

# Table of Contents

Foreword	2
Precautions	4
<b>1 Unpacking Your LaCie Drive</b>	<b>5</b>
1.1 Minimum System Requirements	6
1.2 Stacking Your LaCie mini	7
<b>2 Getting Connected</b>	<b>8</b>
2.1 Connect the Power Supply and Switch On the Drive	11
2.2 Connect the interface cable to Your LaCie mini and to Your Computer	12
2.3 Using your LaCie mini as a hub	13
<b>3 Using Your LaCie Drive</b>	<b>14</b>
3.1 Formatting and Partitioning Your LaCie mini	15
3.1.1 Mac Users	15
3.1.2 Windows Users	17
<b>4 Helpful Information</b>	<b>19</b>
4.1. Advice for Optimizing FireWire Connections	19
4.1.1 What Is FireWire/IEEE 1394?	19
4.1.2 Disconnecting FireWire Devices	20
4.2 Advice for Optimizing USB 2.0 Connections	20
4.2.1 What Is USB 2.0?	21
4.2.2 Disconnecting USB 2.0 Devices	22
4.2.3 Data Transfers	23
4.3 File System Formats	24
4.3.1 Mac Users	24
4.3.2 Windows Users	25
<b>5 Troubleshooting</b>	<b>26</b>
<b>6 Contacting Customer Support</b>	<b>31</b>
<b>7 Warranty</b>	<b>33</b>

## Copyright

Copyright © 2005 LaCie. 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 LaCie.

## Trademarks

Apple, Mac and Macintosh are registered trademarks of Apple Computer, Inc. Microsoft, Windows 98, Windows 98 SE, Windows 2000, Windows Millennium Edition and Windows XP are registered trademarks of Microsoft Corporation. Other trademarks mentioned in this manual are the property of their respective owners.

## Changes

The material in this document is for information only and subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, LaCie assumes no liability resulting from errors or omissions in this document, or from the use of the information contained herein. LaCie reserves the right to make changes or revisions in the product design or the product manual without reservation and without obligation to notify any person of such revisions and changes.

## FCC Statement

 **WARNING:** *Modifications not authorized by the manufacturer may void the user's authority to operate this device.*

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



NOTE: 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 and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation 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.

### **Canada Compliance Statement**

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

### **Manufacturer's Declaration for CE Certification**

We hereby certify that this device is in compliance with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

Class B EN60950, EN55022, EN50082-1, EN61000-3-2

With reference to the following conditions:

73/23/EEC Low Voltage Directive

89/336/EEC EMC Directive



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designed collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service, or the shop where you purchased the product.

## Health and Safety Precautions

Only qualified persons are authorized to carry out maintenance on this device.

- Read this User's Guide carefully, and follow the correct procedure when setting up the device.
- Do not open your hard drive or attempt to disassemble or modify it. Never insert any metallic object into the drive to avoid any risk of electrical shock, fire, short-circuiting or dangerous emissions. Your hard drive contains no user-serviceable parts. If it appears to be malfunctioning, have it inspected by a qualified LaCie Technical Support representative.
- Never expose your device to rain, or use it near water, or in damp or wet conditions. Never place objects containing liquids on the drive, as they may spill into its openings. Doing so increases the risk of electrical shock, short-circuiting, fire or personal injury.

### General Use Precautions:

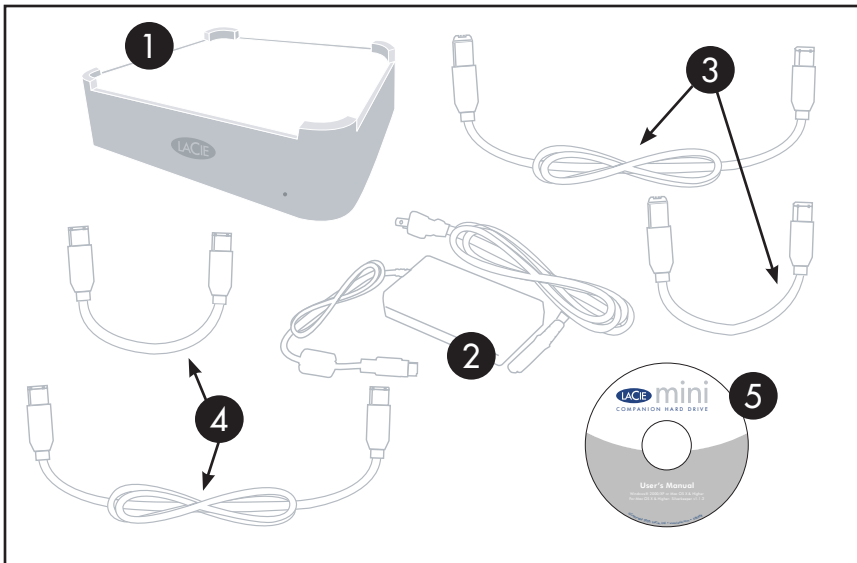
- Do not expose the hard drive to temperatures outside the range of 5° C to 35° C (41° F to 95° F) in operating mode. Doing so may damage the drive or disfigure its casing. Avoid placing your drive near a source of heat or exposing it to sunlight (even through a window). Inversely, placing your drive in an environment that is too cold or humid may damage the unit.
- Do not use the hard drive near other electrical appliances such as televisions, radios or speakers.
- Do not place the drive near sources of magnetic interference, such as computer displays, televisions or speakers. Magnetic interference can affect the operation and stability of your hard drive.
- Do not place heavy objects on top of the drive or use excessive force on it.
- Never use excessive force on your drive. If you detect a problem, consult the Troubleshooting section in this manual.
- Protect your hard drive from excessive exposure to dust during use or storage. Dust can build up inside the device, increasing the risk of damage or malfunction.
- Never use benzene, paint thinners, detergent or other chemical products to clean the outside of the drive. Such products will disfigure and discolor the casing. Instead, use a soft, dry cloth to wipe the device.



**WARNING:** *The drive's warranty may be void as a result of the failure to respect the precautions listed above.*

## 1. Unpacking Your LaCie Drive

Your LaCie mini HUB is designed to upgrade the storage capacity of your Mac mini, conveniently stacking under it. The LaCie mini also expands your digital options with USB hub connectivity, which allows you to use the additional USB ports even when the drive is connected to your computer via FireWire. The mini HUB also boasts extra FireWire ports for daisy-chaining. You can use your LaCie mini across platforms. It is ideal for speed intensive applications, the LaCie mini handles your demanding data needs. Secure and stable, the LaCie mini is an easy way to add storage space to your computer without losing space on your desk.



- 1 LaCie mini HUB
- 2 Power supply and adapter cable
- 3 Long and short Hi-speed USB 2.0 certified cables
- 4 Long and short FireWire Cables
- 5 LaCie Storage Utilities CD-ROM

## 1.1 Minimum System Requirements

### System Requirements for FireWire 400:

- Mac OS 9.x (Apple FireWire support 2.3.3 and greater) and 10.1
- Windows 98 SE, Windows Me, Windows 2000 and Windows XP

### Hardware Requirements for FireWire 400:

- Mac: G3 or greater, with FireWire 400/IEEE 1394a interface card
- PC: Pentium II or higher -compatible processor, with a FireWire/IEEE 1394/iLink interface card (SBP-2 compatible) that supports mass storage devices.
- 64MB RAM or greater



**IMPORTANT NOTE:** Your LaCie mini is compatible with the Sony iLink and FireWire 800 interfaces. In order to use your drive with these interfaces, you must use an appropriate LaCie certified interface cable (sold separately). The iLink interface requires a 4-pin to 6-pin cable, and the FireWire 800 interface requires a 6-pin to 9-pin cable. Consult your LaCie reseller or LaCie Customer Service to find the appropriate cable.

