

VX406C Intelligent M-Module Carrier

The VX406C is an intelligent VXI carrier that supports four industry standard M-modules and one PMC module. It has an on-board PowerPC® processor that can perform command translation, data analysis, and many other data processing or process control functions.

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Overview:

The VX406C 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. Attached M-modules can be directly accessed from VXI and the PowerPC.

The electrical and mechanical interface allows the multitude of functions available on industry standard M-modules to be easily integrated into a VXI system. For a complete listing of available M-modules, visit www.mezzanines.org.

In addition to M-module support, the carrier provides one PMC position that allows additional functionality to be added, such as mass storage or communication interfaces. The position has a 64-pin header directly connected to the PMC I/O (P4) signals. This header allows I/O connection for PMC modules that do not support front panel I/O. For a complete listing of available PMC modules, visit www.mezzanines.org.

Triggers are supported between M-modules and the VXI backplane.

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

Ordering Information

Part Number 11028550-0001

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 |
| Interrupts | ROAK, prog. levels |
| TTL Triggers | SYNC protocol |

M-Module Compliance

Complies with ANSI/VITA Std. 12-1996 for M and MA module carriers

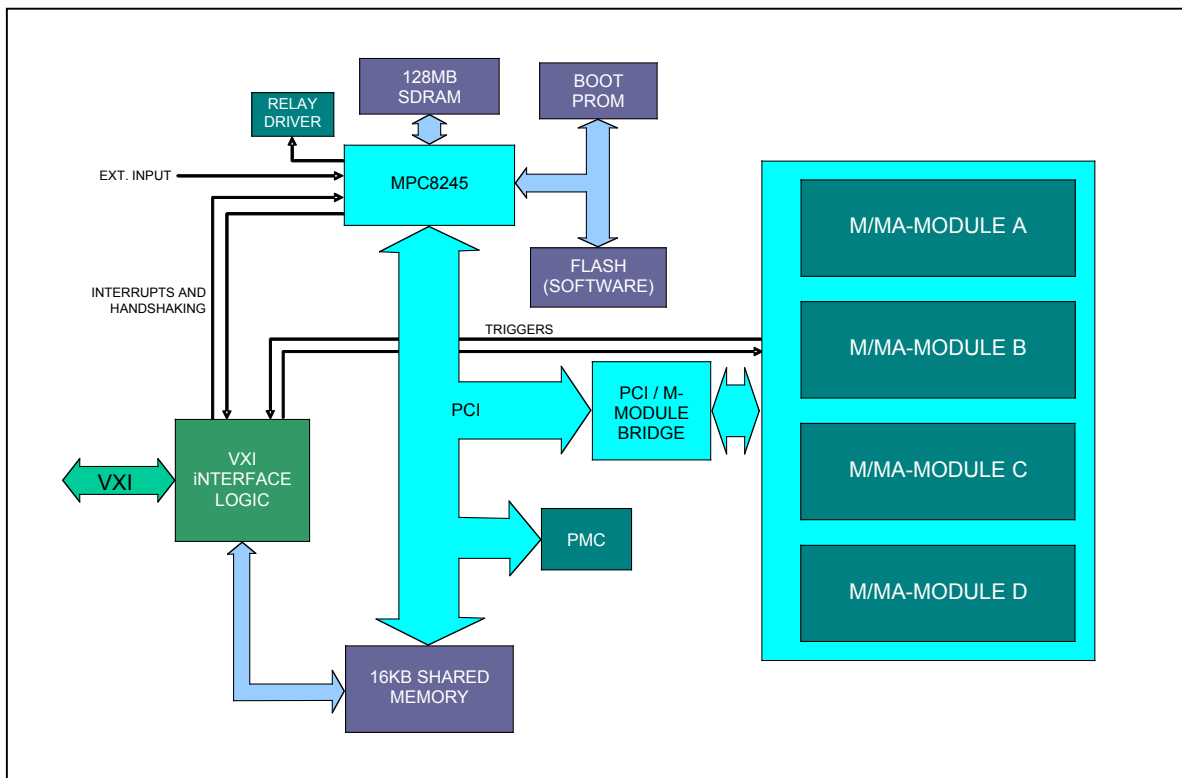
| | |
|--------------|--------------------|
| Addressing | A8 |
| Data | 8/16/32-bit |
| Burst Access | Supported |
| Triggers | TRIGA & TRIGB |
| Interrupts | INTA, INTB, & INTC |

Applications

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

Additional Information

User Manuals for this carrier and C&H M-modules can be found on our website at 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
- 32KB Boot ROM, socketed

Shared Memory:

- 16 KB Dual-ported SRAM
- Four 32 deep 32-bit FIFO's
- DMA/Burst support
- Internal arbitration
- Fully accessible by both VXI and PowerPC

M-Module Interface:

- Support for four M or MA-modules
- ANSI/VITA Std. 12-1996
- M-Module triggers map to VXI TTL triggers
- M-Module interrupt to PowerPC

PMC Interface:

- Support for one PMC module
- IEEE P1386.1 32-bit compliant
- 33MHz 32-bit
- PMC I/O connected to 64-pin header
- 3.3V/5V signaling level is jumper selectable

External Relay Control:

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

External Input:

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

Interrupts:

- M-Module 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 M-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.