



G-Technology®

USER MANUAL

# G|RAID® STUDIO

High-performance Thunderbolt™ 2 storage system with hardware RAID



[g-technology.com](http://g-technology.com)

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## Safety & General Use

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## Safety Precautions

Your G-RAID Studio's warranty may be voided as a result of failing to respect the precautions listed below. If you detect a problem with your drive, please contact our [Technical Support department](#).

*If the product is returned with damage caused by improper handling, the warranty will be void and liability will rest with the user. Please read our [Limited Warranty](#).*

- **Service:** Your drive contains no user-serviceable parts. If it appears to be malfunctioning, have it inspected by a qualified G-Technology Technical Support representative.
- **Moisture:** Place the device away from moisture or liquids. To reduce the risk of damage, do not expose this drive to rain or moisture. Do not use it in damp or wet conditions. Never place objects containing liquids on the drive as they may spill into its openings.
- **Ventilation:** Place the device in a vented area. The drive should never be placed near or over a radiator or heat source.
- **Temperature:** Do not expose this drive to temperatures outside the range of 5°C to 35°C (41°F to 95°F). Do not expose this drive to operational humidity beyond 5 percent to 80 percent (non-condensing) or non-operating humidity beyond 10 percent to 90 percent (non-condensing). Avoid placing your drive near a source of heat, exposing it to sunlight (even through a window), or setting it in an environment that is too cold or humid.
- **Physical Damage:** Do not place heavy objects on the drive. Never use excessive force on your drive.

## Backup Your Data

The disk drive contained in your G-RAID Studio device is a delicate electronic instrument and is susceptible to damage from excessive physical shock. Under no circumstances will G-Technology be held liable for the recovery or restoration of lost data. Any loss, corruption, or destruction of data while using a G-Technology drive is the sole responsibility of the user.

### Make Two Backups

To help prevent possible data loss, we highly recommend keeping **TWO** copies of your data in separate storage locations. Keep one copy on your G-Technology drive. Keep a second copy on an internal hard drive, another G-Technology drive, or a form of removable and/or online storage media. If possible, it is advisable to keep your data in two physically disparate locations for added safety.



## About Your G-RAID Studio

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## Introduction

Thank you for purchasing the G-Technology G-RAID Studio, featuring 20 Gb/s Thunderbolt 2 interface technology.

Since 2011, G-RAID with Thunderbolt has been the go-to storage solution for content creation professionals needing higher interface speeds and storage capacity. With the introduction of G-RAID Studio, which comes in a high-quality sleek, black enclosure, content creators worldwide now have a solution where durability, style, and performance reach new heights.

Thunderbolt 2 technology enables blazing fast, concurrent data streams, capable of data transfer rates over 1300 MB/s! This opens up incredible time-saving and multi-stream possibilities for content creation professionals who use bandwidth-intensive 2K and 4K media formats.

G-RAID Studio incorporates many of the same features of the standard G-RAID with Thunderbolt, including a thermo-regulated smart fan and soft-touch electronic power switch. The drive supports the industry's most demanding professional content creation applications, including Final Cut Pro<sup>®</sup>, Adobe Premiere<sup>®</sup> and Avid<sup>™</sup> Media Composer.

## What's in the Box

The following items are included in the box:

- G-RAID Studio storage solution with two removable disk modules
- (1) Thunderbolt cable
- External DC power supply and cable
- Quick Start Guide

If any items are missing, please contact G-Technology at [www.g-technology.com/support](http://www.g-technology.com/support)

## System Requirements

G-RAID Studio supports the following operating systems:

- Mac OS<sup>®</sup> 10.9 +
- Windows<sup>®</sup> 10, Windows<sup>®</sup> 8.1 and Windows<sup>®</sup> 7



NOTE: G-RAID Studio has been preconfigured at the factory in RAID 0 (Performance) mode and formatted as "HFS+ with Journaling."



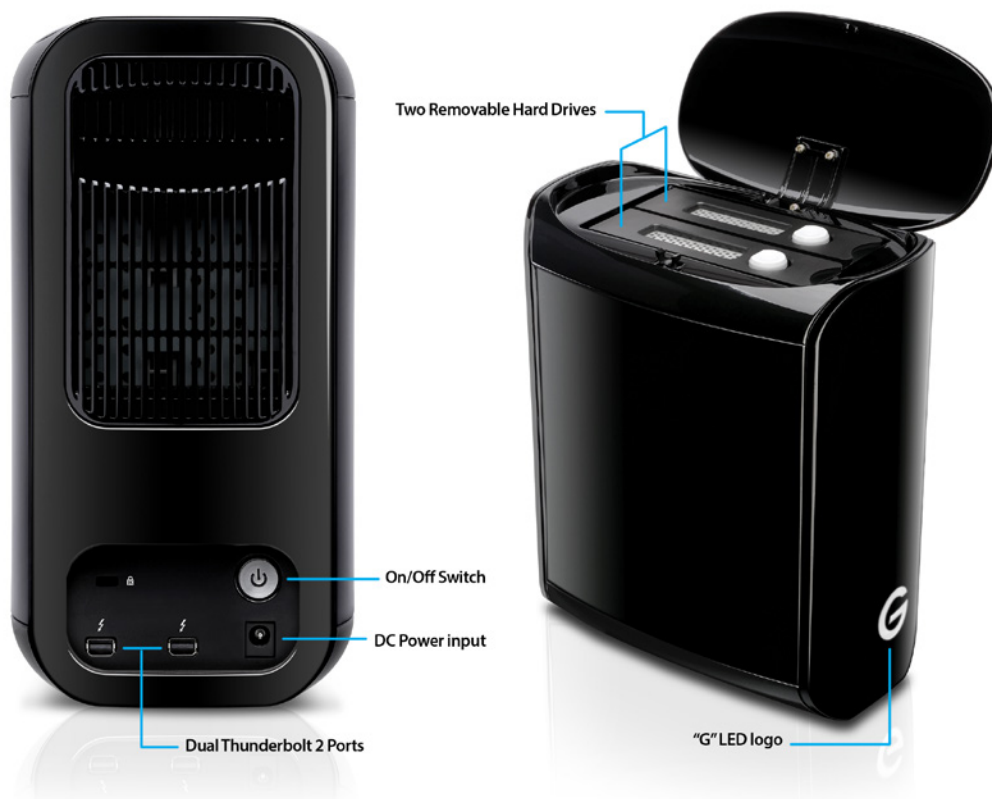


## Overview of the Drive

The following diagrams show the helpful features of your G-RAID Studio.

The compact and quiet G-RAID Studio features two removable HGST 7200 RPM SATA III hard drives. G-RAID Studio showcases a sleek, high-quality, black enclosure with integrated cooling and smart fan technology, two Thunderbolt 2 ports, a DC power input, and a soft-touch on/off switch on the rear panel. The “G” logo acts as an LED-lit power/error status indicator.

**IMPORTANT:** To change G-RAID Studio from its RAID 0 (Performance) factory default setting to RAID 1 (Protected) or JBOD modes, please refer to this manual’s [Configure the RAID Mode](#) section.



## Activity & Failure LEDs

G-RAID Studio contains a drive activity LED integrated into each removable disk under the top lid and an illuminated G logo on the front panel to indicate the following operations and enclosure statuses:

- System initialization
- System ready – HDD Idle
- Disk activity – HDD Read/Write
- Disk drive failure

This table explains the meaning of each combination of LEDs on the drive:

RAID Status	HDD1 Drive LED	HDD2 Drive LED	G-LOGO
System Initialization	Blue - Blink once	Blue - Blink once	White - blink until system ready
HDD Idle	Blue – On	Blue - On	White - On
HDD Read/Write	Blue - Blink	Blue - Blink	White - On
HDD Failure (Raid 0)	Red – On	Red – On	Red - On
HDD Failure (Raid 1)	Red – On (if HDD1 fails); Blue – On (if HDD2 fails)	Red – On (if HDD2 fails); Blue – On (if HDD1 fails)	Red - On
Raid 1 Rebuild	Blue – Blink	Blue – Blink	White - Blink

In the event of a disk drive failure, the front panel's G logo will glow RED. At the same time, the LED located near the faulty drive will turn from BLUE to RED. To replace the faulty drive, please refer to the section Replace a Failed Drive Module.

- If configured in fail-safe RAID 1 (Protected) mode, data stored on the G-RAID Studio will still be intact.
- If configured in JBOD mode, only the data on the faulty drive will be lost, but the remaining data on the working drive will be intact.
- If configured in RAID 0 (Performance) mode, all data is at risk of being lost. Please contact our Technical Support for help if the drive failure LED indicator is lit.