### System Requirements for USB 2.0:

- Windows 98 SE, Windows 2000, Windows Me and Windows XP
- Mac OS 9.x (Apple USB support 1.3.5 and greater) and Mac OS 10.1, 10.2, 10.3, and 10.4

### Hardware Requirements for USB 2.0:

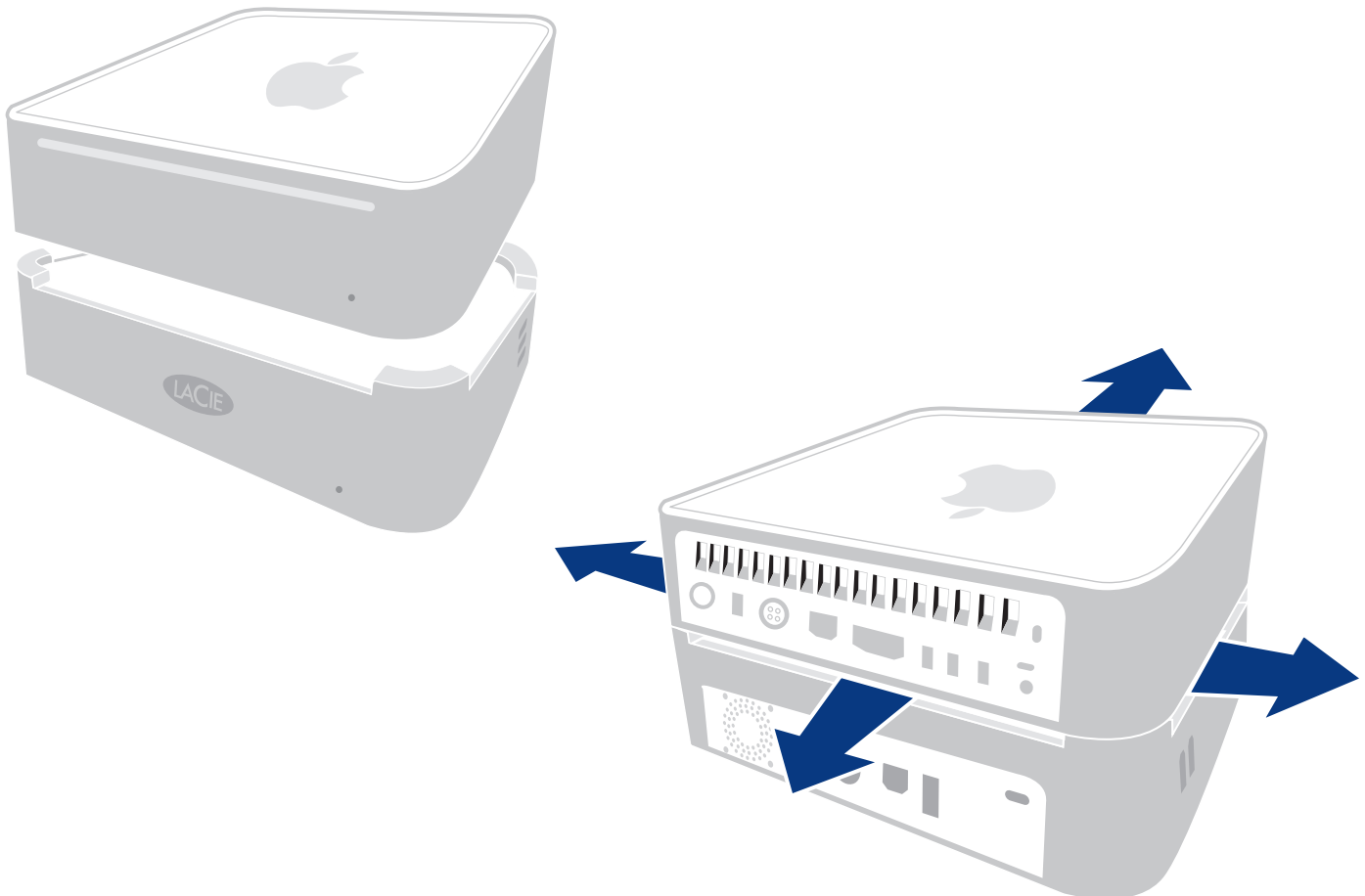
- Mac: G3 processor or greater
- Computer with USB 2.0 or 1.1 interface\*
- Intel Pentium 233MHz-compatible processor or greater
- Minimum 32MB RAM



**TECH NOTE:** \*To achieve USB 2.0 speeds, your drive must be connected to a USB 2.0 host port. If it is connected to a USB 1.1 port, your drive will operate at USB 1.1 speeds. For more details, see 4.1. Advice for Optimizing USB 2.0 Connections.

## 1.2 Stacking Your LaCie mini

Your LaCie mini is designed to stack under another LaCie mini or your Apple Mac mini. To allow for proper cooling, always stack your LaCie mini under your Apple Mac Mini or another LaCie mini. **DO NOT** turn over your drive or place your LaCie mini on top of the Apple Mac mini, as this will risk overheating.



## 2. Getting Connected

Follow these steps to quickly get your LaCie mini powered on and connected to your computer. See the following steps to get started:

- 2.1 [Connect the Power Supply and Switch On the Drive](#)
- 2.2 [Connect the Interface cable to Your LaCie Drive and to Your Computer](#)
- 2.3 [Connect USB and FireWire devices with the lateral connector](#)

Once you've gotten the drive powered on and connected to your computer, move on to section 3 [Using Your LaCie Drive](#) for important information on how to format and utilize your drive.

### **Mac OS 9.x Users!**

### **Windows 98 SE and Windows Me Users!**

Before following these three steps, first install this important software to help you configure and manage your LaCie drive.

- Mac OS 9.x Users, see 3.1.1.
- Windows 98 SE and Windows Me Users, click see 3.1.2.



### Mac OS 9.x Users Only: Silverlining Pro Installation

Before connecting the power supply and interface cable to your drive, you will need to install Silverlining Pro, which will help you manage your drive. Follow the steps below to install the necessary drivers and software to configure your drive. Then move on to the power supply and interface cable installation steps.

1) Insert the **LaCie Storage Utilities CD-ROM** in your computer's internal CD/DVD drive.

2) Open the CD icon and double-click the **Silverlining Software** folder.

3) Double-click the **Silverlining Installer** icon (FIG. 2.1).

4) The **Silverlining Utilities** screen appears. Click **Continue**.

5) The "Silverlining Read Me" screen appears. Read the following information and click **Continue**.

6) The "License Agreement" screen appears. Click **Agree**.

7) The "Installation" screen appears. Choose either **Easy Install**, **Custom Install**, or **Uninstall** from the pull-down menu in the upper left-hand side of the "Installation" screen. Once you've made your choice, click **Install**.

8) A message appears to confirm that the installation was successful. Now move onto Step 1.

