



User Manual

USB 3.0 3.5" SATA Dual-Bay Enclosure

Item No.: SE-RAID-302-U

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1. Introduction

Congratulations on the purchase of your new SE-RAID-302-U, USB 3.0 3.5" SATA Dual-Bay Enclosure. This high-performance, extremely flexible RAID(Redundant Array of Independent/Inexpensive Disks) subsystem is ideally suited for integration with databases, imaging systems, and all SOHO storage.

RAID technology is one of the best means to protect your data, while providing greater data integrity and availability than standard hard disk storage. With the ability to provide single error detection and redundant information to recover the original if a disk fails, a RAID system is an ideal means to safe-guard valuable data while also stream-lining performance.

1.1 Minimum System Requirement



Windows User

- ✧ Windows 2000, Windows XP, Windows Vista, Windows 7
- ✧ 500MHz Pentium III or higher (or equivalent processor)
- ✧ 512MB RAM or greater
- ✧ Available USB 2.0/USB 3.0 interface Ports *



Mac User

- ✧ Mac OS 1.03 or later
- ✧ G4, G5, Intel Core Duo or Intel Core 2 Duo
- ✧ 512MB RAM or greater
- ✧ Available USB 2.0/USB 3.0 interface Ports*

** Most computers do not come from the factory with USB 3.0 ports, so you may need to purchase a PCI, PCI-X or PCI-Express card to be able to connect your USB 3.0 Dual Bay Enclosure via SuperSpeed USB 3.0.*

1.2 Box Contents

1. 3.5" SATA Dual-Bay Enclosure.
2. SuperSpeed USB 3.0 Cable
3. Power Supply Unit
4. HDD installation Sliding Kit
5. Housing Key Kit
6. Driver CD
7. User Manual

IMPORTANT INFO:

Please save your packaging. In the event that the drive should need to be repaired or serviced, it must be returned in its original package.



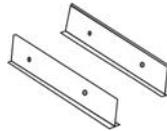
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2



3



4



5



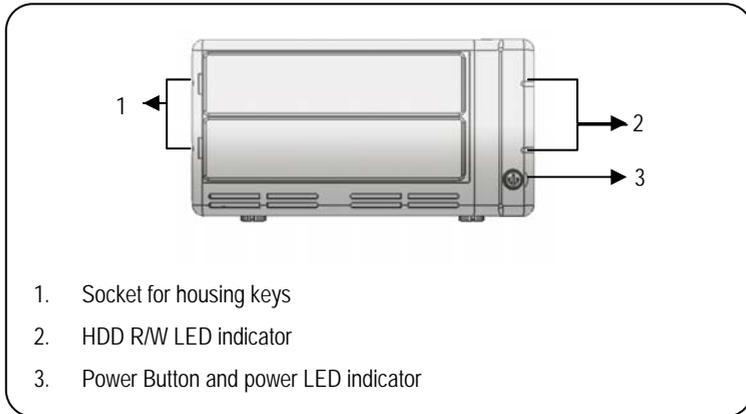
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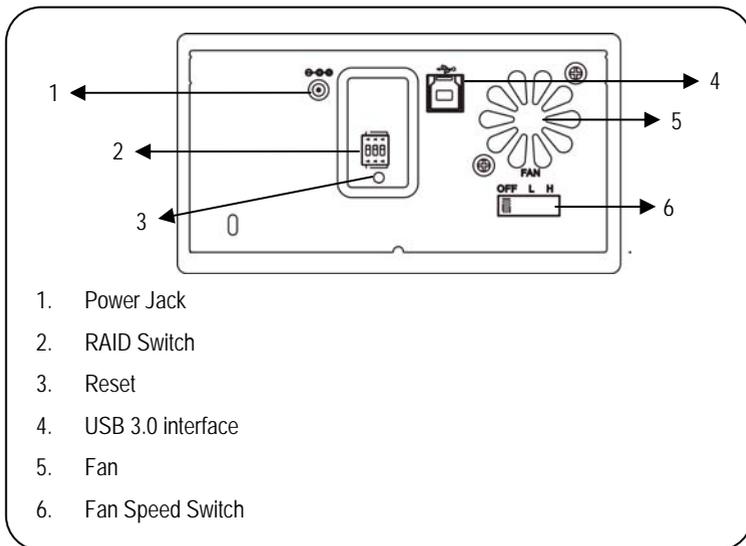
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1.3 Views of the Enclosure

Font View



Rear View



CAUTION: To avoid overheating, the enclosure should be installed in a well-ventilated area and in such a way as to maintain sufficient airflow across the controller chips. Also ensure that the Ventilation Fan is not obstructed.