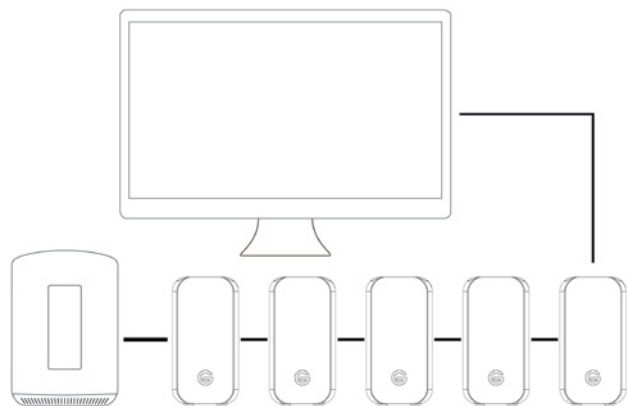
## Daisy Chaining with Thunderbolt Technology

As with first-generation Thunderbolt technology, Thunderbolt 2 supports daisy chaining up to 6 compatible devices. This provides the ability to achieve bi-directional, dual-channel data transfer. First-generation Thunderbolt supported a maximum speed of 10 Gb/s through each channel whereas Thunderbolt 2 leaps to 20 Gb/s. However, taking full advantage of Thunderbolt 2 technology requires you to connect with a computer equipped with at least one enabled Thunderbolt 2 port.

You may attach up to six Thunderbolt devices in the chain including your G-RAID Studio. With 20 Gb/s performance, your computer can take advantage of Thunderbolt 2's tremendous throughput potential for your G-Technology storage solutions. The daisy chain can also include up to two compatible displays along with up to four G-RAID Studios.

**Important Note:** Starting from your computer all the way downstream in your daisy chain, if one of the devices is capable of handling only 10 Gb/s maximum allowable speed — i.e., if the device is first-generation Thunderbolt-enabled — then from that point on in the chain, the maximum per-channel downstream speed will be restricted to 10 Gb/s.

**How to daisy chain multiple devices:** To daisy chain your G-RAID Studio, connect the Thunderbolt 2 port of your G-RAID Studio to the host computer's Thunderbolt 2 port with the included Thunderbolt cable. You can connect up to six Thunderbolt devices in a chain, including the G-RAID Studio, one after another as shown in the diagram below using the second Thunderbolt port of each drive. Connect all drives with their provided AC power adapters to a surge protector or wall outlet(s) and power on each drive. Your Thunderbolt devices are now daisy chained and available to work in tandem through the same host.





## Using Your Drive on Mac

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## Easy Installation for Mac

G-RAID Studio includes the Thunderbolt cable to attach to your computer via one of the enclosure's two Thunderbolt 2 ports. Thunderbolt 2 is backward compatible and easily connects to older Thunderbolt-enabled MacBook, iMac, and select PC systems.

Connect the power cord to your G-RAID Studio and plug the other end into a surge protector or wall outlet. Press and hold down the power button until the unit turns on. The drive will automatically mount on the desktop if you are running Mac OS 10.9 or above.



**Important Note:** If you connect your G-RAID Studio to a computer that only supports previous-generation, 10 Gb/s Thunderbolt technology, then your G-RAID Studio will be restricted to a maximum data transfer speed of 10 Gb/s. To understand how you can use G-RAID Studio for daisy chaining more than one peripheral device, please refer to the previous section Daisy Chaining with Thunderbolt Technology.

## Use with Time Machine

Your G-RAID Studio can be easily used as a backup drive via Time Machine when connected to a Mac. Time Machine is an application that ships with your Mac and provides automatic file backup. The following steps will quickly set up G-RAID Studio with Time Machine.

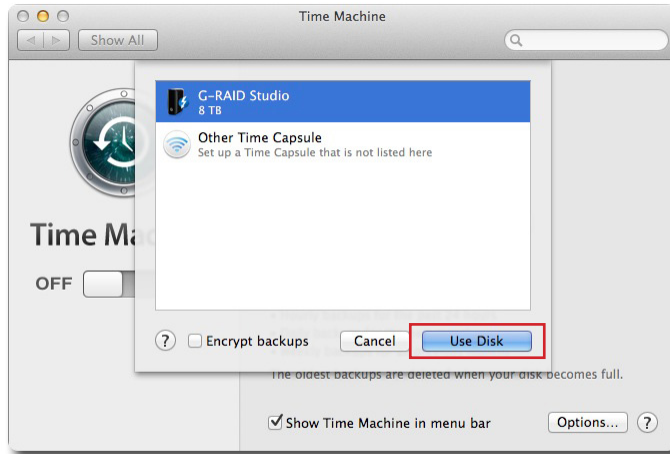
When you attach your G-RAID Studio for the first time, the Time Machine dialog box should automatically appear. Click the Use as Backup Disk button.



If the Time Machine dialog box does not launch, go to Apple Menu > System Preferences. Click on the Time Machine icon. The Time Machine Preference panel will open. Click the Select Backup Disk button.



In the subsequent dialog box, select the G-RAID Studio. Click the Use Disk button.



Make sure the Time Machine switch is set to ON. You can set its options by clicking the Options button. Do this to choose volumes, folders, or files you do NOT want to backup.

G-RAID Studio will now back up your important files automatically with Time Machine. It's really that easy!



## Disconnect the Drive

A great feature of G-RAID Studio is the ability to connect and disconnect while your computer is running. To prevent failures and/or data loss, it is important to follow the steps below when disconnecting or “unmounting” the drive from your computer.

1. Before powering down and disconnecting the drive, unmount the system by simply dragging the G-RAID Studio icon to the trash located in the dock.  
**Keyboard shortcut:** Select the drive icon and hit Command+E.
2. It is safe to remove the drive from your system when the drive icon is no longer present on your desktop.
3. To power off G-RAID Studio, press and hold the On/Off power button until the unit shuts down.

## Helpful links

- To use G-RAID Studio on Windows, go to [Windows Use](#).
- To use G-RAID Studio on Mac and Windows together, go to [Cross Platform Use](#).





## Using RAID Modes

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## Supported RAID Modes

G-RAID Studio arrives preconfigured in RAID 0 (Performance) mode and formatted for use with Mac OS systems. The solution can also be configured in RAID 1 (Protected) mode or JBOD mode. The following table explains the advantages and disadvantages of each RAID level.

RAID Level	Description	Advantage	Disadvantage	Ideal For
RAID 0	Disk Striping	Highest read/write performance. Storage capacity is 100% utilized.	No fault tolerance. Single drive failure will result in complete data loss.	Highest storage capacity utilization and highest performance.
RAID 1	Disk Mirroring	Complete data protection in case of a single drive failure.	Read/write performance is reduced to half of RAID 0 performance.	Sensitive data which requires constant backing up. High performance not required.
JBOD	Disk not RAIDed	Storage capacity is 100% utilized. Partial data protection if a single drive fails.	Read/write performance is reduced to half of RAID 0 performance.	Highest storage capacity utilization when partial data loss is acceptable.

To change the RAID mode of the G-RAID Studio, follow the steps in [Configure the RAID Mode](#).

### RAID 0 (Performance)

This default RAID mode features 100 percent storage capacity (for example, two 4TB drives would provide 8TB of unformatted capacity) and is ideal for video editing. In RAID 0, the drives combine into a shared capacity pool and data is split (“striped”) between the two drives for increased performance.

### RAID 1 (Protected)

RAID 1 offers additional protection for your data, making it ideal for sensitive files, but it operates at the speed of a single drive. In RAID 1, the array will be at 50 percent of its total physical capacity since the same data is written (“mirrored”) to both drives simultaneously.

### JBOD

JBOD is great for maximum capacity utilization without the risk of losing an entire data set, as in the case of RAID 0.

## G-Technology Assistant Utility

The G-Technology Assistant (GTA) utility was created to enhance the user experience of G-Technology storage solutions such as G-RAID Studio. The utility has two functions: 1) to provide notifications of the G-RAID Studio status and the current drive configuration, and 2) to quickly launch the G-RAID Studio RAID Configuration Utility.

The GTA is available for download from [www.g-technology.com/support](http://www.g-technology.com/support). Note that the utility has an auto-update feature for your convenience.

## Recommended Installation

When you first set up G-RAID Studio, you will want to install the GTA on your computer. The utility provides useful notifications and shortcuts to enhance your experience with G-RAID Studio.

To install the G-Technology Assistant utility, follow the on-screen instructions. Once you have successfully completed the installation, the utility will be accessible from the Mac OS menu bar and/or from the Applications folder.



The following is a quick summary of the utility and its functionality. If you have questions, please visit [www.g-technology.com/support](http://www.g-technology.com/support).

