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## User's Guide

# MiniSCSI 1350

**Parallel Port to SCSI Adapter  
APA-1350**

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 **adaptec®**

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691 South Milpitas Boulevard  
Milpitas, CA 95035

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Parallel Port to SCSI Adapter

User's Guide

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# Introduction

Thank you for purchasing the Adaptec MiniSCSI 1350. The MiniSCSI 1350 is the ideal solution for Plug & Play SCSI connections to CD-ROMs, Scanners, Hard Disks, SyQuest, Iomega, Tape, MO drives and other peripherals. It's fast, easy installation adds full SCSI flexibility to your Portable or Desktop PC without the hassle and cost of plug-in host adapters. Simply plug it into your PC's parallel port and you're set.

## Contents of Kit

- MiniSCSI 1350 Parallel Port to SCSI Adapter
- User's Guide
- Registration Card
- Windows 95 Setup Diskette

## System Requirements

- Supports 486 and Pentium based portable or desktop systems.
- Operates on Standard, Unidirectional, Bidirectional, PS/2, EPP and ECP (IEEE 1284) parallel ports.

# Installing the MiniSCSI 1350

Follow the steps below to install the MiniSCSI 1350 and connect your SCSI devices to it. Refer to Figure 1 on page 3 for an illustration of a typical installation.

- 1 Connect the 50-pin interface plug to the SCSI interface socket on your peripheral device.
- 2 Plug the 25-pin interface plug into a parallel-printer connector on your computer.
- 3 **Optional:** If a printer cable is already attached to the connector, unplug it and connect it to the 25-pin socket on the MiniSCSI 1350.



**Note:** This is a pass-through printer connection that will allow printing while your SCSI peripheral is in use.

- 4 Ensure that your SCSI peripheral is properly terminated and then switch on power to your SCSI peripheral. The green power indicator on the MiniSCSI 1350 will now be illuminated and you are ready to install the software.

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### *Installing the MiniSCSI 1350*

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**Note:** For the pass-through function to operate, your SCSI peripheral must be connected and powered up because the MiniSCSI 1350 uses the power on the SCSI bus.

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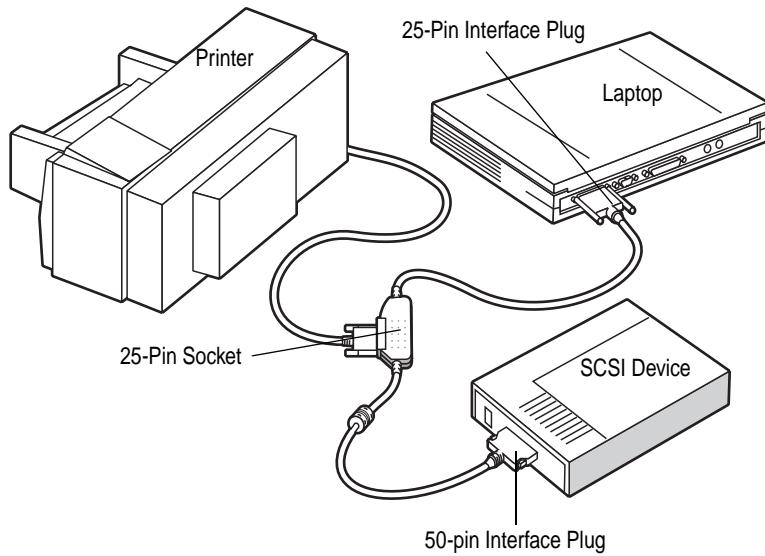


Figure 1. Typical Installation

# Software Installation

To use your MiniSCSI 1350, you have to install software drivers on your computer. This one time process is described below.



**Note:** Before you begin, we recommend that you make copies of the diskettes that came with your MiniSCSI 1350.

Before you begin, close any application you may have running before installing the MiniSCSI 1350 software drivers.

## Windows 95 Software Installation

- 1 Start Windows 95.
- 2 Insert the diskette labeled APA-1350 Setup Diskette into floppy drive A.
- 3 Double-click on the **My Computer** icon.
- 4 Double-click on the **Floppy Drive A**.
- 5 Double click on the **SETUP** icon. The installation process will begin. Follow the on-screen instructions until the installation is complete. At the end of the installation process, a text file called *README.TXT* will be displayed. This file contains additional installation instructions, a troubleshooting section, and un-install instructions.



