

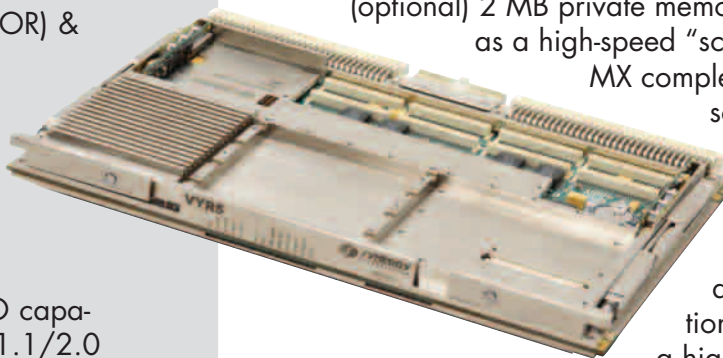


Conduction-cooled Rhino MX SBC with Onboard MIL-STD-1553

Single or Dual PowerPC 7457

Available in a single or dual CPU configuration, the Rhino MX features the advanced performance of the PowerPC G4 7457 CPU, available in clock speeds up to 1.3 GHz. The 7457 is supported by three levels of enhanced cache memory. The L2 cache joins the L1 on-chip. Now integrated with the CPU core, the L2 operates at speeds matching the frequency of the processor. Its eight-way associativity provides better system coverage – locating data faster and more efficiently. The 7457 also supports a 2 MB L3 backside cache as well as an additional (optional) 2 MB private memory which can function as a high-speed “scratch pad.” The Rhino

MX complements the 7457 processor with the Discovery I™ advanced system controller – a single chip that integrates fast memory, dual PCI buses and abundant I/O functionality, all routed through a high-bandwidth crossbar.



MIL-STD-1553 Plus Redundancy of All Onboard I/O

The Rhino MX features an extensive offering of I/O devices, each providing full redundancy, including two 10/100 Ethernet ports, up to six full-duplex serial ports, two FireWire (IEEE 1394) channels or two USB 1.1/2.0 ports, and 16 discrete I/O lines. Key to avionics system support are the two dual-redundant, multi-function 1553B channels

- ◆ Conduction-cooled, 6U VME Single-board Computer
- ◆ Single or dual, PowerPC 7457 up to 1.3 GHz with AltiVec™
- ◆ Up to 1 GB SDRAM
- ◆ 100/133 MHz System/Memory Controller (Discovery™ I)
- ◆ Up to 64 MB Flash (NOR) & 512 MB NAND Flash
- ◆ Two 64-bit PMC sites
- ◆ Two dual-redundant, MIL-STD-1553 ports (optional)
- ◆ Full complement of I/O capability: Serial (6), USB 1.1/2.0 (2), FireWire (2) and 10/100 Ethernet (2)
- ◆ DSP capable with CWCEC DSP Math Library and Communications Software
- ◆ BSP support for VxWorks®, INTEGRITY™ or Linux (SMP)

For more information on our broad range of high-integrity computing solutions, please visit our website at www.cwembedded.com.

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which provide the crucial network fail-over capability and enhanced system fault-tolerance inherent in the 1553 standard. The board further extends I/O flexibility by providing two on-board, 64-bit PMC sites.

Software Support

CWCEC offers extensive board support packages for multiprocessor VxWorks, Integrity and Symmetric Multiprocessing (SMP) Linux. Boards also ship with STAR/ASTRix boot, diagnostic, and system monitor firmware. The onboard firmware also features user customizable power-up and built in test capabilities. For DSP applications, Curtiss-Wright offers its own extensible Math Library, hand-coded and optimized for the PowerPC and AltiVec technologies as well as Global Buffer Management software (GBM) to facilitate programming of fabric based system applications.

Processor

- Single or dual PowerPC 7457, 733 MHz, 1 or 1.3 GHz

Memory

- Main memory: 256, 512 MB or 1 GB SDRAM supporting parity/ECC
- L3 backside cache: 2 MB per CPU 2 MB private memory (opt.)
- Flash: 64 MB (NOR) assigned to boot and alternate boot with flexible write protect options
- Flash: 512 MB (NAND) (opt.)
- NVRAM (clock/calendar): 128 KB
- NVRAM (no back-up): 32 KB (opt.)

