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**CAUTION** - TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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#### FCC Compliance Statements

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installation. This equipment generates, uses, and can radiate frequency energy and, if not installed and used in accordance with the instructions, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to equipment off and on, the user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the distance between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

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GFMD3MM Rev A

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# QuickStart Installation Guide

**Gforce 3Mega**  
USB 3.0 Dual Drive RAID

Windows & Mac



Thank you for choosing Fantom Drives! Your Fantom Drives GForce3 Mega has been built to the highest standard of quality and workmanship and, when used according to the instructions in this guide, will provide years of trouble-free operation. We at Fantom Drives take great pride in bringing personal satisfaction to each of our customers.

Your Fantom Drives' disk drive is compatible with all USB-capable Apple Macintosh computers running Apple® Mac® OS 10.5.8 (or greater) and PC-Compatible computers running Microsoft® Windows® XP, Vista, Windows 7, and Windows Server® 2003/2008.

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any programs, data, or other information stored on any media or any part of any Product serviced hereunder. Be sure to remove all features, parts, options, alterations, and attachments not under warranty prior to returning the Product to Fantom Drives. Fantom Drives is not liable for any loss or damage to these items.

This limited warranty does not cover: (1) any consumables (such as batteries) supplied with this product; cosmetic damages; damage or loss to any software programs, data or removable storage media; or damage due to the Product such as but not limited to excessive heat or humidity, or modifications of this Product; (2) improper installation, operation, testing or maintenance of this Product; (3) power failure or connection to improper voltage supply; or; (4) attempted repair by any party other than Fantom Drives. This Warranty does not apply when the malfunction results from the use of this Product in conjunction with accessories, products or ancillary or peripheral equipment, or where it is determined by Fantom Drives that there is no fault with this Product itself.

This Limited Warranty is invalid if the factory applied serial number, product identification, or tamperproof sticker have been altered or removed from the Product.

Repair or replacement as provided under this warranty is the exclusive remedy of the consumer. Fantom Drives shall not be liable for any incidental or consequential damages for breach of any express or implied warranty, breach of contract, negligence, strict liability or any other legal theory related to this product. Such damage include, but are not limited to, loss of profits, loss of data, loss of use of the product or any associated equipment, down time and purchaser's time. Except to the extend prohibited by applicable law, any implied warranty of merchantability or fitness for a particular purpose on this product is limited in duration of this warranty.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long on implied warranty lasts, so the above limitation or exclusions may not apply to you. This warranty gives you specific rights; you may have other rights which vary from state to state.

## One Year Limited Warranty

Fantom Drives warrants this product (the "Product") against defects in material or workmanship as follows:

1. **LABOR:** For a period of one (1) year from the original date of purchase from Fantom Drives or its authorized reseller, Fantom Drives will repair defective Product (or, at its option, replace with a new or recertified product) at no charge. After this 1 year period, you must pay for all labor charges.

2. **PARTS:** For a period of one (1) year from the original date of purchase from Fantom Drives or its authorized reseller, Fantom Drives will supply, at no charge, new or rebuilt replacement parts in exchange for defective parts of this Product. Any replacement parts will be warranted for the remainder of the original warranty period or ninety (90) days from installation by Fantom Drives. All exchanged parts replaced under this warranty will become the property of Fantom Drives.

This warranty only covers the hardware components packaged with the Product. This warranty does not cover any software contained in, or included with, the Product; any such software is provided "AS IS". Please refer to any documentation included with the software for your rights and obligations with respect to the software.

This warranty extends only to you, the original purchaser. It is not transferable to any one who subsequently purchases the Product from you.

Proof of purchase in the form of a bill of sale (which is evidence that the Product is within the warranty period) must be presented to obtain warranty service.

To obtain warranty service you must take the Product, or deliver the Product freight prepaid, in either it's original packaging, or in a package that provides the Product with a degree of protection equivalent to that of the original packaging, to Fantom Drives. Items shipped with insufficient packaging will void the item's warranty, and may be rejected for service. Please contact Fantom Drives at the number listed on the reverse side for further information.

