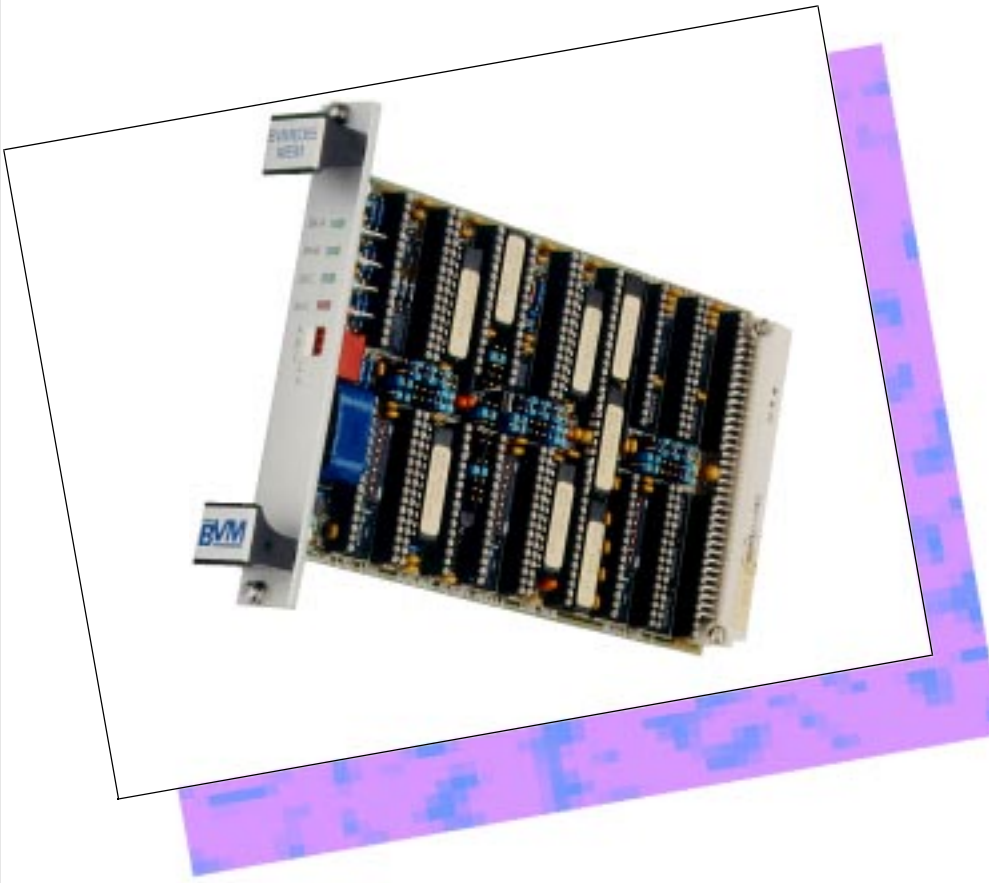
# BVME065

## EPROM/Flash/SRAM Module

- Three independent banks of 4x32 pin byte-wide device sockets
- JEDEC compatible device pinouts
- 12 Mbytes maximum capacity
- EPROM devices up to 8Mbit
- SRAM devices up to 4Mbit
- EEPROM devices up to 1Mbit
- Flash-EEPROM devices up to 2Mbit
- On-board battery or VMEbus +5STDBY backup
- Bank access LED
- Battery Low LED
- Software switchable Flash EEPROM programming voltage
- Each bank has independent:
  - Write disable switch
  - Link selectable device size and type
  - Link selectable DTACK speed
  - DIP switch selectable base address
- Byte or word wide VMEbus access
- Single Eurocard form factor with 3U or 6U front panel
- Fully compatible to VMEbus Rev. C.1
- OS-9 Driver for Flash programming

The BVME065 is a 3U VMEbus memory module suitable for use with various types of JEDEC pinout RAM ROM and Flash devices ranging from 32K x 8 to 1024K x 8. It fully supports in-system programming of Flash EPROM and EEPROM devices. It consists of three banks of four memory devices. Each bank has its own base address and access time, giving the bank independence as to the memory device type, size and speed. This gives the effect of three separate memory cards of different types.



