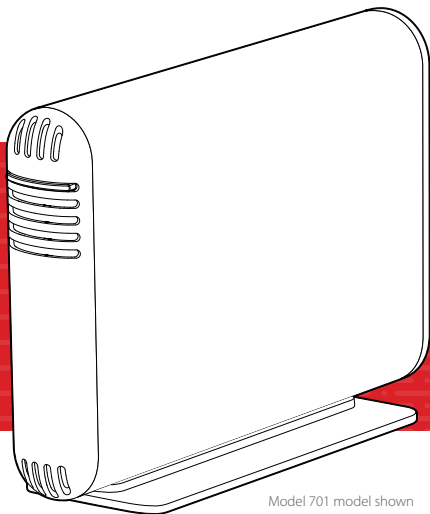


USER'S GUIDE

PORTABLE HARD DRIVE
ENCLOSURE
FOR 3.5" IDE HARD DISK DRIVES



Model 701 model shown

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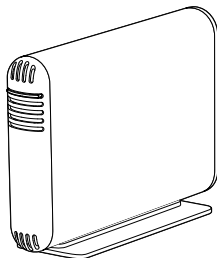
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Getting Started

Welcome

Welcome, and thank you for choosing a 700 Series Hard Drive Enclosure.

This product features high-quality construction, advanced engineering, and state-of-the-art technology, designed to provide years of reliable performance. Please read this guide carefully and retain it for future reference.



700 SERIES ENCLOSURE
(MODEL 701 SHOWN)

If your Enclosure is equipped with PushButton™ Backup...

If you wish to use PushButton™ Backup, refer to the PushButton™ Backup User's Guide on the included CD *after* you setup the Drive.

Symbols used in this guide:



ALERTS THE READER TO A WARNING OR TO IMPORTANT INFORMATION.



INDICATES A HELPFUL TIP OR OTHER USEFUL INFORMATION.



INDICATES IMPORTANT INFORMATION SPECIFIC TO WINDOWS USERS.



INDICATES IMPORTANT INFORMATION SPECIFIC TO MAC USERS.



INDICATES IMPORTANT INFORMATION FOR USB USERS.



INDICATES IMPORTANT INFORMATION FOR FIREWIRE USERS.



INDICATES IMPORTANT INFORMATION FOR eSATA USERS.

PATA or SATA?

The Enclosure you purchased is designed to accommodate:

- a PATA (Parallel ATA) hard disk, or;*
- a SATA (Serial ATA) hard disk, or;*
- either a SATA or PATA hard disk.*

As you proceed through this guide, be sure to follow the correct instructions for the type of hard disk and Enclosure you have.

About 'IDE'

The term 'IDE', which stands for Integrated Drive Electronics, can apply to both PATA and SATA hard disks. 'IDE' is used in this guide when no distinction between PATA and SATA hard disks is made. For definitions of IDE, ATA, PATA and SATA see the Glossary of Terms.

'Enclosure' v. 'Drive'

In this guide, for the sake of clarity, prior to the installation of an IDE hard disk, the product is referred to as an Enclosure. An Enclosure with an IDE hard disk installed is referred to as a Drive.

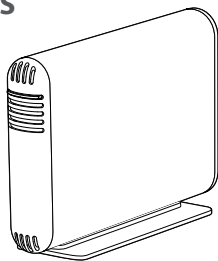
Precautions



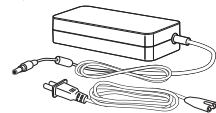
Please follow the precautions below. Failure to do so may result in damage to the device, loss of data, and voiding of the warranty.

- If using your product for general-purpose data storage (as opposed to data backup) we strongly recommend that you backup your data. The manufacturer is not responsible for data loss or corruption; nor will the manufacturer perform recovery of lost data or files.
- Do not expose the device to damp or wet conditions.
- Never place containers of liquids on the device. This can damage the device and increase the risk of electric shock, short-circuiting, fire, or personal injury.
- If the device has a three-prong plug, never plug the device into a two-prong outlet.
- Do not expose this device to temperatures outside the range of 5°C to 35°C when the device is in operation, and -20°C to 60°C when not in operation.
- Do not use a third-party AC adapter/power cord.
- Do not bump, jar or drop the device.
- Do not try to stand the device in a way not described in this guide.
- Do not disconnect any cables while the device is powered on without first unmounting the device.

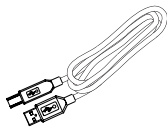
Package Contents



700 SERIES ENCLOSURE
(701 MODEL SHOWN)



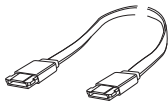
AC ADAPTER
(YOUR ENCLOSURE IS FURNISHED
WITH EITHER A WALL-MOUNTED
ADAPTER OR A DESKTOP ADAPTER
WITH SEPARATE POWER CORD)



USB CABLE



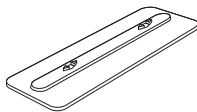
FIREWIRE CABLE
(SUPPLIED WITH FIREWIRE-
EQUIPPED MODELS ONLY)



eSATA CABLE
(SUPPLIED WITH eSATA-
EQUIPPED MODELS ONLY)



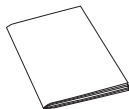
CD-ROM



STAND
(COMES WITH FASTENING
BOLTS AND SCREWS)



HARD DISK
MOUNTING SCREWS



INSTALLATION
GUIDE

System Requirements for PC

What you need:

- PC with a 233 MHz or faster processor (e.g. Pentium, Celeron, AMD)
- One of the following Windows operating systems:
 - **Windows Vista** (Ultimate, Home Basic/Premium, Business)
 - **Windows XP** with Service Pack 1 or later
(Home, Professional, Professional x64, Media Center Edition)
 - **Windows 2000** with Service Pack 4 or later
 - **Windows Me**
 - **Windows 98SE**
- A free port for one of the interfaces (USB 2.0, FireWire, eSATA) equipped with your Enclosure.

IMPORTANT NOTES:

To get Windows updates go to www.microsoft.com



If connected to a USB 1.1 port, the device will operate at USB 1.1 speeds (up to 12 Mbps).

Users of Windows 98SE and Windows 2000 (SP3 or earlier):

You will need to install the supplied USB 2.0 driver. Instructions are provided in "Installing the USB 2.0 Driver."



System Requirements for Mac

What you need:

- G3 (or later), or Intel processor
- Mac OS 10.2 or later
- A free port for one of the interfaces (USB 2.0, FireWire, eSATA) equipped with your Enclosure.

IMPORTANT NOTES:

PushButton™ Backup requires Mac OS 10.3 or later.



If connected to a USB 1.1 port, the device will operate at USB 1.1 speeds (up to 12 Mbps).

Mac OS 10.2 users with 128 GB or larger IDE hard disks:

Mac OS 10.2 will not recognize FAT32/MD-DOS formatted hard disk volumes larger than 128 GB. This issue only affects Mac OS 10.2. For more information, go to: <http://docs.info.apple.com/article.html?artnum=107483> at the Apple web site.

If the IDE hard disk you intend to install in the Enclosure meets the conditions described above, there are several ways to deal with this issue:

1. *If you don't need Windows compatibility, you can re-format the Drive using the Mac OS Extended file system. Before you format the Drive, follow the instructions for installing an IDE hard disk and connecting the Drive to your computer;*

- 2. If you want to maintain Windows compatibility, you can partition the Drive so that no single partition is larger than 128 GB. Partitioning a hard disk will erase any data stored on the disk. Go to <http://docs.info.apple.com/article.html?artnum=107483> for instructions. Before you partition the Drive, follow the instructions for installing an IDE hard disk and connecting the Drive to your computer;*
- 3. Before you connect the assembled Drive to your computer, upgrade to Mac OS 10.3 or later. This option will allow you to maintain Windows compatibility and no partitioning or re-formatting is required.*

About 700 Series Enclosures

700 Series Enclosures at a Glance

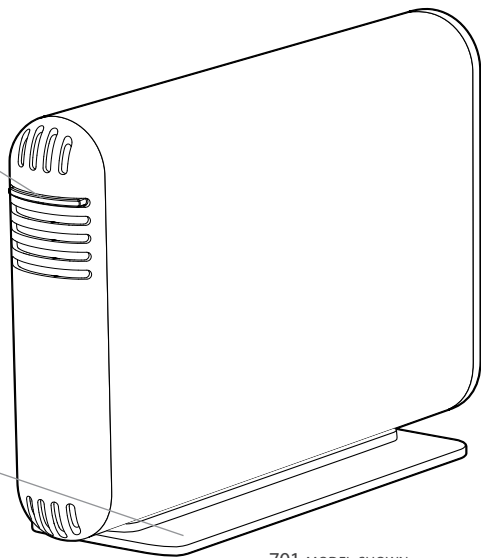
POWER-DATA INDICATOR

LIGHTS UP SOLID WHEN THE DRIVE IS POWERED ON. FLASHES WHEN READING OR WRITING DATA.

IF YOUR ENCLOSURE IS EQUIPPED WITH PUSHBUTTON BACKUP, THE POWER-DATA INDICATOR IS ALSO THE PUSHBUTTON. YOU PRESS THE PUSHBUTTON™ TO INITIATE DATA BACKUPS (REQUIRES INSTALLATION OF THE SUPPLIED SOFTWARE).

STAND

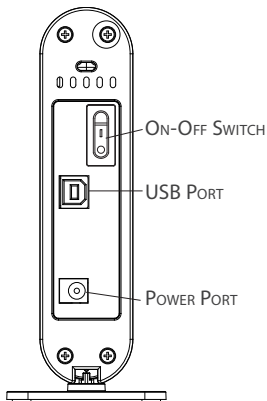
SHOWN ATTACHED TO ENCLOSURE.



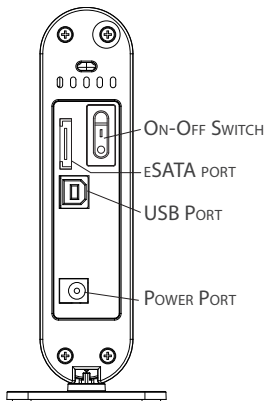
701 MODEL SHOWN

On the back panel:

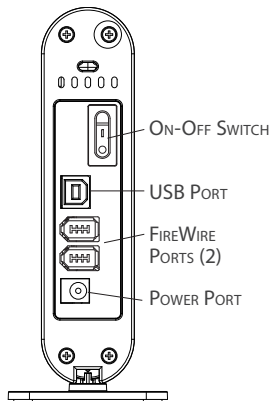
USB 2.0 MODELS



USB 2.0 & eSATA MODELS



USB 2.0 & FireWire MODELS



(ACTUAL LAYOUTS OF THE BACK PANELS MAY NOT BE EXACTLY AS SHOWN)

ON-OFF SWITCH

YOU CAN TURN THE DRIVE ON AND OFF WHILE YOUR COMPUTER IS RUNNING. SEE "HOW TO UNMOUNT AND TURN OFF THE DRIVE" FOR DETAILS.