Fantom Drives is not responsible for any damage to, or loss of,

## Parts & Accessories List

**The package contains the following items:**

- Fantom Drives GForce3 Mega External Disk Drive
- USB 3.0 Cable
- AC Adapter
- Quick Start Installation Guide
- Drive Stand

If you are missing any items listed above, please fill out the customer support form at:

<http://micronet.com/support/missingpart.htm>

Please retain a copy of your receipt. You will need it if warranty repair service is required in the future.

## System Requirements

### System Requirements for Mac

- Apple Macintosh Computer/Laptop
- Mac OS X 10.5.8 or newer
- Available USB 3.0 or 2.0 port

### System Requirement for PC

- Pentium 4 class or better CPU
- Microsoft® Windows® XP SP3, Vista, 7
- Microsoft® Windows Server® 2003, 2008
- Available USB 3.0 or 2.0 port

### USB 3.0 compatibility with USB 2.0

USB 3.0 ports are backward compatible with USB 2.0 and USB 1.1. However, if you connect the drive to an earlier USB standard port, it will operate at that port's specified speed.



# Precautions

Please follow the precautions described below to avoid damage to your GForce3 Mega and void the warranty.

- DO NOT open the case. Doing so will void the warranty.
- DO NOT use a third-party AC adapter or power cord. Doing so may damage the Drive and void the warranty.
- DO NOT bump, jar or drop the Drive as this may damage it or result in loss of data.
- DO NOT disconnect any cables while the Drive is powered on without first properly dismounting the device via your operating system; doing so can result in data loss and possible damage.
- DO NOT set any liquids or beverages on the Drive as they may damage the internal electronics.
- Fantom Drives highly recommends that you regularly back-up the files stored on your Fantom Drives External Hard Drive. Fantom Drives is not responsible for any data loss, nor will Fantom Drives perform any recovery on lost data or files.

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 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 Drive.

***Q: 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?***

A: Windows 2000 and XP 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 Drive will operate USB 1.1 speeds.

***If an issue cannot be resolved by using our FAQ, please contact Technical Support via the Fantom Drives support site at <http://www.FantomDrives.com/helpdesk>***



## FAQs for PC Users:

**Q: My computer does not recognize the Drive.**

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

**Q: Can you make the External Hard Drive bootable?**

A: This depends on your computer's BIOS (Basic Input/Output System). The BIOS contains code required to control a number of miscellaneous functions. Please check with your computer manufacturer for BIOS updates to determine if your computer's BIOS supports this feature.

**Q: Does the Drive work with Norton Ghost?**

A: Yes. Norton Ghost 2003 or newer support USB drives. Fantom Drives does not provide any additional drivers.

**Q: Where are the drivers required?**

A: Supported Windows and Macintosh computers already include all the necessary drivers! No additional drivers are necessary.

**Q: When I leave my computer idle for a while, my Drive won't work properly.**

A: The most likely cause is that your computer is going into sleep mode. The immediate solution is to shut down your computer and turn off the Drive, and then restart your computer. Once your computer is completely booted up, turn on the Drive. You should see the drive in the Windows Explorer. To prevent this problem from recurring, open the "Power Settings/Energy Saver" and set it to never go into sleep mode.

**Q: I do not see my Drive listed in the My Computer window, but it does appear in the Device Manager list.**

A: 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 Fantom Drives External Hard 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

## Connecting the drive to your computer

1. Plug the AC adapter cord into the power port on the back of the drive. The plug should not require much effort to insert. If the plug will not go in, do not force it; the plug is probably upside down. Rotate the plug and try again. Incorrectly inserting the plug could damage the drive and void the warranty. Plug the other end into an AC outlet.

2. Connect the appropriate cable to your host:



**USB plugs are shaped so they can only be properly inserted one way. Be sure to insert the plugs properly or you may damage the drive and void the warranty.**

Connect the square USB connector (type B) of the included USB 3.0 cable to the square USB plug on the GForce3 Mega. Connect the other end to a free USB port on your computer.

**If your computer does not have USB 3.0 ports, you may purchase a USB 3.0 expansion card for your computer. Contact your authorized Fantom Drives reseller for further details.**

3. Flip the power switch located on the back of the GForce3 Mega to the "ON" position (labelled "-"). Once the drive is powered up, your computer should recognize it and the drive will be ready to use.

