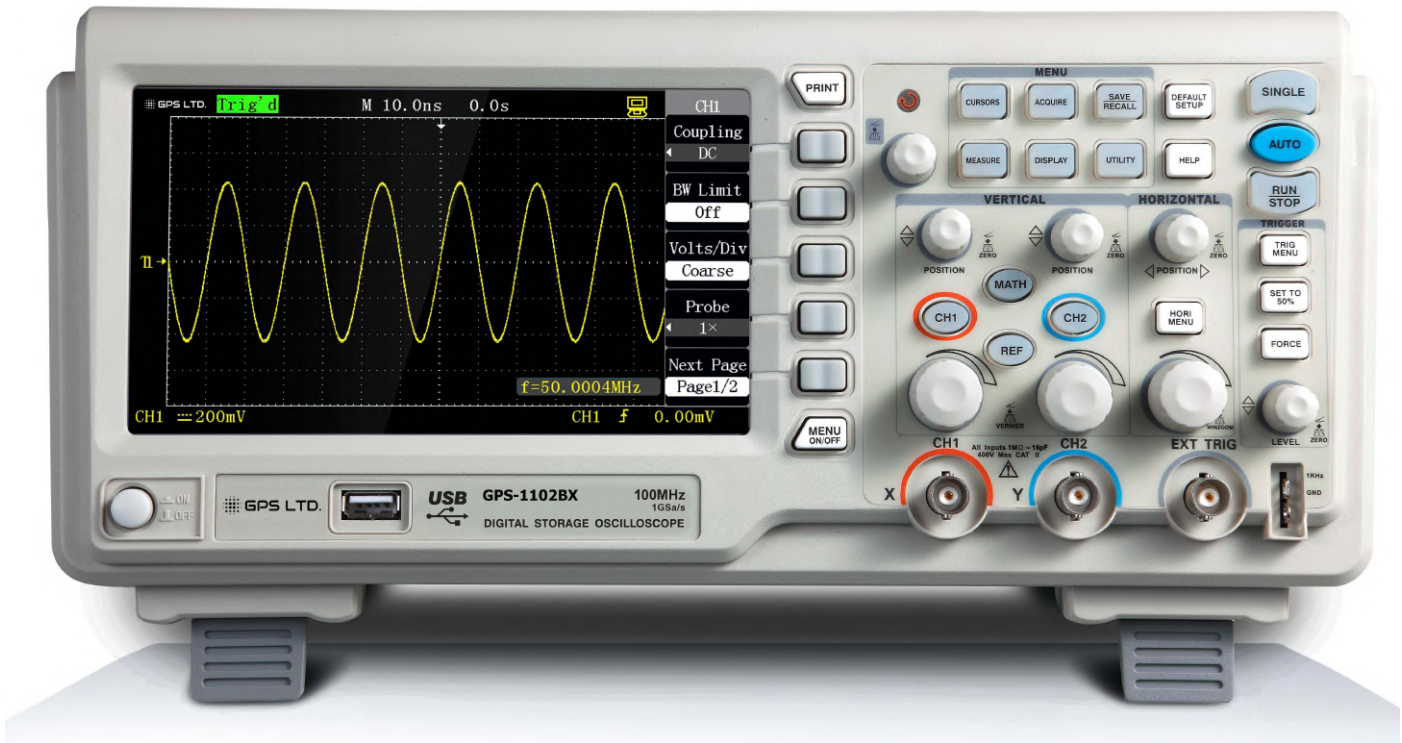


# DIGITAL STORAGE OSCILLOSCOPE

## GPS-1000BX Series



### FEATURES

- 1GSa/s Sampling Rate
- 2 Channels
- 7" Widescreen LCD Colour Display
- USB Host/Device: Support USB Printer and USB Flash Drive
- PictBridge Function
- Easyscope Software

### APPLICATIONS

- Industrial power design, troubleshooting, installation and maintenance
- Electronics design, troubleshooting, installation and maintenance
- Circuit design & debug
- Educational lab & training institution
- Repair & service
- Production test & quality inspection

# DIGITAL STORAGE OSCILLOSCOPE

## GPS-1000BX Series



Product Name	Order code
<b>GPS-1072BX</b> 70MHz, 1GSa/s, 2 Ch, 2Mpts memory	31-0072
<b>GPS-1102BX</b> 110MHz, 1GSa/s, 2 Ch, 2Mpts memory	31-0450
<b>GPS1202BX</b> 200MHz, 1GSa/s, 2 Ch, 2Mpts memory	31-0680

