



# PMcStor

## Embedded Mass Storage - up to 32 GB on PMC

Introducing the **PMcStor** - - *zero slot* mass storage. ACT/Technico's new PMcStor Module provides an ideal embedded storage solution, with up to 32 GB of mass storage. It provides optimum flexibility and use of space without compromising functionality. Microdrive technology hard drives and CompactFlash may now be added to a board using the industry standard PMC form-factor, without compromising any additional slot space and functionality.

### PMcStor Features:

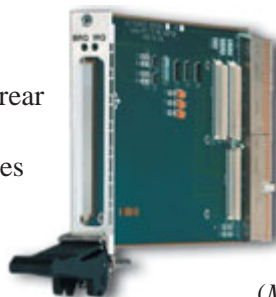
- ATA/ATAPI mass storage solution implemented using the industry standard PMC form factor (IEEE P1386.1)
- Designed to support one or two rugged mass storage devices including the Hitachi Microdrive™ and CompactFlash (CF & CF-II). These technologies allow operation at elevated temperatures, and higher shock and vibration levels
- Replaces external hard drives or Disk Modules that require external fixtures or system slots
- Solves the embedded designer's requirement for cost effective mass storage, eliminating cables and the need to use SCSI based storage solutions for applications requiring moderate storage capacities
- An alternative to Narrow SCSI based mass storage, where SCSI capacities exceed the needs of most embedded applications
- 40- or 44-pin connector brings standard ATA/IDE DMA interface out the front for external drives
- Supports CompactFlash drives (CF and CF-II) and Microdrives, allowing for enhanced environmental performance of CompactFlash in your application. MTTR is significantly reduced by using sockets that allow easy removal while clamps hold the drives in place during normal operation.



*PMcStor Module with two CompactFlash drives*

### Benefits:

- Compact, removable storage
- Standard PCI Mezzanine (PMC) form factor (IEEE P1386.1)
- Sockets are CF-II form factor
- Complete solution, with drive(s), interface and software driver provided
- High quality, optimized multilayer design
- Option to bring interface out the rear of PMC
- Up to 16 GB with two CF-II drives (commercial and enhanced duty)



Also available with 3U and 6U CPCI Adapters  
(Model 7000 shown)

### Micro Drives

- 6 GB and 8 GB capacities
- 175g (2 msec) operational shock
- 0° to 55°C operating temperature range

### CompactFlash

- 256 MB to 16 GB CF-II drives
- Extended temperature range
- Shock ratings up to 2,000G
- 15G peak to peak vibration rating

With bootable device drivers for **Linux, VxWorks, Solaris** and **Windows**, the **PMcStor** is an ideal embedded storage solution.

## Embedded Systems By Design

1-800-445-6194 • [www.acttechnico.com](http://www.acttechnico.com)

# Specifications

## Compatibility

Compliant with PCI Local Bus (v. 2.1), supporting boards that provide PMC sites designed to IEEE P1386.1. The disk controller is ATA/ATAPI-5 compliant. The PMCStor supports universal signaling and operates at 3.3 volts, tolerating 5 volt I/O. The PMCStor may be used on any board supporting standard PMC sites such as CompactPCI and VMEbus CPUs, as well as CompactPCI expansion adapters (Models 7000 and 7005).

Software compatibility: Windows 2000, NT, 98 VxWorks, and Linux. VxWorks drivers are available - other O/S support is available.

## Interface

Typically, no other cabling is required to use the PMCStor since the drives are on-board. Versions are available supporting external disk I/O from the front or from the rear of the PMC.

## Environmental Specifications (card)

DC Input Voltage: 5V ±5% @ .75A typical with two Microdrives  
 Operating Temperature: 5°C to 65°C  
 Storage Temperature: -25°C to 85°C (see disk table)  
 Operating Humidity: 8% to 90%  
 Non-operating: 8% to 95%  
 Shock & Vibration:  
     Operating see disk table.  
     Non-operating see disk table.