The BVME065 has a power detection circuit which switches between the +5V, +5V standby or the on board battery, depending on which has the highest voltage. The board also has onboard circuitry which prevents data being written to the memory during backup mode.

The on-board Nickel Cadmium battery is constantly trickle charged, providing enough backup for voltage dips, brown out or even to remove the card and replace it in another system, giving a truly portable memory card. The Flash memory programming voltage is program selectable.

# BVME065

## VMEbus Operation

The BVME065 has three independent memory banks which are individually switch selectable to any 128K boundary. This gives the effect of 3 separate memory cards each of which can have a different memory device type, size and speed.

Address pipelining is fully supported. The VMEbus reads data held independently of the VMEbus address strobe, VMEAS. Address pipelining allows the current master CPU to finish driving the address strobe, when giving data acknowledge, before it has indicated data transfer is complete by removing the data strobes. This allows subsequent bus masters to start driving the address bus before the previous master has retrieved its data. Thus the address and data are allowed to overlay speeding up read cycles in multiple master VMEbus systems.

## Address Modifier Codes

The BVME065 supports standard VMEbus accesses and responds to the following address modifier (AM) codes:

CPU Supervisory Program Access 3E

Data Access 3D

CPU User Program Access 3A

Data Access 39

## Memory Devices

The BVME065 is able to carry SRAM, EPROM, FLASH EPROM AND EEPROM in sizes varying from 32K x 8 to 1024K x 8. It is capable of programming both FLASH EPROM and EEPROM along with the more traditional SRAM devices making it ideal for use in both development systems and data acquisition target systems.

**FLASH EPROM** memory devices should have address and data latching and an integrated Program/Erase stop timer. The card is capable of holding 32 pin devices from 32K x 8 up to 256K x 8. During a programming cycle VPP can be switched high or low in software using a 17 byte code, a SYSRESET signal will also set VPP low reducing the possibility of corrupting data. A WRITE PROTECT switch, which is accessible through the front panel, deactivates a write cycle when in the off position, without causing a bus error and removing the risk of accidental programming. The latest INTEL 28F series devices are ideal for use in this module.

**EEPROM** devices should be chosen to have a single TTL level /WE signal, ADDRESS and DATA latching and automatic write timing. These devices can also be write protected against accidental programming using the WRITE PROTECT switch in the same way as the Flash devices.

The module is capable of holding both 32K x 8 devices or 128K x 8 devices in 28-pin and 32-pin JEDEC standard format respectively.

**EPROM** devices can not be programmed on the BVME065, but can be used in read mode, with any standard JEDEC device from 27C256 (32K x 8) up to 27C080 (1024K x 8 when available) in 28 pin or 32 pin format.

**SRAM** devices can be used in a range from 32K x 8 up to 512K x 8 using standard 28 and 32 pin JEDEC pinouts. The BVME065 has an on board battery backup circuit. This will supply the SRAM, if jumper selected, at a level of 2.4V. When the monitored VCC falls below the battery voltage, RAM enable pin /CE is forced inactive, further reducing the devices power consumption. The write protect switch can again be used with SRAM devices to protect against an accidental write to the memory devices.

## Front Panel LEDs

The BVME065 has 4 LED indicators which enable the user to monitor the current status of the board. These indicate memory bank accesses and battery charge low conditions.

## Specifications

**VMEbus Slave**
A24:D16,D8(OE)
AM6
RMW

**DIP Switch**
Bank base address (3)
Write Protect (3)

**Links**
Device type (3)
Device size (3)
Bank speed selection (3)
SRAM battery Backup (1)

**LED Indicators**
Bank 1: Access to bank 1.
Bank 2: Access to bank 2.
Bank 3: Access to bank 3.
Battery: Battery Low indication.

**Dimensions**
160mm x 100mm 3U Single Slot

**Power (Unpopulated)**
5V 1Amp
+12V 15ma
-12V 0.0A

**Battery**
2.4V 100mAh.

**Environmental**
0 to 70° C
95% humidity non-condensing

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