POWER PORT

THE AC ADAPTER PLUGS IN HERE.

USB PORT

THE ENCLOSURE HAS A TYPE B USB PORT; YOUR COMPUTER HAS A TYPE A PORT. THE PORTS CORRESPOND TO THE CONNECTORS OF THE USB CABLE.

eSATA PORT (eSATA-EQUIPPED MODELS ONLY)

SEE "IF USING eSATA . . ." IN THE CHAPTER "CONNECTING THE DRIVE TO YOUR COMPUTER" FOR IMPORTANT INFORMATION ABOUT eSATA/SATA CONNECTORS.

FIREWIRE PORTS (FireWire-EQUIPPED MODELS ONLY)

TWO PORTS ALLOW YOU TO DAISY-CHAIN ANOTHER FIREWIRE DEVICE TO YOUR ENCLOSURE. SEE "DAISY-CHAINING THE DRIVE" FOR DETAILS.

700 Series Enclosures In-Depth

Hi-Speed USB 2.0

USB stands for "Universal Serial Bus." USB 2.0 has a maximum interface transfer rate, or bandwidth, of 480 Mbps (Megabits per second). That's 40 times faster than the earlier standard, USB 1.1, which has a bandwidth of 12 Mbps).

Performance in day-to-day use will depend on many factors, including: CPU utilization; file system overhead; the number of active devices on the USB bus; the size, structure and number of files being transferred, and; the speed at which other devices can transfer data to/from the Drive. Also, as is the case with any data I/O (input/output) technology, some bandwidth is taken up by the protocols that structure and govern data transmissions (this is called *interface overhead*). Given these and other factors, in day-to-day use you can expect maximum, sustained transfer rates in the mid-30s MB/s (Megabytes per second).

FYI

The interface transfer rate specification of an I/O technology is expressed in bits per second (e.g. Mbps – Megabits per second) because this is the truest way of measuring raw interface performance. However, for the end user it is more meaningful to express day-to-day transfer rates in bytes per second (e.g. MB/s – Megabytes per second) because computer files are measured in bytes (kilobytes, megabytes, etc.).

USB 2.0 is backward compatible with USB 1.1. This means you can connect a USB 1.1 device to a USB 2.0 port, and vice versa. However, interface transfer rates are limited by the interface with the lower speed. So, for example, if you plug a USB 2.0 device into a USB 1.1 port on your computer, data transfer rates will be limited to USB 1.1 speeds.

USB uses a master-slave architecture. This means the computer (the 'master') dictates data flow to, from, and between attached USB devices (the 'slaves'). A single USB bus can support up to 127 USB devices. However, connecting more than a few USB devices to a computer usually requires the use of one or more USB-equipped hubs. A typical USB hub can accommodate several USB devices.

FireWire (FireWire-equipped models)

FireWire (IEEE 1394a) can transmit data at up to 400 Mbps. FireWire supports both *isochronous* and *asynchronous* data transfers. Isochronous mode provides guaranteed transmission of data at defined intervals; it's used when delayed or out-of-order data frames are unacceptable, such as for capturing digital video. In asynchronous mode the intervals between transmissions can vary, and data can be resent if missed. Asynchronous mode is typically used for routine data transfers.

FireWire devices can be linked in a daisy-chain, where the devices are connected to each other in series. A hub is only required when a very large number of devices will share the same FireWire bus. Up to 63 devices can be linked on a single FireWire bus.

Data transmissions between FireWire devices on the same bus can take place without help from the host computer. This is one of the reasons FireWire devices are, on average, faster than USB 2.0 devices in routine, day-to-day use—even though FireWire's bandwidth is smaller than USB 2.0's.

Standard FireWire cables use 6-pin connectors at both ends. Cables with 4-pin connectors are also available for connecting FireWire devices to laptop computers and to other devices that have 4-pin ports, such as digital cameras and camcorders.

eSATA (eSATA-equipped models)

Parallel ATA (PATA) technology served computers well for about two decades. Over this time period, increasingly faster hard disk transfer rates have forced the ATA interface specification to be continuously updated in order to avoid becoming the limiting factor in disk I/O performance. At the same time, popular applications—such as digital video and audio, file sharing over high-speed networks, and other data intensive applications—are placing greater demands on hard drive performance.

SATA, a serial implementation of the ATA interface, was developed by the *Serial ATA Working Group* in response to this need. (The original working group has since been incorporated into the *Serial ATA International Organization*.)

FYI

Before the introduction of SATA, all ATA/IDE hard disks used a parallel interface. After the introduction of SATA, the term 'PATA' was coined to distinguish the two technologies. Before SATA no such distinction was necessary, which is why 'PATA' is a relatively new term even though the technology has existed for over twenty years.

The most basic yet most important difference between PATA and SATA is how data is transmitted. PATA technology transmits multiple streams of data bits simultaneously along parallel pathways (wires). SATA transmits data bits serially (one after the other), so fewer wires are needed.

SATA's serial architecture can achieve faster data transfer rates than PATA by overcoming a number of electrical signalling constraints inherent in a parallel architecture. SATA can also be scaled to accommodate increasing storage capacities and higher performance demands.

Thanks to its serial architecture, SATA cables and connectors are much smaller than those of PATA, and they utilize electro-

magnetic shielding, which makes the cables less susceptible to interference, and allows the cables to be made longer than PATA cables. These advantages have made it feasible to employ SATA technology for external storage. The *external* implementation of SATA is called 'eSATA'. eSATA cables and connectors are more robust than those used for internal SATA hard disks and can sustain greater wear and tear.

The SATA interface is available in two bandwidths: 1.5 Gbps and 3.0 Gbps, achieving maximum interface transfer rates of 150 and 300 Megabytes per second, respectively.

PushButton™ Backup (PushButton models only)

PushButton™ Backup is a faster, easier way to run routine data backups. Rather than having to launch a backup utility and set cumbersome parameters every time you want to backup your files, all you need to do is press the PushButton™ on your Drive.

Not only does PushButton™ Backup make backups simpler and more convenient, but since you're backing up your data to a high-performance hard drive—as opposed to, say, tape or optical media—backups are also much faster.

Full instructions for setting up and using PushButton™ Backup are provided in the PushButton™ Backup User's Guide on the supplied CD.

Sync (PushButton models only)

Sync is the no-fuss way to synchronize files on multiple computers, while also getting the benefits of data redundancy. The Sync operation can be launched via the PushButton. Full instructions for setting up and using Sync are provided in the PushButton™ Backup User's Guide on the supplied CD.

Fanless Design

All hard drives generate heat during normal use. However, the 700 Series Enclosure was engineered to dissipate heat so efficiently it doesn't need a fan. The result is near-silent operation.

Mac & PC Ready

The 700 Series Enclosure is itself compatible with both Mac and PC. However the file system used to format your IDE hard disk will affect compatibility. See the chapter "[Formatting the Drive](#)" for more information.

Hot-Pluggable

You can turn the Drive on/off or connect/disconnect it while your computer is running. This makes portability easier, allows you to use the Drive only when you need it, and saves electricity too.

On-Off Switch

The On-Off switch allows you to save electricity by turning the Drive on only when you actually need to use it.



Always unmount the Drive or turn off your computer before you turn off or disconnect the Drive. See "How to Unmount and Turn off the Drive" for details.

Understanding 'hard drive', 'partition' and 'volume'

While following the instructions in this guide you will come across the terms 'hard drive' (or 'hard disk'), 'partition', and 'volume'. These terms can be very confusing because they all seem to refer to the same thing. While it's true they are closely related, these terms actually mean different things.

A **hard drive** (or 'hard disk drive') is a physical device that contains a set of disks (called **platters**), which store the data saved to the drive. The total amount of usable storage space available on all of the platters makes up the hard drive's storage capacity.

A **partition** is a logically defined amount of storage space on a hard drive. A hard drive can have one or more partitions. If a hard drive has only one partition, all of the available storage space is reserved for that partition. Within the limits of the

drive's capacity, the user can set the size of individual partitions. Partitioning is done when you set up an unformatted hard drive for the first time. You can also partition a hard drive that contains data but the data will be erased.

Before a computer can access a partition on a hard drive, the partition must be formatted with a file system that the computer understands. (See "[Formatting the Drive](#)" for more information on file systems.)

A formatted partition is called a ***volume***. When you connect a hard drive to a computer, the drive icon that you see in My Computer (Windows) or on the Desktop/Finder (Mac) represents the mounted volume, not the physical hard drive.

If the hard drive has more than one formatted, readable partition, each one will appear on your computer as a discrete volume—just as if you had more than one hard drive connected to your computer. The volumes can even be formatted with different file systems. For example, if your hard drive has one volume that is formatted with the Mac OS Extended file system, and one volume that is formatted FAT32, when you connect the drive to a Windows PC, only the FAT32-formatted volume will mount.

Technical Specifications

Dimensions (may vary between models, not including stand):

(inches).....	5.61 X 1.38 X 8.52
(mm).....	142.5 X 35 x 216.4

Interface transfer rates (max)

USB 2.0	480 Mbps
FireWire (if equipped)	400 Mbps
eSATA (if equipped).....	1.5 Gbps

External Power Supply

AC Input.....	100–240 V~, 50–60 Hz, 1.0 A
DC output	12 V @ 2 A

Ambient temperature

Operating	5°C – 35°C
Non-operating	-20°C – 60°C

Relative humidity (non-condensing)

Operating	5% – 95%, 33°C
Non-operating	5% – 95%, 35°C

Installation & Setup

Installing a 3.5" IDE Hard Disk Drive

A few things before you begin...

Are you installing a PATA or a SATA hard disk?

The Enclosure you purchased is designed to accommodate a PATA hard disk, a SATA hard disk, or both. While most of the instructions in this guide apply to both types of hard disks, some instructions are specific to either PATA or SATA hard disks. Be sure to follow the correct instructions for your hard disk.

Are you installing a new or legacy hard disk?

