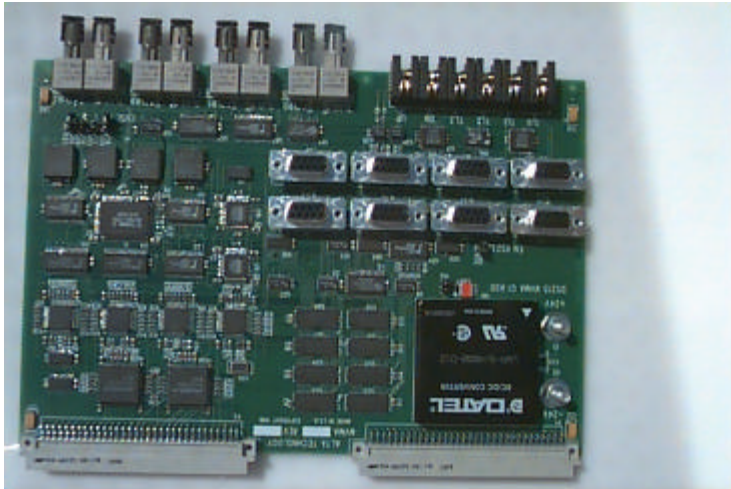# Alta Board-Level Products

MVMA

General Purpose Multiplexor / Serial I/O Board with Embedded Programmable Controller

A 6U VME board suited to real-time data acquisition with an on-board T425 controller, 4 RS232 and RS422 TLINK devices and 4 Fiber Optic Links. The MVMA connects to a variety of VME-based products either as a dedicated VME interface or part of a scaleable network of processors.

Product Overview

The *MVMA* provides high performance serial I/O multiplexed with TLINK support through a T425 embedded processor, making it ideally suited to real-time data acquisition and control applications. The MVMA is a scaleable, high-performance data acquisition and control card on a 6U form factor. It features an on-board IMST425 controller and 4 RS232, RS422 TLINK devices. The MVMA also comes with 8mbytes of memory, four bi-directional transputer links and optical fiber links, accessible via the front panel. This board can be coupled with additional MVMAs in larger applications. Optionally, additional Alta parallel processor products can be accessed, using the serial links, for computationally intensive real-time acquisition and control applications. The MVMA can be used a variety of development\target host platforms, including the PC, SPARC, RS/6000, NCR 3xxx and other VME based systems. This is achieved by using the 4 Transputer TLINKs to interface the MVMA other architectures (i.e. ISA, EISA, SBus or SCSI).

ALTA
TECHNOLOGY

How does the MVMA operate?

The 25MHz T425 is programmed in standard C, C++, FORTRAN, or occam. The programmed T425 can interrogate/manage serial and link interfaces, process the data and transfer the pre-processed data to a variety of transputer-based (or Alta's Alpha based) host systems or interfaces via any of the four transputer links. The internal bus is controlled by the T425. The I/0 space and the DRAM are both configured on the T425's 32 bit bus. The T425 has complete Read/Write access to the serial device functions.

The MVMA board contains an ST16C654 quad universal asynchronous receiver and transmitter with 64 bytes of transmit and receive FIFO. A programmable baud rate generator is provided to select transmit and receive clock rates from 50Hz to 1.5 Mhz

Who can benefit from MVMA products?
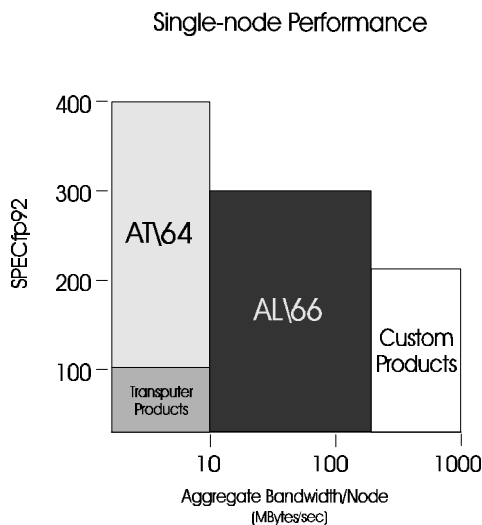
Alpha processing nodes are specifically targeted for applications with high-communications/medium-computation requirements (see chart at left). Those applications with higher computation requirements should consider AT/64 nodes as an alternative to MVMAs. Lower-end processors are also available.

MVMA boards fill the low-compute-low-bandwidth requirements of many applications. They can be combined in the same chassis with Alta's 21066A Alpha processors to provide value added resellers and integrators with a platform for scaleable embedded computation in existing VME systems or as attachments to workstations or network file servers. Room for future expansion is designed into MVMA systems. As processing requirements grow, additional MVMA and 21066A Alpha nodes can be added for greater performance. This allows developers to leverage their initial software investment and minimize "time-to-market" for new or future products.

