FASTCAMERA FC1700

The FastCamera 1700 is a high-speed 17 megapixel digital camera system, using a CMOS imager with an electronic global shutter, or rolling shutter. This camera has a high-speed, scalable, integrated FPGA, image processor, and memory subsystem which enables stand-alone high speed in camera image processing and extended storage. Options include ruggedized, Expanded Camera Link output, Gigabit Ethernet output, and in camera recording. When integrated with a high powered frame grabber /coprocessor board, the resulting system capabilities can be expanded by adding processors and memory on the board according to the needs of the user.

FastCamera FC1700 Key Features:

High Resolution

- 4812 × 3624 (17.4 MP) pixel array (including Black/Dummy)
- 5.0 um (H) × 5.0 um (V) pixel
- 4800 × 3600 / 4:3 aspect ratio; 4800 × 2700 / 16:9 aspect ratio
- 24.0mm (H) × 18.0mm (V) – 4800 × 3600 sensor active area
- 24.0mm (H) × 13.5mm (V) – 4800 × 2700 sensor active area

High Speed

- Up to 90 fps at 4800 × 3600 (10-bit)
- Up to 120 fps at 4800 × 2700 (10-bit)
- 6-port Dual Row Readout with high-speed LVDS outputs

High Sensitivity, Wide Dynamic Range and Ultra Low Noise

- 66 to 492 uV/e- selectable; 1.4 V full scale range
- 62 dB dynamic range; 8 e- rms noise

Excellent Image Quality

- Patented Active Column Sensor (ACS®) technology

- 14-bit per Column Distributed A/D (D/ADTM)
- Correlated Multi-Sampling (CMS™) to reduce noise or add gain

Multiple Operating Modes

- Global Shutter or Rolling Shutter
- 6-port Dual Row Readout or 3-port Single Row Readout
- Dual Data Rate (DDR) or Single Data Rate (SDR)

Additional Features

- Programmable Analog Gain
- Limited Region Of Interest (ROI)
- Digital Binning within Columns
- Asynchronous Exposure Control

INTERNAL MEMORY

- 8 Gigabytes of internal memory
- Capture to memory with slow readout.
- Real time (full sensor speed) capture to memory

INTERFACE OPTIONS

- GigE interface, for slow readout of captured images. 80 MBytes per second.
- Extended Full Camera Link readout with four channel links, at up to 1 Gigabytes per second.

FastCamera FC1700 Block Diagram
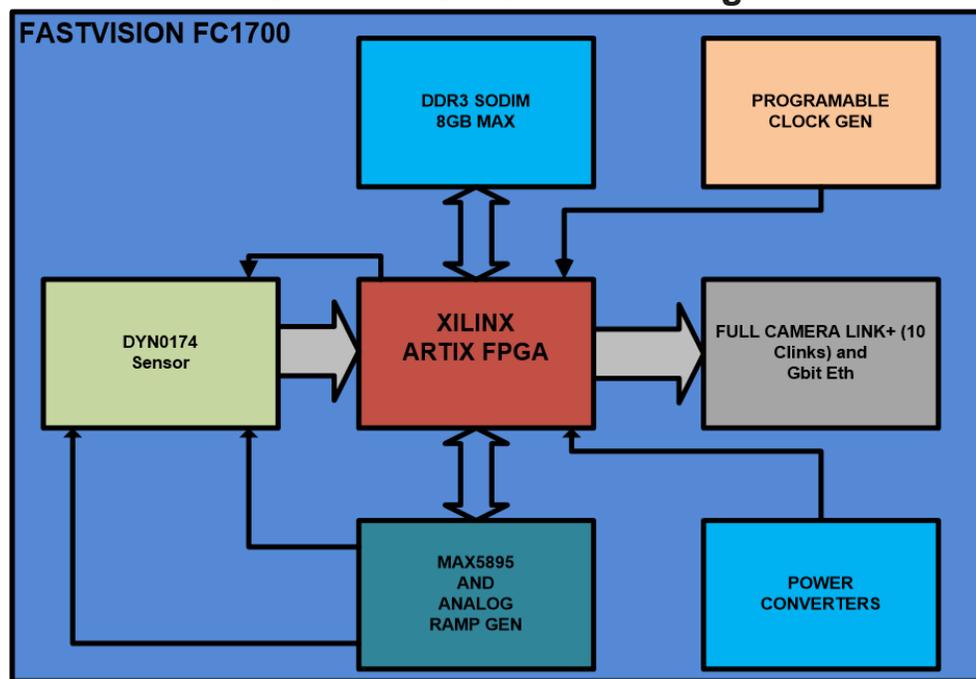
IN-CAMERA PROCESSING OPTIONS

Image averaging, by pixel gain and offset, calibration Programmable ROI (via serial port), Image sub-sampling, Convolution filtering, Binarization with dynamic threshold, VHDL customizable processing.

FASTVISION FASTCAMERA FC1700

SENSOR OPTIONS

Monochrome with or w/o Micro-lens Bayer Pattern Color, Glass / Fused Silica / No Window

OUTPUT SPECIFICATIONS

Base, Medium or Full Camera or Extended Full Link Camera LinkTM interface supported. Gigabit Ethernet.

PHYSICAL SPECIFICATIONS

- 153 mm x 156 mm x 64 mm
- 10 Pin Hirose Power Connector
- +12 Volt Input 15 Watts
- External Trigger In and Out
- 0 to 50 Degree C operating
- 42MMx1mm threaded lens mount.

CAMERA CONTROL INTERFACE

FastCamera FC1700 uses RS-644 serial communication as specified in the Camera LinkTM standard. The RS-644 serial connection in the Camera LinkTM interface is used to issue commands to the camera for changing modes and parameters. With the Gigabit Ethernet option it uses a proprietary UDP packet protocol similar to GigE Vision.

CAMERA PHYSICAL

All dimensions are in millimeters.