VME Interface

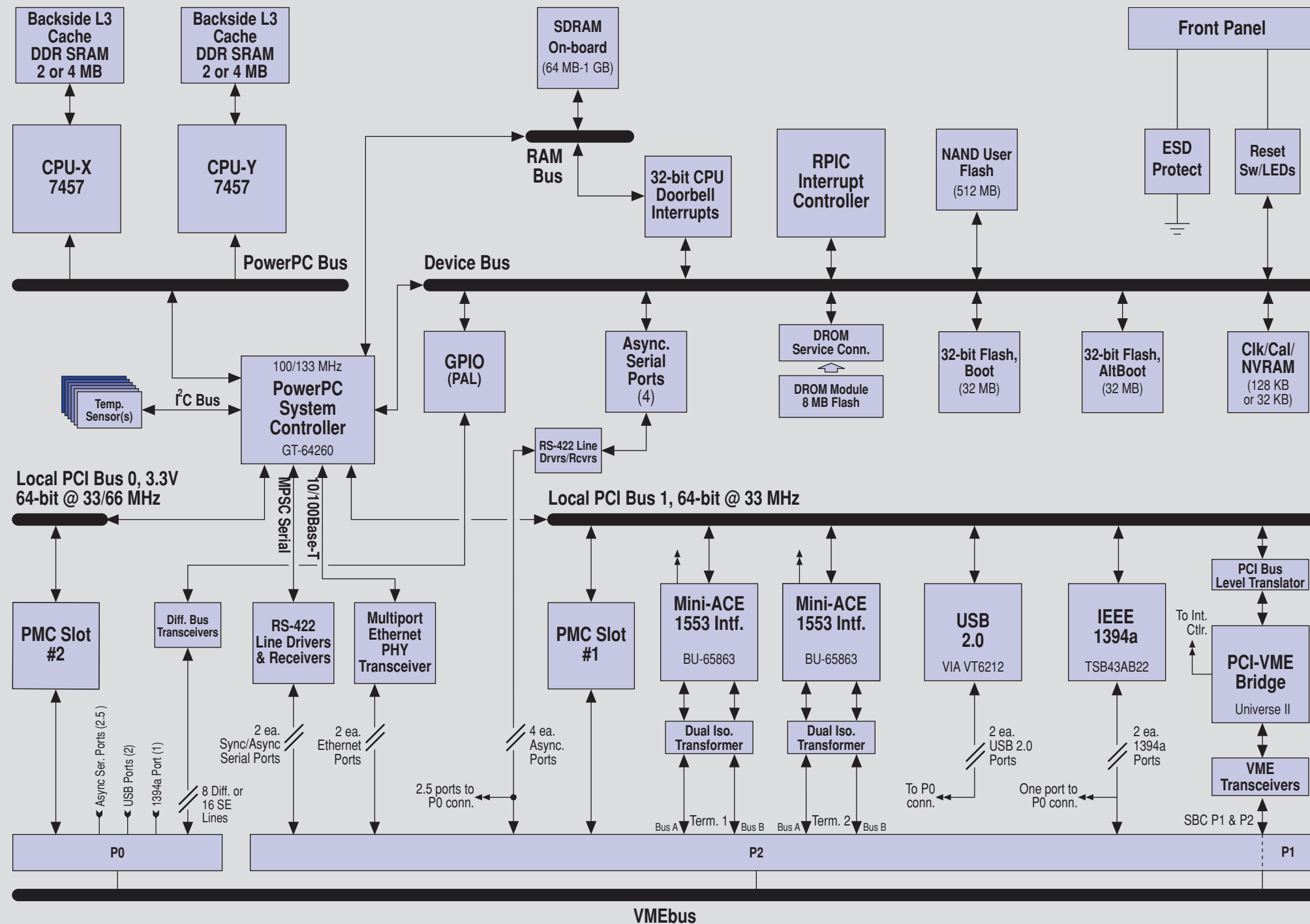
- Interface: VME64x, A32, D64
- PCI-to-VME interface: Universe II

PCI Buses (dual PCI buses)

- PCI bus 0: 64-bit/66 MHz, supports one PMC site
- PCI bus 1: 64-bit/33 MHz, supports VME, 1394, 1553, USB, & one PMC site

PMC I/O

- Two standard 64-bit PMC sites: 3.3V (optional 5V) signaling
- Controlled impedance and differential pair support on PMC I/O





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with Onboard MIL-STD-1553

On-board I/O

- ◆ Ethernet: two auto-sensing 10/100
- ◆ Serial: four asynchronous RS-232/422/485 with up to two modem control channels
- ◆ Serial: two sync./async. RS-232/422/485
- ◆ FireWire: two ports, 400 Mb/s (opt)
- ◆ USB: two ports, USB 1.1/2.0 (opt.)
- ◆ 1553: two ports, dual-redundant

Power Requirement (based on config.)

- ◆ Dual 7457@1 GHz, 512 MB SDRAM: +5.0V +5%/-2.5%, 7.6 A typical @ 5.00V (38 W)

Environmental

- ◆ Operating temp: -40° to +85° C, Conduction-cooled only
- ◆ L100 and L200 ruggedization levels available

Other Features

- ◆ Five multicolored status LEDs, eight user-programmable LEDs, and remote reset via P2
- ◆ Programmable interrupts - priority of any interrupt source can be set in software
- ◆ Two 32-bit counters can broadcast interrupts to all CPUs simultaneously
- ◆ Eight 32-bit gen. purpose counters
- ◆ Two interprocessor doorbell interrupts per CPU
- ◆ Watchdog timer
- ◆ TOD clock/calendar

- ◆ Eight gen. purpose DMA controllers
- ◆ 16 single-ended or 8 differential discrete I/O pins
- ◆ System Management Bus (SMB)
- ◆ I2O Message Unit
- ◆ Conformal coating (opt)
- ◆ Flash File Manager (opt) (ECC & wear leveling)
- ◆ JTAG/COP debug connector (opt)
- ◆ PIM Carrier Transition Module (opt) for connection to rear-routed I/O