The IDE hard disk that you will install in the Enclosure is either a legacy hard disk that was removed from a computer (typically due to an upgrade), or it is a new, raw hard disk that you purchased specifically for your Enclosure. This will have a bearing on the steps you will need to take to prepare the Drive for use on your computer...

Installing a legacy IDE hard disk

If you are installing a legacy IDE hard disk, the disk is already formatted. If the file system used to format your IDE hard disk is compatible with your computer's operating system, you will NOT need to format the assembled external Drive after you con-

nect it to your computer.

If the file system is not compatible with your computer, you will need to format the external Drive after you connect it to your computer. You may also wish to re-format the Drive in order to erase all the old data and start fresh with a blank Drive.

Details on file systems and formatting are provided in the chapter "Formatting the Drive."

Installing a raw IDE hard disk

IDE hard disks that are purchased as upgrades are unformatted (i.e. raw). Manufacturers of IDE hard disks furnish partitioning and formatting software with their hard disks for this purpose. However, this software will only work for a hard disk installed inside a computer.



Do not format a raw IDE hard disk with the manufacturer's formatting software. The formatting software will not work for a hard disk installed in an external enclosure.

You will need to partition and format the assembled external Drive after you connect it to your computer. Complete formatting instructions are provided in the chapter "Formatting the Drive."

Whether you are installing a legacy or raw IDE hard disk, follow the instructions on the succeeding pages. After the chapter "[Connecting the Drive to Your Computer](#)", you will be guided to the specific instructions that pertain to your situation.

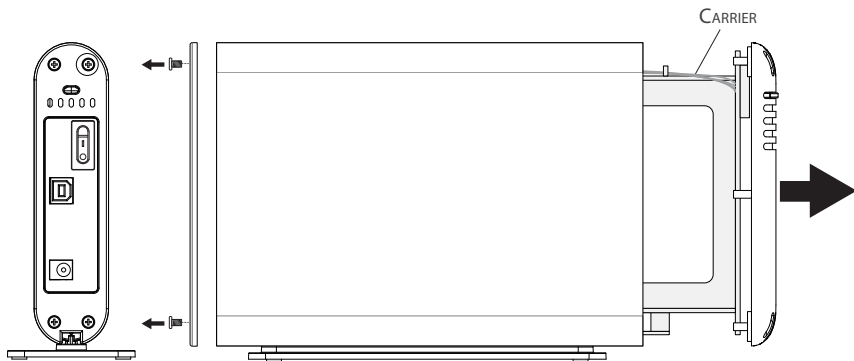
Proceed now to "Disassemble the Enclosure."

Step 1: Disassemble the Enclosure

1. Use a Phillips screwdriver to unfasten the four screws on the back of the Enclosure and remove the back fascia. Do not lose or discard the screws; you will need them to re-assemble the Enclosure.
2. Grab the front fascia and carefully slide out the attached carrier.



When handling the carrier, never touch the PCB (printed circuit board); it contains sensitive electronics that can be easily damaged.

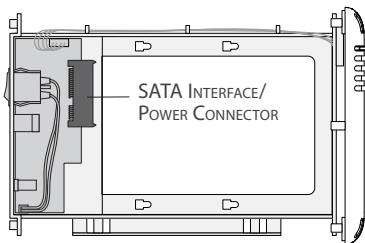
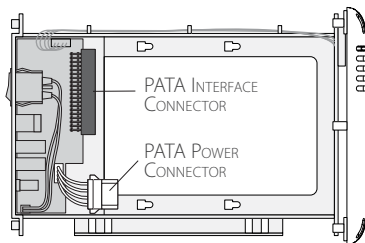


Confirm which type of carrier your Enclosure has

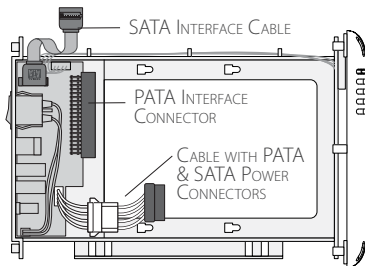
Your 700 Series Enclosure has one of three types of carrier.

Match the one you have with one of the carriers shown below.

PATA CARRIER:
ACCOMMODATES A PATA HARD DISK.



SATA CARRIER:
ACCOMMODATES A SATA HARD DISK.



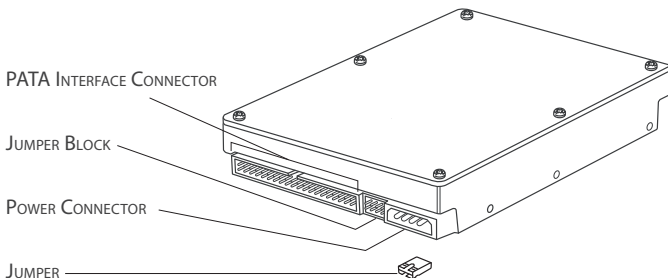
PATA/SATA CARRIER:
CAN ACCOMMODATE EITHER A PATA
OR SATA HARD DISK.

Step 2: Install Your IDE Hard Disk

Installing a PATA hard disk

PATA hard disks at a glance

The illustration below shows the components of a typical PATA hard disk that are relevant to this installation.



Configure your hard disk as a master

A PATA hard disk can function as either a *master* or a *slave*. For definitions of 'master' and 'slave' see the *Glossary of Terms*. **The hard disk you install in the Enclosure must be configured as a master.**

Your PATA hard disk has a *jumper block* located between the ATA interface connector and the power connector. The jumper block has an array of pins. Your hard disk most likely came with one or more jumpers already attached to the jumper block. Depending on how the jumper(s) are arranged, the hard disk can be configured to work as either a master or a slave.

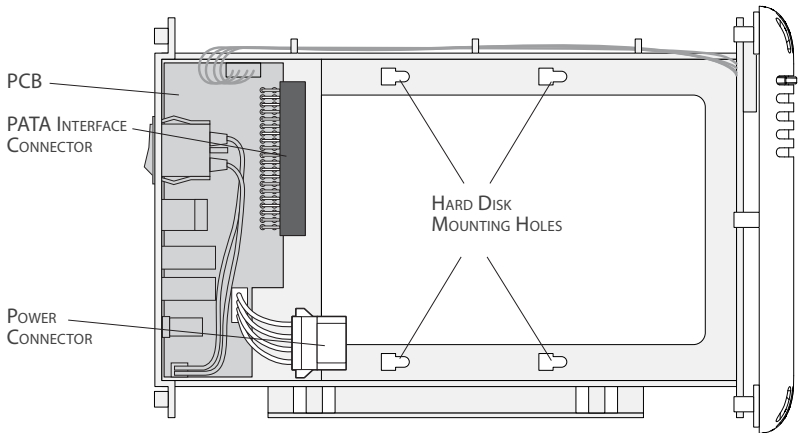
Arrange the jumper(s) so that the hard disk is configured as a master. Use small needle-nose pliers or tweezers to remove/insert jumpers.

FYI

Jumper settings are often depicted on the hard disk itself, or you can find this information in the manufacturer's manual or web site. Be sure to use the correct jumper setting for your specific model as settings can differ from model to model.

Connecting a PATA hard disk to a PATA carrier

The PATA carrier contains the PATA interface connector and the power cable, which are attached to the PCB (printed circuit board). The power cable is tethered to the board via flexible wires. The PATA interface connector is hard-wired (rigidly fixed) to the PCB (see illustration below).



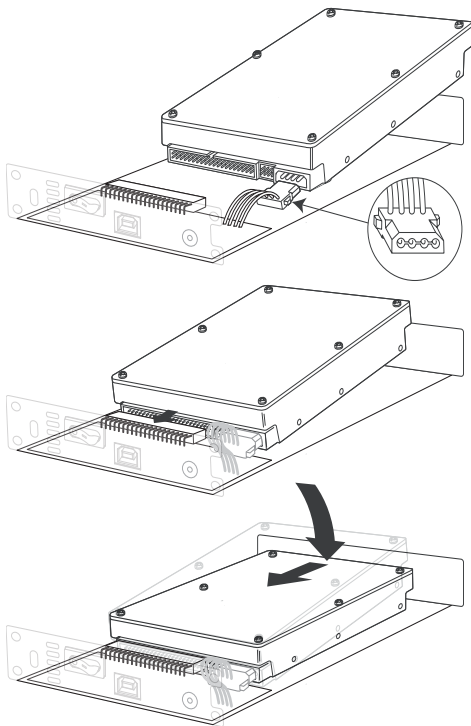
1. Place the carrier flat on a table or desk with the PCB facing up.
2. Take your hard disk in one hand and plug the power connector

from the carrier into the power connector on the hard disk. Be sure to insert it all the way.

The connector is shaped such that it can only be inserted one way.

Do not let go of the hard disk.

3. Hold the hard disk at a slight angle, as shown in the illustration at right, and brace the carrier with your other hand.
4. Carefully align the hard disk's PATA connector to the PATA connector on the carrier. Begin to push the hard disk onto the connector. When the connector is just partially inserted, gently lower the hard disk onto the carrier.

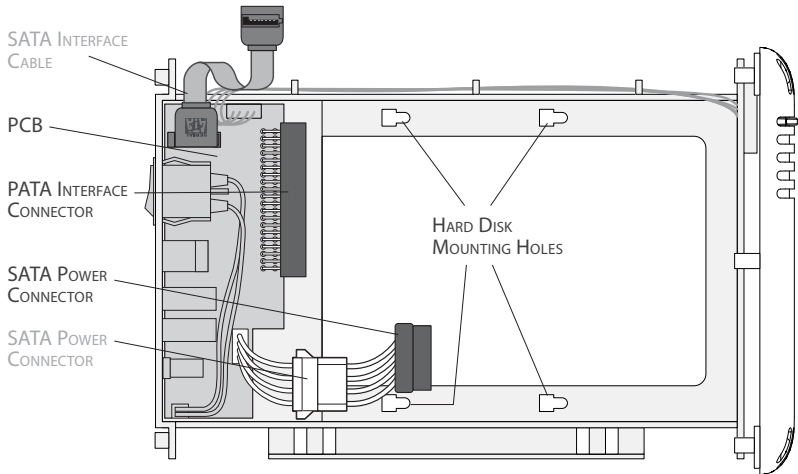


5. Firmly but gently push the hard disk toward the PCB until the PATA connector is fully inserted.

Proceed to "Step 3: Fasten the hard disk to the carrier."

