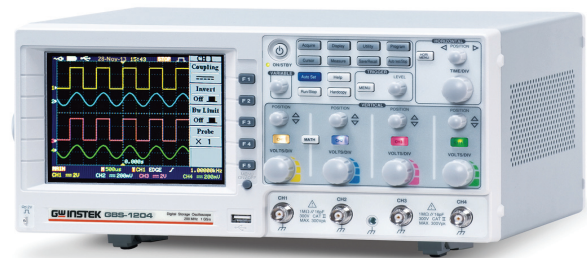


## **GBS-1000 200/100/70 MHz DSO New Product Announcement**

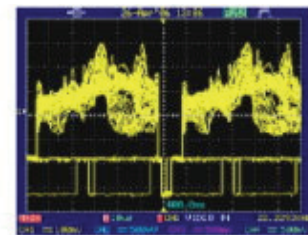
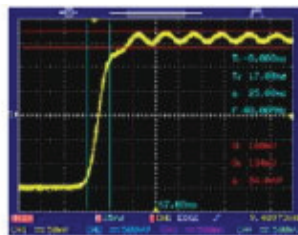
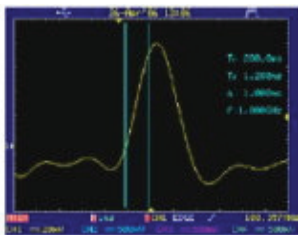
The GBS-1000 series, an economical selection of the four-channel DSO, offers three frequency ranges including 200,100, and 70MHz, real time sampling rate of 1 GSa/s, equivalent time sampling rate of 25GSa/s and 25k points memory depth.

The GBS-1000 series has numerous features including 5.7" TFT color LCD display, 27 automatic measurements, FFT and FFTrms tests, 12-graticule horizontal display, Go/NoGo for predefined conditions, and flexible interface selections such as USB and RS 232. By using the USB interface, users can save waveform images and waveform data as well as carry out waveform printout. The diversified features have made the GBS-1000 series the valuable choice of the economical four-channel oscilloscope.



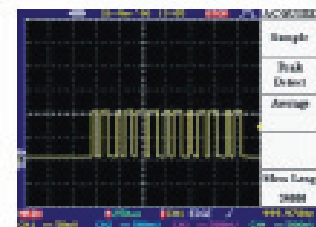
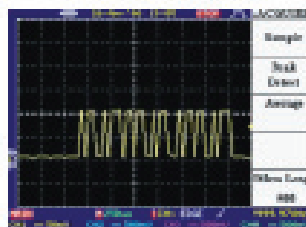
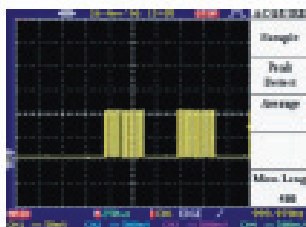
The diversified features have made the GBS-1000 series the valuable choice of the economical four-channel oscilloscope.

### Signal Acquisition



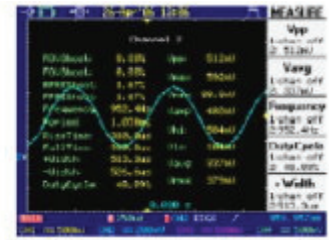
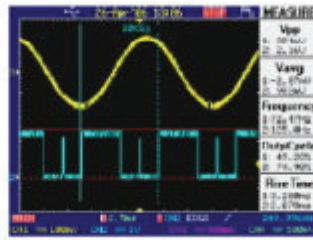
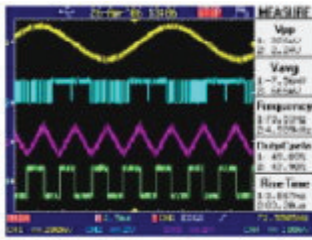
The GBS-1000 series features real time sampling rate of 1GSa/s and equivalent time sampling rate of 25GSa/s. The three built-in signal acquisition methods are normal, peak detect and average. The flexible trigger type selections comprise edge, video (NTSC, PAL, SECAM) and pulse width. The trigger modes of edge and pulse include auto, normal and single.

