GDS-1000-U Series

100MHz/70MHz/50MHz Digital Storage Oscilloscope

FEATURES

- 100/70/50 MHz Bandwidth, 2 Input Channels
- 250MSa/s Real-Time & 25GSa/s Equivalent-Time Sampling Rate
- 4k Record Length per Channel
- Save/Recall of 15 Front Panel Settings & Waveforms
- 5.7" Color TFT LCD Display
- 19 Auto Measurements
- Math Function : Add, Subtract, FFT
- USB Host & Device Ports
- Go/NoGo Function
- Data Logger
- Limited Lifetime Warranty

GW INSTEK

Simply Reliable

A Capable Oscilloscope at Most Affordable Price

GDS-1000-U is a general purpose 2-channel oscilloscope designed to meet diversified educational demands and basic industrial requirements. This series provides bandwidths ranging from 50MHz to 100MHz. Together with intuitive human machine interface design and 5.7 inch color TFT LCD, GDS-1000-U allows users to enjoy better measurement experiences.
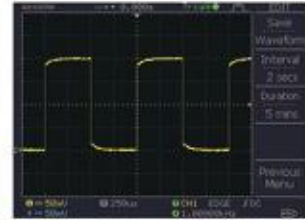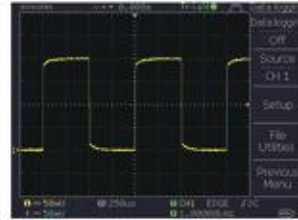
GDS-1000-U series offers dual sampling modes, 250MSa/s Real-Time and 25GSa/s Equivalent sampling rates, giving users a more flexible option to process incoming signals. With fast waveform process capability, more advanced triggering functions, and 2.5Kg light-weight design, GDS-1000-U is a very capable oscilloscope to enhance users' returns on their investments in terms of price versus performance. GDS-1000-U is also viewed as a replacement of analog oscilloscope. With its good functionality and capability, GDS-1000-U can satisfy diversified educational demands as well as fulfill industrial basic requirements in servicing, maintenance, or production.

GDS-1000-U also provides great accessibility through its USB Host and Device ports. Via USB Device port, user can easily build a remote control program to manipulate the machine. Via USB Host port, user is capable of not only storing data directly into flash disk for further analysis but also activating data logging function to monitor waveform data in designated time sequence.

To sum up, GDS-1000-U, with intuitive UI design, easy accessibility, and versatile measurement functions at very competitive price, is definitely your best investment when it comes to selecting oscilloscopes.

SELECTION GUIDE

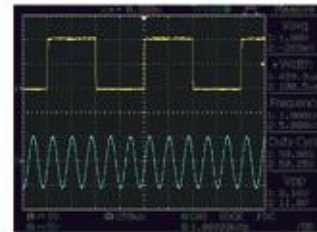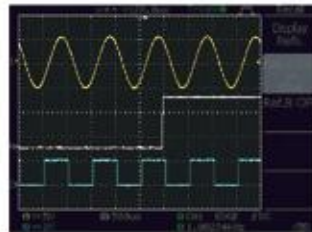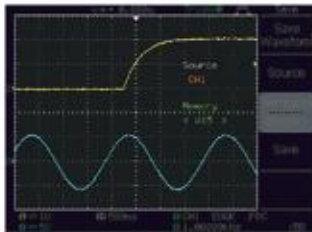| MODEL	GDS-1102-U	GDS-1072-U	GDS-1052-U
BANDWIDTH	100MHz	70MHz	50MHz
CHANNELS	2		
DISPLAY DEVICE	5.7" TFT Color LCD		
SAMPLE RATE	250MSa/s (Real-time Sampling) & 25GSa/s (Equivalent-time Sampling)		
RECORD LENGTH	4k Points per channel		
USB HOST	Standard		
USB DEVICE			
CALIBRATION OUTPUT			

A. USB INTERFACE & DATA LOGGER

USB Host port on the front significantly enhance the data storage capability of the product. The large amount of data, including screenshot, waveform and panel setup, could be easily stored into a popular flash disk. A USB device port on the rear of the product transfers the screen image and waveform raw data to PC and also allows PC to remote control GDS-1000-U Series.