**Note:** *README.TXT* can also be viewed at any later time using Notepad. It will be copied to the folder on the hard disk where the APA-1350 drivers have been installed. The default directory is C:\MINISCSI.

After installation the devices can be accessed through Microsoft Windows 95's My Computer or Explorer applications. Audio CDs can be played using CD-Player in the Multimedia group of the Accessories section of the Program menu.

## Printers

In most cases and with most printers, printing via the printer pass-through connector should not be any different than printing via the computer's own printer port. The printer pass-through connector on the MiniSCSI 1350 can be used to connect a printer or any peripheral device that normally connects to a parallel-printer connector.



**Note:** The printer pass-through connector will only work when the SCSI peripheral is attached and powered ON.

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## Uninstalling the Drivers

To uninstall the MiniSCSI 1350 drivers from your system

- 1 Go to the Control Panel and double-click on **Add/Remove Programs** icon.
- 2 Highlight the MiniSCSI 1350 driver entry and click **Add/Remove**. The drivers will be removed from your system.
- 3 Re-boot the system to reflect the change.
- 4 Follow the instructions below to prevent the MiniSCSI 1350 from loading on bootup automatically. First, determine which version of Windows 95 you have installed. To do this check in the System Properties dialog box in the Control Panel.  
*Windows 95 OSR2* will be displayed as Windows 95 4.00.950 B.  
*Windows 95 Standard* will be displayed as Windows 95 4.00.950.

### Windows 95 Standard

- a Go to the Control Panel and double-click on the **System** icon.
- b Click the **Device Manager** tab.
- c Double-click the **MiniSCSI 1350** device entry under SCSI controllers.
- d Uncheck the box next to Original Configuration in the Device Usage field. The MiniSCSI 1350 will not load. This can be verified by the red "X" that will be displayed alongside the MiniSCSI 1350 entry in the Device Manager.

### Windows 95 OSR2

- a Go to the Control Panel and double-click on the **System** icon.
- b Click the **Device Manager** tab.
- c Double-click the **MiniSCSI 1350** device entry under SCSI controllers.
- d Check the first box — Disable in this hardware profile. The MiniSCSI 1350 will not load. This can be verified by the red "X" that will be displayed alongside the MiniSCSI 1350 entry in the Device Manager.

# Understanding SCSI

**SCSI** (pronounced “scuzzy”) stands for **Small Computer Systems Interface**. SCSI is an industry standard computer interface for connecting SCSI devices (such as hard disk drives, CD-ROM drives, and scanners) to a common SCSI bus.

A **SCSI bus** is an electrical pathway consisting of a SCSI adapter (such as the SlimSCSI adapter) installed in a computer and one or more SCSI devices. SCSI cables are used to connect the devices to the SCSI card. For the SCSI bus to function properly, SCSI IDs must be assigned to the SCSI devices and the SCSI adapter, and the SCSI bus must be properly terminated.

## SCSI IDs

Each device attached to the MiniSCSI 1350 adapter, as well as the adapter itself, must be assigned a unique SCSI ID number from 0 to 6. A SCSI ID uniquely identifies each SCSI device on the SCSI bus and determines priority when two or more devices are trying to use the SCSI bus at the same time.

- The MiniSCSI 1350 adapter is preset to SCSI ID 7, which gives it the highest priority on the SCSI bus.
- In Windows 95, you can use the Device Manager to view the SCSI ID and other information about each installed SCSI device.

## Terminating the SCSI Bus

To ensure reliable communication on the SCSI bus, *terminators* must be installed (or enabled) on the devices at the physical ends of the SCSI bus. The terminators on all devices between the physical ends must be removed (or disabled). Termination on the MiniSCSI 1350 is permanently enabled, since it is always at one end of the SCSI bus.

There are various methods for terminating disk drives and other SCSI devices. Read the device documentation if you are not sure how to do this. Here are some general guidelines for termination:

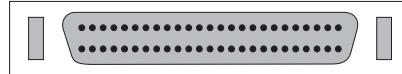
- Termination is usually controlled by installing or removing a SCSI terminator. On some SCSI devices, termination is controlled by setting a switch on the back of the device.
- Most SCSI devices come from the factory with termination enabled.

## Obtaining SCSI Cables

You will need additional SCSI cables if you connect more than one SCSI device to your MiniSCSI 1350. It is important to use high-quality cables to ensure that data is read and written correctly. Adaptec provides high-quality SCSI cables designed specifically for use with the MiniSCSI 1350. (To order Adaptec SCSI cables, call 1-800-442-7274, Monday to Friday, from 6 a.m. to 5 p.m. Pacific Time).

