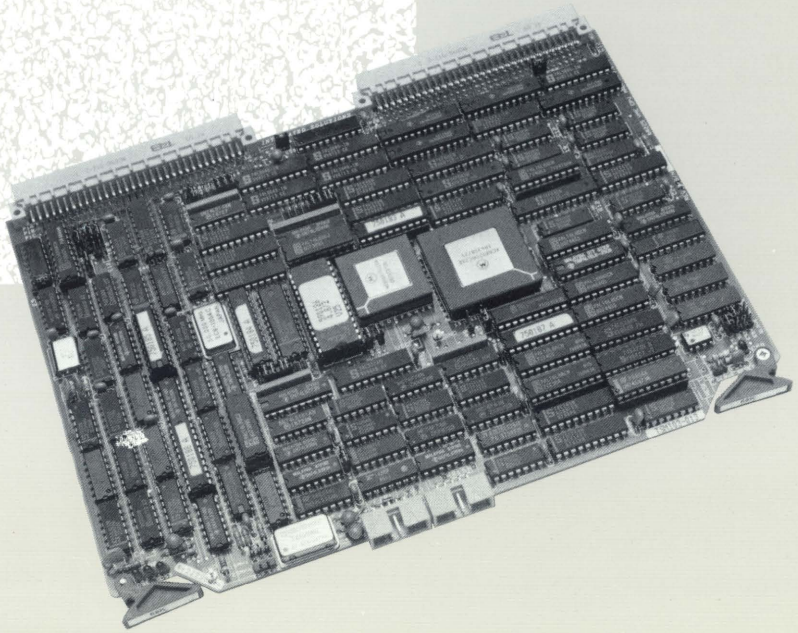
# VME-68225 CPU

*Product Specifications*

***Features***

- 25-MHz MC68020 CPU
- Memory Management Unit featuring an ultra-high-speed translation buffer (512 entries for user and 512 entries for system) with eight concurrently programmed contexts and four KByte page size
- Up to 32-MByte RAM per CPU
- Up to 128-MByte process size
- Dual 32-bit buses (VMEbus and HSMEM bus)
- Support for the MC68881 floating point coprocessor
- Support for interprocessor interrupts
- Two asynchronous serial ports
- 512-KByte EPROM

The Integrated Solutions VME-68225 high-performance CPU board brings more power to the technical computing market on one standard dual-size 6U VME board. The Memory Management Unit, with multiple concurrent contexts, combines with the MC68020's powerful instruction set and high processing speed to provide high performance on the industry-standard VMEbus. The VME-68225 supports up to 32 MBytes of physical memory per CPU. To provide maximum flexibility, the VME-68225 board incorporates a dual-bus architecture for both single and multiple processor environments. The VME-68225 provides the features necessary to support multiple processors on the VMEbus.



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## Maximized Performance

The VME-68225 processor maximizes the performance available from the MC68020 CPU. Several architectural features contribute to this optimized performance:

*Memory Management Unit.* The MMU translates CPU virtual addresses into real addresses and supports address space protection by the operating system on a per page basis. By using an ultra-high-speed single-level translation buffer, the VME-68225 can translate virtual to physical addresses in less than 20 nanoseconds.

*Context Register.* The context register concurrently supports up to eight contexts in the MMU. This reduces the context switch time under multitasking conditions.

*Use of the HSMEM Bus.* Maximum performance is realized when memory is accessed via the HSMEM bus, and the entire VMEbus bandwidth is used for I/O operations.

## VMEbus Interface

The VME-68225 interfaces with the VMEbus as an A32,A24,A16/ D32,D16,D8 master, and as an A32,A24,A16/D32 slave in conjunction with the companion high-speed 8-MByte and 4-MByte memory boards. The VME-68225 interface logic is consistent with the following VME specifications:

Data Transfer Bus Requester
  RWD/ROR (jumper selectable)
Data Transfer Bus (DTB) Master
  A32/A24/A16, D32/D16/D8 (DYN)
Data Transfer Bus (DTB) Slave
  A32/A24/A16, D32 (STAT)
Interrupt Handler
  IH (1-7)

Physical Configuration
  EXP
Arbiter
  PRI
  RRS
Time-out
  TOUT=16 us

## Form Factor

The form factor for the VME-68225 is a standard double-wide VME board, 160mm by 233.33mm.

## Electrical Requirements

The maximum power requirements of the VME-68225 are +5 volts @ 5.5 amps, ±12 volts @ .05 amps.

## Environmental Requirements

Temperature:
  0 to 50 degrees centigrade (operating)
  -40 to 65 degrees centigrade (non-operating)
Humidity:
  10 to 90 percent (non-condensing)

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VME-68225 6/88 2500