Adaptec ACS-120

USB 2.0

2.5” Hard Disk Drive Enclosure

User’s Guide

adaptec®

Copyright

©2005 Adaptec, Inc. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written consent of Adaptec, Inc., 691 South Milpitas Blvd., Milpitas, CA 95035.

Trademarks

Adaptec and the Adaptec logo are trademarks of Adaptec, Inc., which may be registered in some jurisdictions.

Microsoft and Windows are registered trademarks of Microsoft Corporation in the US and other countries, used under license.

Apple and Macintosh are trademarks of Apple Computer, Inc. in the US and other countries, used under license.

All other trademarks are the property of their respective owners.

Changes

The material in this document is for information only and is subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, Adaptec, Inc. assumes no liability resulting from errors or omissions in this document, or from the use of the information contained herein.

Adaptec reserves the right to make changes in the product design without reservation and without notification to its users.

Disclaimer

IF THIS PRODUCT DIRECTS YOU TO COPY MATERIALS, YOU MUST HAVE PERMISSION FROM THE COPYRIGHT OWNER OF THE MATERIALS TO AVOID VIOLATING THE LAW WHICH COULD RESULT IN DAMAGES OR OTHER REMEDIES.

Limited 1-Year Hardware Warranty

1. Adaptec, Inc. ("Adaptec") warrants to the purchaser of this product that it will be free from defects in material and workmanship for a period of one (1) year from the date of purchase. If the product should become defective within the warranty period, Adaptec, at its option, will repair or replace the product, or refund the purchaser's purchase price for the product, provided it is delivered at the purchaser's expense to an authorized Adaptec service facility or to Adaptec.
2. 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.
3. 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.
4. For more information on how to obtain warranty service, write or telephone Adaptec at 691 South Milpitas Boulevard, Milpitas, CA 95035, (800) 959-7274.
5. THIS LIMITED WARRANTY DOES NOT EXTEND TO ANY PRODUCT WHICH HAS BEEN DAMAGED AS A RESULT OF ACCIDENT, MISUSE, ABUSE, OR AS A RESULT OF UNAUTHORIZED SERVICE OR PARTS.
6. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES WHICH NOW OR HEREAFTER MIGHT OTHERWISE ARISE RESPECT TO THIS PRODUCT. IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT SHALL (A) HAVE NO GREATER DURATION THAN 1 YEAR FROM THE DATE OF PURCHASE, (B) TERMINATE AUTOMATICALLY AT THE EXPIRATION OF SUCH PERIOD AND (C) TO THE EXTENT PERMITTED BY LAW BE EXCLUDED. IN THE EVENT THIS PRODUCT BECOMES DEFECTIVE DURING THE WARRANTY PERIOD, THE PURCHASER'S EXCLUSIVE REMEDY SHALL BE REPAIR, REPLACEMENT OR REFUND AS PROVIDED ABOVE. INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOSS OF DATA, ARISING FROM BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ARE NOT THE RESPONSIBILITY OF ADAPTEC AND, TO THE EXTENT PERMITTED BY LAW, ARE HEREBY EXCLUDED BOTH FOR PROPERTY DAMAGE, AND TO THE EXTENT NOT UNCONSCIONABLE, FOR PERSONAL INJURY DAMAGE.
7. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR CONSUMER PRODUCTS, AND SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION OR EXCLUSIONS MAY NOT APPLY TO YOU.
8. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Regulatory Compliance Statements

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.

Adaptec, Inc. ACS-120

FC Tested to Comply
With FCC Standards

FOR HOME OR OFFICE USE

CE

European Union Compliance Statement

This Information Technology Equipment has been tested and found to comply with EMC Directive 89/336/EEC, as amended by 92/31/EEC and 93/68/EEC, in accordance with:

- EN55022 (1998) Emissions
- EN55024 (1998) Immunity:
  - EN61000-4-2 (1998) Electrostatic discharge: ±4 kV contact, ±8 kV air
  - EN61000-4-3 (1998) Radiated immunity
  - EN61000-4-4 (1995) Electrical fast transients/burst: ±1 kV AC, ±0.5 kV I/O
  - EN61000-4-5 (1995) Surges ±1 kV differential mode, ±2 kV common mode
  - EN61000-4-6 (1996) Conducted immunity: 3 V
  - EN61000-4-11 (1994) Supply dips and variation: 30% and 100%

In addition, all equipment requiring U.L. listing has been found to comply with EMC Directive 73/23/EEC as amended by 93/68/EEC in accordance with EN60950 with amendments A1, A2, A3, A4, A11.

