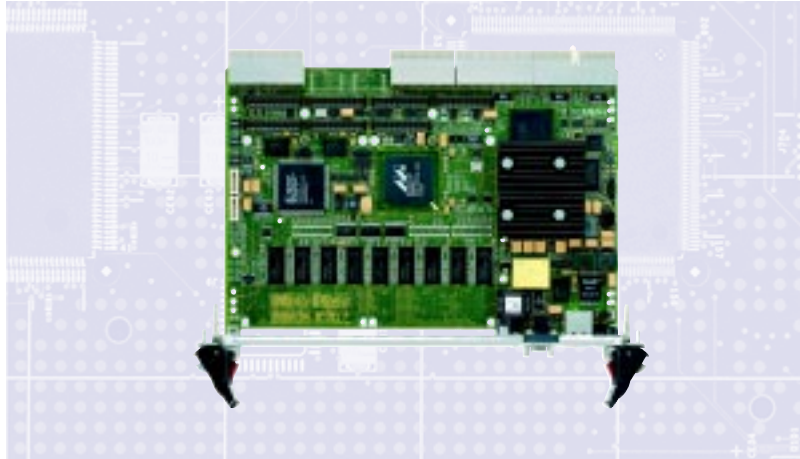


## 750FX PowerPC CompactPCI Board Offers System- and Peripheral-Slot Functionality



*PowerCore CPCI-695 uses Force's next-generation Sentinel64 PPB for "universal" 64/32-bit system- and peripheral-slot functionality in PowerPC/ CompactPCI solutions.*

### ■ Telecommunications

### ■ Datacommunications

### ■ Industrial Control

### ■ Defense & Aerospace

### Features

- PowerPC 750FX processor at 800MHz
- 64/32-bit Sentinel64 "universal-mode" PCI-to-PCI bridge—enables SBCs to automatically switch between system- and peripheral-slot functionality
- Marvell Discovery II (MV64360) system controller with five decoupled busses for concurrent processor and PCI peripheral device access to main memory
- 133MHz front-side bus host interface
- Up to 4GBytes high-speed DDR-SDRAM main memory
- Triple Gigabit Ethernet interfaces
- Dual PMC slots (64bit/133MHz, 64bit/66MHz)
- Dual serial RS-232 interfaces
- Full compliance to PICMG 2.16 for Packet-Switching Backplanes
- Full Hot Swap support for CompactPCI
- IPMI system management support (PICMG 2.9)

### Highlights

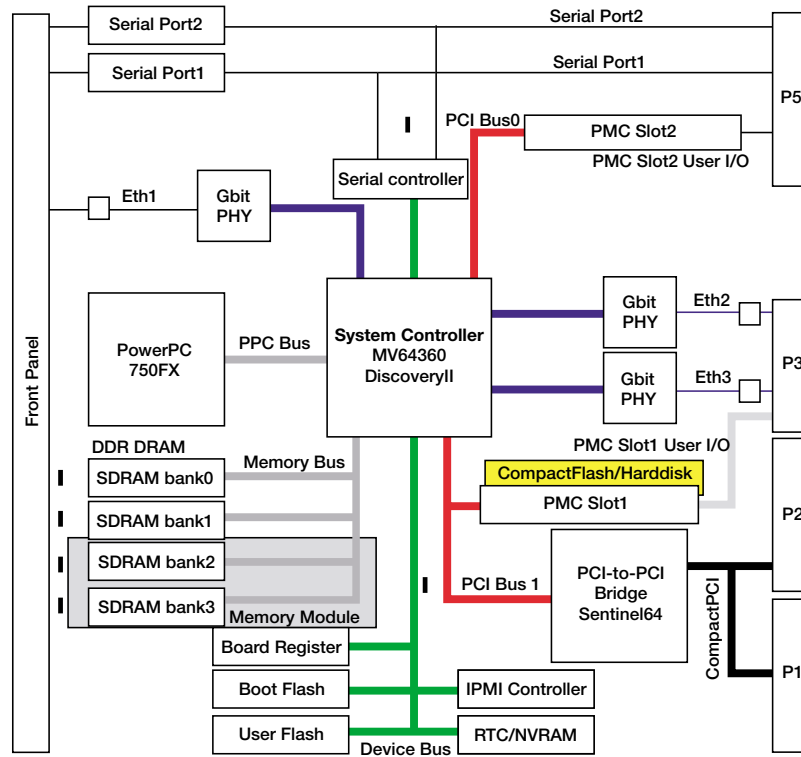
Force's PowerCore CPCI-695 CompactPCI high-performance single board computer (SBC) is designed for applications that require high bandwidth, fast memory access and excellent networking capabilities.

Implemented with the next generation of Force's award-winning Sentinel64 "universal-mode" PCI-to-PCI bridge, the PowerCore CPCI-695 can be used as a system controller or an intelligent peripheral card in a CompactPCI system. In addition, the board can automatically switch between operating modes with "zero" hardware or software impact.

