Axion-CL

The Axion is BitFlow's 6th generation Camera Link frame grabber. We have used our years of experience to engineer the best CL frame grabber in existence.

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Introducing The Axion

BitFlow has been making Camera Link frame grabbers since the specification was first released in 1999. At the time nobody was sure that the CL specification was going to succeed. In the many years since then, Camera Link has proved itself to be low cost, high speed, robust and adaptable. For true machine vision applications, it has become the market leading interconnect standard.

BitFlow has continued to refine and improve its products, and is proud to introduce its 6th generation Camera Link frame grabber. Everything we have learned over the past years, including many refinements from the world of CoaXPress, has been rolled into the Axion.

Borrowing from the Cyton

The Cyton is BitFlow's latest line of CoaX-Press frame grabbers, and this family was designed from scratch for the Machine Vision industry. Many of the new features introduced on the Cyton have been ported to the Axion. This includes a highly optimized DMA engine. The StreamSync acquisition engine and buffer manager have also been ported. The Timing Sequencer, I/O capabilities and Frame Sequencer have been moved over. This is an amazing amount of power at your finger tips, ready to solve your real world Machine Vision problems.

Camera Compatibility

The Axion-CL has been designed to work with all of the popular high speed Camera Link cameras. It's been design to handle all of the 80-bit cameras currently on the market. **In fact it can acquire from two 80-bit/85 MHz cameras simultaneously.** Of course, all base/medium/full Camera Link cameras are supported.

Application Support

Adding the Axion-CL 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++/.NET 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 Axion-CL is software compatible with all the other current BitFlow frame grabbers. This makes migrating applications to/from Camera Link, analog, and CoaXPress simple and quick.

And of course...

Of course, the Axion-CL has all the encoders, triggers and generic I/O that you have come to expect from BitFlow. No Machine Vision challenge is too complicated for the Axion-CL.
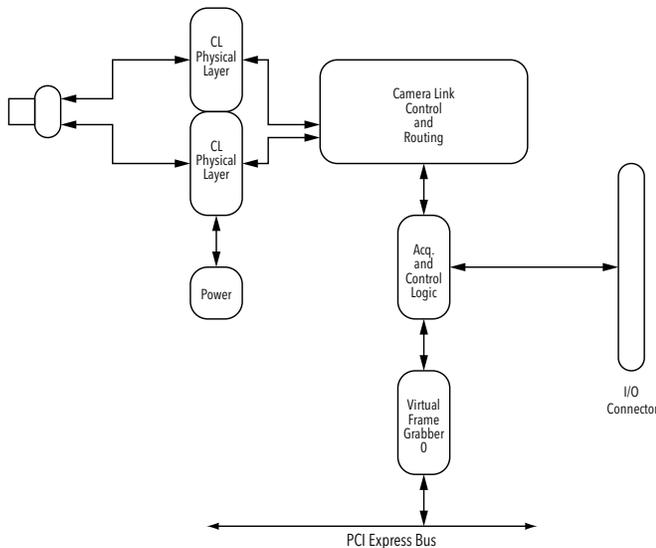
Frame Grabbers

Machine Vision Software Support

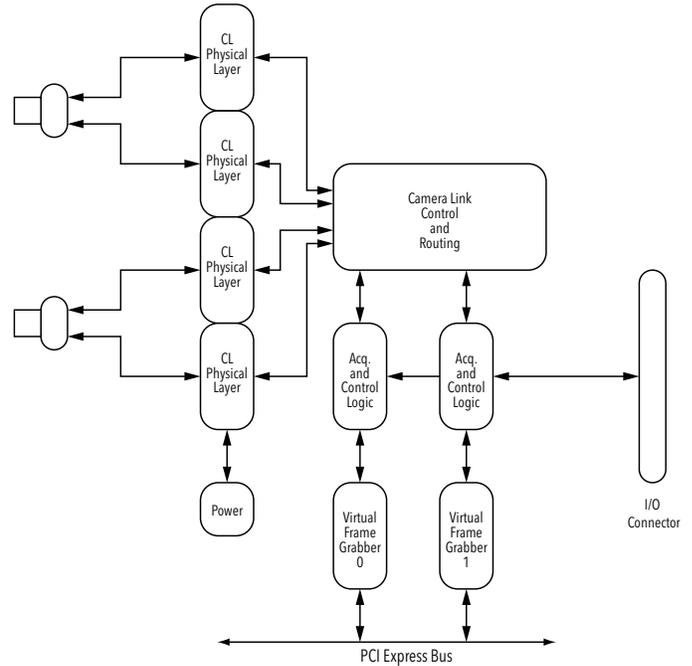**Application Development Software**

Axion-CL

The Axion-CL Features

- Half-Size x2 PCI Express Gen 2.0 Board
- Camera Link 2.0 compliant
- Supports one or two CL cameras
- Supports base/medium/full/80-bit CL cameras
- Supports CL speeds up to 85 MHz
- Supports simultaneous capture from two 80-bit/85 MHz cameras
- Uses SDR Camera Link connectors
- Supports PoCL and non-PoCL cameras
- Supports medium/full PoCL cameras
- Provides Safe Power, full protection from all power line faults
- Each camera has its own separate communication channel which can be simultaneously with other channels
- Cameras can be accurately synchronized, or can be completely independent
- Compatible with all PCIe x4/x8/x16 slots Gen 2.0/3.0
- Separate I/O for each camera
- Highly deterministic, low latency frame grabber to camera trigger
- Supports simultaneous command and control to all cameras
- StreamSync technology maximizes data throughput while minimizing image latency
- Acquire variable length frames from line scan cameras

The Axion-CL-2xE Block diagram

The Axion-CL-1xE Block diagram

- Triggers and encoders for external control of acquisition
- Drivers, utilities and examples for Windows and Linux
- Windows "sees" a separate virtual frame grabber for each camera
- Supported on both 32-bit and 64-bit platforms
- Drivers for most 3rd party processing environments (e.g. HALCON, LabView, VisionPro, MATLAB, etc.)
- Programmable signal generator for camera control (independent for each camera)
- Quadrature encoder support including sophisticated triggering schemes
- Encoder divider/multiplier
- RoHS compliant

The Axion-CL Models

Model	Camera Type	Max Cams
AXN-PC2-CL-1xE	CL 80-bit	1
AXN-PC2-CL-2xE	CL 80-Bit	2