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.

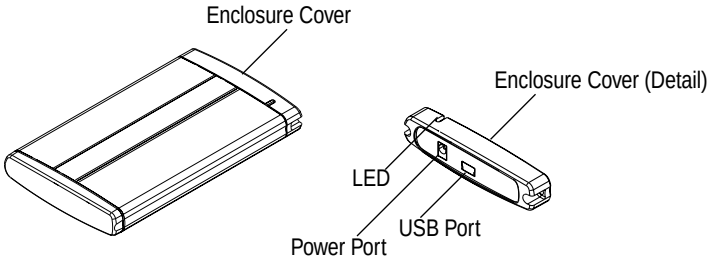
In this Guide...

Kit Contents 5
Supported Disk Drives 5
System Requirements 6
Getting Started Checklist 6
Preparing the Disk Drive for Installation 7
Installing a Disk Drive 7
Installing the Device Driver–Windows 98SE Only 8
Connecting and Powering On 9
Getting Enough Power 9
Next Steps 11
Disconnecting Your USB Enclosure 12
Troubleshooting 13

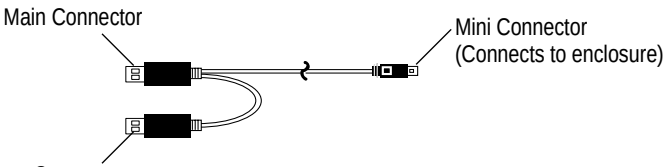
This *User's Guide* explains how to install and connect your Adaptec® ACS-120 USB 2.0 hard disk drive enclosure.

Kit Contents

- Adaptec ACS-120 USB 2.0 hard disk drive enclosure (shown below)



- High-quality USB Y-cable (shown below)



Secondary Connector—
Use only when extra power is required (see page 9); does not transmit data.

- Carrying case
- Bag of screws
- CD, including device drivers and documentation

Supported Disk Drives

A disk drive is not included in the kit. The Adaptec ACS-120 USB Enclosure supports 2.5-inch IDE hard disk drives that meet these requirements:

100.5 mm L x 70.1 mm W x 9.7 mm H

(3.96 inches L x 2.76 inches W x 0.38 inches H)

System Requirements

To successfully install and use your Adaptec ACS-120 USB Enclosure, your computer must meet these requirements:

- Microsoft® Windows® computers must be running Windows XP, Windows 2000, Windows Me, or Windows 98SE

  Macintosh computers must be running OS 9.2.2 or later for USB 1.1 support, or OS 10.2.7 or later for USB 2.0 support

- Available USB port (see *About USB 2.0 Performance* below for more information)
- CD-ROM drive

About USB 2.0 Performance

Your Adaptec ACS-120 USB Enclosure is a USB 2.0 device. For it to operate at USB 2.0 speeds, it must be connected to a USB 2.0 port, and USB 2.0 drivers must be installed on your computer.

If your computer does not have a built-in USB 2.0 port, Adaptec recommends connecting the ACS-120 USB Enclosure to an Adaptec USB 2.0 adapter for the highest-quality USB 2.0 connection.

Getting Started Checklist

Complete these steps to install and begin using your Adaptec ACS-120 USB Enclosure:

- ❑ Prepare the disk drive for installation (see below).
- ❑ Install the disk drive (see page 7).
- ❑ Install the device driver on your computer—*Windows 98SE only* (see page 8).
- ❑ Connect the enclosure (see page 9).
- ❑ Prepare the disk drive for use (see page 11).

Preparing the Disk Drive for Installation

Before installing the disk drive, ensure that it meets the requirements listed in *Supported Disk Drives* on page 5.

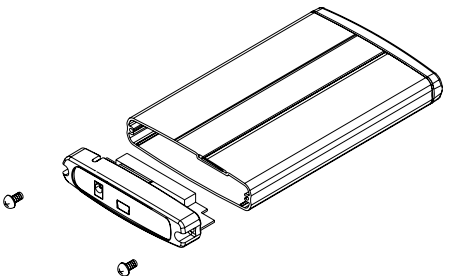
Set the drive jumper to **Master** or **Device 0** mode (or equivalent, as described on your disk drive), following the instructions on your disk drive.