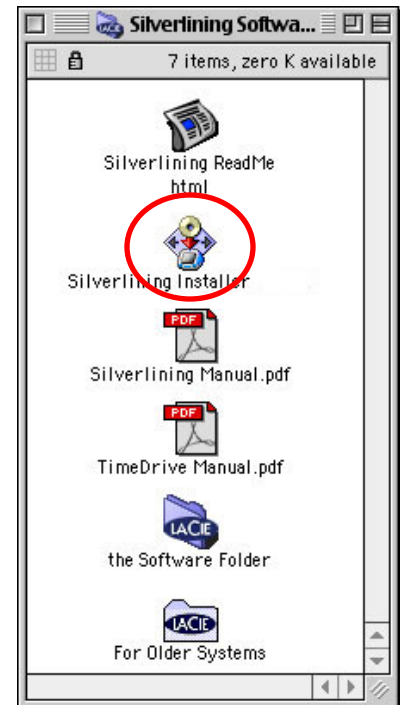


FIG 2.1

## Windows 98 SE and Windows Me Users Only! Silverlining 98 Installation

Before connecting the power supply and interface cable to your drive, you will need to install **Silverlining 98**, which will help you manage your drive. Follow the steps below to install the necessary drivers and software to configure your drive. Then move on to the power supply and interface cable installation steps.

1) Insert the **LaCie Storage Utilities** CD-ROM in your computer's internal CD/DVD drive and open the disc (Fig.2.2).

2) Double-click the **Silverlining 98** folder.

3) Double-click the **Silverlining98\_Install.EXE** icon.

4) **Silverlining 98** will then initialize the install screen.

5) The "Welcome" screen will appear. Click **Next**.

6) The "Destination Location" screen will appear. To alter the location where the software is installed on your system, click the **Browse** button. If you do not want to change the location, do not click on the **Browse** button, and allow the software to be installed in its default location. Click **Next** to continue.

7) Next is the "Start Installation" screen. Click **Next**.

8) The software installation will begin, and you will see the installation screens.

9) Finally, you will see the "Silverlining 98 has been installed correctly" screen. Click **Finish** to complete the installation. Now move onto Section 2.1.

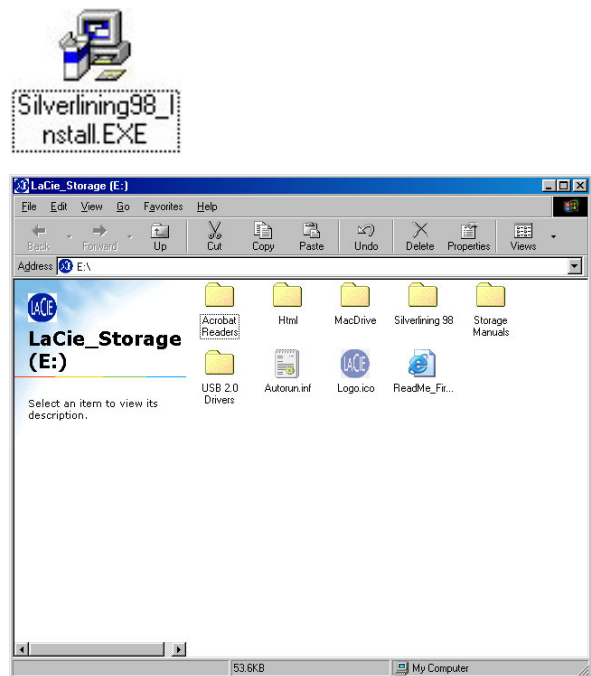
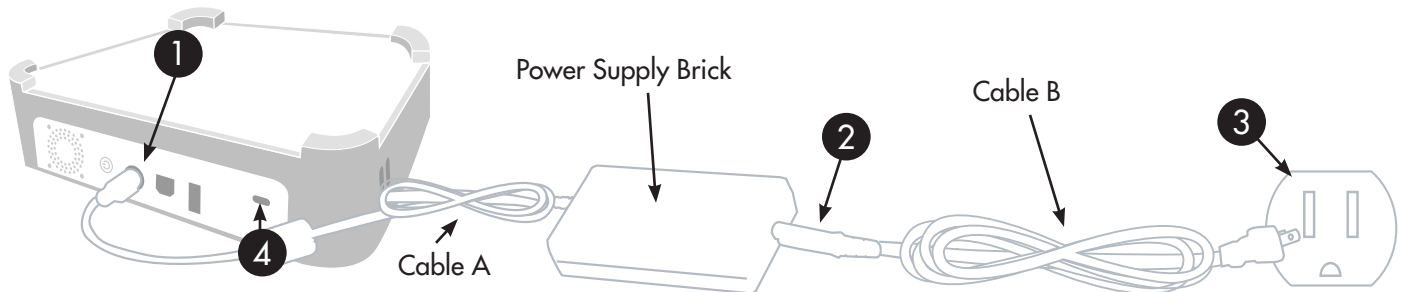


FIG 2.2

## STEP 2.1 – Connect the power supply and switch on the drive.



There are two cables that are supplied with the power supply: one cable (**A**) connects to a power outlet, such as a wall outlet or a surge protector; and the other cable (**B**) connects to the LaCie drive.

- 1 Connect Cable A to your LaCie mini.
- 2 Connect Cable B to the Power Supply brick.
- 3 Connect Cable B to a wall outlet.
- 4 Turn the drive on and off by using the On/Off switch.



**WARNING:** Use only the AC adapter supplied with your specific LaCie mini. Do not use a power supply from another LaCie drive or another manufacturer. Using any other power cable or power supply may cause damage to the device and void your warranty. Always remove the AC adapter before transporting your LaCie drive. Failure to remove the adapter may result in damage to your drive and will void your warranty.



**IMPORTANT NOTE:** You may use your LaCie mini when in a foreign country, thanks to its autoswitching 100-240 Volt power supply. To be able to use this feature, you may need to purchase an appropriate adapter or cord. Consult LaCie Technical Support for assistance in choosing the right adapter. LaCie accepts no responsibility for any damage to the drive resulting from the use of an inappropriate adapter. Using an adapter other than one authorized by LaCie will void your warranty.

## STEP 2.2 – Connect the interface cable to your LaCie mini and to your computer

- 1 Connect the FireWire (right) and/or USB (below right) cable to your drive through the host connector to use it as a hard drive or a hub.
- 2 Connect the cable to your computer. After a few seconds, your LaCie mini drive will mount on your computer.



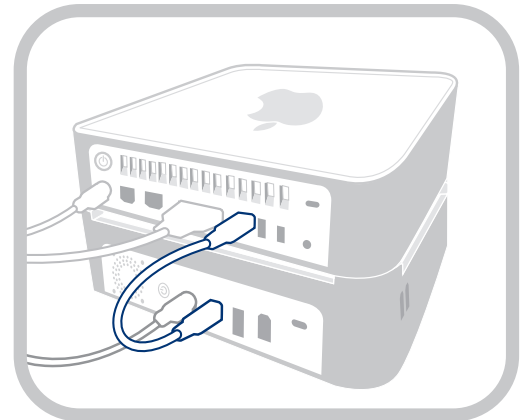
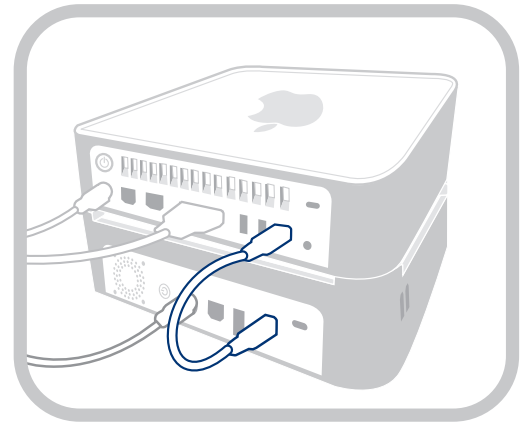
**TECH NOTE:** For information about using your LaCie mini as a hub, see section 2.3 [Using Your LaCie mini as a hub](#). Please refer section 4.1 [Advice for Optimizing FireWire Connections](#) for important information on disconnecting FireWire devices and ensuring optimum performance. Please refer to section 4.2 [Advice for Optimizing USB 2.0 Connections](#) for important information on disconnecting USB 2.0 devices and ensuring optimum performance. To achieve USB 2.0 speeds, your drive must be connected to a USB 2.0 host port. If it is connected to a USB 1.1 port, your drive will operate at USB 1.1 speeds. For more details, see 4.2 [Advice for Optimizing USB 2.0 Connections](#).



