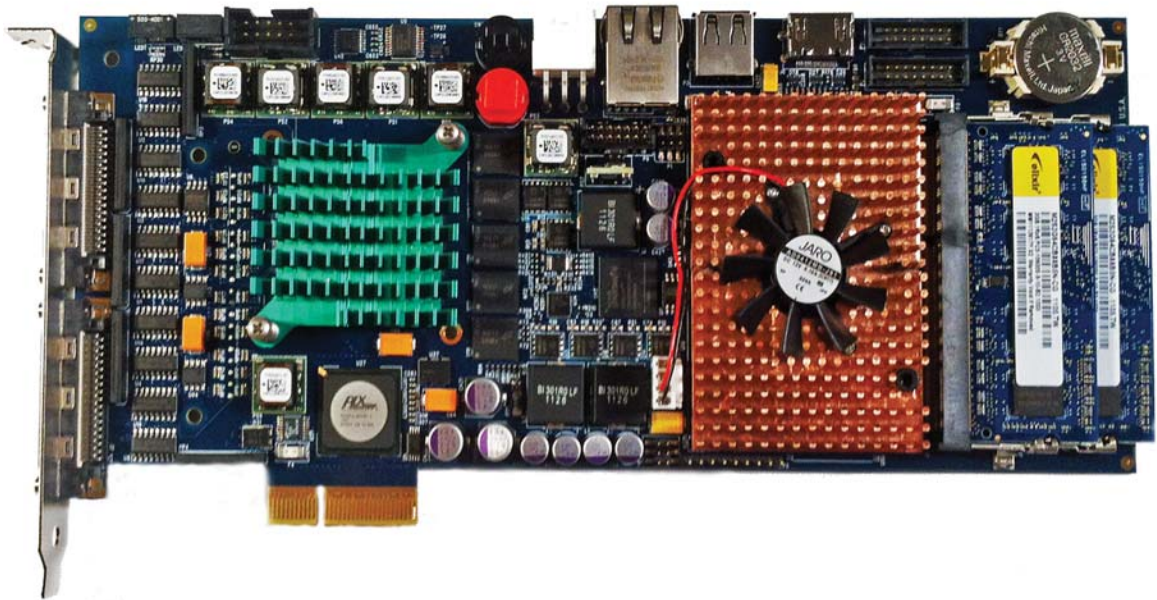# ✺ALACRON

FASTX-APU FRAMEGRABBER

The FastX-APU framegrabber series is for users who anticipate a demand for extreme I/O requirements and/or higher bandwidth, complex image processing and real-time high-speed storage in a cost effective platform. The base FastX-APU, is a two thirds length raw form factor PCIe (X4) Gen2 board with either six basic 85 MHz Camera Link Channels up to two extended full Camera Link camera interfaces. An auxilliary I/O connector provides a header for adaptation of other high speed interfaces such as GigEx4, high speed analog formats such as UXGA or DVI, or CoaXPress. The front-end data is formatted and preprocessed by a Kintex FPGA before being sent to the PCIe (X4) Gen 2 switch to the host or the AMD APU.
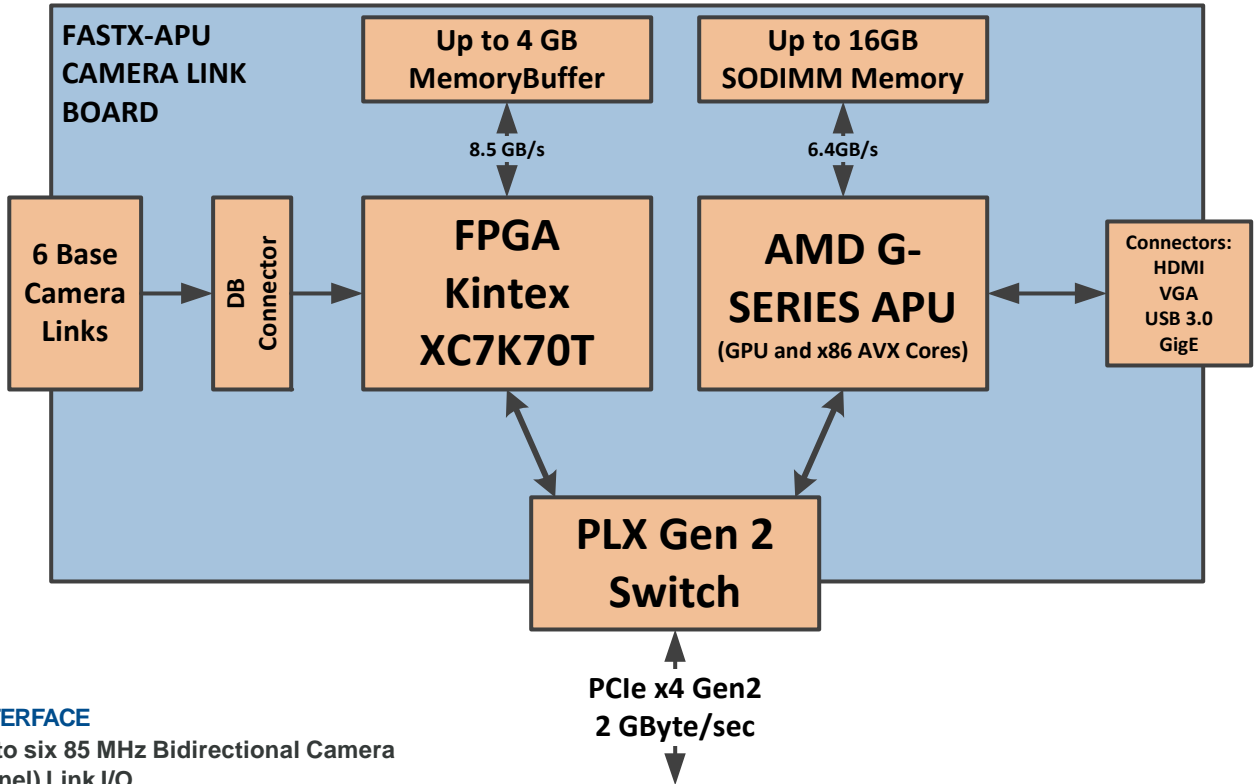

