

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 LVTTTL/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 on page 3.



For more information, visit www.pleora.com



iPORT NTx-Mini Embedded Video Interface

Networked Video Connectivity Solutions

iPORT™ Embedded Video Interfaces	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Unique GenICam™ XML management tool for seamless GenICam integration
GigE Vision®	<ul style="list-style-type: none"> Fully compliant firmware load Guarantees delivery of all packets Comprehensive data transfer diagnostics

Connectors

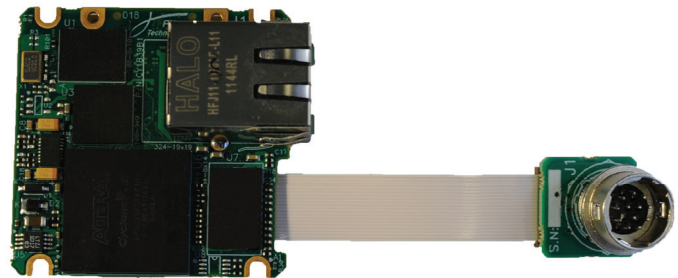
FlexEBoard	<ul style="list-style-type: none"> 12-pin (Hirose HR10A-10P-12P(73)) 20-pin FPC (FH12-20S-0.5SH)
AdaptRBoard	<ul style="list-style-type: none"> 40-pin DF12(3.5)-40DP-0.5V(86) Mates with DF12-40DS-0.5V(86)
Network	<ul style="list-style-type: none"> RJ45. Can be mounted horizontally or vertically on the NTx-Mini Main Board
Camera head interface	<ul style="list-style-type: none"> 60-pin (Molex 51374-6073)

Networking Features

GigE-based	<ul style="list-style-type: none"> 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	<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

Size (L x W)	<ul style="list-style-type: none"> 42 mm X 42 mm
Operating temperature	<ul style="list-style-type: none"> 0°C to 45°C (higher with thermal pad)
Storage temperature	<ul style="list-style-type: none"> -40°C to 85°C
Power supply	<ul style="list-style-type: none"> 4.5V to 16V
Power consumption	<ul style="list-style-type: none"> From 1.6 W (input voltage and temperature dependent)



iPORT NTx-Mini Embedded Video Interface board with horizontal RJ45 connector and soldered 12-pin circular connector

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Programmable Logic Features

4 inputs (TTL) 3 outputs (TTL) 4 outputs (LVCMOS/LVTTL to camera head connector)	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> Serial control of camera and other devices via PC application over the GigE link
Delayer, rescaler, general-purpose counter	<ul style="list-style-type: none"> Allows full synchronization of line scan cameras and other system elements
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 to all iPORT IP engines in system from host
Host interrupts	<ul style="list-style-type: none"> Allows host to be interrupted based on events on any input or internal signal

Data Acquisition Features

Accepts LVCMOS/LVTTL signals	<ul style="list-style-type: none"> Compatible with internal camera signaling
Integrated acquisition engine	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Flexible acquisition modes
Static configuration	<ul style="list-style-type: none"> Configuration settings are saved to on-board Flash memory

Ordering Information

904-3000	<ul style="list-style-type: none"> iPORT™ NTx-Mini Embedded Video Interface main board with vertical RJ45 jack.
904-3002	<ul style="list-style-type: none"> iPORT™ NTx-Mini Embedded Video Interface in-camera set with vertical RJ45 jack including NTx-Mini main board with vertical RJ-45 jack, AdaptRBoard, and FlexEBoard. Note: The 12-pin circular connector is not included and must be ordered separately, order code 200-0016.
904-3003	<ul style="list-style-type: none"> iPORT™ NTx-Mini Embedded Video Interface Development Kit, which contains 904-3002, prober/breakout board, power supply, and GigE NIC, Ethernet cable, 12-pin circular connector soldered on FlexEBoard, and eBUS SDK USB stick.
904-3200	<ul style="list-style-type: none"> iPORT™ NTx-Mini Embedded Video Interface main board with horizontal RJ45 jack.
904-3201	<ul style="list-style-type: none"> iPORT™ NTx-Mini Embedded Video Interface board set with horizontal RJ45 jack including 904-3200 and AdaptRBoard.
904-3202	<ul style="list-style-type: none"> iPORT™ NTx-Mini Embedded Video Interface in-camera set with horizontal RJ45 jack including NTx-Mini main board with horizontal RJ-45 jack, AdaptRBoard, and FlexEBoard. Note: The 12-pin circular connector is not included and must be ordered separately, order code 200-0016.
904-3203	<ul style="list-style-type: none"> iPORT™ NTx-Mini Embedded Video Interface Development kit with horizontal RJ45 jack including 904-3202, prober board, flat flex cables, power supply, Gigabit Ethernet desktop NIC, Ethernet cable, 12-pin circular connector soldered on FlexEBoard, and eBUS SDK USB stick.