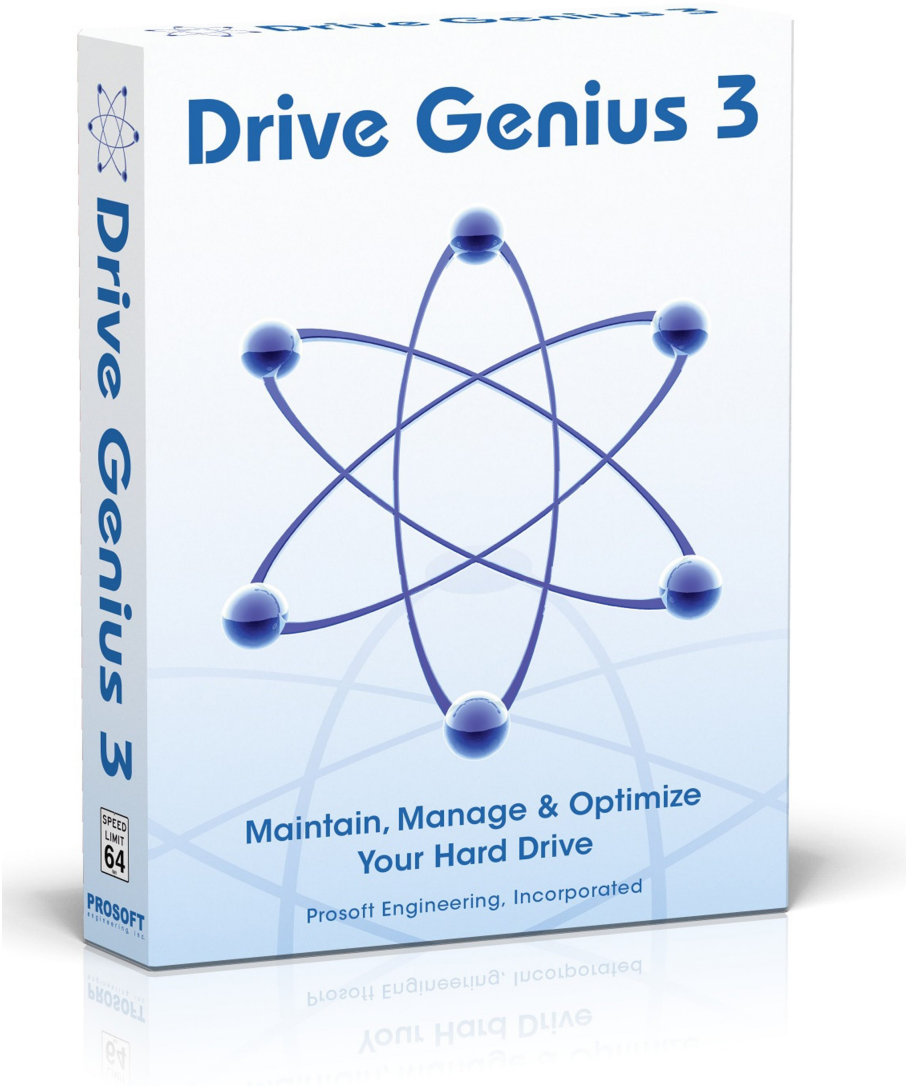
Drive Genius 3
User's Guide



Doc Rev: 0125-1

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1 Introduction

Thank you for purchasing Drive Genius 3™.

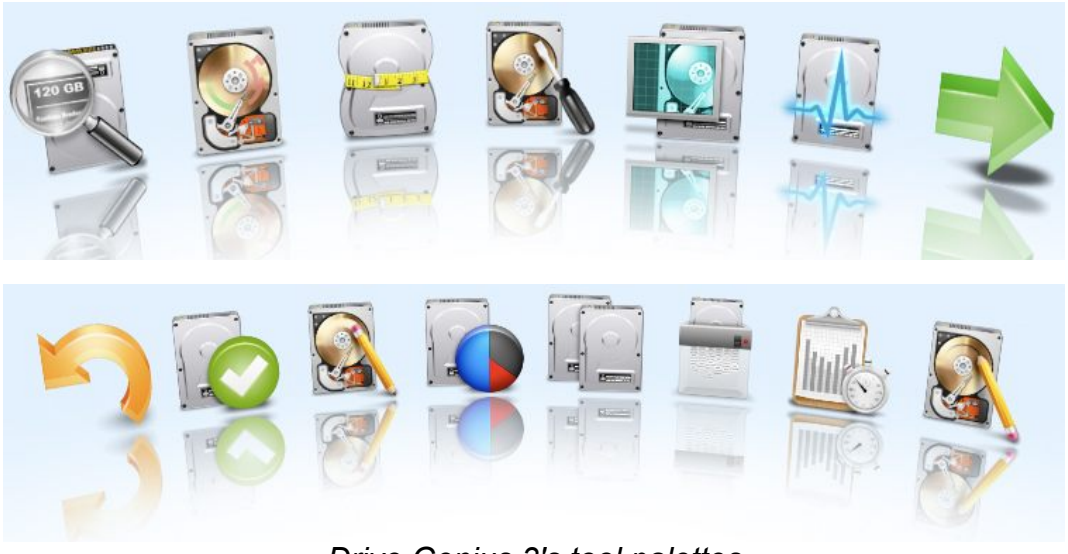
Drive Genius 3 is a collection of tools that help guard the data on your drive.

Drive Genius 3 is the next step in Prosoft Engineering's award winning drive maintenance and management utilities. Drive Genius 3 improves on its powerful set of utilities to optimize drive performance, protect data, and provide easy-to-use, yet powerful features for your storage needs.

Drive Genius 3 introduces DrivePulse™, a utility to help monitor the performance and health of all your hard drives. This monitoring system helps detect any potential physical issues, volume corruption, and excessive volume fragmentation on your hard drives. DrivePulse™ will alert you of possible issues before they become problems.

Drive Genius 3 can defragment a volume, analyze a volume and repair it if necessary. Its testing capability goes a few steps above other drive utilities with media surface scanning and long term data integrity checking. Drive Genius 3 can also measure the throughput of the drives to see if they are performing up to par.

The powerful repartitioning feature enables you to resize your drive without reformatting. Drive Genius 3 can be used to add, initialize and delete partitions from your hard drive. Drive Genius 3 can do volume and device copying. Drive Genius 3 is able to hide partitions from most users. In addition, Drive Genius 3 has the ability to move a partition on the hard drive and even sports a sector editing function to edit the data on any sector of the drive. Last but not least, Drive Genius 3 has shredding features that erase drives securely per the Department of Defense's standard.



Drive Genius 3's tool palettes

1.1 System Requirements

Drive Genius 3 may be installed on your internal system startup drive, as well as external startup drives to provide maintenance on your hard drives.

System Requirements:

- Requires Mac OS X v10.5.3 or newer
- 1GB RAM minimum
- Intel Processor
- DVD drive (some systems)

1.2 Latest version of the software

Check our website to find out if you have the latest version Drive Genius 3 at www.prosoftengineering.com.

If you do not have the latest version of Drive Genius 3, you may download it from our website: http://www.prosoftengineering.com/products/drive_genius_update.php

1.3 Technical Support

Our technical support is free and can be accessed by email, fax or phone. Please have your serial number and version number ready before calling. If you have questions about this user guide or using Drive Genius 3, please contact technical support:

- Support FAQs: http://www.prosoftengineering.com/support
- Email Address: support@prosofteng.com
- Phone Number: (925) 426-6306
- Fax Number: (925) 426-6309
- Mailing Address: Prosoft Engineering, Inc.
  1599 Greenville RD
  Livermore, CA 94550
- Support Hours: Monday – Friday, 7AM – 5PM (PST)

1.4 Contacting Prosoft Engineering

If you have comments about Drive Genius 3 or wish to purchase a serial number, please contact our sales department:

- Website: http://www.prosoftengineering.com/products/drive_genius.php
- Email Address: sales@prosofteng.com
- Phone Number: (877) 477-6763

1.5 Drive Genius 3 Features

Drive Genius 3 improves on its award winning utilities for the latest Mac OS X Operating Systems.

Drive Genius 3 optimizes drive performance, protects data, and provides easy to use yet powerful features for your storage needs. Drive Genius 3 can monitor your hard drives' performance, defragment a volume, analyze a drive and repair it if necessary. Its testing capabilities go a few steps above other drive utilities with media surface scanning and long term data integrity checking.

Drive Genius 3 includes powerful features that give the user greater flexibility and control in setting up and managing your hard drives.

- *Information:* Detailed information on drive and volume structure.
- *Defrag:* Defragment OS X drives for optimum performance.
- *DriveSlim™:* Archive or delete large, duplicate and unusable files to save space.
- *Repair*: Analyze, Repair, and Rebuild OS X directory information.
- *Benchtest:* Benchtests for comparing drive performance.
- *Scan:* Surface scanning to test for media faults.
- *DrivePulse™:* Monitor your hard drives' reliability and performance.
- *Integrity Check:* Long range throughput tests for performance.
- *Initialize:* Format a comprehensive range of drives in OS X format.
- *Repartition:* Resize partitions without erasing them.
- *Duplicate:* Create high-speed backup clones of most devices.
- *Shred:* Securely erase drives using U.S. DoD specification algorithms.
- *Sector Edit:* Edit devices, volumes and files with the sector editor.
- Comprehensive Support including ATA, SATA, Firewire and USB drives.
- Streamlined User Interface allowing most operations to be accomplished in a few clicks.
- Startup DVD-ROM support ranging from MacBooks to MacPros.

1.6 Demo Version

Drive Genius 3 includes a Demo version to allow users to view the features of the software.

For the purpose of the demo, Drive Genius 3 will allow usage of any read features, such as viewing the fragmentation map or checking for catalog errors, but will prevent the features from writing to the hard drive, such as repairing or optimizing the hard drive.

To use the Drive Genius 3 demo, click on **Demo** in the registration window. The demo may be activated by purchasing a serial number from http://www.prosoftengineering.com/.

The following features are not enabled in the trial version:

- Benchtest
- Repartitioning
- Integrity Check
- Duplicate
- Sector Edit
- Defragment
- Initialize
- Repair/Rebuild
- DriveSlim™ (Archive and Delete)
- DrivePulse™ (Monitoring)

2 Installing and Starting Drive Genius 3

This chapter provides basic instructions on installing and starting Drive Genius 3. If you are using Drive Genius 3 for the first time, you should read this chapter in detail.

2.1 Startup Disk Methods

To use Drive Genius 3 on your internal drive, there are multiple ways to start up your system, giving Drive Genius 3 exclusive access to your startup drive.

- Startup from a secondary hard drive with Mac OS X installed on it

This is one of the preferred methods as it is the fastest way to run Drive Genius 3. Simply install Drive Genius 3 on this secondary startup drive and after restarting from it, you can launch Drive Genius 3. This method allows you to launch Drive Genius 3 quickly and efficiently.

If you do not have a startup drive, you can use your Mac OS-X install DVD that came with your Mac when it was purchased to make one. Follow the steps below to install to an external or secondary hard drive:

1. Insert your mac OS X install DVD & restart your system holding down the “C” key.
2. When you see the Mac OS X language screen, select your language & click the forward arrow to continue.
3. Now you are at the Install Mac OS X screen.
4. Select the disk you want to install Mac OS X; your options will appear in the window below.

   Note: you will need at least a 16GB disk to install Mac OS X

Caution: Choose your installation drive carefully. Take your time & identify the proper hard drive. Do NOT select the drive you want to work on.

5. Once the installation is complete, restart your Mac and hold down the “Option/Alt” key.
6. When the option menu comes up, you will see your newly created Mac OS X hard drive, which you can now choose as your new startup disk.
7. Once you start up from the new hard drive, you can install Drive Genius 3 and utilize all the features on your internal startup volume.

- **Startup from a USB thumb drive with Mac OS X installed on it**

This is one of the preferred methods as it also provides the fastest way to run Drive Genius 3. Simply install Drive Genius 3 on this secondary startup drive and after restarting from it, you can launch Drive Genius 3. This method allows you to launch Drive Genius 3 quickly and efficiently.

