulation	≤ 0.2% + 3 mA
	Load Regulation	≤ 0.2% + 3 mA
	Ripple & Noise	≤ 2 mArms
Locking Key		Yes
Memory Save/Recall		5 Sets
Max Output Power		128 W
Power Source		AC 100 /120/220/230 V ± 10% 50/60 Hz
Standard Configuration Interface		USB Device, LAN
Insulation		Case to Terminal ≥ 20 MΩ (DC 500 V) Case to AC line ≥ 30 MΩ (DC 500 V)
Operating Environment		Outdoor Usage: Elevation: ≤2000 m Environment Temperature 0 to 40 °C Relative Humidity ≤ 80% Installation Level: II Pollution Level: 2
Storage Environment		Environment Temperature: -10 to 70 °C Relative Humidity ≤ 70%
Dimension		154.6 (W) × 144.5 (H) × 280(D) mm
Weight		≈5.5 kg



Automation



Sensors



Industrial
Computers



Data
Acquisition



Test & Measurement
Equipment



North
America



Central and South
America



SDM3065X Digital Multimeter

Application

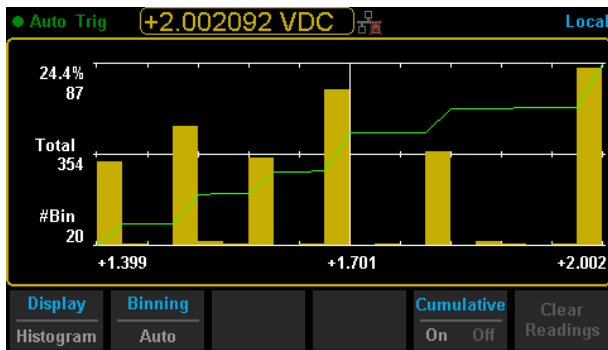
- Research Laboratory
- Development Laboratory
- Detection and Maintenance
- Calibration Laboratory
- Automatic Production Test

Main Feature (SDM3065X/SDM3065X-SC)

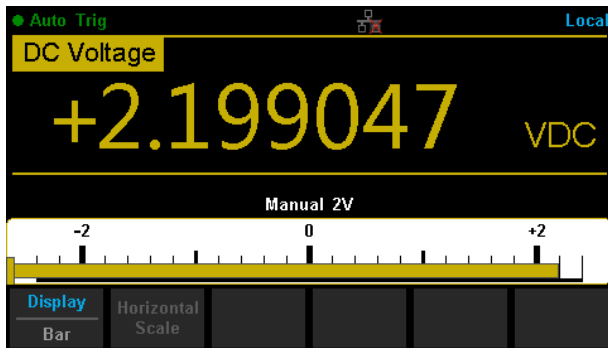
- 4.3" TFT-LCD, 480*272
- Real 6½ digits readings resolution (2,200,000 counts)
- 1Gb Nand flash size, Mass storage configuration files and data files
- True-RMS AC Voltage and AC Current measuring
- Supports double display, Chinese and English Menu
- File management (support for U-disc and local storage)
- Built-in cold terminal compensation for thermocouple
- Comes with easy, convenient and flexible any sensor measurement control software: EasyDMM
- Standard interfaces: USB Device, USB Host, LAN (Optional Accessories: USB- GPIB Adapter)
- Scanner Card SC1016 (Only for SDM3065X-SC)
- Built-in Hlep system makes information acquisition easier
- Support remote control operation via SCPI commands. Compatible with commands of other main stream multimeters
- Supports intelligent management system for laboratory based on BS framework and LAN