## IDE/ATA Controller Specifications

- 2 independent IDE/ATA Channels, each supporting up to 2 drives
- Supports up to four IDE/ATA drives
- 128 Byte Buffer
- Supports multi-word and single-word DMA timing modes including DMA mode 3 and mode 4 (*DMA not supported by CF sites*)
- Supports external BIOS
- 32-bit 33MHz PCI interface
- Supports bus master DMA at 133 MB/sec PCI burst rate
- Supports maximum bus master data transfer of 66 MB/sec
- Compatible with Microsoft IDE/ATA drivers
- Compliant with PCI 2.1 and ATA/ATAPI - 5
- 3.3V operating voltage with 5V tolerant I/O

## PMCStor:

### Version Description / Function

- 9255** PCI/IDE with no front panel connector, 2 on-board CF-II sockets
- 9259** PCI/IDE with front panel CF-II socket for removable media (no rear I/O)

## PMCStor for external drives:

### Version Description / Function

- 9256** PCI/IDE with 40-pin front panel connector, 2 CFII sockets, rear I/O
- 9257** PCI/IDE with 44-pin front panel connector, 2 CFII sockets
- 9258** PCI/IDE with 44-pin front panel connector, no CFII sockets, no BIOS

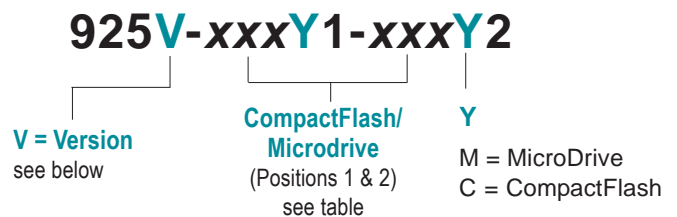
## Disk Parameters/Specifications

	Hitachi Microdrive	CompactFlash II
<b>Capacity:</b>	6 & 8 GB	256 & 512 MB; 1, 2, 4, 8 & 16 GB
<b>Transfer Rates: *</b> (PIO Mode)	up to 11.1 MB/s	up to 3.0 MB/s
<b>Weight (in grams)</b>	16 max	13.5 max
<b>DC Input Voltage</b>	+3.3V±5%; 5V±5%	+3V±5%; 5V±10%
<b>Temperature (in °C)</b> <b>Operating:</b> <b>Non-operating:</b>	0 to 55 -40 to 65	0 to 60 -25 to 85
<b>Humidity</b> <b>Operating:</b> <b>Non-operating:</b>	8% to 95% 8% to 95%	8% to 90% 5% to 95%
<b>Vibration</b> <b>Operating:</b> <b>Non-operating:</b>	0.67G (5 to 500 Hz) 3.01G (5 to 500 Hz)	15G max 15G max
<b>Shock</b> <b>Operating:</b> <b>Non-operating:</b>	175G (2 ms) 1,500 G (1 ms)	2,000 G max 2,000 max

\* DMA mode is not supported by the CompactFlash sites.

## Order Information

Build an assembly that fits your requirements. Use the following part number to create a PMCStor module of your choice:



## Add CompactFlash or Microdrive™:

CompactFlash is available from 256 MB to 16 GB. Hitachi Microdrives are currently available in 6 GB & 8 GB. Densities keep increasing, so check for the latest media sizes available.

**CompactFlash:** 256/512MB/1GB/2GB/4GB/8GB/16GB  
Specify **ED** for Enhanced Duty version

**Microdrive:** 6GB/8GB



## Examples:

- 9255-4GBC1- 6GBM2** PMCStor with no front panel connector, 4 GB CompactFlash II in slot 1 and 6 GB Microdrive in slot 2
- 9259-2GBM1** PMCStor with CF-II front panel connector with 2GB Microdrive
- 9257-8GBC1- 4GBM2** PMCStor with 44-pin connector, 8 GB CompactFlash in slot 1 and 4 GB Microdrive in slot 2

We offer a wide variety of configurations, and mass storage capacities are always changing. Call **800-445-6194** or visit our website for the most recent information.



[www.acttechnico.com](http://www.acttechnico.com)

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