**The GForce3 Mega is preconfigured from the factory for FAST operation (RAID 0.) If you wish to reconfigure it for a different operation mode, please follow the instructions on the following page.**

# GForce3 Mega Hard Disk at a Glance

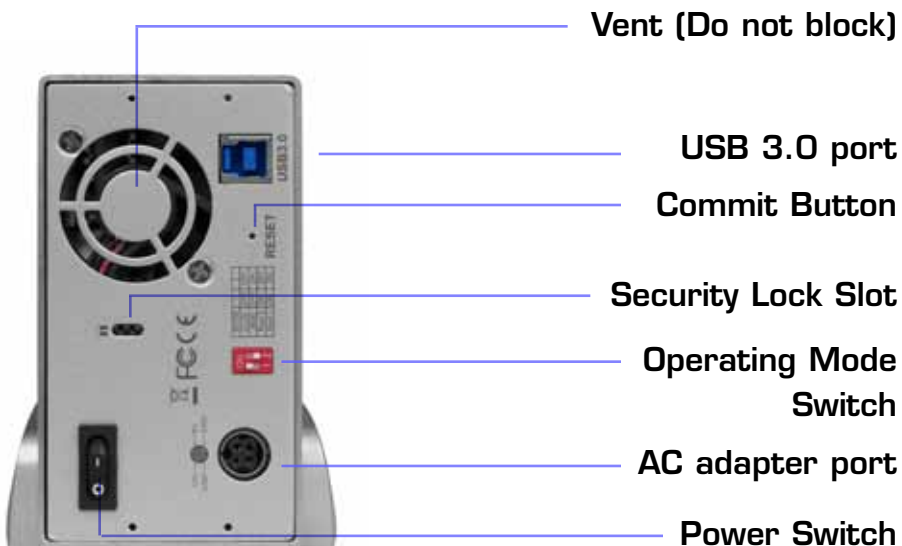


Power Indicator  
Light (Blue)

Disk 1 Activity

Disk 2 Activity

RAID Status  
Light



Vent (Do not block)

USB 3.0 port

Commit Button

Security Lock Slot

Operating Mode  
Switch

AC adapter port

Power Switch

## ***Q: Is my external hard drive bootable?***

A: Yes! As long as your host hardware and operating system support booting from USB. Refer to your computer's documentation for more information

## **FAQs for Mac Users:**

***Q: Why is my Drive asking me to format it? It was already formatted and it contains data.***

A1: Run a disk repair utility on the drive.

A2: Perform permission repair on your system drive. Open the disk utility (located in /Applications/Utilities/Disk Utility.app.) Select your system drive (usually the first disk listed) and click "Repair Disk Permissions" in the "First Aid" Tab.

A3: Restart your computer. As soon as the bootup chime sounds, press and hold down the option-command-p-r key combination to reset the PRAM. Release the keys when the chime sounds a second time. Please refer to your Mac manual for more information on these procedures

***Q: My computer does not recognize the Drive.***

A: First, check to make sure that all of your connections are secure, and that the power switch is in the "ON" position. Then check if your External Hard Drive is listed in the Apple System Profiler. If the problem persists, verify that the USB port used is functioning.

***Q: I'm trying to copy files to/from FAT32 volumes or network shares, and it keeps failing.***

A: FAT32, HFS+, and other file system formats allow different standards of filename length or use of special characters. Rename the offending file(s) and try the operation again.

***Q: I have a FAT32 disk, and when I try to copy a large file I get an error saying there is not enough room on the drive- I have lots of free space!***

A: FAT32 only allows files up to 4GB in size. To copy larger files, please reformat the volume using MacOS Extended Format.



# Troubleshooting

## General Questions

**Q: I bought a 500GB drive, but my computer is showing 465GB. Where is the missing capacity?**

A: Hard drive manufacturers market drives in terms of decimal (base 10) capacity. In decimal notation, one megabyte (MB) is equal to 1,000,000 bytes, and one Gigabyte (GB) is equal to 1,000,000,000 bytes. Many operating systems use the binary (base 2) numbering system to describe disk capacity; In the binary numbering system, one megabyte is equal to 1,048,576 bytes, and one gigabyte is equal to 1,073,741,824 bytes. Simply put, decimal and binary translates to the same amount of storage capacity.