Installing a Disk Drive

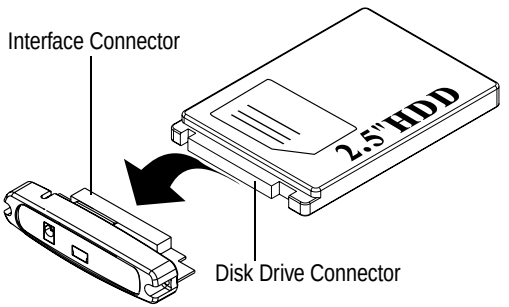
Note: You need a Phillips screwdriver to complete this task.

To install a disk drive into your USB Enclosure:

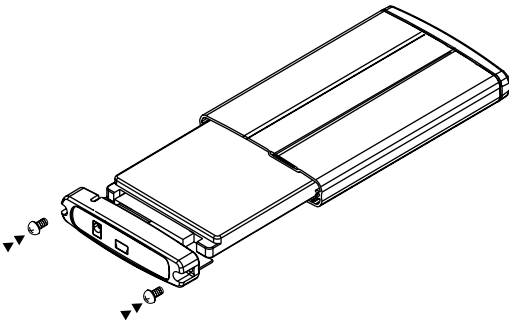
1 Use a screwdriver to remove the enclosure cover, as shown below.



2 Connect the EIDE / IDE connector of your disk drive to the interface connector inside the enclosure cover.



3 Slide the disk drive into the enclosure, then use the screws you removed in Step 1 on page 7 to secure the enclosure cover, as shown below.



Installing the Device Driver–*Windows 98SE Only*

Note: *Windows XP/2000/Me and Macintosh users*—No driver installation is required. Your Adaptec ACS-120 USB Enclosure works with the drivers built into your operating system.

Before you begin, ensure you have the most recent operating system updates installed on your computer. Refer to the Microsoft Web site at www.microsoft.com to download updates.

To install the device driver:

1 Power on your computer, if you have not already done so.

2 Insert the CD into your CD-ROM drive.

3 From the Windows **Start** menu, click **Run**, then click **Browse**.

4 Browse to the CD-ROM drive, then double-click **Setup.exe** to begin the driver installation.

5 Follow the on-screen instructions to install the driver.

Connecting and Powering On

Note: *Windows 98SE users only*—You must install the device drivers *before* connecting and powering on the enclosure.

Plug the mini-connector of the included USB Y-cable (shown on page 5) into the USB port on the enclosure, then plug the main connector into an available USB 2.0 port on your computer.

When your computer is powered on, the enclosure is also powered on. See *Getting Enough Power* on page 9 for more information.

You have successfully installed and connected your Adaptec ACS-120 enclosure.

Getting Enough Power

The Adaptec ACS-120 USB Enclosure is bus-powered. However, if you connect the enclosure to an adapter (such as a CardBus) that is not able to supply adequate power, you may see one of these messages:

USB Power Surge *(Windows XP)*

The hub doesn't have enough power available... *(Windows 2000)*

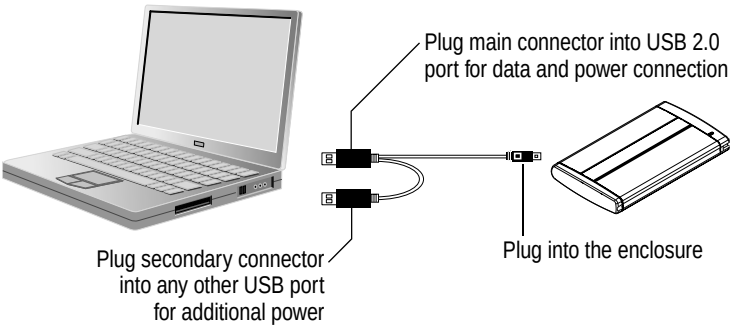
USB power exceeded *(Windows Me and Windows 98SE)*

If one of these messages appears, provide more power to the enclosure:

- First, try connecting the secondary connector on the Y-cable to your computer. For instructions, see page 10.
- If the problem persists, connect an external power supply (not included) to the enclosure. For instructions, see page 10.