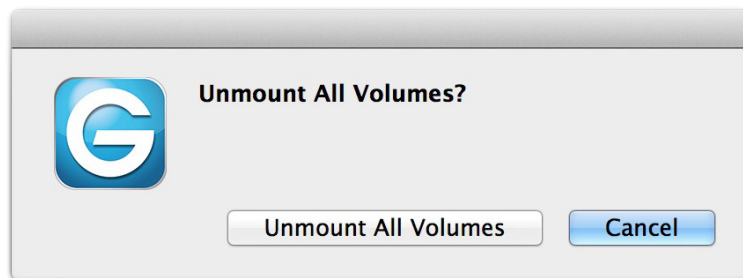
## G-Technology Assistant Menu

There are helpful menu items in the G-Technology Assistant utility.



Once G-Technology Assistant has been successfully installed, the utility's "G" icon will appear in your menu bar. By selecting this icon, the G-Technology Assistant menu will appear.

**Unmount All Volumes:** Unmounts supported G-Technology drives attached to the system. You will need to confirm your selection prior to unmounting the drives.



**Disk Utility:** Opens the Disk Utility application.

**Support:** Opens your Web browser and takes you to the G-Technology support page.

**Preferences:** Change the preferences of GTA.

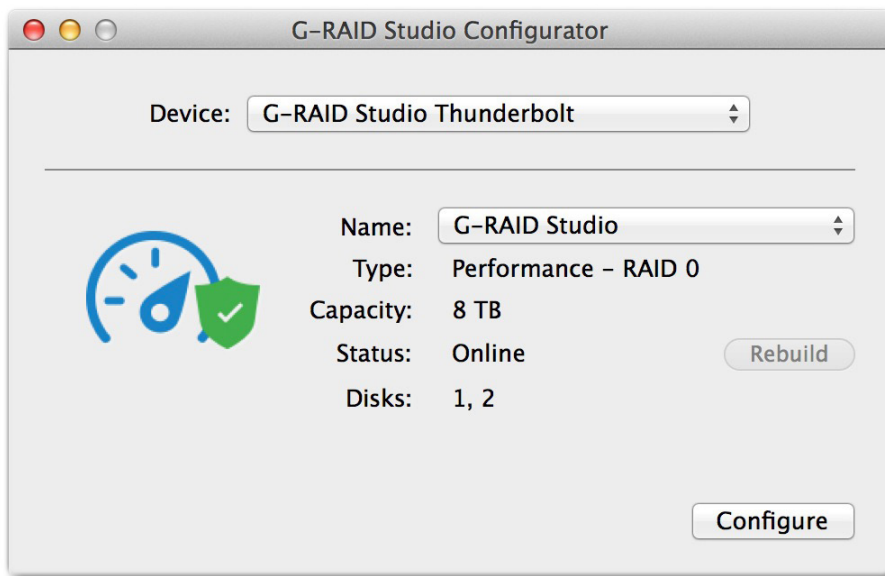
## The RAID Configuration Utility

The G-Technology RAID Configurator is used to change the RAID level of your G-RAID Studio. You can use any of the two Thunderbolt 2 ports in your G-RAID Studio with the RAID Configurator application. To configure G-RAID Studio, it will need to be the only device connected to your computer.

The RAID Configurator utility is available for download from the G-Technology website at [g-technology.com/support](http://g-technology.com/support). There are both Mac and Windows version of the utility. Please download the right utility depending on the host operating system that you are using.

Once you have downloaded the RAID Configurator, you should launch it directly from the mounted disk image.

Once you install and launch the RAID Configuration Utility the tool shows the current status and other details of the drive similar to the diagram below.

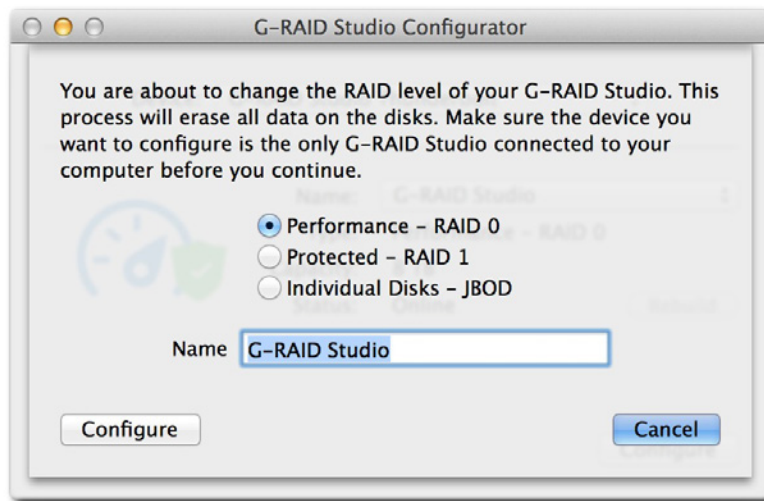


## Configure the RAID Mode for Mac

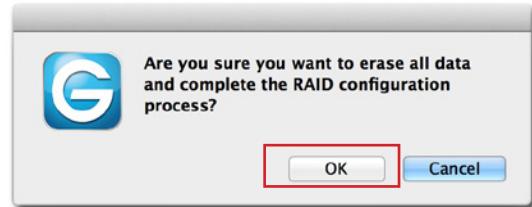
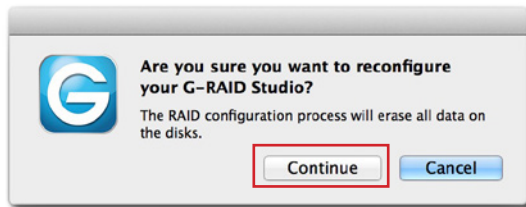
You can easily configure G-RAID Studio's RAID mode with the following steps.

**Important Note:** Changing the RAID level will erase all data on the drive. Be sure all of the data and files you want to save are backed up to separate media.

1. In the G-RAID Studio Configuration Utility, click on the Configure button. A dialog window will pop up with three options for configuring your disk set, as shown below. The dialog window also will warn you that when you configure your RAID set, all data in the drive will be erased.



2. Select your desired configuration with the RAID 0 (Performance), RAID 1 (Protected), or JBOD radio buttons. Then click the Configure button to continue.
3. Two warning windows will appear, both letting you know that the following step will erase all of your data. Click the Yes buttons to continue.



4. A new window will appear to inform you that the configuration is successful. There will be a Disk Utility button using which you can open the Disk Utility window to initialize your disk.



5. Changing the RAID mode of G-RAID Studio will require you to re-initialize the disk with the Disk Utility application. The Disk Insertion dialog below should appear. Click the Initialize button to launch Disk Utility, if you did not open the Disk Utility from the previous window. Follow the simple steps described in the section Initialize Drive for Mac to initialize G-RAID Studio for use with the Mac OS.



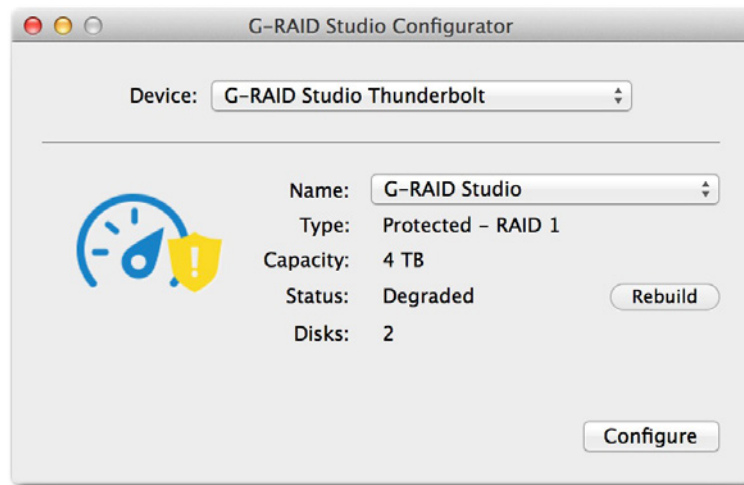
6. **NOTE:** If the Disk Insertion dialog does not appear, go to Application > Utilities and open the Disk Utility program. Once Disk Utility is open, you are ready to initialize and partition G-RAID Studio for use with Mac OS.

## RAID 1 Degraded Mode and Rebuild for Mac

If your G-RAID Studio is in RAID 1 configuration and either a single drive failure occurs or if a member of the RAID 1 set is removed, then the active drive will operate in degraded mode.

What is Degraded Mode? In a two-drive RAID 1, if one of the drives fails or if one of the drives is removed then the active drive keeps the user data intact but without any fail-safe mechanism until the RAID is rebuilt. This state of operation is called degraded mode.

