BitFlow™
IMAGING SUPPORT

Cyton CXP4

The Cyton CXP4 supports one to four CXP-6 cameras at speeds up to 6.25 Gb/S

Introducing The Cyton CXP4

BitFlow started from scratch when we designed the Cyton. First we gave it a Gen 2.0 PCIe bus, **effectively doubling the speed**. Second, for even more efficiency, we redesigned our DMA engine from the ground up to handle the increasing demands of modern machine vision applications. The new engine squeezes every ounce of DMA bandwidth out of a busy PC platform, while using zero CPU resources.

CoaXPress

CoaXPress (CXP) is the latest Machine Vision designed camera to frame grabber interconnect standard. CXP supports a high speed downlink for video data, a low speed uplink for camera control, and power, all over standard coaxial cables. Multiple CXP connections can be aggregated to even higher speed cameras.

CoaXPress High Speed Uplink

The Cyton CXP4 offers an optional high speed connector that can run the full 6.25 Gb/S from the frame grabber to the camera. The can be used in situations that demand for bulk uploads to the camera or high precision trigger accuracy beyond the current 20 MHz uplink's capabilities.

Application Support

Adding the Cyton CXP4 to your application is simple with our SDK, which supports both 32-bit and 64-bit operating systems. Applications can be developed using C/C++/C# and our sophisticated buffer management APIs. In addition, free drivers can be download from our web site for most 3rd party machine vision packages. The Cyton CXP4 is software compatible with all the other current BitFlow frame grabbers. This makes migrating applications from Camera Link or analog to CXP simple and quick.

The Cyton CXP4 Advantages

CoaXPress solves many of the problems of previous machine vision standards. It eliminates the cost and distance restrictions of Camera Link cables. It provides a huge increase in quality, resolution and speed over analog, while maintaining its simple and flexible cabling. Other "mainstream" camera standards advertise low cost and long distance cabling. Not mentioned are the latency problems and determinism issues that these solutions introduce, problems that CXP does not have. The Cyton-CXP4 gives your application all of the advantages CXP on an industry proven platform.

Frame Grabbers

Machine Vision Software Support

Application Development Software

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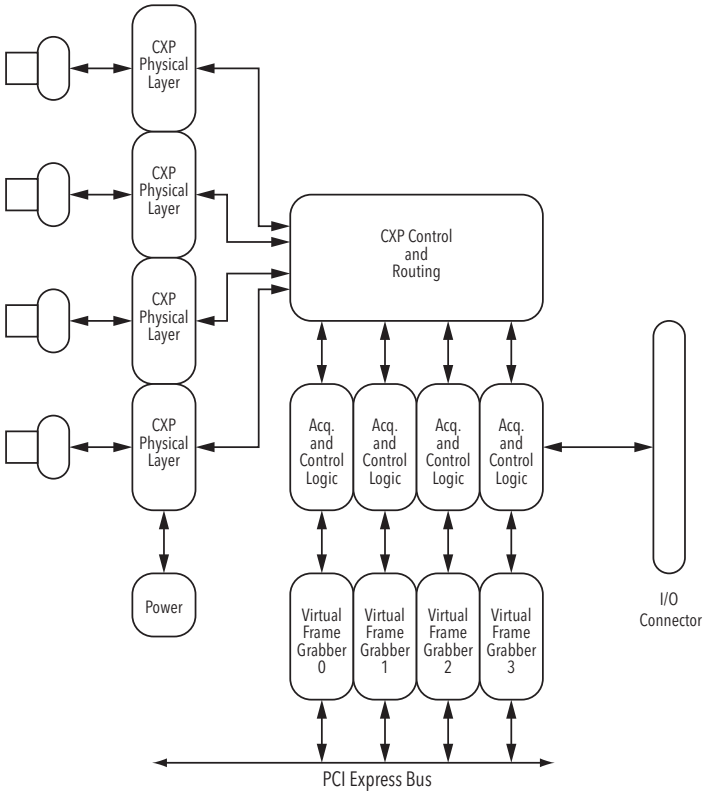
Cyton CXP4 Features

- Half size x8 PCI Express Gen 3.0 frame grabber
- CoaXPress 1.1 compliant (supports 1.0 and 1.1 cameras)
- Supports one to four CXP-6 cameras
- Supports multi-link CXP-6 cameras (up to four CXP links)
- Supports CXP speeds from 1.25 to 6.25 Gb/S
- Supports simultaneous capture from four 6.25 Gb/S CXP links
- Provides one CXP-6 uplink to the camera (bulk data uploads, zero latency triggers)
- Low speed uplink supported on all links
- Uses DIN 1.0/2.3 connectors
- Uses CXP standard connector spacing
- Provides power for all cameras (up to 13 Watts per link)
- Provides Safe Power, full protection from all power line faults
- Cameras are Plug and Play with automatic link speed and camera parameter detection
- Cameras can be accurately synchronized, or can be completely independent
- Cable lengths of up to 40 meters are supported
- Compatible with all PCIe x8/x16 slots Gen 1.0/2.0/3.0
- Separate I/O for each camera
- Highly deterministic, low latency uplink camera trigger
- Supports simultaneous communications to all cameras
- Windows "sees" a separate virtual frame grabber for each camera
- FlowThru technology means no on-board memory is needed
- StreamSync technology maximizes data through-put while minimizing image latency
- Acquire variable length frames from line scan cameras
- Acquite image sequences well beyond the 4GB barrier
- No frame rate limit
- Triggers and encoders for external control of acquisition
- Drivers, utilities and examples for Windows and Linux
- Supported on both 32-bit and 64-bit platforms
- Drivers for most 3rd party processing environments (e.g. HALCON, LabView, VisionPro, MATLAB, etc.)
- Full GenICam support for camera control and capture
- Programmable signal generator for camera control (independent for each camera)
- Quadrature encoder support including sophisticated triggering schemes
- Encoder divider/multiplier
- All models are "half size" PCIe cards
- RoHS compliant

Cyton CXP4 Block diagram



The Cyton CXP4 Specifications

Model/Feature	Cyton-CXP4
Number of Links	4
Maximum Link Speed	CXP-6
Max Cameras	4
CXP Standard	1.1
Size	1/2 PCIe

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