



## GLA-1000 Series

### FEATURES

- 32/16 Input Channel
- Time Analysis : Up to 200MHz Internal Sampling Rate
- State Analysis : Up to 100MHz External Input Clock
- Memory Depth : Up to 2Mbits/1Mbits (Half/Full Channels)
- Advanced Trigger : Count, Page, Time Delay and Clock Event Delay
- Data Compression : Up to 255 Times Data Capture
- Enable Qualifier : High/Low Level Enable and Enable Delay Function
- Signal Analyzer : I<sup>2</sup>C , RS-232C Protocol Analyzer and Signal Statistics
- File Export : Signal Data, Operation Setting and Display Image
- Manual Trigger Start Button
- High-Speed Communication : USB 2.0 (1.1 Compatible)
- USB Powered, Without External AC Power



#### Carrying Case

- 1.Signal Probes
- 2.Signal Grippers
- 3.Carrying Case
- 4.USB Cable (2.0)
- 5.Software CD-ROM
- 6.User Manual

### APPLICATIONS

- IC design
- Digital Circuit design and debug
- Embedded system development
- Educational Lab and Training Institution

### Compact Size with Full Functionality

GLA-1000 Series is a palm-size PC based logic analyzer with functionality matching that of a desktop device. The maximum 32 channels, 1Mbits of data memory and powerful features of GLA-1000 Series provide digital engineers & professionals with a mean, which can adequately handle today's digital system analysis. All the operations of GLA-1000 Series are done under the environment of Window TM based PC software, which provides a user-familiar GUI and a large screen display facilitating the complex measurements of digital devices.

### High-Speed Signal Acquisition and Measurements

With 200MHz internal sampling rate, the timing analysis of GLA-1000 Series conforms even to today's cutting edge digital technology. The 100MHz external sampling rate gives user high confidence in performing table and synchronized state analysis. The maximum 1Mbits of data memory per channel, enhanced by up to x 255 data-loss-less compression, enables longer data acquisition and deeper data analysis. The channel grouping could be done randomly based on the user-defined configuration, which provides flexible channel arrangements for sophisticated digital measurements.

### Advanced Trigger Functions

The trigger setting could be done either from a trigger selection soft key in front of each channel display for individual channel setting or through a dialog window for pre-defined Bus pattern setting. The selection of trigger conditions include high, low, rising edge, falling edge, either edge and don't care for all channels or a Binary, Decimal or Hexadecimal code of a pre-defined Bus. The user-selectable threshold, in TTL, CMOS, ECL and user-defined voltage (-6.0V--+6.0V), allows quick adoption of measurements on a multi-voltage digital system. Like a modern DSO, GLA-1000 Series features advanced trigger functions, including time delay trigger, clock event delay trigger, page delay trigger and Post/Pre trigger display. The unique feature "Enable Qualifier" picks up only the portions of data that match the user pre-defined condition after the signal being triggered. This function effectively reduces the redundant data and collects as much as possible the useful data sections within the limited memory. Three control signal output terminals, Start, Trigger & End, are provided to facilitate the control over external devices. When

GLA-1000 Series triggers on a signal, its trigger output signal could activate a DSO to get a synchronized real-time waveform for the cross-reference of digital data and analog signal waveform. This is a typical example among all the applications of control signal outputs.

### Powerful Data Analysis Capability

A data-search dialogue window helps finding the user-defined data from the chunky data stream acquired after triggering. A bar cursor automatically locates the found data pattern and put it to the screen center. The additional bar(s) could be used to indicate  $\Delta$ time or  $\Delta$ clock event between two data patterns of interest. A statistics feature is provided to calculate the number count of a user-defined data pattern that shows up within the overall acquired data stream or to calculate the number count of a user defined high-low status of the data section that shows up in a channel. GLA-1000 Series also offers a tool to perform the analysis of serial bus protocol. This feature supports the most popular standards, RS-232C & I<sup>2</sup>C.

