

# Acute DS-1000 series Digital Storage Oscilloscope



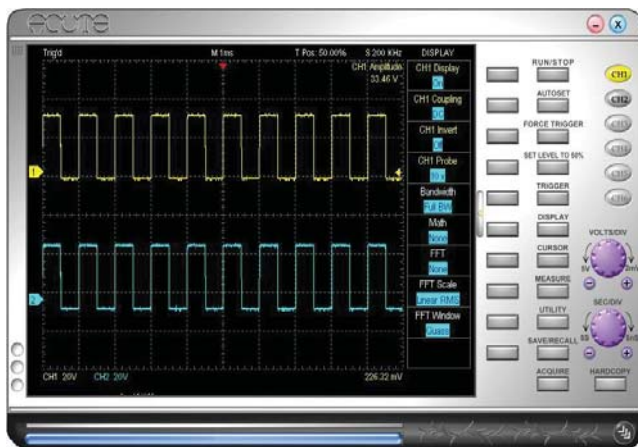
135 x 80 x 26 mm<sup>3</sup>

## Features

- PC-based
- USB2.0 interface/powerd
- 2 channels (up to 6 channels)
- 200 MS/s sampling (5 GS/s Equivalent)
- 200 MHz bandwidth
- 64 K/512 K/2 M points/channel
- 20 MHz bandwidth limitation
- TV (DS-1002 N/A), Delay, External trigger
- Scan line number (DS-1202, DS-1302 only)
- 9 bits/CH vertical resolution, 2 mV/DIV to 10 V/DIV
- RUN/STOP hardware button
- Pass/Fail Hot Key Setting
- FFT, Math, Save/Recall, Internet Control, etc.
- Export data to WORD, EXCEL, TEXT, HTML, etc.
- Data Logger (HD storage)

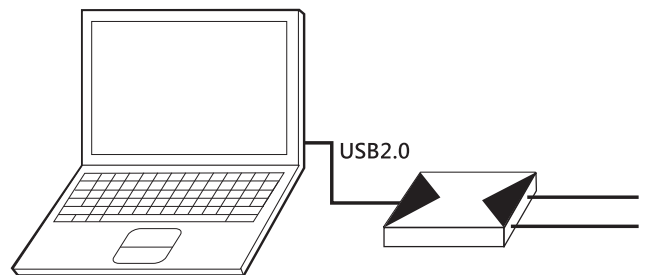
Model	R/T Sampling	Bandwidth	Record Length
DS-1002	100 MS/s	100 MHz	64Kpts/ch
DS-1102	200 MS/s	200 MHz	64Kpts/ch
DS-1202	200 MS/s	200 MHz	512Kpts/ch
DS-1302	200 MS/s	200 MHz	2Mpts/ch

## Software Window



## System Requirements

- USB2.0 port
- Windows 2000/XP/Vista/Vista-64/Win7/Win7-64 OS



# Acute®

PC-based T&M Instruments

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## DS-1000 series

<b>Acquisition</b>	
Mode	Real-time sampling, Equivalent sampling, Roll mode, Average, Persistent
<b>Input</b>	
Input Coupling	AC, DC, GND
Input Impedance	1MΩ±1% // 21pF±5%
Max. Input Voltage	42Vpk (DC + AC peak)
<b>Vertical</b>	
Channel	2 (stack up to 3 units to 6 channels)
Resolution	9 bits/channel @ 5mV/DIV - 10V/DIV (8 bits @ 2mV/DIV)
Scale Range	2mV/DIV to 10V/DIV (as 1-2-5 step)
Bandwidth	DS-1102, DS-1202, DS1302 : DC to 200MHz DS-1002: DC to 100MHz
BW Limit	20MHz (-3dB)
Range	8 divisions
Offset Range	±4 divisions
Offset Increments	0.1 divisions
DC Accuracy	±3%
<b>Horizontal</b>	
Sampling Rate	DS-1102, 1202, 1302: Real-time Sampling : 200Ms/s @ 1 Ch, 100Ms/s @ 2 Ch (Single Shot)
	Equivalent Sampling : 5Gs/s (Repetitive)
	DS-1002: Real-time Sampling : 100Ms/s @ 1 Ch, 50Ms/s @ 2 Ch (Single Shot)
	Equivalent Sampling : 2.5Gs/s (Repetitive)
Time Scale Range	2ns/DIV to 10s/DIV (as 2- 5-10 step)
Accuracy	±100ppm
Range	10 divisions
範圍	DS-1002, DS-1102: 320 divisions
Delay Trigger	DS-1202: 2560 divisions
	DS-1302: 5120 divisions
Time Resolution	200ps
Record Length	DS-1002, DS-1102: 2K to 64K points
	DS-1202: 2K to 512K points
	DS-1302: 2K to 2M points
<b>Trigger</b>	
Type	Rising, Falling, Delay-Trigger, TV-Trigger (DS-1002 no TV Trigger) Scan line number (DS-1202, DS-1302 only)