If you do not have a startup drive, you can use your Mac OS X install DVD that came with your Mac when it was purchased to make one. Follow the steps below to install to your thumb drive.

1. Insert your mac OS X install DVD & restart your system holding down the “C” key.
2. When you see the Mac OS X language screen, select your language & click the forward arrow to continue.
3. Now you are at the Install Mac OS X screen.
4. Select the disk you want to install Mac OS X; your options will appear in the window below.

   Note: you will need at least a 16GB disk to install Mac OS X

Caution: Choose your installation drive carefully. Take your time & identify the proper hard drive. Do NOT select the drive you want to work on.

5. Once the installation is complete, restart your Mac and hold down the “Option/Alt” key.
6. When the option menu comes up, you will see your newly created Mac OS X hard drive, which you can now choose as your new startup disk.

7. Once you start up from the new hard drive, you can install Drive Genius 3 and utilize all the features on your internal startup volume.

2.2 Installing Drive Genius 3

Drive Genius 3 may be installed on operating systems 10.5.3 and greater to provide

maintenance on secondary internal or external hard drives. Installing Drive Genius 3 will activate DrivePulse™ and support “live” features for the internal volume such as Verify and Scan. This will also allow you to utilize Drive Genius 3's features on any locally attached hard drives without having to startup from the Drive Genius 3 DVD.

New in Drive Genius 3.1 is Live Defragment of the internal startup drive. No longer do you need to restart from the DVD in order to defragment your system drive.

The following instructions are for users with a download version of Drive Genius 3.

► ► ***To install Drive Genius 3:***

1. *From the location to which you downloaded Drive Genius 3, double-click on the **Drive Genius 3** image (.dmg) file to mount it on your computer.*
2. *Drag the Drive Genius 3 application file to your Applications folder of your hard drive.*

You can also install Drive Genius 3 onto external startup drives such as startup duplicates of your main system drive, USB flash startup drives and other external startup media. To install Drive Genius 3 to an external startup device, simply startup to that device and install following steps 1 & 2 above.

To install from the Drive Genius 3 DVD:

1. Start up your computer to the desired startup drive
2. Insert the Drive Genius 3 DVD into your DVD drive
3. Drag the Drive Genius 3 icon to your Applications folder following the on-screen instructions

2.3 Startup from the Drive Genius 3 DVD

Drive Genius 3 is provided on a startup DVD to use its features on the internal hard drive. If you wish to Repair, Repartition or Duplicate your internal hard drive, you will need to start up from the Drive Genius 3 DVD.

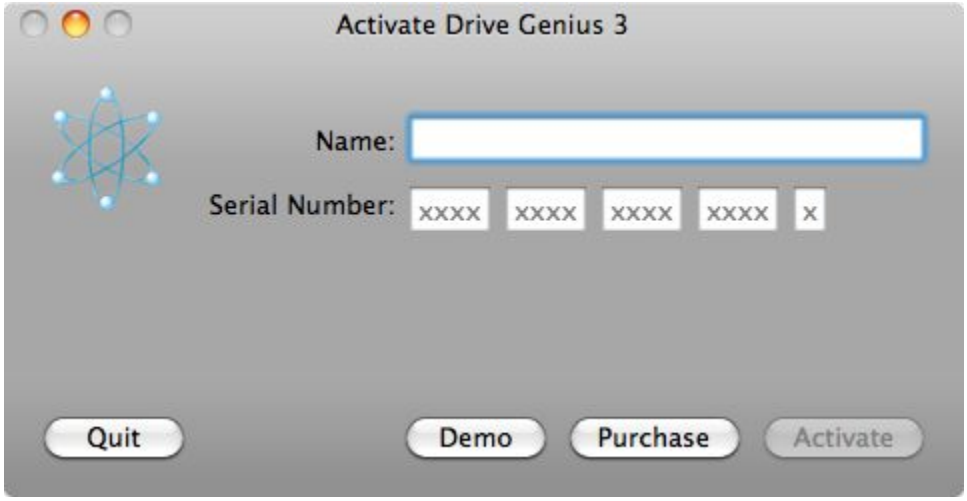
► ► ***To start up from Drive Genius 3:***

1. *Insert the Drive Genius 3 DVD into the DVD Drive.*
2. *Restart the computer holding the “C” key.*
3. *Continue holding the “C” key until the Apple logo is displayed.*

2.4 Launching and Activating the Software

Double-click on the application icon to run Drive Genius 3. At first launch, you will be prompted to enter your serial number (sent to you by email, or provided on a card in your DVD case).

This serial number will activate all features of Drive Genius 3. Please keep this number in a safe place for reinstallation, upgrades, and technical support.



Registration Window

2.5 Selecting an Operation

Most Drive Genius 3 functions require a three-step process to complete a task:

1. Select an operation.
2. Select a hard drive or volume in the main window.
3. Select a parameter and apply it to the drive or volume.

On the main window, you can choose the Drive Genius 3 operation you wish to perform. Select the task you want to perform by moving the mouse and clicking on one of the icon buttons in the middle of the screen. Click on the **green arrow** to choose more operations.

Information, Defrag, Drive Slim, Repair, Scan, DrivePulse™, More

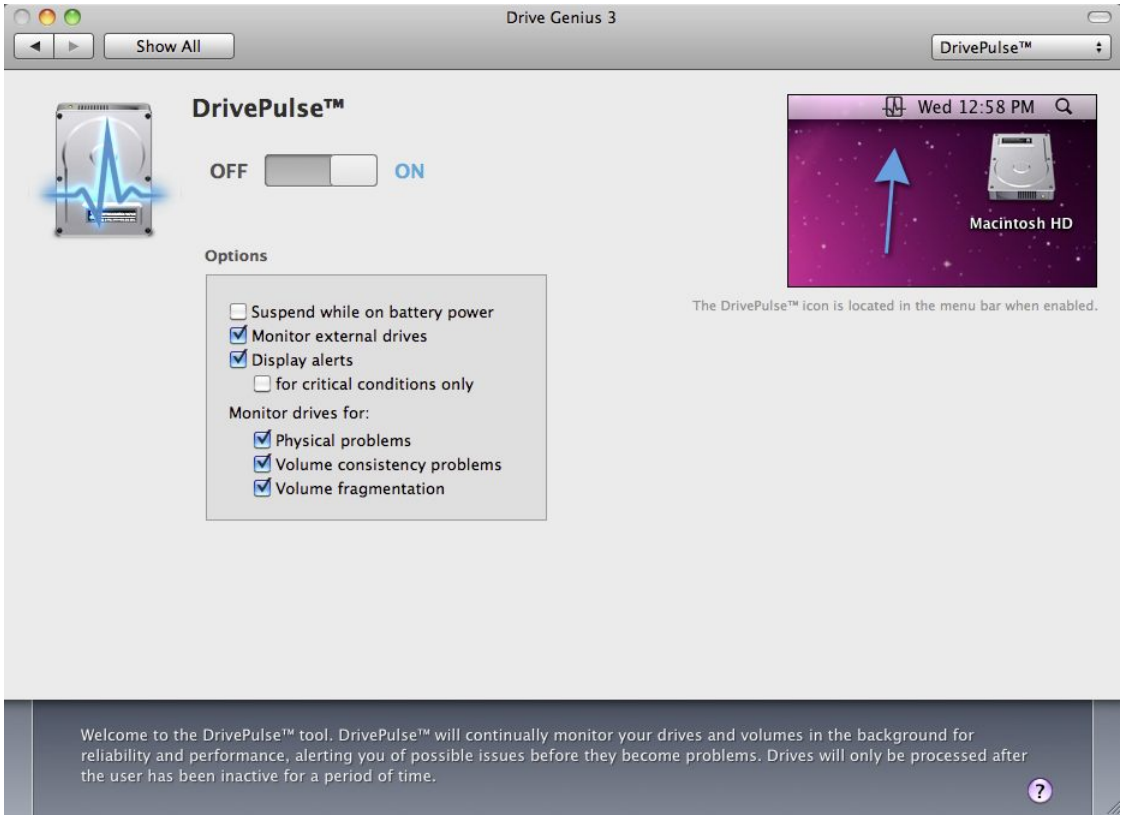
For operations such as copying, partition resizing, file archiving and sector editing, you will need to enter information pertaining to the operation. Shredding, information, benchtest, integrity checking, and initialize do not require any additional information.

Back,Integrity Check, Initialize, Repartition, Duplicate, Shredding, Benchtest, Sector Edit

Prosoft recommends backing-up your data before using many features in Drive Genius 3. Backing up on a regular basis is your best defense against data loss. Drive Genius 3 will prevent automatic sleep while a tool is running.

3 DrivePulse™

Drive Genius 3 introduces DrivePulse™, a utility to automatically monitor the health of your hard drives and volumes from the comfort of your desktop. DrivePulse™ will check for fragmentation, volume errors, and physical issues on your hard drives. This is a low resource process that will quickly test your hard drives when the computer is idle.



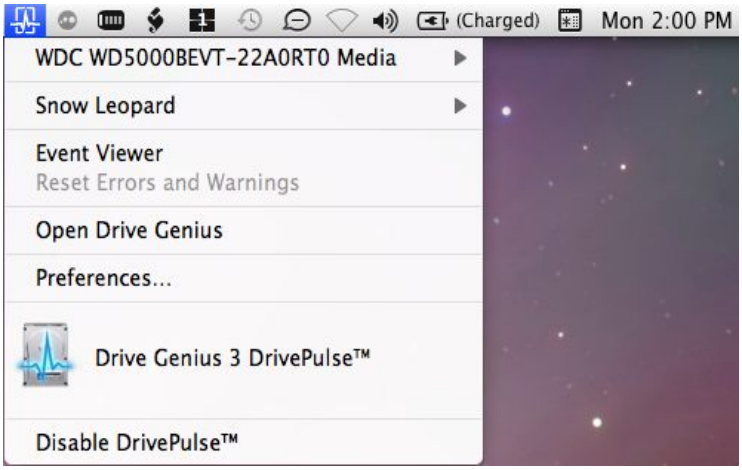
DrivePulse™ Window

To utilize the DrivePulse™ feature, you must install Drive Genius 3 into your startup volume. This will allow you to set the DrivePulse™ options for monitoring your hard drives:

- ***OFF/ON***: Turn On/Off the DrivePulse™ feature within Drive Genius 3.
- ***Suspend while on battery power:*** Suspend DrivePulse™ from monitoring the hard drive(s) if the machine is running on battery power. This is ideal for MacBook® laptops that are not connected to a power source.
- ***Monitor external drives:*** Allow DrivePulse™ to monitor any locally attached hard drives such as FireWire, USB, or eSata hard drives.
- ***Display alerts for critical conditions only:*** DrivePulse™ will only display an alert if it detects serious volume errors or bad blocks on a hard drive.

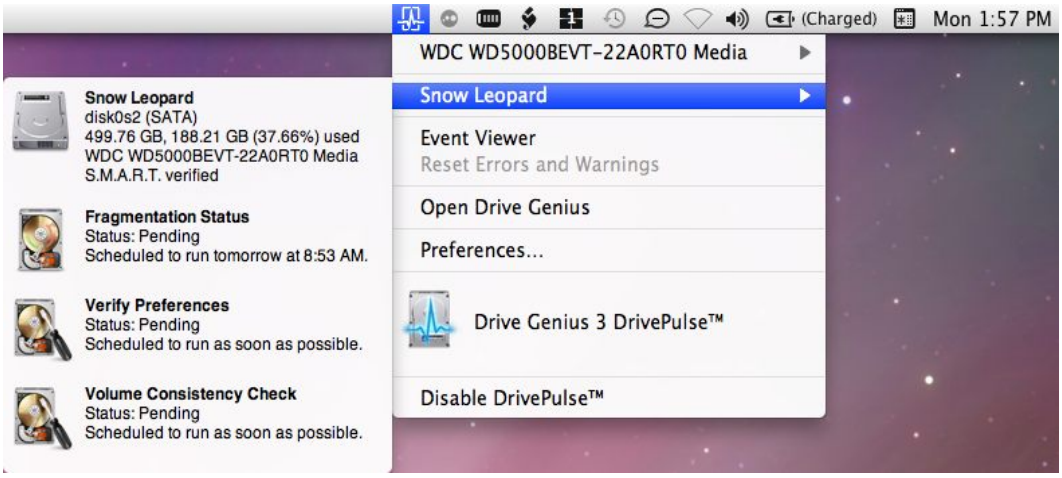
You may choose what type of issues DrivePulse™ will look for while the computer is idle:

- ***Physical problems:*** DrivePulse™ performs a Scan on a disk to search for bad blocks on the hard drive ensuring the physical integrity of the device. DrivePulse™ is scheduled to Scan once a week.
- ***Volume consistency problems:*** DrivePulse™ performs a Verify on the volume to assess the integrity of the catalog and directory structures. DrivePulse™ is scheduled to perform a Volume verification once a day.
- ***Volume fragmentation:*** DrivePulse™ scans the volume catalog and its files to determine the amount of fragmentation. DrivePulse™ is scheduled to check the fragmentation status once a week.



