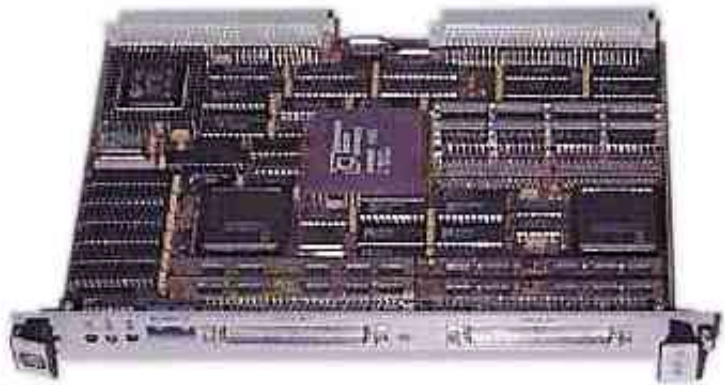# VMEbus
16-port Asynchronous
Communications Multiplexer
NEW! **MVC EOL Notice**

- **16 ports On a Single 6U Module**

- **50 to 38.4 KBaud On All Lines-Simultaneously**

- **Full Modem Control On All Lines**

- **128KB of Dual-Ported RAM Expandable to 1MB**

- **16 MIPS RISC For Maximum Performance**

- **UNIX SVR4, SunOS/Solaris & VxWorks With STREAMS Support**

- **RS-232/422/423/485 & MIL-STD-188C On One Module**

The Macrolink MVC 16-port Communications Multiplexer is the first VMEbus Async Commux designed for real performance. Unlike traditional controllers that rely heavily on the host for processing or 68XXX-based controllers that still can't meet high through-put requirements, the MVC has processing power to spare thanks to the AMD 29K. The MVC provides outstanding flexibility and one of the most comprehensive set of features available today-all at a very affordable price.

Maximum Performance

At the heart of the MVC is a 16 MIPS AMD 29K RISC processor combined with an efficient shared memory-128KB to 1MB-and DMA architecture. The RISC handles all character processing & buffering so driver calls and CPU intervention are minimized, and data overruns are eliminated. All VME data transfers and bus handshakes are controlled by a VIC068 VLSI ASIC.

Our design allows all 16 ports to operate at 38.4 KBaud, an overall throughput well in excess of 61,000 characters per second. That's more than double the rate of most other VMEbus asynchronous controllers.

The MVC is ideal for applications with large amounts of high-speed data traffic including graphics, supervisory/robotics and PC-to-host file transfers as well as interactive terminal communications.

More Lines-More Flexibility

The MVC supports 16 ports on a single double-height VMEbus module. All lines are independently programmable for speeds up to 38.4 Kbps with split speed support. Full modem control is available and individually programmable on each line. All modem signals are available on all lines with no performance penalty.

Our 4-port serial line conditioning modules allow each MVC controller to handle multiple line disciplines. A single MVC can be configured with any mix of RS-232, RS-422, RS-423, RS-485 and MIL-STD-188C in 4-line groups. Similarly, on-board memory is modular and expandable to 1MB. Our approach ensures that the MVC will handle today's communications requirements and meet your future application needs.

Soft, Adaptable & Easy

The MVC includes advanced features that benefit both the system integrator and programmer. All the MVC's VMEbus and port parameters are soft-configured and can be defined on a line-by line basis. The bus address is selectable with rotary switches located on the front bezel. Once installed, the MVC never needs to be removed, regardless of how often your application or configuration changes.

Programmable Features

MVC software definable features include:

- Baud rate, Character length, parity and stop bits.
- Transmit/receive line buffer size.
- Host memory DMA buffer size.
- Flow control: XON/XOFF, XOFF/any, EIA (CTS/RTS) or special characters.
- Control over all modem lines.
- Enabling/disabling modem signals.
- Special handling for user defined characters.
- Special characters for end of transmission or end of buffer with optional interrupts.
- Send or receive break characters.
- Break character timing.
- Error status data & handling.
- Interrupts and interrupt priority.
- Character-by-character (PIO) or DMA block modes with scatter/gather support.
- VMEbus interrupt/request level.
- VMEbus address & modifiers.