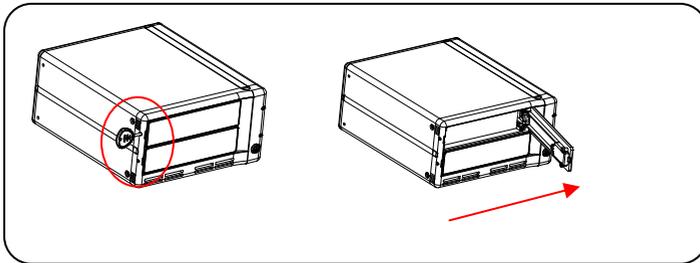
2. Setting Up the Enclosure

This section covers the installation and configuration of your Enclosure. Follow the steps below to power on and configure your Enclosure:

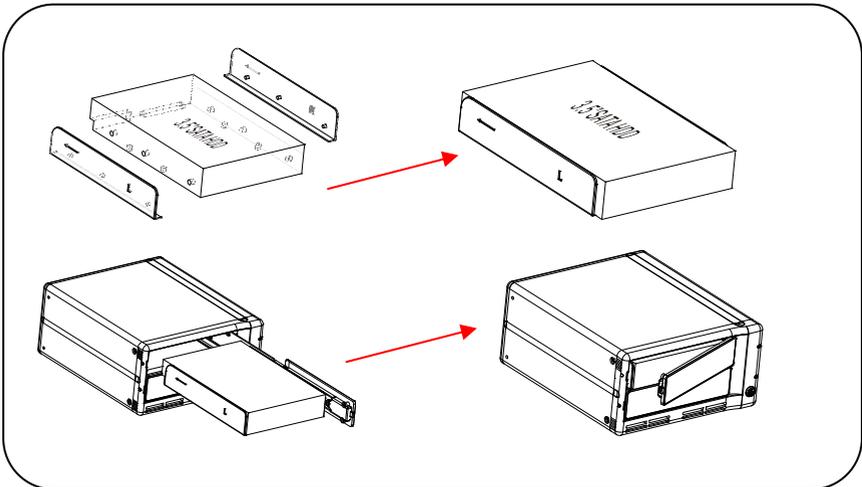
- Step1. Install the Drives
- Step2. Connect the Interface Cable
- Step3. Connect the Power Cable
- Step4. Turn the Drive On

2.1 Install the Drives

Open the HDD doors by insert housing key kit into the socket.



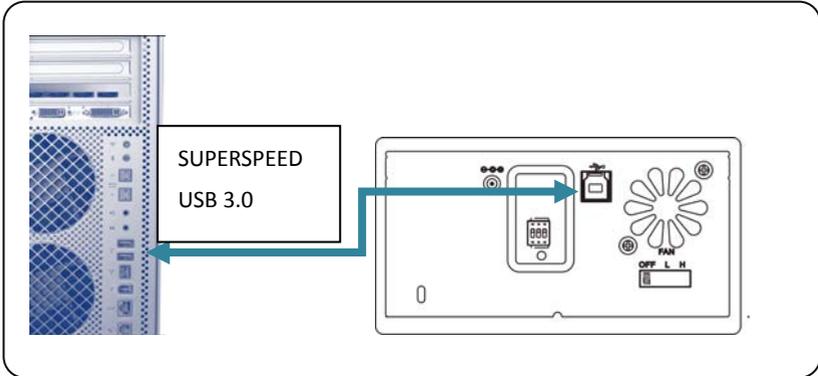
Equip drives with HDD installation Sliding Kit, and install it into enclosure.



2.2 Connect the Interface Cable

Plug one end of USB 3.0 superspeed cable on enclosure.

Connect the other end to the corresponding port on computer.