## Connector Types

Several different types of SCSI connectors are used on SCSI devices, and each type requires a different kind of cable. The following diagrams illustrate the different kinds of SCSI connectors:

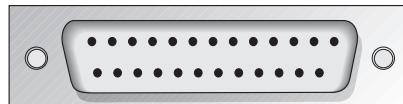


SCSI-2 High-density 50-pin Connector

Standard MiniSCSI 1350 Connector for SCSI Peripherals

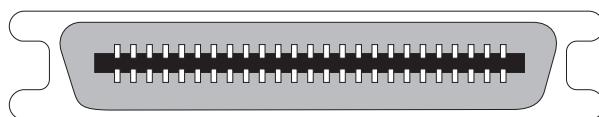
Typically used with high-performance CD-ROM drives, hard disk drives, Jaz drives, and Plug and Play devices.

If you have a SCSI device with a DB25 pin or low density 50-pin (SCSI-2) connection, you can order converters from Adaptec's web site.



DB25 Connector

Used with Iomega ZIP drives, Syquest EZFlyer, etc.



SCSI-1, Low-density Centronics 50-pin Connector

Used with many CD-ROM drives, hard disk drives, SCSI tape drives, and scanners

# Troubleshooting

Most problems with the MiniSCSI 1350 result from errors in preparing and connecting the SCSI devices to it. So, if you have problems, check the *General Hardware Troubleshooting* tips first. If the problem still remains, refer to one or more of these sections:

*WINDOWS 95 Troubleshooting*.....page 11

*Improving Overall Performance*.....page 12

*Formatting your Hard Disk Drives  
in DOS or Windows 95*.....page 13

## General Hardware Troubleshooting

- Be sure all connectors are firmly connected
- Be sure all SCSI cables and power cables are properly connected and all SCSI devices are powered
- Be sure last SCSI device (or only) is terminated
- Be sure at least one SCSI device connected to the MiniSCSI 1350 supplies termination power to the SCSI bus. Otherwise, the SCSI devices will not work correctly.



**Note:** Some devices have a switch to enable or disable termination power. See the device documentation for more information.

## **WINDOWS 95 Troubleshooting**

- **I can read from my CD-R or CD-RW but Easy CD Pro doesn't recognize the drive, therefore I'm unable to write to the CD?**

Please check the revision of Easy CD Pro. Adaptec has fixed problems in their latest revision (2.11C). This is found on their website:

<http://www.adaptec.com/support/files/upgrades.html>

The file you need is Easy2up.exe, and is found under the section CD recordable software upgrades PC.

- **In the Device Manager under SCSI controllers the MiniSCSI 1350 controller is recognized but the CD drive isn't listed under CD-ROM.**

Please check that you are using the very latest installer from Adaptec. Also, check the SCSI ID of the CD ROM, make sure it is not ID 7, 1 or 0.

- **Can I use FDISK to prepare my hard disk?**

In order to partition a hard disk drive with the FDISK command, Int 13h support has to be enabled. For instructions on how to do this refer to *Formatting your hard disk drives in Windows 95* on page 13.

- **My EPST connection is running in Nibble mode, what should I do?**

At present EPST doesn't support the parallel mode ECP properly. If you change the port mode to EPP you will find a performance increase.

## Improving Overall Performance

Following are some tips on improving the performance of the MiniSCSI 1350:

- Ensure that the CMOS setting configuration for the parallel port and the setting in the Device Manager are the same.
- Ensure that there are no Port Base and IRQ clashes with other installed devices such as Sound Cards.
- If the parallel port supports EPP, ensure that the parallel port mode in the system CMOS is set for EPP.
- To step up the system performance, in the Control Panel, select System, select the Performance tab, click on File System, ensure that the Performance is set to Full.
- Select the Trouble Shooting tab and ensure that the Write Behind Cache is enabled. These are usually the default settings.
- The MiniSCSI 1350s are programmed to give maximum performance for the following parallel port Port Base and IRQ combinations: 378h and 3BCh and IRQ 7 Port Base and IRQ combinations other than these are likely to slow down the performance.
- Ensure that the total cable length does not exceed 3 meters and that no more than 7 devices are attached. For optimum performance we recommend attaching only 4 devices.