Connecting the USB Y-Cable to a Second USB 2.0 Port

If you have another available USB port on your computer (does not have to be a USB 2.0 port), plug in the Y-cable's secondary connector. The secondary USB connector provides additional power to the enclosure.



Connecting an External Power Supply

If the USB Y-cable does not supply enough power, try connecting an external power supply (not included) to the power port on the enclosure.

The external power supply must meet these requirements:

- Rated at 5 Volts
- Capable of 1–1.5 Amps (depending on disk drive power consumption)
- Connector size:
  - 3.5 mm outside (-) diameter
  - 1.35 mm inside (+) diameter
  - 10 mm length

Next Steps

If you have installed a *new* disk drive in your enclosure, you must prepare it for use by initializing and formatting it, so that your computer can recognize and communicate with it.

Caution: If you've used the disk drive previously and want to preserve the data on it, *do not* initialize and format the disk drive or you'll erase all the data on it. Refer to your operating system documentation for more information.

The process of initializing and formatting a new disk drive differs by operating system. Refer to your operating system documentation for instructions on completing these tasks.

Note: For technical assistance with the initialization and formatting process, please contact Microsoft (Windows users) or Apple (Macintosh users).

Disconnecting Your USB Enclosure

Although the enclosure supports hot-plugging and hot-unplugging, Adaptec recommends that you follow these instructions to gracefully disconnect your enclosure from your computer.

Windows

To disconnect the enclosure:

1. Ensure that all activity is stopped (no files are being transferred to or from the computer).
2. Click the icon[1] shown at right, located on your system tray in the bottom right corner of your screen. (Windows 98SE users must right-click on this icon.)

3. Click **USB Mass Storage Device**[2], then click **Stop**.

   A message appears telling you that the device has been stopped.

4. Click **OK**.

It is now safe to disconnect your USB Enclosure.

Macintosh

Ensure that all activity is stopped (no files are being transferred to or from the computer). To disconnect the enclosure, click on the icon for the disk drive and drag it into the trash can.

It is now safe to disconnect your USB Enclosure.

---

[1] Depending on your operating system, the wizard may be called the Safely Remove Hardware wizard, Unplug or Eject Hardware wizard, or the USB Monitor wizard.

[2] Depending on your operating system, this option may be **Stop USB Mass Storage Device** or **USB Disk** instead.

Troubleshooting

If you have problems installing or using your Adaptec ACS-120 USB Enclosure, work through this list of suggestions:

- Ensure that the disk drive has been properly installed.
- Try connecting the enclosure to your computer through a different USB port.
- Try connecting the enclosure to your computer using a different USB cable.
- Try plugging the USB Y-cable's secondary connector (shown on page 5) into any USB port on your computer, as described on page 10. (You may want to do this even if the LED indicator on the enclosure is green and even though you may not receive an error message from the operating system.)

  If the problem persists, try connecting an external power supply, as described on page 10.
- If you are using Windows with a file system *other than* NTFS, and the file system of the disk drive installed in the Adaptec ACS-120 is NTSF, Windows may not recognize or be able to read from or write to the disk drive.

  See the Table below for compatibility information:

Operating System File System	ACS-120 Disk Drive File System	Compatibility
FAT16	FAT16	OK
	FAT32 or NTFS	No
FAT32	FAT16 or FAT32	OK
	NTFS	No
NTFS	FAT16 or FAT32 or NTFS	**Yes**

- *Windows 98SE users*—If you connected and powered on your USB Enclosure *before* you installed the device drivers:

  a. On your desktop, right-click **My Computer**, select **Properties**, then click the **Device Manager** tab.

  b. Expand the categories to find your USB device, which will appear with a yellow exclamation mark beside it. Select the enclosure, then click the **Remove** button at the bottom of the window.

  c. Disconnect the USB Y-cable.

  d. Complete the driver installation, following the instructions on page 8.

  e. Reconnect the USB Y-cable.

For technical assistance initiating and formatting your disk drive, please contact Microsoft (Windows users) or Apple (Macintosh users).

Adaptec, Inc.
691 South Milpitas Boulevard
Milpitas, CA 95035 USA

©2005 Adaptec, Inc.
All rights reserved. Adaptec and the Adaptec logo are trademarks of Adaptec, Inc. which may be registered in some jurisdictions.

Part Number: CDP-00065-01-A, Rev. A
LB 04/05