

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

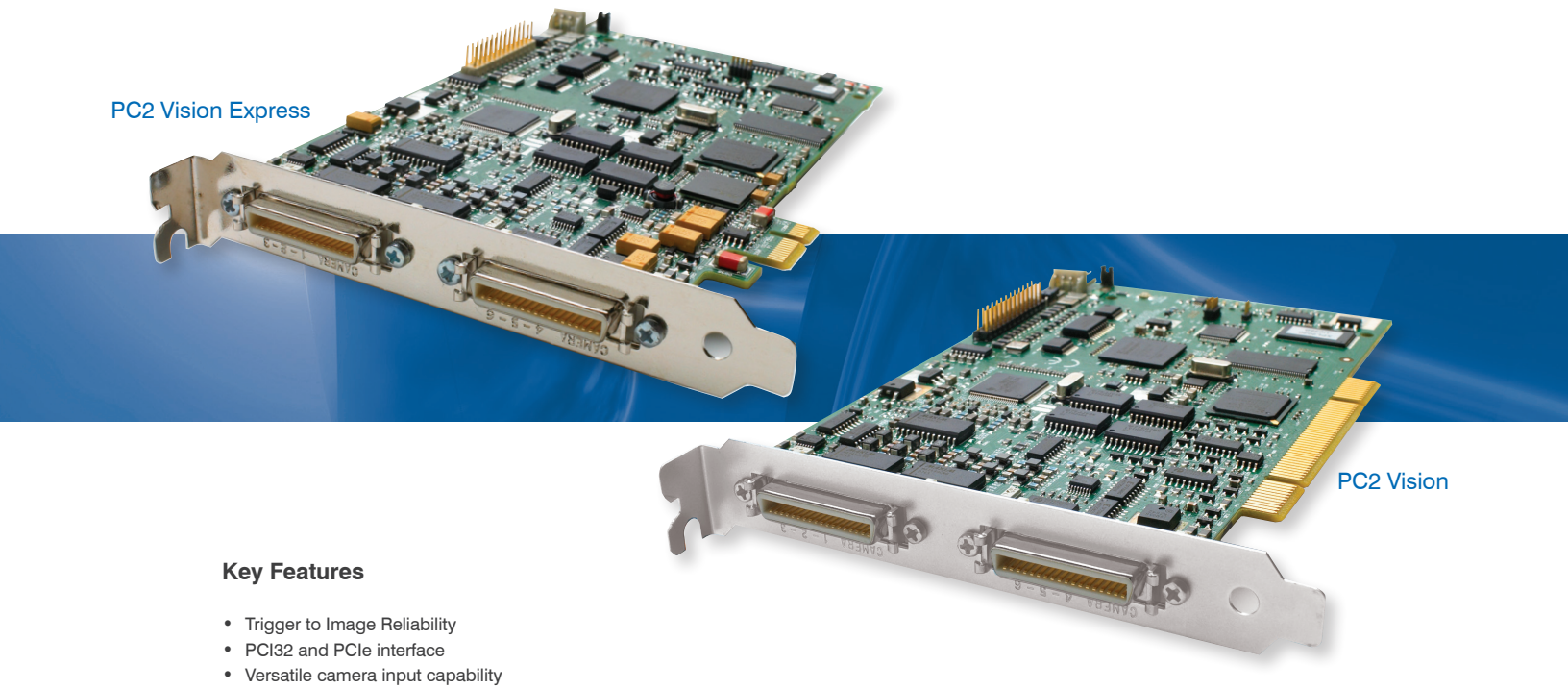
All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

PC2-Vision™ Series

High-performance Analog Frame Grabbers for Machine Vision

PC2-Vision series boards now support the PCI Express (PCIe) x1 platform in addition to conventional PCI-32 platforms. PCIe is a point-to-point PC host bus interface that provides additional bandwidth not shared with other PC slots.



PC2 Vision Express

PC2 Vision

Key Features

- Trigger to Image Reliability
- PCI32 and PCIe interface
- Versatile camera input capability
- Flexible Camera Interface
- Windows® Vista® and XP® Professional compatible
- High Performance Acquisition
- Teledyne DALSA Platform Development Advantage – Free Run-time Licensing[1]

Teledyne DALSA Platform Development Advantage - Free Run-Time Licensing

The Sapera Essential standard processing tool run-time license is offered at no additional charge when combined with the Teledyne DALSA frame grabbers. This software run-time license[1] includes access to over 400 image processing functions, area-based (normalized correlation based) template matching tool, blob analysis and lens correction tool.

[1] Some conditions and limitations apply, contact Teledyne DALSA sales for details.

