

Mach5Products Compact Flash Adapters

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Thank you for purchasing the Mach5Products Compact Flash to IDE family of products.

INTRODUCTION

This device provides low-cost interfacing of Compact Flash Association CF Cards with IDE/ATA equipped computers. We manufacture 3.5" floppy bay drive brackets and 5.25" cd-rom brackets, in beige with silk-screening on the front, and black with no silk-screening, for mounting the regular adapters into your computer systems without modifications.

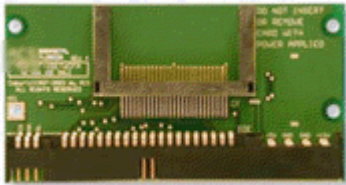
FEATURES

The Mach5Products CF to IDE Adapter Module provides the following hardware resources:

- CF Standard Type 1 Card 50 pin Connector
- Three different models.

1. Mach5Products motherboard adapter plugs directly into the Host PC motherboard and requires a floppy drive style power connector.
2. Mach5Products regular adapter is designed to be mounted in a drive bay and has a standard 5 1/4" power connector as part of the IDE connector.
3. Mach5Products SFF small form factor for laptops is designed to connect to a 2.5" hard drive IDE chain and obtains its power via the extended signals on the extra four pins of the IDE interface.

- Drive Select Jumpers
- CF Card Power Control
- Card Powered Indicator
- Card Accessed Indicator



Regular adapter



SFF adapter



Motherboard adapter

INSTALLATION

NOTE: Make sure your computer is turned off before installing any of our compact flash products.

The Mach5Products CF to IDE Adapter module may be mounted with screws through the appropriate mounting holes. Note that the plated mounting hole marked 'MT1' is connected to the Ground on the module. The newer models are designed for ease of installation with redesigned form factors, mounting holes and additional jumpers. The module connects to the host PC in the same way that a hard drive is connected - using an IDE cable on both SFF and non-SFF male connector models, and powered via a disk drive power cable on non-SFF models. Be careful to observe the pin numbers and connector orientations that are marked on the board legend. On development systems, it is recommended that the module be installed as the only device on the Secondary IDE channel. On target embedded systems, it is recommended that the module be installed as the only or Master device on the Primary IDE channel.

MOUNTING THE REGULAR PCB CARD TO THE MOUNT

(If you purchased a mount)

The pcb board can be installed in 2 positions on the mount. It can be mounted in the front position where the compact flash card protrudes out of the front of the mount for easy changing. It can also be mounted in the rear position for permanent non-removal of the compact flash card.

To mount the pcb board in the front position, use the front 4 holes on the mount to secure the pcb board. To mount the pcb board in the rear position, use the rear 4 holes on the mount to secure the pcb board.



Adapter mounted in front position



Adapter mounted in rear position



Black floppy adapter

Black CD-ROM adapter



Beige CD-ROM adapter
in rack system

Floppy adapter installed

INSTALLING THE MOUNT INSIDE THE COMPUTER

The mount can be installed into a floppy drive bay, hard drive bay or cd bay using the 5.25" adapter. To install the mount into a floppy bay, use the enclosed 440 screws to secure the mount to the floppy bay. 6 tapped mounting holes are provided on the sides of the mount (use the 4 that are appropriate to your computer case). To install the mount into a hard drive bay, install the mount so it is facing inside the computer case using the enclosed 440 screws to install the mount to the hard drive bay (use the 4 that are appropriate to your computer case). To install the cd-rom bay adapter, remove the block-off plate on the computer case and install the adapter using the enclosed 440 screws (use the 4 that are appropriate to your computer case).

INSTALLING A MOTHERBOARD ADAPTER

Before installing the compact flash motherboard adapter, make sure power to the computer is turned off. The compact flash motherboard adapter plugs into the IDE connector on the motherboard. Make sure that the #1 pin on the adapter is on the 1 pin on the motherboard IDE plug. Note: the adapter must be plugged into the center of the IDE connector so that there is a space on both sides of the adapter in the IDE plug (see red circles in picture below).



After installing adapter, plug in power plug to the adapter. If you wish to boot from the adapter card, it must be plugged into the primary IDE slot. Note: although this card mounts on most motherboards without any problem, on some motherboards the power plug may interfere with the motherboard power plug (see blue circles in picture below).

PLEASE MAKE SURE YOU HAVE CLEARANCE BEFORE PURCHASING THIS ITEM.