2.3 Turn the Drive On

The power supply unit is composed of two cables: One cable (A) connects to Enclosure, and the other cable (B) connects to a power outlet.

1. Connect cable A to the enclosure
2. Connect cable B to the Power supply brick (C)
3. Connect B to an outlet
4. Turn on the drive by pressing the power button at the front.

CAUTION: Only use the AC adapter supplied with your specific LaCie device. Do not use a power supply from another LaCie device 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.



3. RAID

3.1. About RAID MODE

This section will help you decide which RAID mode is right for your application.

RAID MODE	Capacity	Protection	Speed
None (Default)*	100%	★ ☆ ☆	★ ☆ ☆
Fast (RAID 0)	100%	★ ☆ ☆	★ ★ ★
Safe(RAID 1)	50%	★ ★ ★	★ ☆ ☆

3.1.1 None (Default)

The enclosure is pre-configured in None mode. Each disk works alone, each logical volume mounts on the computer, and the available capacities of each disk are the same as its logical volume.

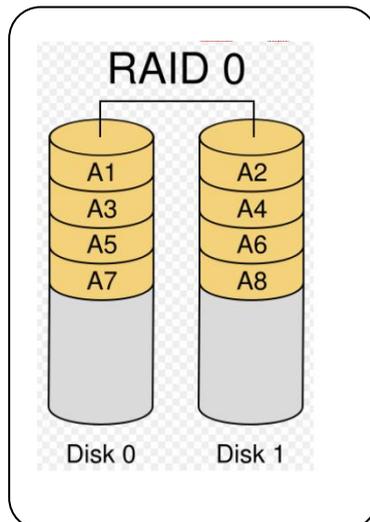
3.1.2 Fast (RAID 0)

Requiring at least 2 drives, RAID 0 stripes data onto each disk. The available capacities of each disk are added together so that one logical volume mounts on the computer.

If one physical disk in the array fails, the data of all disks becomes inaccessible because parts of the data have been written to all disks.

Applications

RAID 0 is ideal for users who need maximum speed and capacity. Video editors working with very large files may use RAID 0 when editing multiple streams of video for optimal playback performance. While a RAID 0 array is suited for actively working with files (editing video, for example), users interested in a higher level of security should use RAID1.



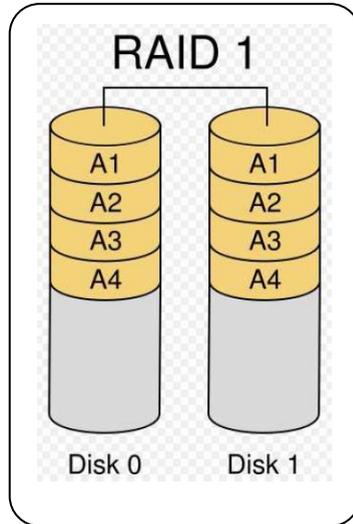
3.1.3 Safe (RAID 1)

In Safe mode (RAID 1), the two physical disks are mirrored together so that one single logical volume mounts on the desktop.

All data is saved simultaneously on each disk (the available capacity cannot exceed the available capacity of the lowest-capacity single disk). If one physical disk fails, the data is available immediately on the second disk. No data is lost if one disk fails.

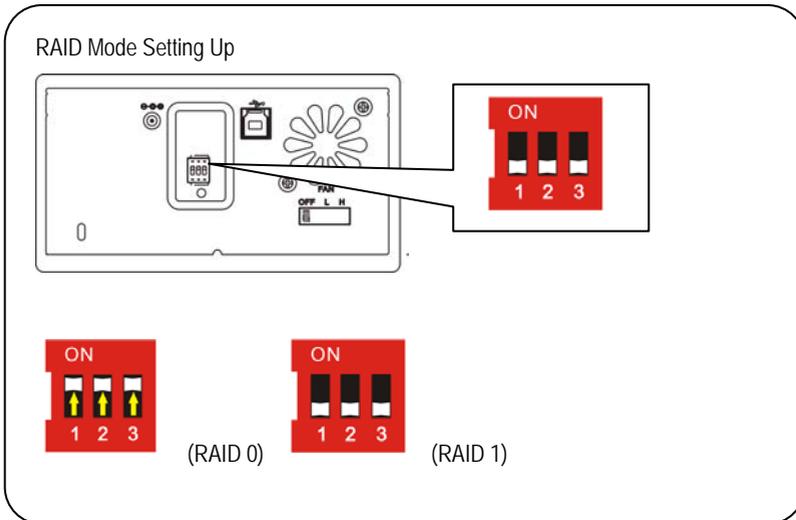
Applications

Maximum data safety
Safe reduces the total available capacity by 50% because two copies of the data are saved.



