X64 Xcelera-CL LX1 Base
PCI Express x1 Frame Grabbers

X64 Xcelera-CL LX1 Base

Key Features

- Image acquisition from Camera Link Base camera
- Supports Camera Link® operations up to 85MHz
- Supports 32/64-bit Windows platforms
- Quarter-length PCI Express x1 Board
- Power Over Camera Link® (PoCL) Compliant
- Offers external acquisition control signals on single PCIe x1 slot
- ROHS compliant
- DALSA Platform Development Advantage – Free Run-time Licensing[1]

Advanced PCIe x1 image acquisition

Building on the field proven technology and performance of DALSA's X64 frame grabbers, the X64 Xcelera™ Series leverages the PCI Express (PCIe) platform to bring traditional image acquisition and processing technology to new levels of performance and flexibility.

The PCIe point-to-point host interface allows simultaneous image acquisition and transfer with little intervention from the host CPU.

The X64 Xcelera -CL LX1 Base is a cost effective frame grabber based on the PCI Express x1 interface. Fully compliant with Camera Link (V. 1.20) specifications, the Xcelera-CL LX1 supports single Base cameras and can acquire images from a wide variety of multi-tap area and line scan, color and monochrome cameras.

The Xcelera-CL LX1 Base is built within DALSA's Trigger-to-Image Reliability technology framework and combines acquisition and external control signals on a single PCIe slot. Trigger-to-Image Reliability leverages DALSA's hardware and software innovations to control, monitor and correct the image acquisition process from the time that an external trigger event occurs to the moment the data is sent to the host, providing traceability when errors do occur and permitting recovery from those errors.

Software Support
All of the frame grabbers in the Xcelera series are supported by DALSA's Sapera™ Essential software package. Sapera Essential is a cost-effective machine vision software toolkit that bundles board level acquisition and control with advanced image processing capability, featuring 1D/2D barcodes, OCR, pattern finding, color analysis, blob analysis and lens correction tools.

Sapera Essential is designed to deliver the critical functionality needed to design, develop and deploy high-performance machine vision applications while significantly lowering deployment costs.

DALSA Platform Development Advantage - Free Run-Time Licensing
The Sapera Essential standard processing tool run-time license is offered at no additional charge when combined with the DALSA frame grabbers. This software run-time license[1] includes access to over 400 image processing functions, area-based (normalized correlation based) template matching tool, blob analysis and lens correction tool.

TRIGGER-TO-IMAGE
RELIABILITY

[1] Some conditions and limitations apply, contact DALSA sales for details.

DALSA

X64 Xcelera-CL LX1 Base
PCI Express x1 Frame Grabbers

Specifications*

Function	Description
Board	Camera Link Specifications Rev 1.20 compliant Half length PCI Express 1.20 x1 compliant ROHS Compliant
Acquisition	Supports one Base Camera Link area and line scan camera Acquisition pixel clock rates up to 85MHz
Resolution	Horizontal Size (min/max): 8 byte/256K bytes Vertical Size (min/max): 1 line/infinite lines for line-scan cameras 1 line/16million lines/frame for area-scan cameras Variable length frame size from 1 to 16 million lines for area-scan cameras Integrated advanced tap reversal engine allows independent tap formatting
Pixel Format and Tap configurations	Supports Camera Link tap configurations for 8, 10, or 12-bit mono and RGB cameras: For Base cameras in any of the following combinations: - 3x8-bit/tap, 2x10-bits/tap, 2x12-bit/tap, 1x14-bit/tap, 1x16-bits/tap, & 1x24-bit/RGB
Transfers	Real-time transfers to system memory Intelligent Data-Transfer-Engine automatically loads scatter-gather and tap description tables from the host memory without CPU intervention

Function	Description
Controls	Comprehensive event notification includes end/start-of-field/frame/transfer Camera control signals for external event synchronization Optically isolated TTL/LVDS trigger inputs programmable as active high or low (edge or level trigger) PC independent serial communications ports provide support 9600 to 11500K baud Appear as system serial ports enabling seamless interface to host applications
Shaft-Encoder Input	Optically isolated quadrature (AB) shaft-encoder inputs for external web synchronization Supports up/down scaling
Power Output	Power-on-reset fused +12V output @ 1.5A +5V DC output at 1.5A
Software	Device driver supports : 32/64-bit OS: Microsoft Windows XP Professional and Windows Vista Full support of DALSA's Sapera Essential software libraries Application development using C++ DLLs and .NET components
System Requirements	PCI Express 1.10 compliant with one x4 slot system with 64MB or higher system memory
Dimensions	3.0" (7.5cm) Length X 4.20" (10.7 cm) Height
Temperature	0°C (32° F) to 55° C (131° F) Relative Humidity: up to 95% (non-condensing)
Markings	FCC Class B - Approved CE - Approved ROHS - Compliant

* Specifications last updated 04/09

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