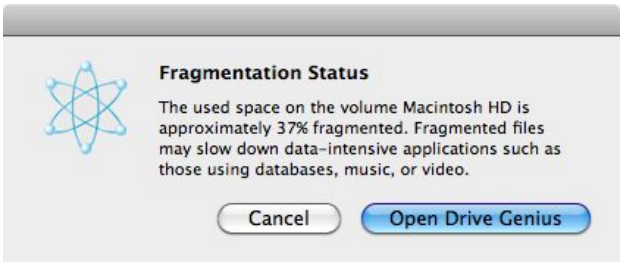
DrivePulse™ Menu Item

When DrivePulse™ is On, the DrivePulse™ icon will appear in the top menu bar to quickly view the status of any connected hard drives or volumes.



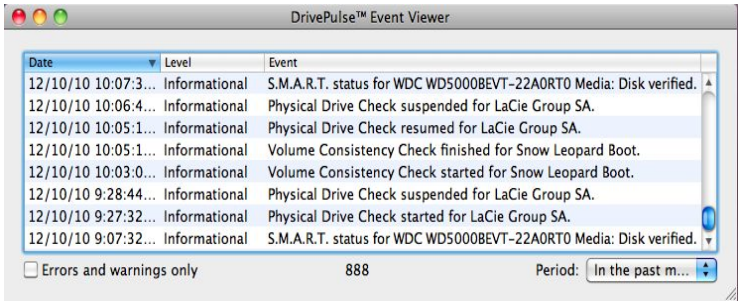
Status and Schedule Information with DrivePulse™

Move the cursor over any hard drive or volume menu item to view the status of a hard drive. This will show the S.M.A.R.T. Status, Fragmentation Status, and Volume Consistency of the hard drive and the next scheduled time for the process to take place.



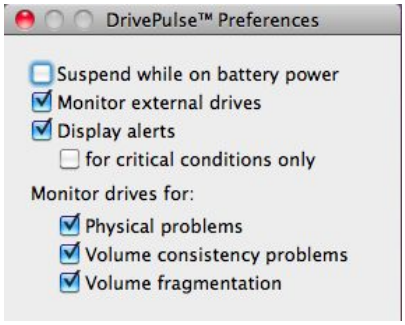
DrivePulse™ Prompts

DrivePulse™ will notify you with a prompt if there are any issues with your hard drives. If you are experiencing S.M.A.R.T. Status problems, large amounts of fragmentation, or issues with your volume catalog, a prompt will inform you to take action on your hard drive.



Event Viewer Log

Selecting **Event Viewer** will display any information regarding DrivePulse's processes. This provides a quick overview of the events taken place by DrivePulse™.



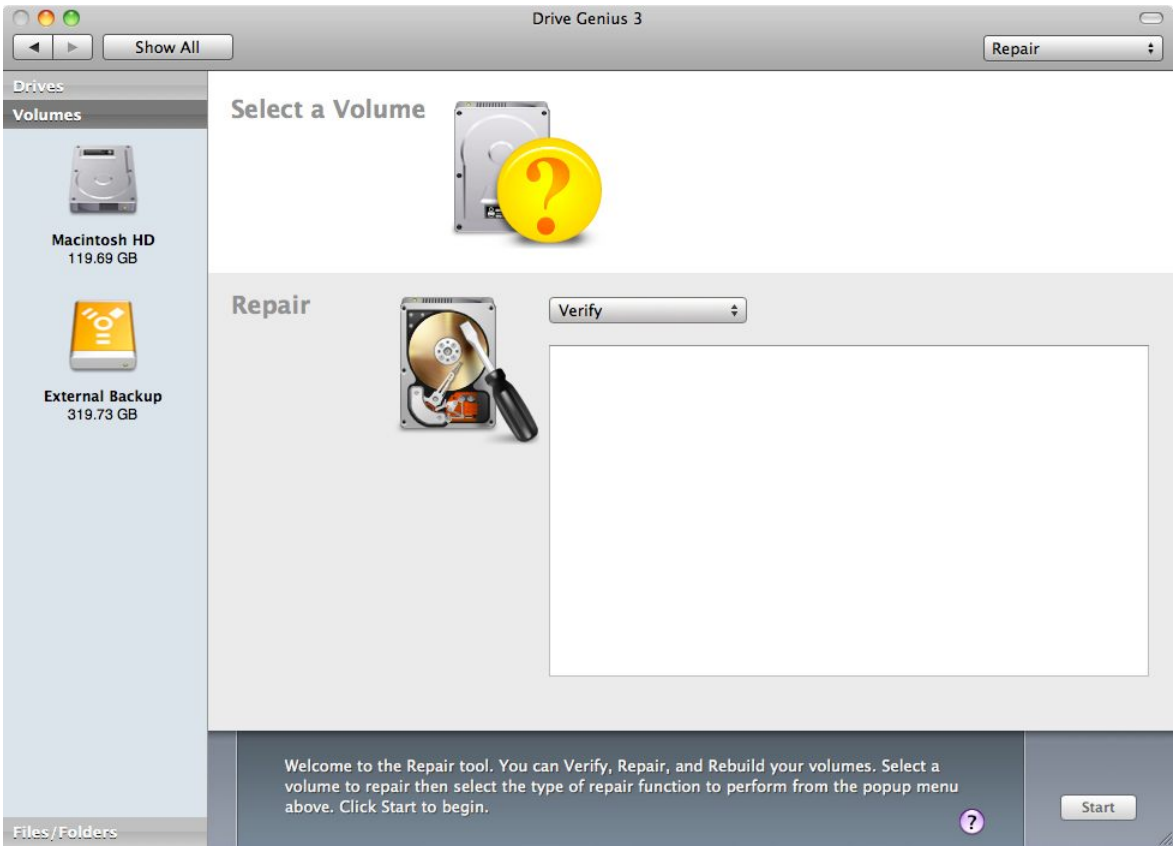
DrivePulse™ Preferences

Open Drive Genius is a quick shortcut to open the Drive Genius 3 application on your desktop.

Preferences provides a shortcut to change the DrivePulse™ settings without having to open Drive Genius. This will allow you to quickly disable any tests or settings for your hard drives.

4 Repair

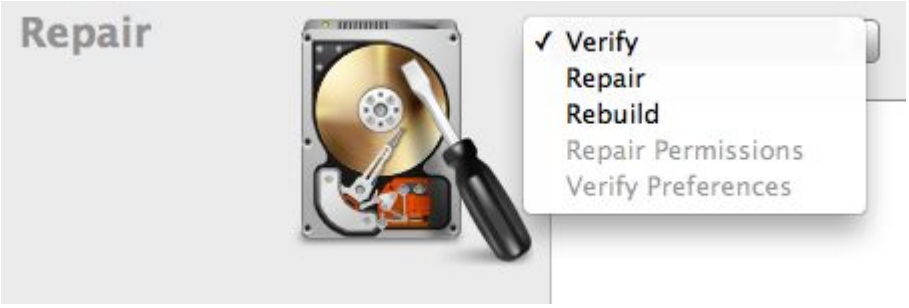
Repair is a tool for verifying and repairing most kinds of logical hard drive faults. It analyzes the volume for a general overview and can repair/rebuild the volume. It can also be used to fix Mac OS X file permissions on your startup volume.



Repair Window

Repair should be run whenever excessive system crashes occur. It also pays to run this periodically as it is not unusual for minor faults to appear on a hard drive. Within the Repair window, there are five functions available to help fix your hard drive.

REPAIR

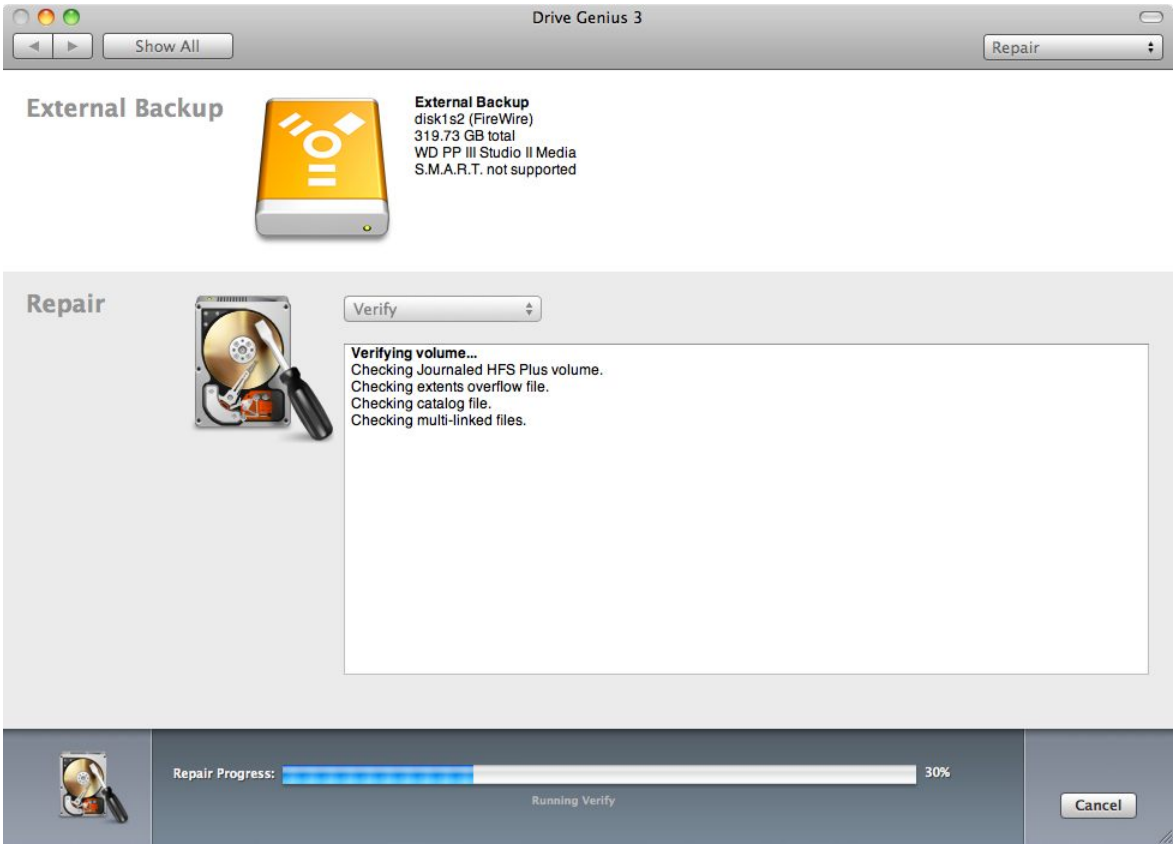


Options for drive repair

- **Verify:** Check a volume for errors. Runs a general scan over the volume to detect any errors.
- **Repair:** Check for and repair any found errors on a volume. Checks the volume for any errors, and attempts to repair them if they are found. If the volume has been having serious problems, it is recommended to repeat Repair until it reports the errors have been fixed
- **Rebuild:** Rebuilds the drive table that holds the file information. This will rebuild the portion of the drive (known as the Catalog B-Tree) that contains information pertaining to the location of all the files on the volume. It is a separate utility from the Verify and Repair functions and may be used separately to repair faulty volumes. Since it rebuilds the structure based on the existing content of the rest of the drive, it can potentially fix errors that Repair tools cannot.
- **Repair Permissions:** Correct the ownership and permissions according to Apple specifications. Repair Permissions will correctly set the permissions to solve most of the problems related to permissions on the individual files and folders. Repair Permissions must be run from the operating system it is repairing.
- **Verify Preferences:** Searches for possible errors with preference files. If any errors are found, a button titled “Reveal in Finder” will point you to the damaged file. To repair damaged preference files, delete the file using the Finder, and open the associated application to create a new preference file.

Repair does not verify any physical media defects. Please use the Scan function of Drive Genius 3 to check for media errors.

REPAIR



Repair Window

►► ***To Repair your drive:***

1. *Launch Drive Genius 3 or startup from one of the preferred methods outlined in Section 2.1 of this guide, or the startup DVD.*
2. *Click the **Repair** Icon.*
3. *Select the volume you wish to repair.*
4. *Choose the function you want to perform from the drop-down menu: Verify, Repair, Rebuild, Repair Permissions, or Verify Preferences.*
5. *Click the **Start** button to proceed.*
6. *Click on the **Cancel** button to stop the current process.*

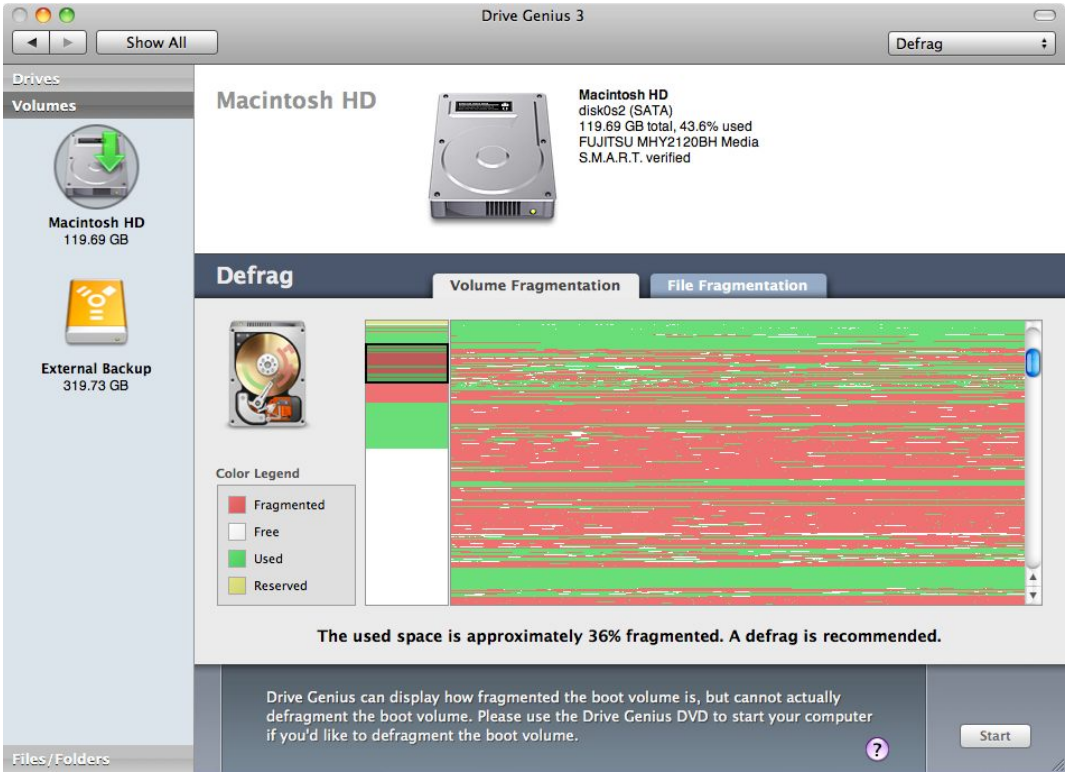
The repair feature should not be used as a substitute for regular backups of your important data.

5 Defrag

Adding and deleting files to and from your hard drive will cause the drive to become fragmented. When the OS writes files to the drive, it will look for empty space on the hard drive to write data to. If the space is too small to fit the file, it will write part of the data in one area and the remaining data to another area of the hard drive. This way no disk space is wasted. However, this will cause the drive to slow down as it will need to scan multiple parts of the hard drive to locate and read the file.

The more writing and deleting that is done to the hard drive, the more fragmented the drive will be. The process will gradually have an impact on the hard drive's performance. This is why using Drive Genius 3 to defragment your hard drive is an excellent way to boost the performance of your computer. Drive Genius 3 puts all these broken up pieces together into one continuous block with all of the empty space at the end.

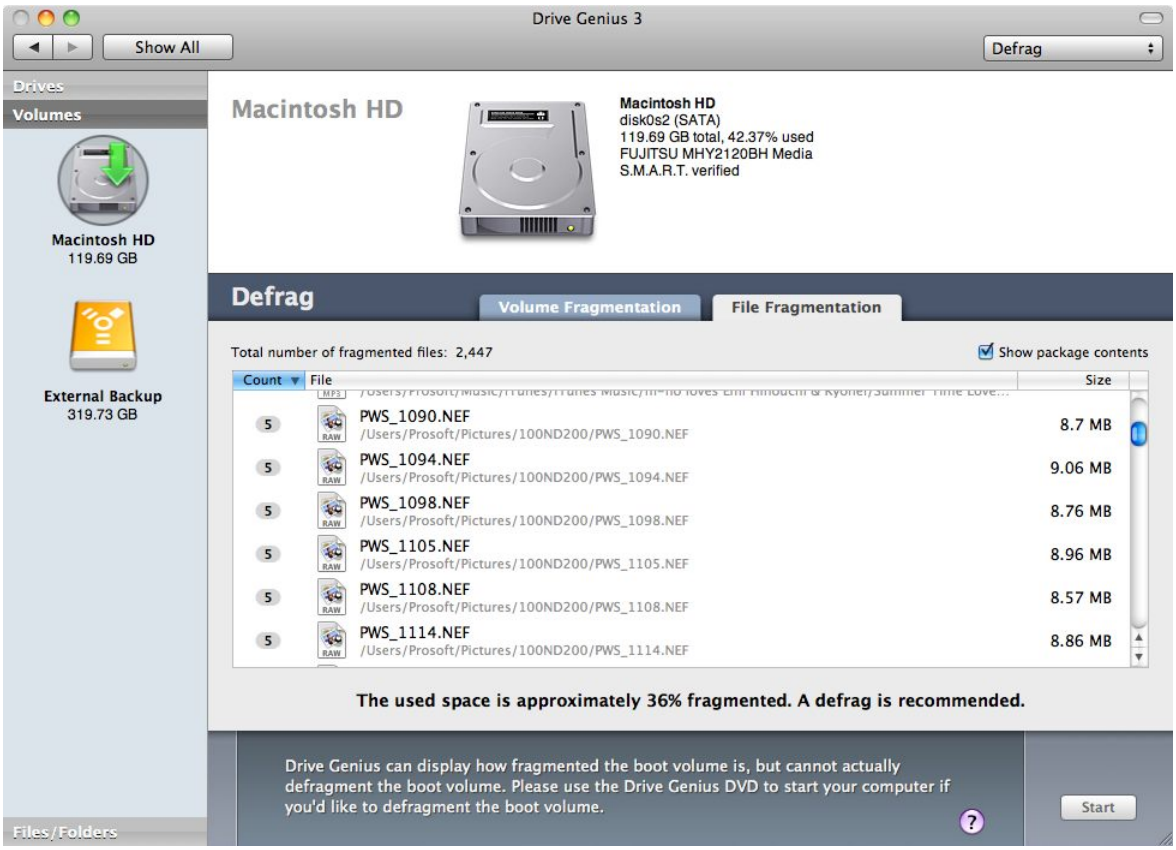
The Defrag feature displays information in two separate tabs: **Volume Fragmentation** and **File Fragmentation**.



Defrag Window – Volume Fragmentation

Volume Fragmentation will display a graphical representation for a quick overview for the files laid across the volume to indicate how much fragmentation is across the hard drive. Four different colors are displayed to indicate the usage of space:

- The red portion represents fragmented data
- The white portion represents free space
- The green portion represents used space that is not fragmented.
- The yellow portion represents reserved space required by the Mac operating system that cannot be defragmented.

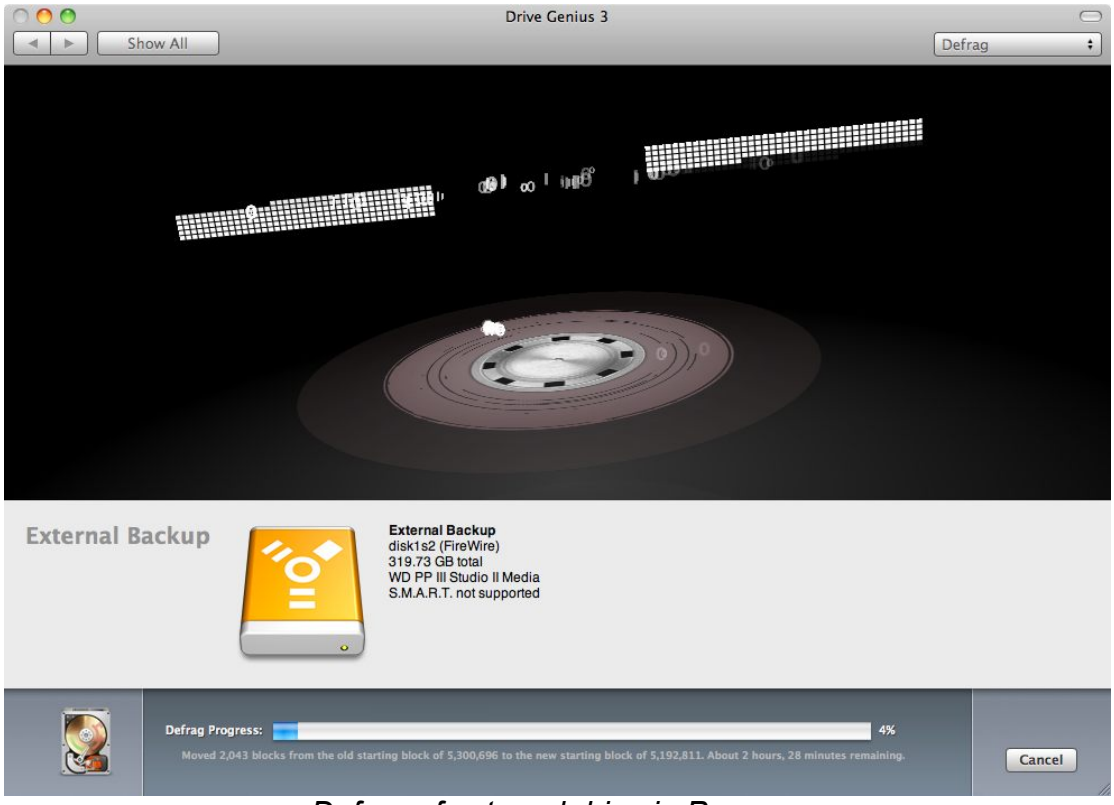


Defrag Window – File Fragmentation

File Fragmentation will display a list of the files that are fragmented on the hard drive. This list will indicate which files are fragmented, how many fragments the file is split into, and how much space the file uses. The more fragments the file is split into, the longer it takes to access the file. If a file you regularly access is fragmented, you may defragment the hard drive to improve the file's performance and accessibility.

DEFRAG

Defragmenting the system startup drive cannot be canceled once started. Do not shut off your computer during this process. If you are using a laptop make sure you are connected to AC power. Do not attempt while running from battery. It can take an hour to a day (24 hours) for a high capacity drive to complete the defragmentation process.



Defrag of external drive in Process

It can take from half an hour to a day to defrag a high capacity volume (depending on how fragmented it is). The end of the day is a great time to perform this maintenance routine.

