

## Predator - CoaXPress™ Frame Grabber

### Overview

Predator is a low-cost Frame Grabber supporting CoaXPress standard. The Predator is capable of receiving video streams from up to 4 CoaXPress links in single, dual and quad modes. Used for simultaneous capture from up to two dual link or four single link cameras or a single quad link camera. Each link supports standard CoaXPress bitrates up to 6.25 Gbps. This CoaXPress frame grabber is ideally suited for industrial, defense and aerospace Machine Vision Systems and applications. The Predator can easily receive video streams on the CoaXPress links and transmit them to computer memory through the PCIe interface. This product also provides GPIO for machine control signals such as triggers, shaft encoders, exposure control and general I/O, which can be controlled aside the video stream acquisition. The Predator uses standard DIN connectors as a CoaXPress interface to the camera and standard 100 mil headers for general purpose I/O. The frame grabber utilizes PCIe Gen2 x4 links for communication with Host PC for video uploading and configuration.



### Applications

- ✓ AOI
- ✓ Printing inspection
- ✓ 3D
- ✓ Broadcasting and sports analytics
- ✓ High-speed DVRs

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### About CoaXPress



CoaXPress is a new digital transmission standard that allows high speed data from a device, such as a camera, to be transferred to a host, such as a frame grabber. Each CoaXPress link supports up to 6.25 Gbps data rates, along with device power up to 13W and device control at 20 Mbps – all on a single coax cable. For very fast devices, the links can be aggregated to provide multiples of the single coax bandwidth. Long cable lengths are supported – up to 40 meters at 6.25 Gbps and over 100 meters at 3.125 Gbps.

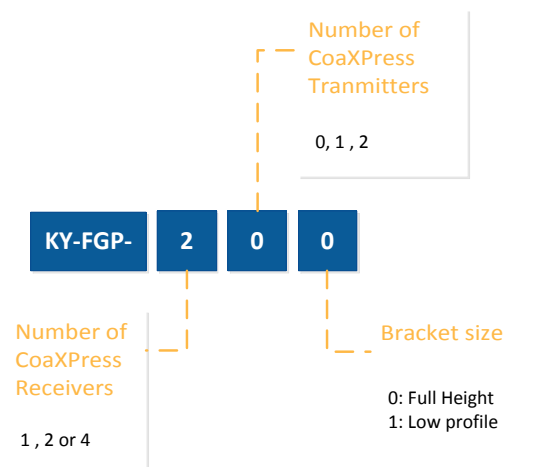
## Features

- 1,2 and 4 links support
- Multi-stream support
- Camera controls and triggers
- Up to 2 re-transmit links
- Per-link LED indication on card bracket
- Flexible machine I/O:
  - 4 TTL configurable I/Os
  - 2 LVDS inputs
  - 2 LVDS outputs
  - 4 opto-isolated inputs
  - 4 opto-isolated outputs
  - 4 quadrature rotary encoders
  - Integrated strobe controller
- CoaXPress compliant
- Power over CoaXPress with 13W per link
- Multiple Camera synchronization
- Multiple Frame Grabbers synchronization
- DIN 1.0/2.3 connectors for CoaXPress links
- GUI interface
- CoaXPress drivers for loopback function
- Supporting Windows and Linux OS
- API for developing custom applications
- Plug-ins modules for MATLAB
- Gen<i>Cam compliant
- GenTL support
- Up to 32 Gb image buffer (optional)
- PCIe Gen2 x4 Half-length Low profile card
- Full or Half-height bracket
- Data rates up to 6.25 Gbps per link
- Transfer Rate of up to 12.5 Gbps
- 0°C to 50°C operating environment temperature

## On board processing

- LUT operators with selectable bit depth
- RGB and Bayer with selectable bit depth
- Tap re-ordering
- H/V flipping

