国内で2015年から販売している Komodo-FXPは、CoaXPressをFiberに変換して長距離延長でき、延長後
再変換することなく、Fiber入力のPCIe Gen3x8接続フレームグラバ（ソフトウェアはCoaXPress版と同じ）
に直接接続できるので信頼性とコスト面でおすすめの製品です。
2025年現在 は旧ユーザ向け保守品です。
新規の場合はCXP-12対応の 第2、第3世代の FXP II、FXP III をご利用ください。

Komodo FXP - CoaXPress™ over Fiber acquisition system

Overview

Komodo FXP system is the industry first CoaXPress image acquisition system without range limitations. The system uses fiber optic cables to provide high resolution image acquisition interface for distances up to 80km in single-mode and up to 300m in multi-mode. The Komodo FXP system is capable of receiving video streams from up to 4 CoaXPress links in single, dual or quad modes. It is used for simultaneous capture from up to four cameras. Each link supports standard CoaXPress bitrates up to 6.25 Gbps. This system is ideally suited for industrial, defense and aerospace Machine Vision Systems and applications. The system consists of Komodo Fiber frame grabber and CoaXPress to Fiber device. The remote unit converts CoaXPress links to fiber optic interface. The Komodo Fiber FXP system uses a high performance flow through DMA to transmit video streams to computer memory through PCIe interface with minimal latency. This product also provides GPIO for machine control signals, such as triggers, shaft encoders, exposure control and general I/O, which can be control aside video stream acquisition.

The Frame Grabber utilizes PCIe Gen3 x8 links for communication with Host PC for video uploading and configuration.

Applications

- ✓ AOI
- ✓ Printing inspection
- ✓ 3D
- ✓ Broadcasting and sports analytics
- ✓ High-speed DVRs
- ✓ Defense remote systems
- ✓ Surveillance

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

- Solves distance limitation of CoaXPress
- Extention for distances up to 80km in single-mode and up to 300m in multi-mode
- Plug and Play , no need to configure
- 1 to 4 CoaXPress links support
- PCIe Gen3 x8 Half-length card
- Up to 144 Gb image buffer
- Multi-stream support
- Camera controls and triggers
- Per-link LED indication on card bracket
- Flexible machine I/O:
    - 4 TTL configurable I/Os
    - 4 LVCMOS configurable I/Os
    - 2 LVDS inputs
    - 2 LVDS outputs
    - 4 opto-isolated outputs
    - 4 opto-isolated inputs
    - 8 quadrature rotary encoders
    - Integrated strobe controller
- CoaXPress V1.1 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
- Supporting Windows and Linux OS
- API for developing custom applications
- Plug-ins modules for Matlab, HALCON and Labview

- Gen<i>Cam compliant
- GenTL support
- Data rates up to 6.25 Gbps per link
- Transfer Rate of up to 55 Gbps
- 0°C to 50°C operating environment temperature
- -40°C to 70°C operating environment temperature (industrial grade, optional for extender device)

On board processing

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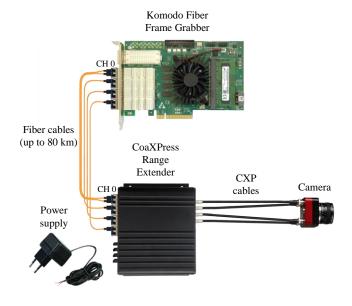- H/V flipping
- Custom processing engines

Deliverables

- Komodo Fiber Frame Grabber
- CoaXPress to Fiber Device
- SFP+ modules (optional)
- Power supply (optional)
- Hardware user manual
- Software installation disk
- Coax cables (optional)
- Fiber Cables (optional)
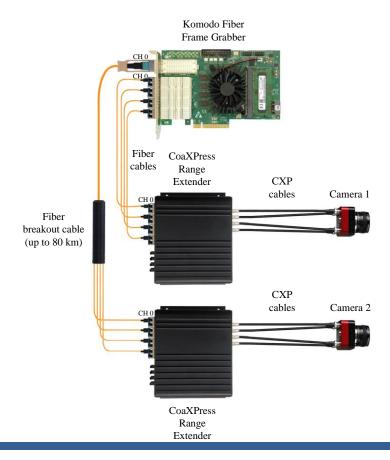- GPIO Extension Panel (optional)

Komodo FXP system connection diagram

Komodo Fiber
Frame Grabber

CH 0

Fiber cables
(up to 80 km)

CoaXPress
Range
Extender

CXP
cables

Camera

CH 0

Power
supply

Komodo Fiber
Frame Grabber

CH 0
CH 0

Fiber
cables

CoaXPress
Range
Extender

CXP
cables

Camera 1

CH 0

Fiber
breakout cable
(up to 80 km)

CXP
cables

Camera 2

CH 0

CoaXPress
Range
Extender

Komodo Frame Grabber HW Block Diagram

4 LEDs			

QSFP+ → 40 G → Video stream channel ↔ Processing Unit

Control channel ↔

LED

SFP+ → 10 G → Video stream channel ↔

Control channel ↔

LED

SFP+ → 10 G → Video stream channel ↔

Control channel ↔

LED

SFP+ → 10 G → Video stream channel ↔

Control channel ↔

LED

SFP+ → 10 G → Video stream channel ↔

Control channel ↔

GPIO

GPIO Controller

BANK A DDR3 64 bit up to 16 Gb

BANK B DDR3 64 bit up to 128 Gb

DMA

PCIe Gen 3.0 × 8 (up to 55 Gbps)

COMPATIBILITY

KAYA Vision develops and maintains compatibility and interfaces for the most common and advanced vision image processing libraries and applications. We ensure seamless integration with major platforms to provide users with a flexible and convenient development environment, minimize integration effort, and accelerate time to deployment.

Supported vision standards:

CoaXPress   GEN‹i›CAM   CoaXPress over-Fiber   SMPTE

Supported vision libraries:

HALCON a product of MVTec   OpenCV   LabVIEW™   MATLAB®   COGNEX   NORPIX

Supported operating systems:

Windows   LINUX   NVIDIA JetPack

Please check our website for an up-to-date list of other supported libraries and software package.

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Have questions about pricing, availability, documentation, or custom options?
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