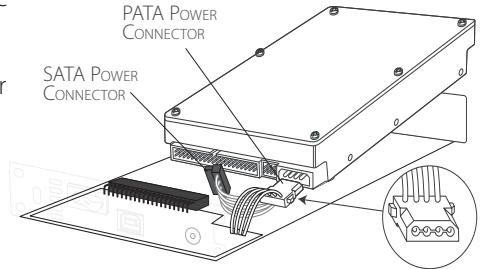
Connecting a PATA hard disk to a PATA/SATA carrier

The PATA/SATA carrier has interface and power connectors for both PATA and SATA hard disks. The SATA connectors will not be used for this installation.



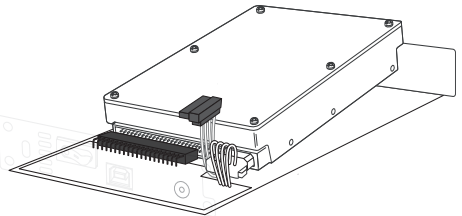
1. Place the carrier flat on a table or desk with the PCB facing up.
2. Take your hard disk in one hand and plug the PATA power connector from the carrier into the power connector on the hard disk.

The connector will go in only one way. Be sure to insert it all the way.



3. Without letting go of the hard disk, gently but firmly pull the wires of the SATA power connector around the side of the PATA power connector, as shown in the illustration at right.

The SATA power connector is not needed for this installation. You will tuck it in and out of the way later.

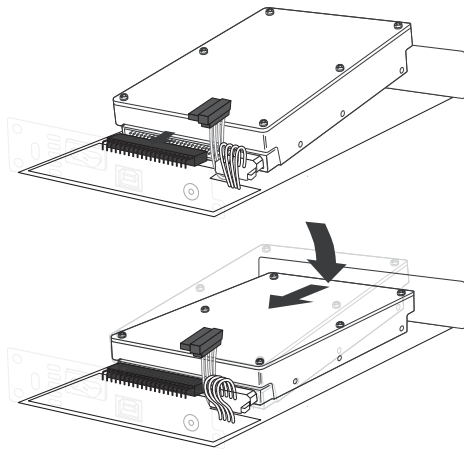


4. Hold the hard disk at a slight angle and brace the carrier with your other hand.
5. Carefully align the hard disk's PATA connector to the PATA connector on the carrier.

Begin to push the hard disk onto the connector. When the connector is just partially inserted, gently lower the hard disk onto the carrier.

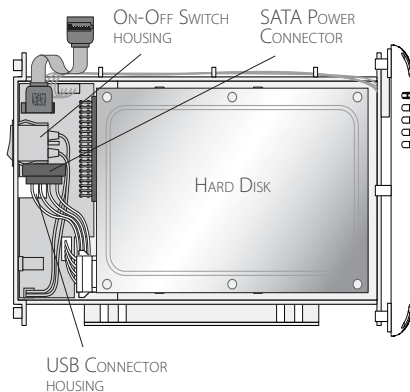
Make sure the SATA power connector wires stay to the side of the PATA power connector and do not get pinched between the PATA power connector and the PCB.

6. Gently but firmly push the hard disk toward the PCB until the PATA connector is fully inserted.

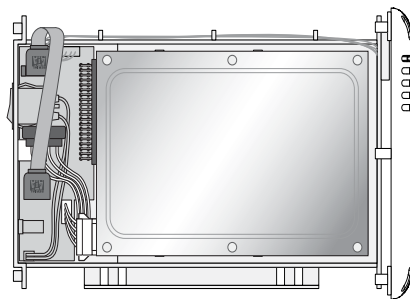


7. Tuck in the SATA power connector.

A good place for the SATA power connector is between the USB connector housing and the On-Off switch housing.



8. The SATA interface connector is not needed for this installation. You can tuck in the SATA interface connector by folding the cable over. Or you can simply unplug the cable and set it aside.

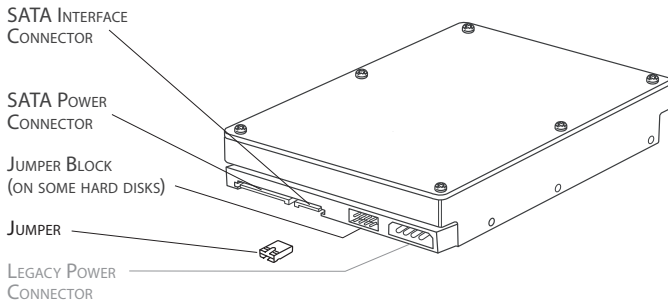


Proceed to "Step 3:
Fasten the hard disk to the carrier."

Installing a SATA Hard Disk

SATA hard disks at a glance

The illustration below shows the components of a typical SATA hard disk that are irrelevant to this installation.



FYI

- *You can ignore the legacy power connector; it is not needed for this installation.*
- *Not all SATA hard disks are equipped with a jumper block. If yours is, you may need to configure the jumper block, as explained on the next page.*

Does your SATA hard disk have a jumper block?

If your SATA hard disk is equipped with a jumper block, you may need to configure it to operate in 150 MB/s (1.5 Gbps) mode.

Ask yourself the following questions:

- Is your SATA hard disk rated at either 300 MB/s or 3.0 Gbps?
- Is your 700 Series Enclosure equipped with an eSATA port?

If the answer to both of these questions is "yes", you will need to configure your hard disk to operate in 150 MB/s mode.

Configuring the jumper block for 150 MB/s (1.5 Gbps) mode

In order to set your hard disk to operate in 150 MB/s mode, you may need to plug one or more jumpers onto specific pairs of pins on the jumper block. The placement of the jumper(s) depends on the make and model of your hard disk.

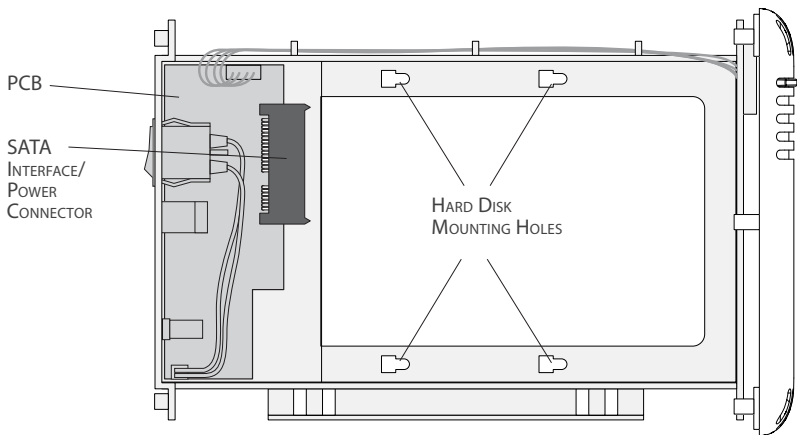
FYI

Jumper settings are often depicted on the hard disk itself, or you can find this information in the manufacturer's manual or web site. Be sure to use the correct setting for your specific model as settings can differ from model to model.

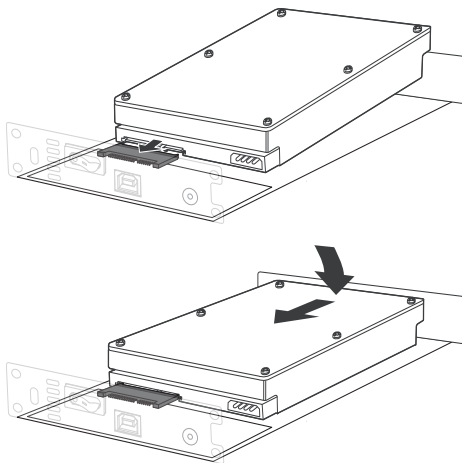
Your hard disk most likely came with one or more jumpers already attached to the jumper block. Use small needle-nose pliers or tweezers to remove/insert jumpers.

Connecting a SATA hard disk to a SATA carrier

On the carrier, the SATA interface connector and power connector are enclosed in a single sheath (see illustration below).



1. Place the carrier flat on a table or desk with the PCB facing up.
2. Hold the hard disk in one hand and brace the carrier with your other hand.
3. Very carefully align the hard disk's SATA/power connector to the SATA/power connector on the carrier. Begin to push the hard disk onto the connector. When the connector is just partially inserted, gently lower the hard disk onto the carrier.
4. Firmly but gently push the hard disk toward the PCB until the SATA/power connector is fully inserted.

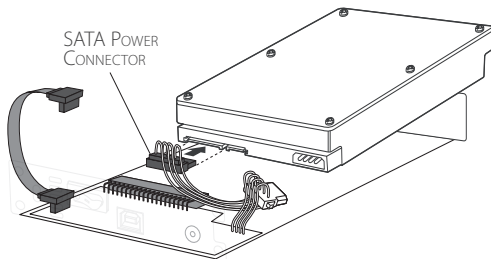


Proceed to "Step 3: Fasten the hard disk to the carrier."

1. Place the carrier flat on a table or desk with the PCB facing up.
2. Take your hard disk in one hand and plug the SATA power connector from the carrier into the power connector on the hard disk.

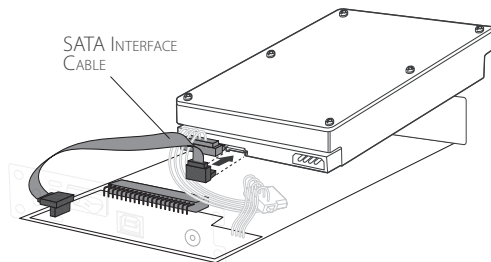
The SATA power connector is keyed so it will go in only one way. Be sure to insert it all the way.

The other power connector is not needed for this installation. Do not plug it into the hard disk.

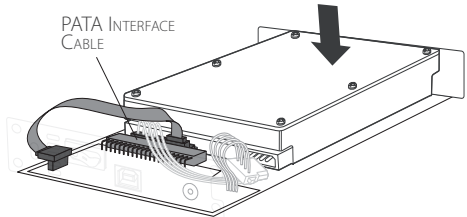


3. Plug the SATA interface cable into the SATA interface connector on the hard disk.

The SATA interface connector is keyed so it will go in only one way. Be sure to insert it all the way.



