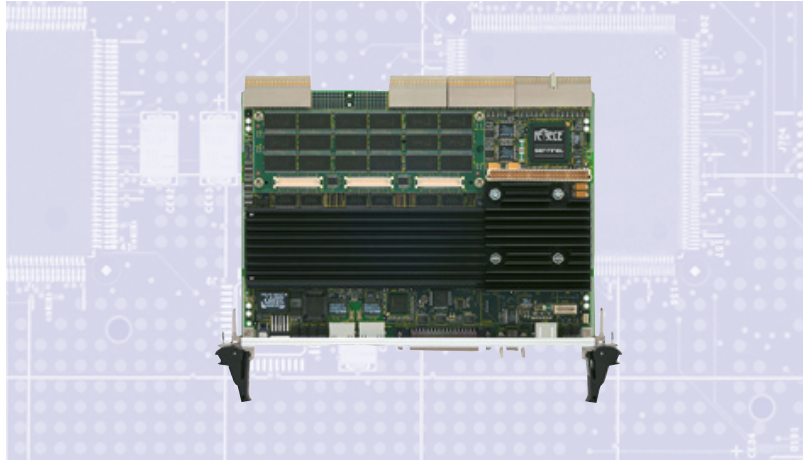


CPCI-540 UltraSPARC-IIi based "Universal Mode" Single Board Computer



CPCI-540
High-Performance
Ultra SPARC-IIi
CompactPCI SBC

■ Telecommunications

■ Datacommunications

■ Industrial Control

■ Government

Features

- UltraSPARC platform, ideal to run Solaris applications
 - Single-slot solution
 - Second-generation UltraSPARC-IIi microprocessor
 - 18 SPECint95 and 20 SPECfp95 at 440 MHz CPU clock with 2 MByte external cache
- Force's SENTINEL Universal PCI-to-PCI bridge
 - Enables the board to run in system slot or peripheral slot
 - Full hot-swap support in all slots
 - Sophisticated message support
- Memory
 - Up to 512 MByte memory
- I/O for communication, performance and redundancy
 - Three 100BaseT Ethernet controllers
 - Two Wide UltraSCSI controllers
 - Four serial links
 - Floppy interface
 - Interface for Sun and PS/2 keyboard

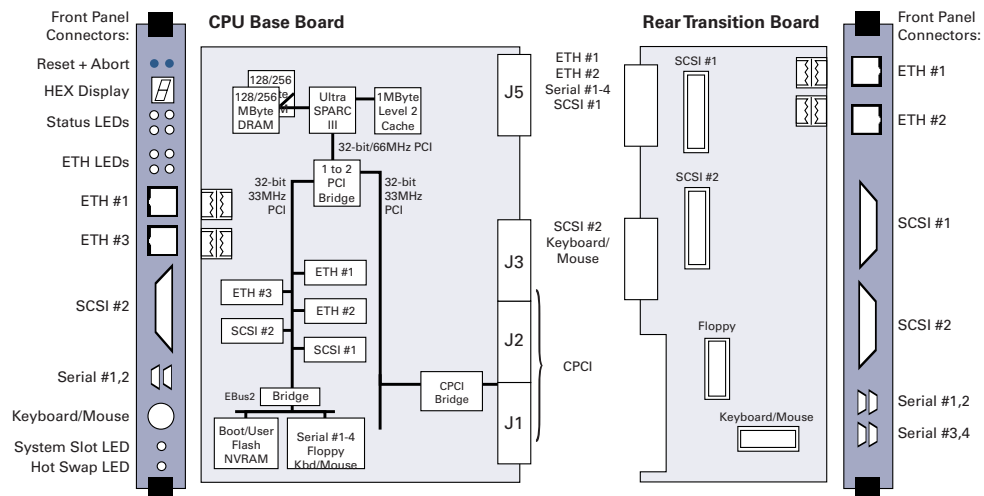
Highlights

The CPCI-540 product family is an upgrade to Force's popular CPCI-520 family of UltraSPARC®-IIi based single board computers. This upgraded version offers higher performance, and low power consumption. Compared to the CPCI-520, the CPCI-540 offers increased functionality, with a focus on networking and high availability.

Telecom equipment manufacturers will find the CPCI-540 series useful for many different applications, and wherever Solaris is a requirement, the CPCI-540 offers the ideal platform. It is designed to operate in a NEBS Level 3 CompactPCI® system.

SENTINEL™ now makes it possible to put many CPCI-540s in the same system. In combination with state-of-the-art "clustering" software, the CPCI-540 offers the perfect platform for scalability and reliability.





