

PMC CompactFlash Carrier and IDE Controller



PCI single chip IDE controller (CMD PCI-648).

Two Type I and II CompactFlash sites:

Front panel with ejection mechanism.
On-board card can be fixed in place.

Can be used with Microdrives (height dependant).

Secondary IDE channel accessible via PMC I/O connector.

CompactFlash master/slave select via switch.

On board BIOS for booting from CompactFlash modules.

Front panel indicator LED's.

Enhanced driver support for DOS and Windows®.

OVERVIEW

The PMC-CF2 is a dual site CompactFlash carrier and IDE Controller providing both fixed and removable non-volatile storage and an additional IDE controller for disc or CDROM drives. Two CompactFlash modules can be installed, each with a capacity of up to 1Mbyte. One is available through the front panel and the other is installed internally. The secondary IDE channel is connected to P4 and can be used via the rear I/O connector to control up to a further two IDE devices. The on-board BIOS enables booting from the module with switch options to select the boot device. Full software support is provided for MSWindows and various other operating systems.

CMD PCI-648 IDE CONTROLLER

The PMCCF2 uses a CMD PCI to ATA/66 PCI-648 host controller which can transfer data up to the maximum of 66MB per second. The PCI-648 is also capable of supporting Native mode, external BIOS, Legacy mode, Enhanced IDE/ATA mode (DMA and multi-word DMA mode) and all of the ATA PIO modes.

The CMD PCI-648 is configured to appear as a "Raid Device" subclass (code 04) in PCI configuration space as opposed to an "IDE/ATA Device" subclass (code 01). This is to prevent conflicts from the motherboard BIOS attempting to take control of the device and assuming it is on the motherboard.

The BIOS initialises the CMD PCI-648 on power-up, scans for devices (and correctly detects CompactFlash devices, unlike some BIOS's that crash) and hooks the PC BIOS interrupts to provide disk access for DOS (and boot-up if booting from CompactFlash).

The on-board BIOS flags the PMCCF2 as a bootable device to the PC BIOS, so if no motherboard bootable floppy or hard disk is found it will attempt to boot off a CompactFlash card.

If the PC BIOS supports selectable boot order (e.g. SCSI device in AMI bios, "Bootable Card" in Intel BIOS) then the PMCCF2 may be selected as the PC boot device (instead of Floppy or C:)

Under Windows95/98® and WindowsNT/2000® the default "Standard Dual Channel PCI IDE Controller" out of the box drivers can be used despite warnings that these are not suitable for your device. These provide bus-mastering capability but do not recognise the CompactFlash as removable media.

CMD provide high performance Windows® drivers that recognise CompactFlash as removable media and other advanced features such as scatter gather.

LED INDICATORS

Two LED indicators are fitted to the front panel of the board indicating primary IDE (CompactFlash) activity and Secondary IDE (rear I/O) activity.

SECONDARY IDE CONNECTIONS

Pn4 provides the standard Secondary IDE signals on the PMC module. Pins 1 to 40 of Pn4 relate directly to pins 1 to 40 of a standard 40-pin IDE connector.

WINDOWS® DRIVER DISC

BVM can supply a disc containing the PCI-648 driver files for Windows® from CMD, along with installation files. The installation files will ensure that the correct driver configuration is selected upon installation. Windows® 95, 98, ME, NT4.0 and 2000 are currently supported.

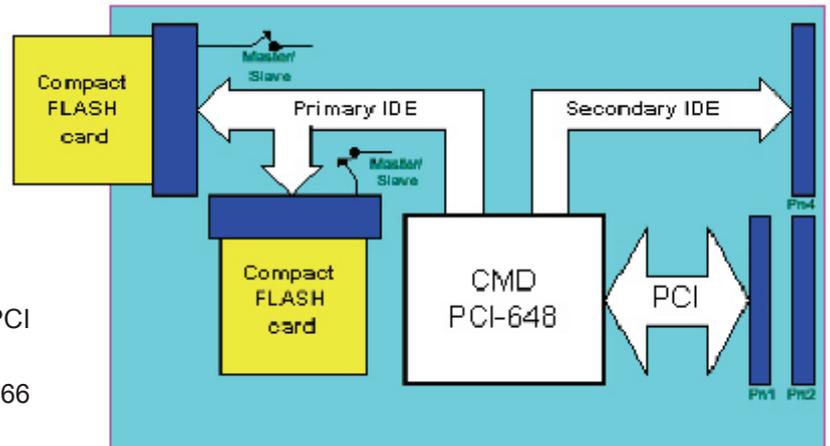
BIOS FLASH EPROM

The FLASH memory is supplied pre-programmed with a BIOS from CMD which supports controller configuration and device booting.

SPECIFICATION

CMD PCI-648 CONTROLLER

Two independent IDE/ATA Channels,
 Up to four IDE/ATA devices,
 128 bytes buffer,
 Ultra and multiword DMA timing modes,
 CRC(Cyclical Redundancy Check),
 Supports External BIOS,
 32-bit 33 MHz PCI Interface,
 Supports bus master DMA at 133 Mbytes/sec PCI burst rate,
 Supports maximum IDE/ATA data transfer rate of 66 Mbytes/sec,
 Compatible with Microsoft® IDE/ATA drivers.



BOARD CONFIGURATION

SWITCHES: IDE device selection,
 BIOS settings.
 FLASH EPROM: 128Kbytes - BIOS.
 LED Indicators (2): IDE Activity.

PMC INTERFACE

Bus Interface: PCI 2.1 compliant
 Bus Width: 32-bit/32-bit
 Data Transfer: PCI 2.1 Bus Mastering
 Interrupts: PCI INT #A & INT #B
 Memory Address: BIOS assigned
 PCI configuration: QWORD, DWORD, WORD & BYTE

COMPACTFLASH

Two CompactFlash sites on Primary IDE:
 Front Panel (removable) & On-board (fixed),
 Type I & II connector (accepts either type),
 Can be used with Microdrives (height dependant).

IDE INTERFACE

ATA/ATAPI-5 Specification,
 Ultra/ATA 66 rate (both channels),
 Two independent channels,
 Up to two IDE/ATA devices per channel.
 Secondary IDE available through rear-I/O.

OPERATING ENVIRONMENT

Dimensions: 74.0mm x 149.0mm (single PMC size)
 Power: +5v TBDmA typical, +3.3v TBDmA typical (excluding CompactFlash)
 Environmental: 0 to 70 ° C, 95% humidity non-condensing (extended range to order)