## Formatting your hard disk drives in Windows 95

If a hard disk drive is used that has not been formatted for Windows 95 systems, you will need to prepare the Disk for its first use with the FDISK and FORMAT commands in the DOS directory of your system disk. Before you can use these commands you must enable Int 13 support for the drive.

Follow these steps to enable Int 13 support:

- 1 Go to the Control Panel.
- 2 Double-click on the **System** icon.
- 3 Click on the **Device Manager** tab.
- 4 Double-click on **Disk drives**.
- 5 Double-click on the icon for the Disk attached to your MiniSCSI 1350.
- 6 Click on the **Settings** tab.
- 7 Click on the **Int 13 Unit** field in the Options section.
- 8 Reboot for the change to take effect.

Once you have completed initialization of the disk, you can repeat the above procedure to disable the Int 13 support of your Disk. This may improve performance.



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# Contacting Adaptec

If you have questions about installing or using your Adaptec product, check this *User's Guide* first—you will find answers to most of your questions here. If you need further assistance, please contact us. We offer the following support and information services:

## Electronic Support

Technical information, including product literature, answers to commonly asked questions, information on software upgrades and other topics is available electronically through the following:

- Adaptec World Wide Web (WWW) site at  
<http://www.adaptec.com>
- File Transfer Protocol (FTP) server at *ftp.adaptec.com*
- Adaptec USA Bulletin Board Service (BBS); supports up to 28,800 bps (bits per second), 8 data bits, 1 stop bit, no parity. No product literature is available on the Adaptec BBS.  
**USA:** (408) 945-7727  
**Belgium:** (32) 2-352-3454  
**Germany:** (49) 89-45640618  
**France:** (33) 1-3060-9539  
**UK:** (44) 1276-684184
- Interactive Fax System available 24 hours a day, 7 days a week.  
**USA:** 408-957-7150  
**Europe:** (32) 2-352-3869

## Technical and Product Support

- For technical support and information about many of Adaptec's electronic support services, call 800-959-7274 or 408-945-2550, 24 hours a day, 7 days a week.
- To use the Adaptec Interactive Support System, call 800-959-7274 or 408-945-2550, 24 hours a day, 7 days a week. The system prompts you with questions regarding your problem and then provides step-by-step troubleshooting instructions.
- To speak with a product support representative, call 408-934-7274, M-F, 6:00 A.M. to 5:00 P.M., Pacific Time. After hours, on weekends, and on holidays, product support is also available for a fee at 800-416-8066.
- To speak with a product support representative in Europe call:  
**French:** (32) 2-352-3460  
**English:** (32) 2-352-3470  
**German:** (32) 2-352-3480

## Sales and Ordering Information

- For sales information, call 800-959-7274 or 408-945-2550, M-F, 6:00 A.M. to 5:00 P.M., Pacific Time.
- To order Adaptec software and SCSI cables, call 800-442-7274 or 408-957-7274, M-F, 6:00 A.M. to 5:00 P.M., Pacific Time.
- To request additional documentation for Adaptec products, call 800-934-2766 or 510-732-3829, M-F, 6:00 A.M. to 5:00 P.M., Pacific Time.
- For sales information in Europe call:  
**France:** (33) 1-34-523434  
**Germany:** (49) 89-4564060  
**UK:** (44) 1276-854500

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## **MiniSCSI 1350 User's Guide**

### **Federal Communications Commission Radio Frequency Interference Statement**

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. However, if this equipment does cause interference to radio or television equipment 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 separation between equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Use a shielded and properly grounded I/O cable and power cable to ensure compliance of this unit to the specified limits of the rules.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.



### **Canadian Compliance Statement**

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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Should you have any questions concerning this Agreement, you may contact Adaptec by writing to: Adaptec, Inc., Legal Department, 691 South Milpitas Boulevard, Milpitas, California 95035.

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Repair or replacement parts or products will be furnished on an exchange basis and will either be new or reconditioned. All replaced parts or products shall become the property of Adaptec. This warranty shall not apply if the product has been damaged by accident, misuse, abuse or as a result of unauthorized service or parts.

Warranty service is available to the purchaser by delivering the product during the warranty period to an authorized Adaptec service facility or to Adaptec and providing proof of purchase price and date. The purchaser shall bear all shipping, packing and insurance costs and all other costs, excluding labor and parts, necessary to effectuate repair, replacement or refund under this warranty.

For more information on how to obtain warranty service, write or telephone Adaptec at 691 South Milpitas Boulevard, Milpitas, CA 95035, (800) 959-7274.

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This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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