**Q: My drive was working fine yesterday but now its gone!**

A: The disk may have been shut down without being dismounted, or may have failed. If you do not hear and feel the drive spin up when you connect the power, the drive will need to be replaced. If you verify that the computer input and the drive data cable are working, you may be able to repair or recover the data with your computer's disk repair utility or a third party utility.

If your disk repair utility cannot repair or see the disk, the drive has failed and will need to be replaced. If data recovery is desired, please contact an established professional data recovery firm. For a checklist of what qualities you might seek, see [www.drivesavers.com/why\\_drivesavers/index.html](http://www.drivesavers.com/why_drivesavers/index.html) or [www.ontrack.com/services](http://www.ontrack.com/services).

**Q: Can I leave my GForce3 Mega on all the time, or should I turn it off when not in use?**

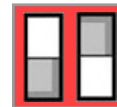
A: The GForce3 is meant to be left on, but does not add any limitations on being turned off. Drive reliability is affected by repeated power cycles, and the GForce3 cannot alleviate this. In addition, Micronet recommends that the drive's power supply is connected through a UPS or surge protector; In the case of a power surge, or brown/black out, the hard drive's sensitive electrical components will not be damaged.

# Setting the RAID operation mode

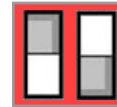
You can configure the Fantom Drives GForce3 Mega to use any of the following Storage Policies to map the physical hard drives to virtual drives, or "volumes", that are visible to the host computer. The host operating system treats these volumes as if they were a single physical drives. This virtualization allows you to overcome restrictions that are imposed by physical hard drives, such as speed, storage capacity or data storage reliability. To select a storage policy, make sure that the unit is powered on, set the DIP switches on the back of the GForce3 Mega with a small flathead screwdriver to the desired storage policy, and press the recessed "Mode Change Commit" button with a pin or paperclip to create the new virtual volume(s). Refer to page 6, "Fantom Drives GForce3 Mega Hard Disk at a Glance" for the locations of the storage policy mode switch and commit button.



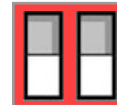
RAID 1- Mirror (1 Volume, half capacity)



RAID 0- Stripe (1 Volume, full capacity)



SPAN (1 Volume, Full Capacity)



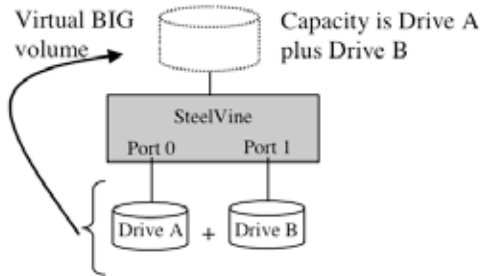
Direct Mapping  
(2 Volumes, full capacity)

**Please exercise care before pressing the "Commit" button. Creating new virtual volumes will destroy any existing data that existed on the previous volume!**



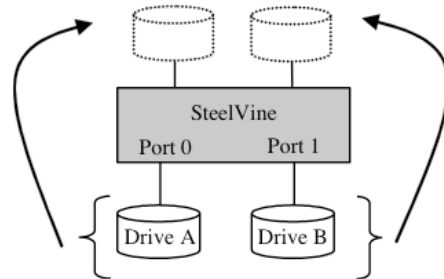
## Span

The BIG storage policy concatenates the two physical hard drives as a single large volume, resulting in a seamless expansion. Hard drive A and B are concatenated into a single virtual volume in the Figure below with a storage capacity that is equal to the sum of each of the physical hard drives A and B:



## Direct Mapping

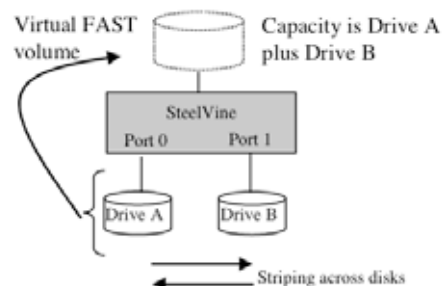
The DUAL or JBOD (Just a Bunch of Disks) storage policy enables each hard drive to be seen separately.



## RAID 0 (Stripe)

The FAST storage policy, also called striping or RAID 0, presents the best data speed by using both disks in parallel. Hard drive data segments are written to different disks simultaneously which increases performance, but at an increased fault sensitivity (two drive's worth of data may be lost at a single disk fault.)