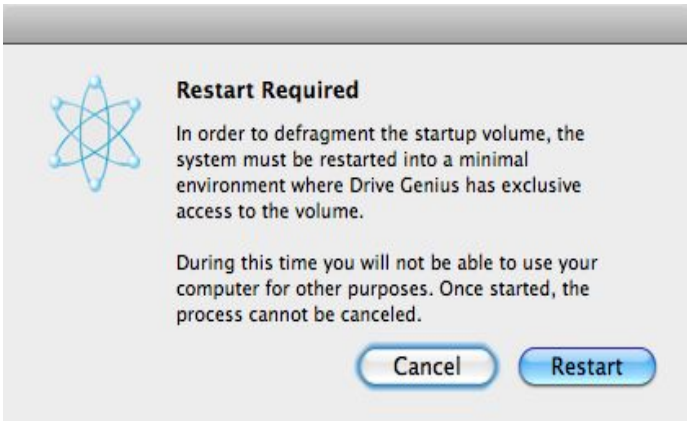
DEFRAG

New to Drive Genius 3 is Live Defrag. There is no longer a need to restart your computer from alternate startup drives or the Drive Genius 3 startup DVD. Simply select your drive and click Start. Your system will restart to a minimal system, the defrag routine will run and check your drive for errors, then defragment your drive. Once complete, your system will restart normally.

Live Defrag works in a text mode and does not require any user interaction.

► ► ***To Defragment your drive:***

1. *Launch Drive Genius 3*
2. *Click the **Defrag** Icon.*
3. *Select the volume you wish to Defrag.*
4. *Click the **Start** button to proceed.*
5. *Click on the **Cancel** button to stop the current process.*



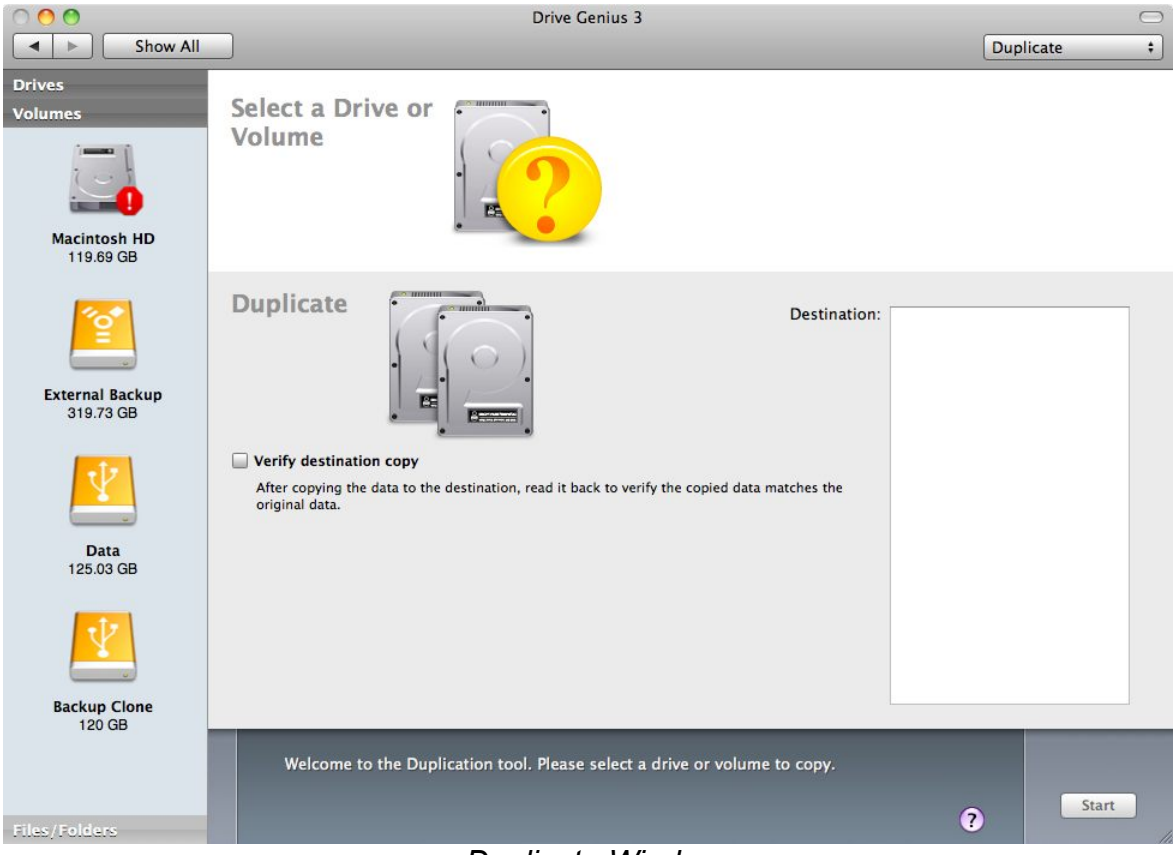
Restart notification for defragmenting your system drive

6 Duplicate

The **Duplicate** function copies all the information from the source drive to the destination drive. A copy of the source drive is made to the destination, so if you backup your startup drive, an exact copy of it is created with all information such as file permissions preserved.

Unlike most backup programs which copy file-by-file, Drive Genius 3 utilizes a method called device copy. Using device copy enables you to retain every detail of the original drive, from it's startup status to the icon locations. Device copy is also a lot faster than the traditional file-by-file backup.

Drive Genius 3 supports duplication of drives and volumes. For drive copy, Drive Genius 3 will duplicate an identical copy of the drive. For volume copy, an identical volume is first duplicated, and then Drive Genius 3 will apply a proprietary resizing technology to expand the volume size to the maximum, so no space is wasted. Duplication can be used for copying one drive to another drive or to a disk image file.



Duplicate Window

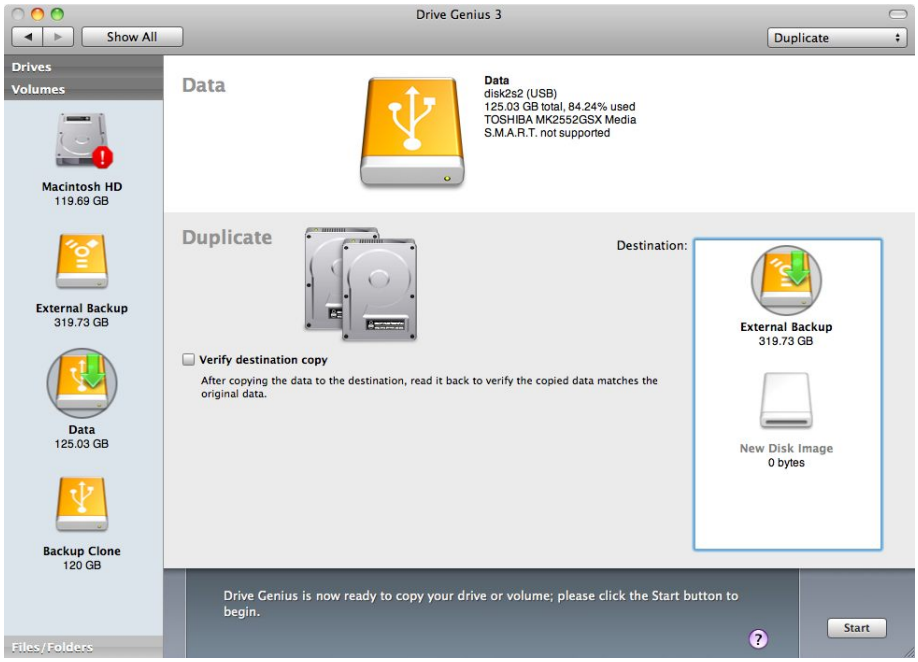
Drive Genius 3 requires the source and the target devices to be unmounted before proceeding with the duplication. To perform a Duplicate of the main volume, you must startup from one of the preferred methods outlined in section 2.1 of this user guide.

6.1 Volume Duplicate

The volume duplicate can only duplicate HFS+ volumes. The information on the target drive will be replaced with the information on the source volume. If you want to archive to a file instead, select “New Disk Image” as the destination. Drive Genius 3's volume copy is designed to work with OS X volumes.

► ► ***To Duplicate a volume:***

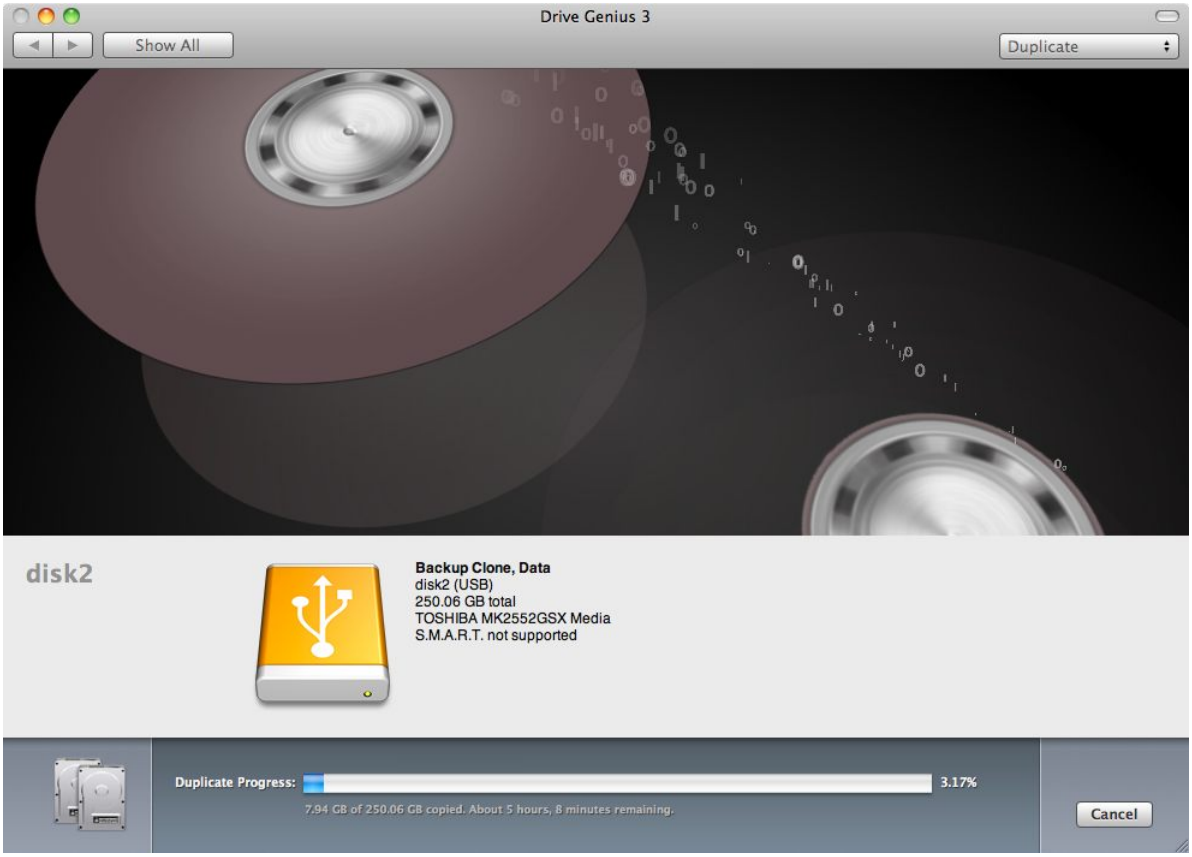
1. *Launch Drive Genius 3 or startup from one of the preferred methods outlined in section 2.1, or the startup DVD.*
2. *Click on the **green arrow** in the arena menu.*
3. *Click on the Duplicate Icon.*
4. *Click on the **Volumes** category, then select the volume you want to duplicate.*
5. *Select the target volume from the Destination list. You can also duplicate the source volume to a Disk Image as your destination.*
6. *Click the Start button to proceed.*
7. *To cancel, click on the **Cancel** button. **Note**: Canceling the duplicate process may result with an unmountable destination.*



Selecting a volume to duplicate

6.2 Device Duplicate

Device duplication is useful when you need to have an identical image of the original drive. The Device Duplicate will clone each sector of the hard drive, including the free space, to retain the original directories for the files and partition map for multiple volumes. Drive Genius 3 can even be used to clone Windows® or Linux drives.