3.2 Changing the RAID Mode

Important Information: Changing the RAID mode destroys data stored on the enclosure. If you have saved data on the drives, back up data to another medium before following these steps.



To change the RAID mode:

1. Unmount or safely remove the enclosure volumes from your computer, disconnect the interface cable, and switch off the enclosure.
2. Switch on the RAID mode you are going to set up to.
3. Power on the enclosure.
4. Press the Ret button for 2 seconds.
5. Reformat the disk, see section 3.4. *Formatting*.

3.3 Removing and Installing Drives

3.3.1. Removing and Installing Drives

In the event that an individual hard disk fails in the enclosure, please contact your local reseller Customer Support.

This section will instruct you how to remove and replace a drive, please follow the steps below.

CAUTION: After continuous use of the enclosure, drives may be hot. Use caution when removing.

Important Note: A replacement drive must have the same or greater capacity than the drive it is replacing.

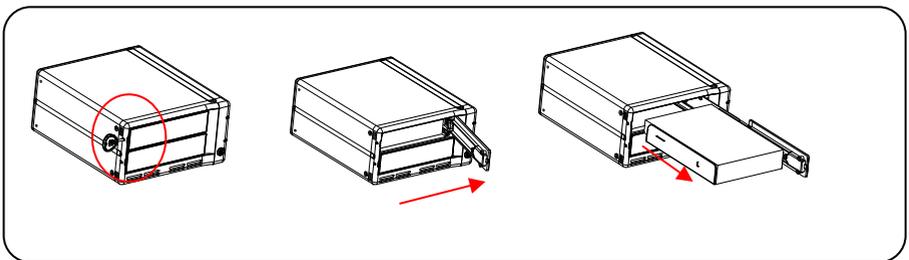
To Remove a Drive:

Step1. If the enclosure is in Fast (RAID 0) or Big (concatenation) mode, turn it off and unplug it. If the 2big is in Safe (RAID 1) or Mixed mode, you can leave it turned on and continue to step 2.

Step2. The drive tray may be locked. To unlock it, insert the small end of the provided housing key kit into the slot on the drive lock and open the door.

Step3. Push the HDD to disengage the drive and then draw out the drive tray.

Step4. Turn the drive on to continue using the remaining drive.



To Install a Drive:

See Section 2.1

3.3.2. Rebuilding Safe (RAID1) Mode

Technical Note: Data is still accessible during a Safe (RAID 1) rebuild. The 2big can be disconnected from the workstation during the rebuild; only the power must be connected.

In Safe (RAID 1) mode, in order for rebuilding to occur, the product must be turned on while a replacement disk is installed.

Rebuilding a Safe (RAID 1) array can take several hours. For example, rebuilding a 500GB RAID 1 array can take up to 3 hours.

We do not recommend any drive during rebuilding.

To Rebuild Safe (RAID 1), following the steps below:

Step1. Check the failure drive by checking LED indicator status. (LED of the perfect drive blink when accessing drive, and the failure one doesn't)

Step2. Power off the enclosure, and replace the failure drive with a new greater drive.

Step3. Power on the enclosure, the rebuilding will start automatically. Now, both LED start blinking.

Step4. When LED indicators stop blinking, the rebuilding is finished.

(* We recommend not doing any accessing when rebuilding.)

3.4 Formatting

3.4.1. File System Formats



Windows User

Technical Note: Windows XP 32-bit and Windows 2000 do not support volumes greater than 2TB. Windows XP x64, Windows Server 2003 SP1, and Windows Vista Enterprise/Ultimate (32- and 64-bit versions) do, but in order to create volumes bigger than 2TB from these operating systems, you must convert the disk to GPT file system. This process is outlined in [3.4.2. Formatting for Windows Users](#).

