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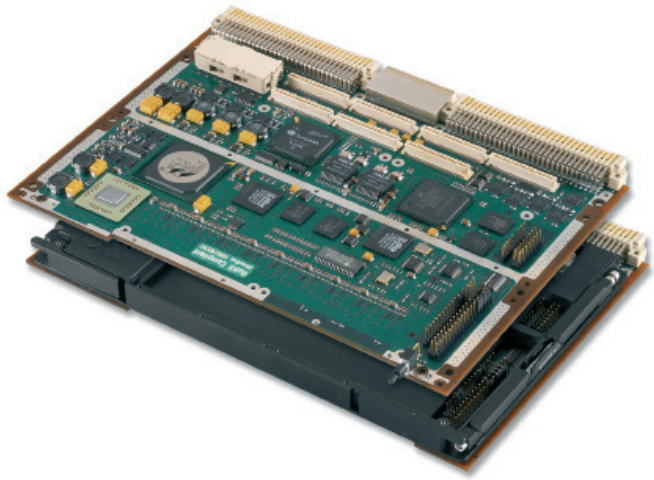
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Find the *Abaco Systems CP1A-100040* at our website: *Click HERE*

GE
Intelligent Platforms



CP1A

6U CompactPCI PowerPC Single Board Computer

Features

- High performance 6U CPCI processor
- Fully rugged – air/conduction cooled
- Extensive GE Intelligent Platforms software support

- Key features
  - PowerPC 7448
  - Discovery 3 Integrated System Controller
  - DDR SDRAM on 133 MHz main memory bus
  - 2x Gigabit Ethernet ports (PICMG® 2.16 compliant)
  - 6x serial ports
  - 5x USB 2.0 ports
  - 2x PMC sites
  - AFIX daughter cards

The CP1A 6U CompactPCI single board computer (SBC) is the founder member of the PowerPact6 family, building on the success of the established PowerPact3 family of 3U CompactPCI products.

The CP1A is based on the proven designs of the VME SBCs but takes full advantage of the enhanced features of CompactPCI, such as support for hot swap and much higher I/O pin count. An extensive range of I/O coupled with two PMC sites and AFIX (Additional Flexible Interface Xtension) pluggable module make the CP1A the most versatile single slot solution currently in the defense and aerospace market space.

The PowerPC 7448 processor and Discovery 3 Integrated System Controller, combined with industry-leading software support and experience in designing and manufacturing rugged electronics for over four decades, give the CP1A the edge in embedded computing performance.

Additional Flexible Interface Xtensions (AFIX)

For enhanced I/O flexibility the CP1A supports 'plug-on' module, which adds rear I/O functionality. The Additional Flexible Interface Xtension (AFIX) card is a factory fitted option, providing fully rugged flexibility to the CP1A's already extensive I/O feature set.

Standard Feature Set (without AFIX)

- 2x 10/100/1000BaseT Ethernet ports
- Keyboard and Mouse
- 5x USB 2.0 ports
- 17 bits General Purpose I/O from South Bridge (Eight bits capable of generating an interrupt); can be software configured as a parallel port
- 16-bits GPIO from PCI bridge
- Parallel port
- 6x serial ports

Feature set with AFIX1553

- Dual channel, dual redundant MIL-STD-1553B interfaces
- 2x DDC PCI MicroACE
- Each channel offers independently selectable BC, RT, MT modes
- 64K words of RAM (with parity) per channel
- Transformer-coupled / direct-coupled

Feature set with AFIX SG

In addition to the standard feature set, the AFIX SG offers a combination of SCSI and Graphics capabilities.

- 8-bit Ultra SCSI (20 MBs/sec) or 16-bit Ultra SCSI (40 MBs/sec)
- RGB Analog Graphics (Silicon Motion SM722 Graphics Accelerator, with integral 8 MB memory. Resolutions up to 1280x1024)

(Note: option with 16-bit Ultra SCSI results in reduced GPIO capability from host card - eight lines available)

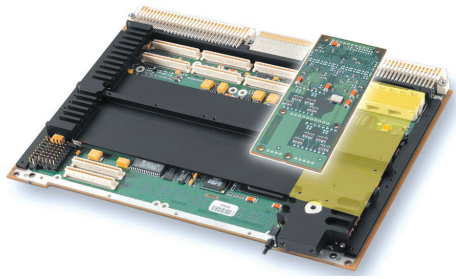


Figure 3: CP1A Base Board and AFIX Card

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CP1A 6U CompactPCI PowerPC Single Board Computer

Specifications

Processor
- PowerPC 7448 at up to 1.4 GHz
- 1 MB on-chip L2 cache

System Controller
- Marvell Discovery III Integrated System Controller (ISC) with two PCI-X interfaces

Main Memory
- Up to 1 GB DDR SDRAM with ECC
- 64-bit data bus running at 133 MHz

Flash Memory
- 256 MB Flash via a 32-bit data bus at 133 MHz
- 16 MB Boot Flash

Non-volatile RAM
- 32 KB AutoStore NVRAM

Real-Time Clock
- 1 sec resolution
- 5V standby features alarm interrupts

Ethernet Interfaces
- 2x 10/100/1000BaseT

Serial Ports
- 6x RS-232; RS-232/422 or RS-485

Keyboard / Mouse
- PS/2 compatible

USB Ports
- 2x USB 2.0

Discrete Digital I/O
- Up to 33 bits of TTL-compatible discrete digital I/O
- 8 bits capable of generating interrupts