**TECH NOTE:** LaCie recommends using the short interface cables included for connecting to your Apple Mac mini and the longer cables included for daisy chaining or connecting to a computer other than the Apple Mac mini.

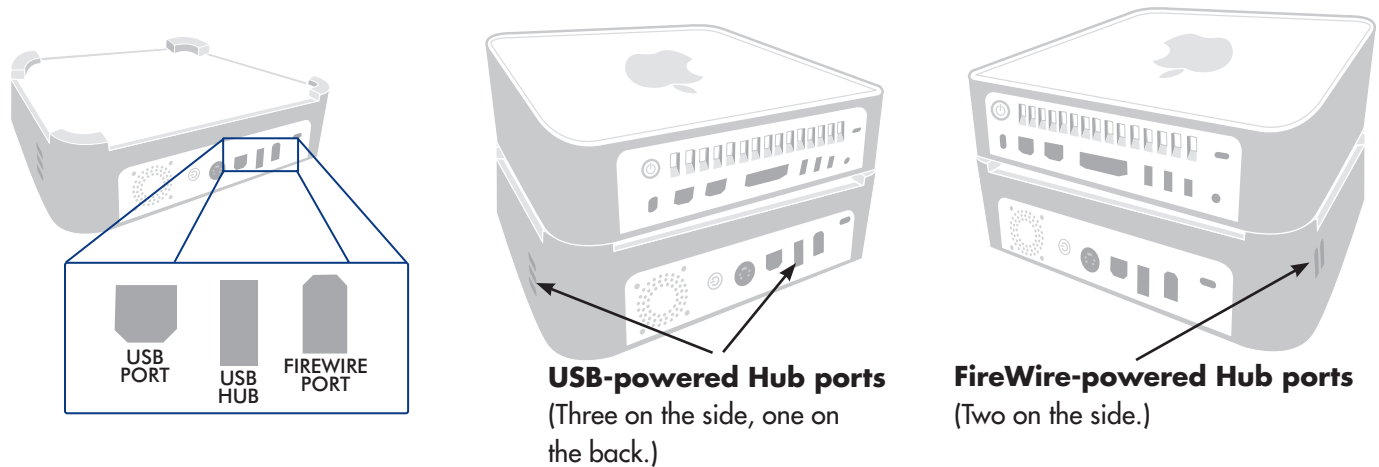


**IMPORTANT NOTE:** *Windows Users:* You'll need to reformat your drive. Please refer to Section 3.1.2. *Windows Users* for information about re-formatting. *Mac Users:* It may take a few seconds for the drive to appear on your desktop.



## STEP 2.3 – Using your LaCie mini as a Hub

To use your LaCie mini Hub Hard Drive as a USB hub, it must be plugged into your computer through the USB port. To use it as a FireWire hub, it must be plugged into your computer through the FireWire port. To use both USB & FireWire Hub ports, plug both your USB & FireWire cables into your computer.



**TECH NOTE:** For information about connecting your LaCie mini to your computer, see section 2.2 Connecting the interface cable to your LaCie mini and to your computer.



**TECH NOTE:** LaCie recommends using the short interface cables included for connecting to your Apple Mac mini and the longer cables included for daisy chaining or connecting to a computer other than the Apple Mac mini.

## 3. Using Your LaCie Drive

**Formatting** a disk consists of the following: the operating system erases all of the bookkeeping information on the disk, tests the disk to make sure that all of the sectors are reliable, marks bad sectors (i.e., those that are scratched) and creates internal address tables that it later uses to locate information.

As you format the drive, you will have the opportunity to divide the hard drive into sections, called partitions. A **partition** is a section of the hard drive's storage capacity that is created to contain files and data.

Once formatted, the actual available storage capacity varies, depending on operating environment, and is generally about 10% less than the non-formatted capacity.

### File System Formats

There are three different file system formats that are predominately found in Mac and Windows environments:

- Mac OS Extended (HFS+) - for Mac OS 9.x and Mac OS 10.x
- NTFS - for Windows 2000 and XP
- FAT 32 - for Windows Me and legacy operating systems

### Windows Users

- If you will be using this drive between Windows 98SE, Me, 2000 and/or XP environments, it is recommended that you create two partitions: one that is a 32GB FAT 32 (MS-DOS File System) volume, and the other as a large NTFS volume.
- If you will be using the drive in a strictly Win 2000/XP environment, create one large NTFS volume.



**TECH NOTE:** *Windows Users!* This LaCie Hard Drive is formatted for the Mac operating system, and you will need to re-format the drive in order for it to appear and operate under the Windows operating system.



**IMPORTANT NOTE:** *If you will be using this drive between Mac and Windows operating environments, you can create two partitions: one 32GB FAT 32 volume, and one large Mac OS Extended volume. There are certain limitations to this configuration, though; to achieve the best performance and reliability, it is recommended that you utilize a third-party utility, such as Mediabfour's MacDrive, which allows Windows computers to read and write files on a volume formatted for the Mac.*

### Mac Users

- If you will be using the drive in a strictly Mac OS environment, leave the drive formatted as one large Mac OS Extended volume.
- If you want to be able to install multiple Mac operating systems on the LaCie Drive, partition the drive into multiple Mac OS Extended volumes.



6) Select the **LaCie** drive, and then click on the **Partition** tab.

7) From the **Volume Scheme:** button, choose the number of partitions you want to divide the drive into by clicking on the pull down menu starting with **Current** (Mac OS 10.x gives you the option of dividing the drive into at most 8 partitions). You can customize the size of the partitions by using the slide bar between the partitions in the **Volume Scheme:** area.

8) In the **Volume Information** section, create a name for each partition, choose the volume format (Mac OS Extended, Mac OS Standard or UNIX File System) and the volume size.



**IMPORTANT NOTE:** Please refer to section 4.3. [File System Formats](#), for a more detailed discussion on the differences between the two systems.



**IMPORTANT NOTE:** Apple recommends that unless you have a specific reason to use the UNIX File System (UFS), you should use the Mac OS Extended format since it provides a more familiar experience to Macintosh users.

9) In the **Options** section, click the **Install Mac OS 9 Disk Drivers** box if you plan on sharing the drive between the Mac OS 9.x and Mac OS 10.x.

10) Once you have finalized the volume format, number of partitions, size and options, click **OK**. The following message will appear: "Warning! Saving the new volume will erase all existing volumes. This can NOT be undone. Are you sure you want to do that?" Click **Partition** to continue.

11) Mac OS 10.x will automatically setup the disk with the partitions and volume format you selected, and your new drive will be available for use.



### 3.1.2. Windows Users

The LaCie mini is formatted in HFS+ so Windows users must reformat it. If you use only Windows 2000 and XP, format the drive in NTFS. If you want cross platform use between Windows and Mac and or Windows 98 SE and Me, please use FAT32.

- Windows 98 SE and Me – Install and use LaCie Silverlining 98, which is included with your drive.
- Windows 2000 and XP – Use the Disk Management Utility, which is native to the operating system.