### User-friendly Operation

All the settings & operations of GLA-1000 Series are done under the Windows TM environment, which offers the customizable keyboard shortcuts and the toolbar icons that could significantly shorten the learning curve of the first-time users. The horizontal scale of the display is selectable between time and sampling clock and the data waveform is selectable between Ramp & Square to accommodate various application demands. The screen background and data waveforms are all color-definable to ease the observation of display Information. A default color configuration is provided for easy getting-back to the standard color setting once needed.

### Flexible File Export Functions

The whole, or a user-defined clip, of screen image, captured data and setting of GLA-1000 Series could be saved as various types of files into PC for further data analysis, reporting, and other applications. The USB 2.0 communication between GLA-1000 Series and the PC guarantees the secured data transfer at the maximum speed while providing GLA-1000 Series with a power source.

## SPECIFICATIONS

		GLA-1016	GLA-1032	GLA-1132
<b>CHANNELS</b>		16	32	32
<b>MEMORY TOTAL/PER CHANNEL</b>		4Mbits/256kbits	4Mbits/128kbits	32Mbits/1Mbits
<b>INTERFACE</b>		USB 2.0 (1.1)		
<b>OPERATING SYSTEM</b>		Win98/98SE/Me/2000/XP		
<b>TIMING ANALYSIS</b>		Maximum 200MHz		
<b>STATE ANALYSIS</b>		0.001Hz ~ 100MHz		
<b>TRIGGER</b>	<b>Channel</b>	16 (GLA-1016), 32 (GLA-1032, 1132)		
	<b>Condition</b>	Edge/Pattern		
	<b>Pre/Post trigger</b>	0%~100%		
	<b>Level</b>	1		
	<b>Threshold</b>	+6V ~ -6V		
	<b>Accuracy</b>	93mV		
	<b>Delay</b>	Time delay, clock event delay		
	<b>Count</b>	1 ~ 65535		
	<b>Page</b>	Maximum 8191		
<b>INPUT</b>	<b>Maximum Input Voltage</b>	30V		
	<b>Impedance</b>	500k /10pF		
	<b>Data Skew</b>	< 1.5ns		
<b>ENABLE QUALIFIER</b>	<b>Channel</b>	16 (GLA-1016), 32 (GLA-1032, GLA-1132)		
	<b>Enable Condition</b>	Don't care, Low, High		
	<b>Enable Delay</b>	1~65535ms		
<b>DATA</b>	<b>Compression Channels</b>	16 (GLA-1016), 24 (GLA-1032, GLA-1132)		
	<b>Compression Ratio</b>	Maximum 255		
	<b>Signal Statistics</b>	Postive/Negative, Full cycle within length condition		
	<b>Protocol Analyzer</b>	I <sup>2</sup> C, RS-232C		
<b>CURRENT CONSUMPTION</b>	<b>Static</b>	Maximum 200mA		
	<b>Working</b>	Maximum 400mA		
<b>POWER DISSIPATION</b>	<b>Static</b>	Maximum 1W		
	<b>Working</b>	Maximum 2W		
<b>POWER</b>	<b>Interface</b>	USB		
	<b>Working voltage</b>	4.5V ~ 5.5V		
<b>TEMPERATURE</b>	<b>Operating</b>	0 C ~ 50 C		
	<b>Storage</b>	-40 C ~ 80 C		
<b>DIMENSION &amp; WEIGHT</b>		102(D) x 39 (H) x 137(W) mm ; Approx. 340g		

Remark : The specifications apply under the following conditions:  
GLA is powered on for at least 30 minutes, within +20 C~+30 C.

Specifications subject to change without notice. LA-1000GD0DH

### Ordering Information

GLA-1016: 16 channels, 256Kbit/channel  
GLA-1032: 32 channels, 128Kbit/channel  
GLA-1132: 32 channels, 1Mbit/channel (Long memory)

### Standard Accessories

GLA-1016: 1set Signal Probes, 20pcs Signal Grippers  
GLA-1032/GLA-1132: 1set Signal Probes, 36pcs Signal Grippers  
Carrying Case  
USB Cable (2.0)  
Software CD-ROM  
User Manual

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