Parallel port
- 1x Parallel port IEEE P1284 compatible

Timers
- 4x 32-bit timer/counters

Watchdog Timer
- Two available with 1.6 sec time-out

DMA Engines
- 6x DMA controllers

CompactPCI
- PCI 6254 Bridge
- 33/66 MHz 32/64-bit CPCI interface from PCI to PCI Bridge. Hot swap is supported (PICMG 2.1)

PMC
- 2x PMC sites (1x PCI-X capable at 133 MHz)
- Full 64-pin rear I/O per site

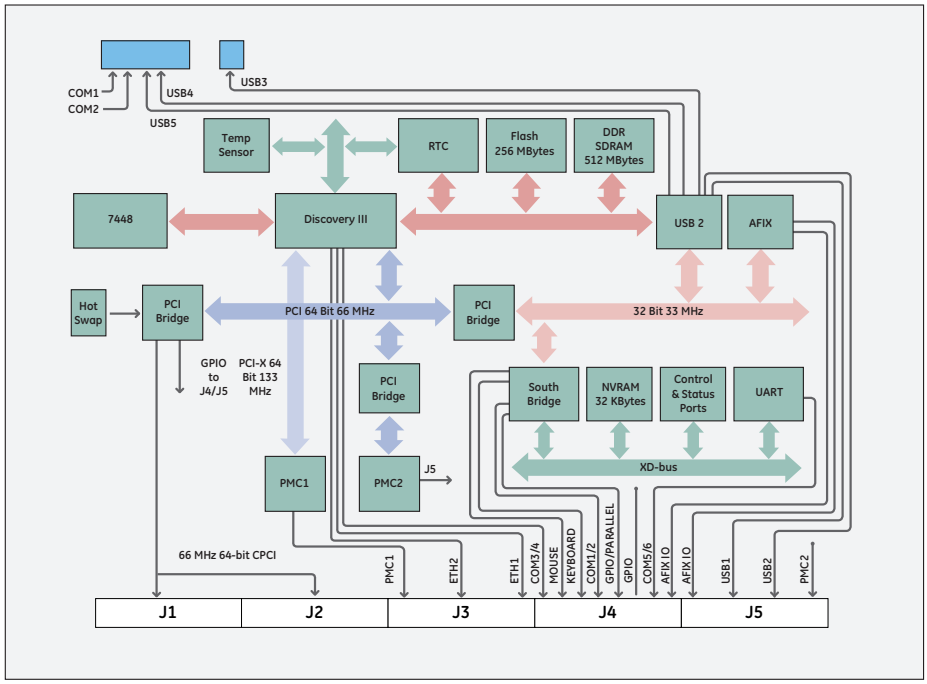
AFIX Site
- AFIX1553 Dual channel dual redundant MIL-STD-1553 interfaces based on DDC MicroAce
- AFIXSG Integrated Silicon Motion SM722 graphics accelerator with 8 MB on-chip memory, plus 8- or 16-bit Ultra SCSI

Power Consumption
- 25W

JTAG Interface
- 1x on-board connector

Software
- Deployed test strategy (BIT and BCS); VxWorks; LynxOS

Block Diagram



Environmental	Level 1	Level 2	Level 3	Level 4	Level 5
Cooling Method	Convection	Convection	Convection	Conduction	Conduction
Conformal Coating	Optional	Standard	Standard	Standard	Standard
High/Low Temp	0 to 55°C	-20 to +65°C	-40 to +75°C	-40 to +75°C	-40 to +85°C
Operational	(300 ft/m)	(300 ft/m)	(600 ft/m)	At cold wall	At cold wall
Random Vibration	0.002g^2/Hz*	0.002g^2/Hz*	0.04g^2/Hz**	0.1g^2/Hz**	0.1g^2/Hz**
Shock	20g***	20g***	20g***	40g***	40g***

*With a flat response to 1000 Hz, 6 dB/Oct roll-off from 1000 to 2000 Hz ** From 10 to 1000 Hz ***Peak sawtooth 11 ms duration

Ordering Information

Part Number	Description
CP1A-1100Xx	1.4 GHz PowerPC 6U CPCI SBC, Level 1; 512 MB DDR SDRAM, 256 MB Flash, 2x GbE ports, 2x RS-232, 4x RS-232/422/485 ports, 5x USB 2.0 ports, Mouse and Keyboard, 33 bits GPIO, 2x PMC slots
CP1A-2100Xx	Air-cooled level 2 as above with conformal coating
CP1A-3100Xx	Air-cooled level 3 as above with conformal coating
CP1A-4100Xx	Conduction-cooled level 4 as above
CP1A-5100Xx	Conduction-cooled level 5 as above

X=software option

x = AFIX option (0= No AFIX, 1= AFIX1553 single channel, 2= AFIX1553 dual channel, 3= AFIXSG)

GE Intelligent Platforms Contact Information

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Global regional phone numbers are listed by location on our web site at **www.ge-ip.com/contact**

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