



## iPORT PT1000-LV External Frame Grabbers

High-performance GigE Vision connectivity for LVDS cameras

### Overview

Pleora's iPORT™ PT1000-LV External Frame Grabbers allow system manufacturers and integrators to treat LVDS cameras as native GigE Vision® cameras. With these external frame grabbers, LVDS cameras enjoy the long-distance reach of Gigabit Ethernet (GigE) and can be mixed with native GigE Vision cameras in networked environments.

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 LVDS cameras in GigE Vision installations, with minimal software development.

The PT1000-LV External Frame Grabbers interact seamlessly with Pleora's other products in networked or point-to-point digital video systems. The frame grabbers also comply fully with the GigE Vision® and GenICam™ standards, enabling them to interoperate with third-party equipment in multi-vendor systems.

The PT1000-LV converts video from LVDS 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, trigger, and control the operation of other vision system elements.

The PT1000-LV is bundled with Pleora's feature-rich application toolkit, eBUS™ SDK, and compatible with Pleora's vDisplay™ External Frame Grabbers, which deliver video directly to a monitor.

### Features

- Transmits video from LVDS cameras supporting the TIA/EIA 644 standard over GigE with low, consistent latency
- Built-in Programmable Logic Controller (PLC) for advanced real-time synchronization and triggering
- RS-232 and GPIO to control external accessories

### Ordering Information

900-4005	• iPORT PT1000-LV External Frame Grabber Board set with 16 MB SDRAM
900-4006	• iPORT PT1000-LV External Frame Grabber enclosed product with 16 MB SDRAM
900-4002	• iPORT PT1000-LV External Frame Grabber Development Kit, which contains 900-4006, power supply, and a GigE NIC

**GigE**  
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### Networked Video Connectivity Solutions

<b>iPORT™ External Frame Grabbers</b>	<ul style="list-style-type: none"> <li>• Purpose-built hardware compatible with TIA/EIA 644 LVDS cameras</li> <li>• Highly reliable, 1 Gb/s data transfer rate with low, end-to-end latency</li> <li>• Enclosed unit or OEM board</li> </ul>
<b>eBUS™ SDK</b>	<ul style="list-style-type: none"> <li>• eBUS Universal Pro driver</li> <li>• Sample applications, including NetCommand™ sample application, a demonstration of multi-device network connectivity</li> <li>• Driver installation tool</li> <li>• Documentation</li> </ul>
<b>GigE Vision®</b>	<ul style="list-style-type: none"> <li>• Fully compliant firmware load</li> <li>• Guarantees delivery of all packets</li> <li>• Comprehensive data transfer diagnostics</li> </ul>

### Data Acquisition Features

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

### Connectors

<b>Power</b>	<ul style="list-style-type: none"> <li>• <b>Enclosed:</b> Hirose 6-pin (HR10A-7R-6P)</li> <li>• <b>OEM:</b> Molex 4-pin 6373 series (22-23 -2041)</li> </ul>
<b>Network</b>	<ul style="list-style-type: none"> <li>• RJ45</li> </ul>
<b>Video</b>	<ul style="list-style-type: none"> <li>• Hirose 68-pin female MDR (DX10GM-68SE)</li> </ul>

### Programmable Logic Controller Features

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

### Networking Features

<b>Gigabit Ethernet-based</b>	<ul style="list-style-type: none"> <li>• Low-cost, easy-to-use equipment</li> <li>• Compatible with 10/100/1000 Mb/s IP/Ethernet networks</li> <li>• Supports IEEE 802.3 (Ethernet), IP, IGMP v.2, UDP and ICMP (ping)</li> <li>• Long reach: 100 m point-to-point, further with Ethernet switches or fiber</li> </ul>
<b>Multicast capability</b>	<ul style="list-style-type: none"> <li>• Enables advanced distributed processing and control architectures</li> </ul>

### Characteristics

<b>Size (LxWxH)</b>	<ul style="list-style-type: none"> <li>• <b>Enclosed:</b> 95 mm X 97 mm X 37 mm</li> <li>• <b>OEM:</b> 89 mm X 72 mm X 21 mm</li> </ul>
<b>Operating temperature</b>	<ul style="list-style-type: none"> <li>• <b>Enclosed:</b> 0°C to 45°C</li> <li>• <b>OEM:</b> 0°C to 70°C</li> </ul>
<b>Power supply</b>	<ul style="list-style-type: none"> <li>• 4.5 V to 16 V</li> </ul>
<b>Power consumption</b>	<ul style="list-style-type: none"> <li>• 3.1 W</li> </ul>