iPORT NTx-Mini Embedded Video Interface

Rapidly add high-performance GigE Vision connectivity to cameras

Overview

Pleora's iPORT™ NTx-Mini Embedded Video Interface hardware provides system and camera manufacturers with a straightforward way to integrate Gigabit Ethernet (GigE) video connectivity into their products. With the NTx-Mini, manufacturers can shorten time-to-market, reduce development and deployment risk, and lower design and system costs.

NTx-Mini embedded hardware interacts seamlessly with Pleora's other products in networked or point-to-point digital video systems. The hardware also complies fully with the GigE Vision® and GenICam™ standards, enabling interoperation with third-party equipment in multi-vendor environments. The embedded hardware converts video data to packets at GigE's full, 1 Gb/s throughput rate and sends it with low, consistent latency over a GigE link to receiving software or hardware.

To speed time-to-market, Pleora offers a Development Kit for the NTx-Mini. This kit allows manufacturers to produce system or camera prototypes and proof-of-concept demonstrations easily and rapidly, often without undertaking hardware development.

Pleora's iPORT NTx-Mini Embedded Video Interface also includes:

· eBUS™ SDK, a feature-rich application development toolkit for manufacturers to rebrand and distribute with their end-products;

· A sophisticated on-board programmable logic controller (PLC), which allows users to precisely measure, synchronize, trigger, and control the operation of vision system elements such as strobe lights and rotary encoders; and

· The AutoGEV XML generation tool, which makes it fast and easy for manufacturers to create a user-friendly GenICam interface for their products.

Features

· Compact and low power

· GigE Vision and GenICam compliant

· Throughput up to Gigabit Ethernet's full 1 Gb/s rate

· Up to 24-bit, 90 MHz parallel LVTTL/LVCMOS video input, and 2 interleaved taps

· Line scan and area scan modes

· 32 MB frame buffer for store-and-forward applications

· Updateable firmware via the GigE port for ease of manufacturing and feature upgrades in the field

Ordering Information

904-3002	· iPORT™ NTx-Mini Embedded Video Interface in-camera board set, vertical RJ45 mount
904-3003	· iPORT™ NTx-Mini Embedded Video Interface Development Kit, which contains 904-3002, prober/breakout board, power supply, and GigE NIC

GiGE®
VISION

GEN‹i›CAM

Pleora
Technologies

iPORT NTx-Mini Embedded Video Interface

Networked Video Connectivity Solutions

iPORT™ Embedded Video Interfaces	· Highly reliable, 1 Gb/s data transfer rate with low, end-to-end latency · OEM, in-camera board · 32 MB of DDR2 RAM
eBUS™ SDK	· eBUS Universal Pro driver · Sample applications, including NetCommand™ sample application, a demonstration of multi-device network connectivity · Driver installation tool · Documentation
AutoGEV™ XML Generation Tool	· Unique GenICam™ XML management tool for seamless GenICam integration
GigE Vision®	· Fully compliant firmware load · Guarantees delivery of all packets · Comprehensive data transfer diagnostics

Data Acquisition Features

Accepts LVCMOS/ LVTTL signals	· Compatible with internal camera signaling
Integrated acquisition engine	· Can acquire images from a wide variety of sources, with pixel depths up to 24 bits, color or B/W, and multi-tap at up to 90 MHz
Free running or externally triggered	· Flexible acquisition modes
Static configuration	· Configuration settings are saved to on-board Flash memory

Connectors

FlexEBoard	· 12-pin (Hirose HR10A-10P-12P(73)) · 20-pin FPC (FH12-20S-0.5SH)
AdaptRBoard	· 40-pin DF12(3.5)-40DP-0.5V(86) · Mates with DF12-40DS-0.5V(86)
Network	· RJ45. Can be mounted horizontally or vertically on the NTx-Mini Main Board
Camera head interface	· 60-pin (Molex 51374-6073)

Programmable Logic Features

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 and other system elements
Timestamp trigger, counter, and reset	· Allows system actions to be triggered based on timestamps · Allows resets to be broadcast to all iPORT IP engines in system from host
Host interrupts	· Allows host to be interrupted based on events on any input or internal signal

Networking Features

GigE-based	· 10/100/1000 Mb/s · IEEE 802.3 (Ethernet), IPv4, IGMPv.2, UDP and ICMP (ping) · Long reach: 100 m point-to-point, further with Ethernet switches or fiber
GigE Vision Protocol	· Guarantees delivery of all packets · Comprehensive data transfer diagnostics
Multicast capability	· Enables advanced distributed processing and control architectures

Characteristics

Size (L x W)	· 42 mm X 42 mm
Operating temperature	· 0°C to 45°C (higher with thermal pad)
Storage temperature	· -40°C to 85°C
Power supply	· 4.5V to 16V
Power consumption	· From 1.6 W (input voltage and temperature dependent)