

**PCMCIA
Portable HARD DISK
Installation Manual**

HD Traveler

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EXP MEMORY PRODUCTS.
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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the Distance between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

CAUTION

CHANGE OR MODIFICATIONS NOT EXPRESSLY APPROVED BY PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

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INTRODUCTION

The HD Traveler is a portable compact hard disk drive, which consists of a low-power hard disk drive, a Game Port, and a PCMCIA interface card. It is compatible with most computer equipped with a PCMCIA 2.1 Type I or II slot. The HD Traveler comes equipped with an 5V, DC external power jack in case your notebook's PCMCIA slot cannot supply enough power needed by the HD Traveler. The HD Traveler provides a fast and easy way to add more storage space to your notebook computer.

SYSTEM REQUIREMENTS

1. Notebook or desktop computer with a PCMCIA 2.1 Type I or II slot.
2. PC Card (PCMCIA/JEIDA) Card service and Socket device driver compliant preferred (If the drivers are not present, the Point Enabler for Intel 82365SL Personal Computer Interface Controller PCIC or compatible will be installed.
3. DOS 6.0 or later, Windows 3.x, Windows 95, Windows NT
4. Your system's I/O address 200 to 207 must be available for the Game Port I/O function to operate

FEATURES

- Complies with PCMCIA 2.1
- Windows 95 Ready
- Hard disc size from 1.0GB, 1.4GB, 2.1 GB, to 3.2GB
- IBM PC compatible Game Port I/O included
- Easy-to-install device driver software
- Can be powered by most notebooks' power, however, an external 5V DC power jack can be used for those which do not supply enough power to the PCMCIA slot
- Single 5V operation, Low power consumption; 250 mA (Standby), 800 mA (Peak value accessing)
- Ultra slim PCMCIA Card
85.6 x 54.0 x 3.3 mm (Type I)

PART NAMES AND FUNCTIONS

1. Game Port

15-pin game port connector for joystick or game-pad

2. Hard Disk

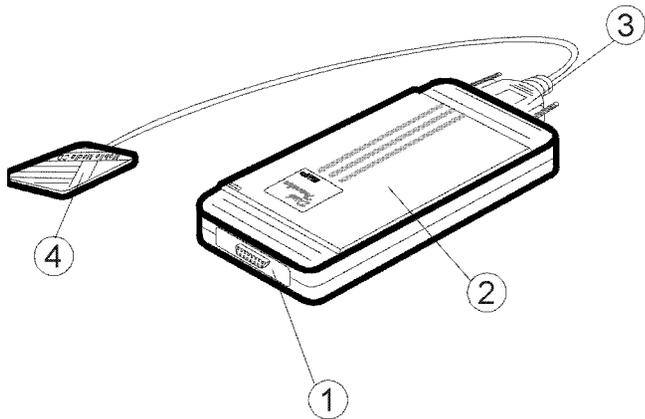
hard disk with the power indicator and the 5V DC input jack

3. Interface Connector

26-pin male connector connects to PCMCIA card's female adapter

4. PCMCIA Card

Type 1 PCMCIA card connects to notebook's PCMCIA slot



HARDWARE INSTALLATION

Before you begin, make sure you turn OFF all power to your system before connecting the HD TRAVELER to your computer.

1. Connect the PCMCIA interface card to the HARD DISK drive. Press firmly until the HARD DISK connector is seated, and then tighten the two screws on the cable connector.
2. Place the HARD DISK drive in the horizontal position, (recommended)
3. Consult your computer's documentation to locate the PCMCIA slot.
4. Align the PCMCIA interface card with the arrow sign pointing to the computer's slot. (Please note that the card is keyed to guide for proper orientation.)
5. Slowly insert the PCMCIA interface card into the slot and press firmly until the connector is seated.
6. You are now ready to install the HD TRAVELER device driver. Please follow the Software Installation procedures to follow.

CAUTION

You should connect the PCMCICA interface card to HARD DISK drive first before inserting the PCMCIA interface card into your computer. DO NOT connect/disconnect the HARD DISK PCMCIA interface card to/from the PCMCIA interface card when the system is in power-on state.

SOFTWARE INSTALLATION FOR DOS/WINDOWS 3.1

AUTOMATIC INSTALLATION

The device driver installation programs provide a simple INSTALL program to help you to install the device driver into the computer with ease. Please follow the instructions below to proceed automatic installation.

