

iPORT CL-Deca External Frame Grabbers

High-performance GigE Vision connectivity for Camera Link 80-bit, Full, Medium and Base cameras over 10 GigE links

Overview

Pleora's **iPORT™ CL-Deca External Frame Grabbers** use a high-performance GigE Vision® 2.0 over 10 Gigabit Ethernet (10 GigE) link to transmit video simultaneously from 80-bit, Full, Medium or Base cameras at maximum data rates with low, predictable latency. These external frame grabbers allow designers to extend and aggregate system cabling and integrate Camera Link® cameras into a networked environment.

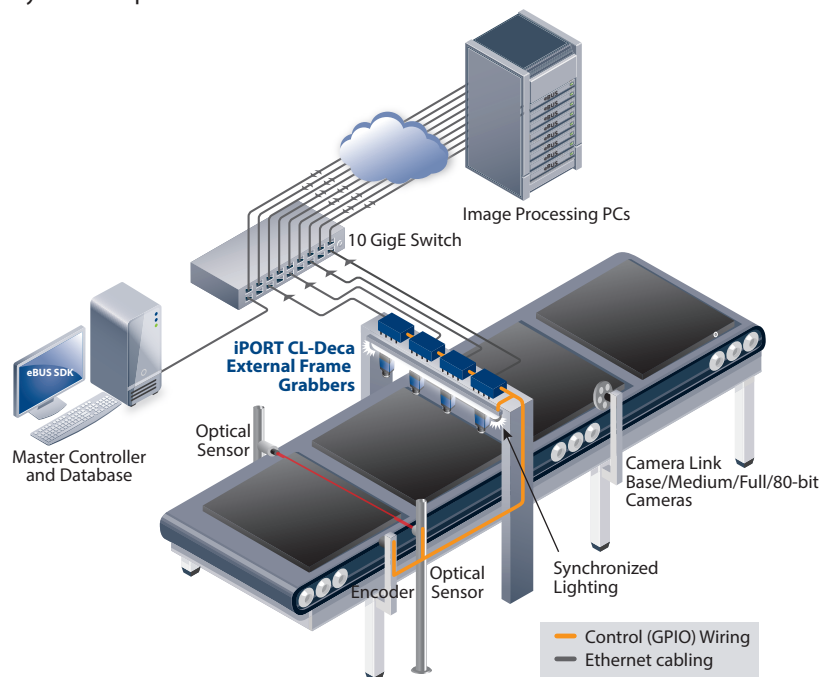
CL-Deca External Frame Grabbers interact seamlessly with Pleora's other products in networked or point-to-point digital video systems. The Camera Link compliant frame grabbers comply fully with the GigE Vision and GenICam™ standards, enabling interoperability with third-party equipment in multi-vendor environments. The GigE Vision and GenICam standards are agnostic to Ethernet link speed, which means the CL-Deca can be designed into multi-speed systems alongside GigE Vision cameras operating at 10/5/2.5/1 Gb/s with no software modifications.

The CL-Deca converts video data to Ethernet packets and sends them over a 10 GigE link to receiving software or hardware. The CL-Deca is compatible with industry-standard Cat 6A cabling with RJ-45 modular connectors, and can be easily connected to off-the-shelf 10 GigE components such as network cards and switches. A sophisticated on-board programmable logic controller (PLC) allows users to precisely measure, synchronize, trigger, and control the operation of other vision system components.



Features

- Highly reliable, 10/5/2.5/1 Gbps data transfer rate with low, end-to-end latency from Camera Link 80-bit/Full/Medium/Base cameras to computing platforms without needing a PCIe frame grabber
- Line scan and area scan modes
- Record and playback capability
- Sophisticated on-board programmable logic controller (PLC) allows users to precisely measure, synchronize, trigger, and control the operation of other vision system elements
- Supports transmission of 80-bit, Full or Medium and Base configuration cameras
- Supports IEEE1588 Precision Time Protocol and action commands
- Provides power to cameras utilizing the Power over Camera Link (PoCL) standard
- Screw surface mountable enclosure or OEM boardset
- GenICam Integration Package (consisting of the iPORT AutoGen XML generation tool and a firmware reference design) makes it fast and easy to create a user-friendly GenICam interface (contact sales for pricing information on this integration package)
- Fully supported by a comprehensive development kit



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Networked Video Connectivity Solutions

iPORT™ External Frame Grabbers	- Highly reliable data transfer with low, end-to-end latency - Enclosed and OEM board units
GigE Vision® and GenICam	- Fully-compliant GigE Vision 2.0 firmware load - Guarantees delivery of all packets - Comprehensive data transfer diagnostics