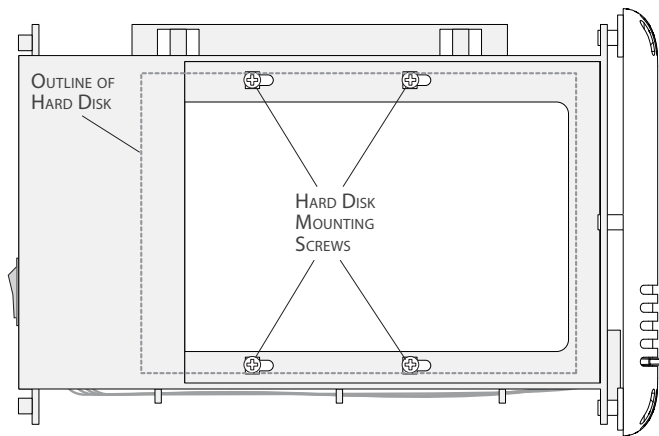
4. Gently set down the hard disk on the carrier. The SATA connectors plugged into the hard disk will sit just ahead of the PATA interface connector on the PCB.



Proceed to "Step 3: Fasten the hard disk to the carrier."

Step 3: Mount the hard disk to the carrier

1. Hold the hard disk and carrier firmly together in one hand and turn the carrier over. The four screw holes in the bottom of the hard disk should line up with the mounting holes on the carrier.
Do not allow the hard disk to sag. The weight of the hard disk may put undue strain on the connectors.
2. Screw the hard disk to the carrier using the supplied hard disk mounting screws. Make sure all screws are secure and that the hard disk is firmly mounted to the carrier.

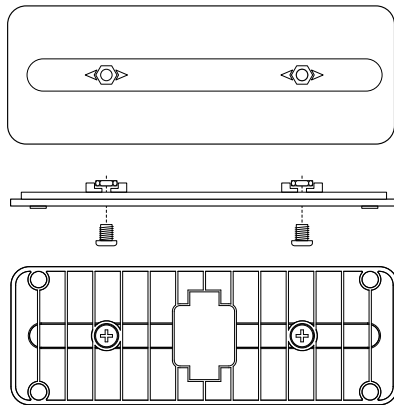


Step 4: Reassemble the Enclosure

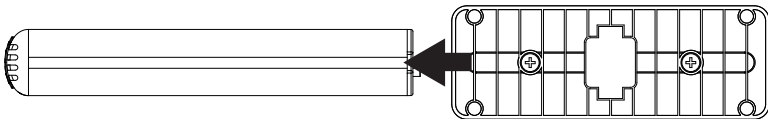
1. Carefully slide the carrier back into the Enclosure until the fascia is properly seated and pressed tightly against the Enclosure's edge.
Make sure all wires are safely tucked in as you slide in the carrier.
2. Seat the back fascia onto the enclosure and re-fasten the screws.
Make sure all screws are tightly fastened and the fascia is secure.

Step 4: Attach the Stand

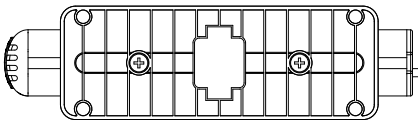
1. If the screws and nuts are not already fastened to the stand, insert the two screws through the two holes from the underside of the stand.
2. Fasten a nut onto each screw just far enough to secure it to the screw. Do not tighten.
3. With both screws and nuts in place, push down on each screw head to make sure the screws extend all the way through the holes.



4. Attach the stand to the Drive by sliding the nuts through the channel in the bottom of the Drive, entering from the back.
The stand is symmetrical, so it does not matter which end you insert first.



Position the stand so that it is centered with the Drive case.



5. Use a Phillips screwdriver to tighten the screws. Make sure the stand is firmly secured to the Drive case.

Installing the USB 2.0 Driver

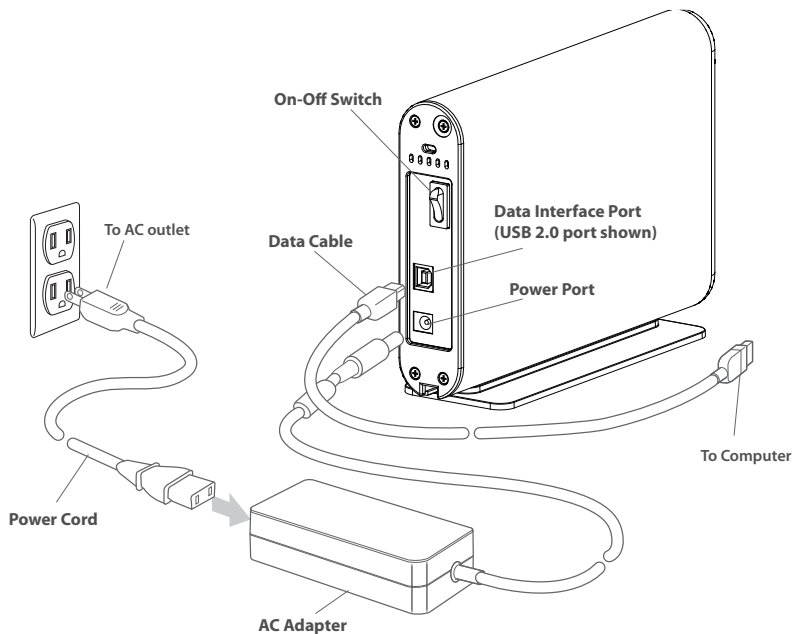
If you are using Windows 98SE or Windows 2000 (Service Pack 3 or earlier) and USB 2.0, you need to install the USB 2.0 driver on the supplied CD before connecting the Drive. Follow the instructions below. All other users can proceed to "[Connecting the Drive to Your Computer](#)."

1. Insert the CD into your computer's CD/DVD drive.
2. On the splash screen that appears, select "Install USB 2.0 Driver."
3. Follow the instructions in the InstallShield Wizard.
On the final screen of the InstallShield Wizard, you will be given the option to restart your computer. (*You must restart your computer in order to make the software active.*) Make sure the 'restart' option is selected and click Finish. Do not remove the CD until after the computer restarts.
4. After your computer restarts, you can remove the CD.

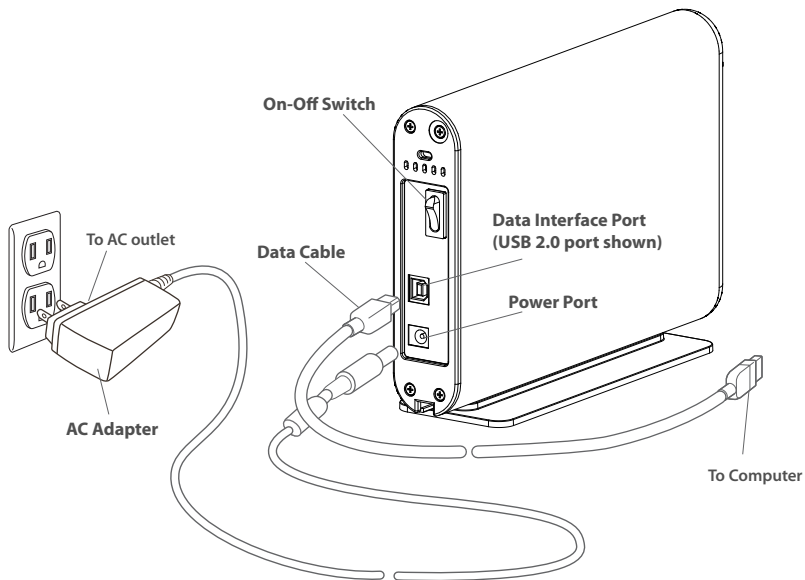
Proceed to "[Connecting the Drive to Your Computer](#)."

Connecting the Drive to Your Computer

If your Enclosure came with a desktop AC adapter, refer to the illustration below when following the instructions on the succeeding pages.



If your Enclosure came with a wall-mounted AC adapter, refer to the illustration below when following the instructions on the succeeding pages.



Step 1: Plug in the AC adapter and power cord:

1. Plug the small end of the AC adapter into the Drive's Power Port.

2. If you have a desktop adapter...

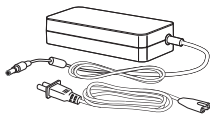
Plug the power cord into the socket in the AC adapter. Plug the other end into an AC outlet. If the power cord has three prongs, be sure to plug the cord into a three-prong (grounded) outlet.

If you have a wall-mounted adapter...

Plug the adapter into an AC outlet.



WALL-MOUNTED AC ADAPTER



DESKTOP AC ADAPTER

Step 2: Connect the interface cable:

IMPORTANT

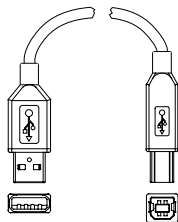
- *Your 700 Series Enclosure may be equipped with more than one interface (USB 2.0, eSATA, FireWire). See below for important information about each interface.*
- *Do not use more than one interface (e.g. USB 2.0 and FireWire) at a time. Doing so may damage the Drive and void the warranty.*
- *You can use two FireWire ports simultaneously, where one port is used to connect the Drive to your computer, and the other port is used to daisy-chain another FireWire device. See "[Daisy-Chaining the Drive](#)" for details.*
- *Do not connect the Drive to more than one computer at a time. This may damage the Drive and void the warranty.*

1. Select the cable for the interface you wish to use, and plug one end into a corresponding port on your computer.
2. Plug the other end into a corresponding port on the Drive.



If using USB...

The USB cable has a Type 'A' connector at one end, and a Type 'B' connector at the other end. The 'A' connector plugs into your computer/hub. The 'B' connector plugs into the Drive. Be sure to correctly insert the connectors or you may damage the Drive and void the warranty.



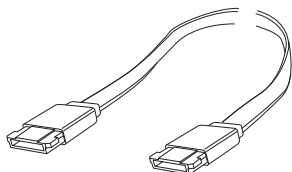
"A" Connector **"B" Connector**



If using eSATA...

The eSATA cable has eSATA (also called "SATA II") connectors at both ends. The connectors are keyed, so they will only plug in one way. Be sure to correctly insert the connectors, or you may damage the Drive and void the warranty.

If your computer has a built-in SATA port, it is most likely an eSATA port. Some early SATA PCI host adapter cards used SATA I



eSATA CABLE

(SUPPLIED WITH eSATA-EQUIPPED ENCLOSURES ONLY)

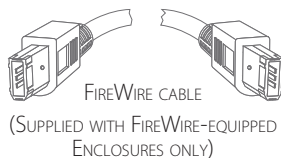
ports, which are shaped differently than eSATA ports and connectors. If your computer has a SATA I port, you will need to purchase a cable with an eSATA/SATA II connector at one end and a SATA I connector at the other end.



If using FireWire...