Furthermore, data logger can continue monitoring input signals and storing their waveform data in USB flash disk when trigger conditions are met, saving users' efforts to tracking signals manually and allowing them to analyze and observe waveform data afterwards.
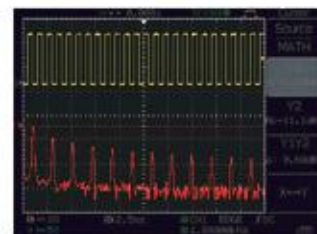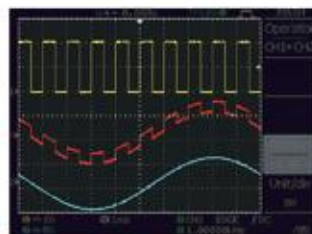
B. WAVEFORM SAVING AND AUTOMATIC MEASUREMENT

A total of 15 waveforms could be saved into memory for later recall and display, and 2 saved reference waveforms together with 2 live waveforms could be shown on the screen at the same time for comparison. A snapshot of all time &

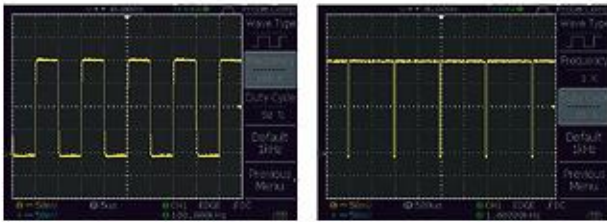voltage related Auto Measurement readings of an input signal could be shown on the screen simultaneously.

C. SOPHISTICATED MEASUREMENT FUNCTIONS

Several acquisition mode and 19 auto measurement functions help user to measure the accurate property of waveforms. The advanced auto-set function makes GDS-1000-U Series catch waveform automatically and display waveform quickly.
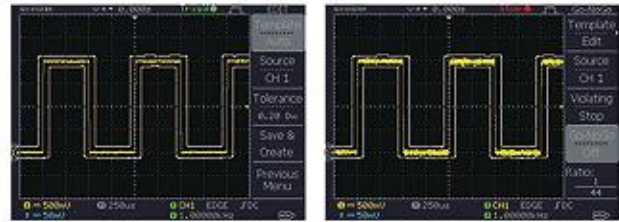
With arithmetic functions, FFT function keeps user being aware of the results by updating value immediately. Without almost extra-calculation GDS-1000-U Series can provide sufficient information of testing.
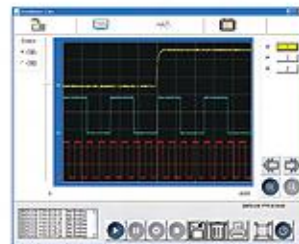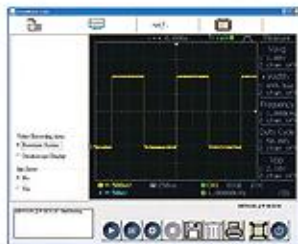
D. ENHANCED CAL SIGNAL OUTPUT

GDS-1000-U Series has an enhanced 1kHz calibration signal. Its output frequency is adjustable from 1 kHz to 100 kHz as well as the duty cycle adjustable from 5%–95%.

E. GO/NOGO FUNCTION

Go/NoGo testing function check whether the incoming signal violates the user-defined template. Users can easily define this template by setting the tolerance ratio to determine violation conditions. Go/NoGo testing can either keep counting violation number or stop testing when violation conditions are met.

F. FREEWAVE PC SOFTWARE

A PC Software, Freewave, supporting GDS-1000-U Series is available to all customers for free download from GW Instek Website. This software enables the full screen image transfer from GDS-1000-U Series to PC via USB port in a fast-updating manner, so the user is able to see a nearly-real-time display on the PC screen.