TELEDYNE DALSA
A Teledyne Technologies Company

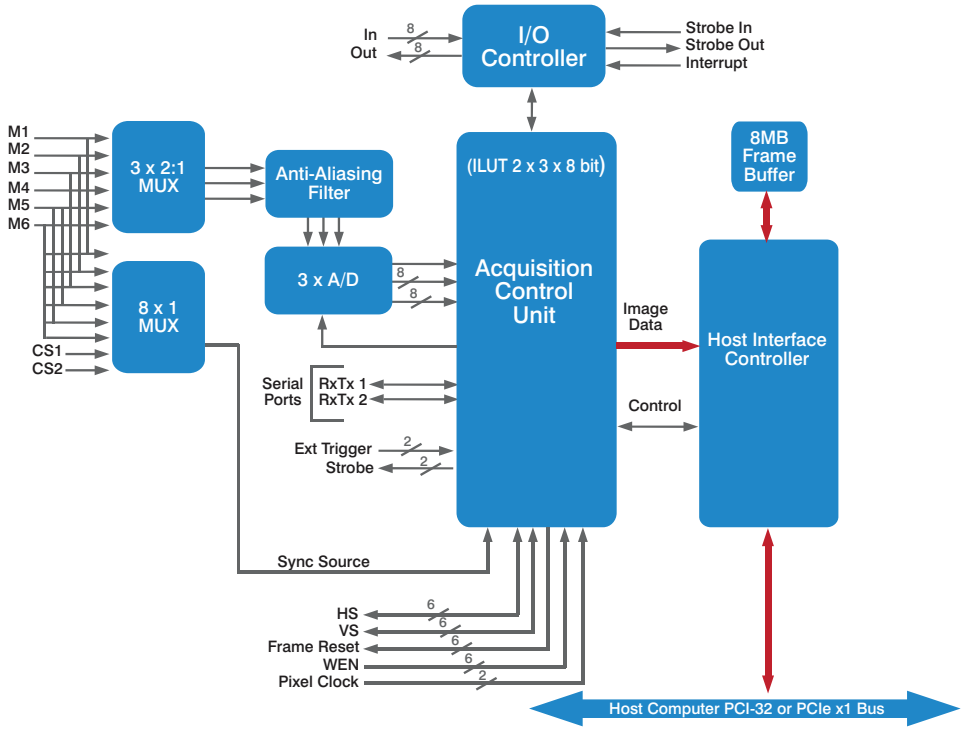
The board's acquisition circuitry is exceptionally versatile and designed to interface with standard (RS-170 and CCIR), nonstandard (progressive scan), RGB and dual channel analog cameras. The PC2-Vision simplifies camera interfacing by offering fully programmable timing coupled with efficient cabling and a variety of trigger, strobe and asynchronous reset options. It features six inputs and high digitization rates making it an ideal solution for a large variety of industrial inspection, identification and gauging applications. The board's outstanding feature is trigger-to-image reliability, which provides the highest degree of assurance in image acquisition control.

Acquisition

The PC2-Vision acquires from standard and non-standard monochrome and RGB analog sources. Its A/D converter can digitize up to three synchronized monochrome cameras. Alternatively, simultaneous acquisition is supported through a frame delay mode feature allowing concurrent capture from all six inputs to increase camera interface flexibility. The PC2-Vision features anti-aliasing filters with cutoff frequency of 6MHz or 12MHz that are software selectable and a filter bypass option. A high accuracy 40MHz triple channel 8-bit analog to digital converter offers gain and offset control to precisely match the video voltage level of the camera.

Acquisition Control Unit

The Acquisition Control Unit (ACU) is a core technology on the PC2-Vision that manages the synchronization of all camera functions, including camera-timing controls. Each of the six camera inputs has its own VS, HS, frame reset and WEN signals. This offers remarkable flexibility in the way cameras can be interfaced to the PC2-Vision. The ACU is able to generate timing information to cameras through those signals enabling the frame grabber to become the timing reference ('master') of the vision system. This feature is useful as it allows cameras to easily genlock together. In addition, a robust sync extractor permits recovery of signals from the most difficult synchronization sources.



PCI-32 and PCIe slots are not form factor compatible

Host Transfers

Transfers to host are performed via the PCI bus. The PC2-Vision supports PCI32 platform where as PC2-Vision Express supports PCIe x1 platform. The PC2-Vision is 5V and 3.3V PCI compliant, supporting the widest range of PCs based on the PCI bus architecture. The PCIe x1 platform offers 250MB/sec of additional bandwidth on top of what is available using the conventional PCI bus architecture. This is possible as the PCI Express platform offers a point-to-point interconnect where each device has independent bandwidth.

The PC2-Vision's hardware scatter-gather engine requires minimal CPU involvement as it automatically retrieves each descriptor (from host memory) representing the non-contiguous host buffer. The board allows transfers to host memory or to display. Direct transfers of monochrome images to a YUV overlay for display are supported in hardware by adding neutral chrominance to the pixel data. This minimizes the amount of DirectDraw® work the CPU has to perform. When acquiring from RGB sources, the PC2-Vision allows the transfer of 32-bit packed RGB data into a single host buffer or each color plane into its own host buffer. This planar mode of operation is also used with genlocked cameras to associate a different host buffer to each camera. The combination of packed and planar transfers gives maximum flexibility to easily implement image processing functionality in machine vision systems.