For instructions on installing and using Silverlining 98, please refer to the Silverlining manual, located on your LaCie Storage Utilities CD, in PDF format.

### Formatting And Partitioning Using Windows 2000 And Windows XP

The process of formatting and partitioning a drive on a computer running Windows 2000 or Windows XP consists of two steps: (1) installing a signature on the drive, and (2) partitioning/formatting the drive. These steps will erase anything that is on the disk.

1) Connect the drive to the computer via the USB 2.0 and/or FireWire port. Right-click **My Computer** and click **Manage**.

2) From the **Computer Management** window, select **Disk Management** (located below the **Storage** group).

3) If this is the first time the drive is being formatted, Windows 2000 will launch the **Write Signature Wizard** (**Write Initialize Wizard** in Windows XP). Click **Next**.

**IMPORTANT NOTE:** Check the “quick format” box.

4) Windows will list the new drive(s) attached. If you are formatting a single drive, only one drive should be visible. Select the checkbox next to the drive and click **Next**.

5) Click **Finish** to exit the Wizard.

6) Now, with the disk management window open, a new drive will be visible. Right-click on the available space and select **Create Partition...**

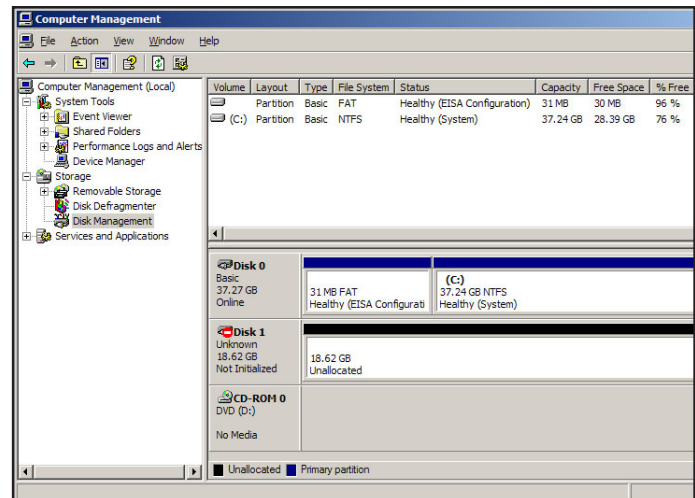


Fig. 3.2

7) This will bring up the **Create Partition** Wizard. Click **Next**.

8) Select **Primary Partition** (fig. 3.3). Click **Next**.

9) Here you must specify partition size. It is recommended that you leave the partition set to the maximum available size, unless you want multiple partitions on the same drive. Click **Next**.

10) Select Assign drive letter and select the desired letter for the drive. Click **Next** (fig. 3.4).

11) Select **Format this partition...** and then select a file system:

### FAT32

FAT32 is a file system that is compatible with Windows 98 SE, Windows Me, Windows 2000 and Windows XP; however, it has limitations. In Windows 2000 and Windows XP, you will not be able to create a partition greater than 32GB.

### NTFS

NTFS is a newer file system that is compatible only with Windows NT, Windows 2000 and Windows XP. It has fewer limitations than FAT 32 and will enable a partition to be created that is larger than 32GB.

**i** **IMPORTANT NOTE:** Please refer to section 4.2. [File System Formats](#), for a more detailed discussion on the differences between the two systems.

12) Click **Next**.

13) Click **Finish**.

14) **Disk Management** will create the partition and begin formatting the drive. Once completed, close Disk Management and your new drive will be ready to use (fig. 3.5).



Fig. 3.3

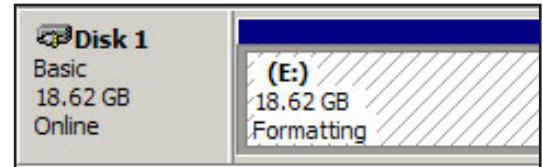


Fig. 3.4



Fig. 3.5

## 4. Helpful Information

### 4.1. Advice For Optimizing FireWire Connections

The following technical information relates to your LaCie mini drive and gives some practical advice:

#### 4.1.1. What is FireWire/IEEE 1394?

A serial bus used to connect external computer and consumer electronic devices to computers and consumer electronic consoles.

##### What does IEEE 1394 mean?

“1394” is an abbreviation of IEEE 1394, the name given to this high-performance serial bus. IEEE (the Institute of Electrical and Electronic Engineers) is the name of the engineering corps that developed this standard. The 1394 refers to the 1,394th standard that the IEEE has produced.

##### What is the relationship between IEEE 1394, FireWire, iLink and DV?

These four names all refer to the same interface:

- IEEE 1394 - the name of the standard, used in the computer industry.
- FireWire - the brand name used by Apple.
- iLink - the brand name used by Sony.
- DV - logo used by video camcorder manufacturers.

##### What can the FireWire interface be used for?

With its high data transfer rates, FireWire is a great interface for consumer electronics, like CD and DVD recorders, external hard drives and video devices, such as digital camcorders, because it has an extremely large bandwidth and supports two types of data transfer (asynchronous and isochronous) which help to guarantee the transfer of time-critical data.

FireWire is also a point-to-point interface, meaning that a FireWire device can transmit data to another FireWire device without having to go through a computer. This lets several computers share a given device, and also allows up to 63 devices to be daisy-chained to the same FireWire bus (with a max of 16 devices on one branch). To daisy-chain, connect your one FireWire drive directly to the computer, then connect another FireWire drive to the first FireWire drive, then another until you reach 16. Then do the same on the rest of the ports on the FireWire bus.



### FireWire Cables and Connectors

There are three different types of FireWire cables on the market: 6-to-6-pin, 6-to-4-pin and 4-to-4-pin. LaCie FireWire devices are shipped with a certified 6-to-6-pin FireWire cable. Most FireWire-equipped laptop computers feature a 4-pin FireWire connector, so in order to connect your LaCie drive to a laptop with a 4-pin FireWire port, you will need to purchase a LaCie certified 6-to-4-pin FireWire cable (sold separately). If your computer does not have a FireWire port, or only has a 4-pin port, consult your LaCie reseller or LaCie Customer Support for information about adding a LaCie FireWire PCI or PCMCIA card.

### 4.1.2. Disconnecting FireWire Devices

FireWire external devices feature “plug & play” connection. This means that your drive can be connected and disconnected while the computer is running. To prevent failures, it is important you follow these steps when disconnecting your FireWire device.

#### Windows Users

Important Note: Windows 98 SE Users: If you have installed the Windows Storage Supplement Update, you will have to unmount the drive before disconnecting it or powering it down. If you have not installed the update, simply disconnect the drive when it is not active. No unmounting is required.

1) From the **System Tray** (located in the lower right-hand side of your screen), click on the **Eject** icon (a small green arrow over a hardware image).



Fig. 4.1

2) A message will appear, detailing the devices that the **Eject** icon controls, i.e. “Safely remove...” Click on this prompt.

3) You will then be given the following message: “Safe to Remove Hardware” (or similar). It is now safe to disconnect the device.

#### Mac Users

You must unmount the hard drive system before disconnecting it or powering it down. Either:

- Drag the hard drive icon to the trash.
- Launch Silverlining Pro, highlight the hard drive and select “Unmount.”

The drive can now be disconnected.



Fig. 4.2

## 4.2. Advice For Optimizing USB 2.0 Connections

The following technical information relates to your LaCie Drive and gives some practical advice:

### 4.2.1 What is USB 2.0?

The new USB 2.0 standard provides higher bandwidth for high-speed peripherals such as external hard drives, high-speed scanners and CD-RW drives. USB 2.0 delivers transfer rates up to 480Mb/s, while conveniently maintaining backward compatibility with USB 1.1 devices.

