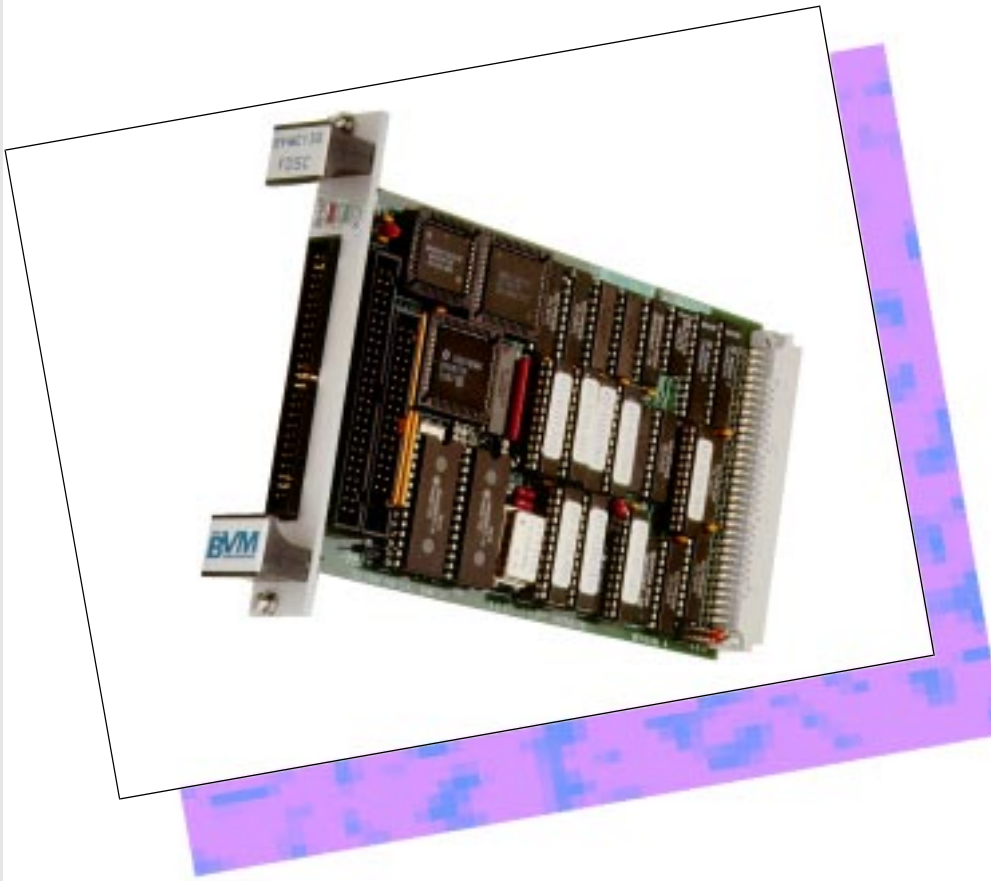
BVME130

Floppy/SCSI Disc Controller

- Fully SCSI ANSI X3.131 compliant
- SCSI-2 compatible
- Supports Target & Initiator roles
- Directly drives up to 7 SCSI peripherals
- SCSI data rates up to 3.3Mbytes/sec
- Directly controls up to 4 floppy drives
- Floppy data rates up to 1Mbit/sec
- Supports 4Mbyte floppy discs using perpendicular recording mode
- 64k bytes data buffer dual ported to VMEbus
- Programmable high speed VMEbus DMA transfers
- MC68440 DMAC
- VMEbus Vectored Interrupter
- Interrupts on different events
- Single Eurocard form factor with 3U or 6U front panel
- Supported by OS-9 drivers
- Fully compatible to VMEbus specification revision C.1
- Integrated module available with disc drives

The BVME130 is a compact, high performance, floppy disc and SCSI controller module with full master/slave VMEbus interface and DMA. It is optimised for cost effective, high performance applications.



The BVME130 provides all the resources for use as an interface to a wide range of peripherals, including floppy disc drives, hard disc drives and tape streamers. A single card can support up to 4 floppy drives and a mixture of up to 7 SCSI peripherals. A 64 kbyte, on board data buffer with DMA, allows high speed data rates to peripherals, without putting any constraints on the VMEbus. The DMA controller also has access to the VMEbus as a master, allowing the BVME130 to burst data, at high speed, between its data buffer RAM and other VMEbus system memory. The DMA master interface to VMEbus has been carefully optimised to provide minimum arbitration overhead and so maximises available VMEbus bandwidth. The on board buffer RAM can be mapped onto the VMEbus at a programmable base address to allow direct access in non-DMA applications.

BVM

BVME130

Disc Controllers

The BVME130 provides independent floppy and SCSI controllers which share separate channels of the DMA controller. The SCSI bus is controlled by a WD33C93A device and the floppy drive by an N82077-1 (µPD765A compatible) device. A power connector is provided to supply +5v and +12v power for use with low power disc drives when used in plug-in modules such as the BVME681.

