Artisan Scientific
QUALITY INSTRUMENTATION ... GUARANTEED

Looking for more information?

Visit us on the web at **http://www.artisan-scientific.com** for more information:

- Price Quotations • Drivers • Technical Specifications, Manuals and Documentation

Artisan Scientific is Your Source for Quality New and Certified-Used/Pre-owned Equipment

- Tens of Thousands of In-Stock Items
- Hundreds of Manufacturers Supported
- Fast Shipping and Delivery
- Leasing / Monthly Rentals
- Equipment Demos
- Consignment

Service Center Repairs

Experienced Engineers and Technicians on staff in our State-of-the-art Full-Service In-House Service Center Facility

InstraView™ Remote Inspection

Remotely inspect equipment before purchasing with our Innovative InstraView™ website at **http://www.instraview.com**

We buy used equipment! We also offer credit for Buy-Backs and Trade-Ins

Sell your excess, underutilized, and idle used equipment. Contact one of our Customer Service Representatives today!

Talk to a live person: 888-88-SOURCE (888-887-6872) | Contact us by email: sales@artisan-scientific.com | Visit our website: http://www.artisan-scientific.com

Base Configuration
Camera Link Image Acquisition

NI PCI-1426

- High-resolution and high-speed image acquisition for base configuration Camera Link cameras
- Simple, small cabling
- Onboard programmable region of interest
- Pixel decimation and image scaling
- 4 LUTs (256 by 8-bit)
- 16 MB of onboard memory
- 4 external triggers (digital I/O lines)
- RTSI bus synchronization with data acquisition, motion, and CAN
- Camera control with LVDS (EIA-644) differential output or asynchronous serial control

Operating Systems
- Windows 2000/NT/XP

Recommended Software
- LabVIEW
- LabWindows/CVI
- Measurement Studio
- Vision Development Module
- Vision Builder AI

Driver Software (included)
- NI-IMAQ

Overview and Applications

The National Instruments PCI-1426 board, is an image acquisition board for Camera Link cameras, is used by machine vision and scientific imaging developers who need high-throughput digital imaging at a lower cost.

Camera Link

Camera Link is an industrial high-speed serial data and cabling standard developed by National Instruments, camera vendors, and other image acquisition companies. Created for easy connectivity between the PC and the camera, Camera Link provides simple, flexible cabling for high-speed, high-resolution digital cameras. A Camera Link cable is a slender 26-pin cable with 24-bit data, clock, and enables as well as control signals. You can control camera functionality by asynchronous serial control or LVDS differential lines through a Camera Link cable. Camera Link offers future data rate capabilities up to 2.3 Gb/s. You can interchange Camera Link digital cameras from a variety of vendors with Camera Link image acquisition hardware.

Onboard Memory

The NI PCI-1426 comes with 16 MB of onboard high-speed synchronous dynamic RAM (SDRAM). You can use the onboard memory as a FIFO buffer for high-speed image acquisition.

Serial Interface

Use the serial interface on the Camera Link connector to easily configure and control the camera with NI-IMAQ and NI Measurement & Automation Explorer (MAX) software. The PCI-1426 includes a National Instruments counter/timer ASIC that generates real-time control signals. You can use the advanced triggering to send strobe pulses and pulse trains.

Synchronize Motion and Vision

Onboard trigger control and mapping circuitry route, monitor, and drive the external RTSI bus trigger lines for PCI. Using the RTSI bus, you can develop applications where motion, vision, and measurements are tightly integrated. You can use the RTSI bus to route an incoming trigger on your PCI-1426 to an NI measurement device to synchronize data acquisition.

NI-IMAQ and Interchangeable Cameras

NI-IMAQ driver software for image acquisition can scale between many types of cameras and acquisition methods. Using NI-IMAQ, you can begin by using a low-cost RS-170 camera and image acquisition device and then upgrade to a faster, higher-resolution digital Camera Link camera and acquisition device with minimal software changes. Because NI-IMAQ uses one set of function calls, it works for a wide variety of cameras, and there is no need to rewrite your software.

NATIONAL INSTRUMENTS™

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Camera Link Image Acquisition

Camera Compatibility

The PCI-1426 board works with base configuration Camera Link cameras from Sony, Basler, Dalsa, and other camera manufacturers. Go to **ni.com/camera** for a current list of compatible cameras.

I/O Connector

The PCI-1426 features a small 26-pin connector compatible with all Camera Link video inputs, camera control outputs, and the serial interface.

Warranty and Support Services

As a complement to your image acquisition product, consider:

Technical Support – FREE through Applications Engineers worldwide, Web resources, and Premier Support – **ni.com/support**

Extended Warranty – Meet project life-cycle requirements and maintain optimal performance in a cost-effective way – **ni.com/services**

Machine Vision and Image Processing Training – Instructor-led courses – **ni.com/training**

Professional Services – Feasibility, consulting, and integration through our Alliance program members – **ni.com/alliance**

For more information on NI services and support, visit **ni.com/services**

Ordering Information

NI PCI-1426 779210-01
Includes NI-IMAQ software

Cables
Camera Link cable (2 m).....187676-02
15 pin trigger cable (4 m) 190912-04

BUY NOW!

