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Data Sheet

August 15, 2026

ACQUITEK

Acquitek CH-3150 High Speed Data Acquisition Board for PCI

The Acquitek CH-3150 is a high-speed data acquisition board designed for PCI bus systems. It provides reliable and efficient data acquisition capabilities, suitable for various industrial and scientific applications. Featuring high sampling rates and multiple input channels, it enables precise and accurate data collection.



MODEL

Acquitek CH-3150

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

CH-3150

LISTING

<https://aumictechlabs.com/products/ch-3150-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Acquitek CH-3150 is a high-speed data acquisition board designed for PCI bus systems, offering solid data acquisition capabilities for industrial and scientific applications. It features a 12-bit Analog-to-Digital (A/D) converter and can achieve high sampling rates, configurable based on the number of active input channels. The board also includes digital-to-analog (D/A) conversion capabilities, digital I/O, and counter/timers, making it a versatile tool for complex measurement and control tasks. Its architecture supports PCI bus-mastering for efficient data transfer. Technical Specifications Analog Inputs Number of Channels: Up to 4 input channels (specific configurations vary, e.g., CH-3150/1 has 2 inputs) A/D Resolution: 12-bit Maximum Sampling Rate: * Single Channel: Up to 40 MS/s * Dual Channel: Up to 20 MS/s * Quad Channel: Up to 10 MS/s Input

Range: Software selectable, including $\pm 50\text{mV}$, $\pm 100\text{mV}$, $\pm 200\text{mV}$, $\pm 500\text{mV}$, $\pm 1\text{V}$, $\pm 2\text{V}$, $\pm 5\text{V}$
Impedance: High impedance (for light circuit loading) or $50\ \Omega$ (for minimum noise on small signals) or $1\ \text{M}\Omega$ or $50\ \Omega$ (software selectable) Coupling: DC or AC or DC (software selectable)
Analog Bandwidth: $70\ \text{MHz}$ (3 dB) Gain Accuracy: $\pm 0.1\ \text{dB}$ relative to full scale (at $100\ \text{kHz}$) Zero Accuracy: 0.1% of range $\pm 1\text{mV}$ (at DC) DNL: $< 1\ \text{LSB}$ (monotonic) INL: $< 1\ \text{LSB}$ or $< 4\ \text{LSB}$ SNR: $64\ \text{dB}$ ($500\ \text{kHz}$ input, $1\ \text{Vpp}$ range) or $72\ \text{dB}$ ($500\ \text{kHz}$ output, $1\ \text{Vpp}$ range) SFDR: $55\ \text{dB}$ ($1\ \text{Vpp}$ range) or $60\ \text{dB}$ ($1\ \text{Vpp}$ range) Input Amplifiers: High-speed instrumentation amplifier, differential input amplifier Analog Outputs Number of Channels: Up to 2 output channels D/A Resolution: 12-bit Maximum Update Rate: * Single Channel: Up to $40\ \text{MS/s}$ * Dual Channel: $20\ \text{MS/s}$ per channel Full Scale Output: Software selectable, $\pm 50\text{mV}$, $\pm 100\text{mV}$, $\pm 200\text{mV}$, $\pm 500\text{mV}$, $\pm 1\text{V}$, $\pm 2\text{V}$, $\pm 5\text{V}$ (into $50\ \Omega$ load) Output Impedance: $50\ \Omega$ ($75\ \Omega$ available) Analog Reconstruction Filtering: 7th Order Butterworth, $8\ \text{MHz}$ 3dB Frequency Operating Modes: Arbitrary Waveform with automatic looping, Function generation (sine, square, triangle) D/A Sample Clock Resolution: $1\ \text{Hz}$ from onboard DDS Memory Local Acquisition Memory: Up to $16\ \text{MB}$ ($64\ \text{MB}$ optional) Local Waveform Memory: Up to $16\ \text{MB}$ ($64\ \text{MB}$ optional) Triggering Sources: Channel 1, Channel 2, External, Software, Digital I/O External Trigger Input: $\pm 2.5\text{V}$, $100\ \text{k}\Omega$ Z_{in} , $25\ \text{ns}$ min. Pulse width External Trigger Level: $\pm 2.5\text{V}$, 256 Steps External Trigger Slope: Positive or Negative Triggering Modes: Analog, Digital, Software Sample Clock Internal Clock Resolution: $1\ \text{Hz}$ Internal Clock Range: * Single Channel: $1\ \text{Hz} - 40\ \text{MHz}$ * Dual Channel: $1\ \text{Hz} - 20\ \text{MHz}$ External Clock: Must be $\geq 4\times$ sample rate, $100\ \text{k}\Omega$ Z_{in} , $80\ \text{MHz}$ max Digital I/O Number of Channels: 16 (two 8-bit ports) Configuration: Each port selectable as input or output Input High Voltage: 2.0V , 5V max. Input Low Voltage: 0.8V , 0V min. Output High Voltage: 2.4V min @ $24\ \text{mA}$ Output Low Voltage: 0.4V max @ $24\ \text{mA}$ Power-Up State: Input (High Impedance) Synchronous Operation: Synchronous with Analog I/O Counter/Timers Number: 2 (24-bit) Clock Source: Internal from A/D or D/A clock Maximum Speed: $80\ \text{MHz}$ Modes: 8254 modes 1, 2, 3, 5 Onboard Processor Type: $143\ \text{MHz}$, 32-bit DSP Functionality: Numerical coprocessing, real-time control of inputs/outputs, triggering, algorithm acceleration, real-time execution Interfaces Bus Type: 32-bit PCI Data Transfer: PCI Bus-Mastering Transfers at $>80\ \text{MB/s}$ sustained Physical and Environmental Dimensions: $7.15\ \text{in} \times 4.20\ \text{in}$ ($182\ \text{mm} \times 107\ \text{mm}$) Power Consumption: $1.75\ \text{A}$ @ $+5\text{V}$, $500\ \text{mA}$ @ $+12\text{V}$ Operating Temperature: 0°C to 55°C Storage Temperature: -20°C to 70°C Connectors: * 5 BNC Female (2 Input, 2 Output, 1 Ext Trig/Clock/Sync Out) * 40 Pin Header (Digital I/O) Compatibility Operating Systems: Windows 98/Me/2000/XP, Linux Software Bundled Software: Acquitek Control Center, Acquitek Bench, Acquitek SDK (includes sample code for LabVIEW, MATLAB, C++, Visual Basic, DASYLab, Excel, VEE Pro, Tespoint, ActiveX, and Linux) Recommended Software: AcquiFlex Software (not i