### 25k Points Waveform Memory Depth



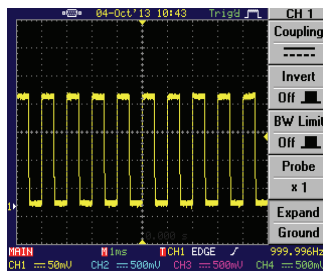
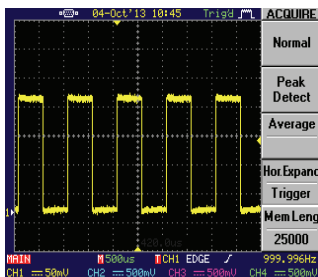
Oscilloscopes with long memory facilitate users to retrieve more waveform data in a certain period of time. The GBS-1000 series, with 25k points memory depth, allows users to meticulously observe signals. Users, via the Acquire function of the GBS-1000 series, can select 25k or 500 points memory depth to analyze complex waveforms or acquire fast updated waveforms.

Measurement Functions



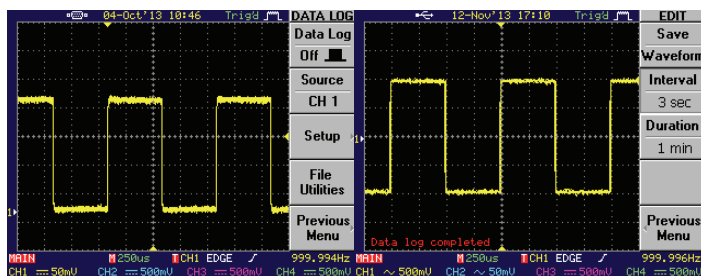
The GBS-1000 series provides 27 automatic measurement selections including voltage, period and time delay. Each channel can execute 5 measurement items simultaneously. 10 measurement results of two channels combined can be shown on the screen at the same time. All measurement results displaying on the screen allow users to efficiently observe all measurement parameters so as to better interpret signals. Once the cursor function is on, the measurement target will be the signal within the cursor. After pressing Menu Off key, the measurement information will still be shown on the screen.

Complete vertical and horizontal expansion function



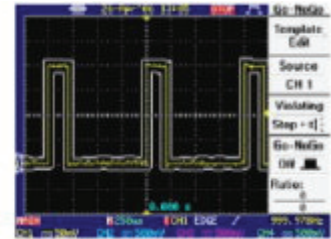
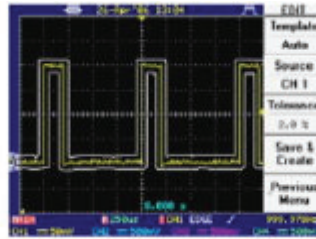
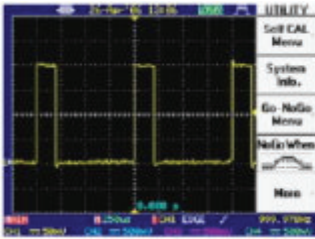
Users, via the GBS-1000 series, can either select GND or the center of the signal to execute vertical expansion. Either the center of the signal or the vertical trigger point can be selected to carry out horizontal expansion. A sound signal expansion selection facilitates users to expand required signals for a detailed observation of signal trigger points.

Data Log



The data log function allows users to continuously record waveform data in a USB flash drive. After presetting time, interval and format for data recording the data log function will automatically record signals, which met trigger conditions. This function facilitates waveform recording for a long period of time that is beneficial to the observation and measurement result analysis afterwards.

Go/NoGo Test



The Go/NoGo function verifies whether or not the input signals are consistent with users' preset conditions. Users have to preset waveform reference and signal conditions to activate Go/NoGo function and the Go or NoGo result will be shown on the screen instantly. Once the result is NoGo the GBS-1000 will be sounding a buzz or sending out a control signal through the BNC output interface on the rear panel.

FAB Analyses

	Features	Advantages	Customer Benefits
1	25K Points Record Length	Longer memory depth produces signals in great detail.	With the same timeframe, users can acquire complete waveforms to ensure the integrity of signal tests.
2	Auto measurements	27 diversified measurement selections facilitate users to obtain results easily. After activating the cursors function, users can freely select the desired signal measurement range.	Diversified measurement selections produce measurement result in no time that greatly enhances test efficiency.
3	Complete vertical and horizontal expansion function	Users, based upon the requirements, can select GND or the center of the signal to vertically expand signals. The center of the signal or trigger point can be selected for horizontal expansion.	Users, by requirements, can precisely observe signals of any segment in detail to expedite signal analysis process via selecting either vertical or horizontal expansion.
4	Data Log	For analyzing waveforms and data afterwards, the data log function allows users to select required data recording time and interval, either waveform recording or data recording, or both.	Either long waveform image recording or long data recording, or both facilitate observation and measurement result analysis afterwards.

