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Find the *Acromag XVME-6510-1160-LF* at our website: *Click HERE*

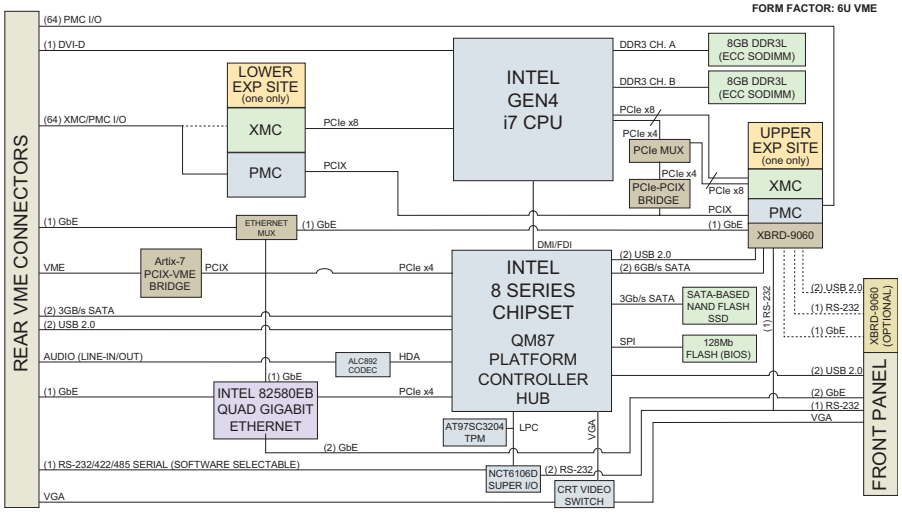
Single Board Computers

XVME-6510 6U VME Intel® Core™ i7 Air Cooled Processor Board

2 YEAR WARRANTY · RoHS Compliant



ARTIX™-7 FPGA-Based VMEbus Interface



Intel® i7 CPU ◆ Up to 16GB DDR3L ECC RAM ◆ BIOS Selectable Byte Swapping

Description

If you're one of the thousands who depends on the continued use of your VMEbus systems you can feel confident that Acromag is there for you. This single board computer updates your legacy systems with an Intel processor that will deliver significant performance advancements such as: enhanced microarchitecture, integrated graphics, and expanded memory performance with up to 16GB of high-bandwidth DDR3L memory and ECC memory controllers.

The XVME-6510 will add 7 to 10 years of life to your system with modern technology. This high-performance SBC features a FPGA-based VME to PCIe-bridge that solved the end of life issue with the TSI148 VME interface chip.

Cutting-edge technology features programmable power limits allowing the user to "dial-down" the maximum power consumption of the CPU in heat sensitive applications.

Ruggedized SODIMM 16GB removable memory is surrounded by heat sink material to provide a mechanically and thermally robust mechanism. The SODIMM is secured with four screws so it is easy to replace faulty memory.

The XVME-6510 also takes advantage of Intel Advanced Vector Extensions 2.0 for enhanced performance on floating point-intensive applications and Hyper-Threading Technology that enables each core to use two software threads for more efficient use of the CPU.

Expansion Capabilities

In addition to a comprehensive range of front panel and backplane I/O features, the XVME-6510 offers increased expansion capabilities through two PMC/XMC sites on the board.

In lieu of one PMC/XMC module, the optional XBRD-9060 expansion I/O carrier module may be installed. The XBRD-9060 allows for two SSD mSATA drives, as well as another Gigabit Ethernet port, RS-232 port, and two USB 2.0 ports.

The XVME-9640 rear transition module is also available for further storage, networking, and easy access to the P2 connector I/O.

Operating System Software

VxWorks, Linux and Windows

Extensive Support

With over 60 years experience, more than 35 of those years working with defense and military contracts, we are focused on providing embedded computing solutions for the best long term value in the industry.

Designed and manufactured in the USA, with a 2-year standard warranty.

Key Features & Benefits

- 4th Generation Intel Core:
  - Quad Core i7 CPU for high performance (47W)
- Programmable CPU power for heat sensitive applications
- FPGA-based VME to PCIe bridge
- Intel 8-Series QM87 PCH chipset
- Up to 16GB of high-speed DDR3L memory with SODIMM lock-down mechanism
- Front panel I/O includes:
  - dual USB 2.0 ports
  - VGA (switched w/ rear)
  - dual Gb Ethernet ports thru RJ Point 5 connector
  - RS-232 port
- Backplane I/O includes:
  - dual Gigabit Ethernet (on optional P0)
  - dual SATA ports & dual USB ports
  - DVI-D
  - RS-232/422/485
  - VGA (switched with front)
- XBRD-9060 expansion module adds:
  - dual USB 2.0 ports
  - Gigabit Ethernet port (switched with one of the rear ports)
  - RS-232 port
  - dual mSATA drives
- Power-on self test (POST) code LCD display

Acromag® THE LEADER IN INDUSTRIAL I/O

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

XVME-6510 6U VME Intel® Core™ i7 Air Cooled Processor Board

Performance Specifications

Processor and Memory

Processor
Intel Core™ i7 processor.
(4th generation, codename Haswell). The CPU allows programming a lower power limit in the BIOS setup allowing use in applications where less power is available or heat removal is an issue.

i7-4700EQ: 2.4GHz, quad core, 6Mb cache, 47W.