The screen image (.bmp or.jpg) and waveform raw data (.csv) could be saved into PC for further applications. The continuous waveform images (.avi) in a time period could be recorded for later playback. This video recorder function facilitates the repetitive observation of a saved waveform with continuous variation in a certain period of time.
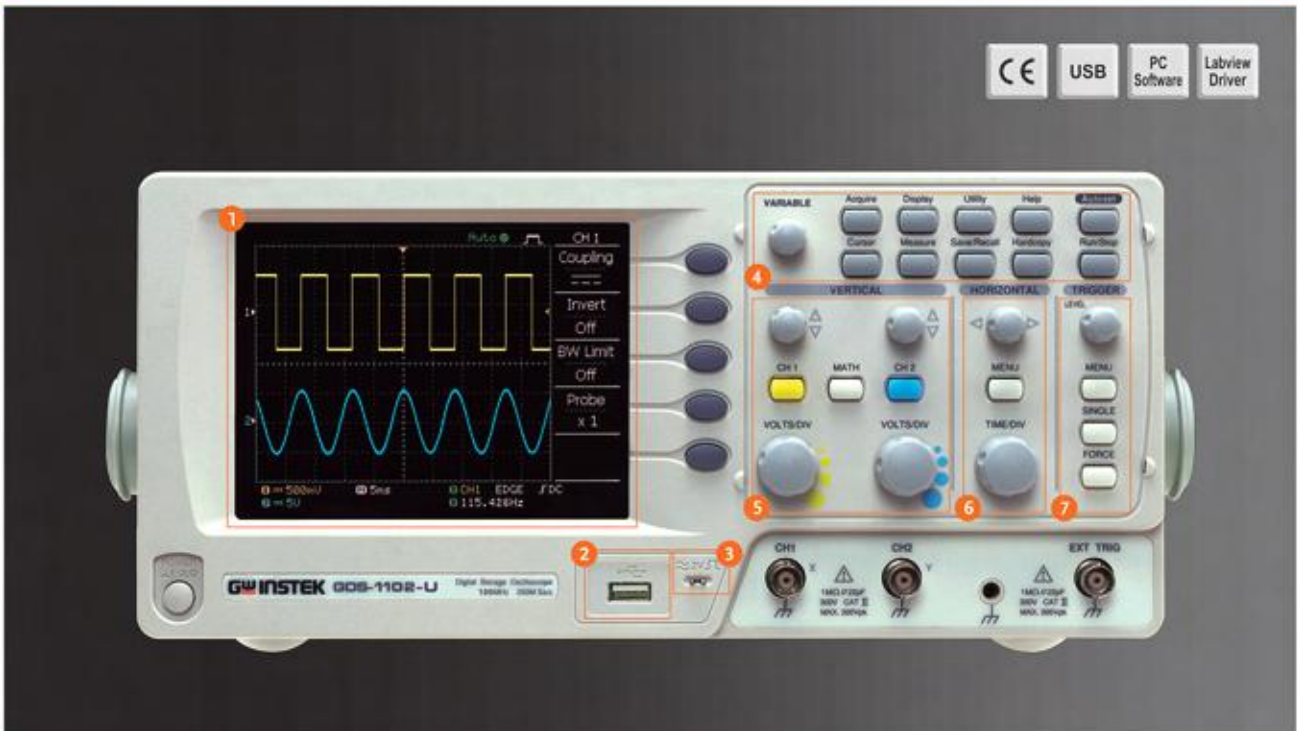
G. AUTOSET DISABLE FUNCTION

For the educational purpose, instructors might not want to use Autoset function on the DSO when they are teaching how to use oscilloscope for the measurement. The GDS-1000-U Series can disable the Autoset function, enabling students to manually operate oscilloscope functions to further enrich their learning experience.

H. GUARANTEED PROTECTION

Buy a GDS-1000-U Series DSO, get a Limited Lifetime Warranty

Providing Global Lifetime Warranty Program for GDS-1000-U Series, we believe you can have high confidence in the quality of this series. You are assured of a highly economical, low maintenance, and high quality DSO backed with the Lifetime Warranty program to guarantee the service during the product lifetime. For more details, please visit our website at www.gwinstek.com/llw or consult your nearest distributor.

1. Stunning Display

The 5.7" TFT color LCD greatly enhances the GDS-1000-U display performance letting you see the waveform details clearly from a broad range of view-angle.

2. Memory and Interface

Up to 15 waveforms can be saved into the internal memory to be recalled later and compared. USB Host port provides a safe environment for data storage and transfer of measurement results, and the USB device port interface allows users to do remote control.

3. Enhanced CAL signal output

GDS-1000-U Series has an enhanced 1kHz calibration signal. Its output frequency is adjustable from 1 kHz to 100 kHz as well as the duty cycle adjustable by 5% ~ 95%.

4.Function Keys

Function Keys are used to set up some parameters in different functions, such as Acquire, Display, Cursor, Measure,...etc.

5. Vertical Controls

Separate vertical controls for each channel allows for simple and fast operation. There is no longer any need to share one set of vertical controls for both channels.

6. Horizontal System

Horizontal system can configure the horizontal view, move the waveform horizontally, and select the horizontal scale.

7. Advanced Triggers

Quick setting to capture any signal of interest with Normal, Single, Force, Pulse Width and Video line selectable triggers.