Special Features

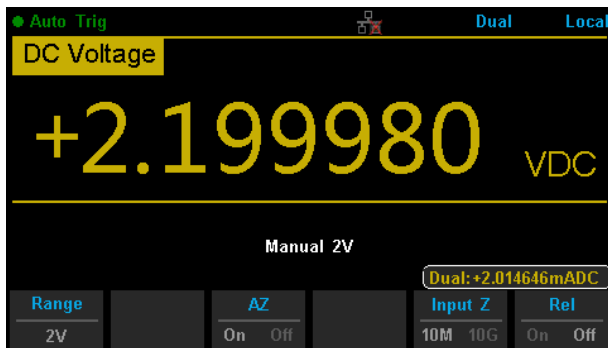
- Histogram



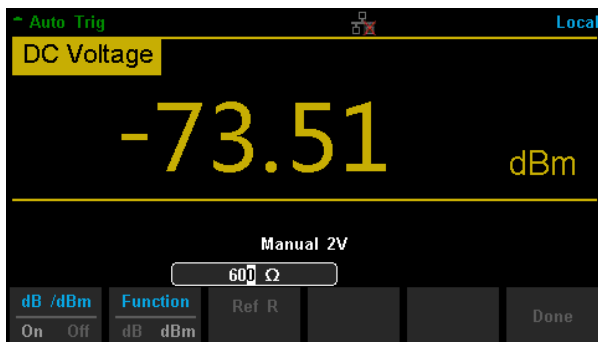
- "Analog" Bar Display



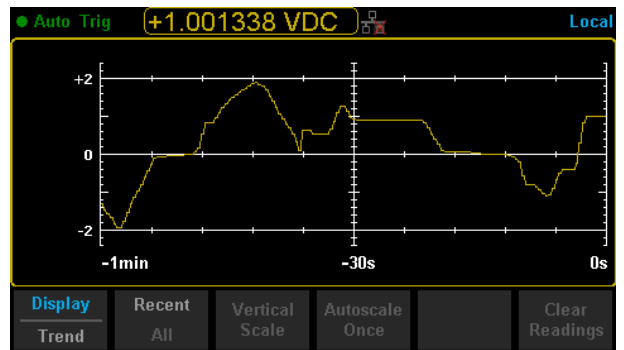
- Dual Measurement Display



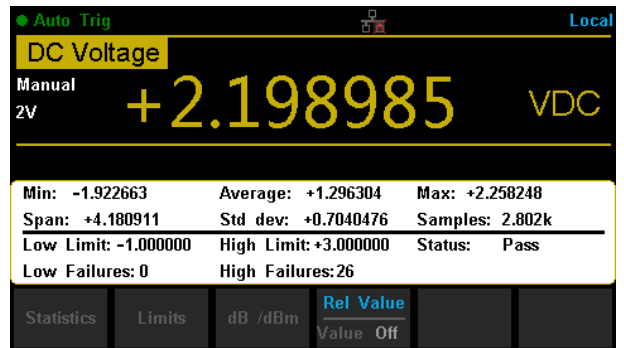
- dBm Hold Measurement



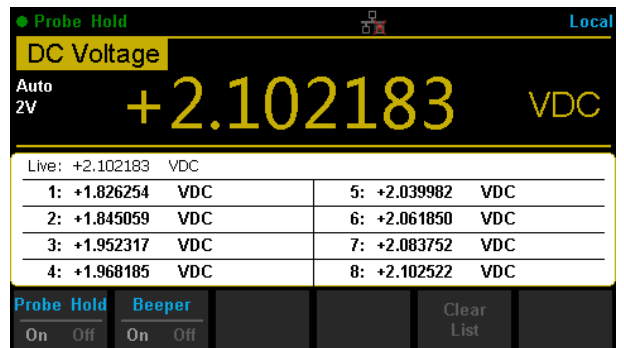
- Trend Chart



- Statistics



- Hold Measurement



- Interface



Automation



Sensors



Industrial Computers



Data Acquisition



Test & Measurement Equipment



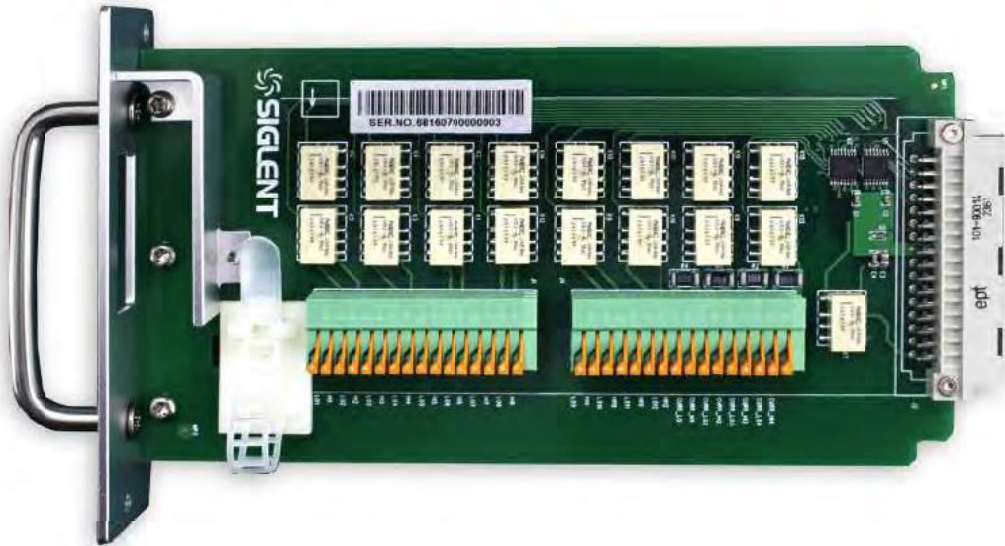
North America



Central and South America

Scanner card SC1016 (Only for SDM3065X-SC)

The SIGLENT Scanner Card SC1016 is a multiplexer that provides multi-point measurement capabilities to the SDM3065X-SC. The scanner features 12 multi-purpose + 4 current channels and supports the following measurement functions: DCV, ACV, DCI, ACI, 2WR, 4WR, CAP, FREQ, DIODE, CONT and TEMP (RTD and Thermocouple). It provides a convenient and versatile solution for test applications that require multiple measurement points or signals and is an ideal tool for R&D burn-in and production testing.



Ordering Information

Standard Accessories	
Power Cord -1	
USB Cable -1	
Quick Start -1	
warranty Card -1	
EasyDMM ^[1]	software
Test Leads and Alligator Clips -2	
Optional Accessories	
USB-GPIB	USB-GPIB adapter

[1]The latest version of EasyDMM can be downloaded for free from the SDM3000 series of digital multimeter. Please see our web site at www.siglent.com for more information.



SDM3055 Digital Multimeter

Application

- Research & Development Laboratory
- Detection and Maintenance
- Calibration Laboratory
- Automatic Production Test

Main Features (SDM3055/SDM3055-SC)

- Real 5½ digits readings resolution (240, 000 counts)
- Up to 150 rdgs/s measurement speed
- True-RMS AC Voltage and AC Current measuring
- 1 Gb Nand flash size, Mass storage configuration files and data files
- Built-in cold terminal compensation for thermocouple temperature measurements
- With easy, convenient and flexible PC software: EasyDMM
- standard interfaces: USB Host, LAN (Optional Accessories USB-GPIB Adapter)
- Scanner Card SC1016 (Only for SDM3055-SC)
- Support remote control operation via SCPI commands.Compatible with commands of main stream multimeters