1. If the G-RAID Studio is operating in degraded mode, if the G-RAID Configuration Utility is launched, then the RAID status will show as degraded in the information window as shown in the image below.





2. The Rebuild button will become ENABLED at this point so that you have the option to rebuild the RAID 1 set.
3. To rebuild the RAID 1 set, please insert a new drive in place of the failed or removed drive.  
**Note: While replacing the failed drive make sure the G-RAID Studio is powered off.** If this new drive is not formatted then the Disk Utility function will automatically launch, allowing you to format the drive. If this replacement drive is formatted then you are ready to rebuild the RAID set.
4. Once you click on the Rebuild button two back to back warning windows will appear, letting you know that the rebuild process will delete the data in the newly inserted disk. Click the YES button in both the windows to continue. **Note: While the rebuild is in process please keep the G-RAID Studio connected to the host.**
5. A window will appear telling you that the rebuild process is successful.
6. Your RAID 1 is now running in protected mode again.



## RAID Configuration Utility for Windows

The G-Technology RAID Configurator is used to change the RAID level of your G-RAID Studio. You can use any of the two Thunderbolt 2 ports in your G-RAID Studio with the RAID Configurator application. To configure G-RAID Studio, it will need to be the only device connected to your computer.

The RAID Configurator utility is available for download from the G-Technology website at [g-technology.com/support](http://g-technology.com/support).

Once you have downloaded the RAID Configurator .zip file you need to extract the folder which contains the RAID configuration .exe file and a .dll file. Click on the .exe file and follow the simple instructions to install the configuration utility.

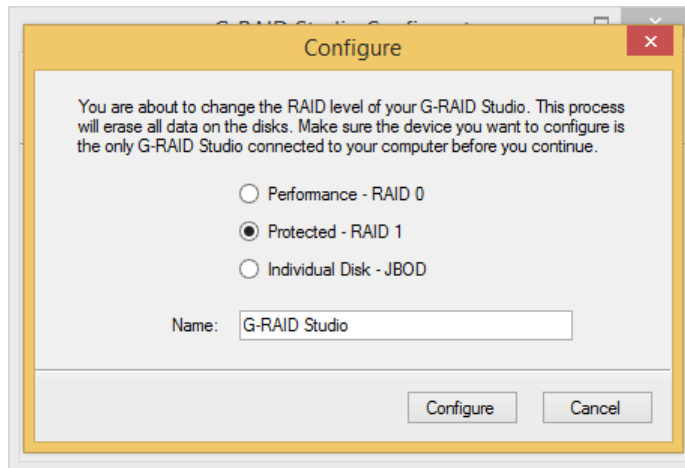
Once you install and launch the RAID Configuration Utility the tool shows the current status and other details of the drive similar to the diagram below.

## Configure the RAID Mode for Windows

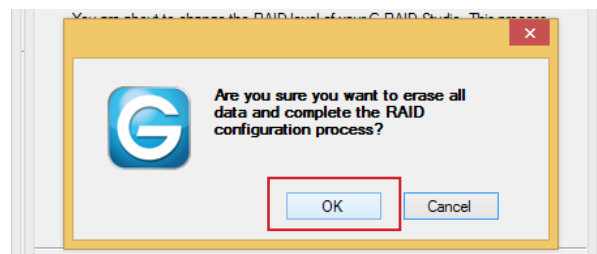
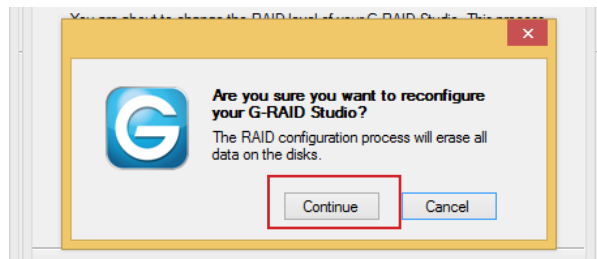
You can easily configure G-RAID Studio's RAID mode with the following steps.

**Important Note:** Changing the RAID level will erase all data on the drive. Be sure all of the data and files you want to save are backed up to separate media.

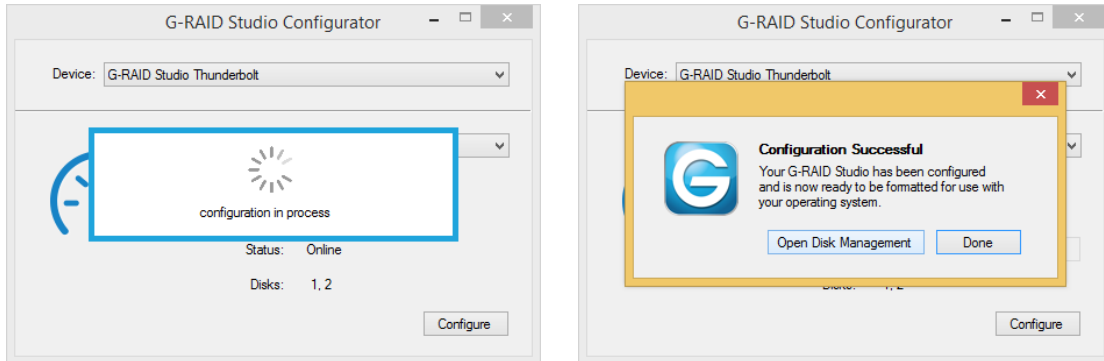
1. In the G-RAID Studio Configuration Utility, click on the Configure button. A dialog window will pop up with three options for configuring your disk set, as shown below. The dialog window also will warn you that when you configure your RAID set, all data in the drive will be erased.



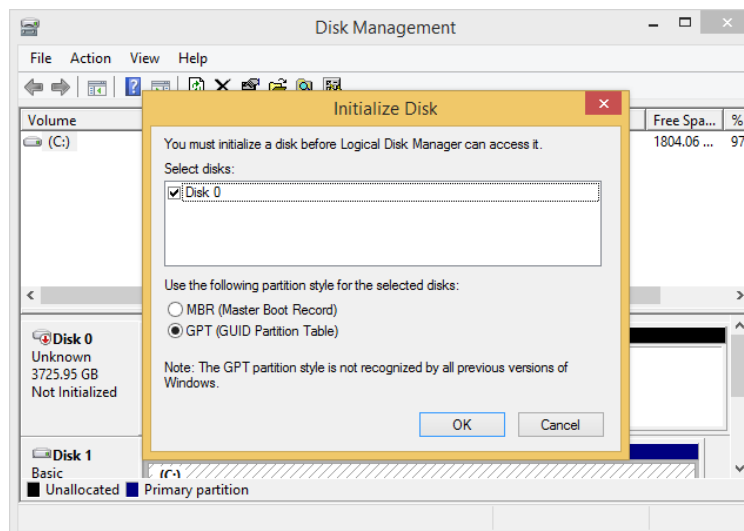
2. Select your desired configuration with the RAID 0 (Performance), RAID 1 (Protected), or JBOD radio buttons. Then click the Configure button to continue.
3. Two warning windows will appear, both letting you know that the following step will erase all of your data. Click the Yes buttons to continue.



4. A new window will appear to inform you that configuration is in progress. The next window will confirm that your G-RAID Studio is configured in RAID 0, RAID 1, or JBOD mode.



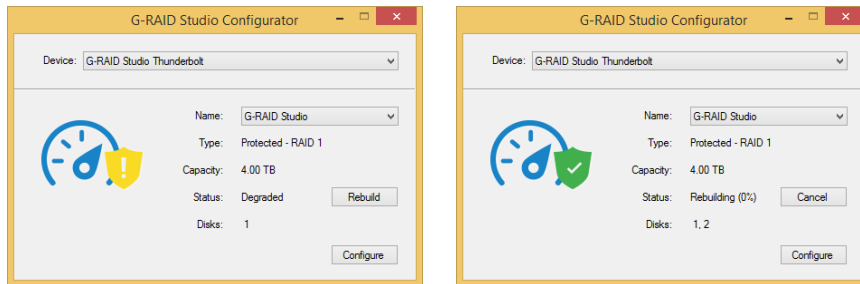
5. Changing the RAID mode of G-RAID will require you to re-initialize the disk. For helpful information on initialization of your drive with Windows using the Disk Management, please visit [g-technology.com/windows](http://g-technology.com/windows).



## RAID 1 Rebuild for Windows

If your G-RAID Studio is in RAID 1 configuration and either a single drive failure occurs or if a member of the RAID 1 set is removed, then the active drive will operate in degraded mode.