Parallel I/O Controller

The Parallel I/O controller offers a convenient way to interface the PC2-Vision to other controllers within the machine vision system. It features eight input, eight output, strobe input and output signals (to latch 8-bit data into onboard registers) and a dedicated interrupt pin with programmable polarity. The parallel I/O also provides two dedicated +5V power pins with protection fuse (500 mA).

Software Support

PC2 Vision series boards are supported by Teledyne DALSA's Sapera™ Essential Vision Software. Sapera Essential is a suite of image acquisition and processing libraries, tools and utilities, including a powerful camera configuration utility called CamExpert™ and an image processing evaluation tool in Sapera Architect. In addition to the more than 300 image processing functions, Sapera Essential offers several useful image processing tools, including pattern finding (area and edge-based techniques), OCR, barcode, calibration and blob analysis.

PC2 Vision Series boards are engineered within Teledyne DALSA's Trigger-to-Image Reliability frame work ensuring both efficient and reliable vision inspection by securing the image acquisition process, providing traceability and recovery when errors do occur.

The PC2 Vision series is also supported by Teledyne DALSA's IFC software development toolkit. IFC and Sapera Essential applications can be developed using C/C++ and Visual Basic® using Microsoft® Visual Studio 6.0 (or higher) or Visual Basic® 6.0 (or higher) development platforms. In addition, the Sapera Essential development toolkit can be used with C#[1] under Microsoft® Visual Studio® .Net®. PC2-Vision Series.

Specifications*

Function	Description
Board	PCI - Half slot rev. 2.1 compliant for 5V and 3.3V slots. Half -slot PCIe x1 rev 1.1 compliant
Acquisition	Supports up to 6 monochrome or 2 RGB analog cameras Standard RS-170 and CCIR formats and non-standard formats Acquisition from interlaced and progressive scan cameras Brightness and contrast control Partial scan mode Frame delay mode 40MHz digitization rate, 8-bit Anti-aliasing filters: 6MHz, 12MHz or bypass (software selectable) DC restoration: programmable clamp pulse Composite video 75 ohms terminated
Noise and Pixel Jitter	+/-1 LSB with +/- 1ns jitter
Synchronization	Supports composite video, composite sync, separate sync. and sync. on R, G or B inputs Supports master mode where the PC2-Vision sends VS/HS to camera Supports asynchronous reset with pulses up to 60s in duration Each camera has its own vertical sync., horizontal sync., frame reset and WEN signals Two pixel clock inputs
Controls	Two opto-coupled trigger inputs with debouncing (TTL or RS-422) Two strobe signals
Processing	Six 8-bit in/8bit out input LUT Cropper to define region of interest Horizontal and vertical decimation by 2, 4 or 8 Monochrome to YUV converter [3]

Function	Description
Onboard Memory	8 MB
Pixel Format	8-bit monochrome, 32-bit RGB (zero padded), 16-bit YUV with neutral chrominance
Image Size	Up to 2048 x 2048 in monochrome or 1024 x 1024 in RGB
Host Transfer	PCI-32: up to 132MB/s sustained PCIe x1: up to 250MB/s sustained
Connectors	Two MDR-36 Each Camera can be supplied with +12V @ 500mA (from PC power supply, soft-fused) One 26-pin header for parallel I/O port
I/O	RS-232 serial port available on each MDR-36 connector, mapped as a regular Windows COM port 19 general-purpose I/O pins, TTL level (8 input, 8 output, 2 strobes, 1 interrupt) with 2 soft-fused +5V power pins @ 500 mA
Software	Supported by Sapera Essential, IFC and VixN software development toolkits under Microsoft Windows, Windows XP Professional and Windows Vista-32 compatible Application development using Microsoft Visual C/C++ DLLs® or Visual Basic®
System Requirements	Intel® Pentium II® class CPU, 64MB system memory, 10MB free hard-drive space
Dimensions	6.675" length x 4.2 height PCI/PCIe half-length
Power Consumption	+5: 3A, +12V: 120mA, -12V: 120mA
Temperature	0°C (32° F) to +55° C (131° F) Storage -40° (-40°F) to +125°C (257° F)
Relative Humidity:	5% up to 95% (non-condensing)
Markings	FCC Class A – Approved CE – Approved RoHS - Approved

* Specifications last updated 10/08
[2] Available Q4 2008
[3] Supported under IFC SDK only

www.teledynedalsa.com

Americas
Boston, USA
Tel: +1 978-670-2000
sales.americas@teledynedalsa.com

Europe
Munich, Germany
Tel: +49 8142-46770
sales.europe@teledynedalsa.com

Asia Pacific
Tokyo, Japan
+81 3-5960-6353
sales.asia@teledynedalsa.com

Teledyne DALSA is an international leader in digital imaging and semiconductors and has its corporate offices in Waterloo, Ontario, Canada.

All trademarks are registered by their respective companies. Teledyne DALSA reserves the right to make changes at any time without notice. ® Teledyne DALSA 2011. pc2-vision_series_100608

TELEDYNE DALSA
A Teledyne Technologies Company

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP