

SimpleTech PC Card (PCMCIA) User Guide

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Introduction

This is an Installation and User Guide for the **SimpleTech® ATA PC Cards**. The SimpleTech PC Card is a removable data storage card used in PCMCIA slots, standard on most notebook computers. Several devices including Digital Cameras, Personal Digital Assistants (PDA), MP3 music players, digital voice recorders, and other electronic devices such as cell phones, and pagers also have PC Card (PCMCIA) slots. Therefore, the PC Card provides removable solid state mass storage to thousands of hosts that have PC Card sockets.

The PC Card is a solid-state, nonvolatile removable and reusable mass storage which shows up as an ATA hard drive to the host. However, compared to ATA/IDE/ESDI hard drives with rotating discs, the Solid State PC Card is extremely rugged and very compact.

The SimpleTech PC Card is available in several capacities for your specific applications. Visit www.simpletech.com for details.

Installation Requirements

The following are the minimum requirements for using the PC Card:

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- A host (e.g., a computer or other devices such as digital camera, MP3 Audio Player/Recorder, PDA that uses PC Cards as a storage device) with one of the following sockets:
 - A PC Card (PCMCIA) Type I or II or III socket
- One of the following operating systems:
 - MS-DOS 5.0 or higher, Windows 3.x, and Card and Socket Services compatible with PCMCIA Release 2.1 or higher
 - Windows CE
 - Windows 95/98/98SE/ME/XP or 2000
 - Windows NT 3.5.1 /Win NT 4.0
 - OS/2 Warp!
 - Mac OS 8.6 or higher
 - Other hosts with firmware that support ATA data storage, and DOS file/FAT standards (e.g., digital camera, PDA, MP3, etc.)

Installing the PC Card

A. Digital Cameras/MP3 Players/Digital Camcorders/Printers

Attach the PC Card to the Digital Cameras/MP3 Players/Digital Camcorders/Printers as follows:

1. Please refer to your System Manual for proper orientation of the SimpleTech PC Card in your system. Please note that if the PC Card is improperly inserted, the system will not recognize the card.
2. Formatting the PC Card in your system:

All SimpleTech PC Cards are factory-formatted in DOS/Windows Operating Systems. Most devices do not require additional drivers to support PC Card. If your device does not recognize the PC Card when inserted, you would need to format the PC Card in the devices. Please refer to the User Guide of your device for basic formatting instructions of the PC Card.

B. PC Computers /Notebooks/PDAs (Handheld Device, Palmtop)

If you are planning to use the PC Card in the PC Card slot of your Computer/ PDA, you would need to insert the PC Card in the PC Card slot in your host device. please refer to the following section titled **Attaching the PC Card to the PC (PCMCIA) Card slot.**

If you are planning to access the PC Card through USB or Parallel port PC Card reader, please refer to the following section titled **Attaching the PC Card to USB PC Card Reader.**

1) Attaching the PC Card to the PC (PCMCIA) Card slot (If Applicable)

Attach the PC Card to the PC Card slot on your computer/device as follows:

1. Orient the SimpleTech logo on the PC Card facing upwards.
2. With the “**Insert**” arrow on top of the PC Card pointing towards the PC Card slot, insert the PC Card in the slot.
3. Slide the PC Card all the way into the PC Card slot until the connector on the PC Card fully docks with the connector on the PC Card slot.



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CAUTION: *If the PC Card doesn't appear to seat properly, try turning the PC Card over upside down. Do not force the PC Card into the socket under any circumstances.*

2) Attaching the PC Card to USB PC Card Reader (If Applicable)

Important Note: Users are highly recommended to complete the device driver installation procedure for the USB Reader, prior to connecting the USB card Reader. Make sure USB Flash Card Reader drivers are installed on your system.

1. Turn on your PC and wait for the Windows desktop to appear.
2. Close all applications.
3. Insert the PC Card in the card reader slot with the proper orientation as specified by the card reader.

Using PC Card in Notebook/Desktop Computers:

Windows 95/98/98SE/ME/ 2000/XP

Proceed as follows:

1. Start the Windows Operating System and wait for the system to completely boot.
2. Plug the PC Card into the PC Card socket.
3. The computer will respond with a beep and the PC card icon will appear on the right corner of the task bar.

OR,

Windows may respond with dialog boxes. If the "New Hardware Found" window appears, select "Windows default driver," then click on "OK."

4. Follow the on-screen prompts.

The PC Card will be automatically recognized. Double click on "My Computer" icon on your system desktop. The PC Card shows up as a removable hard drive, e.g., "Drive D:".

