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Find the *Acromag VPX6860-42-20* at our website: *Click HERE*

VPX Processor Boards

VPX6860 6U AcroExpress® VPX CPU Air or Conduction-Cooled

CE 2 YEAR WARRANTY RoHS Compliant





OpenVPX™

Intel® Xeon® E3 CPU ◆ AcroPack® and XMC I/O slots ◆ 32GB DDR4 ECC RAM ◆ Dual 40 GbE Ports

Description

The AcroExpress® VPX6860 is a high performance 6U OpenVPX™ single board computer based on the 6th Generation Intel® Xeon® processor (formerly Skylake) and PCH. XMC and AcroPack expansion slots add flexibility for on-board FPGA processing, I/O interfaces, and other functions.

Designed with numerous I/O connections this board is perfect for COTS applications requiring high-bandwidth computing with low power consumption.

Intel Processor Technologies

Whether you're looking for a tech refresh to update your legacy systems or starting a new application, the Intel Xeon processor delivers significant performance advancements. Take advantage of the enhanced microarchitecture, integrated graphics, and expanded memory performance. Innovative new technologies yield significant improvements in virtualization, power management, security, and processing speed.

- Intel® Hyper-Threading Technology
- Enhanced Intel® SpeedStep Technology (EIST)
- Intel® Virtualization Technology
- Intel® Trusted Execution Technology (TXT)
- Intel® Turbo Boost Technology
- Intel® Active Management Technology
- Intel® Matrix Storage Technology
- Intel® Configurable TDP Technology
- Thermal Management

Memory

This board accommodates one or two DDR4 ECC SODIMMs, for a total of up to 32GB removable memory. The SODIMMs are firmly attached to the module with screws for easy replacement and surrounded by heat sink material to provide a mechanically and thermally robust mechanism. Two M.2 expansion slots provide on-board data storage capabilities.

Extensive Support

Acromag has more than 60 years of experience working with defense, aerospace, scientific, and industrial applications. We are committed to providing embedded computing solutions with the best long-term value in the industry. These boards are designed and manufactured in the USA with a 2-year warranty and a life expectancy of at least 7 years.

Key Features & Benefits

- Intel Xeon Quad Core Xeon E3-1505M V5 (47W)
- Intel C230 series CM236 PCH chipset
- Up to -40 to 85°C extended operating range
- Programmable CPU power for heat sensitive apps.
- Up to 32GB of high-speed DDR4 memory
- XMC module expansion site
- AcroPack/mPCIe module expansion site
- Two M.2 expansion slots w/ SATA III, PCIe NVMe x4
- Front panel I/O includes (air-cooled version):
  - dual USB 3.0 ports
  - Mini-DisplayPort
  - RJ45 10/100/1000BASE-T port
- Backplane I/O includes:
  - 1 x16, 2 x8, or 4 x4 PCIe Gen3 on expansion plane
  - 2x 40 GBASE-KR4/10GBASE-KX4 on data plane
  - 2x 10/100/1000BASE-T on control plane
  - 2x 1000BASE-BX on control plane
  - 4x RS-232/422/485
  - 2x USB 3.0
  - 2x USB 2.0
  - 2x DisplayPort 1.2
  - 2x SATA III
  - Audio: analog stereo line in and line out
  - 8 GPIO (4 inputs, 4 outputs)
- Battery-less operation option
- Rear transition module available

Acromag® THE LEADER IN INDUSTRIAL I/O

Tel 844-878-2352 ■ solutions@acromag.com ■ www.acromag.com ■ 30765 Wixom Rd, Wixom, MI 48393 USA

VPX Processor Boards

ISO9001
AS9100
MADE IN USA

Performance Specifications

AcroExpress Processor & Memory

Processor
Intel Xeon processor (6th generation, codename Skylake). E3-1505M V5: 2.8GHz, quad core, 8Mb cache, 47W. PCIe Gen3 x16.

Chipset
Intel CM236 PCH chipset. 4 x PCIe Gen3 x4.

Memory
Two SODIMMs. Up to 32GB of 2133MHz DDR4 ECC.

Flash Storage
Two M.2 sites (42-80mm). SATA III or PCIe NVMe x4 interface.

Real Time Clock
RTC has 256 bytes of battery backed RAM.

XMC, AcroPack Mezzanine Interface

XMC Interface
One XMC mezzanine site, PCIe x8 Gen 2 or 3. I/O to VPX P3 and P4 per VITA 46.9 P3w3 X38s+P4w1 X12d+X8d.

XMC Connectors
P15, P16: VITA 42 or VITA 61 for PCIe Gen 3.

AcroPack Interface
One AcroPack/mPCIe site. I/O to VPX P5.

AcroPack Connector
Front panel I/O: 50-pin CHAMP.

I/O Interfaces

Ethernet Interfaces
Control plane: Intel i350 Quad Gigabit Ethernet Controller. Configured as 2x 1000BASE-BX and 2x 1000BASE-T ports.

Data plane: Intel XL710 Dual 40Gigabit Ethernet Controller. Two 40GBASE-KR4 ports (contact factory for 10GBASE-KX4).

Expansion Plane
2 x8 PCIe from Gen3 switch.

Front Panel I/O (air-cooled only)
2x USB 3.0.
Mini-DisplayPort.
RJ45 1000BASE-T.

P6 Backplane I/O
2x DisplayPort, 4x RS-232/422/485, 2x SATA III, 2x USB 3.0, 2x USB 2.0, 8x GPIO, audio in/out.

Trusted Platform Module (TPM)
Version 1.2 of Trusted Computing Group (TCG) spec.

