GDS-2000A 300/200/100/70 MHz DSO New Product Announcement

The GDS-2000A Series Digital Storage Oscilloscope offers 2 and 4-channel configurations and wide bandwidth selections, including 300MHz, 200MHz, 100MHz and 70MHz. Each model provides 2GSa/s maximum real-time sampling rate, 2Mega point maximum record length and 100GSa/s high-speed equivalent-time sampling rate. Equipped with an 8-inch 800*600 high-resolution TFT LCD display, 1mV/div to 10V/div vertical range and 1ns/div to 100s/div time base, the GDS-2000A series is able to faithfully demonstrate waveforms of complicated and obscure signals.

The waveform update rate of 80,000 wfm/s enables users to accurately acquire and examine inrush signals and elusive glitches without missing any detail. Attributed to the advanced signal processing technique, VPO (Visual Persistence Oscilloscope), the grayscale display of waveforms shown on GDS-2000A distinguishes the signals from one another according to their occurrence frequencies respectively.

The GDS-2000A series provides 2Mega point record length with Waveform Search and Segmented Memory functions, which greatly enhance the value of long memory utilization of a DSO. The modularized functions of Logic Analyzer and Function Generator broaden the application range and offer the flexibility for users to upgrade the GDS-2000A afterwards without being stuck in the selection of either a DSO or a MSO at the time of purchase.

Segmented Memory Function

To fully utilize the overall memory, the Segmented Memory function allows GDS-2000A to acquire triggered waveforms with a user-defined number of memory segments, which can be set to 2048 number as the maximum. This enables the longer time storage and observation of the needed waveforms while ignores the irrelevant waveforms to elevate the efficiency of memory use. After saving the waveforms, the user can recall every segment of waveform one by one to look into its details
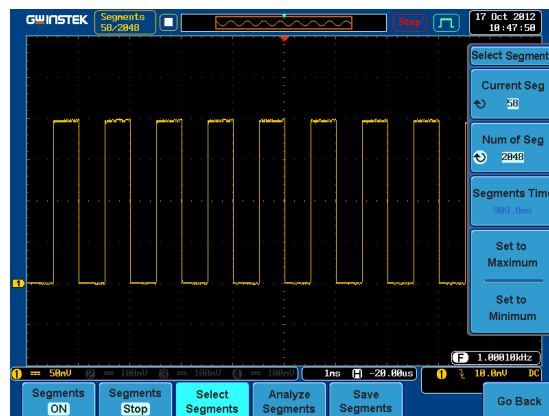
Incorporating with Auto Measurement function, the Segmented Memory function also provides a statistics bar-chart for the measurement data of all the waveforms acquired in the memory segments. User can choose a parameter from Auto Measurement list then acquire waveforms under Segmented Memory mode to get the statistics bar-chart, which shows the distribution of all the measurement readings between the highest and the lowest values by a number of bars up to 20. A Measurement List is also available under Segmented Memory mode to show the measurement data, up to 8 parameters, of all the waveforms in the memory segments.

Search Function

To find the parts of waveforms of interest from a long memory is sometimes a tedious task. With Search function, however, the user can define the search condition by a waveform shape or a digital event to quickly locate and mark the parts of waveforms, which comply with the search condition, from the whole memory. The search condition selections include Edge, Pulse Width, Runt, Rise and Fall Times of the waveform, and Logic and Bus triggers, if the Logic Analyzer option is installed.
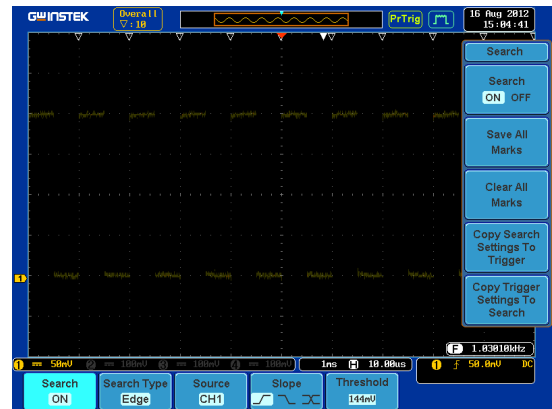
The search condition setting is similar to the waveform or digital trigger setting. The only difference is that the search function uses threshold levels instead of trigger levels to determine the events. The Zoom function allows user to expand the waveform and view the details within the long memory. Collaborating with Zoom function, the Play/Pause function of GDS-2000A automatically scrolls the displayed waveform horizontally to help user navigate all the waveform details as needed rapidly.
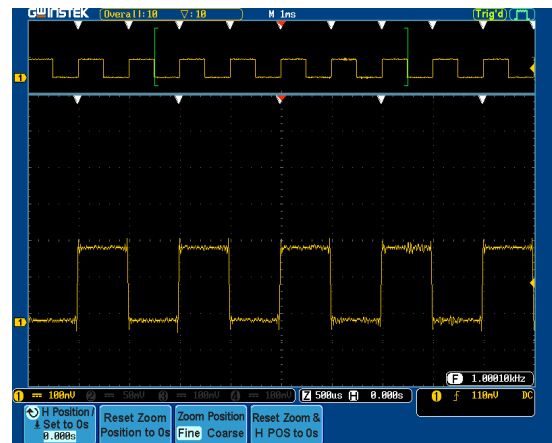
Logic Analyzer Module

