

MaxCore™ Pico

Compact Compute and Acceleration Platform

Preliminary Data Sheet

The MaxCore™ Pico is a low cost, compact platform ideal for a wide range of applications

- **Supports two PCIe Gen 3 FH-HL slots**
 - Slot 1 must be an Artesyn host server card
 - Slot 2 supports Artesyn or 3rd party PCIe cards
 - Switchless PCIe connectivity between the slots at up to 25Gbps
 - Up to 75W per slot
- **Slot 1 access to optional 80mm SATA M.2 SSD**
- **Mechanical dimensions: 1.5U (H) x 145mm (W) x 300mm (D)**
- **External PSU delivers up to 150W**
- **High-efficiency fan with tachometer control based on temperature sensor**
- **I/O & User Panel**
 - Dual RJ-45 10GbE ports available when using Intel® X520 2x10GbE card
 - Single USB port, console port
 - Power and reset buttons
 - SYS OK LED

The Artesyn Embedded Technologies' MaxCore™ Pico is a low cost, compact form factor enterprise class platform. The versatile PCI Express platform is configurable for a wide range of applications including:

- Scalable video streaming platform
- Industrial PC
- Video surveillance platform

The extremely short form factor of <300mm depth enables the MaxCorePico to live in short, on-premise cabinets, telecom cabinets, and in smaller industrial equipment. The width allows three (3) MaxCore Pico chassis to be fitted side by side in a 19" rack. Alternately each chassis can stand alone as a complete microserver with one application-specific add-in card. This compact form factor brings many benefits:

- Minimal infrastructure cost keeps it very economical
- One standard PCIe slot allows it to be configured for a nearly infinite range of use cases using off-the-shelf cards from Artesyn or 3rd parties
- A power budget of 75W/slot enables the use of multiple card types
- Stackable horizontally and vertically allowing it to be mounted in wide range of environments from 19" rack to wall-mount



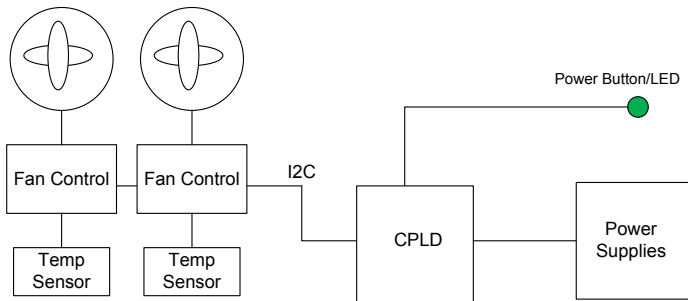
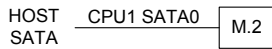
Front of unit



Front of unit, cover removed

Internal Chassis Architecture

SLOT 1		SLOT 2	
TX PCIe X4	TX 0 - 3	RX 0 - 3	RX PCIe X4
PCIe X4	TX 4 - 7	RX 4 - 7	PCIe X4
PCIe X4	TX 8 - 11	RX 8 - 11	PCIe X4
PCIe X4	TX 12 - 15	RX 12 - 15	PCIe X4
RX PCIe X4	RX 0 - 3	TX 0 - 3	TX PCIe X4
PCIe X4	RX 4 - 7	TX 4 - 7	PCIe X4
PCIe X4	RX 8 - 11	TX 8 - 11	PCIe X4
PCIe X4	RX 12 - 15	TX 12 - 15	PCIe X4



Chassis Features

PCIe

- Dual PCIe Gen 3 card slots supporting full-height, half-length PCIe cards
 - Slot 1 must be an Artesyn MaxCore™ server card
 - Slot 2 can be an Artesyn or 3rd party PCIe card
- PCIe x4 connectivity between slots

Ethernet Connectivity

- Provided by 3rd party I/O card, Intel® X520 dual 10G or similar

Storage

- Optional 80mm M.2 SSDs with connectivity to the Slot 1 controller

Electromechanical

- External power supply up to 150W, supporting up to 75W per slot
- High-efficiency 60mm fan with temperature sensor-based tachometer control
- Mechanical dimensions: 1.5U (H) x 145mm (W) x 300mm (D)
- Mounting mechanism that allows chassis to be stacked horizontally or vertically for a variety of environments from 19" rackmount to wall-mount

