

High Performance Instrumentation in a PC

Features

- 100 MHz, 200 MHz, 300 MHz Bandwidth
- 200 Gigasample/second Equivalent Sample Rate
- 500ps/div to 200 msec/div Timebase
- Seven Vertical Voltage Ranges
- Includes BenchCom™ Software

Only the proprietary technology of PC Instruments oscilloscopes combines the performance of the best oscilloscopes with the convenience of PC operation. If you're collecting data with a digital oscilloscope tied to a personal computer, the new PC Instruments line of oscilloscope cards can give you the same high level of performance without the bulky extra scope and cabling. You'll keep the convenience of PC operation and get bandwidths to 2 GHz - the kind of performance that used to be only available in stand-alone scopes. Except now, PC Instruments has put that power into your PC.

The Single Channel PCI-420 family and the Dual Channel PCI-430 family occupy one PC expansion slot and, besides the features listed above, provide AC/DC coupling, DC offset and a probe compensation signal. Also included are 27 timebase settings from 500 ps/div to 200 msec/div, and an automatic trigger level algorithm. These new scopes are ideal for ATE systems that need to test communications signals, components, and high speed digital signals.

BenchCom™ software is included with every oscilloscope card and provides you the tools necessary to integrate the scopes into your test environment. Included in the BenchCom software bundle are programmer's libraries for C and C++, 16-bit and 32-bit DLLs, and support for third party applications. Contact the factory for the latest additions to BenchCom. Also included in BenchCom is the BenchTop™ Lite graphical user interface for Windows and Windows 95. Each product from PC Instruments includes all of the software you'll need to easily control the scopes and collect data, and the tools necessary to

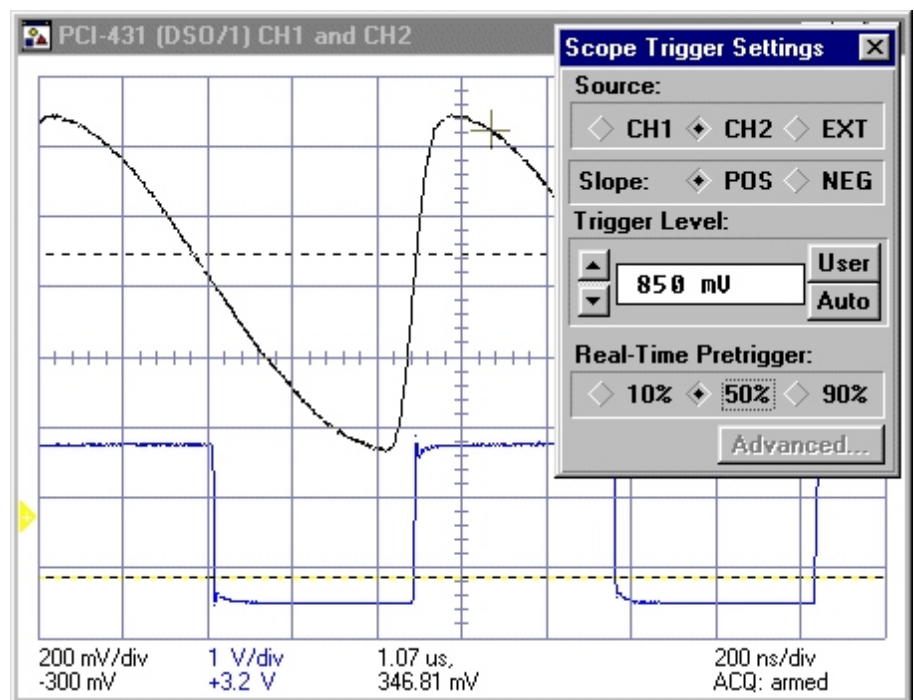
Applications

- Test Digital Communication Signals
- Determine Pulse Response of Components
- Study Clock Distribution
- Analytical and NDE Instruments
- ATE Systems

integrate the scopes into your test system.

Reliability has been built-in to every PC Instruments scope. External ground planes shield the scope from noise and provide a safe path for static dissipation. The high performance of the scope is accomplished without incorporating any adjustments, therefore increasing reliability and providing "covers-on" calibration.

Test, production, and manufacturing engineers responsible for collecting data on components, sub-systems, and complete products will find that PC Instruments scopes out-perform data acquisition cards and have the features engineers need to make their measurements. And, when compared to a portable digital oscilloscope connected to a PC, the PC Instruments scope boards costs less, take up less bench space, and do not require an interface board (e.g. IEEE-488), interface cable, or interface software.



