iPORT™ NTx-Pro IP Engine

Superior performance, low-power GigE Vision® connectivity in a flexible and reliable OEM board

Applications

- Military vetronics systems
- Medical imaging systems
- Security systems
- Industrial inspection systems

Benefits

- Compact and low power
- Low-risk, field-hardened design
- Purpose-built for performance
- Fast time to market

Pleora's iPORT™ NTx-Pro IP engine is a compact, low-power video transmitter that gives OEMs and systems integrators a fast, low-risk way to add real-time video connectivity to almost any system or camera. It is ideal for performance-oriented applications in the military, medical, manufacturing, and security sectors.

The IP engine efficiently converts video data to IP packets at GigE's full, 1-Gb/s throughput rate. The packetized video is then sent with low, consistent latency over a GigE network or link to receiving software or hardware.

The NTx-Pro IP engine complies fully with the GigE Vision® and GenICam™ standards, ensuring seamless interoperation in multi-vendor deployments.

The IP engine leverages Ethernet's flexible networking capabilities, such as multicasting. It can be connected through one or more switches to a range of other system elements – such as cameras, computers, displays, controllers, and encoders – in meshed, real-time video networks.

A sophisticated on-board PLC (Programmable Logic Controller) allows users to precisely measure, synchronize, and control the operation of other elements.

In addition to the OEM board, the technology in the NTx-Pro IP engine is available in a comprehensive IP (intellectual property) package that includes an FPGA IP core, the reference design for the board assembly, an evaluation kit, and expert design review services.

As an element of Pleora's networked video connectivity solutions, the iPORT NTx-Pro IP engine is offered with field-proven PC software:

- **eBUS™ drivers** — patented software that replaces or augments drivers packaged with GigE interfaces. eBUS drivers stream video to applications in real time using minimal CPU resources;

- **the eBUS-PureGEV™ SDK** — a feature-rich toolkit that provides the building blocks needed to quickly and easily design third-party or custom video applications; and

- **the AutoGEV™ XML generation tool** — a unique GenICam XML management utility for creating GenICam compliant devices.

Pleora Technologies

iPORT NTx-Pro IP Engine

Networked Video Connectivity Solutions

iPORT IP Engine	· Highly reliable, 1 Gb/s data transfer rate with low, end-to-end latency · OEM, in-system board · 2 MB of SRAM · 32 MB of DDR2 RAM
eBUS Driver Suite	· eBUS Universal Driver (Filter Driver) · eBUS Optimal Driver · Driver Installation Tool
eBUS-PureGEV Suite	· Sample applications · SDK · Software Tools · Documentation
GigE Vision	· Fully compliant firmware load

Data Acquisition Features

Accepts LVCMOS/ LVTTL signals	· Compatible with most 3.3-Volt chips
Integrated acquisition engine	· Allows users to acquire data from a variety of sources, including raw digital data streams, Camera Link® , and CMOS image sensors. · Supports data depths of up to 24 bits at up to 90 MHz. Multiple 8, 10 or 12 bit data streams can be acquired simultaneously
Free running or externally triggered	· Flexible acquisition modes

Connectors

Power	· 2-pin, 0.100" header
Network	· RJ-45
2 x Video interface	· 2 x Hirose 50-pin, 0.5 mm vertical FPC/FFC connector
JTAG	· 10-pin 0.05" receptical

Programmable Logic Features

Powerful FPGA	· Can accomodate both Pleora and customer logic
4 inputs (TTL) 3 outputs (TTL) 4 outputs (LVCMOS/LVTTL to camera head connector)	· Provides a flexible, general-purpose interface · Allows synchronization of multiple devices or system elements · Flexible triggering capabilities, including Boolean combinations, deserialized Camera Link control signals, encoders, and time stamps · Built-in debouncers
1 RS-232 serial link	· Serial control of external devices via PC application over the GigE link · Can be bridged to an internal UART serial link
2 UART serial links (LVCMOS/LVTTL)	· Serial control of camera and other devices via PC application over the GigE link
Delayer, rescaler, general-purpose counter	· Allows full synchronization of line scan cameras
Timestamp trigger, counter, and reset	· Allows system actions to be triggered based on timestamps · Allows resets to be broadcast to all iPORT engines in system from host

Networking Features

Gigabit Ethernet-based	· Low-cost, easy-to-use equipment · Compatible with 10/100/1000 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
Pleora's zero-loss re-send technology	· Guarantees delivery of all packets · Comprehensive data transfer diagnostics
Multicast capability	· Enables advanced distributed processing and control architectures

Characteristics

Size	· 35 mm x 67 mm
Operating temperature	· 0°C - 55°C
Power supply	· 5 V - 16 V
Power consumption	· 1.97 W at 5 V* · 2.15 W at 12 V* *Values are typical and firmware dependent*