Automation



Sensors



Industrial
Computers



Data
Acquisition



Test & Measurement
Equipment



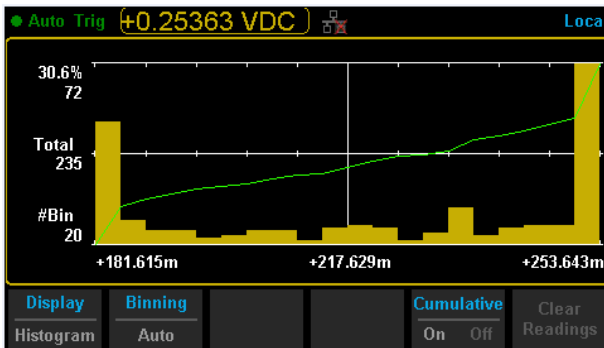
North
America



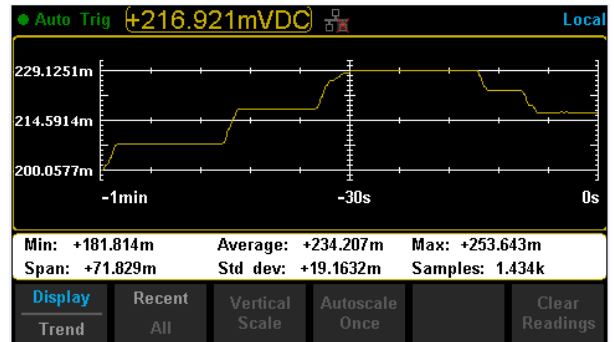
Central and South
America

Special Features

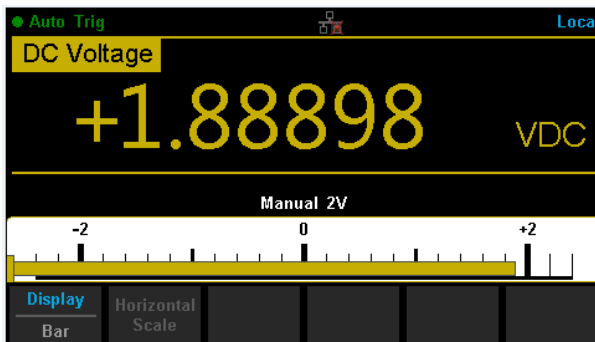
• Histogram



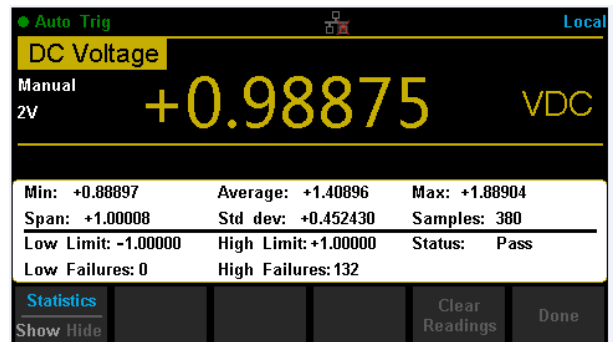
• Trend Chart



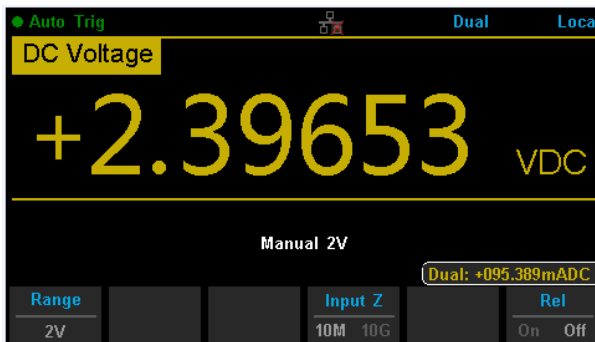
• Bar Chart



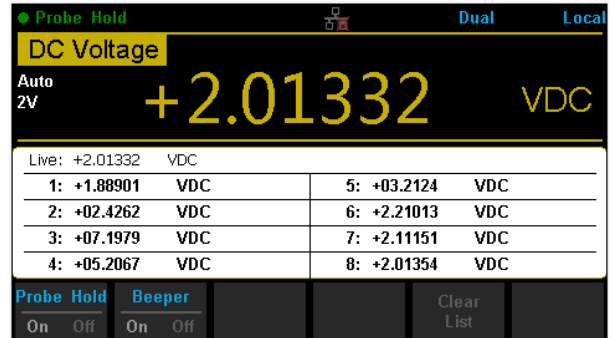
• Statistics



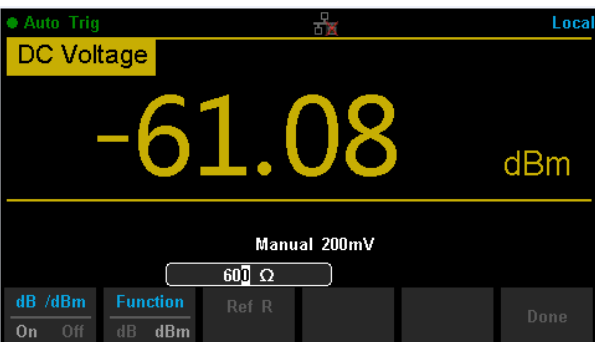
• Dual Display



• Hold Measurement



• dBm Hold Measurement

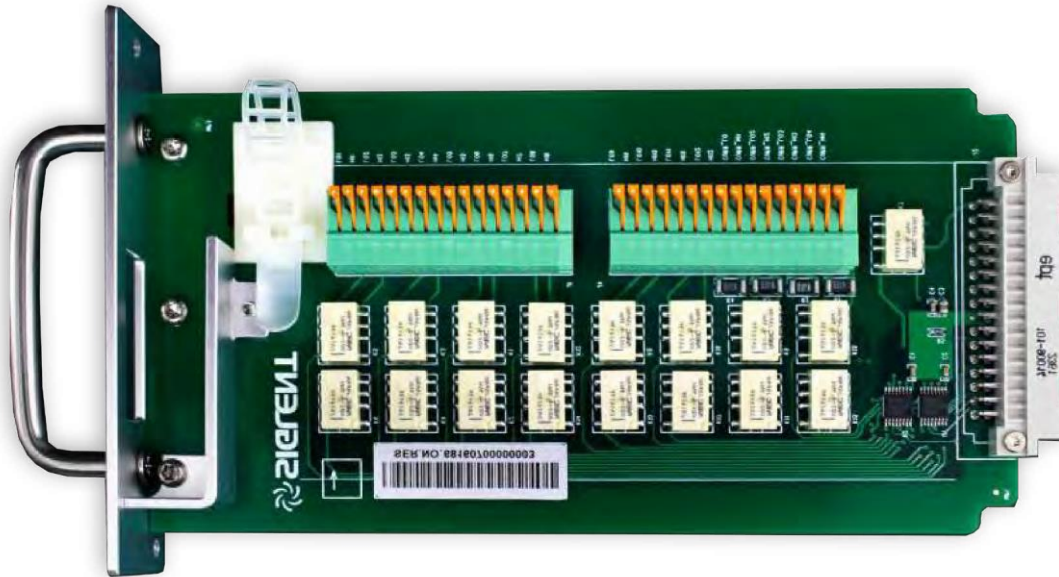


• Interface



Scanner card SC1016 (Only for SDM3055-SC)

The SIGLENT Scanner Card SC1016 is a multiplexer that provides multi-point measurement capabilities to the SDM3055-SC. The scanner features 12 multi-purpose + 4 current channels and supports the following measurement functions: DCV, ACV, DCI, ACI, 2WR, 4WR, CAP, FREQ, DIODE, CONT and TEMP (RTD and Thermocouple). It provides a convenient and versatile solution for test applications that require multiple measurement points or signals and is an ideal tool for R&D burn-in and production testing.



Ordering Information

Standard Accessories	
Power Cord -1	
USB Cable -1	
Quick Start -1	
warranty Card -1	
EasyDMM ^[1]	software
Test Leads and Alligator Clips -2	
Optional Accessories	
USB-GPIB	USB-GPIB adapter

[1]The latest version of EasyDMM can be downloaded for free from the SDM3000 series of digital multimeter. Please see our web site at www.siglent.com for more information.





SDM3045X Digital Multimeter

Application

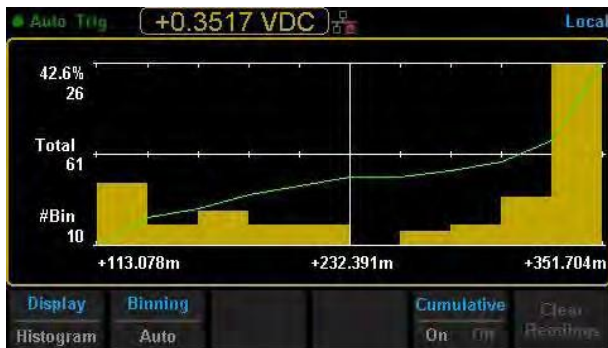
- Research Laboratory
- Development Laboratory
- Detection and Maintenance
- Calibration Laboratory
- Automatic Production Test

Main Features SDM3045X

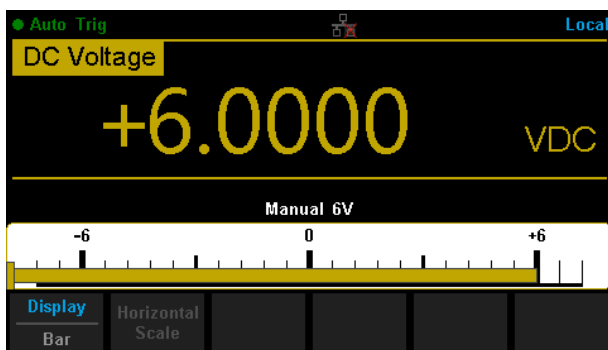
- Real 4½ digit (60000 count) readings resolution
- Up to 150 rdgs/s measurement speed
- True-RMS AC Voltage and AC Current measuring
- 1 Gb NAND flash size, Mass storage configuration files and data files
- Built-in cold terminal compensation for thermocouple
- With easy, convenient and flexible PC software: EasyDMM
- Standard interface: USB Device, USB Host, LAN (Optional Accessories: USB-GPIB Adapter)
- USB & LAN remote interfaces support common SCPI command set. Compatible with other popular DMMs on the market