File System Formats

There are two different file system formats compatible with Windows operating systems – NTFS and FAT 32 (MS-DOS). Use the information below to determine which format is best for you.

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, Windows XP and Windows Vista. When FAT 32 is used with Windows 2000, Windows XP and Windows Vista 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, Windows XP and Windows Vista. 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 when initialized in MBR format or without a limit when initialized in GPT format, with no limit to file size. Volumes created in NTFS can only be directly accessed (not through shares)

by Windows NT, Windows 2000, Windows XP and Windows Vista without resorting to help from third-party products

Use NTFS if...

...you will be using the drive only with Windows 2000, Windows XP or Windows Vista (performance will generally be greater when compared to FAT 32). This file system is compatible in read only mode with Mac OS X 10.3 and higher. See technical note at left for information on the 2TB volume size limitation under Windows XP 32-bit and Windows 2000.

Use FAT 32 (MS-DOS) if...

...you will be using your drive with both Windows and Mac OS X 10.3 or sharing the drive between Windows 2000 and Windows XP or Windows Vista. Maximum single file size is 4GB.



Mac OS X Users:

You may customize the drive by reformatting and/or partitioning the drive with separate file system formats. For optimal performance in Mac OS environments, format and partition the drive as one large Mac OS Extended volume.

Mac OS Extended (HFS+)

Mac OS Extended refers to the file system used by Mac OS X. HFS+ represents an optimization of the older HFS file system by using hard disk space more efficiently. With HFS+, you are no longer limited by block size.

MS-DOS File System (FAT 32)

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.

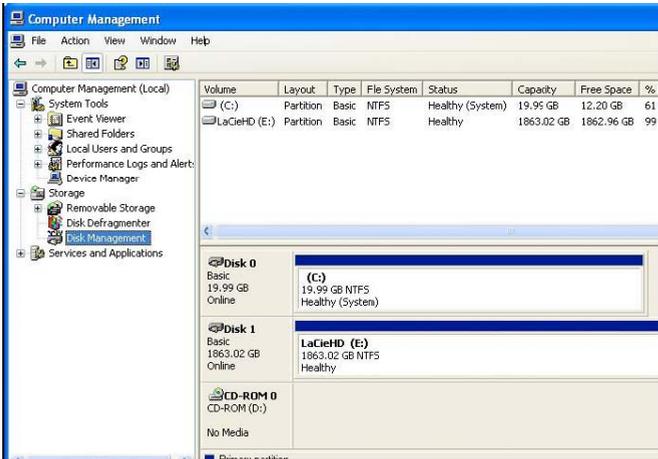
3.4.2. Formatting for Windows User

CAUTION: Following these steps will erase everything from the enclosure. If you have information that you want to protect or continue to use, back up this information onto another medium before performing these steps.

Technical Note: Windows XP 32-bit and Windows 2000: These operating systems will not recognize volumes greater than 2TB in size.

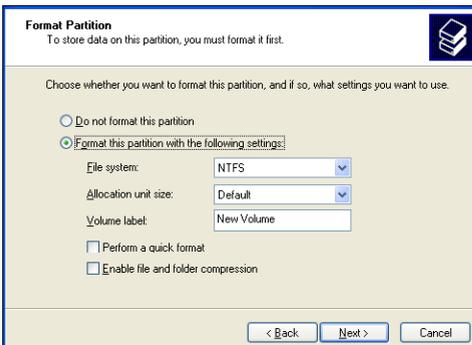
Windows XP x64 and Windows Vista Enterprise/Ultimate (32- and 64-bit versions): These operating systems will recognize volumes greater than 2TB in size, but the disks must be converted to the GPT file system before partitions greater than 2TB can be created.

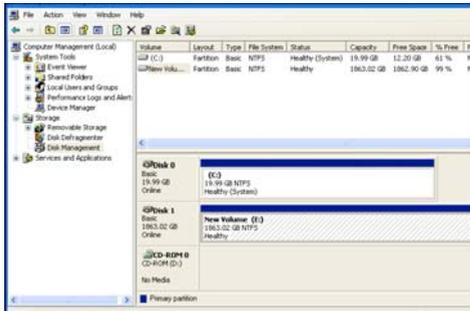
1. Connect the drive to the computer.
2. Right-click “My Computer” and select “Manage”.
3. From the “Computer Management” window, select “Disk Management” (located below the Storage group).