For increased I/O, the SBC has dual PMC slots (one full/wide 133MHz PCI-X capable, one 66MHz enabled), triple Gigabit Ethernet interfaces and up to 4GBytes ECC-protected DDR-SDRAM memory to help OEMs more easily upgrade the technology in end-products, which enhances time-to-market. Overall, PowerCore CPCI-695 is one of the most reliable embedded platforms for flexible, cost-effective functionality in defense, industrial automation, data communications and telecommunications.



# PowerCore CPCI-695 'Universal' 64/32-Bit CPCI Interface PowerPC SBC



PowerCore CPCI-695 Block Diagram

## Enabling power of Force's Sentinel64 universal-mode PCI-to-PCI bridge

The PowerCore CPCI-695 is a powerful and versatile CompactPCI SBC based on Force's revolutionary Sentinel64 universal-mode 64/32-bit PCI-to-PCI bridge (PPB). Sentinel64 technology enables the PowerCore CPCI-695 to function as a system controller or as an intelligent peripheral card in a CompactPCI system. The PPB completely eliminates the need for hardware or software reconfiguration when the SBC switches operating modes—giving users a ready-made building-block for multi-processor solutions—yet still fits in just one slot even when fully configured with a complete set of interfaces and maximum memory.

## Broad expansion and I/O flexibility

In addition to its versatility, high performance and backward compatibility to earlier Force PowerPC SBCs, the PowerCore CPCI-695 provides developers with broad expansion capabilities and a wide range of interfaces. Up to two PMC slots are available for expansion, and one PMC slot can accommodate an IDE-compatible PMC module for CompactFlash or hard-disk drive storage (PMC must have onboard IDE controller). Also up to three independent Gigabit Ethernet and two serial interfaces exist for optimum I/O flexibility.

# PowerCore CPCI-695 'Universal' 64/32-Bit CPCI Interface PowerPC SBC

S P E C I F I C A T I O N S

## Processor/memory

- PowerPC 750FX processor (800MHz)
- 512KBytes L2 Cache at full processor speed
- Up to 4GBytes ECC-protected DDR-SDRAM—up to 2GBytes onboard memory, expandable with memory modules
- Up to 64MBytes onboard programmable User Flash
- 512KBytes Boot Flash

## I/O capabilities

- Discovery II (MV64360) system controller with five decoupled busses for concurrent access of processor, PCI peripheral devices and main memory
- Dual 64-bit PMC slots—one at 133MHz (PCI-X), one at 66MHz
- Up to three Gigabit Ethernet interfaces—one at the front panel, two at the backplane
- Dual RS-232 serial interfaces—via front panel or rear I/O via rear-transition board (RTB-602)
- Optional mass storage via PMCs—CompactFlash or hard-disk drive module (with onboard IDE controller)
- Optional interfaces (requires one PMC slot)
  - Fast Wide SCSI-2 interface for mass storage
  - Four more serial interfaces

## CompactPCI interface

- “Universal” Sentinel64 PCI-to-PCI bridge for system- and peripheral-slot functionality (64-bit/66MHz)
- Built-in buffers for fast data transfers across widely deployed 64/32-bit CompactPCI bus

## Other features

- Onboard full compliance with PICMG 2.16 for Packet-Switched Backplanes
- IPMI baseboard management controller (PICMG 2.9)
- 64KBytes NVRAM real-time clock
- Watchdog timer
- Reset and abort switches, status LEDs, Hot Swap LED

## Operating system support

- MontaVista Linux, VxWorks and other real-time operating systems

## Power requirements

5V 1.5A, +3.3V 1.7A

## Board size

Single-slot 6U CompactPCI

160.00mm x 233.35mm

## Environmentals

### Operating temperature

0°C to 55°C with forced air cooling

### Storage temperature

-40°C to +85°C

### Relative humidity

5% to 95% non-condensing



Universal  
PCI-to-PCI Bridge



[www.forcecomputers.com](http://www.forcecomputers.com)

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

### THE AMERICAS Corporate Headquarters

Force Computers Inc.  
4211 Starboard Drive  
Fremont, CA 94538  
Tel.: (510) 624-5300  
Fax: (510) 624-5301

### EUROPE European Headquarters

Force Computers GmbH  
Lilienthalstrasse 15  
85579 Neubiberg  
Tel.: +49 (089) 608 14-0  
Fax: +49 (089) 609 77 93

### ASIA Japanese Headquarters

Force Computers Japan K.K.  
Shiba Daimon MF Building 4F  
2-1-16 Shiba Daimon  
Minato-ku, Tokyo 105-0012  
Tel.: +81 (03) 3437 3948  
Fax: +81 (03) 3437 3968



*Specifications subject to change without notice. Contact Force Computers for complete technical detail, configuration options and ordering information. All brands or products are trademarks of their respective holders.*