GBS-1000 Features and Functions

Key Performance Specifications

- 200MHz/100MHz/70MHz Bandwidth Range
- 1GSa/s Real-time Sampling Rate and 25k Points Memory Depth
- 25GSa/s Equivalent Time Sampling Rate
- 2mV /div to 5V/div of Vertical Range
- 1ns/div to 10s/div of Time Base Range
- 5.7 inch TFT LCD Display

- Data Log

### Rich Features for Signal Analysis and System Debug

- Abundant Trigger Functions to Capture Demanded Signals
- 27 Automatic Measurement Functions offer Direct Measurement Readings
- FFT and FFTrms Computing Provides the Frequency Domain Analysis

### Communication Interfaces and I/O

- Go/NoGo output
- USB host/device port
- RS232

### Target Customers

- Education and training
- Production tests and quality assurance
- Maintenance and services
- Circuit design and debug

### Specification Comparison

	GW Instek GBS-1000 Series	Agilent DSO1000A	Tektronix TBS-1000
Bandwidth	70/100/200MHz	1000A:200M(2ch) , 60/100/200(4ch) 1000B:50/70/100/150MHz (2 ch)	25/40/60/100/150MHz(2ch) 60/100/150MHz(4ch)
Record Length	25K	20k	2.5K
Real Time Sample rate	1 GSa/s	2GSa/s(1000A.) 1GSa/s (1000B)	500MSa/s(25/40M model) 1GSa/s
Equivalent Time Sample rate	25GSa/s	Nil	Nil
Display	5.7" TFT LCD	5.7" TFT LCD	5.7" TFT LCD
Horizontal range	1ns~10s/div	50/60/70MHz: 5ns~50S 100MHz: 2ns~50S 200MHz: 1ns~50S	5ns~50S /div
Vertical range	2mV~5V/div	2mV~10V/div	2mV~5V/div
Trigger mode	7 kinds	5 kinds	3 kinds
Automatic measurement functions	27	23	16
Warranty	3 years	3 years	5 years

**Key Dates for Product Announcement**

1. Distributor Announcement (Dec/27/2013)
2. To provide sales kit (Dec/27/ 2013)
3. Global Market Announcement (Jan/28/2014)
4. Mass-Quantity Order Fulfillment (Feb/5/2014)

**Service Policy**

1.3-year warranty. The GBS-1000 series oscilloscope with SMD design is a highly reliable product that carries a 3-year warranty.

2.Service Support. The service instructions in the Service Manual will help distributors repair defective units promptly. Should the board replacement is necessary to fix the defective unit, the board swapping service support is provided by Good Will Instrument to facilitate the repair jobs done at the distributor’s site.

3.Firmware upgrade through Website. Good Will Instrument continues to provide the after sales support through its website. The most updated version of firmware and PC software of GBS-1000 series will be posted on Good Will Instrument Website at <http://www.gwinstek.com> for free download via USB Flash Drive.

**Specifications**

	GBS-1074	GBS-1104	GBS-1204
<b>VERTICAL</b>			
Channels	4	4	4
Bandwidth	DC ~ 70MHz (-3dB)	DC ~ 100MHz (-3dB)	DC ~ 200MHz (-3dB)
Rise Time	5 ns Approx.	3.5ns Approx.	1.75ns Approx.
Sensitivity	2mV/div ~ 5V/div (1-2-5 increments)		
Accuracy	±(3% x  Readout  +0.05 div x Volts/div+0.8mV)		
Input Coupling	AC, DC & Ground		
Input Impedance	1MΩ±2%, ~16pF		
Polarity	Normal & Invert		
Maximum Input	300V (DC+AC peak), CATII		
Waveform Signal Process	+ , - , X ,FFT ,FFTrms		
Offset Range	2mV/div ~ 20mV/div : ±0.5V 50mV/div ~ 200mV/div : ±5V 500mV/div ~ 2V/div : ±50V 5V/div : ±300V		
Bandwidth Limit	20MHz (-3dB)		
<b>TRIGGER</b>			
Sources	CH1 , CH2 , CH3 , CH4 , Line		
Types	Edge ,Video ,Pulse		
Modes	Auto-Level ,Auto, Normal, Single		
Video trigger standard	SECAM ,PAL ,NTSC		