The FireWire cable has the same connector type at both ends. It does not matter which end you plug into the Drive and the computer.

FireWire-equipped Enclosures have two FireWire ports. It does not matter which port you use. The additional port can be used to daisy-chain another FireWire device to the Drive. (See "[Daisy-Chaining the Drive](#)" for more information.)



Step 3: Turn on the Drive:

Flip the On-Off Switch on the back of the Drive to turn it on.

What to do after you connect the Drive

If you installed a legacy IDE hard disk:

If the file system used to format your IDE hard disk is compatible with your computer, proceed to the section "[Verifying that the Drive mounts](#)" now. (See "[Formatting the Drive](#)" for information on file formats and OS compatibility.)

If the file system of your IDE hard disk is not compatible with your computer, go to "[Formatting the Drive](#)" now.

If you wish to re-format your Drive, follow the instructions in "[Verifying that the Drive mounts](#)" first, then proceed to "Formatting the Drive".

If you installed a raw IDE hard disk:

The Drive will power on but it will not mount to your operating system; it must be formatted first. Go to "[Formatting the Drive](#)" now.

Verifying that the Drive mounts

Before the data stored on a hard drive can be accessed, the drive must be "mounted" to a computer's operating system. This means the system has recognized at least one readable partition on the drive, and established a communications link with it.



Windows Vista/XP/2000/Me Users:

Once the Drive is powered on, in a few moments it should mount, and a new drive icon/letter will appear in My Computer/Windows Explorer.

If the installed IDE hard disk has two or more mountable volumes, each volume will mount with a separate drive icon.

Your Drive is now ready to use as a general-purpose data storage device.

If you have a PushButton-equipped Drive and you wish to use the PushButton™ Backup feature, see the PushButton™ Backup User's Guide on the CD.

Windows Me users:

If the Drive will not mount you will need to update your Windows Me. Go to www.microsoft.com and check for updates.



Mac Users:

Once the Drive is powered on, in a few moments it should mount, and a new hard drive icon will appear on the Desktop and in the Finder.

If the installed IDE hard disk has two or more mountable volumes, each volume will mount with a separate drive icon.

Your Drive is now ready to use as a general-purpose data storage device.

If you have a PushButton-equipped Drive and you wish to use the PushButton™ Backup feature, see the PushButton™ Backup User's Guide on the CD.

Re-Naming Your Drive

This section shows you how to change a volume label (name) of a formatted volume/ Drive. If your IDE hard disk was not already formatted, or if you wish to re-format the Drive go to "[Formatting the Drive](#)" now. You will have the opportunity to assign a volume label during the formatting setup process.



Windows Users:

1. Go to My Computer and click on the icon of your Drive.
2. In the pop-up menu, select Rename.
3. Enter a new name in the icon label and press Return.



Mac Users:

1. Click on the icon of your 700 Series Drive on the Desktop and press Return to highlight the label.
2. Type in a new name and press Return. You may be required to enter an administrator password before the change is accepted.

Formatting the Drive

Follow these instructions if you installed a raw IDE hard disk in the Enclosure, or if you wish to re-format the Drive.



Formatting a hard disk erases all data stored on the disk! Before you format or partition the Drive, be sure to save a copy of any files you wish to keep to another storage device.

About Formatting and File Systems

Before a hard disk can be used to store data it must contain one or more partitions, and each partition must be formatted with a given file system. ('Formatting' is also commonly referred to as 'Initializing' on the Mac OS.)

A file system defines the disk's directory structure for keeping track of and accessing files. It also governs other features, such as the way files are named, the maximum allowable size of a file or volume, and the disk's allocation unit size (the smallest unit of data storage on a disk).

About the most common file systems:

- **FAT32** is the default file system used on Windows 98SE and Me, and is supported under Windows Vista, XP, 2000 and the Mac OS. Think of FAT32 as the "universal" PC and Mac file system.
- **NTFS** is the default file system for Windows Vista, XP and 2000. NTFS offers more advanced features than FAT32, including support for files larger than 4 GB. NTFS cannot be used on Windows 98SE or Me. NTFS cannot be used on the Mac OS, with the exception that Mac OS 10.3 and higher can read, but not write to NTFS-formatted volumes.
- **Mac OS Extended (HFS Plus)** is the most common file system used on Macs. It is not compatible with Windows. Depending on which version of the Mac OS you have, you have the option to use journaled and case-sensitive HFS Plus file systems. For an explanation of journaling, go to <http://docs.info.apple.com/article.html?artnum=107249>. For an explanation of the case-sensitive option, go to <http://docs.info.apple.com/article.html?artnum=107863>.
- **MS-DOS** is the Windows/Mac-compatible file system available on the Mac OS. It is equivalent to FAT32.

Choosing a file system

- If you plan to use the Drive only on Windows Vista, XP or 2000, we recommend formatting the Drive with the NTFS file system.
- If you plan to use the Drive only on a Mac, we recommend formatting the Drive with the Mac OS Extended file system.
- If you need cross-platform compatibility, you have two options:
 1. Format the Drive on a Windows PC with the FAT32 file system.
 2. Format the Drive on Mac OS 10.3 or later with the MS-DOS file system.



Formatting a Drive in Windows

If you installed a raw IDE hard disk in the Enclosure...
Go the section "[Formatting a Raw Drive in Windows.](#)"

If you installed a legacy IDE hard disk in the Enclosure...
Find the section "[Formatting a Legacy Drive in...](#)" that pertains to your specific Windows operating system.

Formatting a Raw Drive in Windows

When you format a raw hard drive in Windows, the first step is partitioning the drive. This section provides instructions for creating a primary partition. For instructions on creating multiple partitions, consult your Windows documentation.

1. Right-click on My Computer and select Manage in the pop-up menu.
2. In the Computer Management window, expand the Storage folder, then select Disk Management.
3. The Disk Management window has two sections. The upper section lists the volumes currently mounted to your computer. The lower section shows the disks connected to the computer. In the lower section, locate for the disk with the capacity closest to your

Drive. This will be Disk 1, or Disk 2 etc. Disk 0 is the "C" drive (your computer's startup disk); leave this alone.

4. Right-click on the right-hand box. In the pop-up menu select Delete Partition... Under "Disk" it will now say "Online." In the right-hand box it will now say "Unallocated."
5. Right-click on the box and select Create/New Partition... in the pop-up menu. The Partition Wizard will launch; click Next.
6. In the Select Partition Type screen, select Primary partition and click Next.
7. In the Specify Partition Size screen, specify the amount of disk space you wish to allocate to this partition. The default setting will be the maximum. Leave it at this setting and click Next.
8. In the Assign Drive Letter or Path screen, assign a drive letter and then click Next.
9. In the Format Partition screen, click on the radio button that says "Format this partition..."
10. In the File system field, select a file system.
11. In the volume label field, type a unique name for your Drive that will distinguish it from other devices attached to your computer. Leave the Allocation unit size field at the default setting.
12. If you check Quick Format the formatting process will take just a

few minutes, but will do less verifying of the Drive. If you leave it unchecked, a Full format will be performed. This will take about 30-90 minutes.

13. In the Completing the New Partition Wizard screen you will see a summary of the settings you selected. Click Finish.
14. Once the format is complete, in the Disk Management window the right hand box next to the Disk listing will show the name of your Drive with the drive letter. The status of the Drive should now be "Online" and "Healthy." The new volume should also appear in the volume list window.
15. To view the properties of the Disk or volume right-click on the Disk box or the volume box and select Properties.

Formatting a Legacy Drive in Windows Vista/XP/2000

1. Disable any anti-virus software you may have running.
2. Double-click on My Computer. In the My Computer window you should see the icon/drive letter for the Drive.
3. Right-click the Drive icon and select Format... in the pop-up menu. The Format dialog box will appear.
4. Under Capacity, verify the Drive capacity. It should be close to the stated capacity of your Drive in gigabytes.

5. In the File System pop-up menu, select the file system.
6. In the Allocation unit size pop up, select "Default allocation size."
7. In the Volume label field, type in a unique name for the Drive that will distinguish it from other storage devices.
8. Under Format options you can check Quick Format. If you leave it unchecked Windows will run a Full format. A Full format will take about 30-90 minutes. A Quick format will take just a few minutes, but will do less verifying of the Drive.
9. Click Start. Once the format process is complete, the Drive will be ready to use.

Formatting a Legacy Drive in Windows 98SE or Me

1. Disable any anti-virus software you may have running.
2. Double-click the My Computer icon. In the My Computer window you should see an icon/drive letter for the Drive.
3. Right-click the Drive letter and select Format. In the Format window, verify the Drive's capacity; it should be close to the stated capacity of your Drive in megabytes.
4. Under Format type, select Full; everything else should be left at the default setting. In the Label field, under Other options,

you may assign a name to the Drive that will allow you to easily distinguish it from other storage devices. (Limit 8 characters; no symbols.)

5. Click Start. The following warning will appear: "This device is either a hard disk or a large removable disk. Formatting it will destroy all files currently on the drive. Are you sure you want to format this drive?" If the Drive contains no data or you already backed up the data you wish to keep, click OK.
6. If you see a warning from an antivirus program, click Exclude.
7. When formatting is complete, you will be asked to run a thorough Scandisk. (Periodically running Scandisk is a part of regular hard drive maintenance.) If you do not wish to run Scandisk at this time, close the Format window.



Formatting the Drive in Mac OS X

1. If you installed a raw IDE hard disk in your Enclosure...

After you connect the external Drive to your computer you will get the following alert message: "You have inserted a disk containing no volumes that Mac OS X can read." Click the Initialize button to launch the Disk Utility application in Mac OS X, and then proceed to step 2.

If you installed a legacy IDE hard disk in your Enclosure...

The Drive should have mounted after you connected it to your computer. Launch Disk Utility in the Applications folder (Applications > Utilities > Disk Utility), and proceed to step 2.

If your legacy IDE disk was formatted NTFS and you are using Mac OS 10.2...

The computer will not recognize the Drive and you will get the alert message: "You have inserted a disk containing no volumes that Mac OS X can read." Click the Initialize button to launch the Disk Utility application in Mac OS X, and then proceed to step 2.

2. The Disk Utility window will open with a small window at left and a larger window with a series of tabs at the top. In the small window at the left, click on the drive icon with the capacity that most closely matches the capacity of your Drive.