## Ordering Code



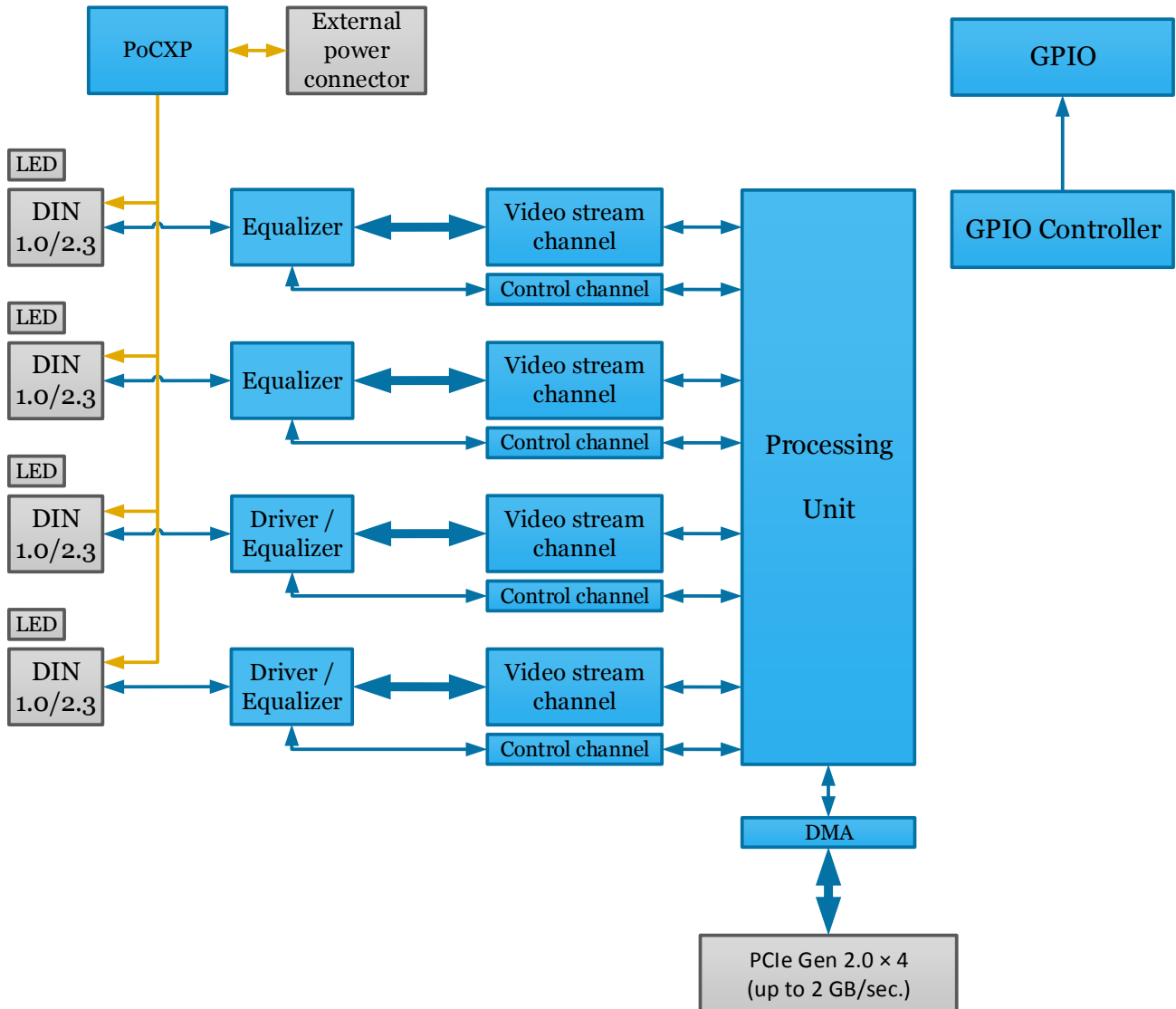
### Notes:

1. Maximum of Receiver and Transmitter channels together is 4
2. Custom models available on request

## Deliverables

- CoaXPress Predator Frame Grabber
- Hardware user manual
- Software installation CD
- Coax cables (optional)

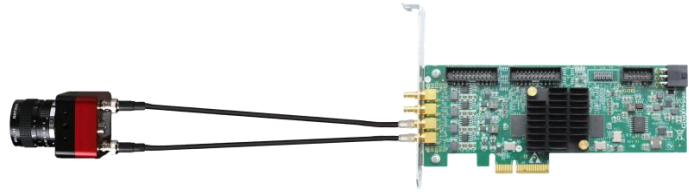
## Predator Frame Grabber HW Block Diagram



## Example System Topology

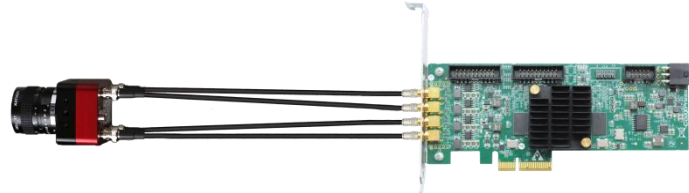
### Single Camera Topology:

Single or Dual CoaXPress links with up to 6.25 Gbps per link topology.  
 Video buffering mode with up to 32 Gb



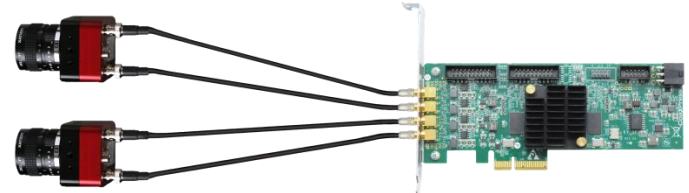
### Single Camera Topology:

Single, Dual or Quad CoaXPress links with up to 6 Gbps per link topology.  
 Maximum throughput to PCIe of 12.5 Gbps  
 Video buffering mode with up to 32 Gb



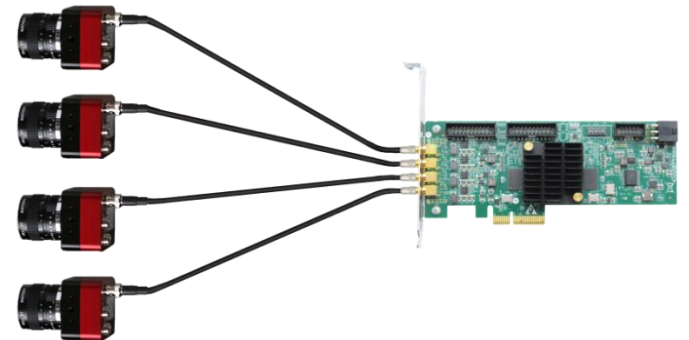
### Dual Camera Topology:

Two Single or Dual CoaXPress links with up to 6 Gbps per link topology.  
 Maximum throughput to PCIe of 12.5 Gbps  
 Video buffering mode with up to 32 Gb  
 Link Multiplexing (2:1)



### Quad Camera Topology:

Four Single CoaXPress links with up to 6 Gbps per link topology.  
 Maximum throughput to PCIe of 12.5 Gbps  
 Video buffering mode with up to 32 Gb  
 Link Multiplexing (4:1)



### Re-transmitter topology:

Dual CoaXPress links with up to 6 Gbps per link with re-transmitting topology.  
 Maximum throughput to PCIe of 12.5 Gbps  
 Re-transmitting to other Frame Grabber at 6 Gbps per CoaXPress link (up to 2 links)  
 Video buffering mode with up to 32 Gb  
 Link Multiplexing (2:1)