1. Insert the device driver diskette into a floppy disk drive on your computer.
2. Change the working directory to the floppy drive containing the device driver diskette by typing "A:" or "B:" then press ENTER.
3. At the DOS prompt (A:\> or B:\>), type "INSTALL" followed by the ENTER key.
4. Choose the right configuration you need - "Hard Disk Only" or "Hard Disk with Game" to continue. If you just need the Hard disk function only, then choose "Hard Disk Only", or you can choose "Hard Disk with Game" to install the game port I/O function. However, you can always change it later by running the INSTALL program again.



5. Press ENTER or click on the OK button to continue when the opening screen appears. A dialog box will be displayed for you to type in the directory to place the device driver to and to select the I/O ports used for PCMCIA interface card. Enter the directory you select to install the driver and press the TAB key to move to next field to indicate the DOS Directory. Press the TAB key again to set the I/O port. The default setting of the I/O address is **320-32F**. The Game I/O is always 200-207, without any other choice. After completing this selection, click on the **Install** button to continue.

NOTE:

INSTALL.EXE is only for MS-DOS mode. Do not use it under Windows 95, unless you want to use this device under pure MS-DOS mode. Please see APPENDIX B for detail.

MANUAL INSTALLATION

You may manually install the HD TRAVELER device driver if the default setting conflicts with your system. Try the following procedure to complete the manual installation.

- 1) Copy the file named EXPHDG.EXE to a directory on your main hard disk. (i.e. C:\PCMHD).
- 2) Edit the config.sys add the following line at the end of the file.

```
DEVICE=[drive] [path] EXPHDG.EXE /P:320 [/G]
```

`/P` is used to set the I/O ports, and the valid numbers are 320, 340 and 360. Each number represents the I/O port address - 320-32F, 340-34F, and 360-36F respectively.

The default setting is `/P:320`

`/G` Add this to the end of the line, if you want to enable game port

The config.sys file example

```
LASTDRIVE=Z
```

```
DEVICE=C:\DOS\HIMEM.SYS
```

```
DEVICE=C:\DOS\EMM386.EXE NOEMS X=D000-D3FF
```

```
FILES=40
```

```
BUFFERS=20
```

```
STACKS=9,256
```

```
DEVICE=C:\PCMHD\EXPHDG.EXE /P:320 /G
```

If you use the memory manager just like the example above (EMM386.exe). You need to exclude the memory range for the hard disk card and X=D000-D3FF is recommended.

- 3.) Reboot the system so the new driver will take effect.

NOTE:

The EXPHDG.EXE also has a command line parameter:

`/I` - Initialize a hard disk

All the information on the hard disk will be deleted.

EXAMPLE: EXPHDG /I

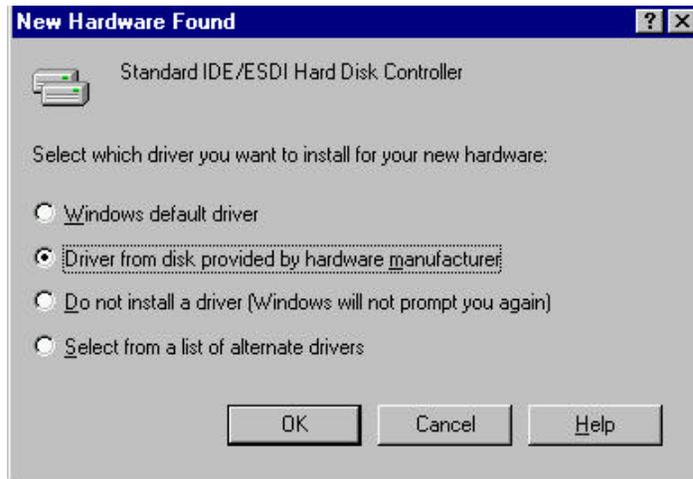
SOFTWARE INSTALLATION FOR WINDOWS 95

USING THE HD TRAVELER UNDER WINDOWS 95

The following dialog box will appear when you use the HD TRAVELER under Windows 95 for the **very first time**.

If the dialog box does not appear and the additional hard disk folder can not be found in My Computer, please refer to the section titled “Enabling 32-Bit Card Support”.

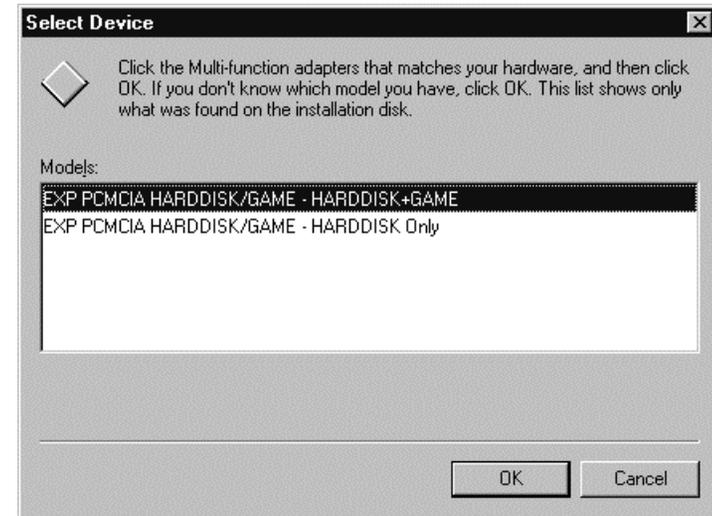
Select “Driver from disk provided by hardware manufacturer” and click on the OK button, Windows 95 will then prompt you to insert the manufacturer’s installation disk. Insert the HD TRAVELER device driver disk into your floppy drive. Specify the directory as A:\ (or B:\ whichever contains the diskette) and select OK.



When the following dialog box appear, select the configuration you need and click on the OK bottom.

Follow the on-screen instruction to continue. After finishing, look in “My Computer” and you should have additional hard disk icon.

Note that it is not necessary to connect the HD TRAVELER every time you reboot your computer, just plug it in when you need to use it.



REMOVING OR RE-INSTALLING THE DRIVER

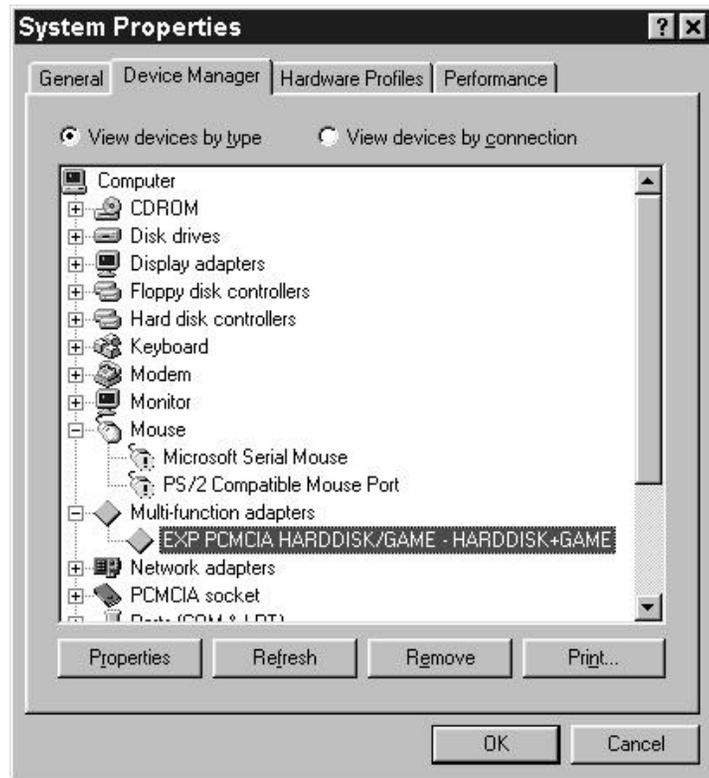
You can always change the configuration by removing the driver and reinstalling again. To remove the driver -

A.) If previous installed as “Hard Disk Only”:

With the HD Traveler connected, go to the Control Panel, click on System, then choose “Device Manager”, and under “hard disk controllers” click the “+” sign to expand this list and then highlight “EXP PCMCIA HD”. Then click the “Remove” button.

B.) If previous installed as “Hard Disk + Game”:

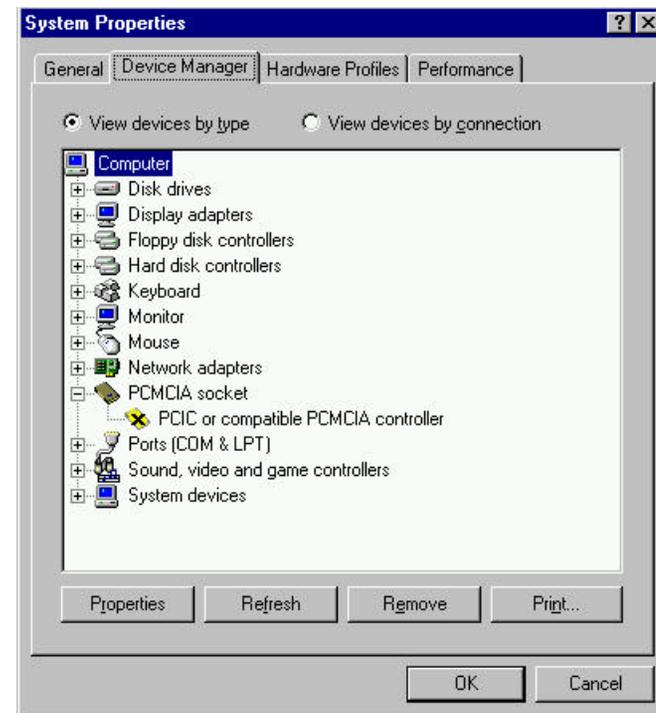
With the HD Traveler connected, go to the Control Panel, click on System. Then choose “Device Manager, under “Multifunction adapters” click at the “+” sign to expand this list and then highlight “EXP PCMCIA HRDDISK+GAME”, then click the “Remove” button.



ENABLING 32-BIT CARD SUPPORT OF WINDOWS 95

Your system should be ready for PCMCIA socket support prior to operating the HD TRAVELER. To check whether your computer is PCMCIA Socket supported, first, double-click on the “System” icon from the “Control Panel” folder (you can select the “Control Panel” under “Settings” from the “Start” menu to open the “Control Panel” folder).

Click on the Device Manager Tab. If “PCMCIA Socket” is found with a cross (x) sign next to the PCMCIA Controller as the Figure shows below, it means the PCMCIA device driver is not using 32-Bit Card Support.



In this case, double click the PCMCIA Controller and a dialog box will be displayed as below. Please place a check mark next to the current configuration of the Device usage box, and then select OK.



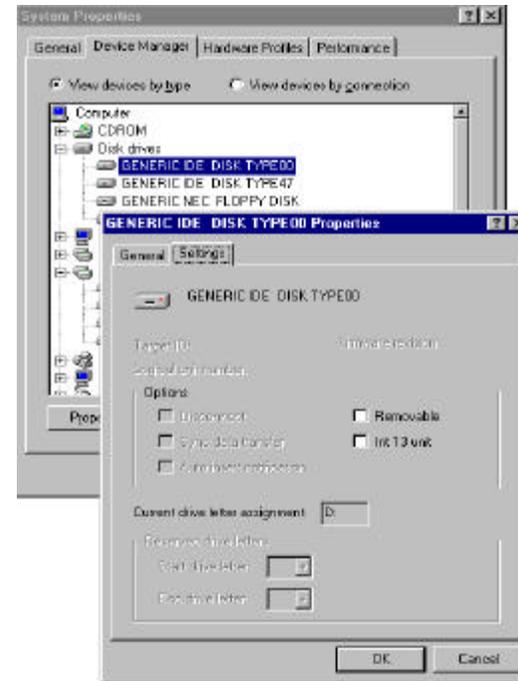
After the PCMCIA 32-Bit Card support is installed, Windows will ask you to reboot your computer. Then you should refer to the first section in the manual, "Using The HARD DISK Under Windows 95" to configure the HD TRAVELER.

If the PCMCIA Socket is not found, then you must add a PCMCIA socket to your system. Please click on the "Add New Hardware" icon in the Control Panel folder and select "PCMCIA socket". Select the appropriate type of PCMCIA Controller that matches yours and follow the on-screen instruction.

CHANGING A DRIVE LETTER ASSIGNED TO HD TRAVELER

In some case user need to change a drive letter for the HD Traveler, for example, from "D" drive to "E" drive, please follow the instructions below.