1. In the case of a degraded mode, if the G-RAID Configuration Utility is launched, then the RAID status will show as degraded in the information window as shown in the image below.



2. The Rebuild button will become ENABLED at this point so that you have the option to rebuild the RAID 1 set.
3. To rebuild the RAID 1 set, please insert a new drive in place of the failed or removed drive. **Note: While replacing the failed drive make sure the G-RAID Studio is powered off.** If this new drive is not formatted then the Disk Utility function will automatically launch, allowing you to format the drive. If this replacement drive is formatted then you are ready to rebuild the RAID set.
4. Once you click on the Rebuild button two back to back warning windows will appear, letting you know that the rebuild process will delete the data in the newly inserted disk. Click the YES button in both the windows to continue. **Note: While the rebuild is in process please keep the G-RAID Studio connected to the host.**
5. A window will appear telling you that the rebuild process is successful.
6. Your RAID 1 is now running in protected mode again.



## Maintenance for Your Drive

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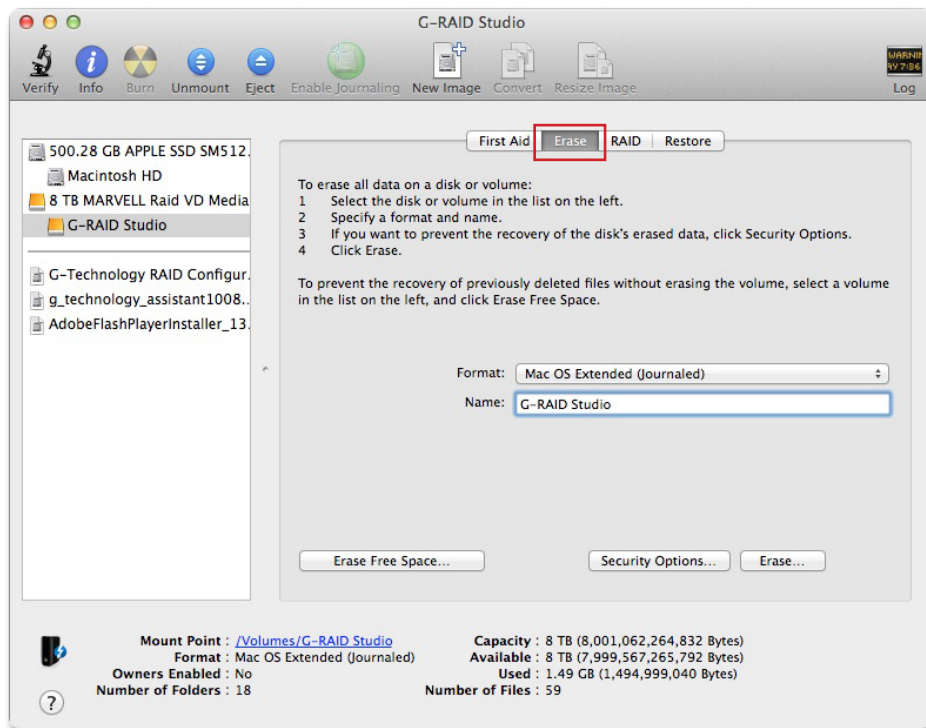


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## Initialize Drive for Mac

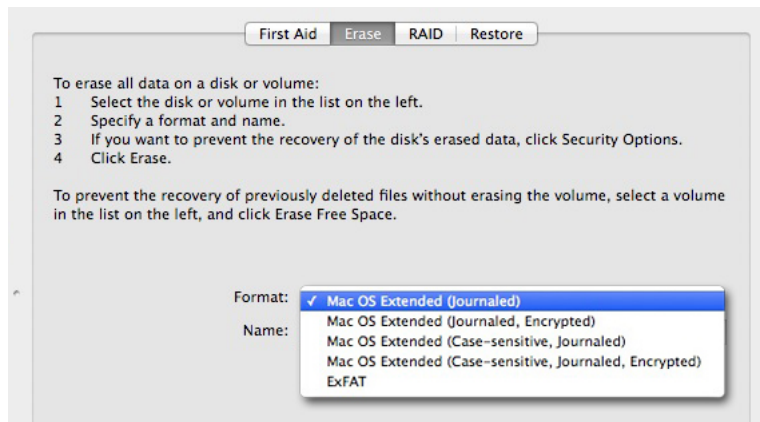
G-RAID Studio is factory-formatted for use, or “initialized,” for the Mac OS. You can reinitialize if you would like to quickly erase the contents of the drive. Here are the necessary steps.

1. First, open the Disk Utility application. Disk Utility is located on your system under Applications > Utilities > Disk Utility. The window below will appear. Your G-RAID Studio will be displayed in the left-hand column.
2. Select the G-RAID Studio by clicking its drive icon in the left column. Information about the drive will be displayed at the bottom of the window.
3. Select the Erase tab to view formatting options. The Format pop-up menu defaults to the Mac OS Extended (Journaled) option.



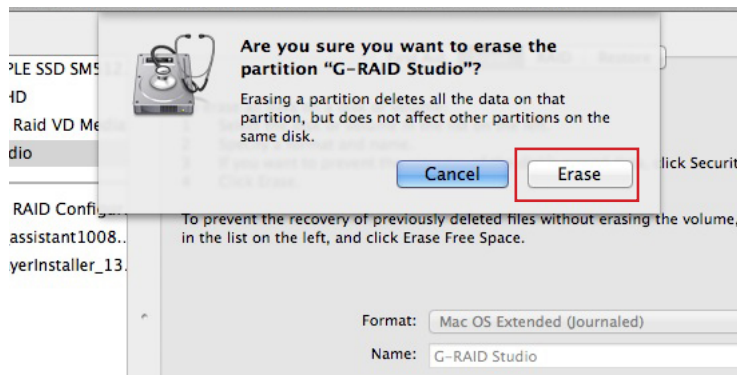
4. Choose the Format option that you prefer.

- Mac OS Extended (Journaled): Use this format if you intend to use the drive for Time Machine or to create a separate bootable installation of the OS.
- Mac OS Extended: Use this format for best performance and media storage. To select it, click the Format drop-down menu and its option for Mac OS Extended.



5. In the Name field, you can input a volume name of your choice. At the factory, the configured name is G-RAID Studio

6. Click the Erase button in the lower-right corner of the window. A dialog box will appear asking if you want to erase the G-RAID Studio partition.





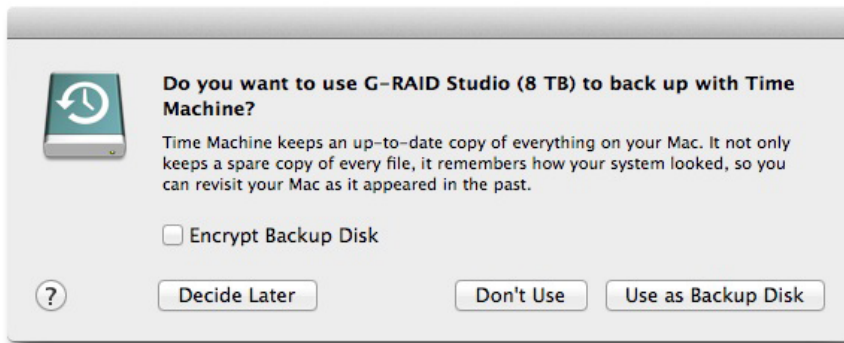
**WARNING: THIS NEXT STEP WILL ERASE ALL DATA ON YOUR DRIVE.**

7. Click on the Erase button to continue. A progress bar in the lower right corner of the window will show the progress of the disk's reformatting.



8. After the drive reinitializes, you should automatically see the Time Machine dialog box.

- Click the Use as Backup Disk button if you want to use the drive with Time Machine.
- Click the Don't Use or Decide Later buttons if you do not want to use Time Machine at this point.



