

## 100MHz/70MHz DIGITAL STORAGE OSCILLOSCOPE



The brand new GDS-1000B Series digital storage oscilloscopes equip with 100MHz, 70MHz and 50MHz bandwidth, 2 or 4 analog input channels (50MHz, 4 channels input only) that provide entry level users with diversified selections. The maximum real time sampling rate can be up to 1GSa/s. The robust functional performance makes the economical oscilloscope more colorful and allows entry level users to sumptuously enjoy the fun and value brought by test and measurement which is precisely the emerging mission of the test and measurement industry that GW Instek works relentlessly to achieve.

10M memory depth for each channel yields exquisite measurement results and allows each retrieved waveform to successfully reveal the details of signal. Engineers are often baffled by failing to retrieve signal details when measuring basic electric circuit signals. Now, GDS-1000B series oscilloscopes, with 10M memory depth for each channel, are capable to uncover all signal details.

7" 800 x 480 WVGA LCD display and the 256 color gradient display function together allow the GDS-1000B Series to distinctly display waveform details in gradients while measuring fast changing analog signals. Additionally, 50,000wfms/s waveform update rate helps engineers clearly understand the gradients of signal variations and easily identify the problem of transient signal variations.

1Mpts FFT signal display makes the frequency domain display function more delicate. Engineers can clearly observe the distributed details of frequency domain signals. Smooth and rapid response can even better locate where the problems are originated. Powerful FFT function realizes high efficient spectrum analysis measurement which is indispensable for technology and education arenas.

The GDS-1000B Series oscilloscopes provide the zero key function for vertical voltage scale adjustment, horizontal time scale adjustment and trigger level adjustment. When processing complicate waveform adjustment and observation, engineers often require the zero key function to start a new measurement, adjust waveform or reset trigger level. The zero key function can reduce time in turning control knobs that is a great benefit for engineers.

## GDS-1000B Series

### FEATURES

- 100/70/50MHz Bandwidth Selections, 2ch or 4ch Input
- 1GSa/s Maximum Sampling Rate
- 10M Maximum Memory Depth For Each Channel
- 7" 800 x 480 WVGA LCD Display
- 256 Color Gradient Display Function to Strengthen Waveform Performance
- 1Mpts FFT Frequency Domain Signal Display
- Zero Key Function For Horizontal Time, Vertical Voltage and Triggering
- Compact And Innovative Exterior Design



Front



Rear Panel

### APPLICATIONS

- Educational Market - General Purpose Instruction
- Industrial Sector - Fundamental R&D Measurement Applications

