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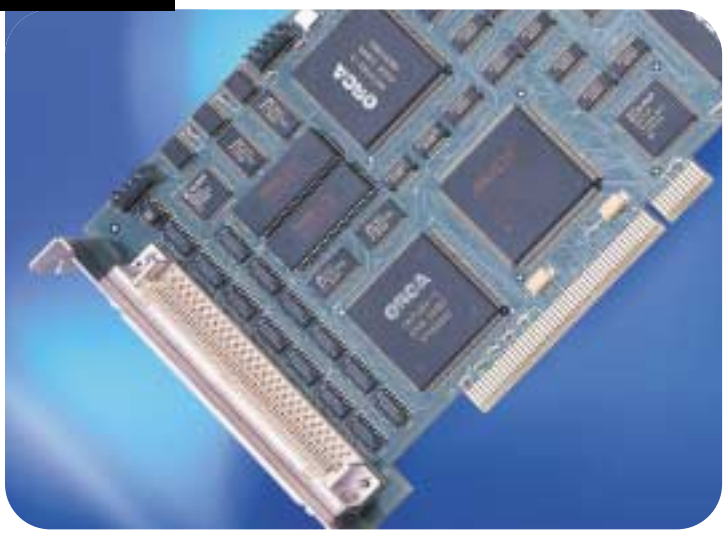
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Find the *Teledyne Dalsa / Coreco Imaging PC-DIG* at our website: *Click HERE*

TECHNICAL SPECS

PC-DIG

PCI frame grabber for digital line and area scan cameras



Benefits

- 40 MHz differential input supports single, dual or quad-tap cameras
- Two RS-232 serial ports for control of camera functions
- On the fly image reformatting from multi-tap cameras
- Multiple PC-DIG boards can be cascaded to provide greater than 4 taps and 32 bits acquisition

Overview

PC-DIG is a high-performance, yet cost-effective PCI frame grabber that interfaces with virtually all of today's commercially available parallel output digital line and area scan cameras. Available in both RS-422 and LVDS (EIA-644) versions, PC-DIG's 32-bit differential interface supports a wide variety of input configurations and scanning formats. In addition, direct camera control is made possible through two on-board RS-232 ports. For industrial process control applications, PC-DIG provides OPTO-22 compatible I/O (8 in/8 out) port allowing monitoring or control of external discrete events or operations.

PC-DIG provides the industry's fastest transfer of image data to host destination memory. The 32-bit PCI interface can easily sustain transfer rates of 120MB/s which guarantees no loss of image data! The bus master interface is capable of transferring pixels with up to 32-bit depth directly to host memory and can also transfer 8 and 16-bit images in 4:2:2 format display. The latter allows the PC-DIG to deliver non-destructive overlay on live images with 0% CPU load - a first and only in the industry! The PC-DIG provides a programmable 16-bit timer counter. This timer can be software controlled and interrupt-driven, providing high resolution precision timing for critical events, such as long term exposure control. The PCI interface supports a scatter gather feature that enables automated image transfers, reducing CPU overhead and leaving much needed processing cycles for demanding continuous inspection applications.

Comprehensive Vision Software Tools

Four levels of software support exist for Coreco Imaging's machine vision fame grabbers. At the highest level is Sherlock, a Windows based point-and-click software environment enabling rapid configuration of alignment and registration, on-line gauging, inspection, assembly verification, automatic ID, and machine guidance tasks without the need for structured language programming.

MVTools software is next in line to provide technical professionals with a complete C/C++ run-time library (DLL) of highly robust gray-scale vision tools - including Search, Blob (connectivity), Caliper, Histogram, Morphology, Image Processing, and more. MVTools is intended for OEMs and system integrators deploying machine vision in automated machines.