Special Features

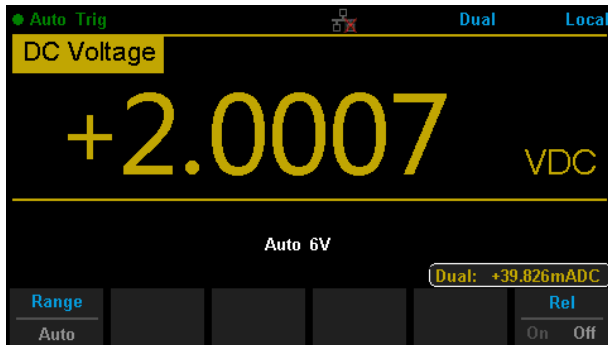
• Histogram



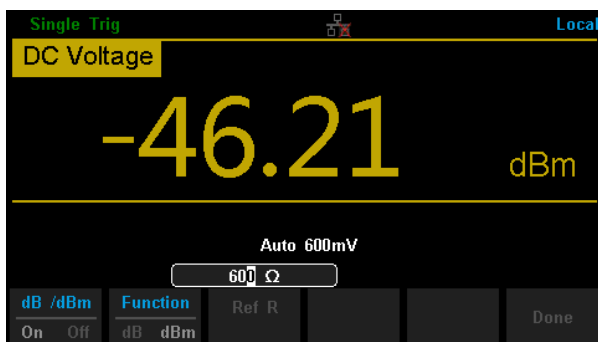
• Bar Chart



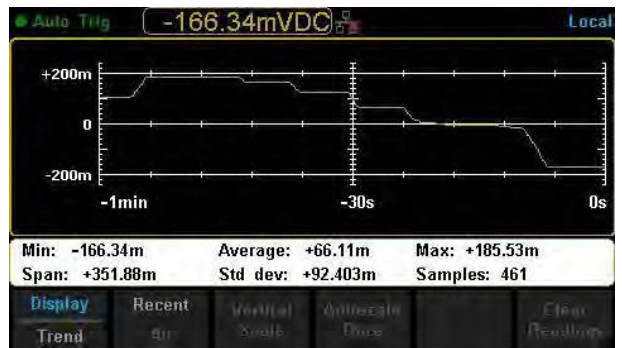
• Dual Display



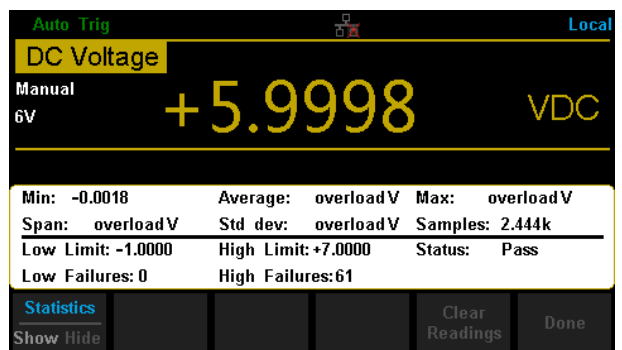
• dBm Hold Measurement



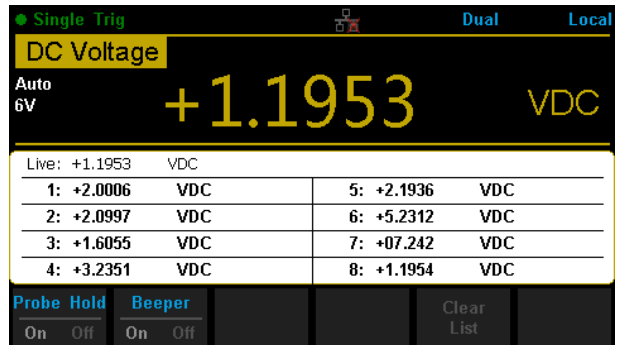
• Trend Chart



• Statistics



• Hold Measurement



• Interface



Ordering Information

Standard Accessories	
Power Cord	-1
USB Cable	-1
Quick Start	-1
warranty Card	-1
EasyDMM ^[1]	software system
Test Leads and Alligator Clips	-2
Optional Accessories	
USB-GPIB adapter	USB-GPIB

[1] The latest version of EasyDMM can be downloaded for free from the SDM3000 series of digital multimeter. Please see our web site at www.siglent.com for more information.





SSA3000X Spectrum Analyzer

Key Features

- All-Digital IF Technology
- Frequency Range from 9 kHz up to 3.2 GHz
- -161 dBm/Hz Displayed Average Noise Level (Typ.)
- -98 dBc/Hz @10 kHz Offset Phase Noise (1 GHz, Typ.)
- Total Amplitude Accuracy < 0.7 dB
- 1 Hz Minimum Resolution Bandwidth (RBW)
- Preamplifier Standard
- Up to 3.2 GHz Tracking Generator Kit
- Reflection Measurement Kit (Opt.)
- Advanced Measurement Kit (Opt.)
- EMI Pre-compliance Measurements Kit (Opt.)
- 10.1 Inch WVGA (1024x600) Display



Automation



Sensors



Industrial
Computers



Data
Acquisition



Test & Measurement
Equipment



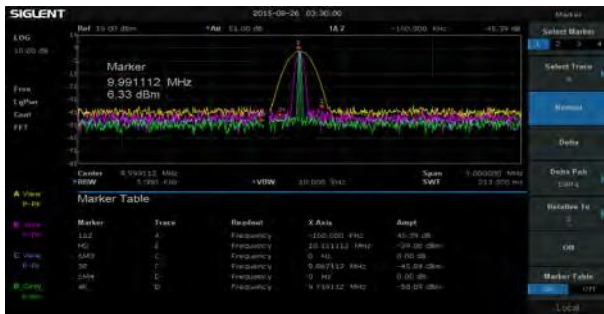
North
America



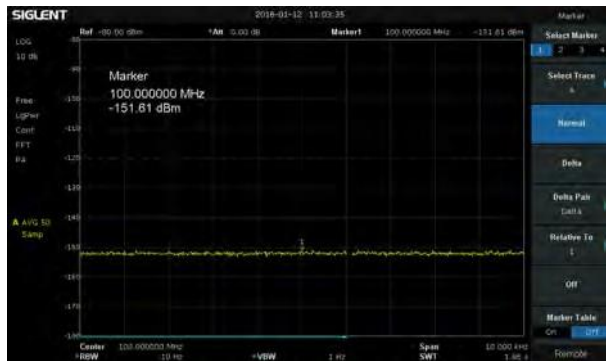
Central and South
America

Characteristics

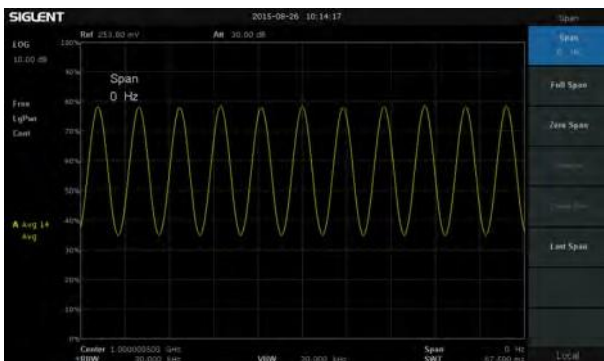
- Support four traces and cursors independently



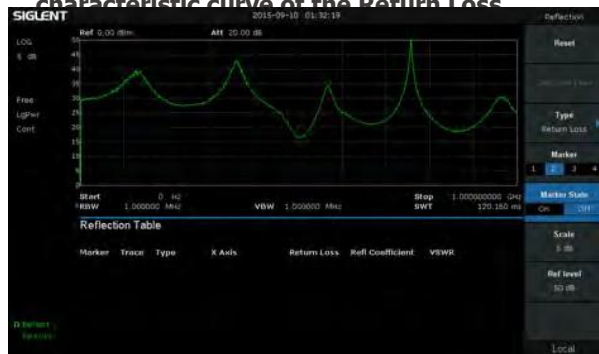
- 151 dBm Displayed Average Noise Level (RBW=10 Hz)



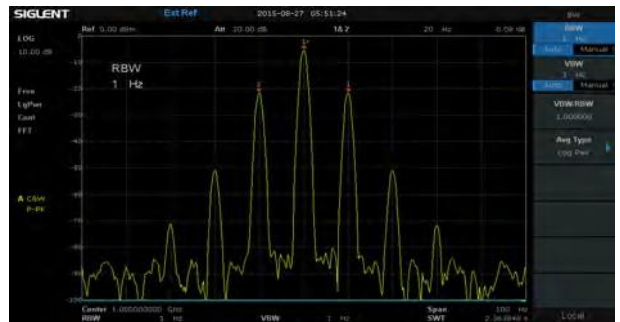
- Demodulation at the zero span



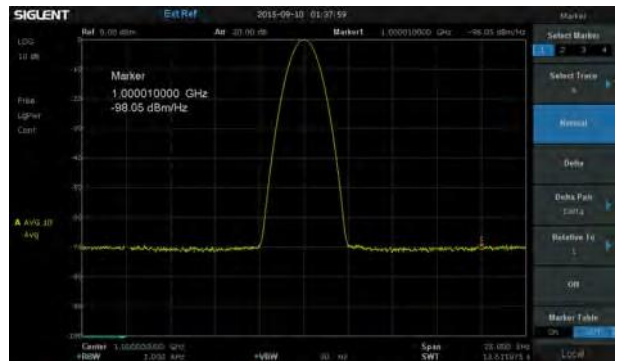
- Reflection measurement, acquire characteristic curve of the Return Loss



- 1 Hz Minimum Resolution Bandwidth (RBW)



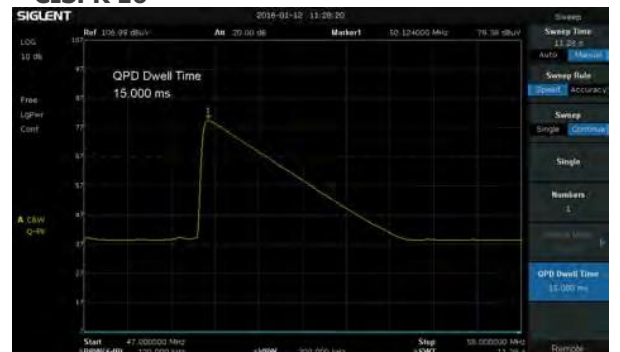
- Phase noise -98 dBc/Hz@1 GHz, offset 10 kHz



- Advanced power measurement, calculate the ACPR parameters



- EMI filter, Quasi-Peak detector following CISPR 16



Specifications

Model	SSA3032X	SSA3021X
Frequency Range	9 kHz~3.2 GHz	9 kHz~2.1 GHz
Resolution Bandwidth	1 Hz~1 MHz, in 1-3-10 sequence	1 Hz~1 MHz, in 1-3-10 sequence
Displayed Average Noise Level	-161 dBm/Hz, Normalize to 1 Hz (typ.)	-161 dBm/Hz, Normalize to 1 Hz (typ.)
Phase Noise	<-98 dBc/Hz@1 GHz, 10 kHz offset	<-98 dBc/Hz@1 GHz, 10 kHz offset
Amplitude Precision	< 0.7 dB	< 0.7 dB

Ordering Information

Product Description	SSA3000X Spectrum Analyzer	Order Number	
Product code	Spectrum Analyzer, 9 kHz~3.2 GHz	SSA3032X	
	Spectrum Analyzer, 9 kHz~2.1 GHz	SSA3021X	
Standard configurations	A Quick Start, A Product Certification, A USB Cable, A Calibration Certificate	QG-SSA3000X	
Utility Options	Tracking Generator Kit (Software)	TG-SSA3000X	
	Advanced Measurement Kit (Software)	AMK-SSA3000X	
	Utility Kit: N (M)-SMA (M) cable N (M)-N (M) cable N (M)-BNC (F) adaptor (2 pcs) N (M)-SMA (F) adaptor (2 pcs) 10 dB attenuator	UKitSSA3X	
	N (M)-SMA (M) cable	N-SMA-6L	
	N (M)-N (M) cable	N-N-6L	
	N (M)-BNC (M) cable	N-BNC-2L	
	Soft carrying bag	BAG-SCC	
	EMI Options	EMI Measurement Kit: EMI Filter and Quasi Peak Detector, EMI test option in EasySpectrum Software	EMI-SSA3000X
		Near Field Probe:H field probe sets (25 mm, 10 mm, 5 mm, 2mm), 30 MHz~3.0 GHz	SRF5030
		Near Field Probe:H field probe sets (20 mm, 10 mm, 5 mm) , E field probe (5 mm), 300 kHz~3.0 GHz	SRF5030-T
Reflect Measurement Options	Tracking Generator Kit (Software)	TG-SSA3000X	
	Reflect Measurement Kit (Software)	Refl-SSA3000X	
	VSWR Bridge Kit: including Refl-SSA3000X VSWR Bridge(1 MHz~2 GHz) N(M)-N(M) adaptor(2 pcs)	RBSSA3X20	



Automation



Sensors



Industrial
Computers



Data
Acquisition



Test & Measurement
Equipment



North
America



Central and South
America



SVA1000X Spectrum & Vector Analyzer

Features and Benefits

- All-Digital IF Technology
- Frequency Range from 9 kHz up to 1.5 GHz
- -156 dBm/Hz Displayed Average Noise Level (Typ.)
- -99 dBc/Hz @10 kHz Offset Phase Noise (1 GHz, Typ.)
- Level Measurement Uncertainty < 1.2 dB (Typ.)
- 1 Hz Minimum Resolution Bandwidth (RBW)
- Pre-amplifier Standard
- Tracking Generator Standard
- Vector Network Analysis (Opt.)
- Distance To Fault (Opt.)
- Digital Modulation Analysis (Opt.)
- EMI Pre-compliance Test Kit (Opt.)
- Advanced Measurement Kit (Opt.)
- 10.1 Inch (1024x600) Multi-Touch Screen, Mouse and Keyboard supported
- Web Browser Remote Control on PC and Mobile Terminals

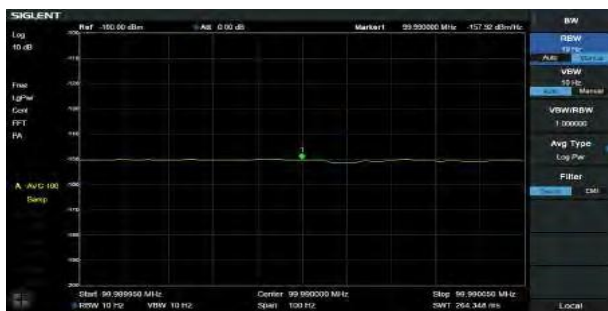


Design features

- 10.1 Inch (1024x600) Touch Screen



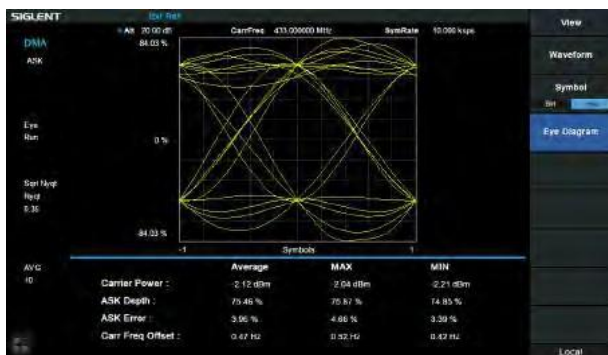
- -156 dBm Displayed Average Noise Level



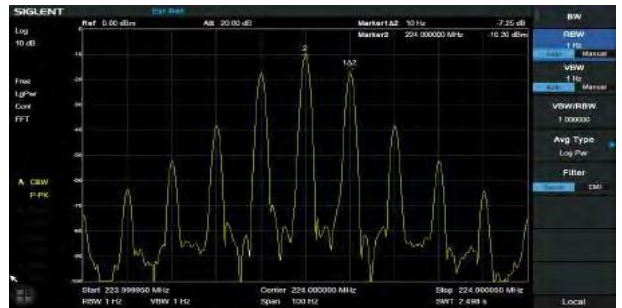
- Vector Network Analysis Mode



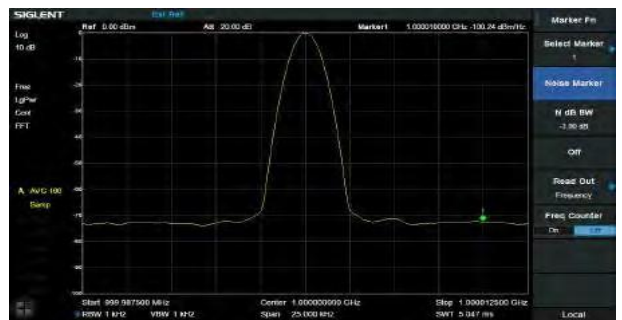
- ASK/FSK Digital Modulation Analysis Mode



- Minimum 1 Hz Resolution Bandwidth (RBW)



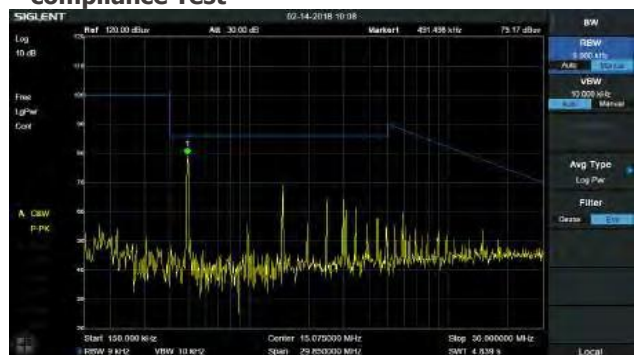
- Phase noise <math>< -99 \text{ dBc/Hz}</math>@1 GHz, offset 10 kHz