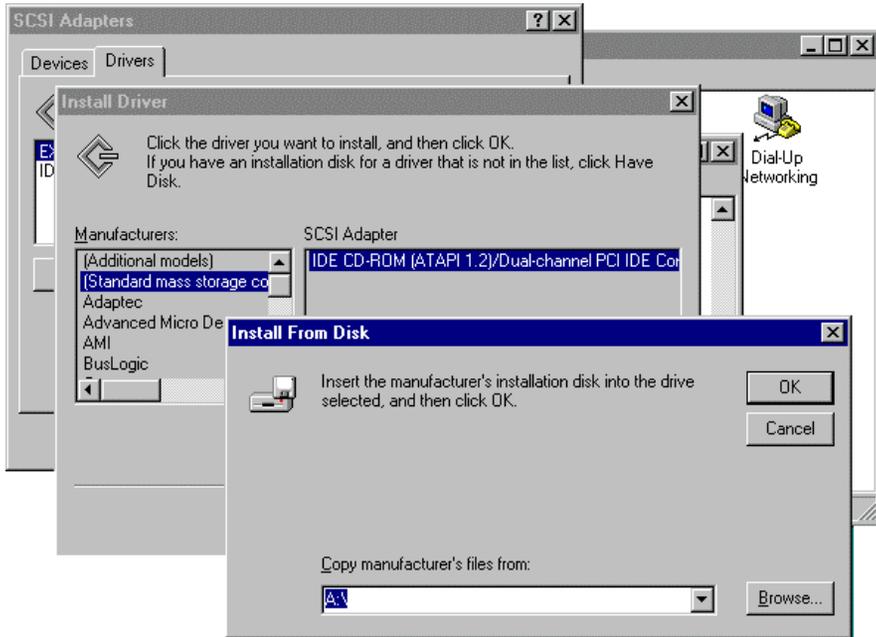
Open "Control Panel", then "System", select "Device Manager" tab, double click "Disk Drives", select "Generic IDE Disk Type 80" (or "Generic IDE Disk Type 00") then click "Properties" button.



Select "Settings" tab, check the "Removable" under options, then change the "Start drive letter" and the "End drive letter" to the letter you wish to choose.

INSTALL THE WINDOWS NT 4.0 DEVICE DRIVER

Currently there is no Plug and Play support for the Windows NT 4.0, User need to insert the HD PC Card while the power is off. Restart the computer and click on My Computer , then Control Panel, choose SCSI Adapters. Choose Drivers tab and the click on Add.. From the Install Driver click Have Disk



Install from disk will prompt for a diskette to install the driver, using Browse button or type in the path A:\winnt finishing the installation then you need to restart the computer.

After computer boot up go to My Computer icon you should have an addition hard disk icon.

GAME PORT CALIBRATION

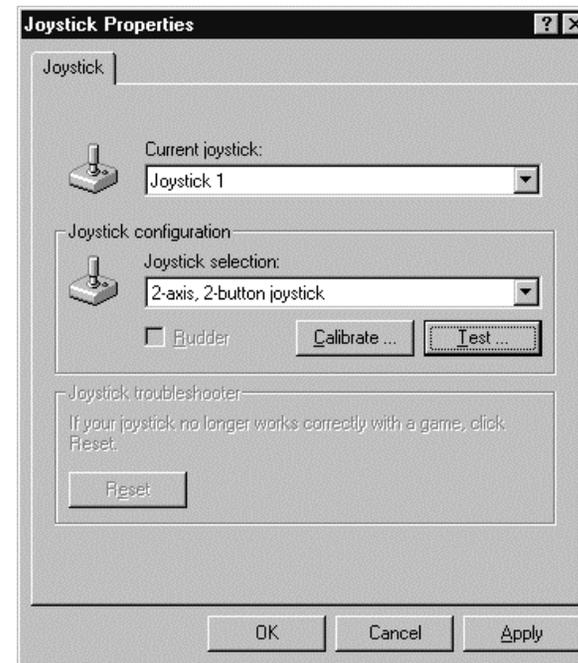
The game port on the HD Traveler requires I/O address 200 to 207. Not all the notebooks have this I/O available, please check **APPENDIX A** for the incompatible list of notebooks. If your notebook is compatible with the game port and you already installed the necessary driver for the game port, you will need to calibrate your joystick (or game-pad) before you use it. To check if the game port is functioning correctly, first make sure you connected the joystick or game-pad) to the game port firmly and then do the following steps-

Calibration Under DOS Mode

Most of the game programs offer a calibration utility allow you to calibrate your joystick.

Joystick Calibration Under Windows 95

Select "Control Panel" from "My Computer", and then select "Joystick". Click on calibrate and follow the on-screen instructions to finish the joystick calibration. You can test the calibration result by clicking the "Test" button and running the testing procedure.



PCMCIA SOFTWARE (DOS/WINDOWS3.X) INFORMATION

If you have installed the PCMCIA software, such as SystemSoft's CardSoft or Databook's Cardtalk, then EXPHDG.EXE will call these PCMCIA software to enable the card. If you don't have one, EXPHDG.EXE still can directly access your hardware to enable the card. In this case, your computer should have an Intel 82365SL Personal Computer Interface Controller (PCIC) or another compatible controller.

PCMCIA software contains several components: Socket services, Card services, Resource Initialization Utility and Card Installation Utility. The remainder of this section will explain the four components and list the device driver names for the major PCMCIA software.