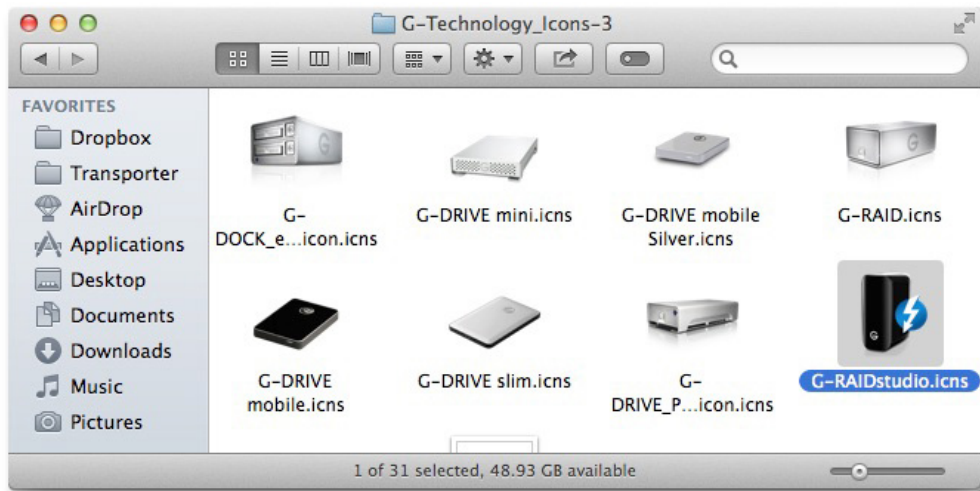
9. Quit the Disk Utility program. After reinitializing the drive, the icon for G-RAID Studio will be erased. You can optionally restore this icon with the steps on the [next page](#).

## Restore the Drive Icon

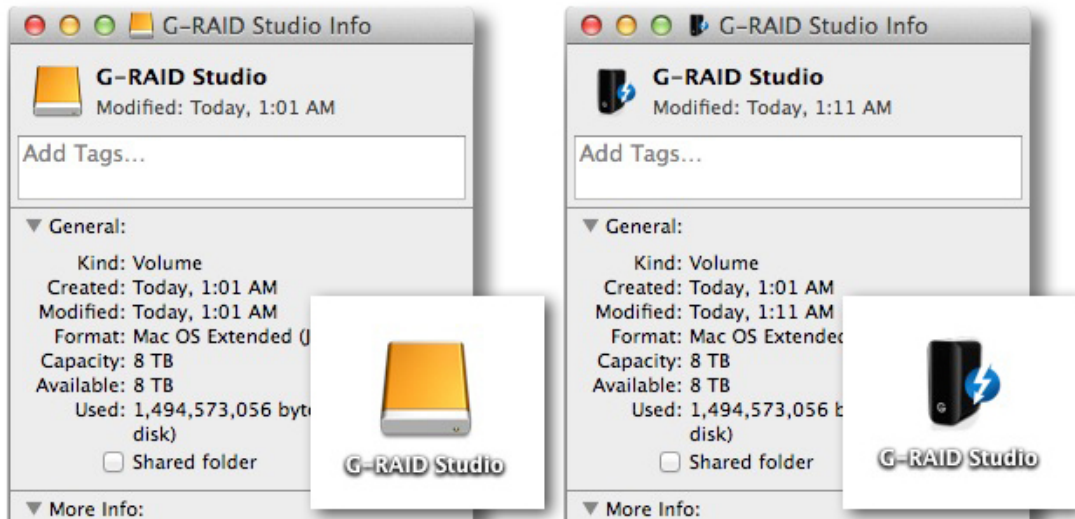
If the G-RAID Studio drive icon was erased during the reinitializing process (see the previous section), you can restore the icon with the following steps.

**NOTE:** This process is not required for the operation of G-RAID Studio. However, it will make your drive's appearance on the computer desktop look more accurate and intuitive.

1. To get the G-Technology icon package, go to [g-technology.com/support](http://g-technology.com/support) and navigate to your product. There will be a link for downloading icons on the product support page.
2. Once downloaded, the G-Technology Icons folder should automatically open, as shown below. If not, double-click the ZIP file to open it. Next, double-click the DMG file to open the G-Technology Icons package.
3. Click to select the drive icon for G-RAID Studio in the package window. Press Command+C to copy the icon. (See below.)



4. Select the default G-RAID Studio drive icon on your desktop and press Command+I. This opens its Get Info window. *(see below left)*
5. Select the default icon in the Get Info window. *(below left)*
6. Press Command+V to paste the custom G-RAID Studio icon into the Get Info window. *(below right)*



The icon for your G-RAID Studio has been restored and you can close the Get Info window. Your drive is now fully ready for use!

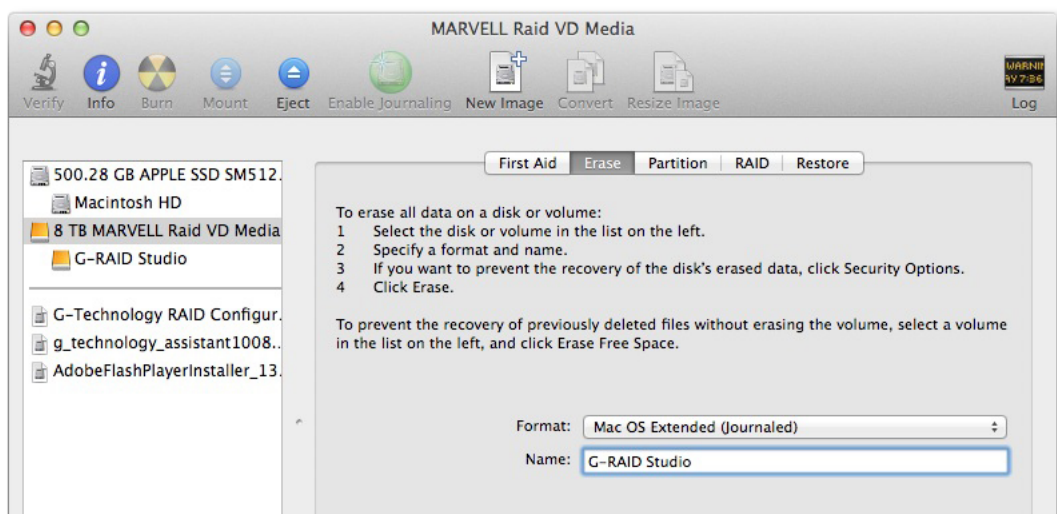
## Reformat with Partitions

“Partitioning” is the process of dividing a hard drive into discrete sections called “volumes.” Each volume works like a separate disk. You can create up to 16 different partitions on a hard drive in OS X, and each partition can be of a different size and format.

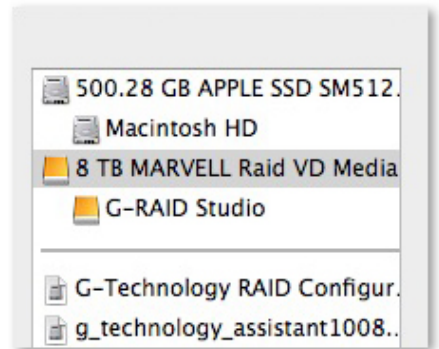
With hard drives getting bigger, it is sometimes useful to partition your hard drive so sections of its space can be used for different purposes. For instance, you might segment user data from backup data, set up a multi-boot environment with different operating systems, or create a dedicated capture scratch disk for programs such as Final Cut Pro, Avid Media Composer, or Adobe Premiere.

The following steps will guide you through the simple process of partitioning your drive. In this example, we will partition an 8TB G-RAID Studio. The steps will be identical for your drive, only the name may be different.

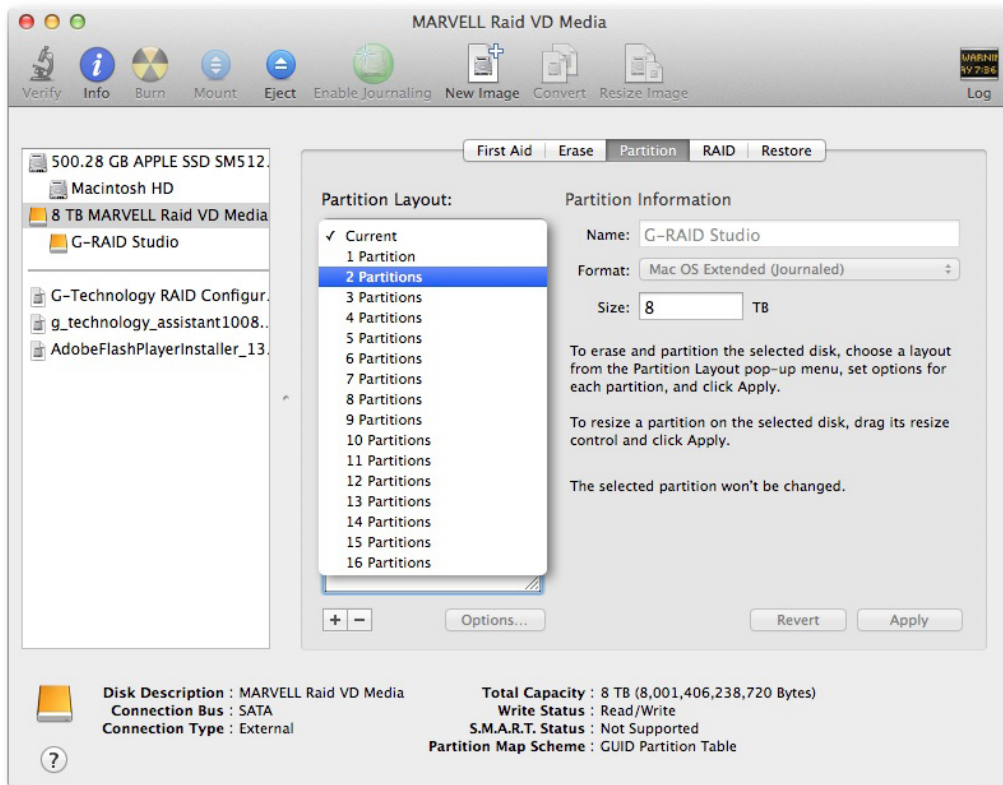
1. First, open the Disk Utility program. This application is located on your system under Applications > Utilities > Disk Utility. The window shown below will appear. Your G-Technology drive will be displayed in the left-hand column.