Coupling	AC , DC , LF rej. , HF rej. , Noise rej.
Sensitivity	DC ~ 25MHz : Approx. 0.5div or 5mV 25MHz ~70/100/ 200MHz : Approx. 1div or 10mV
<b>HORIZONTAL</b>	
Range	1ns/div ~ 10s/div (1-2-5 increments) ROLL : 250ms/div ~ 10s/div
Modes	Main, Window, Window Zoom, Roll, Scan, X-Y
Accuracy	±0.01%
Pre-Trigger	20 div maximum
Post-Trigger	1000 div
<b>X-Y MODE</b>	
X-Axis Input	Channel 1
Y-Axis Input	Channel 2 or Channel 3 or Channel 4
Phase Shift	±3° at 100kHz
<b>SIGNAL ACQUISITION</b>	
Real-Time Sample Rate	1GSa/s maximum
Equivalent Sample Rate	25GSa/s maximum
Vertical Resolution	8 Bits
Record Length	25K Points maximum
Acquisition Mode	Normal, Peak Detect, Average
Peak Detection	10ns
Average	2 , 4 , 8 , 16 , 32 , 64 , 128 , 256
<b>CURSORS AND MEASUREMENT</b>	
Voltage Measurement	Vpp , Vamp , Vavg , Vrms , Vhi , Vlo , Vmax , Vmin , Rise Preshoot/ Overshoot , Fall Preshoot/Overshoot
Time Measurement	Freq , Period , Rise Time , Fall Time , Positive Width , Negative Width , Duty Cycle
Delay Measurement	Eight types of delay measurement
Cursors Measurement	Voltage difference between cursors ( $\Delta V$ ) Time difference between cursors ( $\Delta T$ )
Auto Counter	Resolution : 6 digits Accuracy : ±2% Signal Source: All available trigger source except the Video trigger mode
<b>CONTROL PANEL FUNCTION</b>	
Autoset	Automatically adjusts Vertical VOLTS/DIV, Horizontal TIME/DIV, and Trigger level
Save Setup	Up to 20 sets of measurement conditions
Save Waveform	24 sets of waveform
<b>DISPLAY</b>	

TFT LCD Type	5.7 inch
Display Resolution	234 (Vertically) x 320 (Horizontally) Dots
Display Graticule	8 x 10 divisions ; 8 x 12 divisions (menu off)
Display Brightness	Adjustable
<b>INTERFACE</b>	
Go/NoGo Output	5V Maximum/10mA TTL Open Collector Output
RS-232 Interface	DB 9-pin male DTE RS-232 interface
GPIB Interface (Option)	Fully programmable with IEEE 488.2 compliance
USB	USB Host/Device 2.0 full speed supported
<b>POWER SOURCE</b>	
Line Voltage Range	AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection
<b>MISCELLANEOUS</b>	
Multi-Language Menu	Available
Online Help	Available
Data Log	Available
Time Clock	Time and Date, Provide the Date/Time for saved data
<b>DIMENSIONS &amp; WEIGHT</b>	
	310(W) x 142(H) x 254(D) mm; Approx. 4.3kg

**Ordering Information:**

GBS-1074 70MHz, 4-channel DSO

GBS-1104 100MHz, 4-channel DSO

GBS-1204 200MHz, 4-channel DSO

**Included Accessories:**

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

GTP-070A-4 : 70MHz (10:1/1:1) Switchable passive probe for GBS-1074(one per channel)

GTP-100A-4 :100MHz (10:1/1:1) Switchable passive probe for GBS-1104(one per channel)

GTP-250A-2 :250MHz (10:1/1:1) Switchable passive probe for GBS-1204 (one per channel)

**Free Download:**

Driver : USB driver ,LabView Driver

Please do not hesitate to contact us if you have any queries on the announcement, or product information of the GBS-1000 series.

Sincerely Yours,

Overseas Sales Department  
Good Will Instrument Co., Ltd  
No. 7-1, Jhongsing Road, Tucheng Dist,  
New Taipei City, 236, Taiwan  
Email: [marketing@goodwill.com.tw](mailto:marketing@goodwill.com.tw)