Socket Services provide the interface between a system's BIOS and the host controller chips (such as the Intel 82365SL PCIC, Vadem 468, etc) Socket Services includes functions such as configuring a socket for an I/O or memory interface and controlling socket power voltages. The Socket Services driver you have varies with the host computer chip of your computer.

Card Services provides the interface between the PC Card and the PCMCIA sockets. Card Services must be aware of the I/O, IRQ, and memory resources already used by the system so it can accurately assign unused resources to the PC Cards.

To ensure Card Services will operate reliably regardless of the system it is installed on, some PCMCIA software provides its own resource initialization utility, which will check I/O ports, IRQs, and memory addresses and then report that information to Card Services.

The Card Installation Utility detects the insertion and removal of PC cards, and automatically determines the card type upon insertion so the card and socket will be configured properly.

The device driver names of the major PCMCIA software are listed below:

Software/Device Driver	SystemSoft CardSoft	Phoenix	Award Cardware	IBM ThinkPad
Socket Services	SS365SL.EXE, SS365LP.EXE, SSCIRRUS.EXE, SSDBOOK.EXE, SVADEM.EXE, SSVLSI.EXE	PCMSS.EXE	SSPCIC.EXE	IBMDSS02.SYS
Card Services	CS.EXE	PCMCS.EXE	PCCS.EXE	IBMDOSCS.SYS
Resource Initialization Utility	CSALLOC.EXE	PCMRMAN.SYS	PCRM.EXE	DICRMU02.SYS
IDE/ATA Driver	ATADRV.EXE	PCMATA.SYS		
SRAM Card Driver	MTSRAM.EXE			
Flash Card Support	MTAA.EXE, MTAB.EXE, MTI1.EXE MTI2P.EXE			
Memory Card Driver	MEMDRV.EXE			
Card Installation Utility	CARDID.EXE	PCMSCD.EXE	PCENABLE.EXE	AUTODRV.SYS
Card Services Power Management	CS_APM.EXE			\$ICPMDOS.SYS

If you are not sure which PCMCIA software you are using, you may check it by typing **TYPE CONFIG.SYS** at the DOS prompt followed by the ENTER key. The file should come up and look like one of the following examples.

SYSTEMSOFT PCMCIA SOFTWARE SAMPLE CONFIG.SYS FILE

```
LASTDRIVE=Z
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE NOEMS X=D000-D3FF
FILES=40
BUFFERS=20
STACKS=9,256
DEVICEHIGH=C:\CARSOFT\SS36SSL.EXE
DEVICEHIGH=C:\CARDSOFT\CS.EXE
DEVICEHIGH=C:\CARDSOFT\CSALLOC.EXE
REM** The REM's should be removed from the following
REM** lines to enable memory and hard drive card support
REM** DEVICEHIGH=C:\CARDSOFT\ATADRV.EXE
REM** DEVICEHIGH=C:\CARDSOFT\MTSRAM.EXE
REM** DEVICEHIGH=C:\CARDSOFT\MTDDRIV.EXE
DEVICEHIGH=C:\CARDSOFT\CARDID.EXE
REM HD TRAVELER I/O 320-32F, GAME ENABLE
DEVICE=C:\PCMHD\EXPHDG.EXE /P:320 /G
```

PHOENIX PCMCIA SOFTWARE SAMPLE CONFIG.SYS FILE

```
LASTDRIVE=Z
DEVICE=C:\DOS\HIMEN.SYS
DEVICE=C:\DOS\EMM386.EXE NOEMS X=D000-D3FF
DOS=HIGH,UMB
STACKS=9,256
DEVICE=C:\PCPLUS3\CNFIGNAME.EXE/DEFAULT
DEVICE=C:\PCPLUS3\PCMSS.EXE
DEVICE=C:\PCPLUS3\PCMCS.EXE
DEVICE=C:\PCPLUS3\PCMRMAN.EXE
DEVICE=C:\PCPLUS3\PCMSCD.EXE
REM HD TRAVELER I/O 340-34F, GAME DISABLE
DEVICE=C:\PCMHD\EXPHDG.EXE /P:340
```

AWARD PCMCIA SOFTWARE SAMPLE CONFIG.SYS FILE

```
LASTDRIVE=Z
DEVICE=C:\DOS\HIMEN.SYS
DEVICE=C:\DOS\EMM386.EXE NOEMS X=D000-D3FF
FILES=40
BUFFERS:20
STACKS=9,256
DEVICE=C:\CARDWARE\SSPCIC.EXE
DEVICE=C:\CARDWARE\PCCS.EXE
DEVICE=C:\CARDWARE\PCRM.EXE/AUTODETECT
DEVICE=C:\CARDWARE\PCENABLE.EXE
REM HD TRAVELER I/O 320-32F, GAME DISABLE
DEVICE=C:\PCMHD\EXPHDG.EXE /P:320
```