FASTX-APU PCIe KEY FEATURES:

■ Raw PCI form factor board with 4 GB dedicated high speed DD2 DRAM for the front end Xilinx Kintex FPGA for sustained real-time front-end processing

■ The latest AMD G-Series APU with 16 GB of DDR3 memory for real-time compute intensive processing

■ Collects data from up to six asynchronous Camera (channel) Links

■ Programmable Kintex FPGA for I/O interface configuration and processing

■ Four lane PCIe gen 2 bus interface

■ Optional high speed I/O interface for alternative input formats such as GigEx4, UXGA/DVI, or CoaXPress

■ Supported by industry standard firmware development tools, including fully optimized basic data manipulation, data formatting and image processing routines written in open CL

■　Drivers for Windows™ 7, Linux

FASTX-APU BOARD OVERVIEW

FASTX-APU CAMERA LINK BOARD

Up to 4 GB MemoryBuffer

Up to 16GB SODIMM Memory

8.5 GB/s

6.4GB/s

6 Base Camera Links

DB Connector

FPGA Kintex XC7K70T

AMD G-SERIES APU (GPU and x86 AVX Cores)

Connectors: HDMI VGA USB 3.0 GigE

PLX Gen 2 Switch

PCIe x4 Gen2 2 GByte/sec

I/O INTERFACE
- **Up to six 85 MHz Bidirectional Camera (channel) Link I/O**
- **Optional header for other input/output options including digital GigEX4, UXGA or DVI, or CoaXPress**

PCI-e INTERFACE
- **Data width - four lane PCI-express gen 2**
- **Peak DMA rate - 2GB/sec bidirectional.**

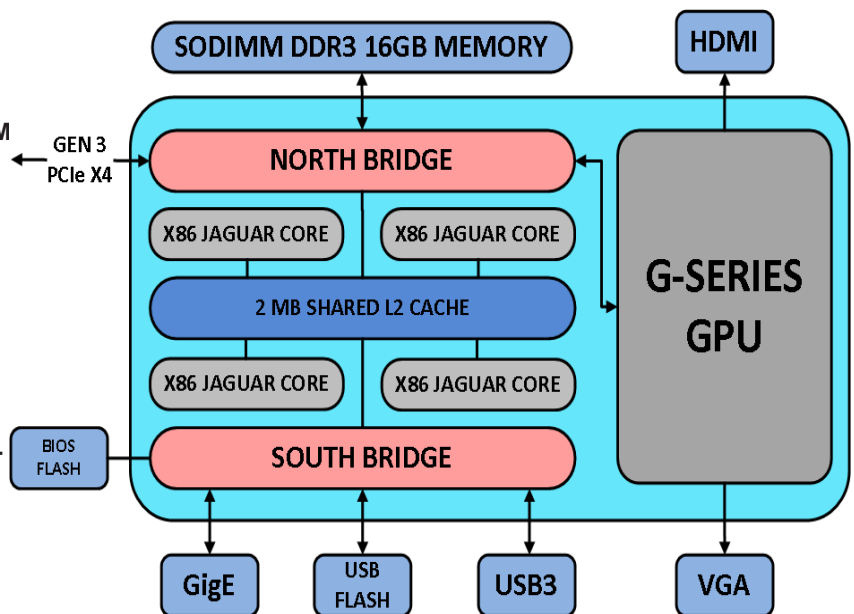## PROCESSOR
- **AMD G-Series APU with 16 GB DDR3 DRAM memory**

CAMERA CONTROL
- **Serial port- Asynch., RS-232 which runs from 75 to 11.2K baud**
- **Camera Link controls (optional)**

FPGA/MEMORY OPTION
- **Four GB DDR2 DRAM memory directly connected to the input Kintex FPGA for high-speed input**

AMD G-SERIES APU DIAGRAM

SODIMM DDR3 16GB MEMORY

HDMI

GEN 3 PCIe X4

NORTH BRIDGE

X86 JAGUAR CORE   **X86 JAGUAR CORE**

2 MB SHARED L2 CACHE

X86 JAGUAR CORE   **X86 JAGUAR CORE**

G-SERIES GPU

BIOS FLASH

SOUTH BRIDGE

GigE   **USB FLASH**   **USB3**   **VGA**

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