The FAST storage policy creates a single virtual volume that is striped across both hard drives, with a storage capacity that is equal to the sum of both hard disk drives.



# How to Safely Dismount and Turn Off Your GForce3 Mega

What do 'mounting' and 'dismounting' mean? When a device such as a hard drive is mounted, that means the computer 'sees' the device and is able to communicate with it. When you dismount a device, the computer no longer sees it. The device may still be running but the computer cannot access it, as though the device no longer exists.

***Never turn off or unplug a hard drive without dismounting it first. Doing so could cause data on the drive to be lost or damaged.***



## How to safely dismount and turn off the drive with the computer running

### Mac Users

Drag the icon for the external hard drive to the Trash. The drive will dismount and you can then safely turn it off. You may then unplug the power cord and data cable if you want to disconnect the drive.

### PC Users

1. Locate the System Tray. The System Tray includes the time display in the bottom right, and icons to the left of the time. One of the icons will be an hot plug icon (🔌).

2. Left-click on (🔌). You will receive the alert message "Safely Remove..." followed by the drive description and drive letter for the device.

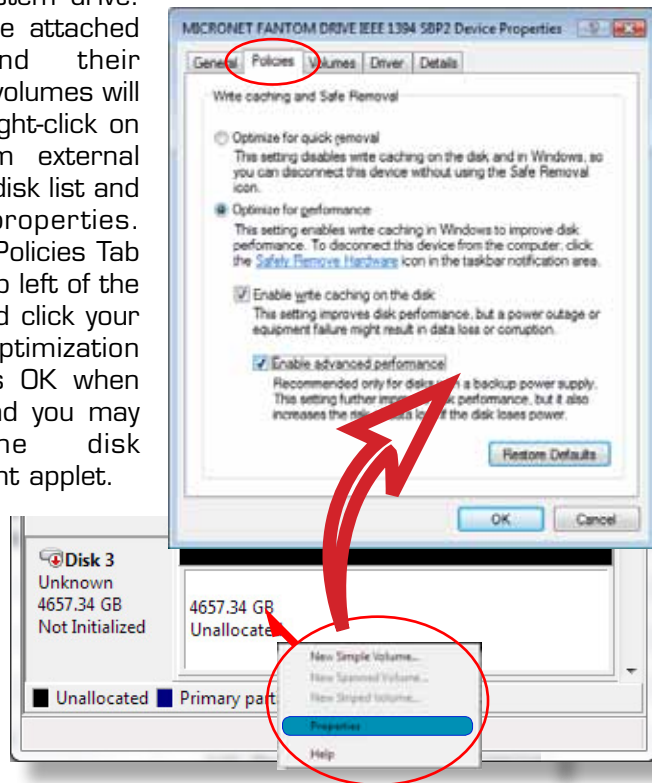
3. Left-click on the appropriate device (with the drive letter matching the one used by the external hard drive). After a few seconds, Windows will give you a message that it is safe to remove the device.



## Optimizing Windows Caching Algorithm

By default, Windows XP optimizes caching for performance on external drives. Windows Vista and 7 optimize caching for quick removal. As a result, Windows XP appears to have faster access to external disks but at a greater risk of data corruption and loss. To change Windows' caching algorithm, open the disk management console (as described on page 8) on your system drive.

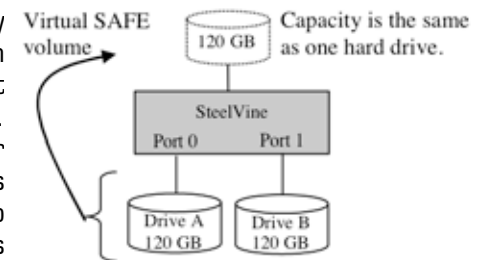
A list of the attached drives and their respective volumes will appear. Right-click on the Fantom external disk in the disk list and select properties. Select the Policies Tab near the top left of the window, and click your desired optimization level. press OK when finished, and you may close the disk management applet.