USB 2.0 can still be used to connect lower-speed USB 1.1 ports and devices like digital cameras, scanners, modems, keyboards, mice, joysticks and printers. In the USB 2.0 system, existing USB peripherals do not have to be upgraded, and lower-speed devices will not require additional performance, instead operating as USB 1.1 devices.

### USB Cables and Connectors

Your LaCie drive is shipped with a USB 2.0-certified USB cable, to ensure maximum data transfer performance when connected to a USB 2.0 port. The cable will also work when connected to a USB 1.1 port, but drive performance will be limited to USB 1.1 transfer rates.

There are also different types of USB connections, such as the mini-cable and device end. Make sure that you have the correct type of connection on computer. Consult LaCie Customer Support or your LaCie reseller for more information.

### USB 2.0 Host Bus Adapters and Performance

To utilize the newly-enhanced USB 2.0 performances, your computer must be equipped with a USB 2.0 host bus adapter card (sold separately, such as the LaCie USB 2.0 PCI Card, or integrated by your PC manufacturer) and the appropriate drivers. These host bus adapter cards, which include one or more USB ports, are shipped with special USB 2.0 drivers that enable the computer to control the card. These drivers must be installed in order for USB 2.0 devices connected to the port to work at their correct speeds. For installation instructions, please refer to the documentation that comes with the host adapter card.

LaCie supplies only the appropriate USB 2.0 drivers for its peripherals and does not provide drivers for third-party host adapter cards. To obtain the right drivers for your host adapter card, visit your card manufacturer's Internet site.



Fig. 4.3

### 4.2.2. Disconnecting USB 2.0 Devices

USB 2.0 external devices feature “plug & play” connection. This means that your drive can be connected and disconnected while the computer is running. To prevent failures, it is important you follow these steps when disconnecting your USB 2.0 device.

#### Windows Users

Important Note: Windows 98 SE Users: If you have installed the **Windows Storage Supplement Update**, you will have to unmount the drive before disconnecting it or powering it down. If you have not installed the update, simply disconnect the drive when it is not active. No unmounting is required.

1) From the **System Tray** (located in the lower right-hand side of your screen), click on the **Eject** icon (a small green arrow over a hardware image).



Fig. 4.4

2) A message will appear, detailing the devices that the **Eject** icon controls, i.e. “Safely remove...” Click on this prompt.

3) You will then be given the following message: “Safe to Remove Hardware” (or similar). It is now safe to disconnect the device.

#### Mac Users

You must unmount the hard drive system before disconnecting it or powering it down. Either:

- Drag the hard drive icon to the trash.
- Launch Silverlining Pro, highlight the hard drive and select “Unmount.”

The drive can now be disconnected.

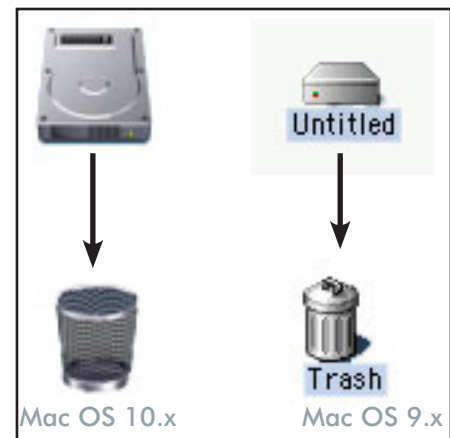



Fig. 4.5

### 4.2.3. Data Transfers


Data transfers are the flow of data that accomplishes a task, usually related to moving data from storage to computer RAM or between storage devices. During data transfers, it's best to wait before launching other applications on the same FireWire or USB 2.0 port. Anomalies may arise with computers that have USB 2.0 or FireWire controllers that do not conform to OHCI (Open Host Controller Interface) standards. In any other configurations, we cannot ensure 100% correct operation. Due to this, you may encounter hanging problems. If this happens, proceed as follows:

1) Make sure that the FireWire or USB 2.0 cable is connected tightly and securely on both ends of the cable, from the drive to the computer. If you are using a FireWire or USB 2.0 cable other than the one supplied with your LaCie drive, check that it is certified. The cables provided with your LaCie drive are USB 2.0 and IEEE 1394 certified.

 **WARNING:** *Do not connect FireWire or USB 2.0 cables so that they form a ring of devices. There is no need for terminators on FireWire or USB 2.0 devices, so the unused FireWire USB 2.0 connectors should be left empty.*

2) Check that the power supply and ground connection are seated properly.

3) Disconnect your computer's FireWire or USB 2.0 cable. Wait 30 seconds. Reconnect.


 **TECH NOTE:** *Controller - This is a component or an electronic card (referred to in this case as a "controller card") that enables a computer to communicate with or manage certain peripherals. An external controller is an expansion card which fills one of the free slots (i.e. PCI or PCMCIA) inside your PC and which enables a peripheral (i.e. CD-R/RW drive, mini , scanner or printer) to be connected to the computer. If your computer is not equipped with a FireWire or USB 2.0 controller card, you can purchase an external controller through LaCie. Contact your LaCie reseller or LaCie Technical Support (6. [Contacting Customer Support](#)) for more information.*

## 4.3 File System Formats

### 4.3.1. Mac Users

The LaCie mini comes preformatted in HFS+ (Mac OS Extended).

*Mac OS 9.x Users:* You will be able to format the drive in one of two formats, using Silverlining Pro (for specific instructions, please refer to the Silverlining User's Manual, in the Silverlining folder): HFS (Mac OS Standard) or HFS+ (Mac OS Extended).

 **IMPORTANT NOTE:** *If you will be sharing the hard drive between Macs and Windows operating environments, you will want to reformat the drive in FAT 32.*

#### *HFS+ - Mac OS Extended*

Mac OS Extended refers to the file system used by Mac OS 8.1 and later. HFS+ represents an optimization of the older HFS file system by using hard disk space more efficiently. Building off of HFS, they increased the number of blocks from 65,536 to 4.29 billion. With HFS+, you are no longer limited by block size.

*Mac OS 10.x Users:* You have the option of formatting the drive in one of four formats: Mac OS Standard (HFS), Mac OS Extended (HFS+), MS-DOS File System and UNIX File System (UFS).

#### *HFS - Mac OS Standard*

Mac OS Standard refers to the file system used by Mac OS 8.0 and earlier. This is no longer a modern file system specification, and Mac OS Extended is more efficient. Only use this file system if you are creating a volume smaller than 32MB, using a Mac with a 680X0 processor, or you are creating a file structure that will be need to be used by Macs using Mac OS 8.0 or earlier.

#### *MS-DOS File System*

This is the Microsoft file system, more typically known as FAT 32. This is the file system to use if you are going to be using your LaCie hard drive between Macs and Windows operating systems.

#### *UNIX File System*

This is the file system based on UNIX, and is preferable for users developing UNIX-based applications within Mac OS 10.x. Unless you have a specific reason to use the UNIX File System, you should instead use Mac OS Extended (HFS+), because it provides Mac users with a more familiar operating experience.



## 4.3.2. Windows Users

Since the LaCie mini comes preformatted for the Mac operating system, you will need to reformat the drive in one of the two file system formats for Windows: FAT 32 and NTFS. The following information will hopefully make choosing one or the other a little easier.