Scalable Solaris HA building block

- Single-slot SPARC workstation
- Latest UltraSPARC-IIi technology to combine performance with compactness
- Set of mass storage and I/O interfaces to support highly reliable and network oriented system applications
- Possibility to combine several boards in a single CompactPCI rack
- Ideal component for multi-node Solaris cluster systems
- Board-to-board communication through Sentinel's powerful messaging interface

Universal mode CompactPCI interface

- Based on Force SENTINEL Universal PCI-to-PCI bridge
- Dual functionality: system slot and/or peripheral capabilities
- "Zero" hardware or software impact when switching operating modes
- Fully hot swappable when running in peripheral slot
- Ready-made building block for loosely coupled multiprocessor systems

System integration

- Standard I/O accessible through front panel connectors
- All I/O accessible through backplane and RTB-501 rear transition board CPCI-542 as CPCI-540 derivative to add I/O and configurable PMC slots

Enabling power of Force's Sentinel Universal PCI bridge

The Force SPARC® CPCI-540 is a powerful and versatile CompactPCI single board computer based on Force's revolutionary SENTINEL universal PCI-to-PCI bridge. Intelligent SENTINEL technology enables the SPARC CPCI-540 to function as either a system controller (in a CompactPCI system slot) or as an intelligent peripheral card (in a CompactPCI peripheral slot). The SENTINEL Universal PCI bridge completely eliminates the need for either hardware or software reconfigurations when the SPARC CPCI-540 switches operating modes.

The use of Force SENTINEL technology simplifies and speeds the design of multi-processor systems based on cost-effective, industry-standard components.

Powerful Solaris computing

The SPARC CPCI-540 brings maximum Solaris computing performance in a single slot to both system controller and intelligent peripheral roles. The CPCI-540 is built around the second generation UltraSPARC-IIi, with its ultra-high speed and low power consumption characteristics. The use of the UltraSPARC-IIi, together with a powerful set of I/O interfaces and Sentinel's on-chip buffers for elevated system performance, enables the CPCI-540 to address the most demanding applications. The CPCI-540 is mostly backward compatible to the SPARC CPCI-520 board.

Sun workstation compatibility makes the CPCI-540 again best-of-choice platform for Solaris applications in an embedded CompactPCI environment. A variety of SCSI and Ethernet interfaces and SENTINEL's unique feature to combine several CPCI-540 in a single rack and to make the boards communicate to each other make the CPCI-540 a building block to create highly reliable, scalable and still compact systems.

Expansion and I/O flexibility in a single slot

The CPCI-540 is designed for compactness but already offers a wide set of I/O functions. The CPCI-540 is derived from the CPCI-540 and offers even more SCSI and Ethernet Interfaces plus two PMC expansion slots. For more details refer to the SPARC CPCI-542 datasheet.

Processor/memory

CPU type

- UltraSPARC-IIi 64-bit SPARC V9 architecture, 440 MHz
- 18SPECint95 and 20SPECfp95

L2 cache

- 2 MByte standard

Main memory

- Up to 512 MByte with ECC protection on one to four mezzanine cards

User Flash memory

- 4 MByte

Boot memory

- 1 MByte

I/O capabilities

Local bus

- PCI Rev 2.1, 32-bit 66 MHz split to two independent 33 MHz buses for onboard I/O and CompactPCI

Mass storage

- Two wide Ultra SCSI controllers
- Floppy disk interface

Ethernet

- Three 100BaseT Ethernet controllers

Serial ports

- Four RS232 serial I/Os

User interface

- Sun or PS/2 keyboard and mouse

CompactPCI interface

Specification

- Universal PCI-to-PCI bridge, system slot and peripheral slot, 32-bit, 33 MHz

Accessories

RTB-501

- Rear transition board for CPCI-540
- Onboard and front panel connectors according to block diagram
- No active components

MEM-50

- Stackable memory module with 128 or 256 MByte

Power requirements (preliminary)

- 3.3V and 5V
- 34 W at 360 MHz
- 40 W at 440 MHz

Environmental

Operating range

- Temperature: 0°C to +50°C
- Airflow: 300 lfm
- Relative humidity: 5% to 95% (non-condensing)

Storage range

- Temperature: -40°C to +85°C
- Relative humidity: 5% to 95% (non-condensing)

Board size

Two-slot 6U CompactPCI

- 6.29 inches x 9.18 inches
- 160mm x 233.5mm



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Force Computers is the leading designer and worldwide supplier of standard and custom systems, board-level computer platforms and services for the embedded market.

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