IBM PCMCIA SOFTWARE SAMPLE CONFIG.SYS FILE

```
LASTDRIVE=Z
DEVICEHIGH=C:\DOS\HIMEN.SYS/TESTMEM:OFF /MACHINE:2
DEVICEHIGH=C:\DOS\EMM386.EXE NOEMS X=D000-DFFF
BUFFERS=40
```

```
FILES=40
STACKS=9,256
DOS=HIGH
DEVICEHIGH=C:\THINKPAD\IBMDSS02.SYS /S0=2
DEVICEHIGH=C:\THINKPAD\IBMDOSCS.SYS
DEVICEHIGH=C:\THINKPAD\DICRMU02.SYS /MA=D000-DFFF
DEVICEHIGH=C:\THINKPAD\%ICPMDOS.SYS
DEVICE=C:\THINKPAD\AUTODRV.SYS C:\THINKPAD\AUTODRV.INI
REM HD TRAVELER I/O 320-32F, GAME ENABLE
DEVICE=C:\PCMHD\EXPHDG.EXE /P:320 /G
```

POWER SAVING

The HD TRAVELER drive will automatically enter the sleep mode (spindle off) when it has not been accessed for about 4 minutes.

The “Hot insert/remove” feature of a PCMCIA card helps to save power. If PCMCIA software that is Exchangeable Card Architecture (ExCA) compliant has been loaded on to your computer, then you can remove the HD TRAVELER interface card from your system after being booted, and insert it again when you need to use the HARD DISK device. For notebook computer users, removing the card will preserve power and prolong battery life.

APPENDIX A

GAME PORT INCOMPATIBLE LIST

The following notebooks have been tested and have been confirmed as incompatible with the Game Port on the HD Traveler:

Canon Innova Book 490CDT
Compaq Armada 4120T
Compaq Armada 4130T
Dell Latitude LM series
Dell Latitude LX series
Fujitsu Lifebook 535T, 535TX, 555T
Fujitsu Melan
Gateway 2000 Solo 2200
HP Omnibook 800CT
IBM Thinkpad 365CS, 365XD, 365X
IBM Thinkpad 701 series
IBM Thinkpad 760CD, 760EL, 760E
IBM Thinkpad 560 series
Micron Millennia series
NEC Versa 2405
NEC Versa 6050
TI Travelmate 4000M
Winbook LM

If your notebook already has a built-in game port, due to the I/O conflict, you will NOT be able to use the Game Port adapter.

For the latest update, please check our Web site at www.expnet.com

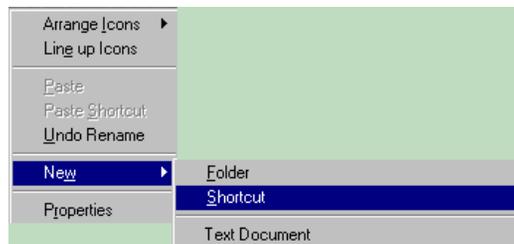
APPENDIX B

WINDOWS 95's MS-DOS Mode for the HD Traveler

This procedure will allow you to use the HD Traveler in a pure MS-DOS environment for those applications that will not run in Windows 95.

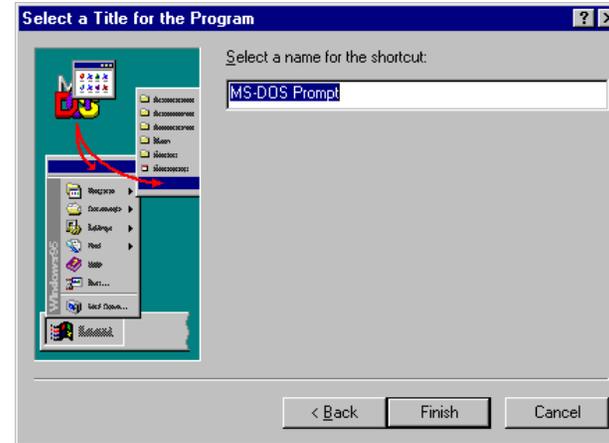
An MS-DOS mode icon is set up with a separate config.sys and autoexec.bat will be run when the icon is used.

