CH3160 Series High Speed Data Acquisition Boards for PCI

Features

4 Input Channels
- **Separate 10 MS/s A/D Converter per Channel**
- **10k to 40 MS/s single channel**

   10k to 20MS/s dual channel

   10k to 10MS/s quad channel
- **12 Bit A/D Resolution**
- **Up to 16 MB Local Acquisition Memory**
- **±50mV to ±5V input range**
- **Analog, Digital, Software Triggering Modes**
- **1 Hz A/D Sample Clock Resolution from onboard DDS**
- **16 Digital I/Os (Synchronous with Analog I/O)**
- **2 Counter/Timers**
- **PCI Bus-Mastering Transfers at >80 MB/s sustained**
- **Onboard 143 MHz, 32 Bit DSP for Numerical Coprocessing**
- **Windows 98/Me/2000/XP, Linux Compatibility**

The Acquitek CH3160 Series of High Speed Data Acquisition Boards was designed to provide superior high-speed functionality and performance at a low price. All CH Series boards utilize 16 MB of onboard memory, a local processor, and PCI bus mastering to provide glitch-free capture and/or playback of analog signals of length limited only by host RAM size, even with a non-realtime PC operating system.

With four inputs and excellent dynamic specifications, the CH3160 Series boards are ideal for communications applications, such as IQ demodulation. With 12 Bit resolution, high-speed precision and flexible triggering options, they are ideal for high-speed control applications. The onboard DSP coprocessor can offload intensive preprocessing steps, such as FFTs, to free the host program for higher-level algorithms and applications. The board is PCI Plug-and-Play, and digitally calibrated, so there are no jumpers or potentiometers to manually adjust.
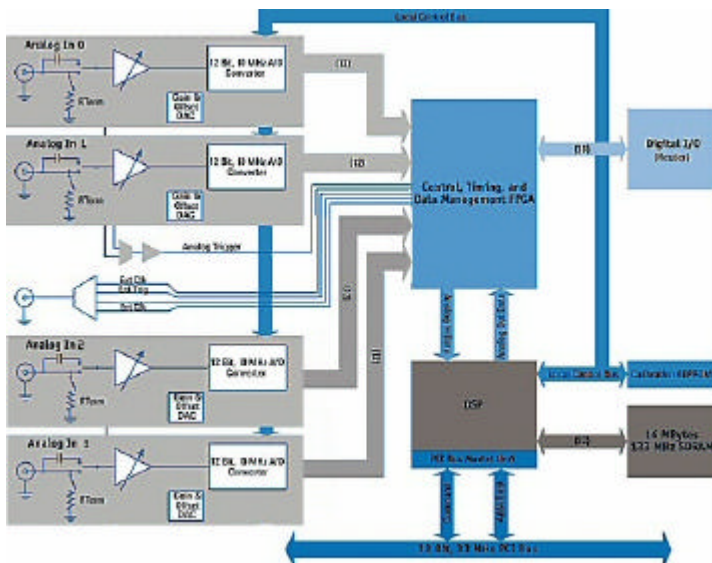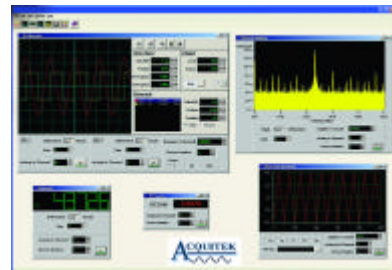
SOFTWARE INCLUDED

Acquitek Control Center — Easy to use configuration software for all Acquitek Hardware.

Acquitek Bench — Extensive Measurement tools, including oscilloscope, spectrum analyzer, logic analyzer, multimeter, strip chart recorder.

Acquitek SDK — A complete software developer's kit with a large library of sample code for LabVIEW, MATLAB, C++, Visual Basic, and ActiveX.