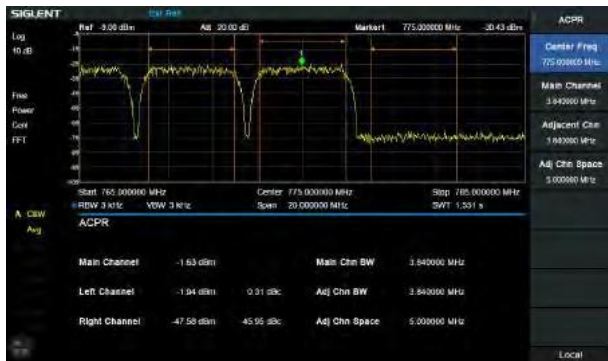
- Distance to Fault Mode



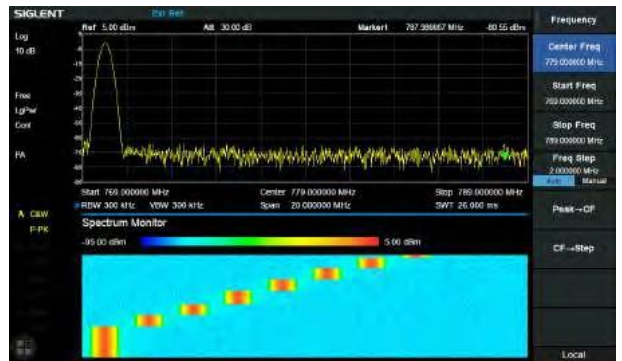
- EMI filter and Quasi-peak Detector for EMI Pre-compliance Test



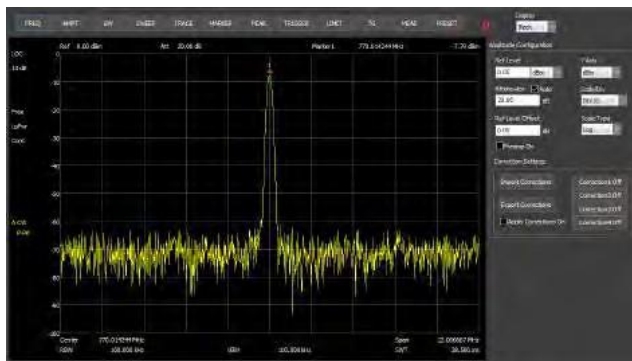
• Advanced Measurement Kit



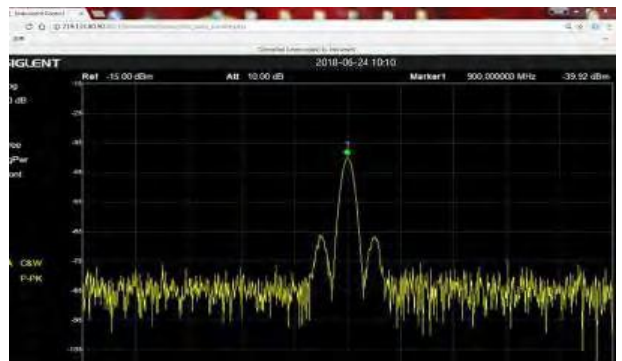
• Spectrum Monitor in Advanced Measurement Kit



• Easy Spectrum^T Software for Free



• Remote Control on Web Browser



Model and Main index

Model	SVA1015X
Frequency Range	9 kHz~1.5 GHz
Resolution Bandwidth	1 Hz~1 MHz
Displayed Average Noise Level	-156 dBm/Hz
Phase Noise	<-99 dBc/Hz@1 GHz, 10 kHz offset
Total Amplitude Precision	≤ 1.2 dB
Touch Screen	Available
Tracking Generator	Standard
Vector Network Analysis	S11, S21
Distance To Fault	10 MHz-1.5 GHz
Modulation Analysis	AM, FM, ASK, FSK
Advanced Measurement Kit	CHP, ACPR, OBW, TOI, Monitor
EMI Pre-compliance Test Kit	EMI Filter and Quasi-Peak Detector, Easy Spectrum software
Communication Interface	LAN, USB Device, USB Host(USB-GPIB)
Remote Control Capability	SCPI / Labview / IVI , based on USB-TMC / VXI-11 / Socket / Telnet
Remote Controller	Easy Spectrum software, Web Browser

Ordering Information

Product Description	SVA1000X	Order Number
Product Code	Spectrum & Vector Analyzer, 9 kHz~1.5 GHz	SVA1015X
Standard configurations	Quick Start, USB Cable, Power Cord	
Utility Options	Advanced Measurement Kit	SVA1000X-AMK
	Utility Kit: N(M)-SMA(M) cable N(M)-N(M) cable N(M)-BNC(F) adaptor(2 pcs) N(M)-SMA(F) adaptor(2 pcs) 10 dB attenuator	UKitSSA3X
	N(M)-SMA(M) cable, 70cm, 6 GHz	N-SMA-6L
	N(M)-N(M) cable, 70cm, 6 GHz	N-N-6L
	N(M)-BNC(M) cable, 70cm, 2 GHz	N-BNC-2L
	USB-GPIB Adaptor	USB-GPIB
	Soft carrying bag	BAG-SCC
EMI Options	EMI Measurement Kit: EMI Filter and Quasi Peak Detector, EMI test option in EasySpectrum Software	SVA1000X-EMI
	Near Field Probe Kit SRF5030: 4 H-probes (25 mm, 10 mm, 5 mm, 2mm), 30 MHz~3 GHz	SRF5030
	Near Field Probe Kit SRF5030T: 3 H- probes (20 mm, 10 mm, 5 mm), 1 E-probes (5 mm), 300 kHz~3 GHz	SRF5030T
Vector Network Analysis Options (for SVA model)	Vector Network Analysis	SVA1000X-VNA
	Distance To Fault	SVA1000X-DTF
	Mechanical Calibration Kit: Open(M), Short(M), Match(M,50), Through(F-F), 50 Ω, 4 GHz	F503ME
Modulation Analysis Options	ASK, FSK	SVA1000X-DMA
	AM, FM	SVA1000X-AMA



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SHS1000 Handheld Digital Oscilloscope

Application

- Embedded electronic circuit design and test
- Mechanical and electrical products design and analysis
- Manufacturing and circuit function test
- Differential signal analysis
- Floating signal measurements

Key Features

- Combines the functions of oscilloscope, multimeter and recorder in one
- Isolated oscilloscope channels, isolation level: CAT II 1000 V and CAT III 600 V
- 60 MHz/100 MHz bandwidth, 1 G sampling rate, 2 M memory depth, 7 M recording length
- Built-in lithium battery
- 5.7 inch color TFT-LCD

Specification

Model	SHS1102	SHS1062
Bandwidth	100 MHz	60 MHz
Rise time	≤3.5 ns	≤5.8 ns
Real time sampling rate	1 GSa/s	
Equivalent sampling rate	50 GSa/s	
Vertical sensitivity	5 mV – 100 V/div	
Time base range	2.5 ns – 50 ns/div Scan:100 ms – 50 s/div	5 ns – 50 s/div
Memory depth	2 Mpts	
Triggering	Edge, Pulse, Video, Slope, Alternative	
Vertical resolution	8 bit	
Triggering frequency counter	6 digits	
Data recorder	7 M points	
Trend plot	800 K/CH	
Interface	USB Device, USB Host	
Math operation	+, -, *, /, FFT	

Multimeter Specification

Maximum resolution	6000 Counts	
Item	Range	Accuracy
DC voltage	60 mV	±1%±15 digit
	600 mV – 1000 V	±1%±5 digit
AC voltage	60 mV	±1%±15 digit
	600 mV – 750 V	±1%±5 digit
DC current	60 mA – 600 mA	±1%±5 digit
	6 A – 10 A	±1.5%±5 digit
AC current	60 mA – 600 mA	±1%±5 digit
	6 A – 10 A	±1.5%±5 digit
Capacitance	40 nF	±3%±10 digit
	400 nF – 400 uF	±4%±5 digit
Resistance	600 Ω-60 MΩ	±1%±5 digit
Continuity	<50 Ω Buzzer sounds	
Diode	0 V – 2 V	
Trend plot	1.2 M points	
Measuring mode	Manual/Auto	



