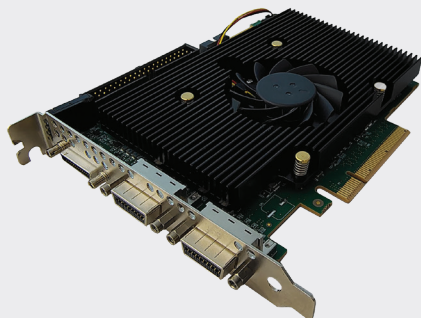# XTIUM™ 3 CLHS PX8
A High-Performance Frame Grabber for PCIe Gen4 Platform

KEY FEATURES

- Half-length PCI Express Gen 4.0 x8 board
- CameraLink® HS compliant
- Supports line scan cameras including Teledyne DALSA's Linea HS2 16K
- Supports acquisition rates up to 8.6 GB/sec
- Host transfers up to 12.5 GB/sec
- Data forwarding for distributed image processing
- Field proven optical (AOC) cabling
- Microsoft® Windows® 11 and Linux Distributions
- Fully supported by Sapera LT Software SDKs
- FCC, CE, KC, and EU & China ROHS compliant (pending)

Feature Rich CLHS Acquisition and Processing

Built on Teledyne DALSA's field proven Xtium2 family of frame grabbers, the Xtium3-CLHS PX8 features the CameraLink HS standard on the PCI Express™ Gen 4.0 platform. This single-slot, single-cable solution supports up to 7-CLHS lanes, each capable of operating at speeds of up to 10.3125 Gbps. The Xtium3-CLHS PX8 also delivers acquisition bandwidths of up to 8.6 GB/sec and host transfer bandwidths reaching 12.5 GB/s using a PCIe Gen 4 x8 slot.

The Xtium3-CLHS PX8 uses the CLHS X-protocol for high-speed image transmission, delivering images with over 97% packet efficiency using 64/66-bit encoding. When combined with 7-lanes of AOC cables, it can deliver images at the maximum input data rate at cable lengths beyond 30 meters.

Additionally, with integrated data forwarding capabilities, the Xtium3 CLHS PX8 can redistribute incoming data in real time to up to 12 computers, connecting with other Xtium3-CLHS grabbers via standard AOC cables.

FREE ACQUISITION AND CONTROL SOFTWARE LIBRARIES

Sapera™ LT is a comprehensive software development toolkit (SDK) for image acquisition and control, offering full support for the Xtium3 family. Available as a free download, it is hardware independent and works across all Teledyne DALSA frame grabbers and cameras. Trusted by machine vision OEMs and system integrators, Sapera LT provides a field proven development ecosystem. It 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 Xtium3 series frame grabbers, Teledyne DALSA provides a standard Sapera Processing run-time licenses at no extra cost. Sapera Processing is at the heart of the Sapera Vision Software Package, delivering a suite of image processing and analysis functions. These functions include over 400 image processing primitives, barcode tools, area-based and edge-based pattern matching, 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 tools.

SPECIFICATIONS[2]

Features	Description
CARD	• **Part Number: OR-B8S0-PX870** • Half-length PCIe x8 card • PCIe Rev 4.0 compliant
ACQUISITION	• Area scan and line scan
CLHS	• CLHS 1 to 7 lane configuration • Single AOC or CX4 cable input from camera • Support for CLHS input pulse (acquisition trigger) modes 1 through 4
I/OS	• 6x op-inputs (external frame trigger, line trigger, encoder GPI) • 4x LVTTL output (GPO or strobe) • 8x open-collector outputs (GPO or strobe)
FEATURES	• Image cropping, horizontal and vertical image flip • LUTs • Data forwarding across multiple boards and PC for distributed image processing • Multiple board synchronization - grabs from multiple camera and multiple frame grabbers into one host buffer • Multi-planes image processing function
RESOLUTION	• Horizontal size: 64 bytes to 128 Kbytes • Vertical size (line scan) – 1 to infinite, (area scan): 1 to 64K lines • Variable frame size: up to 16 million lines
ON-BOARD MEMORY BUFFER	• 4 GB image buffer and 4 GB for FFC
PIXEL FORMAT	• Mono8, Mono10 and Mono12
CONTROLS	• Comprehensive event notification • Timing control logic for camera trigger, line scan direction and strobe signals • Camera control through Genicam SFNC
CONNECTORS	• 1 x CX4 thumbscrew connector for incoming data from camera • 1 x CX4 thumbscrew connector for data forwarding • DH60-27P for board trigger, strobe and general I/Os (main bracket) • 40-pin TST-120-01-G-D for board trigger, strobe and general I/Os (on-board) • 16-pin connector on the board for board sync and/or other usage
LED	• 2 LEDs to report CLHS compliance link status camera input/ data-forwarding output • 1 LED Board status
CERTIFICATIONV(PENDING)	• FCC Class A, CE, KC, EU & China RoHS
SOFTWARE	• Supported by Sapera LT SDK packages and third-party software[1] • Microsoft Windows 11 and Linux[1]
TEMPERATURE AND STORAGE	• 10°C (50°F) to 50°C (122°F) • Relative humidity—up to 90% (non-condensing)
DIMENSIONS	• 14cm (5.5") length x 10cm (4") height

[1]Contact Teledyne DALSA sales for availability
[2]Specifications subject to change without notice
[3]I/O signals on the bracket connector(J1) and main board(J4) are common must connect only one.

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