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Did you know that Active Silicon cards support GPU processing?

Machine vision and other vision applications with high image data rates in areas such as science, defense, security or broadcasting, can greatly benefit from **GPU processing**. GPUs are ideal for intensive pixel data processing as they are designed to work on large data sets in parallel and can exceed the CPU processing speed many times over.

This is why at Active Silicon we ensure that all **FireBird frame grabbers**, whether CoaXPress or Camera Link, not only support GPU processing, but facilitate access with additional help for common GPU products.

GPU processing in imaging

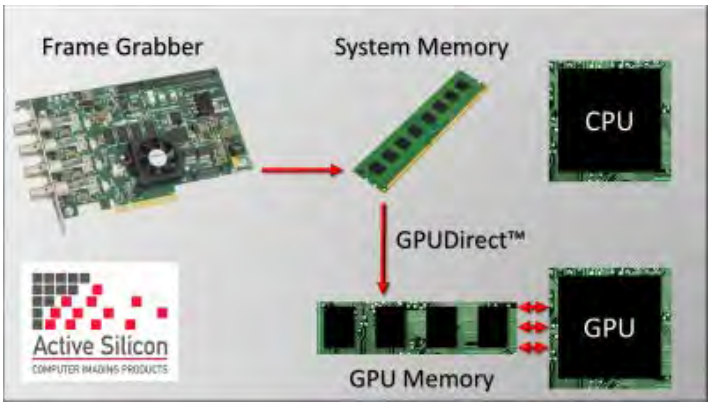
Imaging applications regularly require systems that can capture hundreds of high resolution images per second. Thus, an enormous amount of data is produced and the analysis of terabytes of image data provides a challenge for downstream image processing. Here a GPU might be the best if not the only possible solution. Our FireBird frame grabbers work with a number of different GPU cards, including those with AMD DirectGMA technology and with all GPU cards from NVIDIA that support **NVIDIA's GPUDirect™ for Video**.

How does it work?

For the implementation of a GPU in your imaging system, Active Silicon offers an easy to use, comprehensive **Software Development Kit (SDK)** that complements our frame grabbers.

In combination with GPU cards of NVIDIA, the Active Silicon's SDK will manage

access using GPUDirect for Video and synchronize the data transfer between frame grabber and GPU memory buffers.



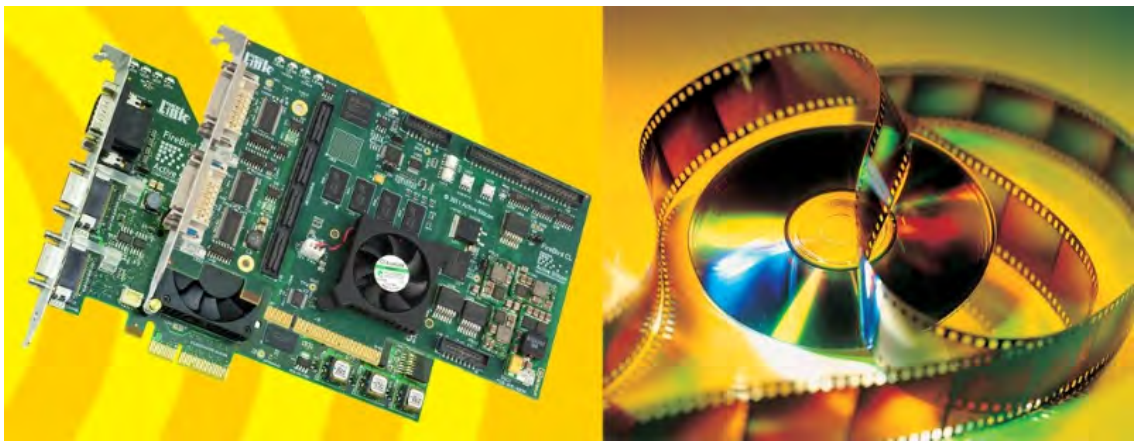
Video data is transferred directly from the frame grabber to GPU image buffers, thus bypassing the CPU.

Whether you use it for de-Bayering, image manipulation, 3D vision, augmented reality, or any other application, the GPU approach can provide many benefits. Our well documented API and SDK example code allow for easy integration of parallel computing techniques using off-the-shelf computer hardware.

Cine Film Scanners use GPU image processing

MWA-Nova, a manufacturer of world-renowned film scanners, uses GPU processing in their Cine Film Scanners for good reason. When digitizing analog film, the high-speed sensor captures high resolution images of each “film cell” (i.e. each image) and processes the raw sensor data in real-time at a rate of around 25 frames per second.

A powerful system is required to acquire and process each 25MP image generated by the sensor.



In the Cine Film Scanner the raw data is acquired by a fast **Camera Link frame grabber** from **Active Silicon** and transferred in real-time to a GPU with zero CPU intervention and very low latency. The GPU based processing, rather than processing in the camera also has the advantage of being more flexible when implementing new computer technology, allowing the scanner system to be shipped with different sensor technology and tailored processing as required.

Reliability, high performance and ease of integration of Active Silicon's acquisition cards has led to their successful integration in MWA-Nova's Cine Film Scanners.

Interested in our GPU solutions?
Please look at our dedicated GPU webpage or contact us.

Interested in our Camera Link frame grabber range?
Have a look at our Camera Link frame grabber product pages. And please note, all our FireBird cards are fully GenICam compliant too!

Active Silicon is a leading manufacturer of imaging products, embedded systems and custom solutions. If you would like to stay informed of upcoming events, products and news in general, then please follow us on one of our social media channels below.

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