### CHARACTERISTICS

- Ultra-thin, sleek, stylish design.
- A 7-inch widescreen colour TFT LCD displays clear, crisp and more stable waveform display. 25% more viewing area with the menu switched off.
- Storage/ Memory depth: single channel: 2Mpts; double channels: 1Mpts.
- Various trigger functions: Edge, Pulse, Video, Slope and Alternation.
- Unique digital filtering and waveform recording functions.
- Pass/Fail function.
- 32 kinds of automatic measurement and manual cursor tracking measurement functions.
- Two groups of reference waveforms, 16 groups of common waveforms, 20 groups of internal storage/output; support waveform setting, external storage and output of CSV and bitmap file by USB flash disc (CSV and bitmaps cannot be output from USB flash disc). Adjustable waveform
- Brightness and screen grid brightness.
- The pop-up menu display mode realizes more flexible and more natural for users' operations.
- Various kinds of language interface display.
- On-line help system.
- Shortcut key "PRINT" to save Screenshot to the attached USB disk.
- Standard configuration interfaces: USB Host, USB Device, RS-232.
- USB Host: support storage of USB flash disk and upgrading of USB flash disk system software.
- USB Device: support PC connection for remote communication.

### Accessories:

- 1:1/10:1 probes(2 PCS ea)
- Power cord satisfying the standard of the user's country
- USB cable
- CD (containing PC software GAScope1.0 and user's manual)

# DIGITAL STORAGE OSCILLOSCOPE

## GPS-1000BX Series



### Input

Input coupling	AC, DC, GND
Input impedance	1MΩ ± 3%    16pF ± 3pF
Maximum input voltage	400V (DC + AC peak value, 1MΩ input impedance) (Only to GA1202CAM) 800V (DC + AC peak value, 1MΩ input impedance)
Probe attenuation	1X, 10X, 100X, 1000X

### Signal acquisition system

Sampling mode	Real-time sampling
Sampling rate	Single channel 1GSa/s, dual channel 500MSa/s
Storage depth	Single channel 2Mpts Dual channel 1Mpts
Acquire mode	Sampling, peak value detection, average value
Average time	4, 16, 32, 64, 128, 256

### Vertical system

Vertical Sensitivity	2mV/div - 10V/div (1-2-5 step-by-step)	2mV/div - 5V/div (1-2-5 step-by-step)		
Channel voltage offset range	±10div offset from the screen center			
Vertical Resolution	8bit			
Channels	2			
Bandwidth		GPS-1072BX 70MHz	GPS-1112BX 110MHz	GPS-1202BX 200MHz
DC gain accuracy	2mV/div ≤ ±4%, the rest gears ≤ ±3%			
DC measurement accuracy	±[DC measurement accuracy x reading + (1% x vertical displacement reading) + 0.2div]			
Rise time		< 5.8ns	< 3.5ns	< 1.7ns
Vertical coupling	AC, DC, GND			
Arithmetical operation	+, -, ×, ÷, FFT			
FFT	Window mode: Hanning, Hamming, Blackman Sampling points : 1024			
Bandwidth limit	20MHz (-3dB)			

### Horizontal system

Time base		5ns/div ~ 50s/div sequence 1-2-5	2ns/div ~ 50s/div sequence 1-2-5
Horizontal displacement range	100div		
Display mode	Y-T mode, X-Y mode		
X-Y mode phase difference	±3 Degrees		
Display type	Point display, vector display		

### Trigger system

Trigger type	Edge, pulse, video, slope, alternate
Trigger signal source	CH1, CH2, EXT, EXT/5, AC Line
Trigger mode	Auto, normal, single
Trigger coupling	DC, AC, Low-frequency rejection, high-frequency rejection
Trigger electric level range	CH1, CH2: ±10div EXT: ±1.5V EXT/5: ±7.5V
Trigger sensitivity	CH1, CH2: ≤1div EXT: ≤0.15V EXT/5: ≤0.75V
Hold-off range	100ns ~ 10s
Edge trigger	Type: rise, descend, rise and descend edge

# DIGITAL STORAGE OSCILLOSCOPE

## GPS-1000BX Series



### Trigger system (cont.)

Pulse width trigger	Type: (>, <, =) positive pulse width (>, <, =) negative pulse width Pulse width: 20ns ~ 10s Pulse width resolution: 5ns or 1‰ (take the higher value)
Video trigger	Support signal system: PAL, NTSC Trigger condition: odd field, even field, all rows, specified row
Slope trigger	(>, <, =) positive slope (>, <, =) negative slope Time setup: 20ns-10s
Alternating trigger	CH1 trigger type: edge, pulse, video, slope CH2 trigger type: edge, pulse, video, slope

### Measurement system

Automatic measurement (32 kinds)	Maximum value, minimum value, peak-to-peak value, amplitude, top value, bottom value, periodic average value, average value, periodic mean square root, mean square root, rise extreme, descend extreme, rise time, descend time, frequency, period, pulse width, positive pulse width, negative pulse width, positive duty ratio, negative duty ratio, phase, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF
Cursor measurement	Manual measurement mode, cursor tracking measurement mode

### Control panel Function

Auto setup	The auto setup function can realize automatic regulation of the vertical system, the horizontal system and the trigger position.
Save/recall	2 groups of reference waveform, 20 groups of common waveform, 16 groups of setups; save and recall from USB flash drive of the waveform, setups, CSV and bitmap files (CSV and the bitmaps cannot be recalled from the USB flash disc) are supported.