4. If the “Initialize and Convert Disk Wizard” window appears, click “Cancel”.
5. Windows will list the Hard Disks that are installed on the system. Locate the drive that is represented by the icon. Right-click the  icon and select Initialize.

6. **Windows XP x64 and Windows Vista Enterprise/Ultimate users only:** Right-click the disk and click **“Convert to GPT”**.
7. In the box to the right that says **“Unallocated”**, right-click and select **“New Partition”**
8. On the first page of the **“New Partition Wizard,”** click **“Next”**.
9. Do as wizard asks you to do, and click **“Next”**.
10. Click Finish to begin the formatting process. Windows Disk Management will format and partition the disk according to your settings and your drive will appear in My Computer, ready to use.





3.4.3 Formatting for Mac Users

1. Connect the drive to the computer and turn on the drive.
2. Select **Utilities** from the **Go** menu in the Finder menu bar.
3. In the Utilities folder, double-click **Disk Utility**.
4. The **Disk Utility** window will open. Select the new volume from the list of available hard disks on the left side of the window.
5. Select the **Partition** tab.
6. From the **Volume Scheme:** menu, choose the number of partitions you want to divide the drive into (Mac OS X gives you the option of dividing the drive into at most 16 partitions). You can adjust the size of each partition using the slide bar between the partitions in the **Volume Scheme:** area.
7. In the **Volume Information** section, enter a name for each volume (partition), choose the volume format.
8. Once you have finalized the volume options, click **Partition**. Click **Partition** again when the alert message appears to continue.
9. Mac Disk Utility will format and partition the disk according to your settings, and your drive will be ready to use.



3.5 Partitioning the Drive.

You must partition the drives after changing the enclosure configuration mode (SAFE, FAST, BIG, etc). During this process, you will format the drives. For more information about file system formats, see section 3.4.1. File System Formats.

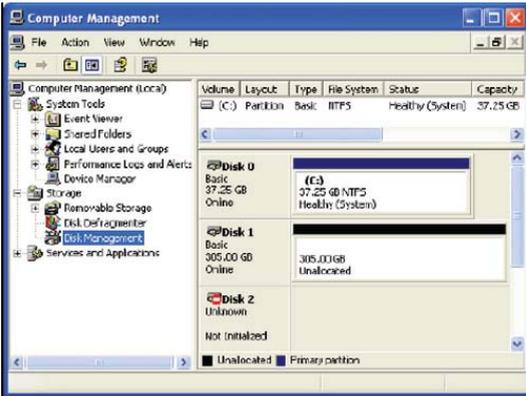
3.5.1 Windows Users

This example illustrates the Fast storage policy, which optimizes the Enclosure for performance.

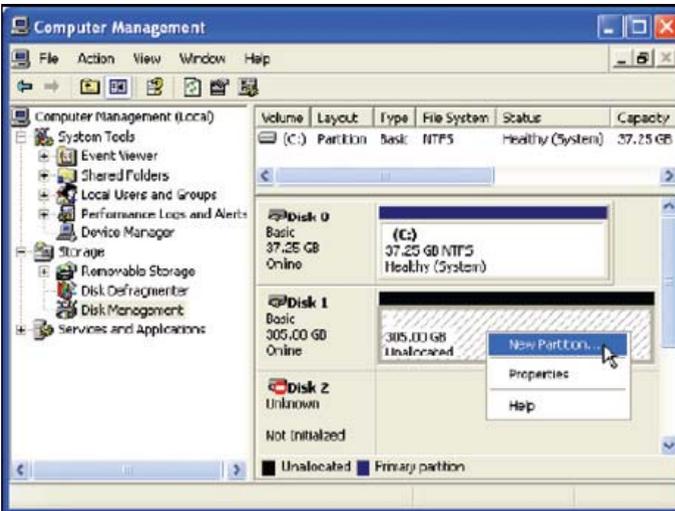
1. Right click the **My Computer** icon on your desktop and select **Manage** from the pop-up window



