

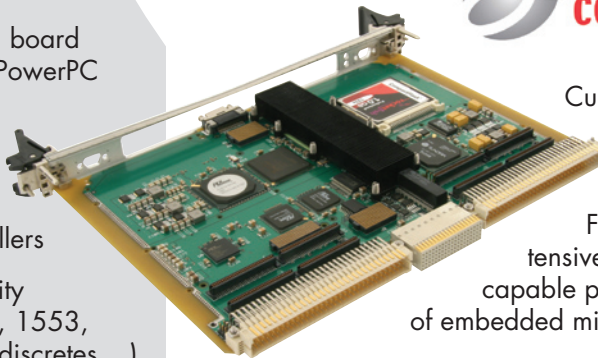


SVME/DMV-184

VME PowerPC 8641-Based Single Board Computer



- ◆ Powerful general-purpose single board computer with Freescale 8641 PowerPC processor
- ◆ Dual e600 cores at 1.0GHz
- ◆ 2 GB DDR2 SDRAM controlled by dual 64-bit controllers
- ◆ Full complement of I/O capability (Ethernet, SCSI, serial, USB 2.0, 1553, Serial ATA, TTL and differential discretes...) including front panel Gigabit Ethernet connection
- ◆ 2eSST-capable VME interface
- ◆ CompactFlash site for integrated mass storage capability
- ◆ Continuum Software Architecture (CSA) VxWorks 6.x BSP and Driver Suite supporting Workbench 2.x IDE
- ◆ Continuum Software Architecture (CSA) firmware providing a comprehensive suite of system debug, exerciser, and update functions, BIT, and non-volatile memory sanitization function
- ◆ Designed for military harsh-environment applications, both air- and conduction-cooled
- ◆ Latest VME version of Curtiss-Wright's popular 17x and 18x series of single board computers



Curtiss-Wright Controls Embedded Computing's SVME/DMV-184 combines the performance and the advanced I/O capabilities of the Freescale 8641 processor with an extensive I/O complement to provide a highly capable processing platform for a wide range of embedded military/aerospace applications.

The 8641 processor provides tremendous data bandwidth to and from memory via dual 64-bit DDR2 memory controllers and to the PCIe/PCI hierarchy through two independent 8-lane PCIe ports. Along with one high-performance PMC site, there is one XMC-capable mezzanine site with an 8-lane PCIe port allowing for multi-GB/sec data rates between the XMC site and on-board memory. A rich I/O complement including three gigabit Ethernet ports and options for multi-function RS-232/422/485 serial ports, MIL-STD-1553, SCSI, Serial ATA, and TTL and differential discretes provides connectivity integration with other system elements without using up PMC/XMC sites.

The SVME/DMV-184 is supported by a wealth of software including Curtiss-Wright's standard CSA firmware, CSA VxWorks Board Support Package and Driver Suite, MIL-STD-1553 software driver, and Continuum Vector signal processing library. For other operating system requirements, please inquire with your local Curtiss-Wright representative.

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

**CURTISS
WRIGHT** **Controls**
Embedded Computing

SVME / DMV-184

VME PowerPC 8641-Based Single Board Computer

Features

- ◆ 8641 PowerPC processor with two e600 cores, each core with:
 - 64 Kbytes L1 cache
 - 1 MB internal L2 cache
 - Altivec™ vector unit
- ◆ Two independent 64-bit DDR2 SDRAM controllers integrated into the 8641 processor
- ◆ 2 Gbytes of DDR2 SDRAM with ECC
- ◆ 512 Mbytes of contiguous direct-mapped Flash memory
 - Hardware Flash write protection jumper
- ◆ Permanent Alternate Boot Site (PABS) provides back-up boot capability
- ◆ 128 Kbytes AutoStore nvSRAM
- ◆ 2eSST-capable ("VME320") VME interface
- ◆ Two PMC sites, one with VITA 42.3 XMC capability
- ◆ PMC/XMC site #1:
 - provides a 66 MHz PCI-X capable interface via 4-lane PCI-to-PCIe bridge
 - 64 bits of I/O to P0 connector for which the routing to the backplane is done via controlled-impedance and controlled-length pairs
 - 5V-tolerant
- ◆ PMC/XMC site #2:
 - provides either a 100 MHz PCI-X capable interface via 4-lane PCI-to-PCIe bridge or an 8-lane PCIe interface, auto-selected
 - 64 bits of I/O to P2 connector for which the routing to the backplane is done via controlled-impedance and controlled-length pairs
 - not 5V-tolerant
- ◆ Conduction-cooling of PMC/XMC sites optimized with secondary thermal interfaces and mid-plane thermal shunt
- ◆ Up to three Ethernet interfaces:
 - one gigabit Ethernet to front panel connector on air-cooled cards
 - one gigabit Ethernet to P0 connector
 - one Ethernet to P2, either gigabit or 10/100-capable depending on I/O mode
- ◆ Type I CompactFlash site interfaced via standard CardBus controller
- ◆ Two asynchronous RS-232 serial ports
- ◆ Two USB 2.0 ports
- ◆ Factory-installed Interface Personality Module (IPM) allows for choice of following I/O bundles:
 - 4 RS-232/422/485 serial channels and 14 LVTTTL discretes
 - 8-bit SCSI, 2 RS-232/422/485 serial channels, and 14 LVTTTL discretes
 - 2 MIL-STD-1553 channels, 2 RS-232/422/485 serial channels, and 14 LVTTTL discretes

- 2 RS-232/422/485 serial channels, 14 LVTTTL discretes, 2 serial ATA ports, single 1553
- each LVTTTL discrete software-configurable as input or output, with interrupt capability as inputs
- each RS-232/422/485 serial channel has full DMA support
- each serial signal software-configurable as discrete I/O, with interrupt capability on inputs
- ◆ Six general-purpose 32-bit user timers provided by Core Functions FPGA
- ◆ Four general-purpose DMA controllers provided by the 8641
- ◆ Two avionics-style watchdog timers with software programmable upper and lower bounds, with external watchdog event indicator discrete
- ◆ Real-Time Clock with automatic switchover from 5V to 3.3Vaux
- ◆ Four on-board temperature sensors, with alarm interrupts
- ◆ Red Fail LED and two green user LEDs
- ◆ +5V-only operation
- ◆ Available in a range of ruggedization levels, air-cooled and conduction-cooled
- ◆ CSA firmware providing a comprehensive suite of system debug, exerciser, and update functions, BIT, and non-volatile memory sanitization function
- ◆ Available software packages
 - CSA VxWorks 6.x BSP and Driver Suite supporting Workbench 2.x IDE
 - VxWorks 6.x MIL-STD-1553 Driver
 - Continuum Vector Altivec-optimized signal processing library
- ◆ Standard conformal coating is acrylic
- ◆ PWB meets UL 94 V-0 flammability rating
- ◆ Circuit card assembly is done to class 3 standards of IPC-A-610C, Acceptability of Electronic Assemblies