### Hardware frequency counter

Reading resolution ratio	6 bits
Range	Alternating-current coupling, from 10Hz to the maximal bandwidth
Signal source	All sources capable of being triggered in pulse trigger or edge trigger type

## GENERAL SPECIFICATIONS

### Display

Display type	TFT 7-inch (178mm) LCD
Display resolution ratio	800 (horizontal) pixels x 480 (vertical) pixels
Display color	64k colour
Contrast ratio (typical)	500:1
Background intensity (typical)	300 Cd/m <sup>2</sup>
Waveform display range	14 × 8 grids
Afterglow	Off, 1 second, 2 seconds, 5 seconds, infinite
Menu display	2 seconds, 5 seconds, 10 seconds, 20 seconds, infinite
Screen saver	Off, 1min, 2min, 5min, 10min, 15min, 20min, 1h, 2h, 5h
Interpolation mode	Sine interpolation, linear interpolation
Screen color mode	Normal, inverse phase
Display language	English, French, German, Korean, Italian, Spanish, Portuguese, Russian

# DIGITAL STORAGE OSCILLOSCOPE

## GPS-1000BX Series



### Power supply

Power voltage	100-240 VAC, CAT II, auto selection
AC power supply frequency range	45Hz to 440Hz
Consumed power	50VA Max

### Environment

Temperature	Operating: 10 °C to +40 °C Non operating: -20 °C to +60 °C
Cooling	Forced cooling of fan
Humidity	≤ 90% below 40 °C
Height	Operating: smaller than 3000m Non operating: smaller than 15000m

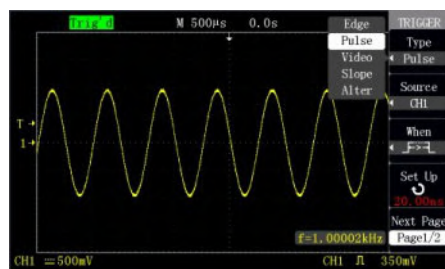
### Mechanical

Dimension	Length	Width	Height
	399mm	111mm	149mm
Weight	2.4 kg		

All technical specifications are applicable to probes of which the attenuation switches are set as  $\times 10$  with this series of digital oscilloscope.

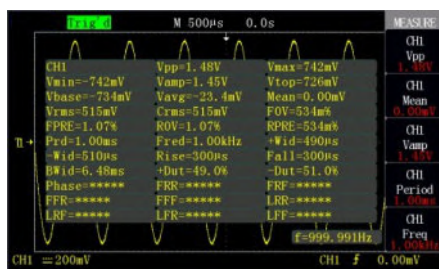
All the specifications are ensured to satisfy the requirement stated except those that are marked "TYPICAL".

## FEATURES



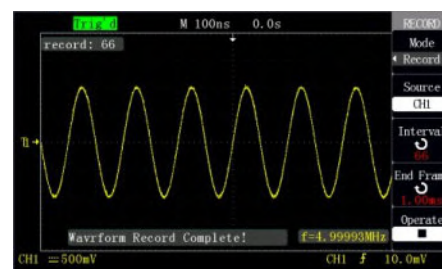
### Advanced trigger settings

Various triggering options is available to capture any signal of interest with Edge, slope, video, pulse width, alternating triggering modes. This gives you flexible observation, analysis signal types, saving the cost of testing. Alternative trigger mode is usually used to observing two non-correlated signals at the same time and users can select different trigger mode for two channels, which is a kind reproduction that analog oscilloscope function in the digital oscilloscope.



### Automatic measurement function

The full featured acquisition model and 32 automatic measurement functions help user to measure captured waveform parameters more accurately. Auto measure function can eliminate user error consumedly, and users will measure parameters what they need faster and more accurately using it. It also have an all measurement function that displays all the waveform parameters on the screen simultaneously according to measure kinds, and users can ready measure parameters value expediently.

