 Solflower's CP1006-RKMT is a complete system designed for applications that mix both VME and *CompactPCI*™ in the same 19" rack-mount chassis

General

Solflower designed the CP1006-RKMT to allow system integrators to combine the performance of CompactPCI with the flexibility and popular VME for building dual-bus computer systems.

The CP1006-RKMT enables the Sun Compact PCI UltraSPARCengines™ series to connect to a wide range of existing VMEbus peripherals. Based on the powerful cPCI-VME bridge, CP1006-RKMT provides direct connection of VME interfaces to the CompactPCI CPU for all COTS (Commercial Of The Shelf) and industrial applications.

Product Description

The CP1006-RKMT system composed of two busses. The CompactPCI bus for the host system (CPU, CompactPCI peripheral boards). The other VME bus for industrial I/O cards. These cards are connected to the CPU through a cPCI-VME Bus Converter.

The system consists of four major components: a cPCI-1006B 6U adapter, a combo eight 3U CompactPCI and six VME 6U slots back-plane that features front and rear I/O connectivity, dual removable 350W AC or DC power supplies, and a Solaris 2.x compatible device driver.



- The cPCI-1006B 6U card, based on Turndra's Universe IIB chip. It includes all translation logic between PCI bus and VME bus, provides on-board DMA engine for fast data moving across the busses.
- The 64 bit CompactPCI bus J1/J2 are positioned on the top and bottom of the board. To accomplish the bus merger, one feasible option entails the usage of 2mm connector at the position J4 and J5 on top of the CompactPCI to map the VME signals.

The 6U VME backplane supports 6 slots standard 6U VME, plus J4 and J5 connectors for signal transition. J4 and J5 re-map VME signals to P1 and P2 as defined in the VME/VME64 specification.

- The dual power supply using in CP1006-RKMT that meets the requirement of the PICMG power interface specification for CompactPCI system.

- Solflower's PVME nexus driver supports Sun's Solaris™ 2.x

CompactPCI bus Interface

- Conforming to cPCI Local Bus rev 2.1
- Supports both 32 bit and 64 bit cPCI bus
- cPCI clock rate 25 - 33Mhz
- 6U board size (233mm x 160mm) with 2mm HM connector for interfacing to the CompactPCI bus.

VMEbus Interface

- Conforming to VME 64 specification.
- Support Read Modify Write (RMW) and Address Only with Handshake mode (ADOH)
- Seven interrupt levels for either Fairness or Round Robin modes
- Release When Done (RWD) or Release On Request (ROR) modes programmable
- Build in DMA controller.
- Programmable VME time out 16 to 1024 usecs.

Software Support

- Plug-and-play driver for Solaris 2.5.1, 2.6, 7, 8 distributed in Solaris's pkgadd format
- Utilities for using built-in DMA controller to transfer data across the buses
- Automatic adjust the mapping windows when host access any VME address.
- Cover up to 8 PCI slave windows, allow simultaneous mapping of multiple VME spaces .

Backplane

CompactPCI side: (compliant with PICMG 2.0 R3.0)

- 8 slots total, 7 usable 6U expansion slot, 64-bit 32Mhz
- P1/P2 cPCI 64-bit bus
- P3/P4/P5 at each slot include long tails type AB rear shrouds

VME side: (compliant with PICMG 2.2 R 1.0)

- 6 slots total, all usable 6U VME64 expansion
- J1/J2 VME64 bus (optional VME64x)
- J0 has long tails, rear shrouds

Power Requirement

- Dual 350W power supplies (total 700W) each bus has its own power supply for allowing turned off VME without reboot the system.
- Autosensing AC or -48V DC input (optional)
- Plug in modules, meet the requirement of the PICMG power interface specification.

Chassis Dimension

- 19" rack-mount, 16mil Gauge steel
- Height 14" (8U), With 19" overall, Depth 14.5"
- Weight 40Lbs (typical)

Operating Environment

- Ambient temperature 0° C to 55° C
- Relative humidity 10% to 90% noncondensing

Ordering Information

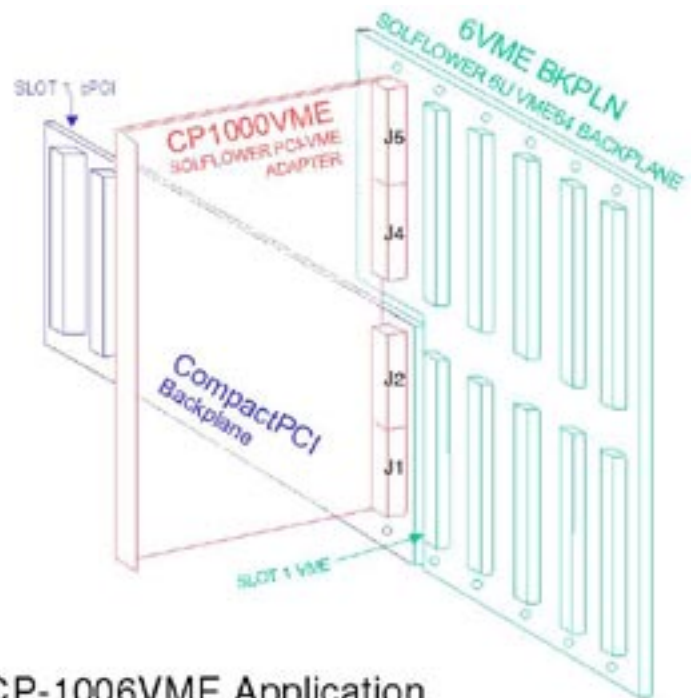
- CP1006-RKMT includes:
 - cPCI-1006B: 6U VME Bridge adapter board
 - BKPL-1006: 6-slot VME & 8-slot cPCI backplanes
 - PS-1006-350: 350Watts removable power supply
 - PVME nexus device driver supports Solaris 2.x

Features

The Solflower nexus driver for the plug-and-play mode allows existing Sun4 VME drivers to run on Sun Compact PCI UltraSPARCengine without modification.

Performance

PCI DMA read/write 32 bytes per block 51 MB/s
PCI DMA read/write 64 bytes per block 74 MB/s
VME DMA D32 mode read/write 30-40 MB/s



CP-1006VME Application
Dual-bus System CompactPCI and VMEbus



3511 Thomas Road, Ste-2
Santa Clara, CA 95054
Phone: (408) 982-8680
Fax: (408) 982-8685
E-mail: info@solflower.com
Web: <http://www.solflower.com>