2. Select Disk Management under Storage to open the Windows Disk Manager



3. Right click the configured disk's unallocated space and select **New Partition**. If the New Partition option is not available, select the disk and initialize it first



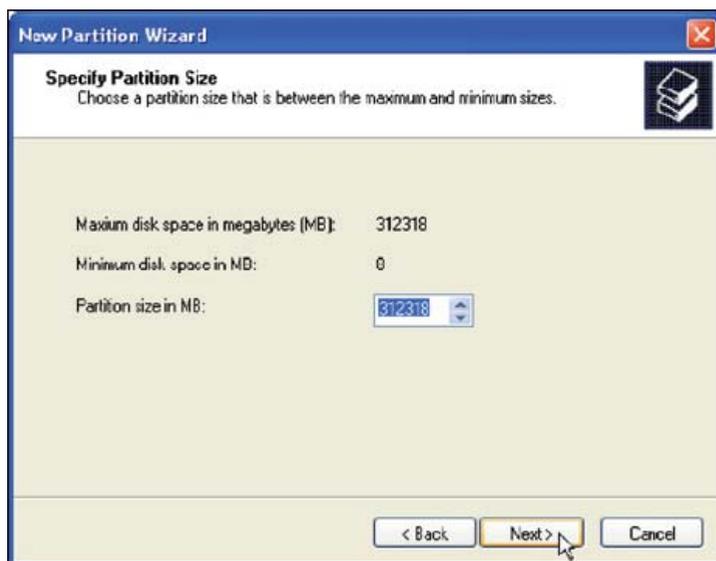
4. Click Next to start the Partition Wizard



5. Select the Primary or Extended option and click Next



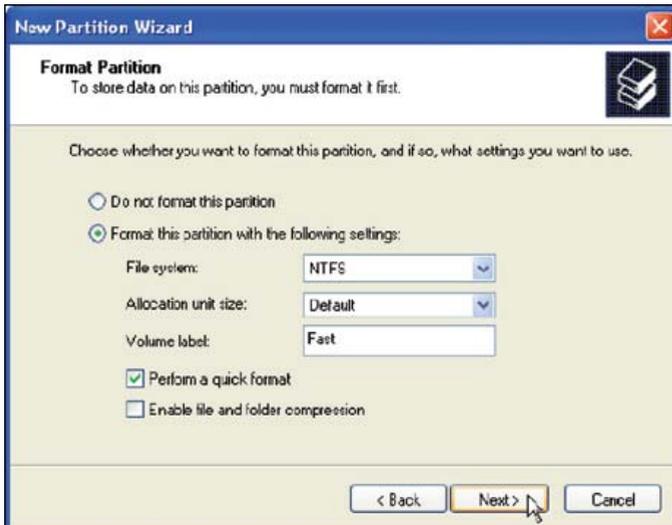
6. Specify the partition size. By default, the partition occupies the entire volume. Click Next



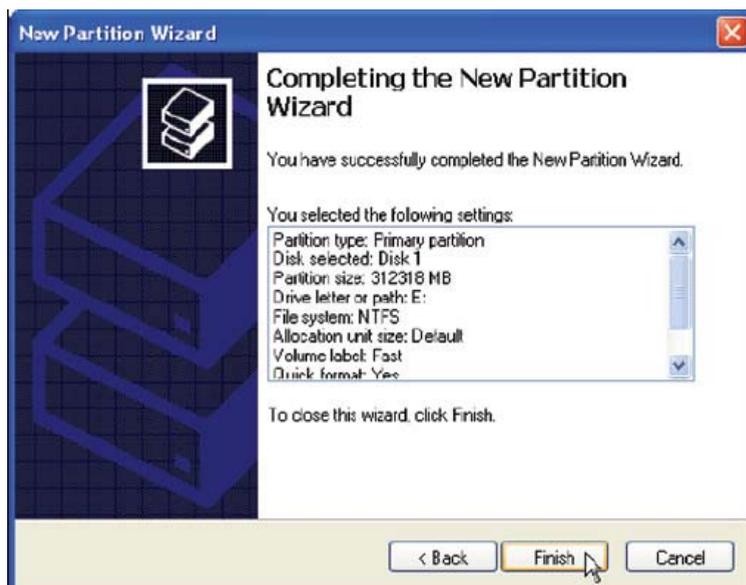
7. Assign a drive letter or mount path and click Next



