

## VX411C Intelligent PMC/Cardbus Carrier

The VX411C is an intelligent VXI carrier that supports three industry standard PMC modules and one Cardbus module. It has an on-board PowerPC<sup>®</sup> processor that can perform command translation, data analysis, and many other data processing or process control functions.

<sup>®</sup>PowerPC is a registered trademark of International Business Machines (IBM) Corporation used under license by Motorola.

### Overview:

The VX411C is powered by a highly integrated MPC8245 micro-processor with a PowerPC 603e core, a built-in peripheral component interconnect (PCI) interface, and an advanced memory controller. Dual-ported shared memory and a complete register and interrupt-based interface allows fast VXI communication with the PowerPC application software.

The carrier supports both VXI register-based and word serial modes of operation. Installed PMC or Cardbus modules can be directly accessed from VXI and the PowerPC.

The electrical and mechanical interface allows the multitude of functions available on industry standard PMC and Cardbus modules to be easily integrated into a VXI system. For a complete listing of available PMC modules, visit [www.mezzanines.org](http://www.mezzanines.org).

Two of the PMC positions provide front panel I/O access. The other position is located internally. All three positions have 64-pin headers directly connected to the PMC I/O (P4) signals. These headers allow I/O connection for PMC modules that do not support front panel I/O. The headers can also be used for inter-module communication.

The front panel Cardbus slot, located at the top (-0001)(obsolete) or in the middle (-0002), supports Type I, II, or III PC Card or Cardbus modules. Front panel fasteners above the card slot allow easy cable strain relief.

External digital input connectors and relay driver logic allows special control hardware to be easily added to the overall integrated instrument.

### Ordering Information:

Cardbus in middle 11028580-0002

### VXIbus Compliance

Complies with ANSI/IEEE Std. 1014-1987, IEC821, and VXIbus Rev. 1.4 for C-Size VXI Modules:

Addressing	A16/24/32
Data	D16/32, slave
Block Transfers	supported
Interrupts	ROAK, prog. levels
TTL Triggers	SYNC protocol

### PMC Module Compliance

Complies with IEEE P1386.1 for 32-bit, 33MHz PMC modules with 3.3V or 5V signaling levels.

### Cardbus Compliance

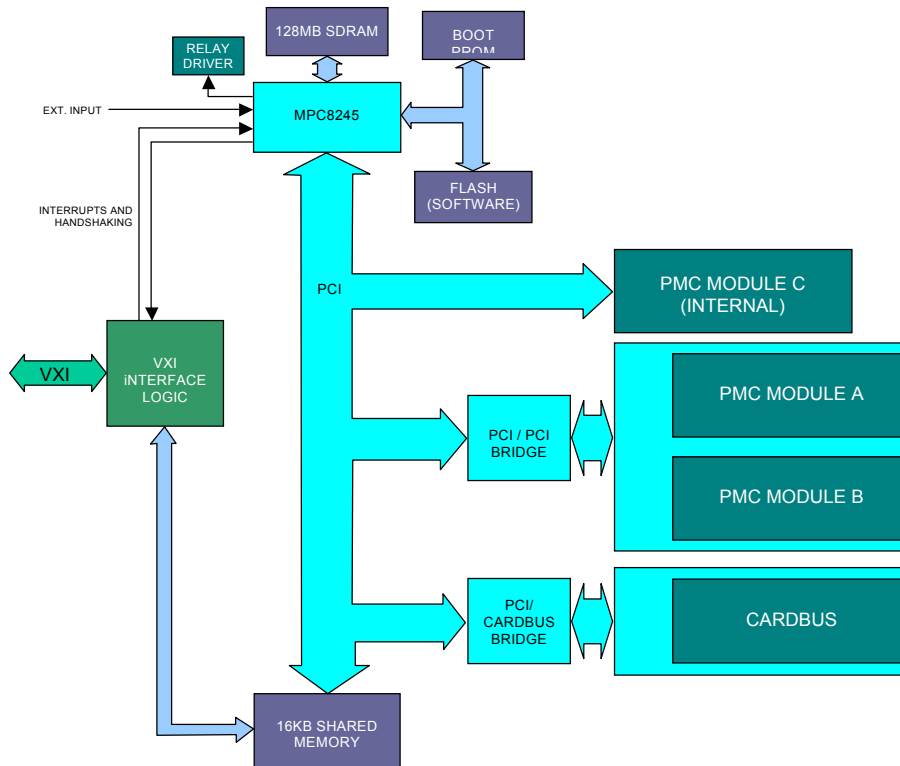
Complies with PC Card Standard 8.0, PCI Local Bus Spec. Rev. 2.2, PCI Bus Power Management I/F Spec. 1.1, and PC 98/99.

### Applications

- Legacy Instrument Replacement
- Data Acquisition and Analysis
- Control Processing

### Additional Information

User Manuals for this carrier and other C&H modules can be found on our website at [www.chtech.com](http://www.chtech.com).



## Specifications:

### Processor:

- MPC8245 300MHZ (MPC603e core)
- 16KB/16KB L1 Integrated Cache

### Local PCI Bus:

- 33MHZ 32-bit

### Main Memory:

- 128MB SDRAM
- 8MB Flash, VXI programmable
- 64KB Boot ROM, socketed

### Shared Memory:

- 16 KB Dual-ported SRAM
- DMA/Burst support
- Internal arbitration
- Fully accessible by both VXI and PowerPC

### PMC Interface:

- Support for three PMC modules
- 33MHz 32-bit
- 3.3V/5V signaling level is jumper selectable
- PMC I/O connected to 64-pin headers

### Cardbus Interface:

- Automatic detection of 5V/3.3V 16-bit PC Cards and 3.3V 32-bit Cardbus cards
- Hot insertion and removal
- UltraMedia devices, such as Smart Media cards, MultiMedia Cards, Memory Stick devices, and Smart Card devices, defined by the PCMCIA Proposal 0262 are supported with appropriate adapters

### Onboard External Relay Control:

- Darlington relay driver, 7-channels, 50V, 350ma
- Internal +5V supply or external power can be used

### Onboard External Input:

- Four TTL inputs
- Allows direct external control of application software

### Interrupts:

- PMC to PowerPC interrupt support
- Cardbus to PowerPC interrupt support
- PowerPC to VXI interrupt level 1-7 (programmable)
- VXI Host to PowerPC interrupt support

### Temperature:

Operating:	0°C to 50°C
Storage:	-40°C to 70°C

## Software:

### C&H Intelligent Carrier Operating System (ICOS):

- Boot-up, initialization, and PCI bus enumeration
- VXI word serial protocol support
- Firmware download to Flash memory via VXI
- Math Library

### Direct Access:

- Direct VXI access of PMC and Cardbus modules
- Up to 8K of local PCI address space can be directly mapped to VXI A24 or A32 space

### Debugging Interface:

- Common On-Chip Processor (COP)/JTAG
- Standard COP header
- Third-party development tools supported

### RTOS Support:

Architecture supports common real-time operating systems, such as VxWorks, OS-9, Linux, and others.