

## **Bus Interface**

- **VMEbus**
    - VMEbus architecture with 32-bit data path, 32-bit addressing and 7 bus interrupts
    - Operates in Master or Slave Mode (Compliance Level: D32A32(7))
    - System level controller functions including 4 level arbitration
    - VMEbus priority or round-robin arbiter
    - Uses VIC068 VME Interface Chip providing "MOVEM" type block transfer rates of 9 Mbytes/sec read, 7 Mbytes/sec write
  - **VSB**
    - 32-bit multiplexed address/data bus, master/slave mode, arbiter
    - Transfer rates of 9.45 Mbytes/sec for block reads
    - Transfer rates of 9.65 Mbytes/sec for block writes
  - **Mailbox interrupts**
    - Allows remote control of V4F via specified VMEbus addresses
    - CPU interrupt, reset and VMEbus lock functions supported
  - **Corebus**
    - Mezzanine bus providing migration path for board customization
    - 32-bit address bus; 32-bit data bus
    - Multimaster Module Synchronous Bus for intelligent modules operating at speeds synchronous with CPU clock, 106 Mbytes/sec 4 word burst transfers @ 33 MHz
    - Asynchronous Module Peripheral Bus for simple, low speed I/O and module configuration
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## **Processor & Memory Options**

- **MC68040**
  - Operates at 33 MHz
  - 4 Kbyte on-chip instruction cache
  - 4 Kbyte on-chip data cache
  - Paged memory management unit (MMU) with dual 64-entry, 4-way, set associative translation lookaside buffers
  - Sustained performance of 13.5 VAX MIPS and 3.6 MFLOPS
  - Implements IEEE-P754 binary floating point standard
- **Random Access Memory**
  - 8 or 16 Mbytes DRAM with parity on-card
  - 2 bank interleaved architecture with write posting buffers
  - 70 ns page mode DRAM

- One parity bit per byte
  - Transparent discrete hardware refresh
  
  - **Read Only Memory**
  - Up to 1 Mbyte capacity via two 32-pin sockets
  - Supports 64K, 128K, 256K, and 512K x 8 EPROMs
  
  - **Non-Volatile RAM**
  - 8 Kbytes programmable EEPROM (6 Kbytes available to user)
  - User-definable parameters such as default baud rates, software and hardware revision levels, and system configuration information
  - 10 ms store cycle
  - 100 year retention
  - 10,000 store cycle lifetime
  
  - **Timers/Counters**
  - Real-time clock
  - Two 16-bit timer/counters
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## Peripheral I/O

- **Serial I/O**
  - Two front panel serial I/O ports provided via enhanced Z85C30 SCC chip
  - Internal software controlled baud rate generator for each port
  - RS-232-C standard
  - Transfer rates up to 76.8 Kbaud asynchronous with 80 ft. cable
  - 1 Mbyte/sec asynchronous with 6 ft. cable
  - 2 Mbytes/sec synchronous with 6 ft. cable
  
  - **Configuration Options**
  - SCSI and Ethernet interfaces available via Corebus mezzanine module
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## Software support

- Wind River Systems' VxWorks(TM) real-time operating system and development environment
  - Microware's OS-9(TM) real-time operating system
  - Third party support including Microtec Research's VRTXvelocity(TM) and ISI's pSOS+(TM)
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## Physical Characteristics

- Multilayer with ground and VCC planes
- Board size: 23.35 cm x 16.0 cm (9.19 in. x 6.3 in.)
- Power requirements: +5VDC @ 4.5A, +12VDC @ 50mA, -12VDC @ 50 mA
- Operating range: 0&degree; to 55&degree;C, 85% relative humidity (non-condensing)
  
- **Front Panel**
- Serial connectors
- SYSFAIL, HALT, and Alternate Master LEDs

- Reset switch
  - Front panel interface with Reset and 4 user-programmable TTL outputs (10-pin high density connector)
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## **Target Applications**

- Graphics-oriented applications such as simulation, image processing and printing
- Data acquisition
- Machine vision
- Embedded control
- Custom design foundation