Duplicating device to device

►► ***To Duplicate a device:***

1. *Launch Drive Genius 3 or startup from one of the preferred methods outlined in section 2.1, or the startup DVD.*
2. *Click on the **green arrow** in the arena menu.*
3. *Click on the Duplicate Icon.*
4. *Click on the **Drives** category, then select the hard drive you want to duplicate.*
5. *Select the target hard drive from the Destination list. You can also duplicate the source hard drive to a Disk Image as your destination.*
6. *Click the Start button to proceed.*
7. *To cancel, click on the **Cancel** button. **Note**: Canceling the duplicate process may result with an unmountable destination.*

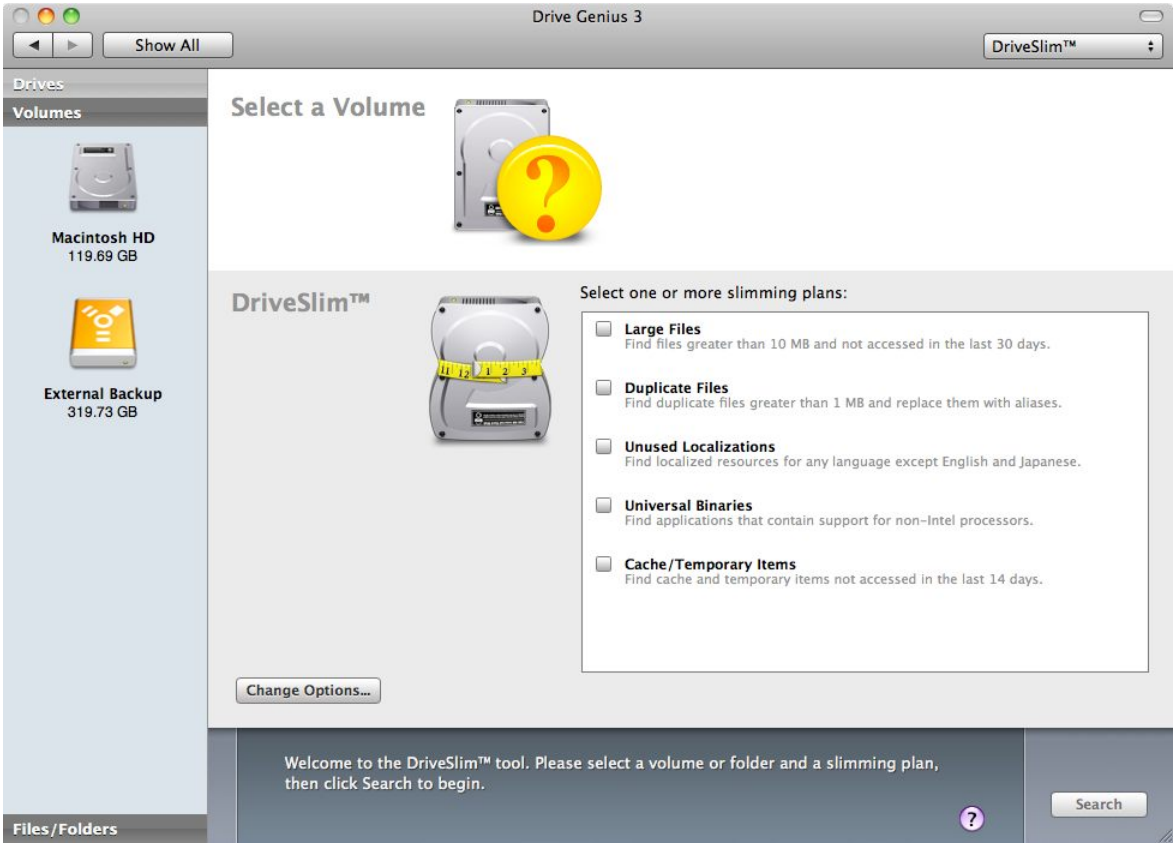
Drive Genius 3's Device Duplication function clones an exact image of the original hard drive. The destination drive's existing partition scheme is affected by the Duplication process. Since the Device Duplicate is copying sector-by-sector, all data that was previously stored on the destination disk will be replaced with the data from the source drive.

6.3 Verifying Destination Copy

Enabling **Verify Destination Copy** will have Drive Genius 3 compare the source and destination once the Duplicate is complete. This feature is helpful when dealing with hard drives that are experiencing potential hardware problems, such as bad blocks. Using Verify Destination Copy will ensure your duplicate process has completed successfully.

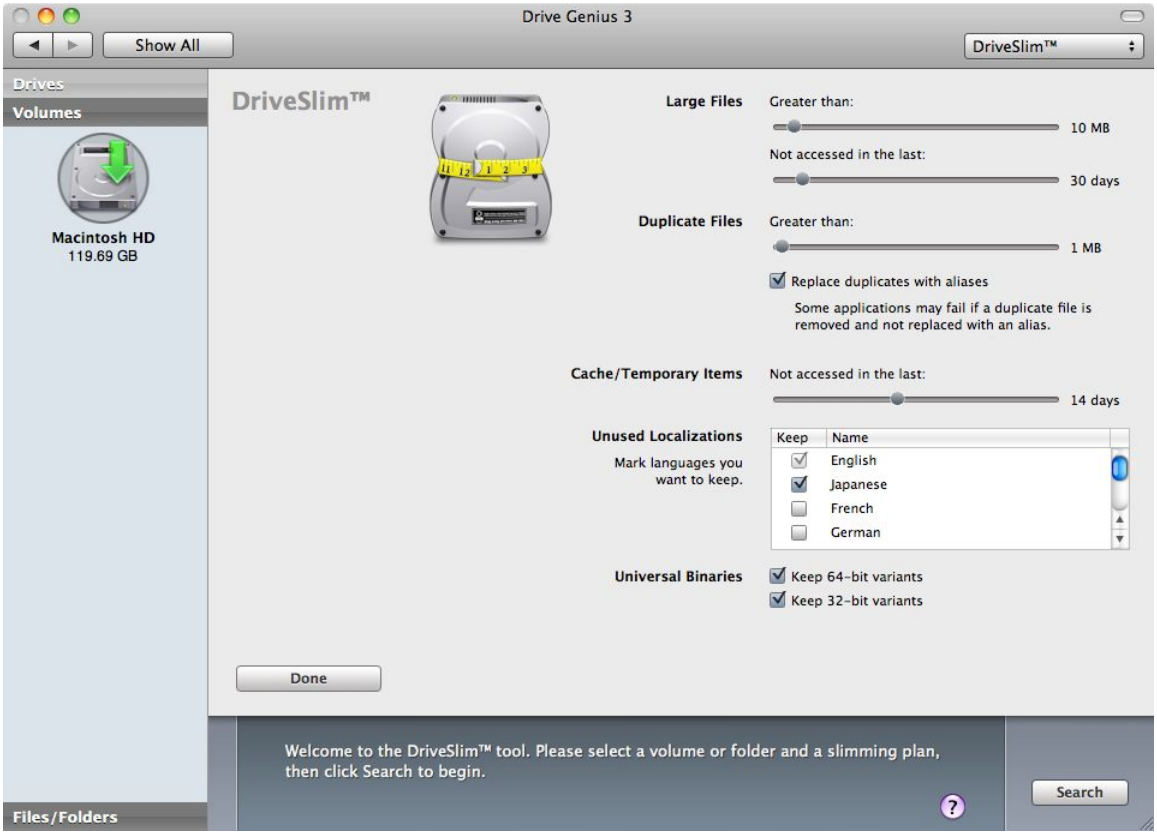
7 DriveSlim™

DriveSlim™ is a tool to help recover drive space by deleting or archiving large, duplicate, or unused files. Through DriveSlim's various slimming plans, Drive Genius 3 will detect and recommend files that can be deleted from your system to help free space on your hard drive. DriveSlim™ can help you determine what files can be deleted when your hard drive gets near its full capacity.



DriveSlim™ Window

Prosoft recommends backing-up your data before using many features in Drive Genius 3. Backing up on a regular basis is your best defense against data loss.



"Slimming Plans" Options Screen

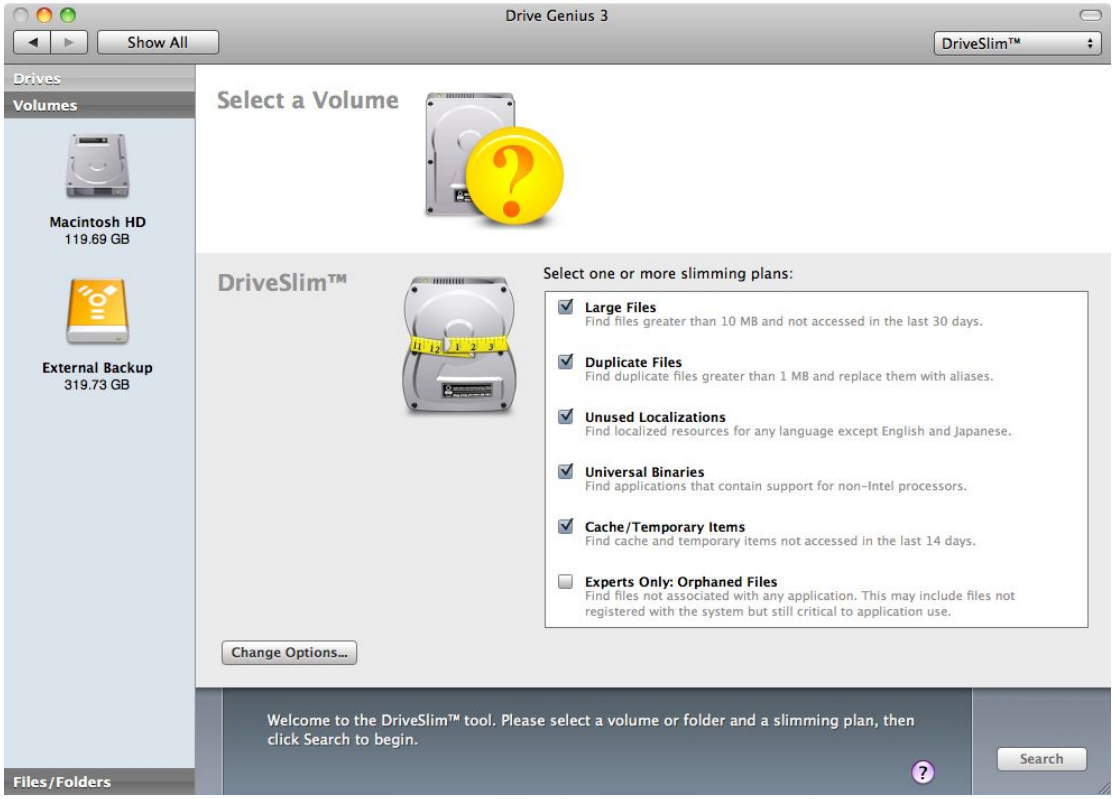
7.1 Slimming Plans

Each Slimming plan individually searches for files that can be deleted from the system to save space. The Slimming Plan's Options Menu allows you to fine tune your Slimming Plans and help filter out specific files from your hard drive. By adjusting the sliders and checking various options, you will be able to locate any files that may be bloating your hard drive.

- **Large Files:** Finds files that are greater than a set minimum size and have not been accessed in a period of time you specify. The detected minimum size can be from 5MB to 100MB. The period of time can be 0 to 365 days.
- ***Duplicate Files:*** Finds any files that are greater than a set minimum size that have duplicates. The detected minimum size can be 0MB to 100MB. You have an option to replace any duplicates with an alias pointing to the original file.
- ***Unused Localizations:*** Finds all localized resources for any applications and allows you to specify what languages you want to keep. This will help delete any unnecessary language files from your applications. You can select any other languages to be kept by marking the selected language.

