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

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 Universal Pro driver · Sample applications and documentation · Support for CLProtocol
GigE Vision and GenICam™	· Fully compatible firmware load · Guarantees delivery of all packets · Comprehensive data transfer diagnostics

Characteristics

Size (L x W x H)	· 46 mm X 82 mm X 51 mm (enclosed)
Operating temperature	· -40°C to +85°C (OEM board set)* · -40°C to +60°C (enclosed)
Storage temperature	· -40°C to 85°C
Power consumption	· 3.2 W
MTBF at 40°C	· 958,332 hours

*The product is specified for operation within the stated ambient and case temperature range of its components.

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

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

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

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** without enclosure, for Camera Link Base mode with extended operating temperature range, extensive GPIO, and power over Camera Link (PoCL). It includes a GPIO board assembly, flat flex cable, unsoldered 12-pin circular connector, and SDR-26 jack socket screws.
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.