Video Formats

Scan Modes	Area Scan and Line Scan
Tap Support	- Base mode: 1 and 2 taps - Medium Mode: 1, 2 and 4 taps - Full Mode: 1, 2, 4, and 8 taps 80-Bit Mode: 1, 2, 4, 8 and 10 taps
Tap Geometries (GenICam SFNC)	1X_1Y, 1X2_1Y, 1X, 1X2, 1X4_1Y, 1X4, 2X2E, 1X8_1Y, 1X8, 1X10_1Y, 1X10
Image Width	- Min: 4* - Default: 640 - Max: 32,760 - Increment: 4*
Image Height	- Min: 1 - Default: 480 - Max: 32,767 - Increment: 1
Payload Types	Image with Extended Chunk Mode*
Pixel Formats	Mono, BayerGR, BayerRG, BayerGB, BayerBG, RGB, BGR, RGBA, BGRA, YUV, YCbCr, Sparse Color Filter pattern
Pixel Depth	8, 10, 12, 14, 16, 24, 30, 32 and 36 bits

Features

Camera Link cameras	- Camera Link 2.1 compliant - Single 80-bit, Full, Medium or Base configuration cameras - Supports Power over Camera Link (PoCL) - Supports CLProtocol - Supports GenCP
Pixel Clock	20 MHz to 85 MHz
Frame Buffer	1024 MB
Programmable Logic Controller	- Advanced image capture control - Integrated with GPIO
Delayer, rescaler, general-purpose counter	- Allows full synchronization to line scan cameras - Allows synchronized capture between multiple cameras - Allows camera acquisition to track changing speeds on conveyor belts
GPIO	4x TTL inputs 2x TTL outputs
Serial Communication	2x UARTs (available as Bulk interfaces in software) 1x on Power/GPIO connector for peripheral/external device control 1x on MiniCL A connector for camera control
Supported Baud Rates	9600, 14400, 19200, 28800, 38400, 57600, 115200, 230400, 460800, 921600, Programmable

Connectors

Network	RJ-45 with locking screws**
Video Interface	2x SDR-26 (Mini CL) connectors
Power In and GPIO	OEM: 12-pin header or via 12-pin circular connector with cable assembly and GPIO/Power board *** Enclosed: 12-pin circular connector
Power Out	PoCL on the 2x SDR-26 (Mini CL) connectors

Characteristics

Size (L x W x H)	OEM board sets: 85.86 mm x 61 mm x 23.35 mm Enclosed: 99.29 mm x 91.2 mm x 50 mm
Weight	Enclosed: 304 g OEM board sets: 60g
Operating Temperature	OEM: Commercial**** Enclosed: 0°C to 50°C
Industrial Variant:	OEM: -40°C to 85°C Enclosed: -40°C to 65°C
Storage Temperature	-40°C to 85°C
External Power Supply	12V (11-13V)
Power Consumption	8 W maximum with PoCL disabled (estimated TBC)
MTBF @ 40°C	1,327,378 hours
ECCN	5A991.b.4.a

Networking Features

10 Gigabit Ethernet-based	- Industry standard, easy-to-use equipment - Compatible with 10G/5G/2.5G/1G IP/Ethernet networks - Supports IEEE 802.3 (Ethernet), IP, IGMP v2, UDP and ICMP (ping) - Supports IEEE 1588 Precision Time Protocol
Multicast capability	- Standards-based, IGMPv2 - Enables advanced distributed processing and control architectures

Ordering Information

900-8036	iPORT CL-Deca External Frame Grabber in mountable enclosure for Camera Link 80-Bit/Full/Medium/Base modes.
900-8038	iPORT CL-Deca External Frame Grabber OEM boardset for Camera Link 80-Bit/Full/Medium/Base modes.
900-8039	iPORT CL-Deca Development Kit including 900-8036, Cat 6A cable, Power Supply, 10GigE Network Interface Card and eBUS SDK USB Stick.
900-8040	iPORT CL-Deca Development bundle including 900-8039 and 1 year of Developer Support and Maintenance
900-8041	iPORT CL-Deca-IND External Frame Grabber in mountable enclosure for Camera Link 80-Bit/Full/Medium/Base modes.
900-8043	iPORT CL-Deca-IND External Frame Grabber OEM boardset for Camera Link 80-Bit/Full/Medium/Base modes.
900-8044	iPORT CL-Deca-IND Development Kit including 900-8041, Cat 6A cable, Power Supply, 10GigE Network Interface Card and eBUS SDK USB Stick.
900-8045	iPORT CL-Deca-IND Development bundle including 900-8044 and 1 year of Developer Support and Maintenance
TBC	iPORT CL-Deca GenICam Integration Package
TBC	iPORT CL-Deca-IND GenICam Integration Package

* Image width increment of 8 when in Extended Chunk Mode

** Only available for mountable enclosure variant.

*** Input power, GPIO and serial port connections can be accessed through a 12-pin header on the adapter card. The customer may alternatively use Pleora's GPIO/Power card plus cable assembly and the same 12-pin circular connector used on the non-OEM version.

**** Case and junction temperature limits vary by IC device. Please refer to User Guide for specific IC operating temperature specifications and thermal management information.