- **Universal Binaries:** A Universal Binary is a container for multiple application binaries, each optimized for a specific CPU. For any given application, there are up to 4 possible binaries in one file (Intel, Intel 64-bit, Power PC, PowerPC 64-bit), which your machine uses to run the application. Intel-based Macs do not need PowerPC binaries, and vice versa. DriveSlim detects and deletes any unnecessary binaries that your computer hardware cannot run. If you are using a 32-bit system, you can choose to keep 64-bit binaries by enabling “Keep 64-bit variants” in the Slim Options. If you are using a 64-bit system on Mac OS X 10.6 or greater, you can choose to keep 32-bit binaries by enabling “Keep 32-bit variants”. At least one option must be enabled (64-bit or 32-bit).
- **Cache/Temporary Items:** Finds all cached and temporary files that have not been accessed in a period of time you specify. The period of time can be set from 1 to 31 days.

Orphaned Files: For expert users only. Finds files that the system determines are not associated with an application. Due to the nature of applications using private file types, this search may find files that are actively used by an application. Therefore, the results of the search should be carefully reviewed before making a decision to delete files. It is highly recommended to backup these files prior to deleting the files from the hard drive. To enable Orphaned Files, go to the Drive Genius 3 menu and hold the Control and Option keys to change the “Preferences” selection to “Expert Preferences”, select it and enable “Expert Tools”.



Orphaned Files enabled

7.2 Scanning the Volume for files to Slim

DriveSlim™ will scan your hard drive and list the files that are occupying space based on the settings you have chosen.

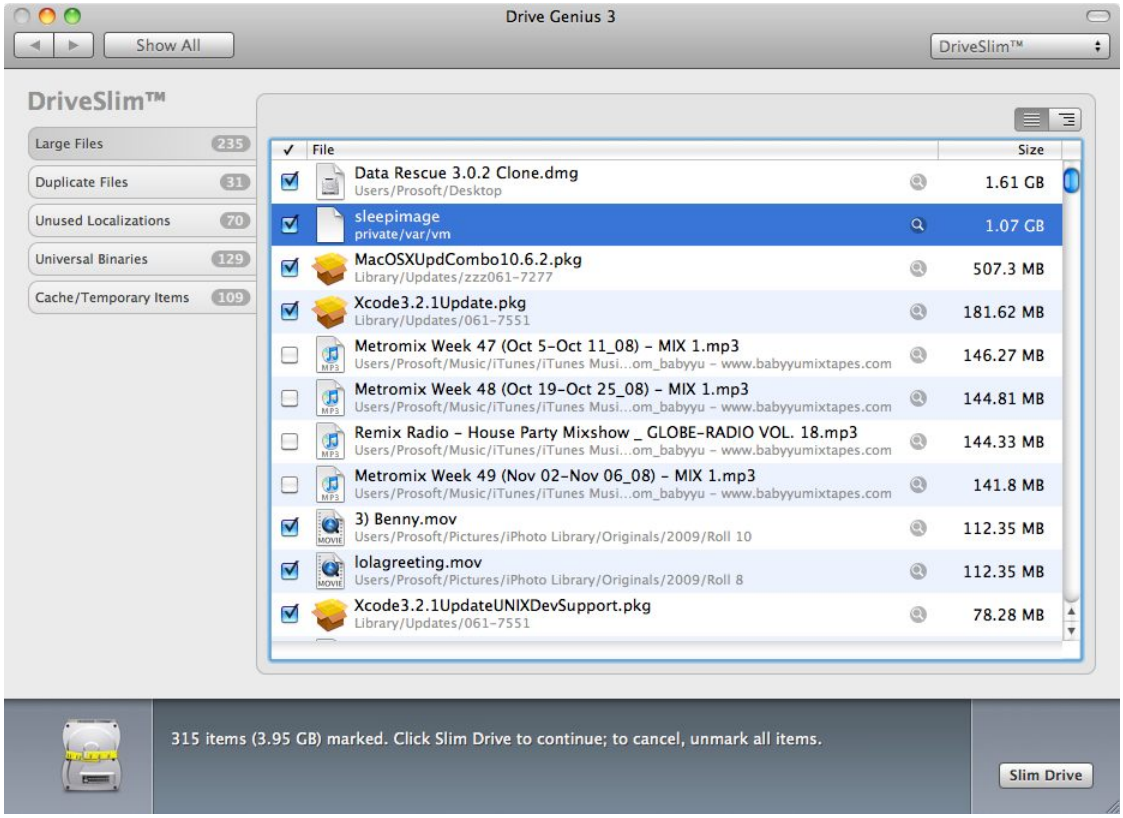
► ► ***To Slim your drive:***

1. *Launch Drive Genius 3 or startup from one of the preferred methods outlined in section 2.1, or the startup DVD.*
2. *Click on the DriveSlim™ Icon.*
3. *Select the Volume you want to slim by highlighting it. You may narrow your search on your hard drive by clicking on the "**Choose a Folder"** button. This will have the slimming plans search specifically in the selected folder for files to archive or delete.*
4. *Select the Slimming Plans you want to use by putting a check mark on the Slimming Plan.*
5. *Click on the **Change Options** button to edit the slimming plans.*
6. *Move the sliders to adjust the size and days for the slimming plans you selected.*
7. *Click on the **Done** button to keep the selected options.*
8. *Click on the **Start** button to proceed.*
9. *To Cancel the scan process, click on the **Cancel** button.*

Scanning the Volume for files to slim

7.3 Selecting Files to Archive or Delete

Once DriveSlim's scan is complete, a list of files will be provided that meet the criteria based on the settings you have chosen. A list of files will be presented for each slimming plan you selected. Although the files may meet the criteria you have specified, it is your choice to remove any of the listed files. Be sure to thoroughly review the files listed to prevent removing any important files you may be using.



Selecting Files to Delete

The list of files can be organized in alphabetical order by clicking on the “File” column heading, or by size by clicking on the “Size” column heading. You may also view the location of the files in the Finder by clicking on the **Preview** icon within the list. To cancel using DriveSlim™, uncheck the selected files and click on the **Cancel** button.

Check mark any files you want to archive or delete and click on the **Slim Drive** button to continue archiving or deleting files.

Confirming files to be archived, deleted, or modified

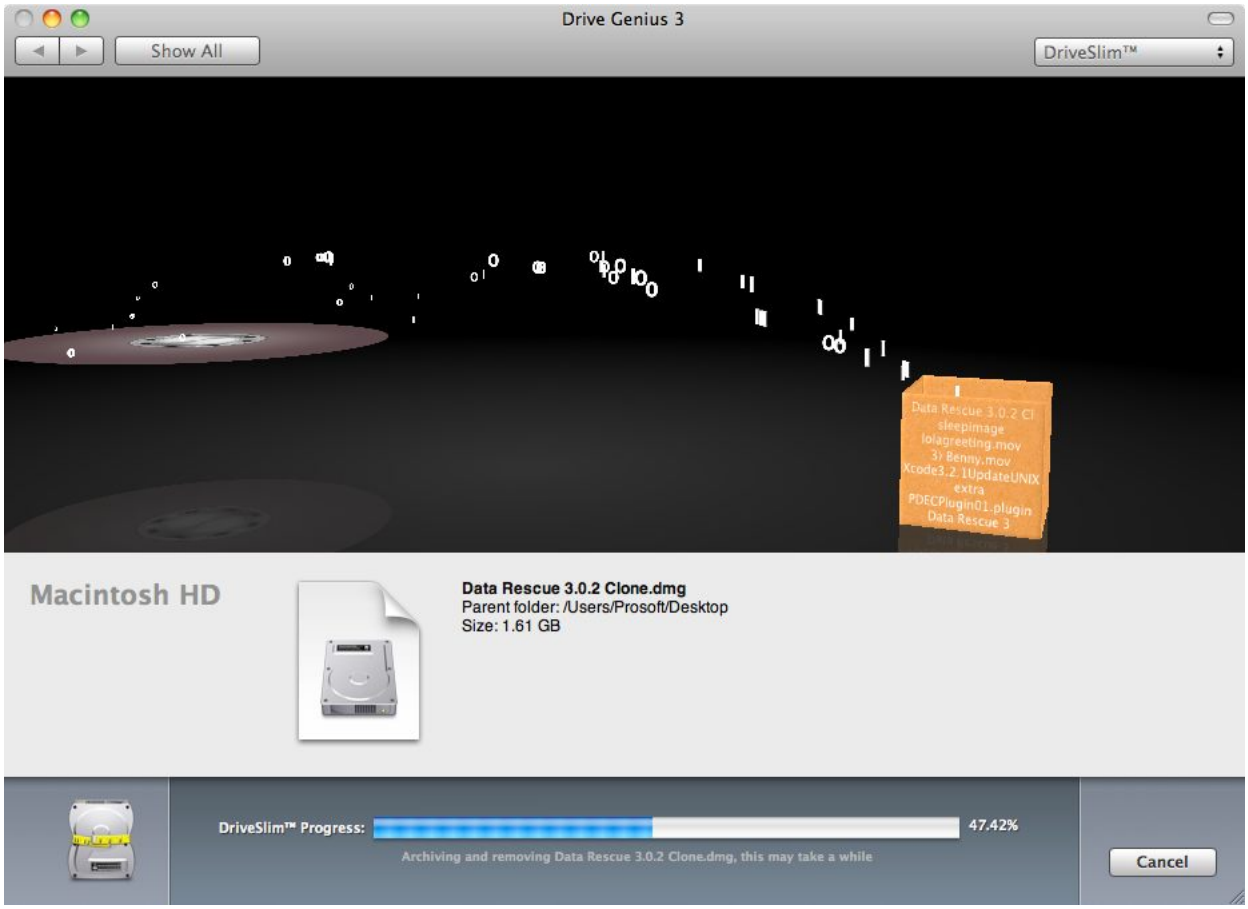
A confirmation window will appear listing all the files that have been selected to be archived, deleted, or modified. Review the files you have selected to prevent loss of files.

To delete a file from the list, highlight the file and click on the **X** icon.

By default, all selected files are archived into a compressed disk image stored in the *~/Documents* folder. Through the Save dialog box, you can select any mounted destination. This feature sets up the files to be easily saved onto a CD, DVD, or external drive for your backup.

Click on the **Slim Drive** button to proceed.

You may choose not to archive the files and delete them permanently by un-checking **Archive files to disk image**. If you choose to delete the files (instead of archiving the files), ensure you have a backup of the files.



DriveSlim Archiving Files to Disk Image

To cancel the Archive Process, click on the **Cancel** button. Drive Genius 3 will stop the file in progress and continue to make an archive of the files that have already been deleted.

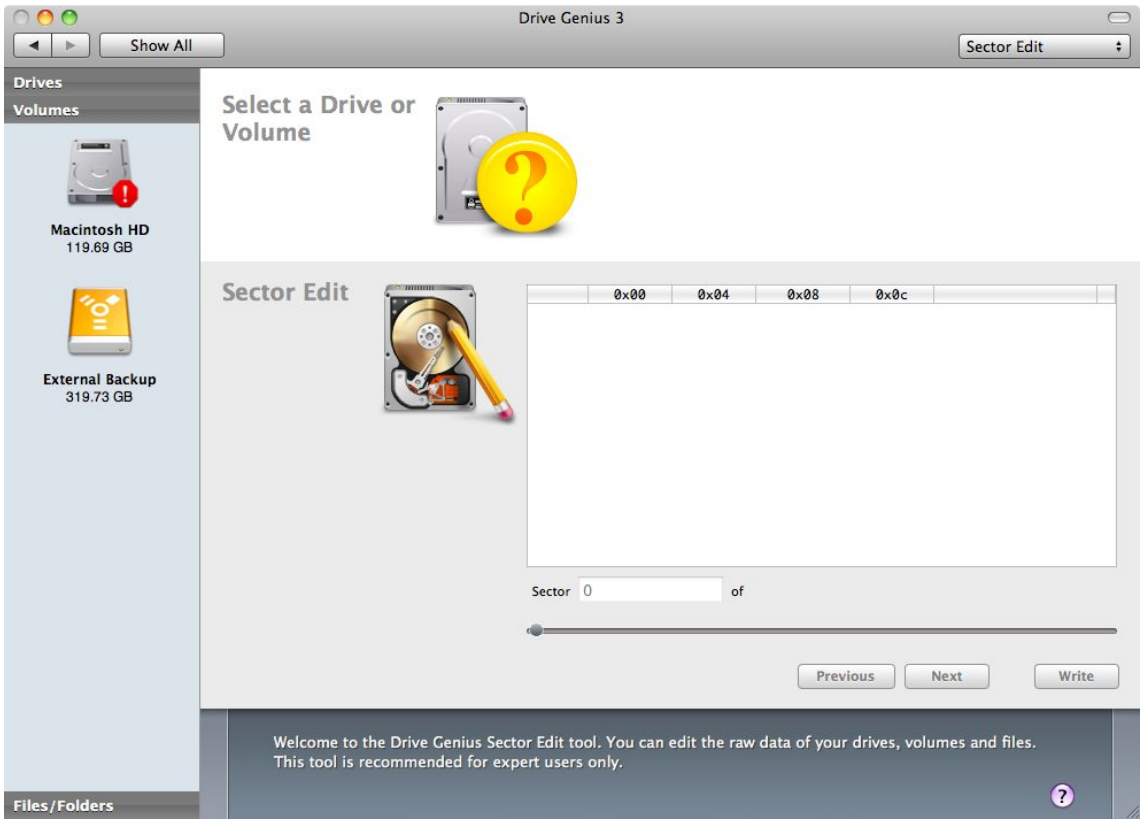
► ► ***To Archive or Delete files:***

1. *Review the files listed in each Slimming Category and check mark any files you want to archive or delete. You can check mark all files by clicking on the √ column heading.*
2. *Click the Slim Drive button to proceed archiving or deleting files.*
3. *A confirmation window will appear listing all the files that have been selected to be archived, deleted, or modified. Choose to archive the files by marking* ***Archive files to disk image*** *or remove the check mark to delete the selected files.*
4. *Click the* ***Slim Drive*** *button to Archive or Delete the files.*

8 Sector Edit

Drive Genius 3's Sector Edit allows expert users the ability to access and modify bits and bytes of a file, volume or disk.

