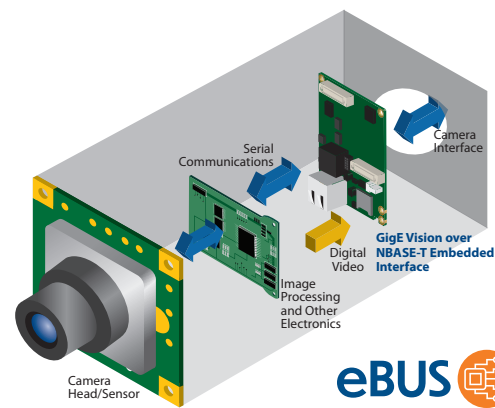# NTx-Deca 10G Ethernet Embedded Interface

Transmit video seamlessly at 10 Gbps over Ethernet

Overview

Pleora's NTx-Deca 10G Ethernet embedded interface, built on decades of proven expertise in video transport solutions for imaging systems, simplifies the design of high-performance, reliable cameras and X-ray flat panel detectors (FPDs).

Reduce Time-to-Market

Simplify and accelerate your FPD development. Connect your sensor to Pleora's Pleora's iPORT NTx-Deca and the off-the-shelf solution seamlessly handles 10 Gbps video transport over a flexible Ethernet connection.
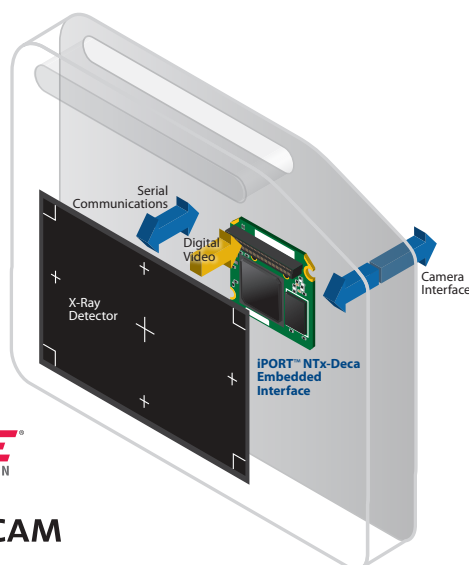
Advanced Features for X-Ray FPDs

To enhance reliability and help improve processes for end-users, leverage Pleora's unique Image Management Database feature to store video frames for patient identification, video replay, and traceability.

Unmatched 10 Gbps Ethernet Performance and Reliability

Every packet counts, every pixel counts. Pleora's embedded interface expertise has been trusted by the world's largest camera and FPD manufacturers over two decades. The company's high performance Ethernet Video Interface delivers reliable high-speed transmission at up to 10 Gbps over Copper Cat 6A cabling.

Pleora's eBUS Software Development Kit, the industry leading choice for image capture, display, and transmission in thousands of mission-critical automation, security and defense, and medical applications, accelerates application development for cameras and X-ray FPDs and provides compatibility with GigE Vision-compliant video interfaces.

Features

- Supports 10 Gbps transmission rates for uncompressed images over Copper Cat 6A Ethernet cabling for distances up to 100 meters

- Up to 8 taps per channel for internal 128 bit pixel bus and 10 for internal 80 bit pixel bus

- GigE Vision 2.0 compliance ensures interoperability in multi-vendor digital video systems

- GenICam compliant interface provides easy access to programming features and simplifies integration of imaging devices into existing or new systems

- Supports IEEE 1588 Precision Time Protocol (PTP) to synchronize image capture and imaging system elements

- Programmable logic controller (PLC) lets users control external machines and react to inputs to make functional changes, adjust timing, or add features without requiring new hardware

- Image management tags an image or group of images with metadata — provides context necessary to retrieve image data from the on-board frame buffer in event of power or network failure at the receiver

- GenICam Integration Package (consisting of the iPORT AutoGen XML generation tool and a firmware reference design) makes it fast and easy to create a user-friendly GenICam interface (contact sales for pricing information on this integration package)

NTx-Deca 10G Ethernet Embedded Interface

FRAME GRABBER

Number of Channels	1
Scan Modes	Area Scan and Line Scan
Pixel Depth (bits)	8, 10, 12, 14, 16, 24, 30, 32 and 36 bits
Internal Pixel Bus Clock	37.5 MHz to 100 MHz
Pixels Formats	Mono, Bayer, RGB, BGR, Sparse, YCbCr, YUV
Taps per Data Channel	• Up to 8 for internal 128 bit pixel bus • 10 for internal 80 bit pixel bus
Image Width (pixels)	• Min: 4[1] • Default: 640 • Max: 32,760 • Increment: 4[1]
Image Height (pixels)	• Min:1 • Default: 480 • Max: 32,767 • Increment: 1
Windowing/Region of Interest	Yes
Tap Geometries (GenICam SFNC)	1X_1Y, 1X2_1Y, 1X, 1X2, 1X4_1Y, 1X4, 2X2E, 1X8_1Y, 1X8, 1X10_1Y, 1X10, 1XTR_2Y[4], 1XTR_2YTR[4]

Inputs/Outputs on User Circuitry Interface

Video Input	17 x Serialized LVDS lanes 1 x LVDS clock lane
GPIO Inputs	4 x 2.5 V
GPIO Outputs	2 x 2.5 V
Serial (Bulk)[2]	2 x 2.5 V
Camera Control Outputs	2 x 2.5 V

Hardware

User Circuitry Interface (Including Internal Power Interface)	Two 40-pin Hirose Connectors FX6-40S-0.8SV2(93)
Network Interface	RJ-45
Image Buffer	1024 MB
Persistent Memory	256 Mb Serial FLASH

Characteristics

Size (LxWxD)	72.5 mm x 56.0 mm x 17.6 mm (approximate, including RJ-45 Jack)
IC Operating Temp Range	Commercial[3]
Storage Temperature	-40 to +85ºC
Power Supply	3.3 VDC on User Circuitry Interface
Power Consumption	Up to 8 W typical (30 m Cat 6A cable, 9.2 Gbps)

Ordering Information

900-8025	iPORT NTx-Deca OEM Board 10 Gb/s network transmission supporting 10GBASE-T.
900-8027	iPORT NTx-Deca Development Kit includes NTx-Deca OEM board mounted to a thermal baseplate, 10GBASE-T Ethernet desktop NIC, Ethernet cable, power supply, and eBUS SDK USB stick. NOTE: The eBUS SDK provided on the USB stick is unsupported, without access to maintenance releases, and does not provide any runtime licenses for your workstations. If any of these items are needed, we recommend the purchase of the eBUS SDK Seat License.

[1] Image width increment of 8 when in Extended Chunk Mode.

[2] UART, USRT, two-wire, and SPI supported on all Bulks.

[3] Case and junction temperature limits vary by IC device. Contact Pleora for specific IC operating temperature specifications and thermal management information.

[4] Not a GenICam SFNC tap geometry, contact Pleora for additional information.