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Find the *EPIX PIXCI SV4* at our website: *Click HERE*



PIXCI® SV

Imaging Board for the PCI Bus

Features

Specifications

Pricing

The **PIXCI® SV4** imaging board, for the PCI bus, is designed to take advantage of the power of the host computer. Applications which were once restricted by limited memory or processing power can now be easily accomplished with the PIXCI® SV4 board and a compatible PCI computer.



ACQUISITION

A unique digital genlock circuit ensures precise synchronization of every image. The PIXCI® SV4 board automatically recognizes unstable signals (for example, from a VCR) and adapts its locking mechanism to accommodate the source.

A multiplexer allows software selection of either a composite or an S-Video source. Programmable automatic gain, hue, brightness, saturation, and contrast adjustments condition the video signal.

Image sequences may be captured at full or reduced frame rates, onto the PCI bus, for storage in the host computer's memory, or passed to other devices on the PCI bus such as disk controllers or VGA adapters.

SCALING AND CROPPING

The window of video to be captured may be cropped in single pixel increments, then scaled in ratios from 1:1 to 1:14, down to as few as 4 pixels by 1 line of image data. Horizontal and vertical scaling is performed in real-time by interpolation, providing an accurate representation of the original image.

DISPLAY

Depending on the VGA adapter, 24 bit RGB color images or 8 bit monochrome images may be displayed. The full, scaled, or cropped image may be placed anywhere on the VGA screen.

Luminance or monochrome image data can be passed directly to the VGA for live video-in-a-window display. Color images are normally stored in the host computer's memory, converted into RGB data, then displayed on the VGA adapter. With a fast processor, fast PCI bus, and fast VGA adapter, live color image data may be displayed. If the VGA adapter can accept Y/C color pixels, then images can be sent directly to the VGA adapter across the PCI bus.

INNOVATIONS

- Color and Monochrome Video Formats Supported: S-Video, NTSC, RS-170, CCIR, PAL
- PCI Bus Master
- Real-Time Transfer to PCI Bus
- Crop, Scale, and View in a Window
- Automatic Format Detection
- 4 Input Triggers and 4 Output Triggers
- Programmable Hue, Brightness, Saturation, and Contrast
- Plug 'N Play Operation
- Extensive Software

APPLICATIONS

- Automated Inspection
- Motion Analysis
- Microscopy
- Medical Imaging
- Robotics
- Laser Beam Analysis
- Object Tracking
- Multimedia
- Print Quality Inspection

TRANSFER RATES

The PIXCI® SV4 board is designed to use the 132 Mbytes/sec burst mode transfer rate of the PCI bus. As a bus master, the PIXCI® SV4 board sends image data to the PCI bus; it does not wait for the computer's CPU to read images from the board into PC memory.

I/O CONTROL

Four input and four output TTL trigger signals are available for synchronization with external events.

SOFTWARE

Extensive software is available as a menu driven package for DOS or Windows 95, Windows NT, or as programmer libraries. This software provides capturing of images and image sequences, triggered capture, scaling, cropping, image processing, measurement, analysis, display, archiving, and graphing.

FEATURES

MUX - The multiplexer selects the video source for the Programmable Gain from either the S-Video input connector or from the composite video source on the BNC connector. The multiplexer may be switched during vertical blanking.

Programmable Gain - Compensates for reduced amplitude in the analog signal input. Gain can be programmed from 0% to more than

Decoder - Separates the Y/C components. Generates the U/V color difference signals.

Digital Genlock - Automatic synchronization circuitry for precise digitization. Accommodates video sources which have variable periods, such as video tape recorders. Generates the pixel clock for transferring image data to the PCI bus interface.

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200%.