**Optimizing for performance can greatly enhance the throughput of your disk but is much more vulnerable to data loss! Make sure to have appropriate backup strategies before enabling this feature!**

## RAID 1 (Mirror)

The SAFE storage policy stores all data in duplicate on each drives to protect against data loss due to drive failure. One drive mirrors the other at all times, which means every write operation goes to both drives. SAFE provides the highest level of data fault tolerance, but halves the amount of storage capacity because all data must be stored twice. The resulting storage capacity of the virtual SAFE volume will be equivalent to the size of one hard drive. If one drive fails, the SAFE volume is still usable, but it is in a vulnerable state because its mirrored hard drive is inaccessible. When the offline drive is replaced, the GForce3 Mega will begins a rebuild process immediately to restore data redundancy.



**Although the volume remains available during the rebuild process, the volume is susceptible to data loss through damage to the remaining drive until redundancy is restored at the end of the rebuild and verification process.**

Host access takes precedence over the rebuild process. If you continue to use the mirrored volume during the rebuild, the rebuild process will take a longer time to complete, and the host data transfer performance will also be affected.

# Formatting Your Drive

The GForce3 Mega comes preformatted at the factory with the NTFS file system, the native file system for Windows. Linux and Mac OSX hosts require a third-party driver such as NTFS-3G to achieve full read/write capability with NTFS volumes. If you intend to use this drive exclusively on MacOSX it is advised to reformat your disk with the HFS ("Mac Extended") file system.



**Formatting a hard drive erases all data contained on it. Please be sure to create a copy of the files you wish to keep to another location before reformatting.**

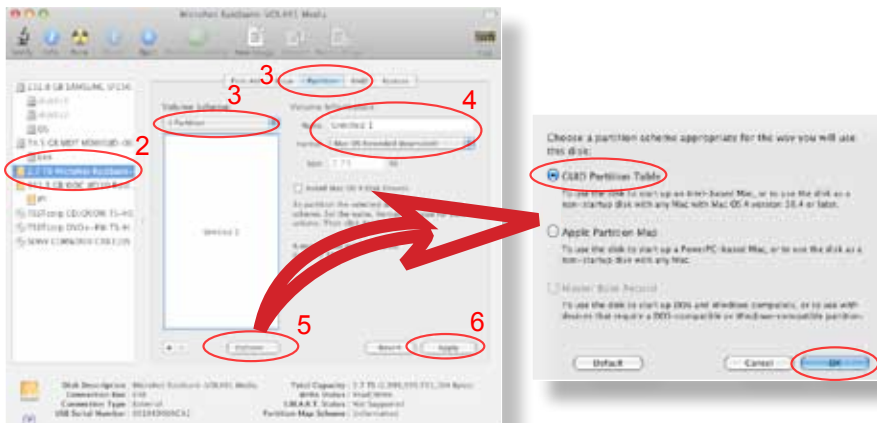
## Formatting the drive in Mac OS X

1. Launch the "Disk Utility" application located in Applications/Utilities.
2. Highlight your new drive and select the "Partition" tab
3. Select the new partition map type.
4. For each partition in the volume scheme, select the desired file system format and volume name (optional)



**Although it is possible to format using the DOS file system, we do not recommend this as an artificial capacity limit may be imposed on the drive and performance will be unpredictable.**

5. Click the "Options" button. Select "GUID Partition Map" in the dialog box and click "OK".
6. Click "Apply." Your Fantom Drives GForce3 Mega is ready to use!



## Formatting the drive on Windows Hosts

1. Open the disk management console. A list of the attached drives and their respective volumes will appear. Select the GForce3 Mega Disk.

**The Disk Management Console can be accessed by right-clicking on the "My Computer" icon ( > Computer ) and selecting "Manage" from the drop down menu. Disk Management is found under "Storage" in the resultant window. For additional information, please see**



<http://www.fantomdrives.com/helpdesk/faq.php>

2. Right-click on the drive letter and select Format in the pop-up menu. The Format dialog box will appear.

**If the hard disk is not signed for use, the New Partition option is unavailable (superimposed no-entry icon). In this case a signature can be written on the hard drive by right clicking on the disk description window and selecting "Initialize Disk".**



3. Under Capacity, verify the drive capacity. It should be close to the stated capacity of your drive in gigabytes.

4. In the File System pop-up menu, select NTFS. The default formatting option is full format. A full format will fully verify the disk media. A Quick format is quick, but will do less verifying of the drive than a full format. Click Start. Once the format process is complete, your external hard drive is ready to use.