### FAT 32

FAT is an acronym for *File Allocation Table*, which dates back to the beginnings of DOS programming. Originally, FAT was only 16 bits, but after the second release of Windows 95 it was upgraded to 32 bits, hence the name FAT 32. In theory, FAT 32 volume sizes can range from less than 1MB all the way to 2TB. It is the native file system of Windows 98 and Windows Me, and is supported by Windows 2000 and XP. When FAT 32 is used with Windows 2000 and XP, though, volume size is limited to 32GB (by the Windows partition utility, i.e. Disk Manager), and the individual file size is limited to 4GB.

### NTFS

This acronym stands for *New Technology Filing System*, and it is the native file system for Windows NT, Windows 2000 and XP. NTFS offers several features that are not available with FAT 32; i.e. file compression, encryption, permissions, and auditing, as well as the ability to mirror drives and RAID 5 capabilities. The minimum supported volume size for NTFS is 10MB, with a maximum of 2TB, with no limit to file size. Volumes created in NTFS can only be directly accessed (not through shares) by Windows NT, Windows 2000 and XP, without resorting to help from third-party products.

## Guidelines for Choosing FAT 32 Or NTFS

### Use FAT 32 if:

- You want to access your data on any Operating System - FAT 32 is compatible with Windows 98 SE, Me, 2000, XP, NT, Mac OS 9.x and Mac OS 10.x.
- You will be dual booting with an Operating System other than Windows NT or Windows 2000.
- You may need the ability to dual boot down the line. Once you have converted a volume from FAT 32 to NTFS, there is no going back. You can convert from FAT 32 to NTFS, but not the other way around.

### Use NTFS if:

- You want to optimize drive performance under Windows 2000 or XP.
- You want to encrypt files, assign permissions to files, or want to audit files for access.
- You will be formatting partitions larger than 32GB.
- You need to store individual files that are larger than 4GB.
- You need a filing system that can be mirrored or structured like a RAID 5 configuration.

## 5. Troubleshooting




In the event that your LaCie mini is not working correctly, please refer to the following checklist to find out where the problem is coming from. If you have gone through all of the points on the checklist and your drive is still not working correctly, please have a look at the FAQs that are regularly published on our Web site – [www.lacie.com](http://www.lacie.com). One of these FAQs may provide an answer to your specific question. You can also visit the drivers pages, where the most recent software updates will be available.

If you need further assistance, please contact your LaCie reseller or LaCie Technical Support (see 6. [Contacting Customer Service](#) for details).

### Manual Updates

LaCie is constantly striving to give you the most up-to-date, comprehensive User's Manuals available on the market. It is our goal to provide you with a friendly, easy-to-use format that will help you quickly install and utilize the many functions of your new device. If your manual does not reflect the configurations of the product that you purchased, please check our Web site for the most current version available.

The Issue	Questions to Ask	Possible Solutions
The drive is not recognized.	Is the drive's power on?	Check to see that all of the power cords are properly connected and that the switch on the rear of the drive is turned on. If you are using a surge protector, make sure that it is switched on, too.
	Does an icon for the drive appear on the computer?	Check for an icon on the Desktop (on a Mac) or in <b>My Computer</b> (on a PC).
	Are all of the cables connected securely and correctly?	Make sure that all the steps in section 2. <a href="#">Getting Connected</a> have been followed correctly. Examine the connections carefully to ensure that all the cables are inserted in the correct orientation and in the correct location.

<p>The drive is not recognized.</p>	<p>Are both ends of the FireWire/USB cable connected and properly seated?</p>	<p>Check both ends of the FireWire/USB cable. Disconnect them, wait 10 seconds, and reconnect them. If the drive is still not recognized, restart your computer and try again.</p>
<p> <b>TECH NOTE:</b> Mac Users: Apple is constantly providing updated support for drive mechanisms within OS 10.x. To ensure that you have the latest support, upgrade to the latest version of OS 10.x. To access the latest updates and upgrades, pull down the <b>Apple Menu</b> and click on <b>System Preferences</b>. In the section titled <b>System</b>, click on <b>Software Update</b> and then click <b>Update Now</b>. Your computer will then automatically connect via the Internet to access the latest updates from Apple.</p> <p> <b>TECH NOTE:</b> Windows 98 SE Users: Microsoft has released an IEEE 1394 Storage Supplement update to enhance compatibility and help alleviate lock-ups. Check Microsoft's Web site, <a href="http://support.microsoft.com">support.microsoft.com</a>, for more information.</p> <p> <b>TECH NOTE:</b> Windows Users: Microsoft consistently posts updated drivers and support fixes for their operating systems. Go to Microsoft's Web site, <a href="http://support.microsoft.com">support.microsoft.com</a>, for more information.</p>	<p>Are the FireWire/USB drivers installed correctly and enabled?</p>	<p>Mac Users: Open Apple System Profiler and click on the Devices and Volumes tab. If your device is not listed, recheck the cables and try the other troubleshooting solutions listed here.</p> <p>Windows 98 SE &amp; Me Users: Go to Start &gt; Settings &gt; Control Panel &gt; System &gt; Device Manager &gt; USB Controller &gt; click on the plus sign next to the controller icon, and you should see your device listed.</p> <p>Windows 2000 Users: Go to Start &gt; Settings &gt; Control Panel &gt; System &gt; Hardware tab &gt; Device Manager button &gt; USB Controller or IEEE 1394 &gt; click on the plus sign next to the controller icon, and you should see your device listed.</p>

		Windows XP Users: Go to Start > Control Panel > Performance and Maintenance > System > Hardware tab > Device Manager button > USB Controller or IEEE 1394 > click on the plus sign next to the controller icon, and you should see your device listed.
	Is there a conflict with other device drivers or extensions?	If you cannot see the device, recheck the cables and try the other troubleshooting solutions listed here.  Consult LaCie Technical Support. See section 6. <a href="#">Contacting Customer Support</a> for more details.
The drive is not recognized.	Is the file system supported by your Operating System?	Check the documentation for your Operating System.
	Does your computer's configuration meet the minimum system requirements for use with this drive?	Check section 1.1. <a href="#">Minimum System Requirements</a> .
	Was the drive originally formatted as a removable disk?	If the drive is configured as a removable drive under Windows 98SE or Windows Me, the removable setting will need to be re-checked each time that the drive is taken to a new system. To do this, go to the <b>Device Manager</b> and click on the <b>Drives Settings</b> tab.

<p><b>Error messages under Mac OS 10.x.</b></p>	<p>Did you get an Error -50 message while copying to a FAT 32 volume?</p>	<p>When copying files or folders from Mac OS 10.x to a FAT 32 volume, certain characters cannot be copied. These characters include, but are not limited to: ? &lt; &gt; / \ : Check your files and folders to ensure that these types of characters are not being used.</p>
	<p>Did you get an error message telling you that the drive has been disconnected when coming out of sleep mode?</p>	<p>Simply ignore this message. The drive will remount to the desktop. LaCie drives conserve power by spinning down when you set your computer to sleep mode, and when the computer is "woken" from sleep, it does not give the drive enough time to spin-up from its sleep mode.</p>
	<p>Are you having problems getting your FireWire device to be recognized?</p>	<p>If you are having problems with your FireWire connection under Mac OS 10.2.x, upgrade to the latest version.</p>
<p><b>The drive is working slowly.</b></p>	<p>Are other FireWire/USB devices connected to the same port?</p>	<p>Disconnect any other FireWire/USB devices and see if performance improves.</p>
<p><b>The USB 2.0 drive is not running noticeably faster than a USB 1.1 drive.</b></p>	<p>Is the drive connected to a USB 1.1 port on your computer, or to a USB 1.1 hub?</p>	<p>If so, it is normal that the drive runs at USB 1.1 speeds. A USB 2.0 device can only run at USB 2.0 speeds when connected to a USB 2.0 port or hub and controlled by the appropriate USB 2.0 drivers.</p>

	Is the drive connected to a USB 2.0 port on your computer?	Check to see that the USB 2.0 drivers for your Host USB 2.0 port and for your USB 2.0 device have been correctly installed (see the 4.2.1 <a href="#">What Is USB 2.0?</a> section for a more detailed discussion). If in doubt, uninstall the driver and then reinstall it.
	Does your computer or operating system support USB 2.0?	See the 4.2.1 <a href="#">What Is USB 2.0?</a> section for a more detailed discussion.



