GBS-1000 Series

CE RS-232 USB LabVIEW Driver PictBridge
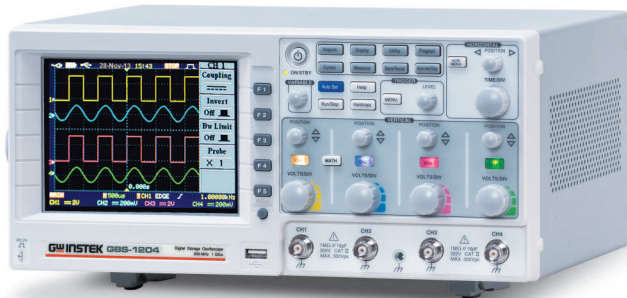
FEATURES

- 200/100/70 MHz Bandwidth
- 4 Input Channels
- 1GSa/s Real-Time and 25GS/s Equivalent-Time Sampling
- 25k Points Record Length Maximum
- 5.7-in TFT Color Display
- 27 Automatic Measurements
- Math Functions Including "+" , "−" , " x" , "FFT" , "FFTrms"
- Multi-Language Support
- USB Host : Support Flash Drive Storage and PictBridge-compatible Printer
- USB Device : PC Remote Control
- Data Logger

Front

Rear Panel

APPLICATIONS

- Education Lab and Training Institution

- Production Test and Quality Inspection

- Repair and After-Service

- Circuit Design and Debugging

Summary of Features

Wide selections of bandwidth, 200/100/70MHz, 4channels, suitable for major applications in laboratories, production lines, or field services. 1GSa/s real-time high sampling rate and 25k points deep memory give much detailed view into the target waveforms and maintain a high sampling rate. USB host and device connection allow data storage and recalling, screen image printout, and remote control. TFT color LCD display with wide viewing angle eliminates obscurity in any situation.

Signal Detection

The GBS-1000 series, with 1GSa/s real time, 25GSa/s equivalent time sampling rate and 3 types of acquisition modes including normal, peak detect, and average, picks up signals even in the most extreme cases. 25k points deep memory collects more information of a given waveform providing users with further signal details. 3 types of flexible triggers including edge, video (NTSC, PAL, SECAM) with line selection and pulse-width augment the signal capturing flexibility

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.

Measurement Functions

A variety of measurement shortcuts reduce repetitive manual operations and save your precious time. Autoset automatically configures the horizontal scale, the vertical scale, and the trigger, giving an instant view of almost any signal. 27 automatic measurements include voltage, frequency(time), and delay. Once the cursor function is on, the measurement target will be the signal within the cursor. Users can measure any desired signal based upon the application requirements. The GBS-1000 Series runs and updates results of all the relevant measurements in real time. You can view the results independently, or together in a single display view. Add, subtract and multiple math operation and with 4 types of FFT, FFTrms including flattop, blackman , hanning, and rectangular are also provided.

DATA Log

Data logger can continue monitoring input signals and storing their waveform data or image in a USB flash drive when trigger conditions are met. This functionality will save users' effort in tracking signals manually and allowing them to analyze and observe waveform data afterwards.
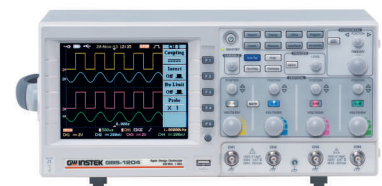
Go/NoGo Test Function

Go/NoGo test function detects an user-defined incoming waveform shape, and can also send a signal to external devices for monitoring. Program and play feature automatically runs predefined sequence and setup, boosting productivity in routine measurements like production line inspection.

Data Transfer and Printout

USB host connector transfers data quickly and easily between USB flash drive and the oscilloscope, which greatly expands memory via a USB. The internal storage includes 4 sets of reference waveform and 20 sets of general-use memory area. The GBS-1000 Series handles three types of data : display image (*.bmp) for viewing waveform shape and pasting into documents and presentations, panel setting for saving and restoring system setup, and waveform configuration (*.csv) for further analysis of signal information. Printout of display Image, color or grayscale, is available through the PictBridge-compatible Printer connected to the USB host port. You can set the printout or data saving preference to allow a single-press on Hardcopy during the consecutive works.

Setup Recovery and Transfer

The last panel setting is internally stored in nonvolatile memory, ready to be recovered on the next power up. If the measurement environment has been frequently changed or users want to transfer the setup to another GBS-1000 Series, switching between multiple system settings can be done by saving and recalling setup files using a USB flash drive. When the setup gets complicated, you can always recover the default system setting in a simple two-step operation.

GW INSTEK
Simply Reliable

		GBS-1074	GBS-1104	GBS-1204
VERTICAL	Channels Bandwidth Rise Time	4 DC ~ 70MHz (-3dB) 5ns Approx.	4 DC ~ 100MHz (-3dB) 3.5ns Approx.	4 DC ~ 200MHz (-3dB) 1.75ns Approx.
	Sensitivity Accuracy Input Coupling Input Polarity Maximum Input Waveform Signal Process Offset Range Bandwidth	2mV/div ~ 5V/div (1-2-5 increments) ± (3% x |Readout|+0.05 div x Volts/div+0.8mV) AC, DC & Ground 1MΩ±2%, ~16pF Normal & Invert 300V (DC+AC peak), CATII + , - , x , FFT, FFTrms 2mV/div ~ 20mV/div : ±0.5V ; 50mV/div ~ 200mV/div : ±5V ; 500mV/div ~ 2V/div : ±50V ; 5V/div : ±300V 20MHz (-3dB)		
TRIGGER	Sources Type Modes Video Trigger Standard Coupling Sensitivity	CH1, CH2 , CH3, CH4, Line Edge, Video, Pulse Auto-level, Auto, Normal, Single SECAM, PAL, NTSC AC , DC , LF rej. , HF rej. , Noise rej. DC ~ 25MHz : Approx. 0.5div or 5mV ; 25MHz ~ 70/100/200MHz : Approx. 1div or 10mV		
HORIZONTAL	Range Modes Accuracy Pre-Trigger Post-Trigger	1ns/div ~ 10s/div (1-2.5-5 increments); ROLL : 250ms/div ~ 10s/div Main, Window, Window Zoom, Roll, Scan, X-Y ±0.01% 20 div maximum 1000 div		
X-Y MODE	X-Axis Input Y-Axis Input Phase Shift	Channel 1 Channel 2, Channel 3, Channel 4 ±3°at 100kHz		
SIGNAL ACQUISITION	Real-Time Sample Rate Equivalent Sample Rate Vertical Resolution Record Length Acquisition Mode Peak Detection Average	1GSa/s maximum 25GSa/s maximum 8 Bits 25K Dots maximum Normal, Peak Detect, Average 10ns 2 , 4 , 8 , 16 , 32 , 64 , 128 , 256		
CURSORS AND MEASUREMENT	Voltage Measurement Time Measurement Delay Measurement Cursors Measurement Auto Counter	V_{pp} , V_{amp} , V_{avg} , V_{rms} , V_{hi} , V_{lo} , V_{max} , V_{min} , Rise Preshoot/Overshoot, Fall Preshoot/Overshoot Freq, Period, Rise Time, Fall Time, Positive Width, Negative Width, Duty Cycle Eight different delay measurement Voltage difference between cursors (△V) Time difference between cursors (△T) Resolution : 6 digits; Accuracy : ±2%; Signal Source: All available trigger source except the Video trigger mode		
CONTROL PANEL FUNCTION	Autoset Save Setup Save	Automatically Adjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level Up to 20 sets of measurement conditions 24 sets of waveform		
DISPLAY	TFT LCD Type Display Resolution Display Graticule Display Brightness	5.7 inch 234 (Vertically) x 320 (Horizontally) Dots 8 x 10 divisions ; 8 x 12 divisions (menu off) Adjustable		
INTERFACE	Go/NoGo Output RS-232 Interface USB	5V Maximum/10mA TTL Open Collector Output DB 9-pin male DTE RS-232 interface USB Host/Device 2.0 full speed supported		
POWER SOURCE	Line Voltage Range	AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection		
MISCELLANEOUS	Multi-Language Menu Online Help Data Log Time Clock	Available Available Available Time and Date, Provide the Date/Time for saved data		
DIMENSIONS & WEIGHT		310(W)×142(H)×310(D)mm, Approx. 4.3kg		

Specifications subject to change without notice.   BS-1000GD1DH

ORDERING INFORMATION

GBS-1074   70MHz, 4-channel, Digital Storage Oscilloscope
GBS-1104   100MHz, 4-channel, Digital Storage Oscilloscope
GBS-1204   200MHz, 4-channel, Digital Storage Oscilloscope

ACCESSORIES

Quick start guide, User manual CD x 1, Power cord x 1
Probe-GTP-070A-4 : 70MHz (10 : 1/1 : 1) Switchable Passive Probe for GBS-1074 (one per channel)
Probe-GTP-100A-4 : 100MHz (10 : 1/1 : 1) Switchable Passive Probe for GBS-1104 (one per channel)
Probe-GTP-250A-2 : 250MHz (10 : 1/1 : 1) Switchable Passive Probe for GBS-1204 (one per channel)

OPTIONAL ACCESSORIES

GRA-405 Rack Mounting, 19" 4U Type
GSC-005 Soft Carrying Case
GTC-001 Instrument Cart, 450(W) x 430(D) mm (120V Input Socket)
GTC-002 Instrument Cart, 330(W) x 430(D) mm (120V Input Socket)
GTL-110 Test Lead, BNC-BNC Heads
GTL-232 RS-232C Cable, 9-pin Female to 9-pin Female, Null Modem for Computer
GTL-246 USB Cable, USB 2.0 A-B TYPE CABLE, 4P

FREE DOWNLOAD

PC Software FreeWave software
Driver   USB driver ; LabView Driver

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