The GDS-2000A series provides the flexibility of easy conversion from a DSO into a MSO (Mixed Signal Oscilloscope) under a plug-and-play concept.

As two plug-in compartments are available at the rear panel to accommodate various plug-in modules, the GDS-2000A series DSO with an 8 or 16 digital channels module performs MSO functions perfectly at the user's installation of the module. The analysis and decoding functions of parallel bus and serial bus such as I^{2}C, SPI, and UART are supported after the module is installed.

Function Generator Module

The plug-in module of DDS (Direct Digital Synthesis) based function generator is provided as an option of the GDS-2000A series. The function generator, with 3MHz bandwidth, is able to generate Sine, Triangle and Square waveforms, with variable duty cycle of the square waveform. Two function generators can be used at the same time to provide dual output signals. With the stimulus source, the verification of electrical characteristics and functionality of the DUT can be done in one DSO.

Modularized Structure

Besides Logic Analyzer and Function Generator modules, the GDS-2000A series also provides optional LAN/SVGA Interfaces module and GPIB interface module for user's selection. The Modularized Structure offers a dramatic elasticity allowing user to upgrade the DSO with field-installable options after the purchase of the main body. Two modules can be used simultaneously as the maximum capacity of the GDS-2000A options, which include: (1) 8-Channel Logic Analyzer (2) 16-Channel Logic Analyzer (3) DDS Function Generator (4) LAN/SVGA Output (5) GPIB Interface.

Advanced Features

The GDS-2000A series is equipped with all the features a high-tech DSO should have today. The 1mV/div vertical sensibility and the 1ns/div time base extend the measurement range to the smaller and faster signals. The abundant trigger functions, including Edge, Pulse Width, Runt, Rise/Fall Time, Video, Alternate, Event-Delay,
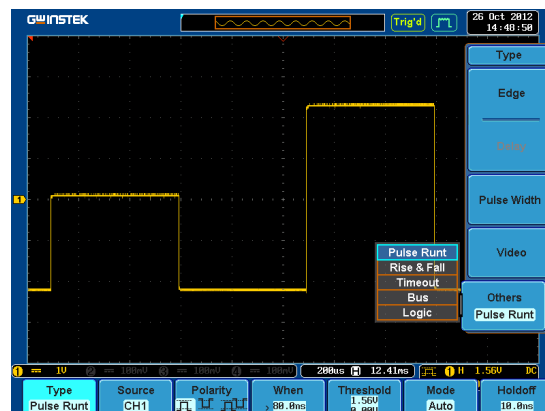
Time Delay, Bus and Logic triggers, enable the waveform capture under various test circumstances. The advanced Math functions allow the user to do post-acquisition signal processions to meet the requirements of particular tasks. The FFT and XY functions provide users with powerful tools in the applications beyond time domain measurements.

A DSO of High Customer Value

With 2GSa/s maximum real-time sampling rate, 2Mega point maximum record length, Segmented Memory acquisition function, Waveform Search function, modularized Logic Analyzer and Function Generator and RS-232, USB, LAN/SVGA and GPIB interfaces, the GDS-2000A series is developed to fit the requirements of embedded system design, general industrial applications and high-end educations. Containing all the modern features in one product, the GDS-2000A series is among the top-ranked DSO with highest customer value in all equivalent products available in the field.

GDS-2000A Features and Functions

Key Performance Specifications
- 300MHz/200MHz/100MHz/70MHz Bandwidth Range
- 2GSa/s Real-time Sampling Rate and 2Mega Point Memory Depth for Half-channel applications
- 1GSa/s Real-time Sampling Rate and 1Mega Point Memory Depth for all Channels
- 100GSa/s Equivalent Time Sampling Rate
- 1mV /div to 10V/div of Vertical Range
- 1ns/div to 100s/div of Time Base Range
- 80,000 wfm/s of Waveform Update Rate
- 8 inch 800*600 High Resolution TFT LCD Display

