

## 200/100/70/50 MHz DIGITAL STORAGE OSCILLOSCOPE



The GDS-1000B Series digital storage oscilloscopes equip with 200/100/70 MHz : 2 Channel models; 100/70/50 MHz : 4 Channel models, 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 provides serial bus analysis function with 10M long memory depth. Users can trigger, decode, and analyze frequently used I<sup>2</sup>C, SPI and UART serial bus and CAN/LIN bus, which is often used by automotive communications.

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

- 200/100/70/50 MHz : 2 Channel models ; 100/70/50 MHz : 4 Channel models
- 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
- I<sup>2</sup>C/SPI/UART/CAN/LIN Serial Bus Trigger and Decoding Functions
- 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	GDS-1202B	
VERTICAL	Channels	4	2 + Ext	4	2 + Ext	4	2 + Ext	
	Bandwidth	DC~50MHz(-3dB)	DC~70MHz(-3dB)	DC~70MHz(-3dB)	DC~100MHz(-3dB)	DC~100MHz(-3dB)	DC~200MHz(-3dB)	
VERTICAL	Calculated Rise Time	7ns	5ns	5ns	3.5ns	3.5ns	1.75ns	
	Bandwidth Limit	20MHz	20MHz	20MHz	20MHz	20MHz	20MHz	
	Vertical Sensitivity Resolution	8 bit : 1mV~10V/div						
	Input Coupling	AC, DC, GND						
	Input Impedance	1MΩ // 16pF approx. ; GDS-1202B : 1MΩ // 14pF approx.						
	DC Gain Accuracy*	±3%						
	Polarity	Normal & Invert						
	Maximum Input Voltage	300Vrms, CAT I (300Vrms CAT II with GTP-070B- 4/100B-4, 200B-4 10:1 probe)						
	Offset Position Range	1mV/div : ±1.25V ; 2mV/div ~ 100mV/div : ±2.5V ; 200mV/div ~ 10V/div : ±125V						
	Waveform Signal Process	+,-, x, -, 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						
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						
	Trigger Type	Edge, Pulse Width, Video, Pulse Runt, Rise & Fall, Timeout, Alternate, Event-Delay(1~65535 events), Time-Delay(Duration, 4nS~10S)						
TRIGGER	Holdoff range	4ns to 10s						
	Coupling	AC, DC, LF rej., Hf rej., Noise rej.						
	Sensitivity	1div						
EXTERNAL TRIGGER	Range	±2.5V						
	Sensitivity	DC ~ 100MHz Approx. 100mV ; 100MHz ~ 200MHz Approx. 150mV						
EXTERNAL TRIGGER	Input Impedance	1MΩ ±3%~16pF						
HORIZONTAL	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	±50 ppm over any ≥1 ms time interval						
	Real Time Sample Rate	1GSa/s max.						
	Record Length	Max. 10Mpts						
	Acquisition Mode	Normal, Average, Peak Detect, Single						
	Peak Detection	2nS (typical)						
	Average	selectable from 2 to 256						
X-Y MODE	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; Unit : Seconds(s), Hz(1/s), Phase(degree), Ration(%)						
	Automatic Measurement	36 sets: Pk-Pk, Max, Min, Amplitude, High, Low, Mean, Cycle Mean, RMS, Cycle RMS, Area, Cycle Area, ROVShoot, FOVShoot, RPREShoot, FPRESShoot, Frequency, Period, RiseTime, FallTime, +Width, -Width, Duty Cycle, +Pulses, -Pulses, +Edges, -Edges, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF, Phase						
CURSORS AND MEASUREMENT	Cursors Measurement	Voltage difference between cursors (ΔV) Time ; difference between cursors (ΔT)						
	Auto Counter	6 digits, range from 2Hz minimum to the rated bandwidth						
CONTROL PANEL FUNCTION	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	7" TFT WVGA color display						
	Display Resolution	800 horizontal x 480 vertical pixels (WVGA)						
	Interpolation	Sin(x)/x						
	Waveform Display	Dots, vectors, variable persistence (16ms~4s), infinite persistence						
	Waveform Update Rate	50,000 waveforms per second, maximum						
DISPLAY	Display Graticule	8 x 10 divisions						
	Display Mode	YT, XY						
INTERFACE	USB Port	USB 2.0 High-speed host port x1, USB High-speed 2.0 device port x1						
	Ethernet Port(LAN)	RJ-45 connector, 10/100Mbps with HP Auto-MDIX (Only for 4 channel models.)						
	Go-NoGo BNC	5V Max/10mA TTL open collector output						
	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						
MISCELLANEOUS	Multi-Language Menu	Available						
	Operation Environment	Temperature : 0°C ~ 50°C. Relative Humidity ≤80% at 40°C or below; ≤ 45% at 41°C ~ 50°C						
	Online Help	Available						
DIMENSIONS & WEIGHT		380(W) x 208 (H) x 127.3(D)mm, Approx. 2.8kg						

The specifications apply when the GDS-1000B is powered on for at least 30 minutes under +20°C~+30°C.

Specifications subject to change without notice. DS-1000BGD2DH

### ORDERING INFORMATION

<b>GDS-1202B</b>	200MHz, 2 channels, Digital Storage Oscilloscope
<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 CD x 1, Power cord x 1  
 GTP-070B-4 : 70MHz(10:1/1:1) Switchable passive probe for GDS-1074B,GDS-1072B,GDS-1054B(one per channel)  
 GTP-100B-4 : 100MHz(10:1/1:1) Switchable passive probe for GDS-1104B, GDS-1102B(one per channel)  
 GTP-200B-4 : 200MHz(10:1/1:1) Switchable passive probe for GDS-1202B(one per channel)

### OPTIONAL ASSESSORIES

<b>GRA-426</b>	Rack Adapter Panel	<b>GCP-206P</b>	Power supply for current probe (2 input channel)
<b>GAk-003</b>	50Ω Impedance Adapter	<b>GCP-425P</b>	Power supply for current probe (4 input channel)
<b>GSC-008</b>	Soft Carrying Case	<b>GTP-033A</b>	Oscilloscope Probe, 35MHz 1:1 Passive Probe, BNC(P/M)
<b>GTL-246</b>	USB Cable, USB 2.0, A-B Type, 1200mm	<b>GDP-025</b>	25MHz High voltage differential probe
<b>GCP-300</b>	300kHz/200A Current probe	<b>GDP-050</b>	50MHz High voltage differential probe
<b>GCP-530</b>	50MHz/30A Current probe	<b>GDP-100</b>	100MHz High voltage differential probe
<b>GCP-500</b>	500kHz/150A Current probe		
<b>GCP-1030</b>	100MHz/30A Current probe		
<b>GCP-1000</b>	1MHz/70A Current probe		

### FREE DOWNLOAD

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