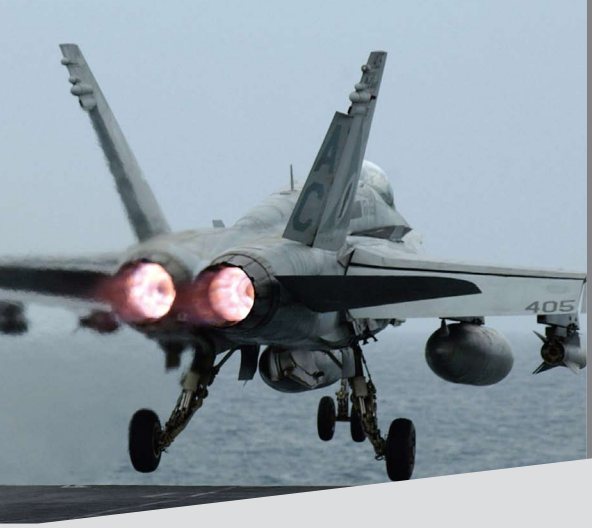
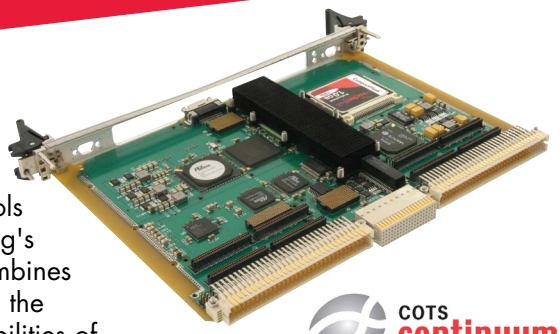


Fact Sheet

SVME/DMV-184

VME Freescale Power Architecture™ MPC8640-based Single Board Computer



COTS continuum

- Powerful general-purpose Single Board Computer (SBC) with Freescale Power Architecture MPC8640 processor
- Dual e600 cores at 1.25GHz
- 2GB DDR2 SDRAM controlled by dual 64-bit controllers
- Full complement of I/O capability (Ethernet, SCSI, serial, USB 2.0, MIL-STD-1553, Serial ATA, TTL and differential discretes...,) including front panel Gigabit Ethernet (GbE) connection
- 2eSST-capable VME interface
- Continuum Software Architecture (CSA) VxWorks® 6.x BSP and Driver Suite supporting Workbench® 2.x IDE, Wind River® Linux® from Curtiss-Wright Controls, INTEGRITY available from GreenHills® and LynxOS® 5.0 available from LynuxWorks®
- CSA firmware providing a comprehensive suite of system debug, exerciser, and update functions, Built-in Test (BIT), and non-volatile memory sanitization function
- Designed for harsh-environment applications, both air- and conduction-cooled
- Latest VME version of Curtiss-Wright Controls' popular 17x and 18x series of SBC

Curtiss-Wright Controls Embedded Computing's SVME/DMV-184 combines the performance and the advanced I/O capabilities of the Freescale Power Architecture MPC8640 processor with an extensive I/O complement to provide a highly capable processing platform for a wide range of harsh environment embedded applications.

The MPC8640 processor provides tremendous data bandwidth to and from memory via dual 64-bit DDR2 memory controllers and to the PCI Express® (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/s data rates between the XMC site and on-board memory. A rich I/O complement including 3GbE ports and options for multi-function RS-232/422/485 serial ports, MIL-STD-1553, SCSI, Serial ATA (SATA), 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 Controls standard CSA firmware, CSA VxWorks Board Support Package (BSP) 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 Controls representative

Features

- MPC8640 processor with two e600 cores, each core with:
  - 64KB L1 cache
  - 1MB internal L2 cache
  - AltiVec™ vector unit
- Two independent 64-bit DDR2 SDRAM controllers integrated into the MPC8640 processor
- 2GB of DDR2 SDRAM with ECC

Learn More
Sales Info: sales.cwcembedded.com
Sales Email: sales@cwcembedded.com

ABOVE & BEYOND

CURTISS WRIGHT Controls Embedded Computing
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Fact Sheet

SVME/DMV-184

Features continued

- 512MB of contiguous direct-mapped FLASH memory
  - Hardware FLASH write protection jumper
- Permanent Alternate Boot Site (PABS) provides back-up boot capability
- 128KB AutoStore nvSRAM
- 2eSST-capable ("VME320") VME interface
- Two PMC sites, one with VITA 42.3 XMC capability
- PMC/XMC site #1:
  - Provides a 66MHz 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 100MHz 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 GbE to front panel connector on air-cooled cards
  - One GbE to P0 connector
  - One Ethernet to P2, either gigabit or 10/100-capable depending on I/O mode
- 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:
  - Four RS-232/422/485 serial channels and 14 LVTTL discretes
  - 8-bit SCSI, two RS-232/422/485 serial channels, and 14 LVTTL discretes
  - Two MIL-STD-1553 channels, two RS-232/422/485 serial channels, and 14 LVTTL discretes
  - Two RS-232/422/485 serial channels, 14 LVTTL discretes, two SATA ports, single MIL-STD-1553
  - Each LVTTL discrete software-configurable as input or output, 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 MPC8640
- Two avionics-style watchdog timers with software programmable upper and lower bounds, with external watchdog event indicator discrete
- Real-time Clock with automatic switch-over from 5V to 3.3V Aux
- 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
  - Wind River Linux GPP from Curtiss-Wright Controls
  - Integrity available from GreenHills
  - LynxOS 5.0 available from LynuxWorks
  - 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

Figure 1: SVME/DMV-184 Core Processing Architecture