

# SCP/DCP-124P

3U CompactPCI
Single Board Computer

The SCP/DCP-124P is a high-performance feature rich 3U CompactPCI (CPCI) peripheral only Single Board Computer (SBC).

Designed for space-constrained applications, the SCP/DCP-124P represents the latest step in the evolution of rugged high-performance, highly integrated small form factor SBCs. Intended to complement the SCP/DCP-124, the SCP/DCP-124P is a peripheral only card with a PICMG 2.3 compatible pinout providing full 64-bits of PMCIO on the P2.

Based on the Freescale Power Architecture™ MPC7448 processor with AltiVec™ technology and up to 1GB of DDR SDRAM, the SCP/DCP-124P offers an unparalleled complement of I/O capability in order to satisfy the most demanding harsh environment embedded applications.

The challenge of high-density computing is to pack the greatest functionality into the smallest standard form factor, while retaining as much flexibility as possible. In conjunction with its processing power, the SCP/DCP-124P meets this challenge by offering a PMC site that allows developers to integrate PMCs directly onto the SCP/DCP-124P. A rich complement of I/O is available on the SCP/DCP-124P including two Ethernet / Fast Ethernet / Gigabit Ethernet ports, one 232 port with up to two synch/asynch serial channels (232/422/485), up to eight differential discretes I/O, up to 12-bits of discrete digital I/O and one Universal Serial Bus 2.0 (USB) port.

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

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#### **Features**

#### **CPU**

- Freescale MPC7448 processor with AltiVec technology operating at up to 1.0GHz/1.2GHz (DFS functionality is fully supported)
- 133MHz CPU bus speed
- 1MB of internal L2 cache

### Memory

- 512MB or 1024MB of DDR1 SDRAM with ECC
- 256MB of FLASH, hardware write-protectable
- 16MB FLASH for Permanent Alternate Boot Site (PABS)
- 128KB non-volatile RAM

#### cPCI Bus

- 3.3V or 5V signaling supported
- 32-bit, 33MHz or 66MHz operation

## **PMC Expansion Site**

- PICMG2.3 compliant
- 64-bit, 100MHz PCI-X capable
- Support for 3.3V or 5V PMCs
- Full 64 PMC I/O variant available

## I/O (variant dependent)

- x2 10/100/1000Base-T Ethernet port
- x1 RS-232 serial port
- x1 USB 2.0
- RS-232/422/485 serial channels with DMA support
- Up to eight RS-422/485 differential discretes; maximum of four inputs and four outputs, with interrupt capability on inputs
- Up to 12-bits of TTL discrete I/O software configurable for input or output, with interrupt capability on inputs

#### **Board Resources**

- Four 32-bit user timers
- Six 32-bit system timers
- Two avionics watchdog timers with programmable time-out period
- Real-time Clock with standby power switch over port
- Four general purpose DMA controllers
- Two temperature sensors

## **Comprehensive Foundation Firmware with:**

- Debug monitor including
  - Non-volatile memory programmer
  - Configuration boot manager
  - Built-in Test (BIT) with 95% fault coverage

## **BSP Support**

- VxWorks<sup>®</sup> Tornado<sup>™</sup> 2.2.1 for PowerPC<sup>™</sup>
- VxWorks 6.x / Workbench 2.x for PowerPC
- Curtiss-Wright Controls Linux<sup>®</sup> 2.6 SDK
- INTEGRITY<sup>®</sup>, LynxOS<sup>®</sup> & other RTOS (call for availability)

## Other S/W Support

 Continuum Vector<sup>™</sup> – Curtiss-Wright Controls signal processing library with AltiVec support

## **Development Support**

Rear cable set for lab use

## **Ruggedization Levels**

- Air-cooled
- Conduction-cooled

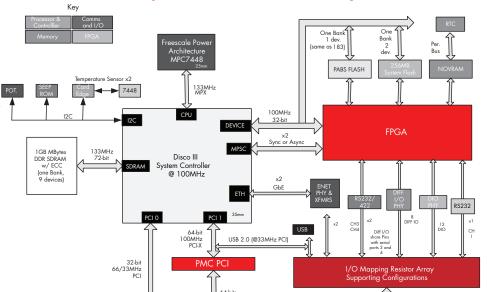


Figure 1: SCP/DCP-124P Block Diagram

Backplane I/C