Windows NT 3.5.1/ Win NT 4.0

Note: *Windows NT 3.5.1/ 4.0 does not support Plug n' Play. You must plug the PC Card into the socket before starting Windows NT 3.5.1/ 4.0.*

1. Before starting Windows NT 3.5.1/ 4.0, plug the PC Card into the PC Card socket.
2. While booting, Disable PnP (Plug-n-Play) by switching to Off in the BIOS Settings.
3. An additional software such Card Wizard Pro from System Soft may be required for Win NT to recognize the device.
4. The computer will respond with a beep and the PC card icon will appear on the right corner of the task bar.

OR,

Windows may respond with dialog boxes. If the "New Hardware Found" window appears, select "Windows default driver," then click on "OK."

5. Follow the on-screen prompts.

The PC Card will be automatically recognized. Double click on "My Computer" icon on your system desktop.

The PC Card shows up as a removable hard drive, e.g., "Drive D:" .

Windows 3.x with Card and Socket Services Release 2.1 or Higher

Proceed as follows:

1. Start Windows 3.x.
2. Plug the PC Card into the PC Card socket. The computer may beep, when the computer recognizes the PC Card.

Mac OS

Proceed as follows:

1. Start Mac OS.
2. Plug the PC Card into the PC Card socket.
3. The PC Card is mounted on the desktop and will show up as a volume (i.e. drive icon) on Macintosh computers.

Other Hosts or Operating Systems

Refer to the User guides provided with the host or operating system for instructions on plugging the PC Card into the socket.

Inserting or Removing PC Card

Refer to the section appropriate to your operating system.

Inserting or Removing the PC Card with Windows 98/98SE/ME/2000/XP

You can insert the PC Card at anytime. When you wish to remove the PC Card, make sure you are not accessing any data in the card. It is recommended that you “stop” the PC Card before removing the PC Card as follows:

1. Double-click on the **PCMCIA icon** located on the right corner of the **task bar** or click on **Start - Settings - Control Panel - PC Card (PCMCIA) icon**. The “**PC Card Properties**” window appears. Select the PC Card from the list. Click on the “**Stop**” button. When prompted to remove the PC Card, proceed to next step to eject the card.
2. If your computer has an eject button on the socket, press the button to release the PC Card. Then, pull the PC Card from the socket OR,

If your computer does not have an eject button on the socket, carefully pull the PC Card straight out from the socket.

Inserting or Removing the PC Card with Windows NT 3.5.1/ Win NT 4.0

Note: Windows NT 3.5.1/ 4.0 does not support Plug n’ Play. You must plug the PC Card into the socket before starting Windows NT 3.5.1/ 4.0.

You must insert the PC Card in the PC Card socket before booting into Windows NT 3.5.1/ 4.0.

To remove the PC Card, you must first exit Windows NT 3.5.1/ 4.0, then proceed as follows:

- If your computer has an eject button on the socket, press the button to release the PC Card. Then, pull the PC Card from the socket, OR
- If your computer does not have an eject button on the socket, carefully pull the PC Card straight out from the socket.

Inserting or Removing the PC Card with Windows 3.x and OS/2 Warp

You can insert the PC Card anytime. The PC Card will show up as a drive letter under My Computer. You can remove the PC Card whenever the computer is not accessing the PC Card. Some computers will beep when the computer recognizes the change in status of the socket. To remove the PC Card, proceed as follows:

- If your computer has an eject button on the socket, press the button to release the PC Card. Then, pull the PC Card from the socket, OR
- If your computer does not have an eject button on the socket, carefully pull the PC Card straight out from the socket.

Inserting or Removing the PC Card with Mac OS

You can insert the PC Card at anytime. The PC Card will show up as icon on the desktop. You can remove the PC Card whenever the computer is not accessing the PC Card. When you wish to remove the PC Card, drag the PC Card Drive icon into the trash bin. The PC Card is ejected from the computer in most cases. Otherwise, carefully remove the card from the socket.

Formatting the PC Card

All SimpleTech PC Cards are factory-formatted in DOS/Windows Operating Systems. Most devices do not require additional drivers to support PC Card. If your device does not recognize the PC Card when inserted, you would need to format the PC Card in the device itself. Please refer to the User Guide of your device for basic formatting instructions of the PC Card in the device.

If you wish to format the card in the computer, please refer to the following instructions.

Formatting the PC Card in Windows Operating Systems

Insert the card in the adapter or the card reader and Right click on the drive letter for the card in windows explorer. Choose "format" among the options and proceed with the on-screen instructions.

Caution: Please note that the formatting the card will erase all the data in the card. Hence, be careful while formatting the card. Also, make sure to choose the correct drive letter for the card while formatting. Otherwise, you might accidentally erase all the data in some other drive.