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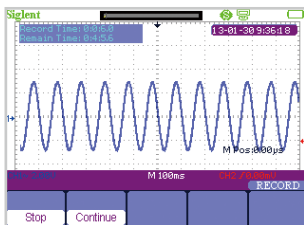
Isolation Level

Max input Voltage	
Input by input port directly	CATII 300 V
Input by 10: 1 probe	CATII 1000 V, CAT III 600 V
The Max input voltage of Multimeter	DC 1000 V, AC 750 V
Max floating voltage	
Float voltage between BNC reference and earth ground	CATII 1000 V, CAT III 600 V
Float voltage between BNC reference	CATII 1000 V, CAT III 600 V
Float voltage between multimeter reference and earth ground	CATII 600 V, CAT III 300 V

Security: Isolated Handheld Digital Oscilloscope should be designed according to the standard of level II and pollution degree level II which apply to measure 1000 V. Or according to the standard of level III and pollution degree level III which apply to measure 600 V

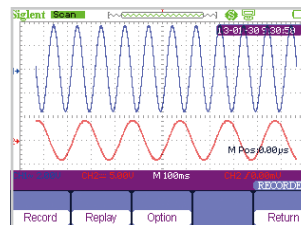
Multimeter Specification

Display	5.7 inch color TFT-LCD, 320*234
Power supply	With battery or apply DC adapter to get power from outside
Power mode	Lithium battery: 7.4 V 4500 mAh, Battery persisting > 4 hours DC adapter: 100-240 V 50/60 Hz input 9 V 4 A output
Net Weight	1.5 Kg
Dimension	259.5 mm*163.2 mm*53.3 mm
Accessories	Two Passive Probes, Multimeter pen, USB data cable, DC adapter, Manual, Toolbox



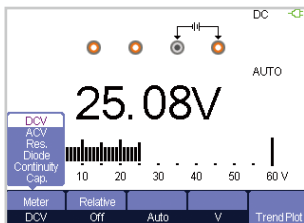
High-performance oscilloscope

- Bandwidth: 100 MHz, 60 MHz
- Real-time sampling rate: 1 GSa/s
- Memory depth: 2 Mpts.



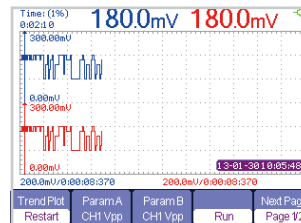
Data recorder function

- 7 M internal storage, up to 18 hours recording time
- USB port, up to 3000 hours recording time
- Record, replay function supported



High precision multimeter

- 6000 counts display
- Accurate measurement of DCV, ACV, DCI, ACI
- Accurate measurement of Resistance, Diode, Capacitance, Continuity



Trend Plot

- 32 measurement trend plot analyzer
- Scope: 800 k/CH points capacity, more than 24 hours recording
- Meter: 1.2 M points capacity 6000 hours recording time at 0.05 Sa/s

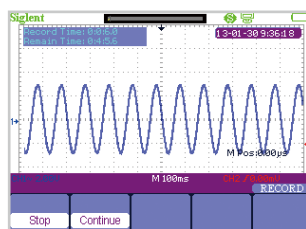




SHS800 Handheld Digital Oscilloscope

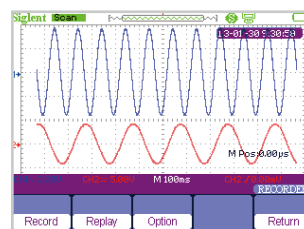
Application

- Automotive electronics, electric automobile test
- Power system strong electricity test
- Plant automation control system



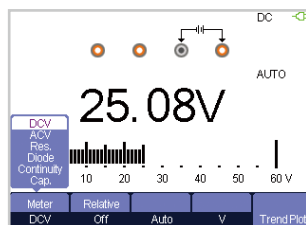
High-performance oscilloscope

- Bandwidth:100 MHz,60 MHz
- Real-time sampling rate:1 GSa/s
- Memory depth:2 Mpts



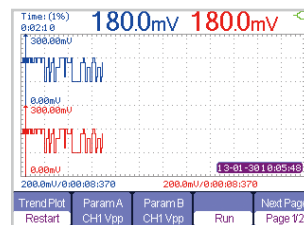
Data recorder function

- 7 M internal storage, up to 18 hours recording time
- USB port, up to 3000 hours recording time
- Record, replay function supported



High precision multimeter

- 6000 counts display
- Accurate measurement of DCV, ACV, DCI, ACI
- Accurate measurement of Resistance, Diode, Capacitance, Continuity



Trend Plot

- 32 measurement trend plot analyzer
- Scope: 800 k/CH points capacity, more than 24 hours recording
- Meter: 1.2 M points capacity 6000 hours recording time at 0.05 Sa/s



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Oscilloscope Specification

Model	SHS820	SHS810	SHS806
Bandwidth	200 MHz	100 MHz	60 MHz
Rise time	≤1.75 ns	≤3.5 ns	≤5.8 ns
Real time sampling rate	500 MSa/s	1 GSa/s	
Equivalent sampling rate	50 GSa/s		
Vertical sensitivity	2 mV – 100 V/div		
Time base range	2.5 ns – 50 ns/div Scan: 100 ms – 50 s/div		5 ns – 50 s/div
Memory depth	32 Kpts	2 Mpts	
Triggering	Edge, Pulse, Video, Slope, Alternative		
Vertical resolution	8 bit		
Triggering frequency counter	6 digits		
Data Recorder	7 M points		
Trend plot	800 K/CH		
Interface	USB Device, USB Host		
Math operation	+, -, *, /, FFT		

Multimeter Specification

Maximum resolution	6000 Counts	
Item	Range	Accuracy
DC Voltage	60 mv	±1%±15 digit
	60 mv – 1000 v	±1%±5 digit
AC Voltage	60 mv	±1%±15 digit
	600 mV – 750 V	±1%±5 digit
DC Current	60 mA	±1%±5 digit
	6 A – 10 A	±1.5%±5 digit
AC Current	60 mA	±1%±5 digit
	6 A – 10 A	±1.5%±5 digit
Capacitance	40 nF	±3%±10 digit
	400 nF – 400 µF	±4%±5 digit
Resistance	600 Ω – 60 MΩ	±1%±5 digit
Continuity	<50 Ω Buzzer sounds	
Diode	0 V – 2 V	
Trend plot	1.2 M points	
Measuring mode	Manual/Auto	

General Feature

Display	5.7 inch color TFT-LCD, 320*234
Power supply	Charging/Battery
Power mode	Lithium battery: 7.4 V 5000 mAh, Battery lasts >5 hours; DC adapter, 100-240 V 50/60 Hz input, 9 V 4 A output
Net weight	1.5 Kg
Dimension	259.5 mm*163.2 mm*53.3 mm
Accessories	Two passive probes, multimeter pen, USB data cable, DC adapter, manual