CH3150 Characteristics / Specifications

PARAMETER	VALUE
Model	CH-3150
Instrument Type	High speed PCI analog I/O board
Analog Inputs	2
Analog Outputs	2
Input Impedance	50 ohm
Adc Resolution	12 bit
Dac Resolution	12 bit
Input Rate Class	up to 40 MS/s single channel on CH series
Dac Rate	20 MS/s per channel
Digital Io	16 lines synchronous with analog I/O
Counter Timers	2
Local Memory Standard	16 MB
Local Memory This Build	64 MB optional upgraded
Dsp	143 MHz, 32 bit
Pci Burst	80 MB/s sustained bus mastering
Trigger Modes	analog, digital, software
Calibration	digital, no jumpers or potentiometers
Host Bus	PCI plug and play
Software Class	Windows 98/Me/2000/XP and Linux
Manufacturer	Acquitek
Literature	Acquitek CH Series high speed multifunction PCI listings and CH-3150 configuration
Family	Acquitek CH PCI DAQ
Form Factor	PCI analog I/O card
System Role	high speed capture and arbitrary playback
Brand Lineage	Acquitek

PARAMETER	VALUE
Output Mode	arb playback and function generation
Filter Class	analog reconstruction filters on outputs
Sync Class	multi-board clock and trigger
Memory Class	16 MB standard, 64 MB on this configuration

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Notes

Numeric rows from Acquitek CH-series PCI listings and the CH-3150 configuration (2 in / 2 out, 50 ohm, 12 bit, 20 MS/s DAC, 16/64 MB, 143 MHz DSP, 80 MB/s). Full analog range and SFDR tables are on the CH-3150 hardware manual.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.