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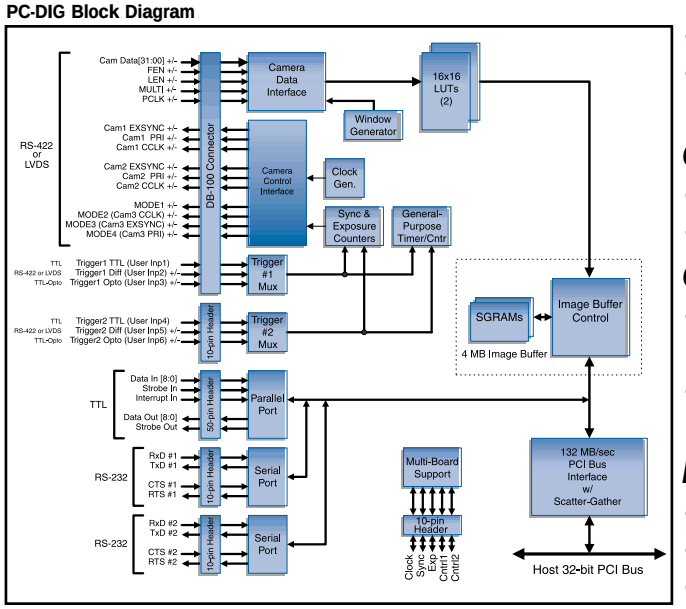
www.imaging.com

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PC-DIG Block Diagram



For developers who require maximum control of the frame grabber hardware, IFC software (Imaging Foundation Class) library, is available for controlling all functions of the frame grabber hardware. Included in the Imaging Studio software development kit is a set of high level APIs for making complex board functions more straight forward and easier to use.

Also included in Imaging Studio is Coreco Imaging's Camera Configurator software utility. A first in the industry, it automatically searches for which frame grabber is installed and generates the appropriate interface parameters required to run the camera/frame grabber combination. This software greatly improves the "out-of-box experience" and gets you up and viewing live images in minutes.

Specifications

Sensor Interface

- 32-bit differential LVDS to 40 MHz, or RS-422 to 20 MHz

Video Input

- 8-bit single, dual and quad tap; 10-,12-,14- or 16-bit single and dual tap; and 32-bit single tap cameras
- 24-bit color cameras
- Multi-camera acquisition Image Buffering and Output
- 4MB of high bandwidth SGRAM supports acquisition rates up to 160MB/s (32-bits @ 40 MHz)
- Provides ROI (cropped) transfer to reduce data volume
- Transfer of 8 or 16-bit images in normal or 4:2:2 format
- Output clipping of Windows colors during bus master to eliminate conflicts with Windows reserved colors

On-Board I/O

- OPTO-22 compatible 16-bit parallel port (8 in and 8 out)
- Two RS-232 Serial Ports for control of camera functions

Camera Timing I/O

- Pixel Clock, Frame Enable, Line Enable and Multipurpose inputs with programmable functionality
- Pixel Clock, Sync, Programmable Integration and Mode control outputs

External Triggers

- Trigger divider to rate-divide trigger source
- Advanced multi-trigger acquisition modes
- Dual external triggers available as differential, TTL or Opto-coupled
- Software triggering for host controlled acquisition

Cascade capability

- Multiple PC-DIG boards can be cascaded to provide greater than 4 taps & 32 bits
- PC-DIG Link provides required timing and coordination between boards

Programmable Window Generator

- Enables acquisition of subset of camera image and has the following characteristics:
  - Maximum Window - 64K x 64K
  - Horizontal Resolution - 1 pixel
  - Vertical Resolution - 1 line
- Programmable independent X/Y decimation (2, 4, 8, 16) performed during image acquisition
- Color images stored using 32-bit or packed 24-bit

Look-Up Tables (LUTs)

- Dual 16 x 16 LUTs for pixel transformations
- Arithmetic operations on or between 8-bit image data

Multi-Tap Data Resequencing

- Reformats multi-tap data "on the fly"
- Provides line/row resequencing to output most any multi-tap image in normal raster scan format

To learn more about the PC-DIG, read the complete data sheet on our website at **www.imaging.com/pc-series**

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