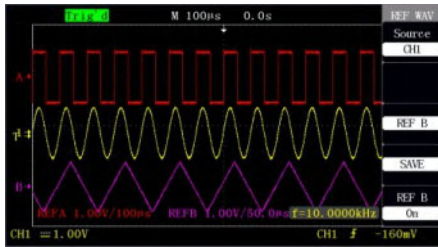


### The waveform recording / playback

Using this function, Users can continue record data of their need signals as the form of frame. Waveform recorder can record input waveform from CH1 and CH2, with maximum record length of 1500 frames. This record behaviour can also be activated by the pass/fail test output, which makes this function especially useful to capture abnormal signals in long term without keeping an eye watching it.

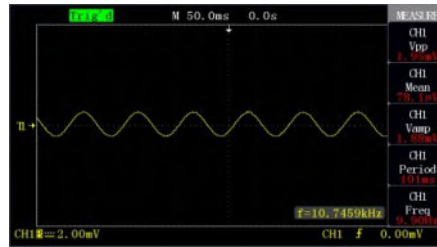
# DIGITAL STORAGE OSCILLOSCOPE

## GPS-1000BX Series



### The reference waveform storage

Two reference waveforms can be stored into the internal memory and can be opened simultaneously, thus showing the sample and reference waveforms in comparison.



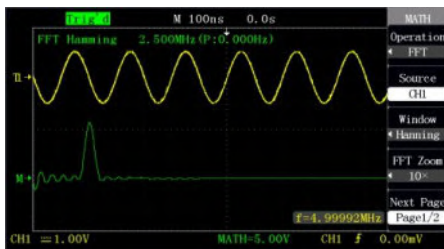
### Small Signal Capture

Better noise function with excellent performance, accurately captures even the faint signal giving you the confidence in testing.



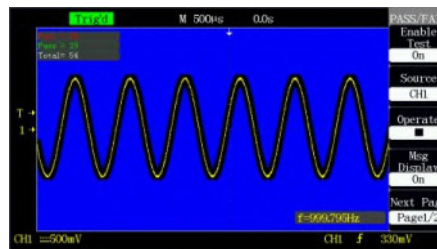
### XY mode display

Use XY format to analyse phase. In this mode the data is displayed as dots.



### FFT split-screen display

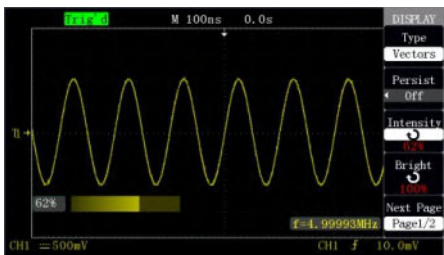
FFT waveform and its Channel waveform can display on split screen at the same time. In split display mode, the screen is divided into two parts and each part is divided eight divides in vertical direction. That is similar to under the entire screen pattern simultaneously to observe two waveforms. This way will make users observe waveforms to be clearer and convenient.



### PASS / FAIL

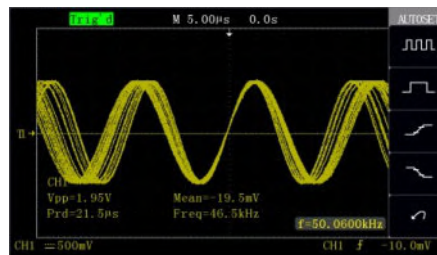
Users may use the Pass/Fail function to carry on the product test. Through a series of setups, the oscilloscope can output the test result automatically which enhanced the product production efficiency greatly.

## USER-FRIENDLY DESIGN



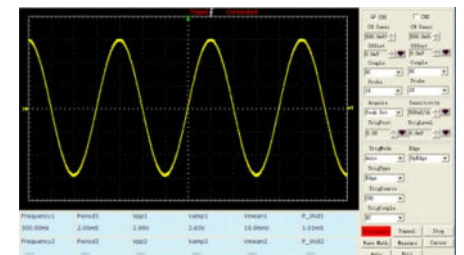
### A waveform adjustable brightness

Waveform brightness adjustable at any time, may be needed to facilitate clearly observe the waveforms. GA1101 series use the 7" Wide Screen Colour TFT LCD. The screen displays parameter value and the waveform are visible clearly and from a broad range of viewing angle.



### Signal persistence view

Display the signal path of the frequency. When acquisitions are stopped, the screen may show data from many acquisitions or the last acquisition. The past acquisition can be displayed based on 4 different time based options of (1-2-5-infinite).



### PC software

Easy to use PC control software is the easiest and convenient way to remotely capture and analyse the waveform data. This software can be compatible RS-232 and USB Device to realize communication between the computer and the oscilloscope, then realizes long-distance control. Simultaneously this software can automatic real-time refresh waveform data, provide waveforms measure data sampling data, screen images read storage and printing functions.