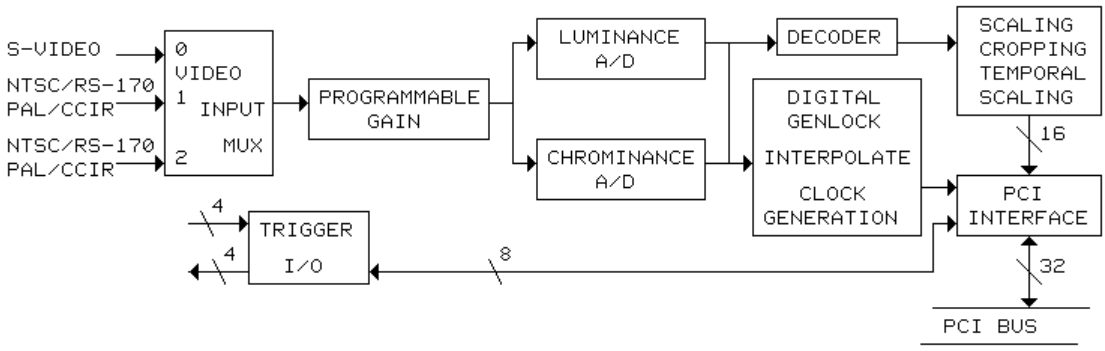
Luminance A/D - Provides analog to digital conversion of NTSC, RS-170, CCIR, PAL, and the luminance (Y) component of S-Video sources.

Chrominance (Color) A/D - Provides analog to digital conversion of the color (C) component of S-Video.

Scaling, Cropping - Interpolation is used to scale images to 1/14 of their original size.

Temporal Scaling - Image sequences may be captured at full or reduced frame rates.

Trigger I/O - Four input and four output TTL triggers can be used for synchronization with external events. The trigger signals are controlled by the host CPU.



SOFTWARE

XCIPLITE - A menu driven program for DOS or Windows, providing capture, display, examination and graphing of image data, and saving of images and graphs to file.

XCIP - A powerful, interactive, menu driven package for DOS, Win-95, or Win-NT. XCIP has an extensive set of image processing functions, and is easily enhanced with user-developed custom menus and scripts. Features include image sequence capture, triggered capture, display, processing, printing, archiving, analysis, and calibrated measurement. Color and monochrome processing is supported. (Optional)

XCOBJ - Programmer's libraries providing easy board access and control, such as video format and resolution selection, image capture, and image memory access. Supports Watcom (32 bit) compiler with Tenberry DOS Extender, Win-95 DLL, or Win-NT DLL. (Optional)

XCOBJIPL - All of the XCOBJ features plus an image processing library. Provides a wealth of ready-to-run functions for image enhancement, analysis, graphics, measurement, load/save, and printing. Supports Watcom (32 bit) compiler with Tenberry DOS Extender, Win-95 DLL, or Win-NT DLL. (Optional)

SPECIFICATIONS

CONNECTIONS:

- 4 Pin DIN: S-Video Input
- Two BNC-Jacks: Composite Video Inputs
- DB15: TTL I/O Triggers
- Cables optional

VIDEO INPUT:

- Color or Monochrome Video Acquisition: S-Video, RS-170, CCIR, NTSC, PAL
- Resolution-Pixels: 754x480: RS-170, NTSC, S-Video 922x580: CCIR, PAL, S-Video
- Resolution-Depth: 8 bit: RS-170, CCIR YUV [4:2:2]: NTSC, PAL YCrCb: S-Video
- Capture/Display Rate: 30 fps: RS-170, NTSC, S-Video 25 fps: CCIR, PAL, S-Video

DATA FORMATS TO PCI BUS:

- Monochrome 8 bit
- YCrCb (UYUV, YUV4:2:2): 16 bit
- RGB: 24 or 32 bit
- Capture Rate:
  30 fps: RS-170, NTSC, S-VIDEO
  25 fps: CCIR, PAL, S-VIDEO

TRANSFER RATES:

- Requires a PCI motherboard with burst mode to host memory data rates of at least 30 MB/S.
- Contact EPIX or an EPIX distributor for suggested motherboards.

DISPLAY - Windows:

- Display resolution as per installed VGA device driver.
- A DCI compatible S/VGA adapter is required for real-time display.

DISPLAY - DOS:

- Via Standard VGA: limited to 4 bits (16 gray levels), non real-time display.
- Via Super VGA: 8 bit, 256 gray level display. Color display via adapters supporting 24 bit RGB. S/VGA adapters must be VESA 1.0 compatible.
- Contact EPIX or an EPIX distributor for suggested S/VGA adapters.

BUS REQUIREMENTS:

- 32 bit PCI Bus Master slot
- 0.55 Amps @ +5 Volts
- 4.913 in. by 3.350 in.

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Modified:
15-Jan-2015

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