Rich Features for Signal Analysis and System Debug
- Segmented Memory and Waveform Search Functions as Standard Functions to Optimize the Utilization of Long Memory Length
- Abundant Trigger Functions to Capture Demanded Signals
- Play/Pause and Zoom Window to Rapidly Navigate the Waveform details
- 36 Automatic Measurement Functions offer Direct Measurement Readings
- FFT Computing Provides the Frequency Domain Analysis

Communication Interfaces and I/O
- USB and RS232 as standard interfaces
- SVGA/LAN and GPIB as optional interfaces

Ease of Installation and Operation of Optional Functions

● A Front-Panel Button for the Operation Selections of Optional Functions

● Optional plug-ins for 8 or 16 Digital Channels as the MSO upgrade

● Optional plug-in for Function Generator module

● Optional plug-ins for GPIB and LAN/SVGA Communication Interfaces

Note: The Function Generator option and GPIB option will be available in late first Quarter 2013

Service Policy

1. **3 year warranty.** The GDS-2000A Series Oscilloscope with SMD design is a highly reliable product that carries a 3-year warranty, except the LCD Display panel which, carries 1 year warranty.

2. **Service Support.** The service support will be provided by Instek America for Contiguous United States area. Please refer to warranty policy for details.

3. **Firmware upgrade through Website**. GW Instek continues to provide the after sales support through its website. The most updated version of firmware and PC software of GDS-2000A series will be posted on the distributor zone of GW Instek Website at http://www.gwinstek.com for free download via USB Flash Drive.

Please do not hesitate to contact us if you have any queries on the announcement, or product information of GDS-2000A.

Sincerely Yours;

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Specification								
	GDS-2072A	GDS-2074A	GDS-2102A	GDS-2104A	GDS-2202A	GDS-2204A	GDS-2302A	GDS-2304A
Channels	2ch+Ext	4ch+Ext	2ch+Ext	4ch+Ext	2ch+Ext	4ch+Ext	2ch+Ext	4ch+Ext
Bandwidth	DC~70MHz (-3dB)	DC~70MHz (-3dB)	DC~100MHz (-3dB)	DC~100MHz (-3dB)	DC~200MHz (-3dB)	DC~200MHz (-3dB)	DC~300MHz (-3dB)	DC~300MHz (-3dB)
Rise time	5ns	5ns	3.5ns	3.5ns	1.75ns	1.75ns	1.17ns	1.17ns
Bandwidth Limit (-3dB)	20MHz	20MHz	20MHz	20MHz	20M/100MHz	20M/100MHz	20M/100M /200MHz	20M/100M /200MHz

Vertical	
Resolution	8 bit
	:1mV~10V/div
Input Coupling	AC, DC, GND
Input Impedance	1MΩ// 16pF
DC Gain Accuracy	±(3% X |Readout| + 0.1div + 1mV)
Polarity	Normal & Invert
Maximum Input Voltage	300V (DC+AC Peak), CAT I
Offset Position Range	1mV/div ~ 20mV/div : ±0.5V
	50mV/div ~ 200mV/div : ±5V
	500mV/div ~ 5V/div : ±50V
	10V/div : ±500V
Waveform Signal Process	+, -, ×, ÷, FFT, FFTrms,d/dt ,∫dt ,√
	FFT:Spectral magnitude. Set FFT Vertical Scale to Linear RMS or dBV RMS, and FFT Window to Rectangular, Hamming, Hanning, or Blackman-Harris.
Trigger	
Source	CH1 ,CH2, CH3*, CH4*, Line, EXT, D0-D15
	*four channel models only.
Trigger Mode	Auto (supports Roll Mode for 100 ms/div and slower), Normal, Single
Trigger Type	Edge, Pulse Width, Video, Pulse Runt, Rise & Fall, time out , Alternate, Event-Delay(1~65535 events), Time-Delay(10nS~10S), Logic*, Bus* * request DS2-08LA or DS2-16LA option
Holdoff range	10nS to 10S
Coupling	AC,DC,LF rej. ,Hf rej. ,Noise rej.
Sensitivity	DC ~ 100MHz Approx. 1div or 1.0mV
	100MHz ~ 200MHz Approx. 1.5div or 15mV
	200MHz ~ 300MHz Approx. 2div or 20mV
External Trigger	
Range	±15V
Sensitivity	DC ~ 100MHz Approx. 100mV
	100MHz ~ 200MHz Approx. 150mV
	200MHz ~ 300MHz Approx. 150mV
Input Impedance	1MΩ±3// 16pF