ACQUITEK

Detailed Specifications

ANALOG INPUTS

Number of Inputs:	4 (synchronous) Differential or Single-Ended
Impedance:	1 MΩ or 50Ω (75Ω available) Software Selectable
Coupling:	AC or DC Software Selectable
Analog Bandwidth:	70 MHz (3 dB)
Resolution:	12 Bits
Full Scale Input Range:	±50mV , ±100mV , ±200mV , ±500mV , ±1V , ±2V , ±5V Software Selectable
Absolute Max:	±12V
Gain Accuracy:	+/- 0.1 dB relative to full scale (at 100 kHz)
Zero Accuracy:	0.1% of range +/- 1mV (at DC)
DNL:	< 1 LSB (monotonic)
INL:	< 4 LSB
SNR:	64 dB (500 kHz input, 1 Vpp range)
SFDR:	60 dB (1 Vpp range)
Triggering:	
Source:	Ch1, Ch2, Ext , S/W, Dig I/O
Levels :	±2.5V , 256 Steps
Slope:	+ or −
External :	±2.5V , 100 kΩ Zin , 25 ns min Pulse width
Sample Rate:	
Internal Clock:	10 k to 40 MS/s single channel
	10k – 20MS/s dual channel
	10k – 10MS/s quad channel
	Software Selectable
External Clock:	Must be >= 4x sample rate 100 kΩ Zin , 80 MHz max
Memory:	Up to 16 MB local capture memory
PCI Interface:	32 Bit, 33 MHz Bus Mastering (Continuous full speed capture of 4 chan at 10MSps per chan (80 MB/s) to PC memory is supported)

DIGITAL I/O

Number of I/O:	16 (two 8 Bit ports). Each port selectable as input or output
Input High:	2.0V , 5V max
Input Low:	0.8V , 0V min
Output High:	2.4V min @ 24 mA
Output Low:	0.4V max @ 24 mA
Power Up State:	Input (High Impedance)
Counter/Timers:	
Number:	2 (24 Bit)
Clock:	Internal from A/D or D/A clk
Speed:	80 MHz Max
Modes :	8254 modes 1, 2, 3, 5

PHYSICAL/ENVIRONMENTAL

|	
Dimensions:	7.15 in x 4.20 in 182 mm x 107 mm
Power Consumption:	1.75 A +5V 500 mA +12V
Operating Temperature:	0 ℃ to 55 ℃
Storage Temperature:	-20 ℃ to 70 ℃
Connectors:	5 BNC Female (4 Input, 1 Ext trig/clk/sync out) 40 Pin Header (digital I/O) 32 Bit PCI

ACQUITEK SOFTWARE TOOLBOX

Oscilloscope Display Mode
- Time domain display
- Zoom display
- Frequency domain display
- Waveforms parameters
- Streaming to PC RAM
- Decimation mode
- Waveform storage & Print

Logic pattern display
- Graphic display

Multi-Language Software
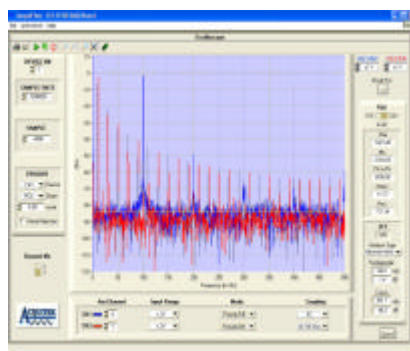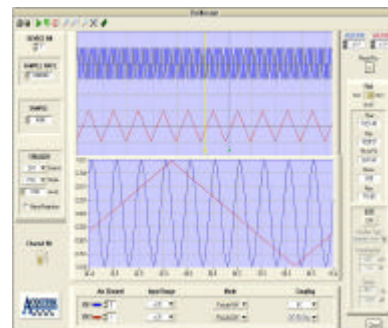
Ordering

CH Series High Speed Data Acquisition Boards - PCI

CH-3160   4 analog inputs 10MS/s , 50 Ohms
CH-3161   4 analog inputs 10MS/s , 75 Ohms
AcquiFlex Acquitek Sofware toolbox

CE

ACQUITEK

Email: info@acquitek.com
12 avenue des prés, Montigny-le-Bretonneux, 78059 St Quentin en Yvelines, France
Tel: +33 1 61 37 32 11 Fax: +33 1 61 37 32 13