Quick Installation

We supply software driver kits for UNIX SVR4, SunOS, Solaris, VxWorks and HP-UX with STREAMS support. All Macrolink drivers feature a menu driven configuration

routine for quick installation. In addition to the MVC's self-test, a comprehensive on-line diagnostic is also supplied which performs functional tests on the controller and VMEbus handshakes. All drivers are provided with source code in C.

More extensive host-to controller-to-port testing can be accomplished with the optional "turn-around" plugs.

Simple Connections

Connection to the MVC is a breeze. The MVC utilizes two standard 80-pin, high-density, shielded connectors, each accessing 8 ports. The cables connect to our transition panels featuring either RJ-45 or DB-25 connectors.

The pinouts are compatible with a variety of off-the-shelf cabling devices, including modular jack "harmonicas" and DB-25 fanout assemblies.

Macrolink Support

With over 11 years experience in designing and manufacturing performance oriented communications, mass storage, memory and related subsystem products, we understand your demand for reliability and support. Our products are covered by one of the most comprehensive warranties in the industry. All Macrolink products are temperature cycled and burned-in to eliminate failures in the field. Computer testing checks virtually every parameter and aspect of our products. In-house or on-site training is also available directly from Macrolink.

Check our specifications, then call us for prices. And ask us about our ship-from-stock emergency exchange and customer training programs.

Specifications	
VMEbus	Compliant with the VMEbus 1014 revision C.1 & IEC 821 specifications. Supports both Master & Slave modes.
Master Data Transfer	A32/A24/A16 - D32/D16/D8. Address modifiers are programmable. UAT/BLT/RMW.
Slave Data Transfer	A32/A24/A16 - D32/D16/D08 (OE) Short Supervisory (2D) Standard Supervisory (3D) Extended Supervisory (OD) Short non-privileged (29) Standard non-privileged (39) Extended non-privileged (09)
Requester	R(0) through R(3), RWD/ROR,

	(STAT)
Interrupter	IRQ* through IRQ7. Programmable selection of all lines.
Channel Interface	8 or 16 channels, asynchronous serial data. 38.4Kbaud sustained on all 16 ports concurrently. RS-232-C/CCITT V.24/V.28, RS-422/CCITT V.11/X.27, RS-423/CCITT X.26, RS-485 and/or MIL-STD-188-C. All lines independently programmable. Autobaud capability on all lines. Software programmable line/controller parameters. Support for both hardware and software flow control. Full modem control on all lines supported via CTS, DCD, DSR, RTS, DTR & RI.
Printer Interface	Centronics compatible parallel printer port with DMA capability, supporting up to 4800cps. Printer port available via the P2 connector.
Physical	6U Dual-height Eurocard (160mm x 233mm) Front Panel - Single width, dual-height VME panel (20mmx262mm)
Connectors	Front Panel: One 80-pin, shielded high-density connector for each 8-channel group. Backplane: P1 & P2 standard 96-pin DIN connectors.
Power	5VDC @ 5.0A (maximum) +12VDC @ .1A (maximum) -12VDC @ .75A (Maximum)
Temperature	0° to 50°C (32° to 120°F) operating. -40° to 68°C (0° to 150°F) storage.
Humidity	10% to 95%, non condensing.
MTBF	8 port: 148,281 P.O.H. per MIL-HDBK-217E 16 port: 147,608 P.O.H. per MIL-HDBK-217E
Certification	VMElaboratories certification pending. FCC Part 15 Class A
Order Numbers	MVC/16 16-port Async RS-232-D Commux with data rates from 50-38.4 KBaud. Includes 128 KB SRAM memory, P2 printer port. 6U module: 221200-50 MVC/8 8-port Async RS-232-D Commux with data rates from 50-38.4 KBaud. Includes 128 KB SRAM memory, P2 printer port. 6U module: 221200-51 MVC Installation, Programming and Users Manual: 340001-00
	Sixteen RJ-45 ports: 330050-50

I/O Panels	Eight DB-25-S ports: 330061-50
Cables	6' Shielded: 320126-00 3' Unshielded: 320138-00
Printer Port Cable Assembly	Internal printer cable. 18" P2 cable, shielded D ribbon connector & 6U bezel: 330042-00
Software	SunOS/UNIX driver kit: 455001-XX VxWorks driver kit: 455007-XX Solaris driver kit: 455011-XX HP-UX driver kit: 455013-XX Annual driver maintenance for one OS type: 900020-XX

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