VMEbus Master Access

Byte or word master access may be made to standard (A24) address space. The VMEbus daisy chain arbitration circuitry is optimised to allow efficient multi-processor operation. Special purpose LSI provides metastable free, asynchronous arbitration in less than 50nS. VMEbus arbitration is normally configured to the Fair Release on Request (FAIR ROR) scheme. This method only requests the VMEbus if no bus request from any other master is pending. This means that no matter which slot the BVME130 is installed in, it will not "hog" the bus to the exclusion of other bus requesters further down the daisy chain.

VMEbus Slave - Local RAM

The 64K byte of on-board SRAM may be dual ported onto the VMEbus. On power up, it is disabled from VMEbus, but may be enabled at any 256Kbyte boundary by writing to the Board Control Register. The BVME130 is compatible with VMEbus address pipelining and RMW cycles.

Interrupter

The BVME130 may generate VMEbus interrupts on any single level I (1-7) and responds with a software programmable ID to the subsequent interrupt acknowledge cycle. All interrupts are routed through the MC68440 DMA controller.

DMA Controller

A high performance, CMOS Direct Memory Access (DMA) controller is provided on the BVME130 for high speed control of data transfers.

This DMA controller has two fully independent DMA channels assigned as:

channel 0 SCSI
channel 1 Floppy

The operation of the DMA is very flexible allowing two categories of transfer to be performed:

Device to/from memory (either local RAM or VMEbus memory).

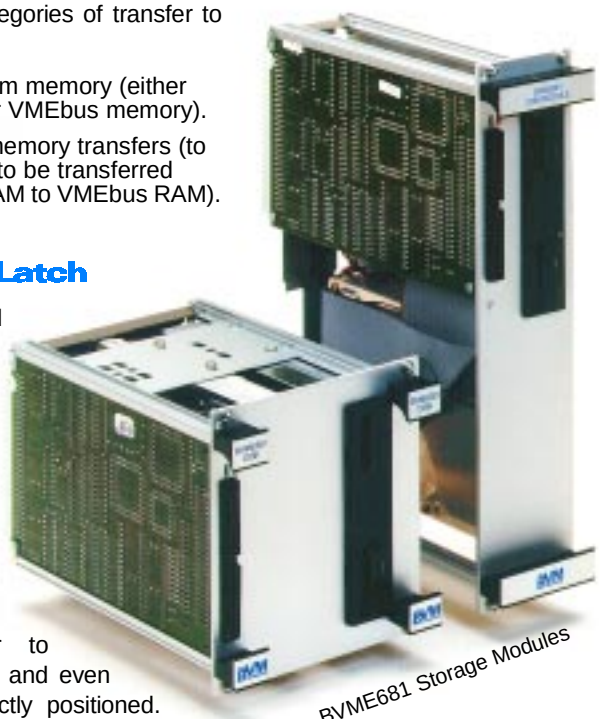
Memory to memory transfers (to enable data to be transferred from local RAM to VMEbus RAM).

"TURBO" Latch

Both SCSI and floppy controllers are 8 bit peripherals. The memory interface, both local and VMEbus, is 16 bit wide. Data is routed via the DMA controller to ensure that odd and even bytes are correctly positioned. To enhance the performance of the SCSI interface a custom 16 bit "TURBO" latch is used to combine odd and even bytes thus reducing the number of memory transfer and address cycles required.

Integrated Storage Modules

The BVME681 Storage modules combines the BVME130 controller with floppy and SCSI disc drives in an integrated plug-in unit. Both 3U and 6U modules are available. All power connections are via the VMEbus connector allowing disc storage to be easily added to any system with spare slots. A front panel connector is also provided to allow daisy chaining of additional SCSI devices. Consult your supplier for current details of disc drive capacities



BVME681 Storage Modules

Specifications

General
A24 MRMW16 SRMW16
VMEbus Master/Slave
A24,A16 D16,D8(OE)
AM6 RMW
Bus Requester
FAIR ROR (BR3)
Interrupter
D08(O) RORA
1(1-7) Single level, PAL selectable
Status ID soft programmable
DMA controller
MC68440 at 10MHz.
Floppy Disc Controller
N82077-1 (µPD765A compatible)
SCSI Controller (TARGET & INITIATOR)
AM33C93A at 20MHz.
Memory
64K bytes of 16-bit wide SRAM dual ported
Status LEDs
RED BVME130 is Bus Master
GREEN BVME130 is active
Dimensions
160mm x 100mm Single slot
Power
+5V 1.5 A max. +12V 0ma.
drive take-off
+5V 1.5A, +12V 1A max.
Environmental
0 to 55 degrees
95% humidity non-condensing

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