**TECH NOTE:** Your LaCie mini HUB Hard Drive is equipped with a self-powered Hub. Technically, you can connect up to 127 devices to a single USB bus. The hub, which you hook up directly to a USB connector on your computer, usually has 4 output connections enabling you to connect the same number of peripherals. One of the hub's main functions is to regenerate signals that lose part of their strength as they are transmitted via the USB cable. By connecting yet another hub to a connector on the existing hub, you can then plug in a new set of peripherals and so on, up to a maximum of 127.

You can use your USB 2.0 devices with USB 1.1 hubs, but the peripherals will be limited to USB 1.1 performance levels. As USB 2.0 is backwards compatible, you will be able to connect USB 1.1 devices to USB 2.0 hubs;

however, the USB 1.1 devices will still maintain their normal performance levels (i.e. 12 Mb/s).

In practice, users who desire enhanced USB 2.0 throughput will need to connect their USB 2.0 hardware on both ends of a 2.0 hub to achieve the "high-speed" mode. On one end, a USB 2.0 compliant host controller resides on the host PC to manage the enumeration process and power management. On the other end, USB 2.0 hardware must be connected directly to the root hub or through a USB 2.0 hub.



**IMPORTANT NOTE:** Avoid using USB connectors found on certain peripherals such as keyboards. These are passive (or pass-through) connectors that lead to power loss and unstable operation.



**IMPORTANT NOTE:** Only use USB cables shorter than 5 meters (approximately 15 feet). Using longer cables cause the peripherals to malfunction due to excessive reduction in electrical signal strength.

## 6. Contacting Customer Support

### Before You Contact Technical Support

- 1) Read the manuals and review the [Troubleshooting](#) section.
- 2) Try to isolate the problem. If possible, make the drive the only external device on the CPU, and make sure that all of the cables are correctly and firmly attached.

If you have asked yourself all of the pertinent questions in the troubleshooting checklist, and you still can't get your LaCie drive to work properly, contact us via the provided Web link. Before contacting us, make sure that you are in front of your computer and that you have the following information on hand:

- Your LaCie drive's serial number (on the bottom of your drive)
- Operating system (Mac OS or Windows) and version
- Computer brand and model
- Names of CD or DVD drives installed on your computer
- Amount of memory installed
- Names of any other devices installed on your computer

<p><b>LaCie Asia, Singapore, and Hong Kong</b> Contact us at: <a href="http://www.lacie.com/asia/contact/">http://www.lacie.com/asia/contact/</a></p>	<p><b>LaCie Australia</b> Contact us at: <a href="http://www.lacie.com/au/contact/">http://www.lacie.com/au/contact/</a></p>
<p><b>LaCie Belgium</b> Contact us at: <a href="http://www.lacie.com/be/contact/">http://www.lacie.com/be/contact/</a></p>	<p><b>LaCie Canada</b> Contact us at: <a href="http://www.lacie.com/caen/contact/">http://www.lacie.com/caen/contact/</a> (English)</p>
<p><b>LaCie Denmark</b> Contact us at: <a href="http://www.lacie.com/dk/contact">http://www.lacie.com/dk/contact</a></p>	<p><b>LaCie Finland</b> Contact us at: <a href="http://www.lacie.com/fi/contact/">http://www.lacie.com/fi/contact/</a></p>
<p><b>LaCie France</b> Contact us at: <a href="http://www.lacie.com/fr/contact/">http://www.lacie.com/fr/contact/</a></p>	<p><b>LaCie Germany</b> Contact us at: <a href="http://www.lacie.com/de/contact/">http://www.lacie.com/de/contact/</a></p>
<p><b>LaCie Italy</b> Contact us at: <a href="http://www.lacie.com/it/contact/">http://www.lacie.com/it/contact/</a></p>	<p><b>LaCie Japan</b> Contact us at: <a href="http://www.lacie.co.jp">http://www.lacie.co.jp</a></p>
<p><b>LaCie Netherlands</b> Contact us at: <a href="http://www.lacie.com/nl/contact/">http://www.lacie.com/nl/contact/</a></p>	<p><b>LaCie Norway</b> Contact us at: <a href="http://www.lacie.com/no/contact/">http://www.lacie.com/no/contact/</a></p>
<p><b>LaCie Spain</b> Contact us at: <a href="http://www.lacie.com/es/support/request/">http://www.lacie.com/es/support/request/</a></p>	<p><b>LaCie Sweden</b> Contact us at: <a href="http://www.lacie.com/se/contact">http://www.lacie.com/se/contact</a></p>
<p><b>LaCie Switzerland</b> Contact us at: <a href="http://www.lacie.com/chfr/contact/">http://www.lacie.com/chfr/contact/</a></p>	<p><b>LaCie United Kingdom &amp; Ireland</b> Contact us at: <a href="http://www.lacie.com/uk/support/request/">http://www.lacie.com/uk/support/request/</a></p>
<p><b>LaCie USA</b> Contact us at: <a href="http://www.lacie.com/contact/">http://www.lacie.com/contact/</a></p>	<p><b>LaCie Grand Export</b> Contact us at: <a href="http://www.lacie.com/intl/contact/">http://www.lacie.com/intl/contact/</a></p>



## 7. Warranty

LaCie warrants your drive against any defect in material and workmanship, under normal use, for the period designated on your warranty certificate. In the event this product is found to be defective within the warranty period, LaCie will, at its option, repair or replace the defective drive.

This warranty is void if:

- The drive was operated/stored in abnormal use or maintenance conditions;
- The drive is repaired, modified or altered, unless such repair, modification or alteration is expressly authorized in writing by LaCie;
- The drive was subjected to abuse, neglect, lightning strike, electrical fault, improper packaging or accident;
- The drive was installed improperly;
- The serial number of the drive is defaced or missing;
- The broken part is a replacement part such as a pickup tray, etc.
- The tamper seal on the drive casing is broken.

LaCie and its suppliers accept no liability for any loss of data during the use of this device, or for any of the problems caused as a result.

LaCie will not, under any circumstances, be liable for direct, special or consequential damages such as, but not limited to, damage or loss of property or equipment, loss of profits or revenues, cost of replacement goods, or expense or inconvenience caused by service interruptions.

Any loss, corruption or destruction of data while using a LaCie drive is the sole responsibility of the user, and under no circumstances will LaCie be held liable for the recovery or restoration of this data. Under no circumstances will any person be entitled to any sum greater than the purchase price paid for the drive.

To obtain warranty service, call LaCie Technical Support. You will be asked to provide your LaCie product's serial number, and you may be asked to furnish proof of purchase to confirm that the drive is still under warranty.

All drives returned to LaCie must be securely packaged in their original box and shipped with postage prepaid.

Register online for free technical support: [www.lacie.com/register](http://www.lacie.com/register)