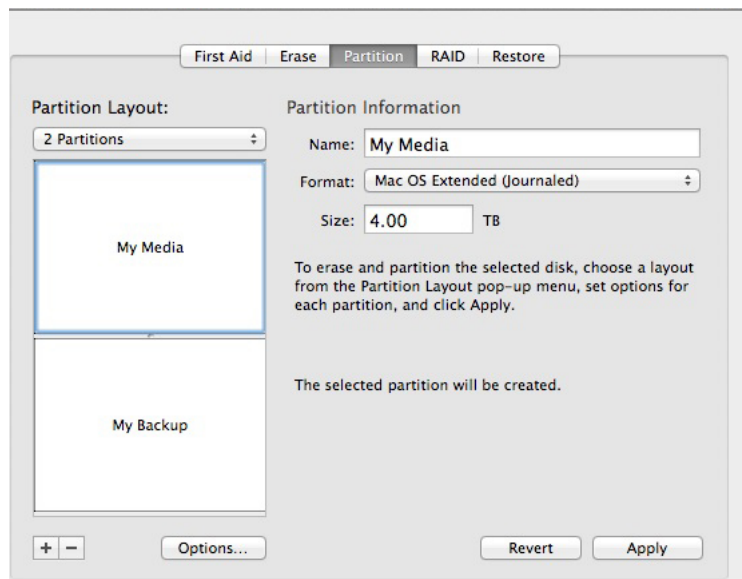
2. Select the top icon — not the bottom icon — by clicking it in the left column.
3. Click on the Partition button in the main window.



4. Select the number of partitions you would like from the Volume Scheme menu. Below, we have selected "2 Partitions" to create two partitions.



- Click on the first partition in the Volume Scheme area. A blue bounding box will highlight your partition.
  - In the Name field, type a name for the partition.
  - From the Format menu, choose your desired disk format. If you will use your drive primarily on Mac OS, it is recommended to use Mac OS Extended or Mac OS Extended (Journaled).
  - In the Size field, type in a size for the partition. Alternately, you can drag the bar between the partitions to quickly change their sizes.

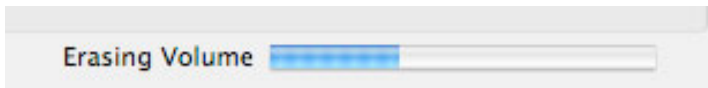


- Repeat this process for each partition you have created.

7. Click the Apply button in the lower-right corner of the window. A dialog box will appear asking if you want to erase the G-Technology drive partition. **WARNING: THIS NEXT STEP WILL ERASE ALL DATA ON YOUR DRIVE.**

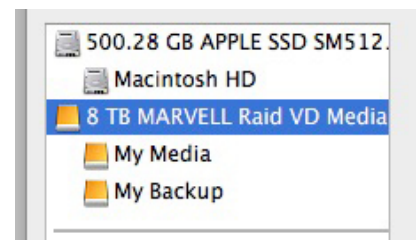


8. Click on the Partition button to continue. A progress bar in the lower-right corner of the window will show you the disk's reformatting progress.



9. When partitioning is complete, the multiple partitions will be displayed in Disk Utility's left panel.

10. Quit the Disk Utility program. After reinitializing the drive, the icon for the G-Technology drive will have been erased. You can optionally restore this icon to each partition with the steps in this manual's Restore the Drive Icon section.



11. The G-RAID Studio's multiple partitions will be displayed on the desktop. Your drive is now set up with two or more partitions and is ready for use.



## Replace a Failed Drive Module

G-RAID Studio continually monitors the health of its internal disk drive configuration. In the event of a drive failure, a visual alarm will appear. Read more in Activity and Failure LEDs.

Follow the steps below to identify and replace a failed drive.

1. With G-RAID Studio powered up, the RED LED under the top lid will indicate which drive module failed. For more information, see Activity and Failure LEDs.
2. Remove the failed drive by pressing its module release button and gently sliding the drive module out of the enclosure.
3. Replace the failed drive with a new disk module. Secure it in place by pushing in the drive and latching the handle.

**NOTE:** During the three-year warranty period, contact G-Technology Technical Support for replacement of a failed drive module.





4. If your G-RAID Studio was set up in RAID 1 mode, then the RAID Utility software will ENABLE the Rebuild button and you can rebuild your RAID set using the steps described in the section RAID 1 Degraded Mode and Rebuild. The total rebuild time is approximately three hours per terabyte for 6TB drives and between four to six hours for 3TB or 4TB drives.
5. Once the rebuild is complete, G-RAID Studio will be back to protecting your valuable data and displaying a solid white “G” to show that all is well.
6. If your G-RAID Studio was setup in RAID 0 mode, then you have to build a new RAID 0 set using the newly introduced drive.

## Helpful Tips

You can continue using G-RAID Studio even while the drive volume is being rebuilt. However, it will run at a slower data rate.

To maximize productivity and safety, G-Technology recommends keeping at least one spare drive module on hand in case of a disk failure. This way, you can rebuild your array in hours rather than wait days for a new module to arrive.



## Using Your Drive on Windows

- .Windows Use ..... p.43
- .Cross Platform Use ..... p.44



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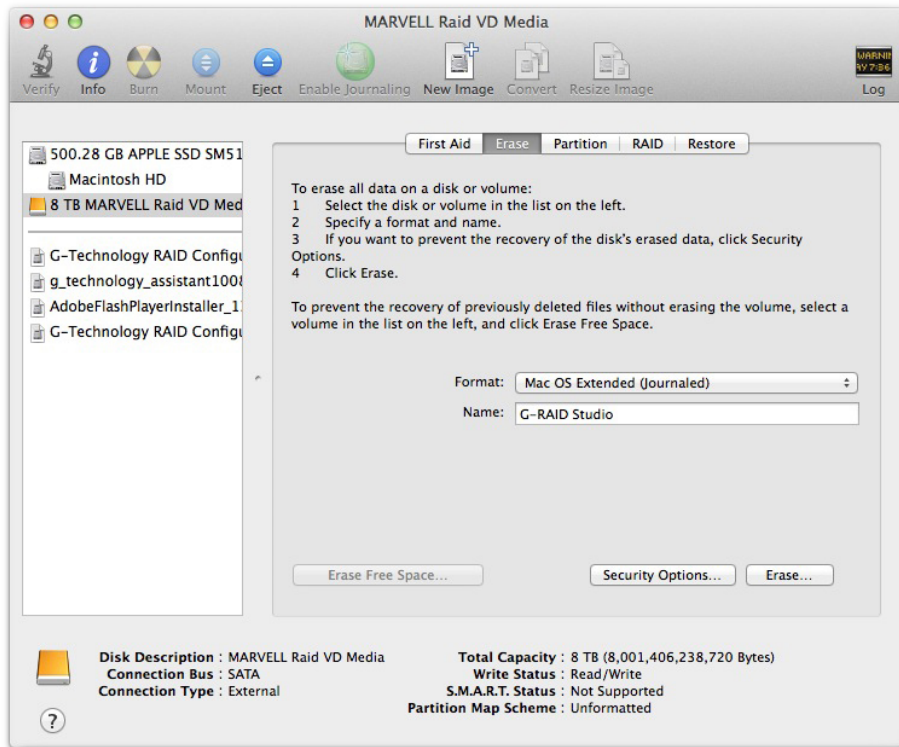
## Windows Use

G-RAID Studio is set up at the factory for use with Mac OS systems. A simple initialization will prepare your drive for use with Windows 10, Windows 8.1 and Windows 7 systems. For helpful information on configuring and using your drive with Windows, please visit [g-technology.com/support](http://g-technology.com/support).