POWER CONNECTORS

- All Mach5Products CF to IDE Adapters only require +5vdc. They are designed to use industry standard power cabling.
- The Mach5Products motherboard adapter plugs directly into the Host PC motherboard and requires a floppy drive style power connector.
- The Mach5Products regular adapter is designed to be mounted in a drive bay and has a standard 5 ¼" power connector as part of the IDE connector.
- The Mach5Products SFF small form factor for laptops is designed to connect to a 2.5" hard drive IDE chain and obtains its power via the extended signals on extra four pins of the IDE interface.

DRIVE SELECT JUMPERS

The 3 jumper positions are Master (MS), Slave (SL) and Cable-Select (CS).

LED INDICATORS

All Mach5Products Adapter Modules have two LED indicators to provide operating feedback to the user. The Green LED is illuminated whenever the CF card is fully inserted and subsequently has power applied. The Red LED briefly illuminates whenever the CF card is being accessed by the host PC. All Mach5Products Adapter modules have circuitry to detect proper CF card insertion and apply power only when the card is fully installed. This is indicated by the illumination of the Green LED. However, the circuitry in the Host PC is not designed for removable IDE device operation while power is applied. To avoid damage to the Host PC and/or CF Card, it is strongly recommended that CF cards are only installed or removed when the power to the system is OFF.

The BIOS in most host PCs are able to recognize the CF cards using the 'Auto' detection feature. Some early BIOS do not support this capability and may require the manual entry of the Cylinders, Heads and Sectors values as for a 'User' defined hard drive. These values are available from the CF card manufacturer or may be obtained via the BIOS IDE detection screen on another host PC. Once correctly identified to the Host PC BIOS, the CF cards behave exactly like a PC hard drive. They maybe FDISKed, FORMATED and made bootable just like their larger, rotating counterparts.

REMEMBER!!! The CF card has a limited number of write cycles!!! Performing an OS Plug and Play setup or configuring a swap or page file on the CF card will rapidly exhaust its usable life.

TROUBLE SHOOTING

The IDE to CF Adapter module has circuitry to detect proper CF card insertion and apply power only when the card is fully installed. This is indicated by illumination of the Green LED. The Red LED indicates CF card access. If the BIOS hangs on power up, try the following:

1. Turn power off to the computer in which the CF adapter is being installed
2. Install the CF adapter on the Primary IDE cable/chain
3. Make sure the Master jumper is installed on the CF adapter
4. Insert your CF card into the CF adapter
5. Power up the computer
6. Set the CMOS to auto type the Primary Master IDE device
7. Save the CMOS settings and reboot
8. See if the BIOS correctly reads the Cylinder, Heads, Sectors from the CF card.
9. If it can't read the Cylinders, Heads, Sectors, make sure the following happened during power up:
 - a. The Green LED turned on when power was applied to the computer
 - b. The Red LED turned on or flashed when the BIOS was trying to determine its size

If step "a" doesn't happen, check for power to the CF adapter via the disk drive connector on non-SFF adapters. If step "a" & "b" happened, but the BIOS still cannot determine the Cylinders, Heads, and Sectors, try a different CF card. If step "a" & "b" happened, and the BIOS determined the Cylinders, Heads, and Sectors, but the computer will not boot, check the following:

1. Make sure the CF Card is setup as a hard disk, not a floppy. Some manufacturers ship the cards formatted as floppies. Use FDISK to display and or create a partition on the CF card, then format the partition. If you have a choice, format the partition using FAT, or FAT16. Some motherboards will not boot FAT32.
2. Make sure the partition is active
3. Try using a different brand of CF card. Some BIOS's need a delay after resetting the hard drive to identify it. CF cards with SST controllers have a built in delay, to sometimes better mimic a mechanical hard drive.
4. Some older BIOS's just will not boot from a CF card, due to its speed. Check the motherboard manufacturer for a newer BIOS. It is possible to have a defective CF to IDE Adapter, but more likely to have a bad CF card(s), or incompatible BIOS. If the Green LED flickers when the Red access LED turns on, then the CF to IDE Adapter CF Card power switching section is bad, and the adapter needs to be returned for repair.

Since Compact Flash cards are consumer price driven, Compact Flash card manufacturers use any CF controller they can buy the cheapest. Just because you buy brand "X" compact flash card, doesn't mean you're getting the same CF controller every time. It can change from day to day, hour to hour, week to week, lot to lot. Because of these unknowns with the compact flash cards, we test each Mach5Products Compact Flash Adapter twice, once after the manufacturing process, and again before it ships.

If you have any questions please call 561-439-8261

Thank You,
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