Electrical / Mechanical

Form Factor
6U VPX: 9.187" (233.35mm) x 6.299" (160.0mm).
Pitch: 1" pitch (VITA 48.1).

VPX Carrier Interface
Compatible VITA 65 module / slot profiles:
MOD6-PAY-4F1Q2U2T-12.2.1-15.
VITA 46.0 / 46.4 / 46.6. VITA 48.1 / 48.2.

FRU EEPROM with temperature monitor.

XMC Compliance
Complies with ANSI/VITA 42.0, 42.3, 61.0 specifications for XMC modules with PCI Express interface.

PCI Express
Conforms to PCI Express Base Specification, Rev. 3.1.

PCIe 8-lane (x8) Gen 3 interface operates at a bus speed of 8 Gbps per lane per direction.

Power Requirement
12V (VS1): 3.5A idle, 6.5A typical, 8A maximum.

Environmental

Operating Temperature Range
Air-cooled: 0 to 70°C (300 lfm airflow min.)
Conduction-cooled: -40 to 85°C
Storage: -40 to 85°C.

Relative Humidity
5 to 95% non-condensing.

Shock
Designed to comply with VITA 47 Class OS1.
30G, 11ms half sine; 50G, 3mS half sine.

Vibration
Designed to comply with VITA 47 Class V1.
Sinusoidal: 10-500Hz, 5G, 2 Hours/axis.
Random: 10-500Hz, 5G-rms, 2 Hours/axis.

Certifications
CE compliant.

MTBF
Consult factory.

Software Support

Operating Systems
Drivers available for Linux® and Windows®.

BIOS
AMI Aptio Skylake Core UEFI BIOS. PXE boot support.

Power ON Self-Test (POST)
POST codes output to 2-digit LED for debugging.

Ordering Information

VPX6860-42-20: Intel Xeon E3 CPU, VITA 42 XMC, air-cooled.

VPX6860-61-20: Intel Xeon E3 CPU, VITA 61 XMC, air-cooled.

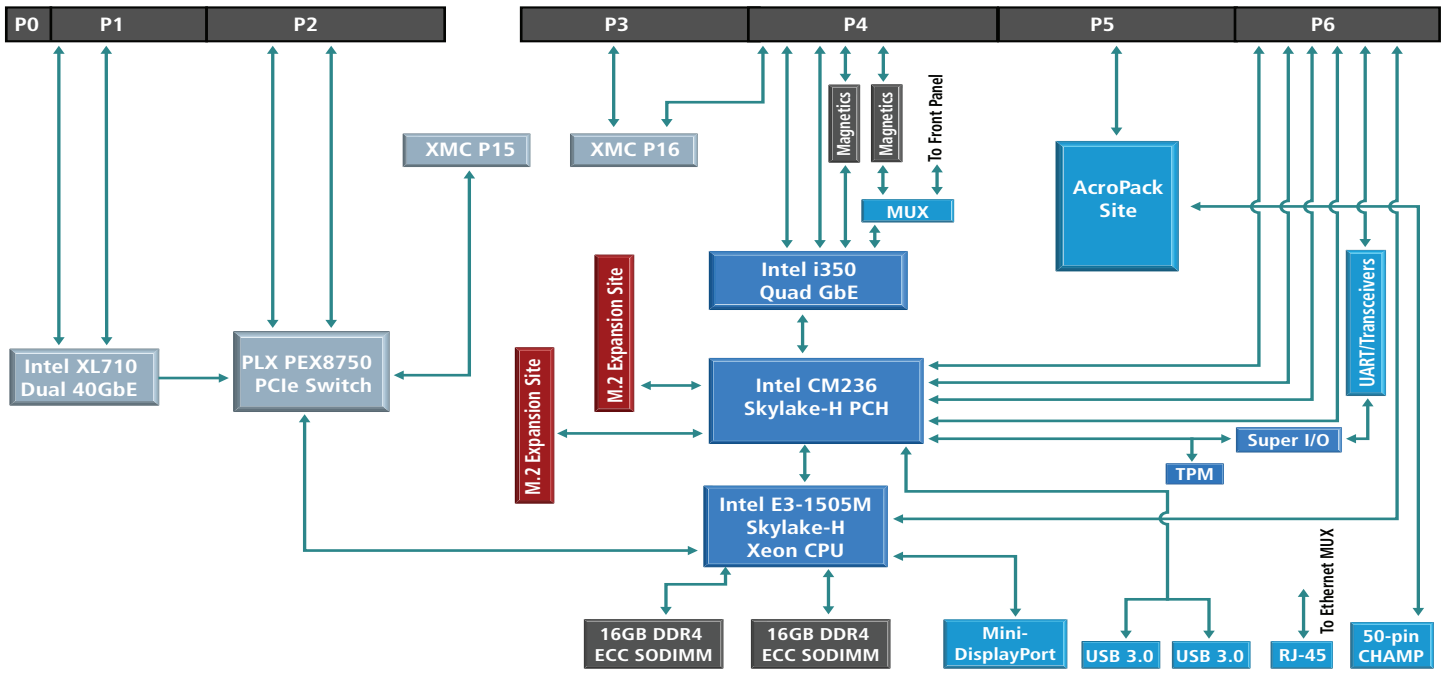
VPX6860-42-50: Intel Xeon E3 CPU, VITA 42 XMC, conduction-cooled.

VPX6860-61-50: Intel Xeon E3 CPU, VITA 61 XMC, conduction-cooled.

Call factory for battery-less operation and other options.

Accessories

VPX6860-RTM-LF: Rear transition module.



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