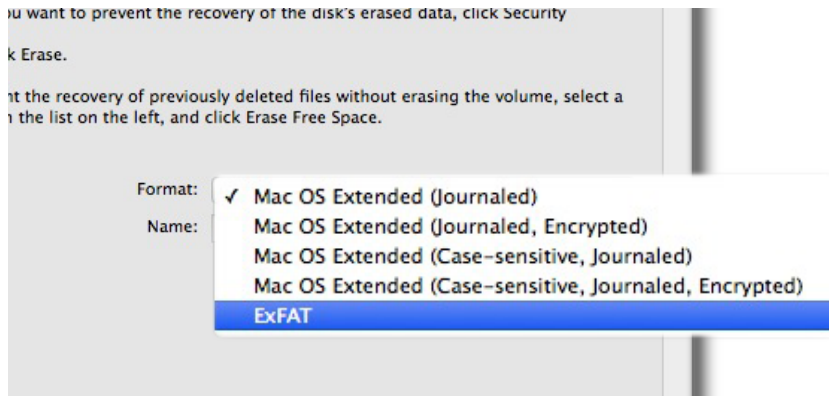
## Cross Platform Use

You can set up G-RAID Studio for use on both Windows and Mac systems by formatting the drive as exFAT. To do this, use the Disk Utility application and format the drive to exFAT.

1. First, open the Disk Utility program. This application is located on your hard drive under Applications/Utilities/Disk Utility. The window below will appear. Your G-RAID Studio will be displayed in the left-hand column.
2. Select the G-RAID Studio by clicking its drive icon in the left-side column. Information about the drive will be displayed at the bottom of the window.
3. Select the Erase tab to view the formatting options.

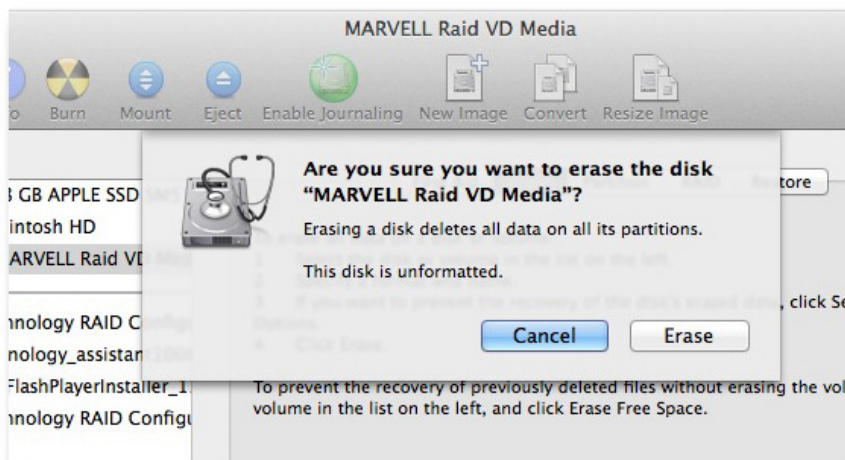


4. Select exFAT file system from the Format pop-up menu. This will format to exFAT.  
NOTE: You may need to rename the drive because exFAT does not support more than 11 letters in the drive name.

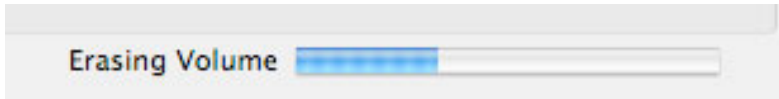


**WARNING: THIS NEXT STEP WILL ERASE ALL DATA ON YOUR DRIVE.**

5. Click the Erase button in the lower right corner of the window. A dialog box will appear asking if you want to erase the G-RAID Studio partition.



6. Click the Erase button. A progress bar in the lower right corner of the window will show the progress of the disk's reformatting. Your drive will be formatted to its full capacity as exFAT.



7. Quit the Disk Utility program. You are finished!
8. After reinitializing, the custom icon for the G-RAID Studio will be erased. No icons are available for exFAT.

With this format, you will be able to read and write on Mac OS systems as well as PCs running Windows 7 and later.



## Support & Warranty

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- . Copyright ..... p.51



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## Technical Support

Thank you for purchasing G-RAID. If you have any comments or questions about this manual or the product, please let us know!

G-Technology appreciates and values its customers, striving to give you the finest service and support. If you encounter any difficulties while installing or using G-RAID, please contact G-Technology Technical Support at [g-technology.com/support](https://g-technology.com/support)

### Helpful information for support

When contacting Technical Support, it's best to be in front of your computer and have the following information available:

- Your G-RAID serial number (on bottom of unit)
- Operating System and version
- Computer brand and model
- List of other devices attached to your computer



## Limited Warranty

HGST, a Western Digital Company (“HGST”)  
Including G-Technology for External Hard Disk Drives

### What does this limited warranty cover?

This Limited Warranty applies to new HGST products purchased from an authorized HGST dealer by the original purchaser for normal use and not for resale. HGST warrants that a covered product is free from defects in materials and workmanship, with the exceptions stated below.

### How long does limited warranty coverage last?

This limited warranty lasts for 1 year, 2 years, 3 years or 5 years, or a fixed period from date of purchase, depending on when and where it was originally purchased. To determine the warranty specifically for your product, visit [www.g-technology.com](http://www.g-technology.com). A valid proof of purchase may be required to prove eligibility. If you do not have a valid proof of purchase, the limited warranty period will be measured from the date of sale from HGST to the authorized distributor.

### What does this limited warranty not cover?

The limited warranty does not cover damage resulting from commercial use, misuse, accident, modification or alteration to hardware or software, tampering, unsuitable physical or operating environment beyond product specifications, improper maintenance, or failure caused by a product for which HGST is not responsible.

There is no warranty of uninterrupted or error-free operation. There is no warranty for loss of data—you must regularly back up the data stored on your product to a separate storage product. There is no warranty for product with removed or altered identification labels.

HGST DOES NOT PROVIDE ANY OTHER WARRANTIES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOME JURISDICTIONS DO NOT ALLOW THE LIMITATION OF IMPLIED WARRANTIES, SO THIS LIMITATION MAY NOT APPLY TO YOU. HGST is not responsible for returning to you product which is not covered by this limited warranty.

### **What must you do?**

If you are having trouble with a product, before seeking limited warranty service, first follow the troubleshooting procedures that HGST or your reseller provides.

To obtain limited warranty service, you must first obtain a Return Materials Authorization (RMA) and ship-to address by contacting G-Technology at <http://www.g-technology.com/support>. Please follow the instructions found on the website. You must return the covered hard disk drive using approved packaging to our logistics center. You must pay any associated transportation charges, duties and insurance in shipping the drive to our logistics center. You should remove all personal information from the product prior to its return.

### **What will HGST do?**

HGST will replace the drive with a functionally equivalent replacement product, transportation pre-paid. HGST may replace your product with a product that was previously used, repaired and tested to meet HGST specifications. You receive title to the replaced product at delivery to carrier at HGST shipping point. You are responsible for importation of the replaced product, if applicable. HGST will not return the original drive to consumers; therefore, the consumer is responsible for moving data to another media before returning. Data Recovery is not covered under this warranty and is not part of the warranty returns process. HGST warrants that the replaced products are covered for the remainder of the original product warranty or 90 days, whichever is greater.

### **How is our liability limited?**

HGST AND ITS AFFILIATES, SUPPLIERS, DISTRIBUTORS, AND RESELLERS ARE NOT LIABLE FOR ANY OF THE FOLLOWING: 1) THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN BODILY INJURY INCLUDING DEATH AND TANGIBLE PERSONAL PROPERTY; 2) LOSS OF, OR DAMAGE TO, YOUR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS OR SAVINGS), EVEN IF INFORMED OF THE POSSIBILITY. SOME JURISDICTIONS DO NOT ALLOW LIMITATION OF LIABILITY, INCIDENTAL DAMAGES, OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

### **How do local laws apply?**

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION.

## **CAPACITY DEFINITION AND DISCLAIMER**

**For G-Technology products 1TB or greater:** “One gigabyte (GB) is equal to one billion bytes and one terabyte (TB) equals 1,000 GB (one trillion bytes). Accessible capacity will vary from the stated capacity due to formatting and partitioning of the hard drive, the computer’s operating system, and other factors”

**For G-Technology products less than 1TB:** “One gigabyte (GB) is equal to one billion bytes when referring to hard drive capacity. Accessible capacity will vary depending on the operating environment and formatting.”

## **Copyright**

One gigabyte (GB) is equal to one billion bytes when referring to hard drive capacity. Accessible capacity will vary depending on the operating environment and formatting.

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