8. Name and format the partition and click Next



9. Review the settings and click **Finish** to create the logical partition

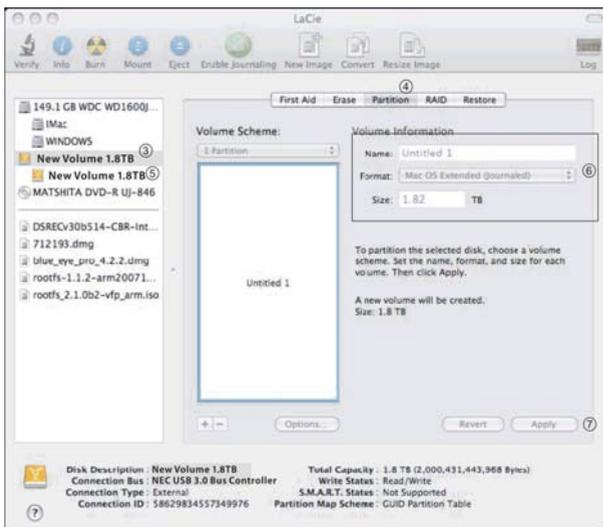


3.5.2 Mac Users

CAUTION: Following these steps will erase everything from the hard disk. If you have information that you want to protect or continue to use, back up this information before performing these steps.

Technical Note: To share a volume with Windows users, select MS-DOS (FAT32) format.

1. Select **Utilities** from the **Go** menu in Finder.
2. Open Disk Utility.
3. In the disk list on the left side of the Disk Utility window, find the disk corresponding to your enclosure. For each disk there is a listing for the drive controller and one for each volume on the disk. Select the listing for the controller
4. Select the **Partition** tab.
5. From the **Volume Scheme** menu, choose the number of partitions you want to divide the drive into (16 maximum). You can adjust the size of each partition using the slide bar between the partitions in the **Volume Scheme** area.
6. In the **Volume Information** section, enter a name for each volume (partition) and choose the volume format (Mac OS Extended, Mac OS Standard, UNIX File System, or MS-DOS)



4. Troubleshooting.

In the event that your enclosure 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 contact our local reseller.

4.1 LED status indicators.

If the front LEDs are	And the RAID mode is	Then
Blinking Red	Fast (RAID 0)	The drive is working properly, and drive is doing accessing work.
Solid Red	Fast (RAID 0)	The drive is working properly, and drive isn't doing.
Blinking Red	Safe (RAID 1)	The drive is working properly, one disk is doing accessing work, and the other one is doing backup work.
Solid Red	Safe (RAID 1)	The drive is working properly, both disk are not doing work.
One Blinking Red One Solid Red	None	The drive is working properly, one disk is doing accessing work, and the other one isn't doing.
Off	All	The enclosure is turned off

4.2 Other Troubleshooting Topics.

Problem	Solution
<p>The enclosure is not recognized by the computer.</p>	<p>If there is no icon for the enclosure on the desktop(Mac Users) or in My Computer(Windows Users):</p> <ol style="list-style-type: none"> 1. Check the interface cable connection. Try disconnecting the cables, waiting 10 seconds, and then reconnecting them. If the drive is still not recognized, restart your computer and try again. 2. Make sure your computer meets the minimum system requirements for compatibility with the enclosure. See section <i>1.1 Minimum System Requirement</i> for more information. 3. Make sure the power supply is properly connected (See section <i>2.3 Turn the Drive On</i>), that the drive has been turned on by pressing the Power button, and that the outlet the power supply is connected. 4. Make sure that the drive has been formatted properly, see section <i>3.5 Partitioning the Disk</i>.
<p>The drive is working slowly</p>	<ol style="list-style-type: none"> 1. Purchase a PCI-E USB 3.0 I/O card from our local reseller, and connected the enclosure to it. We recommend plug PCI-E USB 3.0 I/O card on slot PCI-EX16.  <ol style="list-style-type: none"> 2. Installing Speed-Up Turbo software in CD drive, max speed up 30%. (Highly Recommended)