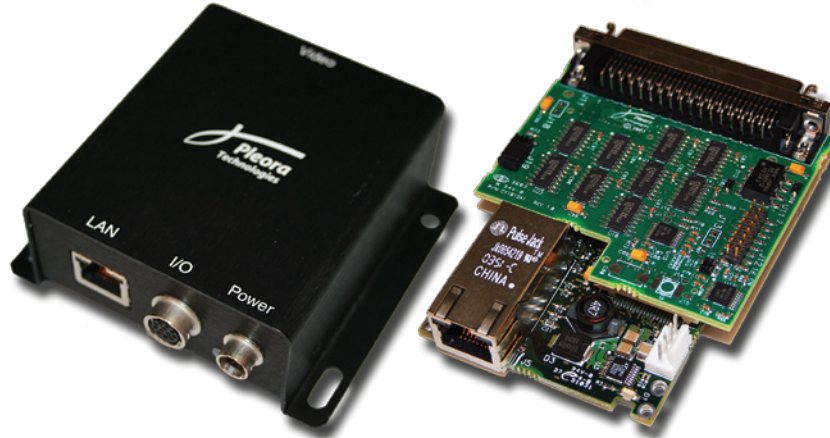


iPORT™ PT1000-LV IP Engine

High-performance, ultra-efficient connectivity between LVDS cameras and Gigabit Ethernet links or LANS



Pleora's iPORT PT1000-LV IP Engine streams video and imaging data in real time over standard GigE connections between LVDS cameras and PCs.

By leveraging the inherent capabilities of GigE, the PT1000-LV overcomes the limitations of traditional LVDS-based systems: the need for costly frame grabbers; limited (35 m) maximum distances between cameras and PCs; and no networking flexibility for interconnecting multiple cameras or centralizing control and maintenance.

The PT1000-LV grabs data from a LVDS camera, converts it to IP quickly and efficiently, and sends it to PCs over GigE links or LANs using Cat-5 cable. These operations are performed by the engine's field-proven, purpose-built hardware with clock-cycle accuracy and very low latency at the full, 1-Gb/s line rate.

At the PC, the Cat-5 cable plugs into an economical GigE NIC (network interface card/chip), eliminating the need for a frame grabber. Point-to-point connections extend 100 m.

With affordable GigE switches, the reach is much further, and users gain immediate access to the wide range of Ethernet networking options. With GigE switches, users can interconnect multiple cameras, multicast data from one camera to multiple

PCs, or distribute image processing across multiple PCs.

The PT1000-LV also handles control signals from the PC and other system elements. These signals are routed through a PLC (programmable logic controller) that allows users to precisely measure and control the operation of conveyors, encoders, cameras, and other components – either independently from or in conjunction with the host PC on the network.

As part of Pleora's end-to-end iPORT Connectivity Solution, the PT1000-LV engine is bundled with innovative and field-proven software:

- **The eBUS™ Driver Suite.** The high-performance eBUS drivers stream imaging data directly to PC memory at the kernel level, using minimal CPU capacity;
- **The feature-rich iPORT Vision Suite** lets you quickly and easily build your custom vision application. Sample application source code and executables provide working applications for functions like device configuration and control, image and data acquisition, and image display and diagnostics.

For more information on Pleora's iPORT Connectivity Solution please visit www.pleora.com.



iPORT PT1000-LV IP Engine

iPORT Connectivity Solution

iPORT IP Engine	<ul style="list-style-type: none"> • Purpose-built hardware • Highly reliable, 1 Gb/s data transfer rate with low, end-to-end latency • Standalone box or OEM board
eBUS™ Driver Suite	<ul style="list-style-type: none"> • eBUS Universal Driver – Ideal for most real-time vision applications, using any NIC • eBUS Optimal Driver – Ideal for applications with very heavy processing overhead, using any NIC • Driver Installation Tool – lets you easily choose the driver that best suits your needs
iPORT Vision Suite	<ul style="list-style-type: none"> • iPORT Coyote – powerful and versatile image capture application that lets you configure your iPORT IP Engine and begin capturing images with your PC • iPORT SDK – rugged, well-tested, feature-rich C++ classes and methods that let you get your camera's images to your PC. Seamlessly. • iPORT Software Tools – small applets for speeding up your development cycle • iPORT Documentation – extensive documentation helps you get up to speed quickly

Data Acquisition Features

Accepts TIA/EIA-644 signals	<ul style="list-style-type: none"> • Compatible with a wide range of cameras
Integrated acquisition engine	<ul style="list-style-type: none"> • Can acquire image data from a wide variety of sources, with pixel depths up to 16 bits, color or B/W, and multi-tap
Free running or externally triggered	<ul style="list-style-type: none"> • Flexible acquisition modes

Connectors

Power	<ul style="list-style-type: none"> • Boxed: Hirose 6-pin (HR10A-7R-6P) • OEM: Molex 4-pin 6373 series (22-23 -2041)
Network	<ul style="list-style-type: none"> • RJ-45
Video	<ul style="list-style-type: none"> • Hirose 68-pin female MDR (DX10GM-68SE)
I/O and serial control	<ul style="list-style-type: none"> • Boxed: Hirose 12-pin (HR10A-10R-12S) • OEM: Sametec 16-pin 2 mm male header (TMM-108-01-G-D-SM)

Programmable Logic Controller Features

Inputs: 2 TTL inputs 1 LVDS input 1 optically isolated input	<ul style="list-style-type: none"> • Allows synchronization of multiple cameras or system elements • Flexible triggering capabilities, including Boolean combinations and camera control signals • Provides an electrically isolated control interface • Built-in debouncers
Outputs: 2 TTL outputs 1 optically isolated output 2 RS-232 serial links	<ul style="list-style-type: none"> • Simultaneous serial control of camera and other devices via PC application over Ethernet link
Delayer, rescaler, general-purpose counter	<ul style="list-style-type: none"> • Allows full synchronization with line scan cameras • Allows synchronized capture between multiple cameras • Allows camera acquisition to track changing speeds on conveyor belts
Timestamp trigger, counter, and reset	<ul style="list-style-type: none"> • Allows system actions to be triggered based on timestamps • Allows resets to be broadcast from host to all iPORTs in system
Host interrupts	<ul style="list-style-type: none"> • Allows host to be interrupted based on events on any input or internal signal

Networking Features

Gigabit Ethernet-based	<ul style="list-style-type: none"> • Dominant commercial LAN standard; low-cost, easy-to-implement equipment • Compatible with 10/100/1000 Mb/s IP/Ethernet networks • Supports 802.3, Ethernet v2.0, IP, IGMP v.2, UDP and PING • Long reach: 100 m point-to-point, further with Ethernet switches or fiber
iPORT Multimedia Streaming Protocol	<ul style="list-style-type: none"> • Guarantees delivery of all packets • Comprehensive data transfer diagnostics
Multicast capability	<ul style="list-style-type: none"> • Enables advanced distributed processing and control architectures

Characteristics

Package	<ul style="list-style-type: none"> • Box: 9.5 cm x 9.7 cm x 3.7 cm (L x W x D) • OEM: 8.9 cm x 7.2 cm x 2.1 cm (L x W x D)
Operating temperature	<ul style="list-style-type: none"> • Boxed: 0°C - 45°C • OEM: 0°C - 70°C
Power supply	<ul style="list-style-type: none"> • 4.5 V - 16 V
Power consumption	<ul style="list-style-type: none"> • 2.5 W

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