Mode	Auto, Normal and Single (with RUN/STOP hardware button on the DSO device)
Source	Ch-1, Ch-2, Ext-Trig
Coupling	DC, HF rejection
Sensitivity	5mV/DIV~10V/DIV=1 div; 2mV/DIV=1.5 div
Trigger Range	±4 divisions
Level Increments	0.1 divisions
<b>Measurement/Processing</b>	
Special Function	Autoset, Monitor from Internet (TCP/IP), Logger
Measurement	Vpp, Vmax, Vmin, Vamp, Vtop, Vbase, Vupper, Vmiddle, Vlower, Vmean, Vrms, Positive overshoot, Negative overshoot, Period, Frequency, Pulse width
Cursor	Time difference, Voltage difference
Math	Add, Sub, Multiplication, Division, XY
FFT	Rectangular, Blackman, Hann, Hamming, Harris, Triangular, Cosine, Lanczos, Gaussian (Vertical Scale : dBm RMS, dBV RMS, Linear RMS)
Export Data	WORD, EXCEL, CSV, TEXT, HTML, Clipboard, Hardcopy, Preview
<b>External Trigger Input/Output</b>	
EXT-TRIG Input Limitation	TTL Level
EXT-TRIG Input Acknowledge Level	1.6V to 5V, rising/falling edge
EXT-TRIG Input Acknowledge Freq.	">10ns" and ">0.1 TIME/DIV"
TRIG-OUT	3.3v plus, 20ns delay after trigger occurring (only for DS-1000 stack function)
<b>Compensator Output</b>	
Level	Approx. 3.3V
Frequency	1KHz ±0.5%
<b>Environment</b>	
Operation	0°C to +50°C
Storage	-10°C to +60°C
<b>Physical</b>	
Interface	USB2.0 (USB1.1 compatible)
Power	USB bus power
Dimension	135x80x26 mm <sup>3</sup> (device only)
Weight	230 g (device only)
<b>Accessories</b>	
Probes	DS-1102, DS-1202, DS1302: 250MHz probe (1x/10x) x2 DS-1002: 100MHz probe (1x/10x) x2
Others	Installation CD, USB2.0 cable, User manual, Soft case, Stack cable

## Limitations in Stack Mode

<b>Acquisition</b>	
Mode	"Equivalent Sampling" or "Roll Mode" only available for the master DSO.
<b>Time Based</b>	
Sampling Rate	Real-time sampling: the same as individual unit Equivalent sampling: the same as individual unit, only for Master-DSO

Time Base Range	5ns/DIV to 100ms/DIV (as 1-2-5 step), available for all DSOs 200ms/DIV to 10s/DIV (Roll mode), only available for the master DSO
<b>Trigger</b>	
Source	CH1, CH2, Ext-Trig in Master-DSO
Jitter	±200ps in Master-DSO, ±10ns in Slave-DSO

### Packing List of DS-1000 series

Item	Quantity
1. DS-1000 device	1
2. Probe accessories pack	2
3. Stack function cable	1
4. USB2.0 cable (1.8m)	1
5. 250 MHz probe (1x/10x)	2*
6. User manual	1
7. Soft case	1
8. Intallation CD	1

\*DS-1002 provides 2 pieces of 100 MHz probes (1x/10x)

