CLHS Frame Grabber with Fiber Optic Interface
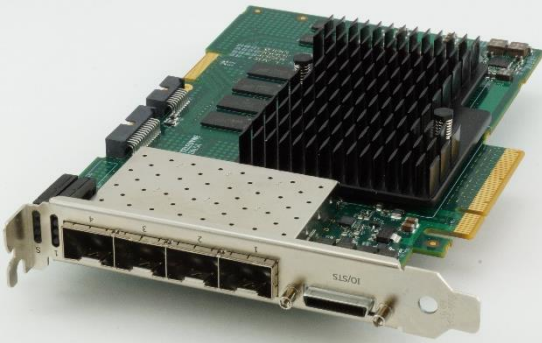
Building on the field proven capabilities of Teledyne DALSA's Xtium family of frame grabbers, the Xtium™ 2 CLHS FX8 features fiber optic cabling for the CameraLink HS interface on the PCI Express™ Gen 3.0 platform. The Xtium 2 CLHS FX8 boards feature CLHS X-protocol for high efficiency transmission, support up to four bidirectional SFP+ modules to delivery aggregate bandwidth of 5.0 GB/s and can reach cable lengths beyond 300 meters[1] - all in a compact, half-length, single slot solution.

The Xtium2-CLHS features high-performance on-board, Data Transfer Engine (DTE) to deliver maximum bandwidth without the need for specialized motherboards or chipsets. By enabling maximum sustained throughput and ready-to-use image data, the Xtium2-CLHS FX8 minimizes CPU usage and improves processing times for host applications. In addition, the Xtium2 series features enhanced memory bandwidth to meet the ever-increasing image resolution and faster frame rates of today's camera technology.

Free Acquisition and Control Software Libraries

Xtium2 series of frame grabbers are fully supported by Sapera™ LT-an image acquisition and control software development toolkit (SDK) for Teledyne DALSA's cameras and frame grabbers. Hardware independent in nature, Sapera LT offers a rich development ecosystem for machine vision OEMs and system integrators. Sapera LT supports image acquisition from cameras and frame grabbers based on industry standards including GigE Vision, CameraLink™, CameraLink HS™ and CoaXpress™.

Fully Supported By Sapera Vision SDK

When combined with Xtium2 series of frame grabbers, the standard Sapera Processing run-time licenses are offered at no additional charge. Sapera Processing is at the heart of Sapera Vision Software Package delivering a suite of image processing and analysis functions. These functions include over 400 image processing primitives, barcode tool, pattern matching tools both area-based and edge-based, OCR, color, blob analysis, measurement and calibration tools for perspective and lens correction. The standard tools run-time license includes access to image processing functions, area based (normalized correlation based) template matching tool, blob analysis and lens correction tool.

Key Features

- Half-length PCI Express Gen 3.0 x8 Board
- CameraLink® HS compliant
- Aggregate acquisition rates up to 5.0 GB/sec
- Host transfers up to 6.8 GB/sec
- Support up to four 4 CLHS lanes
- Capable of supporting Data forwarding[2] for distributed image processing (2 lanes max)
- Field proven Fiber cabling using SFP+ modules
- Microsoft® Windows® 7, 8 and 10 (32/64-bit), WOW64 and Linux[2]
- Fully supported by Sapera Vision Software SDKs
- FCC, CE, KC and ROHS compliant

Xtium2-CLHS Specifications[3]

Card	• Half-length PCIe x8 card • PCIe Rev 3.0 compliant
Acquisition	• Area scan and line scan • Acquisition rate up to 5.0GB/s
CLHS	• CLHS 1 to 4 lane configurations • Up to 4 fiber cables • Support for CLHS acquisition trigger modes 1 through 4
Features	• Image Cropping • User programmable 3x3 filter[2] • Horizontal and vertical image flip • Data forwarding across multiple boards and PC for distributed image processing • Multiple board synchronization grab from multiple camera and multiple frame
Resolution	• Horizontal size: 64 bytes to 16 Kbytes • Vertical size: 1 line to 16 million lines
On-Board Memory Buffer	• 512 MB image buffer
Pixel Format	• Mono8, Mono10, Mono12 and Mono16 • RGB 8; RGB+Y 8-bit/color/pixel
Controls	• Comprehensive event notification • Timing control logic for camera trigger, line scan direction and strobe signals • Camera control through GenCP/SFNC
Connectors	• 4 x SFP+ cages with latch • DH60-27P for Board Trigger, Strobe and General I/Os (main bracket) • 16-pin connector on the board for Board Sync and/or other usage
LED	• 4 LEDs to report data error conditions • 1 LED acquisition status • LED to follow CLHS standard
Certification	• FCC Class A • CE, KC • EU & China RoHS
Software	• Supported by Sapera LT and CamExpert • Microsoft Windows 7, Windows 8/8.1, Windows 10 32/64-bit, WOW64 and Linux[2]
Temperature and storage	• 10°C (50°F) to 50°C (122°F) • Relative Humidity – up to 90% (non-condensing)
Dimensions	• 11.11cm (4.375") length x 9.96cm (3.9240") height

1 Based on preliminary information
2 Contact Teledyne DALSA sales for availability
3 Specifications subject to change without notice