100 MHz Digital Storage Oscilloscope

GDS-1102-U

70 MHz Digital Storage Oscilloscope

GDS-1072-U

50 MHz Digital Storage Oscilloscope

GDS-1052-U

SPECIFICATIONS

		GDS-1052-U	GDS-1072-U	GDS-1102-U
VERTICAL	Channels	2	2	2
	Bandwidth	DC~50MHz(−3dB)	DC~70MHz(−3dB)	DC~100MHz(−3dB)
	Rise Time	<7ns Approx.	<5ns Approx.	<3.5ns Approx.
	Sensitivity	2mV/div ~ 10V/div (1-2-5 increments)		
	Accuracy	± (3% x |Readout| + 0.1 div + 1mV)		
	Input Coupling	AC, DC & Ground		
	Input Impedance	1MΩ± 2%, ~15pF		
	Polarity	Normal & Invert		
	Maximum Input	300V (DC+AC peak), CATII		
	Waveform Signal Process	+, −, FFT		
	Offset Range	2mV/div ~ 50mV/div : ±0.4V ; 10mV/div ~ 500mV/div : ±4V ; 1V/div ~ 5V/div : ±40V ; 10V/div: ±300V		
	Bandwidth Limit	20MHz (- 3dB)		
TRIGGER	Sources	CH1 , CH2 , Line , EXT		
	Modes	AUTO, NORMAL, SINGLE, TV, Edge, Pulse width		
	Coupling	AC , DC , LF rej. , HF rej. , Noise rej.		
	Sensitivity	DC ~ 25MHz: Approx. 0.5div or 5mV; 25MHz ~ 50/70/100MHz: Approx. 1.5div or 15mV		
EXT TRIGGER	Range	±15V		
	Sensitivity	DC ~ 25MHz : ~ 50mV ; 25M ~ 50/70/100MHz : ~15mV		
	Input Impedance	1MΩ ±2% , ~ 16pF		
	Maximum Input	300V (DC＋AC peak) , CATII		
HORIZONTAL	Range	1ns/div ~ 50s/div (1-2.5-5 increments); ROLL : 50ms/div ~ 50s/div		
	Modes	MAIN, WINDOW, WINDOW ZOOM, ROLL, X-Y		
	Accuracy	±0.01%		
	Pre-Trigger	10 div maximum		
	Post-Trigger	1000 div		
X-Y MODE	X-Axis Input	Channel 1		
	Y-Axis Input	Channel 2		
	Phase Shift	±3°at 100kHz		
SIGNAL ACQUISITION	Real-Time Sample Rate	250MSa/s maximum		
	Equivalent Sample Rate	25GSa/s maximum		
	Vertical Resolution	8 Bits		
	Record Length	4K Points maximum		
	Acquisition Mode	Normal, Peak Detect, Average		
	Peak Detection	10ns(500ns/div ~ 50s/div)		
	Average	2 , 4 , 8 , 16 , 32 , 64 , 128 , 256		
CURSORS AND MEASUREMENT	Voltage Measurement	V_{pp} , V_{amp} , V_{avg} , V_{rms} , V_{hi} , V_{lo} , V_{max} , V_{min} , Rise Preshoot/ Overshoot , Fall Preshoot/Overshoot		
	Time Measurement	Freq , Period , Rise Time , Fall Time , Positive Width , Negative Width , Duty Cycle		
	Cursors Measurement	Voltage difference between cursors (ΔV) Time difference between cursors (ΔT)		
	Auto Counter	Resolution : 6 digits ; Accuracy : ±2% Signal Source: All available trigger source except the Video trigger mode		
ADJUSTABLE PROBE COMPENSATION SIGNAL	Frequency Range	1kHz ~ 100kHz, 1kHz/STEP		
	Duty Cycle Range	5% ~ 95%, 5%/STEP		
CONTROL PANEL FUNCTION	Autoset	Adjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically		
	Save Setup	Up to 15 sets of measurement conditions		
	Save Waveform	15 sets of waveform		
DISPLAY	TFT LCD Type	5.7 inch		
	Display Resolution	234 (Vertically) x 320 (Horizontally) Dots		
	Display Graticule	8 x 10 divisions		
	Display Brightness	Adjustable		
INTERFACE	USB Device	USB1.1 & 2.0 full speed compatible		
	USB Host	Image (BMP) waveform data (CSV) and setup (SET)		
POWER SOURCE	Line Voltage Range	AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection		
MISCELLANEOUS	Go/NoGo Function	Available		
	Data Logger	Available		
	Multi-Language Menu	Available		
	Online Help	Available		
DIMENSIONS & WEIGHT		310(W) x 142 (H) x 140(D)mm, Approx. 2.5kg		

Specifications subject to change without notice. GD-1000-UGD18H

ORDERING INFORMATION

GDS-1052-U 50MHz, 2-channel, Color LCD Display DSO
GDS-1072-U 70MHz, 2-channel, Color LCD Display DSO
GDS-1102-U 100MHz, 2-channel, Color LCD Display DSO

ACCESSORIES

User Manual x 1, Power Cord x 1
Probe-GTP-070A-4 : 70MHz(10:1/1:1)Switchable Passive Probe for GDS-1052-U(one per channel)
Probe-GTP-070A-4 : 70MHz(10:1/1:1)Switchable Passive Probe for GDS-1072-U(one per channel)
Probe-GTP-100A-4 : 100MHz(10:1/1:1)Switchable Passive Probe for GDS-1102-U(one per channel)

OPTIONAL ACCESSORIES

GTL-242	USB Cable, USB 1.1 A-B TYPE CABLE, 4P
GTL-110	Test Lead, BNC-BNC Heads
GSC-006	Soft Carrying Case

FREE DOWNLOAD

PC Software	FreeWave software
Driver	USB driver
	LabView Driver

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