PCI-42X and PCI-43X Digital Oscilloscopes

MODEL	PCI-421	PCI-422	PCI-423	PCI-425	PCI-431	PCI-432	PCI-433	PCI-435
Channels	1	1	1	1	2	2	2	2
Bandwidth	100 MHz	100 MHz	200 MHz	300 MHz	100 MHz	100 MHz	200 MHz	300 MHz
Minimum V/div	10 mV	50 mV	10 mV	5 mV	10 mV	50 mV	10 mV	5 mV
Maximum V/div	1V	5V	1V	500 mV	1V	5V	1V	500 mV
Impedance	1M Ω , 15pF	1M Ω , 15pF	1M Ω , 15pF	50 Ω	1M Ω , 15pF	1M Ω , 15pF	1M Ω , 15pF	50 Ω
Maximum Volts	± 200 V	± 200 V	± 200 V	± 5 V	± 200 V	± 200 V	± 200 V	± 5 V
DC Offset Range	± 5.5 V	± 20 V	± 5.5 V	± 2 V	± 5.5 V	± 20 V	± 5.5 V	± 2 V
Internal Trigger Range	± 5.5 V	± 20 V	± 5.5 V	± 2 V	± 5.5 V	± 20 V	± 5.5 V	± 2 V
External Trigger								
Range	± 5.5 V	± 5.5 V	± 5.5 V	± 2 V	± 5.5 V	± 5.5 V	± 5.5 V	± 2 V
Impedance	1M Ω , 15pF	1M Ω , 15pF	1M Ω , 15pF	50 Ω	1M Ω , 15pF	1M Ω , 15pF	1M Ω , 15pF	50 Ω

Vertical Section

Input Coupling	AC or DC
Gain Accuracy	$\pm 1\%$ at 10 kHz and at 1 MHz
Bandpass Flatness (typical) (100 Hz - 500 kHz, relative to 10 kHz)	± 0.3 dB
Bandpass Flatness (typical) (10 kHz - 50 MHz, relative to 1 MHz)	± 0.5 dB
RMS Noise (typical)	0.25% FS + 0.5mV
Vertical Resolution	
Realtime Mode	8 Bits
Equivalent Sampling Mode	12 Bits

Horizontal Section

Equivalent Sampling Mode	
Time/Division	500 ps - 1 μ s
Maximum Resolution	5 ps/sample
Equivalent Rate	200 Gigasamples/second
Timebase Accuracy	1 %
Real Time Mode	
Time/Division	2 μ s - 200 ms
Maximum Resolution	80 ns/sample
Sample Rate	12.5 Megasamples/second
Timebase Accuracy	0.01 %
Pretrigger Information	10%, 50%, or 90%
Buffer Size	1001 samples/channel

Trigger Section and General

Trigger Sources	Channel 1, Channel 2, or External
Trigger Slope	+ or -
Auto and Auto-Level Trigger	
Compensation Signal	± 1.3 Volts, 1 kHz
Specified Temperature Range	0°C to 50°C
Warm-up Time	15 minutes

BenchCom™ Software

Programming Support	16-Bit and 32-Bit DLLs C and C++ Programmer's Libraries Basic and Pascal File I/O
Utilities	BenchTop™ Lite for Windows Printer/Plotter and File Translation Utilities DOS Command Line and Batch Control
Third Party Drivers	Many (Contact Factory)
Supported Compilers	Microsoft QuickC v2.5 Microsoft C and C++ v7.0 and up Borland C and C++ v3.0 and up Visual Basic for Windows v1.0 and up

Computer Requirements

Processor	80286, 80386 (SX and DX), 80486 (SX and DX) or Pentium
Memory	
BenchCom	The largest program requires 250 KB of RAM available to DOS
BenchTop Lite	2 MB system RAM (570 KB free conventional memory)
Bus	ISA 16-bit (PC/AT)
Video Modes	
BenchCom	Text or Graphics
BenchTop Lite	VGA, SVGA
Hard Drive	
BenchCom	3 MB free
BenchTop Lite	5 MB free
PC Bus Power Requirements	
	<u>+5V</u> <u>+12V</u> <u>-5V</u> <u>-12V</u>
PCI-42X	0.9A 0.2A 0.2A 0.3A
PCI-43X	1.5A 0.3A 0.2A 0.3A

PC INSTRUMENTS

PC Instruments Incorporated
2300 W 31st St - Suite AA
Lawrence, KS 66047
785-856-8700
FAX 785-856-8701
www.pcinstruments.com
info@pcinstruments.com

Document #97082

Specifications are subject to change without notice. Where applicable, PC Instruments uses the test procedures described in IEEE STD 1057, Standard for Digitizing Waveform Recorders. PC Instruments, BenchCom and BenchTop are trademarks of PC Instruments Incorporated. All other brand and product names are trademarks or trade names of their respective companies.