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Horizontal	
Time base Range	1ns/div ~ 100s/div (1-2-5 increments)
	ROLL: 100ms/div ~ 100s/div
Pre-trigger	10 div maximum
Post-trigger	1000 div maximum.
Accuracy	±20 ppm over any ≥ 1 ms time interval
Real Time Sample Rate	1CH: 2GSa/s; 2CH: 1GSa/s
ET Sample Rate	100GSa/s maximum for all models
Record Length	1CH: 2Mpts; 2CH: 1Mpts
Acquisition Mode	Normal, Average, Peak Detect, Single
X-Y Mode	
Peak Detection	2nS (typical)
Average	selectable from 2 to 256
X-Axis Input	Channel 1; Channel 3*
	*four channel models only
Y-Axis Input	Channel 2; Channel 4*
	*four channel models only
Phase Shift	±3° at 100kHz
Cursors and Measurement	
Cursors	Amplitude, Time, Gating available
Automatic Measurement	36 sets: Pk-Pk, Max, Min, Amplitude, High, Low, Mean, Cycle Mean, RMS, Cycle RMS, Area, Cycle Area, ROVShoot, FOVShoot, RPREShoot, FPREShoot, Frequency, Period, RiseTime, FallTime, +Width, -Width, Duty Cycle, +Pulses, -Pulses, +Edges, -Edges, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF, Phase
Control Panel Function	Cursors measurement
Auto counter	6 digits, range from 2Hz minimum to the rated bandwidth
Autoset	Single-button, automatic setup of all channels for vertical, horizontal and trigger systems, with undo Autoset
Save Setup	20set
Save Waveform	24set
Display	
TFT LCD Type	8" TFT LCD SVGA color display
Display Resolution	800 horizontal × 600 vertical pixels (SVGA)
Interpolation	Sin(x)/x & Equivalent Time Sampling
Waveform Display	Dots, vectors, variable persistence (16ms~10s), infinite persistence

Waveform Update Rate	80,000 waveforms per second, maximum
Display Graticule	8 x 10 divisions
Interface	
RS232C	DB-9 male connector X1
USB Port	USB 2.0 High-speed host port X2, USB High-speed 2.0 device port X1
Ethernet Port	RJ-45 connector, 10/100Mbps with HP Auto-MDIX (option)
Go-NoGo BNC	5V Max/10mA TTL open collector output
SVGA Video Port	SVGA output (option)
GPIB	GPIB module (option)
Kensington Style Lock	Rear-panel security slot connects to standard Kensington-style lock.
Logic Analyzer (Option)	
Sample Rate	500MSa/s
Bandwidth	200MHz
Record Length	2M max
Input Channels	16 Digital (D15 - D0) or 8 Digital (D7~D0)
Trigger type	Edge, Pattern, Pulse Width, Serial bus (I2C, SPI, UART) ,Parallel bus
Thresholds	Quad-D0~D3, D4~D7,D8~D11* ,D12~D15*(*:DS2-16LA only)
Threshold selections	TTL, CMOS, ECL, PECL, User Defined
User-defined Threshold Range	±10V
Maximum Input Voltage	±40 V
Minimum Voltage Swing	±500 mV
Input Impedance	101KΩ probe loading 8pF
Vertical Resolution	1 bit
Miscellaneous	
Multi-language menu	Available
On-line help	Available
Time clock	Time and Date ,Provide the Date/Time for saved data
Dimensions	380mmX220mmX145mm
Weight	4.2kg

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Ordering Information:

GDS-2072A	70MHz, 2-channel , Visual Persistence DSO
GDS-2074A	70MHz, 4-channel , Visual Persistence DSO
GDS-2102A	100MHz, 2-channel , Visual Persistence DSO
GDS-2104A	100MHz, 4-channel , Visual Persistence DSO
GDS-2202A	200MHz, 2-channel , Visual Persistence DSO
GDS-2204A	200MHz, 4-channel , Visual Persistence DSO
GDS-2302A	300MHz, 2-channel , Visual Persistence DSO
GDS-2304A	300MHz, 4-channel , Visual Persistence DSO

Standard Accessories:

Quick Start Guide x1 , CD User Manual X1 , Power CordX1

GTP-070A-4 : 70MHz (10:1/1:1) Switchable passive probe for GDS-2072A/2074A (one per channel)

GTP-150A-2 :150MHz (10:1/1:1) Switchable passive probe for GDS-2102A/2104A (one per channel)

GTP-250A-2 :250MHz (10:1/1:1) Switchable passive probe for GDS-2202A/2204A (one per channel)

GTP-350A-2 :350MHz (10:1/1:1) Switchable passive probe for GDS-2302A/2304A (one per channel)

Options:

DS2-LAN	Ethernet & SVGA output Module
DS2-GPIB	GPIB Interface Module
DS2-FGN	DDS Function Generator Module
DS2-08LA	8-Channel Logic Analyzer Module
DS2-16LA	16-Channel Logic Analyzer Module

Free Download

PC software   : FreeWave

Driver : USB driver , LabView Driver

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