MaxCore Pico Card Combinations

		Slot 2		
Slot 1		X520-DA2	PCIE-9202	3rd Party Card
		PCIE-7210-1	x4	x4

Artesyn MaxCore Pico Video Encode Use Case

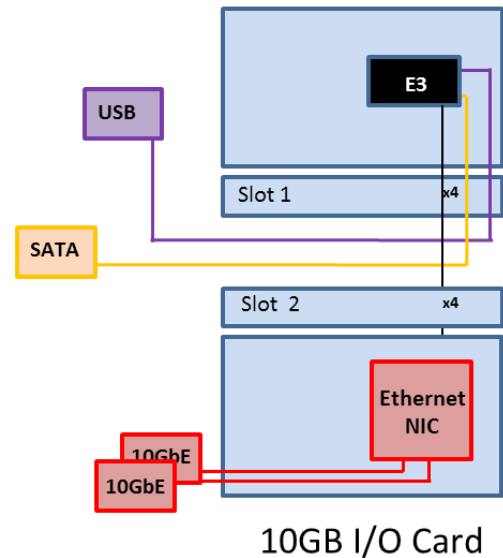
The MaxCore™ Pico platform can be used to construct an ultra-compact HEVC encoding/transcoding appliance. Populating the Artesyn MaxCore single E3 processor card into Slot 1 provides the compute resources to run a hybrid CPU+GPU HEVC encode stack. External connectivity is achieved by populating a 10GbE NIC card Slot 2.

The PCIE-7210-1 host card includes a single Intel® Xeon® E3-1578Lv5 CPU with 4 cores running at 2.0GHz (turbo up to 3.4GHz). This CPU also includes Intel® Iris™ Pro Graphics P580 (GT4e) with a base frequency of 800 MHz.

To create an HEVC encoder the E3 processor is married with hybrid encode software from Ittiam or Nablet. The hybrid encoder utilizes the hardware capabilities of the graphics processing unit but augments the 8-bit Iris Pro capability with CPU processing to produce a true 10-bit resolution.

The 2x 10GB capability of the X520 card enables multiple video streams to be processed simultaneously. A USB connection is available to the PCIE-7210 card as well as a SATA connection to an optionally populated 80mm M.2 SSD.

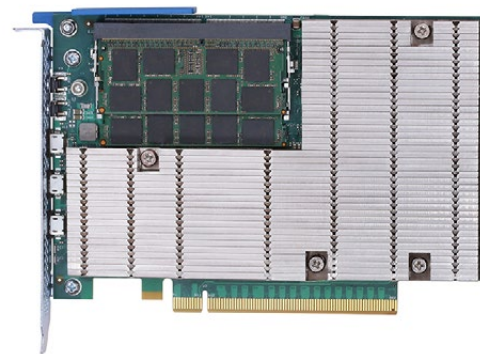
HEVC Video Encoder Optical Inspection PCIE-7210-1 Server card



Artesyn MaxCore Host PCI Express Cards

SharpStreamer™ Pro PCIE-7210 Features

- Up to four (4) HEVC 1080p30 transcodes
- Dual Intel® Xeon® E3-1578Lv5 GT4e-enabled scalable video processing engines
 - 2x DIMMs per CPU, up to 32GB per CPU
- Up to 16 AVC 1080p30 transcodes
- Up to one (1) 4KP30 HEVC encode streams per card
- Network bootable reference OS: Centos 7.x
- Intel® MSS, optional transcoding software
- Common hardware for different applications:
 - H.264/AVC & H.265/HEVC transcoding and encoding
 - VDI applications
 - Image processing equipment



Ordering Information

<i>Product Family</i>	<i>Part Number</i>	<i>Description</i>
MaxCore™ Pico Platform	MC1400	MaxCore Pico chassis
SharpStreamer Pro Server Card	PCIE-7210-1	MicroServer card with Intel® Xeon® processor E3-1578Lv5

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