## SPECIFICATIONS

		GDS-1054B	GDS-1072B	GDS-1074B	GDS-1102B	GDS-1104B
VERTICAL	Channels	4	2 + Ext	4	2 + Ext	4
	Bandwidth	DC~50MHz(-3dB)	DC~70MHz(-3dB)	DC~70MHz(-3dB)	DC~100MHz(-3dB)	DC~100MHz(-3dB)
TRIGGER	Rise Time	5ns	5ns	5ns	3.5ns	3.5ns
	Bandwidth Limit	20MHz	20MHz	20MHz	20MHz	20MHz
	Vertical Sensitivity Resolution	8 bit : 1mV~10V/div				
	Input Coupling	AC, DC, GND				
	Input Impedance	1M $\Omega$ // 16pF approx.				
	DC Gain Accuracy*	$\pm$ 3%				
	Polarity	Normal & Invert				
	Maximum Input Voltage	300Vrms, CAT I (300Vrms CAT II with GTP-070A- 4/100A-4 10:1 probe)				
	Offset Position Range	1mV/div : $\pm$ 1.25V ; 2mV/div ~ 100mV/div : $\pm$ 2.5V ; 200mV/div ~ 10V/div : $\pm$ 125V				
	Waveform Signal Process	+, -, x, $\div$ , FFT, FFTrms, User Defined Expression ; FFT: 1Mpts; FFT: Spectral magnitude. Set FFT Vertical Scale to Linear RMS or dBV RMS ; FFT Window Display : Rectangular, Hamming, Handing, or Blackman-Harris				
EXTERNAL TRIGGER	Source	CH1, CH2, CH3*, CH4*, Line, EXT** ; *four channel models only ; **two channel models only				
	Trigger Mode	Auto (supports Roll Mode for 100 ms/div and slower), Normal, Single Sequence				
HORIZONTAL	Trigger Type	Edge, Pulse Width, Video, Pulse Runt, Rise & Fall, Timeout, Alternate, Event-Delay(1~65535 events), Time-Delay (Duration, 4ns~10s), Bus				
	Holdoff range	4ns to 10s				
	Coupling	AC, DC, LF rej., Hf rej., Noise rej.				
X-Y MODE	Sensitivity	1 div				
	Range	$\pm$ 15V				
CURSORS AND MEASUREMENT	Sensitivity	DC ~ 100MHz Approx. 100mV ; 100MHz ~ 200MHz Approx. 150mV				
	Input Impedance	1M $\Omega$ $\pm$ 3%~16pF				
	Time base Range	5ns/div ~ 100s/div (1-2.5 increments)				
	ROLL	100ms/div ~ 100s/div				
	Pre-trigger	10 div maximum				
	Post-trigger	2,000,000 div maximum				
	Timebase Accuracy	$\pm$ 50 ppm over any $\geq$ 1 ms time interval				
	Real Time Sample Rate	1GSa/s max.				
	Record Length	Max. 10Mpts				
	Acquisition Mode	Normal, Average, Peak Detect, Single				
CONTROL PANEL FUNCTION	Peak Detection	2nS (typical)				
	Average	selectable from 2 to 256				
DISPLAY	X-Axis Input	Channel 1; Channel 3*(*four channel models only)				
	Y-Axis Input	Channel 2; Channel 4*(*four channel models only)				
POWER SOURCE	Phase Shift	$\pm$ 3 $^{\circ}$ at 100kHz				
	Cursors	Amplitude, Time, Gating available; Unit : Seconds(s), Hz(1/s), Phase(degree), Ration(%)				
MISCELLANEOUS	Automatic Measurement	36 sets: Pk-Pk, Max, Min, Amplitude, High, Low, Mean, Cycle Mean, RMS, Cycle RMS, Area, Cycle Area, ROVShoot, FOVShoot, RPRESshoot, FPRESshoot, Frequency, Period, RiseTime, FallTime, +Width, -Width, Duty Cycle, +Pulses, -Pulses, +Edges, -Edges, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF, Phase				
	Cursors Measurement Auto Counter	Voltage difference between cursors ( $\Delta$ V) Time ; difference between cursors ( $\Delta$ T) 6 digits, range from 2Hz minimum to the rated bandwidth				
DIMENSIONS & WEIGHT	Autoset	Single-button, automatic setup of all channels for vertical, horizontal and trigger systems, with undo Autoset				
	Save Setup	20set				
INTERFACE	Save Waveform	24set				
	USB Port	USB 2.0 High-speed host port x1, USB High-speed 2.0 device port x1				
ACCESSORIES	Ethernet Port(LAN)	RJ-45 connector, 10/100Mbps with HP Auto-MDIX (Only for the GDS-1074B, GDS-1104B.)				
	Go-NoGo BNC	5V Max/10mA TTL open collector output				
ORDERING INFORMATION	Kensington Style Lock	Rear-panel security slot connects to standard kensington-style lock				
	POWER SOURCE	AC 100V ~ 240V , 50Hz ~ 60Hz , Auto selection , Power consumption: 30 Watts				
OPTIONAL ASSESSORIES	MISCELLANEOUS	Available				
	Multi-Language Menu	Available				
FREE DOWNLOAD	Operation Environment	Temperature : 0 $^{\circ}$ C ~ 50 $^{\circ}$ C. Relative Humidity $\leq$ 80% at 40 $^{\circ}$ C or below; $\leq$ 45% at 41 $^{\circ}$ C ~ 50 $^{\circ}$ C				
	Online Help	Available				

The specifications apply when the GDS-1000B is powered on for at least 30 minutes under +20 $^{\circ}$ C~+30 $^{\circ}$ C .

Specifications subject to change without notice. DS-1000BGD1DH

### ORDERING INFORMATION

<b>GDS-1104B</b>	100MHz, 4 channels, Digital Storage Oscilloscope
<b>GDS-1102B</b>	100MHz, 2 channels, Digital Storage Oscilloscope
<b>GDS-1074B</b>	70MHz, 4 channels, Digital Storage Oscilloscope
<b>GDS-1072B</b>	70MHz, 2 channels, Digital Storage Oscilloscope
<b>GDS-1054B</b>	50MHz, 4 channels, Digital Storage Oscilloscope

### ACCESSORIES

User manual x1, Power cord x1	
GTP-100A-4	100MHz Passive Probe. Suitable for GDS-1104B, GDS-1102B
GTP-070A-4	70MHz Passive Probe. Suitable for GDS-1074B, GDS-1072B, GDS-1054B

### OPTIONAL ASSESSORIES

<b>GDB-03</b>	Demo Board
<b>GTL-110</b>	Test lead, BNC to BNC heads
<b>GTL-246</b>	USB cable, USB 2.0 A-B type cable 4P, 1200mm

### FREE DOWNLOAD

<b>Software</b>	OpenWave Software
<b>Driver</b>	USB Driver ; LabView Driver