3. Click on the Erase tab. In the Erase window you will see a Volume Format pop-up menu and a Name field.
4. From the Volume Format pop-up, select Mac OS Extended.
You may have the option to use journaled and case-sensitive HFS Plus file systems. For an explanation of journaling, go to <http://docs.info.apple.com/article.html?artnum=107249>. For an explanation of the case-sensitive option, go to <http://docs.info.apple.com/article.html?artnum=107863>.
5. In the Name field, type in a unique name for this Drive/volume that will allow you to easily distinguish it from other storage devices attached to your computer.
6. Click Erase. You should see an alert message: "Erasing a disk will destroy all information on all of the volumes of the disk..." Click Erase. Once initializing is complete, you should see the Drive listed in the Disk Utility window with whatever name you assigned. Quit Disk Utility. You should now see the Drive icon on the Desktop and in the Finder.

Drive Use & Maintenance

Performing Routine Tasks

Operating systems typically give users multiple methods for performing certain tasks, such as opening files. The instructions below each describe but one method of performing their respective tasks, and apply to both Windows and Mac.

Opening files and folders

1. Double-click on the Drive icon. A window showing the files and folders stored on the Drive will appear.
2. Double-click on the file or folder that you want to open.

Copying files and folders to your Drive

1. Click on the file or folder you want to copy.
2. With the file/folder highlighted, go to *Edit* --> *Copy*.
3. Double-click on the Drive icon to open it. If you want to copy the file or folder to a specific folder on the Drive, double-click that folder to open it.
4. Go to *Edit* --> *Paste*. The file or folder will copy over.

How to Unmount and Turn Off the Drive

When a hard drive is “mounted” to a computer, that means the computer has established a communications link with it. When you unmount the drive, the communications link is severed and the computer can no longer access it.



Never turn off a hard drive or disconnect any cables while it is mounted. You may lose data or damage the drive.



Windows Users

1. In the Windows Taskbar, at the bottom of your screen, click the **Safely Remove** icon (the icon with the green arrow). A pop-up message will appear with a list of mounted devices.
2. Select the Drive. After a few seconds Windows will give you a message that it is safe to remove the device.
3. Click **OK**. You can then safely turn off the Drive.



Mac Users

Option 1: From the Desktop:

Drag the Drive's icon to the Trash. After the icon disappears from the Desktop you can safely turn off and/or disconnect the Drive.

Option 2: From within the Finder:

Locate the Drive icon in the Sidebar. Click the eject symbol (the triangle with the bar underneath) next to the icon. After the icon disappears you can safely turn off and/or disconnect the Drive.

FYI

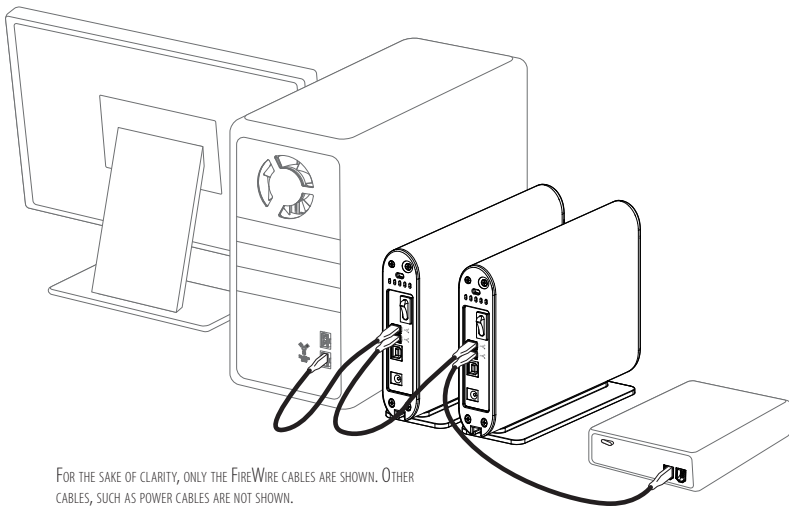
Whether you are using a Mac or a PC...

When you shut down your computer the Drive will unmount automatically.

After the computer has shut down you can safely turn off and/or disconnect it.

Daisy-Chaining the Drive (FireWire-equipped Enclosures)

A daisy-chain is a grouping of devices linked one after another in series, starting from the computer (as shown in the illustration below). If your Drive is equipped with FireWire ports, you can daisy-chain another FireWire device to it.



FOR THE SAKE OF CLARITY, ONLY THE FIREWIRE CABLES ARE SHOWN. OTHER CABLES, SUCH AS POWER CABLES ARE NOT SHOWN.



What you need to know about daisy-chaining:

- FireWire ports can be used in any order. For example, it does not matter which port you use to connect the Drive to your computer and which port you use to connect another FireWire device.
- You can locate the Drive anywhere in a daisy-chain (e.g. first, last, or somewhere in the middle).
- Data transfer rates between two devices in a daisy-chain will be limited by the device with the slower interface. For example, data transfers between a FireWire 400 hard drive and a FireWire 800 hard drive will be limited to FireWire 400 speeds.
- FireWire devices with only one FireWire/1394 port (such as digital camcorders) will necessarily be placed last in a daisy-chain.
- Bus-powered devices, such as 2.5" external hard drives, can be included in a daisy-chain.

Maintaining Your Drive & Safeguarding Your Data

A hard drive is a very sophisticated and sensitive device that requires proper care and maintenance to ensure the longest possible life, reliable operation and—most importantly—the integrity of your stored data.

Defragmenting and Optimizing a Hard Drive

A hard drive stores data on disks called platters. Each platter surface is divided into concentric *tracks*. Each track is divided into sections called *sectors*. A group of sectors, called a *cluster*, is the smallest unit of data storage space on a platter.

When data is saved to a new hard drive, it is written to the disk(s) contiguously, one cluster after another. As old files are erased, clusters that were previously occupied become available for new data. However, there may not be enough space for the drive to write a new file in a contiguous set of clusters. The drive uses the clusters it can; if more are needed it searches for empty clusters in other locations on the disk(s). The result is a fragmented file.

Over time, as more and more files are erased and new files are written, the data on the disk(s) becomes increasingly fragmented. The more fragmented a disk becomes, the longer

it takes to read and write data because the Drive's read/write mechanism spends more time hunting for fragmented data or free clusters.

We recommend using defragmentation and optimization software to maximize storage efficiency and optimize performance. Optimization software re-organizes files so that the files you use most often can be accessed more quickly. Defragmentation (defragging) software consolidates file fragments into more efficient contiguous clusters.

Quite often, defragging and optimization functions will be included in one software package, such that both operations are performed at the same time.

Examining and Repairing a Hard Drive

There are a number of reasons why a hard drive may become damaged or the data may become corrupted. Regular examination of your Drive with a quality diagnostic and repair utility is the best way to prevent irreparable disk damage and avoid data loss.

There are several software packages available that offer a suite of disk management and repair utilities, including defragmentation, optimization, repair, erased file recovery and more. How often you should perform maintenance depends on how much you use the Drive. Generally speaking, it's a good idea to examine a hard drive for damage at least once a month.

Some maintenance and repair operations can take quite some time, so it's wise to perform hard drive maintenance at times when you don't need to use your computer. The good news is that, for the most part, you won't need to tend to the computer while the software performs these operations.

Protecting Your Data from Malware

One of the greatest threats to your data comes from viruses and other malware, such as worms, trojan horses and spyware. *(The term 'virus' is commonly used to refer to all forms of malware.)* These are insidious programs created by malefactors and are designed to damage or disable a computer or network, or steal personal information. The worst part is you may not be aware that your system has been compromised until it's too late.

The most common way computers catch viruses is by downloading and sharing infected files via e-mail and other Internet services. You can protect your data against viruses by using anti-virus software. These programs are designed to seek out and eradicate or quarantine viruses before they can cause damage.

Cleaning the Drive Case

Always unplug all cables from the Drive before cleaning it. Clean the Drive using a soft, dry cloth. For tough dirt, dampen a soft

cloth with some neutral detergent diluted in 5 to 6 parts water; wipe off the dirt, then wipe off the Drive with a dry cloth. Do not use alcohol, paint thinner, or other chemicals; they may damage the case materials.

**Help &
Additional
Information**

Frequently Asked Questions (FAQs)

Q: Can I use my Drive on two computers at the same time?

A: No. The Drive can only be used with one computer at a time. If you connect the Drive to two computers at the same time, you may damage the Drive and the computers.

Q: Do I have to format the Drive prior to using it?

A: If the IDE hard disk drive you installed in the 700 Series Enclosure was already formatted you do not need to format the Drive as long as the file system used is compatible with your computer's operating system. If the IDE drive was not formatted, you will need to format it before your computer will recognize the Drive. See the chapter "[Formatting the Drive](#)" for more information and formatting instructions.

Q: Can I use the Drive on multiple operating systems?

A: Yes. Your 700 Series Enclosure is compatible with both Mac and PC. However the file system used to format your IDE hard disk drive will affect compatibility. See the chapter "[Formatting the Drive](#)" for more information.

Q: What is the difference between FAT32 and NTFS?

A: FAT32 is an older and more compatible file system but it has cer-

tain limitations, such as file size (maximum 4 GB). NTFS is more secure and has fewer limitations.

The NTFS file system can only be used on Windows Vista, XP and 2000. If you plan to use your Drive on Windows Vista, 2000 or XP only, consider re-formatting the Drive using the NTFS file system. If you plan to use the Drive on a Mac OS only, consider re-formatting the Drive using the Mac OS Extended file system.

Q: Where are the drivers for Vista, XP, 2000 and Me?

A: They are built into the operating system. No additional drivers are needed. However, you may need to upgrade your Windows OS. See “[System Requirements](#)” for more information.

Q: Can I connect the Drive to a USB expansion card?

A: Yes, but you may need to update the software/firmware for the card. We recommend you check with the card’s manufacturer for the latest updates.

Q: Is the Drive compatible with Windows 95, 98SE, or NT 4.0?

A: No.

Q: What is the cache (buffer) size on my Drive?

A: Cache memory resides on the actual IDE hard disk drive you install in the Enclosure. 8 MB is typical, though many newer IDE hard disks have 16 MB caches.

Q: Can you make the Drive bootable?

A: Windows does not support the use of external hard drives as startup disks. On a PowerPC-based Mac you can use a FireWire hard drive as a startup disk. On Intel-based Macs you can also use a USB hard drive as startup disk.

Q: Why doesn't the Enclosure have a fan?