Single-node Performance

SPECfp92

400

300

AT\64

200

AL\66

100

Transputer Products

Custom Products

10   100   1000

Aggregate Bandwidth/Node
(MBytes/sec)

Alta's scaleable Alpha product family balances computation power and configuration flexibility to solve complex problems such as scientific computation, financial modeling, real-time simulation, communications and database applications, among others.

Plug MVMA processors into your present system!

Alta's HAI (250 MBit Fibre Channel links) and HSI products (with 20 MBit trnasputer links) provide access to industry standard bus archictectures such as EISA, SBus, and PCI. Thus, HAI and HSI products are used to integrate the MVMA board with a variety of hosts, such as:

- v Digital AXP™ and AXPvme™ workstations and VME Single Board Computers
- v Sun SPARCstation®
- v HP 9000™
- v IBM RISC System/6000™
- v AT&T® NCR 33xx and 55xx servers
- v Silicon Graphics Onyx® and Crimson® workstations
- v 386, 486, and Pentium®-based PC Products

Alta Technology offers a wide range of complementary software, support tools and parallel processing hardware for computation, special applications and peripheral interfaces.

Software

A user-programmable EEPROM option is supplied with the board. All serial I/O functions are performed through a set of "C" libraries which can be loaded into EEPROM for boot-from-prom applications, or downloaded through a network of transputers. Alta's development tools provide consistency across a range of platforms.

Your Guarantee of Quality

Alta's board level products are *quality-built* for lasting value. Alta uses the most current Surface Mount Technology (SMT) for affixing board components with processes being monitored by statistical process control analysis. Milspec thermal screening further enhances Alta's high reliability standards. Supplemental testing and burn-in procedures include functional tests of the on-board memory and I/O and peripheral interfaces. Alta products are completely, 100 percent designed, manufactured and tested in the USA and are covered by a one-year warranty on parts and labor.

Alta Board-Level Products

MVMA

MVMA

Specifications

Embedded Processor
IMST425-25 MHz Transputer

Memory
8 Mbytes for the Embedded Processor

Performance
Full-speed 8 / 16 / 32/ or 64 Bit Block Move VME Transfers, to 12 MBytes/Sec

Configuration
VME boards
6U (160 x 233 mm)

Available HSI Interfaces
EISA, SBus,PCI, SCSI and others

I/O Communications
TLINK Bandwidth - Full Duplex
 20 MBits x 4 TLINKs
 MAX: 10 MBytes/Sec aggregate
TYPICAL: 6 MBytes/Sec

Electrical
DC voltage   *5VDC −0.25V*
                        24VDC −1V

Power Dissipation   8W (Min)
                   10W (Typical),
          50W (Max with TRAMs)

Environment
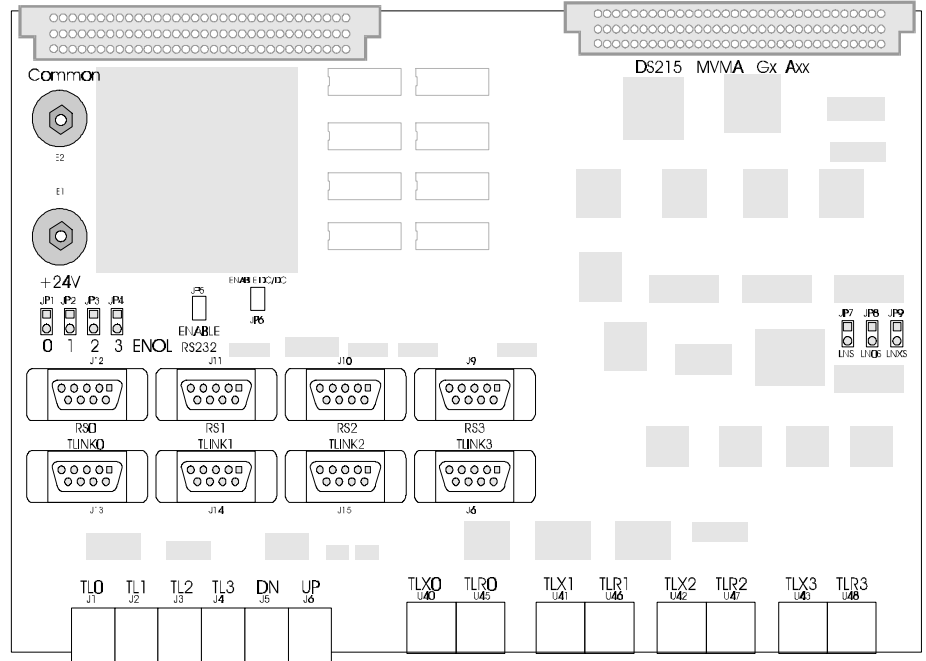Operating Temp.   0° - 60° C
Relative Humidity   10% to 90%
                   (non-condensing)

Ordering Information

To purchase: Please Order:
MVMA   MVMA

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Visit our WWW page at: http://www.altatech.com

MVMA jumpers, slots and switches