Formatting the PC Card in Mac Operating Systems

Insert the card in the adapter or the card reader and highlight the icon for the card on the desktop. Click on "Special" and choose "Erase Disk" and proceed with on-screen instructions.

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Caution: Please note that the formatting the card will erase all the data in the card. Hence, be careful while formatting the card. Also, make sure to choose the correct icon for the card while formatting. Otherwise, you might accidentally erase all the data in some other drive.

PC Card Precaution and Protection

Always carefully observe the following precautions:

- Never remove the PC Card when the computer is accessing the PC Card.
- Do not turn off the device while accessing the PC Card.
- Keep the PC Card away from electrostatic sources or magnetic fields.
- Do not bend, drop or impact the PC Card.
- Keep the card away from heat, water, moisture, and direct sunlight.
- Please note that as a security measure, postal department might subject all articles sent through mail to high level radiation. High level radiation erases all data in the PC Card and renders the card useless. Hence please check and verify postal service policies before sending the cards in the mail.

PC Card Specifications

ORDERING INFORMATION (SimpleTech PC Card Part Numbers)

PC Card P/N	Capacity	Form Factor
• STI-ATAFL/2GB	2 GBytes	Type I
• STI-ATAFL/1.8GB	1.8 GBytes	Type II
• STI-ATAFL/1.6GB	1.6 GBytes	Type II
• STI-ATAFL/1.2GB	1.2 GBytes	Type I
• STI-ATAFL/1GBA	1 GBytes	Type I
• STI-ATAFL/800	800 MBytes	Type II
• STI-ATAFL/640	640 MBytes	Type II
• STI-ATAFL/512	512 MBytes	Type I
• STI-ATAFL/448	448 MBytes	Type I
• STI-ATAFL/320	320 MBytes	Type I
• STI-ATAFL/256	256 MBytes	Type I
• STI-ATAFL/224A	224 MBytes	Type I
• STI-ATAFL/160	160 MBytes	Type I
• STI-ATAFL/128	128 MBytes	Type I
• STI-ATAFL/96	512 MBytes	Type I
• STI-ATAFL/80	80 MBytes	Type I
• STI-ATAFL/64	64 MBytes	Type I
• STI-ATAFL/48	48 MBytes	Type I
• STI-ATAFL/32A	32 MBytes	Type I
• STI-ATAFL/24	24 MBytes	Type I
• STI-ATAFL/16A	16 MBytes	Type I
• STI-ATAFL/8A	8 MBytes	Type I

Physical Dimensions

Length	85.6 mm
Width	54.0 mm
Thickness	3.3 mm (Type I), 5.0 mm (Type II), 10.5 mm (Type III)
Weight	33 g (Type I), 38 g (Type II), 43 g (Type III)

Performance

Interface	ATA and True IDE
Start Up Times (Reset to Ready)	100 ms (Max)
Start Up Times (Sleep to Idle)	2 ms (Max)
Data Transfer Rate to/from Host	Up to 8.0 MB/Sec (Burst)
Controller Overhead (Command to DRQ)	2 ms (Max)
Data Transfer Cycle End to Ready (Sector Write)	2 ms (Typical)
Sustained Read	Up to 1.5 MB/sec

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Sustained Write	Up to 1.5 MB/sec
Maximum Write	Up to 3.0 MB/sec

Power Requirements

All values quoted are typical at ambient temperature and nominal supply voltage unless otherwise stated.

DC Input Voltage	3.3V ± 5%	5V ± 5%
Typical Power Dissipation		
Sleep Current	0.2 mA	0.5 mA
Read Current	25 mA	40 mA
Write Current	25 mA	45 mA

Environmental Specifications

Operating Temperature Range	
Commercial	0°C to +70°C
Extended	-25°C to +85°C
Industrial	-40°C to +85°C
Storage Temperature Range	-55°C to +125°C
Humidity	5% to 95% non-condensing
Operating Vibration	100 - 2000 Hz @ 147 meter/sec ² (20Gs)
Operating Shock	4903.3 meter/sec ² (2000Gs)

Reliability

MTBF (Mean Time Between Failure)	>1,000,000 hours
Data Write/Erase Endurance	300,000 minimum cycles
Data Reliability	<1 non-recoverable error in 10 ¹⁴ bits read

Technical Support

If you experience any difficulties with the installation of the PC Card or PC Card Adapter, visit our web site www.simpletech.com. If you are still unable to resolve the problems, contact SimpleTech Technical Support at the following:

- Tel: 949-476-1180 or
1-800-367-7330 (USA & Canada only)
- Fax: 949-476-1209
- EMail: Fill the on-line Support Request Form at <http://www.simpletech.com>

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