Chipset
Intel 8-Series QM87 PCH chipset.

Intel DH82QM87 Platform Controller Hub.

Memory
16GB of 1600 DDR3L ECC memory.

Flash Memory
32-GB standard.

Software Support
VxWorks, Linux and Windows.

Bus Compliance

VMEbus Interface
P1 and P2 connectors are compatible with VME64x.

VME Master/Slave using FPGA-based VME to PCIe bridge.

A32/A24/A16/D32/D16/D8, MBLT64, 2eVME/2eSST.

Dual PMC/XMC Sites
32/64-bit, 33/66/133MHz sites (IEEE P1386/P1386.1).

Front panel I/O bezel and P4 module user I/O on optional P0 rear connector and P2 connector.
(XMC module P16 connector I/O optionally available on P0 connector, please consult the factory).

XMCs are PCIe x8.

Option to replace PMC/XMC #2 with the XBRD-9060.

System Integrity

A two-digit LED display is available for power-on self test (POST) codes for problems during the boot operation. It can then be used for application software user codes to aid in software debugging.

ISO9001
AS9100
MADE IN USA

Form Factor

6U VMEbus 9.2" (233mm) x 6.3" (160mm).

Optional Expansion

XBRD-9060
Allows more I/O to the front panel, as well as mSATA SSD modules to be added for storage. Front panel I/O available are Gb Ethernet, RS-232 serial port, and two USB ports.

The XBRD-9060 also contains two mSATA sockets that allow two SSD drives to be added while still remaining within a single VME slot. Using the software RAID functionality of the QM87 PCH, these drives can even be setup as a RAID 0/1 array if redundancy or extra speed is desired.

XVME-9640
Installed onto the rear slot directly behind the XVME-6510 to easily access all of the available I/O on the P2, and optionally P0 connectors, as well as allow mSATA SSD modules to be added for storage. Front panel I/O available are two Gb Ethernet ports, one VGA port, one DVI-D port, and two USB ports. Internal connectors are also available. Please see the user manual for more information.

Environmental

Operating temperature
Standard temperature models: 0 to 70°C*.
Extended temperature models: -40 to 75°C*.
* w/ 300 lfm airflow; depends on application - see manual for details.

Storage temperature
-55 to 85°C.

Relative humidity
5% to 95% at 60°C non-condensing.

Power Inputs from backplane
Quad Core i7
5V (5V only backplane): 89W maximum, 53W typical.
5V (5V +3.3V backplane): 86W max., 50W typical.
3.3V (optional): 3W.
+/-12V: Used only for PMC/XMC.



XBRD-9060



XVME-9640

Ordering Information

XVME-6510-1160-LF
6U VME SBC, P0

XVME-6510-1160E-LF
6U VME SBC, P0, extended operating temperature

XVME-6510-1161-LF
6U VME SBC, no P0

XVME-6510-1161E-LF
6U VME SBC no P0, extended operating temperature

XVME-6510-1162-LF
6U VME SBC, P0, no battery

XVME-6510-1162E-LF
6U VME SBC, P0, ext. operating temp., no battery

XVME-6510-1163-LF
6U VME SBC, no P0, no battery

XVME-6510-1163E-LF
6U VME SBC no P0, ext. operating temp., no battery

Note: Please contact the factory for conduction-cooled models.

Accessories

For more information, see www.acromag.com.

XBRD-9060-LF
Expansion I/O Carrier Module for XVME-6510

XVME-9640-1-LF
6U VMEbus Rear Transition Module with P0 connector

XVME-9640-2-LF
6U VMEbus Rear Transition Module without P0 connector

Cable Set

5028-568
Cable adapter: RJ Point 5 Male to RJ45 Female, 6 in

5028-572
Cable adapter: 26-pin to 2 USB, VGA, Serial, 18 in

Software Development Tools

Board support package includes driver and integration directions.

XVME-6500/6700-BSP-LNX
Linux board support package

XVME-6500/6700-BSP-VXW
VxWorks board support package

XVME-6500/6700-BSP-WIN
Windows board support package

IPSW-A7VME-LNX
Linux example libraries.

IPSW-A7VME-VXW
VxWorks® 7.0 64-bit, software support package.

IPSW-A7VME-WIN
64-bit and 32-bit Windows software package.

Related Products

XMC FPGA modules

PMC FPGA modules

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