Probes and Accessories

Type	Model	Picture	Specifications
Passive Probe	PB470 PP510 PP215 PP430		PB470, 70 MHz bandwidth PP510, 100 MHz bandwidth PP215, 200 MHz bandwidth PP430, 300 MHz bandwidth 1 X/10 X decay, 1 M/10 Mohm, 300 V/600 V
	PB925		Bandwidth 250 MHz, fixed 10X decay, the rise time of about 1.2 ns, input capacitance: 16 pF, compensation range: 10 pF-35 pF, input impedance 10 MΩ, length 120 cm, safe voltage levels: CAT II 1000 V, CAT III 600 V
	PB830		Bandwidth 300 MHz, fixed 10 X decay, the rise time of about 1 ns, input capacitance: 16 pF, compensation range: 10 pF-20 pF, input impedance 10 MΩ, length 140 cm, safe voltage levels: CAT II 1000 V, CAT III 600 V
Current Probe	CP4020		Bandwidth : 100 KHz; Maximum continuous current 20 Arms; Peak current 60 A; Switching ratio: 50 mV/A; 5 mV/A; DC measurement accuracy: 50 mV/A (0.4 A-10 ApK) ± 2%; 5 mV/A (1 A-60 ApK)±2%; 9 V battery-powered
	CP4050		Bandwidth: 1 MHz; Maximum continuous current 50 Arms; Peak current 140 A; Switching ratio: 500 mV/A; 50 mV/A; DC measurement accuracy: 500 mV/A (20 mA-14 ApK) ±3%±20 mA; 50 mV/A (200 mA-100 ApK)±4%± 200 mA; 50 mV/A (100 A-140 ApK)±15% max; 9V battery-powered
	CP4070		Bandwidth: 150 KHz; Maximum continuous current 70 Arms; Peak current 200 A; Switching ratio: 50 mV/A; 5 mV/A; DC measurement accuracy: 50 mV/A (0.4 A-10 ApK) ±2%, 5 mV/A (1 A-200 ApK)±2%;9 V battery-powered
	CP4070A		Bandwidth: 300 KHz; Maximum continuous current 70 Arms; Peak current 200 A; Switching ratio : 100 mV/A;10 mV/A; DC measurement accuracy : 100 mV/A (50 mA-10 ApK) ±3%±50 mA; 10 mV/A (500 mA-40 ApK) ±4%±50 mA; 10 mV/A (40 A-200 ApK) ±15% max; 9 V battery-powered
	CP5030		Bandwidth: 50 MHz; Maximum continuous current 30 Arms; Peak current 50 A; Switching ratio: 100 mV/A; 1 V/A; AC/DC measurement accuracy: 1 A (±1%±1 mA); 100 mV/A (±1%±10 mA); Standard DC 12 V/1.2 A power adapter





















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Type	Model	Picture	Specifications
Current Probe	CP5030A		Bandwidth: 100 MHz; Maximum continuous current 30 Arms; Peak current 50 A; Switching ratio: 100 mV/A; 1 V/A; AC/DC measurement accuracy: 1 A ($\pm 1\% \pm 1$ mA); 100 mV/A ($\pm 1\% \pm 10$ mA); Standard DC 12 V/ 1.2 A power adapter
	CP5150		Bandwidth: 12 MHz; Maximum continuous current 150 Arms; Peak current 300 A; Switching ratio: 100 mV/A; 1 V/A; AC/DC measurement accuracy: 100 mV/A ($\pm 1\% \pm 1$ mA); 10 mV/A ($\pm 1\% \pm 10$ mA); Standard DC 12 V/1.2 A power adapter
	CP5500		Bandwidth: 5 MHz; Maximum continuous current 500 Arms; Peak current 750 A; Switching ratio: 100 mV/A; 10 mV/A; AC/DC measurement accuracy: 100 mV/A ($\pm 1\% \pm 1$ mA); 10 mV/A ($\pm 1\% \pm 10$ mA); Standard DC 12 V/1.2 A power adapter
High Voltage Differential Probe	DPB4080		Bandwidth: 50 MHz; Maximum input differential voltage 800 V (DC + Peak AC); Range selection (attenuation ratio): 10 X/100 X; Accuracy: $\pm 1\%$; Standard DC 9 V/1 A power adapter
	DPB5150		Bandwidth: 70 MHz; Maximum input differential voltage 1500 V (DC + Peak AC); Range selection (attenuation ratio): 50 X/500 X; Accuracy: $\pm 2\%$; Standard 5 V/ 1 A USB power adapter
	DPB5150A		Bandwidth: 100 MHz; Maximum input differential voltage 1500 V (DC + Peak AC); Range selection (attenuation ratio): 50 X/500 X; Accuracy: $\pm 2\%$; Standard 5 V/ 1 A USB power adapter
	DPB5700		Bandwidth: 70 MHz; Maximum input differential voltage 7000 V (DC + Peak AC); Range selection (attenuation ratio): 100 X/1000 X; Accuracy: $\pm 2\%$; Standard 5 V/1 A USB power adapter
	DPB5700A		Bandwidth: 100 MHz; Maximum input differential voltage 7000 V (DC + Peak AC); Range selection (attenuation ratio): 100 X/1000 X; Accuracy: $\pm 2\%$; Standard 5 V/1 A USB power adapter
High Voltage Probe	HPB4010		Bandwidth: 40 MHz; Maximum measurement voltage DC: 10 KV; AC(rms): 7 KV (sine); AC (Vpp): 20 KV (Pulse); attenuation ratio: 1:1000; Accuracy: $\leq 3\%$

Type	Model	Picture	Specifications
Logic Probe	SPL1016		Logic Probe for SDS1000X+ series, 16-channel, 500 MSa/s
	SPL2016		Logic Probe for SDS2000X series , 16-channel, 500 MSa/s
Near-field Probe	SRF5030		Near Field Probe:H field probe sets (25 mm, 10 mm, 5 mm, 2mm), 30 MHz~3.0 GHz; distinguished within 10 cm range of the magnetic field; for EMI radiation interference and the intensity detector
	SRF5030T		Near Field Probe: H field probe sets (20 mm, 10 mm, 5 mm) , E field probe (5 mm), 300 kHz~3.0 GHz; distinguished within 10 cm range of the magnetic field; for EMI radiation interference and the intensity detector
Isolated Front End	ISFE		Realize isolation among ordinary oscilloscope channels, isolation between the measured signal and ground, use USB 5 V power supply, plug and play, the maximum input voltage of up to ± 600 Vpk
GPIB	USB-GPIB		The USB Device interface extends into the GPIB interface, USB-GPIB adapter can more easily complete the task of the operation command through the GPIB, USB follow the USB2.0 specification, GPIB follow the IEEE488.2 standard
Demo Board (STB Test Board)	STB-3		Output signals include square waves, sine, AM, pulse, PWM, fast edge, I2C, CAN, LIN signal etc
Deskew Fixture	DF2001A		Supporting power analysis software for calibration phase voltage and current probes generated during transmission
Cable	N-BNC-2L		N-BNC cable for SSA3000X Series; 2 GHz bandwidth



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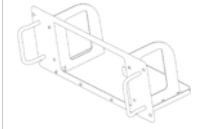
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Type	Model	Picture	Specifications
Cable	N-N-6L		N-N cable for SSA3000X Series; 6 GHz bandwidth
	N-SMA-6L		N-SMA cable for SSA3000X Series; 6 GHz bandwidth
Reflection Bridge	RBSSA3X20		VSWR Bridge Kit for SSA3000X Series: Including Refl-SSA3000X (Software) VSWR Bridge (1 MHz ~ 2 GHz) N(M)-N(M) adapter (2 pcs)
SSA3000X Utility Kit	UKitSSA3X		Utility Kit for SSA3000X Series: N (M) -SMA (M) cable, N (M) -N (M) cable, N (M) -BNC (F) adaptor (2 pcs), N (M) -SMA (F) adaptor (2 pcs), 10 dB attenuator
Logic Analyzer	SLA1016		16 logic analyzer hardware module, suitable for SDS1000X-E 4 channel series oscilloscope
WIFI Adapter	TL_WN725N		usb-wifi adapter, suitable for SDS1000X-E 4 channel series oscilloscope
USB AWG Module	SAG1021		Output Sine, Square, Ramp, pulse, Noise, DC and 45 built-in waveforms.The arbitrary waveforms can be accessed and edited by the EasyWave PC software
Rack Mount	SDS1X-E-RMK		The height is 4U, suitable for SDS1000X-E oscilloscope