The requirements are that your system's PCMCIA controller has to be INTEL (PCIC) and compatible or the DOS PCMCIA socket drivers (contact your notebook manufacturer) be loaded before the EXP device DOS drivers. If the above requirements are met, please proceed with the following:

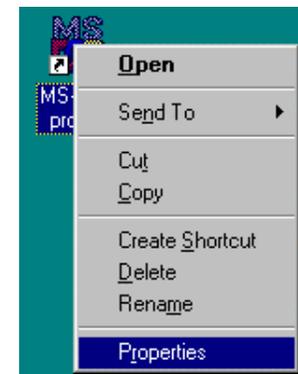


- click mouse right button onto the desktop's empty area
- Go to "New", then choose "Shortcut"

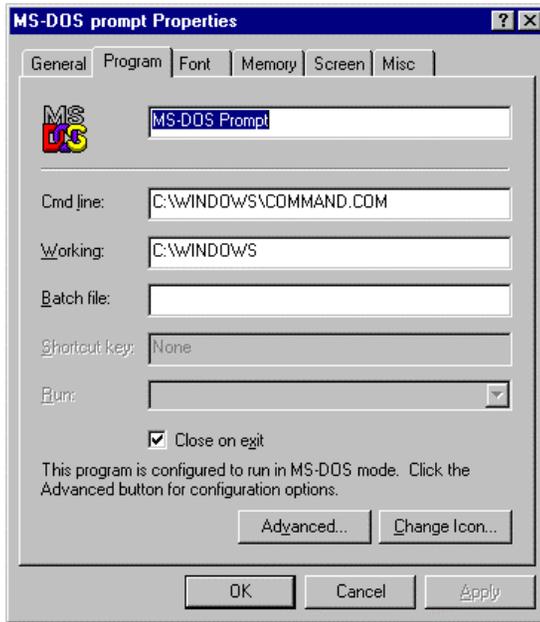
- Type in at the Command line - "C:\WINDOWS\COMMAND"
- Click on "Next"



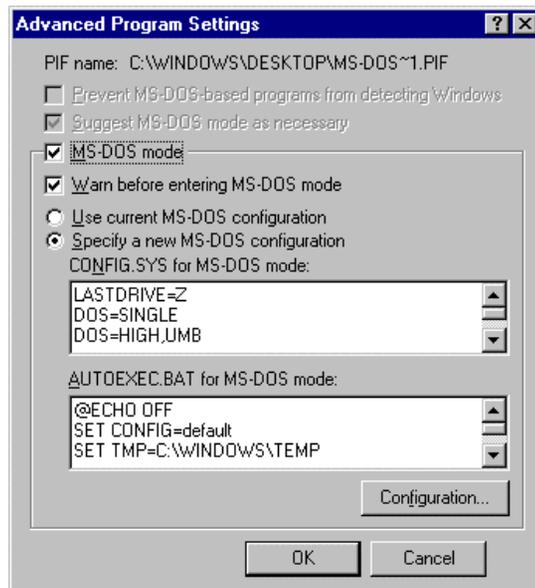
- Click on "Finish"
- Click the mouse right button on the new MS-DOS icon
- Go to "Properties"
- Go to "Program"



Click on the “Advanced”



- Click the “MS-DOS mode” Click on “Specify a new MS-DOS configuration”
- Click on “OK”. Then click on “OK”. This is the end of the DOS mode icon setup.

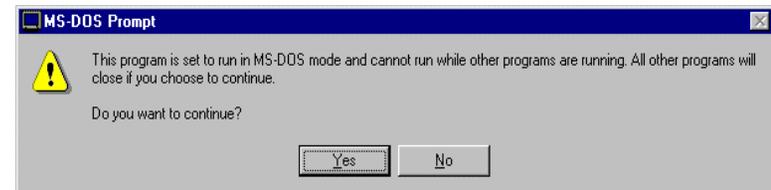


- The Next step is to configure the DOS mode session for the DOS drivers that are needed to run the Hard disk/game card.
- If you have a config.dos and autoexec.dos file on the “C” drive. Just put the lines that are missing in the corresponding boxes. If you do not have these files just continue without it. This just means that certain devices may not function without first loading the DOS drivers for this DOS mode session.

- Double click on the new icon.



- Click on “YES



- Once the computer is started in this mode, you can then install the DOS HD Traveler drivers.
- Run the Installation program for the DOS drivers from EXP’s disk.
- More detailed instructions on “SOFTWARE INSTALLATION FOR DOS/WINDOWS 3.1” can be found under ‘Automatic installation’
- To restart Windows 95 normally, type in EXIT at the command prompt and press “Enter”.