DATA SHEET

iPORT CL-GigE External Frame Grabbers

High-performance GigE Vision connectivity for Camera Link cameras

Overview

Pleora's iPORT™ CL-GigE External Frame Grabbers allow system manufacturers and integrators to treat Camera Link® Base configuration cameras as native GigE Vision® cameras in applications operating in challenging environments.

With these external frame grabbers, designed specifically for highly reliable video transmission in challenging operating conditions, Camera Link cameras can enjoy the long-distance reach of Gigabit Ethernet (GigE) and be mixed with native GigE Vision cameras in networked environments.

The iPORT CL-GigE converts video data from Camera Link cameras to packets and transmits it over a GigE link with low, predictable latency. GigE supports cabling distances of up to 100 meters using standard CAT5e/6 cabling. With off-the-shelf Ethernet switches, distances can be unlimited.

The connection at the PC is a standard GigE plug, eliminating the need for a desktop PC with an available peripheral card slot. As a result, system designers can reduce system size, cost, and power consumption by using computing platforms with smaller form factors, such as laptops, embedded PCs, and single board computers. A sophisticated on-board Programmable Logic Controller (PLC) allows users to precisely measure, synchronize, and control the operation of other elements.

The iPORT CL-GigE interact seamlessly with Pleora's other products in networked or point-to-point digital video systems. The industrial-grade frame grabbers comply fully with the GigE Vision and GenICam™ standards, enabling interoperability with third-party equipment in multi-vendor systems.

With Pleora's iPORT CL-GigE, system manufacturers and integrators can shorten time-to-market, lower design and system costs, and reduce development and deployment risk by reusing expensive or application-specific Camera Link cameras in GigE Vision installations, with minimal software development.

Features

- Transmits video from Camera Link Base cameras over GigE
- Wide operating temperature range for challenging environments
- Plugs into a wide range of computing platforms without needing a PCI frame grabber
- Compact and low power
- Screw surface mountable enclosure
- Line scan and area scan modes
- 120 MB frame buffer to accommodate multi-mega pixel sensor sizes
- Record and playback capability
- GigE Vision and GenICam compatible
- Supports IEEE1588 Precision Time Protocol and action commands
- Supports both PoE and externally-powered options
- Power over Camera Link (PoCL)
- Sophisticated on-board programmable logic controller (PLC) allows users to precisely measure, synchronize, trigger, and control the operation of other vision system elements
- Low, predictable latency
- Bundled with Pleora's feature-rich eBUS™ SDK application Toolkit
- Fully supported by a comprehensive development kit

PoCL® CAMERA Link®

GEN<i>CAM

For more information, visit www.pleora.com

Pleora Technologies

iPORT CL-GigE External Frame Grabbers

Networked Video Connectivity Solutions

iPORT External Frame Grabber	• Purpose-built hardware compatible with Camera Link Base cameras • Highly reliable, 1 Gb/s data transfer rate with low, end-to-end latency • Enclosed unit, or OEM board set
eBUS SDK	• eBUS SDK: Single API to receive video over GigE, 10 GigE, and USB that is portable across Windows, Mac, and Linux • eBUS Tx: Software implementation of a full device level GigE Vision transmitter • eBUS Rx: High-speed reception of images or data for hand-off to the end application • eBUS Player Toolkit: View streams and develop, test and evaluate advanced features
GigE Vision and GenICam™	• Fully compatible firmware load • Guarantees delivery of all packets • Comprehensive data transfer diagnostics

Video Formats

Tap Support	• 1 and 2 taps
Video Modes	• Mono, BayerGR, BayerRG, BayerGB, BayerBG, RGB, YUV, YCbCr, Sparse Color Filter
Pixel Depth	• 8, 10, 12, 14, 16 bits

Features

Pixel Clock	• 20 MHz to 85 MHz
Frame Buffer	• 120 MB
Programmable Logic Controller	• Advanced image capture control • Integrated with GPIO
GPIO	• 2 LVDS/RS-422/HVTTL/±24V/±30V differential or single-ended inputs • 2 TTL/LVCMOS inputs • 3 TTL/LVCMOS outputs
Gigabit Ethernet-based	• Low-cost, easy-to-use equipment • Compatible with 100/1000 Mb/s IP/Ethernet networks • Supports IEEE 802.3 (Ethernet), IP, IGMP v.2, UDP and ICMP (ping) • Long reach: 100 m point-to-point, further with Ethernet switches or fiber
Multicast capability	• Enables advanced distributed processing and control architectures

Characteristics

Size (L x W x H)	• 47.6 mm X 81.5 mm X 51.0 mm (enclosed)
Operating temperature	• OEM board sets: see note*. • Enclosed external powered: -40°C to 60°C • Enclosed PoE powered with PoCL off: -40°C to 55°C • Enclosed PoE powered with PoCL on: -40°C to 50°C
Storage temperature	• -40°C to 85°C
Power consumption	• Externally powered: 2.7 W • PoE powered: 3.4 W
MTBF at 40°C	• 1,014,151 hours
ECCN	• EAR99

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

Connectors

Video	• SDR-26 (Mini CL) connector
Network	• RJ-45 with locking screw connector
GPIO	• 12-pin circular connector
Power In	• PoE powered on the RJ-45 connector: IEEE 802.3af • External powered on the 12-pin circular connector: 11.7 to 13 Volts nominal
Power Out	• PoCL on the SDR-26 (Mini CL) connector

Ordering Information

900-6010	• iPORT CL-GigEB-IND Industrial-use External Frame Grabber in **mountable enclosure** for Camera Link Base mode with extended operating temperature range, extensive GPIO, and power over Camera Link (PoCL).
900-6009	• iPORT CL-GigEB-IND Industrial-use External Frame Grabber **OEM board** set for Camera Link Base mode with extended operating temperature range, extensive GPIO, and power over Camera Link (PoCL).
900-6011	• iPORT CL-GigEB-IND Development Kit including **900-6010**, Gigabit Ethernet desktop NIC, PoE injector, 2 Ethernet cables, and eBUS SDK USB Stick.

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