For complete product specifications, pricing, and accessory information, call (800) 813 3693 (U.S. only) or go to **ni.com/vision**

Specifications

Typical at 25° C, unless otherwise stated.

External Connections

Trigger sense	TTL
Trigger polarity	Programmable (positive or negative)
Pixel clock	Camera Link compatible
Enables	Camera Link compatible
Control signal	Camera Link compatible
Video data	Camera Link compatible

Clocks

Pixel clock frequency range	20 to 50 MHz

PCI Master Performance

Sustained	100 MB/s

Onboard Memory

PCI	16 MB

Power Requirements

+5 VDC	1.5 A
+12 VDC	24 mA
-12 VDC	20 mA

Physical

Dimensions	
PCI	10.7 by 17.5 cm (4.2 by 6.9 in.)

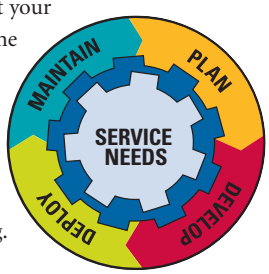
Environment

Operating temperature	0 to 55 °C
Storage temperature	-20 to 70 °C
Relative humidity	5 to 90%, noncondensing
MTBF	544,562 h at 25 °C
Emissions	EN 55011:1991 Group 1 Class A at 10 m FCC Class A at 10 m

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

NI Services and Support

NI has the services and support to meet your needs around the globe and through the application life cycle – from planning and development through deployment and ongoing maintenance. We offer services and service levels to meet customer requirements in research, design, validation, and manufacturing. Visit **ni.com/services**.



Training and Certification

NI training is the fastest, most certain route to productivity with our products. NI training can shorten your learning curve, save development time, and reduce maintenance costs over the application life cycle. We schedule instructor-led courses in cities worldwide, or we can hold a course at your facility. We also offer a professional certification program that identifies individuals who have high levels of skill and knowledge on using NI products. Visit **ni.com/training**.

Professional Services

Our Professional Services Team is comprised of NI applications engineers, NI Consulting Services, and a worldwide NI Alliance Partner Program of more than 600 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit **ni.com/alliance**.

NATIONAL INSTRUMENTS™
Certified Alliance Partner

OEM Support

We offer design-in consulting and product integration assistance if you want to use our products for OEM applications. For information about special pricing and services for OEM customers, visit **ni.com/oem**.

Local Sales and Technical Support

In offices worldwide, our staff is local to the country, giving you access to engineers who speak your language. NI delivers industry-leading technical support through online knowledge bases, our applications engineers, and access to 14,000 measurement and automation professionals within NI Developer Exchange forums. Find immediate answers to your questions at **ni.com/support**.

We also offer service programs that provide automatic upgrades to your application development environment and higher levels of technical support. Visit **ni.com/ssp**.

Hardware Services

NI Factory Installation Services

NI Factory Installation Services (FIS) is the fastest and easiest way to use your PXI or PXI/SCXI combination systems right out of the box. Trained NI technicians install the software and hardware and configure the system to your specifications. NI extends the standard warranty by one year on hardware components (controllers, chassis, modules) purchased with FIS. To use FIS, simply configure your system online with **ni.com/pxiadvisor**.

Calibration Services

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated calibration software specifically designed for use by metrology laboratories. Visit **ni.com/calibration**.

Repair and Extended Warranty

NI provides complete repair services for our products. Express repair and advance replacement services are also available. We offer extended warranties to help you meet project life-cycle requirements. Visit **ni.com/services**.

NATIONAL INSTRUMENTS™

ni.com • (800) 813 3693

National Instruments • info@ni.com

© 2005 National Instruments Corporation. All rights reserved. CVI, LabVIEW, Measurement Studio, National Instruments Alliance Partner, NI, ni.com, and NI-IMAQ are trademarks of National Instruments. Other product and company names listed are trademarks or trade names of their respective companies.

A National Instruments Alliance Partner is a business entity independent from NI and has no agency, partnership, or joint-venture relationship with NI.

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Artisan Scientific
QUALITY INSTRUMENTATION ... GUARANTEED

Looking for more information?

Visit us on the web at **http://www.artisan-scientific.com** for more information:

- Price Quotations • Drivers • Technical Specifications, Manuals and Documentation

Artisan Scientific is Your Source for Quality New and Certified-Used/Pre-owned Equipment

- Tens of Thousands of In-Stock Items
- Hundreds of Manufacturers Supported
- Fast Shipping and Delivery
- Leasing / Monthly Rentals
- Equipment Demos
- Consignment

Service Center Repairs

Experienced Engineers and Technicians on staff in our State-of-the-art Full-Service In-House Service Center Facility

InstraView™ Remote Inspection

Remotely inspect equipment before purchasing with our Innovative InstraView™ website at **http://www.instraview.com**

We buy used equipment! We also offer credit for Buy-Backs and Trade-Ins

Sell your excess, underutilized, and idle used equipment. Contact one of our Customer Service Representatives today!

Talk to a live person: 888-88-SOURCE (888-887-6872) | Contact us by email: sales@artisan-scientific.com | Visit our website: http://www.artisan-scientific.com