A: Heat generation can be an issue with some hard drives, which is why they often have big, noisy fans. The 700 Series Enclosure was engineered to be so efficient at dissipating heat that it does not need a fan. The result is near-silent operation.

Q: Why is the capacity of my Drive, as shown in Windows or Mac OS, lower than the Drive's stated capacity?

A: The difference is mostly due to the way Windows and Mac operating systems measure hard disk capacity, as compared to the method used by hard drive manufacturers. Hard drive manufacturers have always used the decimal (base 10) method, where 1GB = 1,000 MB = 1,000,000 KB = 1,000,000,000 bytes. Windows and Mac operating systems use the binary (base 2) method, where 1GB = 1,024 MB = 1,048,576 KB = 1,073,741,824 bytes. For example: 120 GB (decimal) = 111.8 GB (binary). How did we get that number? Using the decimal method, 120 GB = 120,000,000,000 bytes. To convert that to binary we divide 120,000,000,000 by 1,073,741,824, which equals 111.8. Therefore,

a 120 GB hard drive partition will mount as approximately a 111.8 GB volume on your computer's OS. The reason the number will be approximate is because the actual number of available bytes of storage on a 120 GB hard drive will not be exactly 120,000,000,000. It is actually a bit more than that. We just round down the figure to 120 GB for simplicity's sake.

Hard drive manufacturers use the decimal method because it is simpler and less confusing to consumers who may not be familiar with the base 2 number system. Manufacturers of operating systems do not need to concern themselves with this issue, so they typically use the more traditional binary method.

Q: Can I use my Drive to copy an operating system from one computer to another?

A: You cannot transfer an installed operating system to another computer or hard drive simply by copying the operating system's files. In order to install an operating system, you'll need to follow the manufacturer's installation procedure. If you wish to transfer the contents of one startup (boot) disk to another, you will first need to properly install the operating system on the target disk. You can then use your 700 Series Drive to copy over your files (except the operating system).

Troubleshooting

Troubleshooting for Windows Users

The power will not go on when I turn on the Drive.

Make sure your connections are secure.

My computer does not recognize the Drive.

Make sure all of your connections are secure. If you have an add-on card, make sure it is working properly and update the software/firmware. Also, make sure you have the latest updates for your operating system.

When I leave my computer idle for a while and come back, the Drive won't work properly.

The most likely cause is that your computer is going into Sleep mode. The immediate solution is to restart your computer. To prevent this problem from recurring, go into your Power Settings/Energy Saver and set it to where it never goes into Sleep mode.

The Drive feels quite warm when powered on. Is this dangerous?

When in operation, the Drive may feel quite warm to the touch. This is normal.

The Drive gives me a “Device cannot start. Code (10).”

This is a power issue. Make sure your connections are secure. The other possibility is that the Drive has malfunctioned and requires service.

I don't see the Drive in My Computer, but it does appear in Device Manager.

Right-click on My Computer. Select Manage in the pop-up menu. In the Computer Management window, select Storage, then select Disk Management. In the Disk Management window, you should see a list of available storage devices. Look for the Disk that has a capacity closest to your 700 Series Drive. Right-click on the right-hand box; in the pop-up menu select Delete Partition. Once you do this, it will say “Online” & “Unallocated.” Right-click on the box and select Create New Partition in the pop-up menu. When the Partition Wizard appears, select Primary Partition and click on Next. You will see a default value for the 700 Series Drive; click Next. You will then see a drive letter (you can change this drive letter if you wish); click Next. You will then be asked to format the 700 Series Drive.

When I try to format the Drive, I get the message: “Could not complete format.”

This problem can occur if you are using an expansion card to

connect the Drive. Plug the Drive into a data port on your computer and try the format again. You may also come across this error if you are using Windows Vista, XP or 2000 and you try to format the Drive using the FAT32 file system. If reformatting the Drive and you do not need Mac compatibility, Windows Vista/XP/2000 users should use the NTFS files system.

After I connected the Drive to my PC, I got the following alert message: "Hi-Speed USB device plugged into non-Hi-Speed USB Hub." What does this mean?

Windows Vista, XP and 2000 users will get this alert message if you plugged the Drive into a USB port that only supports USB 1.1. This is fine, except your 700 Series Drive will operate USB 1.1 speeds (up to 12 Mbps).

Performance via USB seems to be slower than 480 Mbps.

First, in order to reach USB 2.0 speeds, you need a connection that supports USB 2.0. If the connection only supports USB 1.1 the Drive will operate at USB 1.1 speeds (up to 12 Mbps). The Drive will auto-sense the speed of your USB port and adjust between USB 1.1 and USB 2.0. Second, 480 Mbps is the *maximum* speed of USB 2.0 devices. Actual data transfer rates will vary depending on a number of factors, including available CPU resources.

Troubleshooting for Mac Users

The power will not go on when I plug in the Drive.

Make sure your connections are secure.

My computer does not recognize the Drive.

First, make sure the connections are secure. Second, check if the Drive is listed in the Apple System Profiler. If the driver listed is “USB Authoring Support” or “Toast USB Support”, disable this Extension(s) in the Extensions Manager, as they can cause a conflict with the Drive.

When I leave my computer idle for a while and come back, the Drive won't work properly.

The most likely cause is that your computer is going to sleep. The immediate solution is to restart your computer. To prevent this problem from recurring, go into your Energy Saver preferences and set it to never go into Sleep mode.

The Drive feels quite warm when powered on. Is this dangerous? When in operation, the Drive may feel quite warm to the touch. This is normal.

Performance via USB seems to be slower than 480 Mbps.

First, in order to reach USB 2.0 speeds, you must have a computer or host adapter card that supports USB 2.0. If the connection only supports USB 1.1 the Drive will operate at USB 1.1 speeds (up to 12 Mbps). Second, 480 Mbps is the maximum speed that USB 2.0 devices can reach. Actual data transfer rates will vary depending on a number of factors, including available CPU resources.

When I connected the Drive to my computer, I got the following alert message: "Please insert disk 'untitled'."

If you get this alert message, your Mac is not recognizing the Drive and the mouse cursor may actually freeze on screen. If this happens, hold down the Apple/Control key and press the Period "." key. You should regain control of your mouse. Restart your computer and rebuild the Desktop. (Refer to the manual that came with your Mac for instructions on how to rebuild the Desktop. It is good practice to periodically rebuild the Desktop anyway.) After your Mac reboots, the Drive should mount normally and you should not have this problem again.

When I upgraded from Mac OS 9 to Mac OS X, my computer asked me to re-initialize the Drive.

If this message appears, you have no choice but to re-initialize

the Drive in order to use it on Mac OS X. Copy the data stored on your Drive to another storage device before upgrading to Mac OS X. After the upgrade is complete, re-initialize the Drive on Mac OS X, and then copy the data back to it.

Glossary of Terms

ATA (Advanced Technology Attachment) – A disk drive interface standard based on the IBM PC ISA16-bit bus. The ATA specification deals with the power and data signal interfaces between a motherboard or a bridgeboard and the integrated disk controller and drive.

Bit - The fundamental unit of binary data; represented logically as a 1 or 0; also, the base unit of data communications.

Buffer – See “Cache.”

Bus – An electronic link that can transmit data between digital devices, such as computers and attached peripherals.

Byte – The base unit of encoded digital data and storage capacity; usually made up of eight bits (octet).

Cache – A memory buffer that stores frequently used disk data in RAM so the data can be read at a faster rate than if accessed from the disk.

Capacity – The amount of data that can be stored on a hard drive or other storage device.

Device Driver – A software program that enables a computer to communicate with peripheral devices, such as hard drives and CD-ROM drives. Each type of device requires a different driver.

eSATA (external Serial ATA) – eSATA refers to the cabling and connector technology that enables the SATA interface to be employed on external, hot pluggable storage devices. Cables up to two meters long attach eSATA drives to the computer, either via a built-in eSATA port, an eSATA host bus

adapter (PCI) card, or directly to an internal SATA socket on the motherboard. Designed for thousands of insertions, eSATA plugs and sockets are more rugged than internal SATA connectors.

FAT32 – The file system that is used on Windows 98SE and Me, and is supported under other Windows operating systems. A single file is limited in size to 4 GB.

File System – The method for storing and retrieving files on a disk. A file system defines the directory structure for keeping track of the files and the path syntax required to access them. It also defines the way files are named as well as the maximum size of a file or volume. FAT32 and NTFS are file systems used on PCs; HFS is used on Macs.

Format(ing) – Preparing a disk partition with a file system, for the storage and retrieval of files; often referred to as *initializing* on the Mac.

Gigabyte – 1,074,000,000 bytes (binary); 1,000,000,000 bytes (decimal), or approximately one billion bytes.

Hot-Pluggable – The ability to connect and disconnect peripheral devices while the computer is running.

Hub – A device which links peripherals together onto the same data bus.

IDE (Integrated Drive Electronics) – Refers to hard disk drives where the controller electronics are built into the drive itself. Before IDE hard disk drives, the controller electronics resided in the host computer. The term *IDE* is often used interchangeably with the term *ATA* to describe hard disk drives that use an ATA interface, though technically IDE and ATA are not the same thing.

Interface – Junction between two items of hardware or software for the exchange of data.

Master-Slave – An ordering of electronic devices in a primary-secondary sequence. For example, when a pair of IDE hard disk drives are installed in the same PC, one is configured as master and the other as slave. The master drive generally appears first when the computer's bios and/or operating system enumerates available drives. If there is a single device on a cable, in most cases it should be configured as master.

Mbps (Megabits per second) – A data transmission speed of one million bits per second.

MB (Megabyte) – 1,048,576 bytes (binary); 1,000,000 bytes (decimal).

NTFS – The primary file system for Windows Vista, XP and 2000.

PATA (Parallel ATA) – The term 'PATA' was coined to refer to ATA hard disks after the introduction of the Serial ATA (SATA) interface.

Partition – A fixed amount of storage space on a hard disk. A disk can contain one or more partitions.

Port – A connection which enables compatible devices to send and receive data. A port can be either hardware-based or software-based.

SATA (Serial ATA) – A serial implementation of the ATA interface. The original parallel ATA (PATA) interface was launched in 1986. SATA was introduced in 2002, offering significantly higher speeds.

Startup Disk – The disk from which a computer loads its operating system at startup. Also called a "boot" volume.

Volume – A formatted partition on a hard disk drive. The term 'volume' is often used as a synonym for the hard drive upon which it resides, but it is possible for a single hard drive to contain more than one volume, or for a single volume to span more than one hard drive.

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