To perform a Sector Edit on your main startup volume, you must startup from one of the preferred methods outlined in section 2.1 of this user guide.



Sector Edit Window

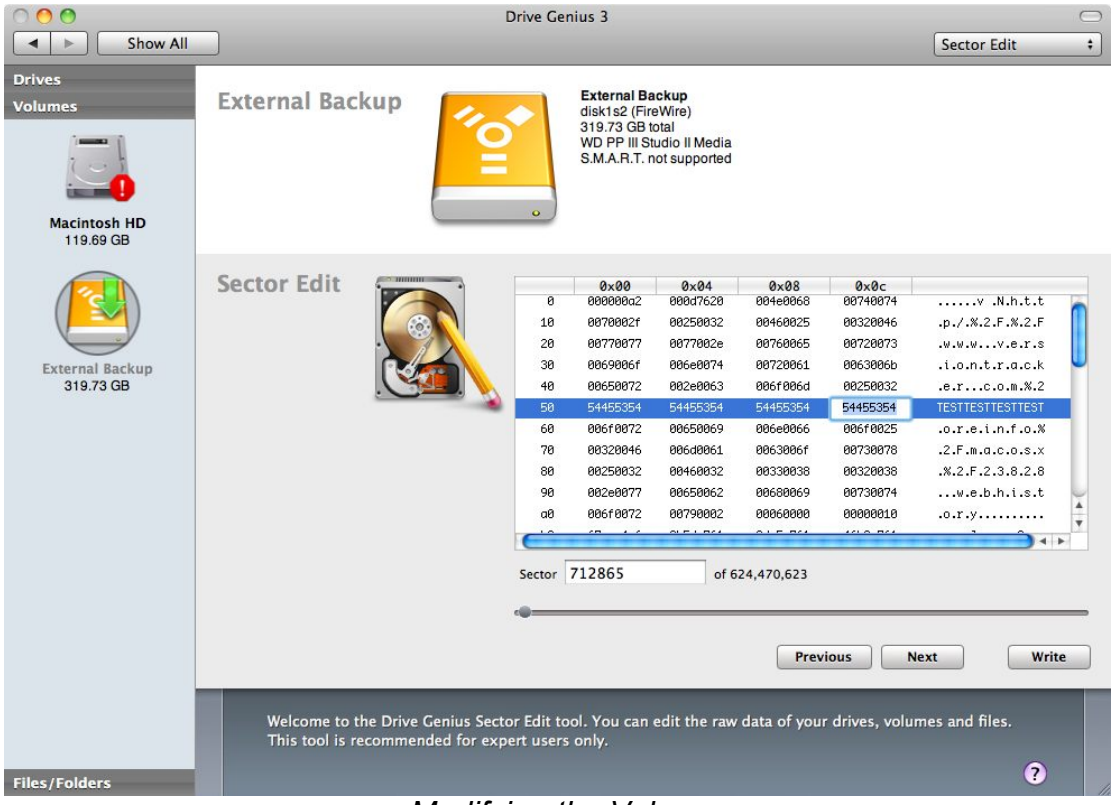
Do not use this function unless you are extremely proficient with raw hex data. Editing the data using Sector Edit may render your data files unreadable, or even corrupt your drive.

8.1 Sector Editing a Drive or Volume

Sector Edit will change the data on any sector of a drive or volume.

► ► ***To perform a low level Sector Edit on your Drive or Volume:***

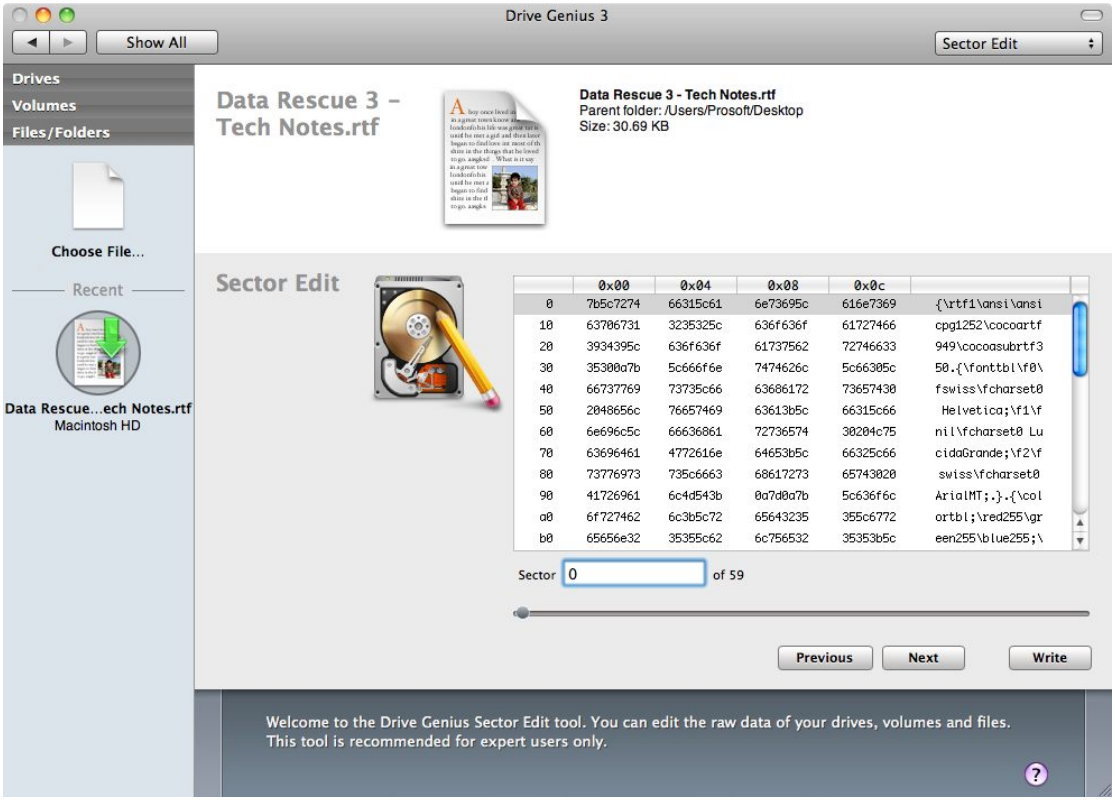
1. *Launch Drive Genius 3 or startup from one of the preferred methods outlined in section 2.1, or the startup DVD.*
2. *Click on the **green arrow**.*
3. *Click on the **Sector Edit** icon.*
4. *Select the Drive or Volume you want to edit.*
5. *Navigate to the sector you want to edit by typing in the sector number in the **Sector _____ of n** box, using the slider, or pressing the **Previous** and **Next** buttons.*
6. *Highlight the byte or bytes you want to modify and type the new value.*
7. *Click on the **Write** button to apply the Sector Edit Modification.*



Modifying the Values

8.2 Sector Editing a File

You may use Sector Edit to edit a file by launching the Drive Genius 3 application. A file may be selected by clicking on the **Choose a File** button, or by dragging a file from the Finder to the Drive Genius 3 icon on the Dock.

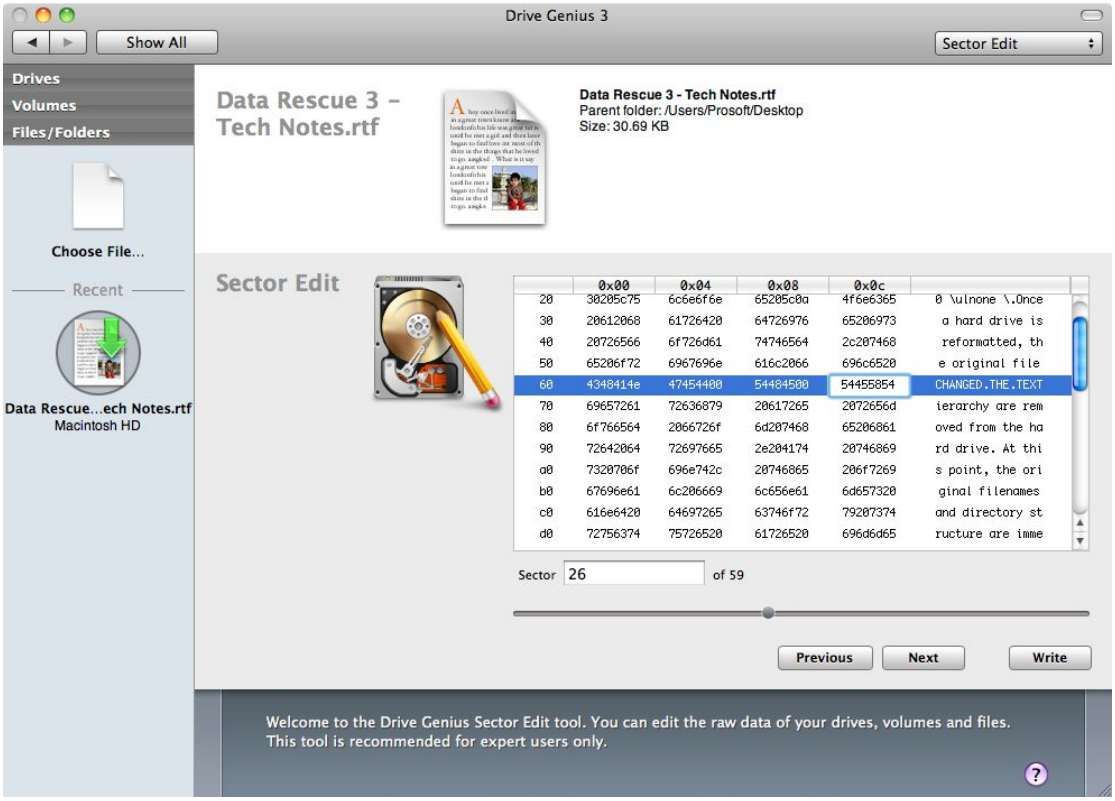


Choose File Category

► ► ***To perform a low level Sector Edit on a file:***

1. *Launch Drive Genius 3.*
2. *Click on the **green arrow**.*
3. *Click on the **Sector Edit** icon.*
4. *Click on the **Files/Folders** category and click on **Choose File**...*
5. *Select the file or folder you want to shred from the Open prompt.*
6. *Navigate to the sector you want to edit by typing in the sector number in the **Sector _____ of n** box, using the slider, or pressing the **Previous** and **Next** buttons.*
7. *Highlight the byte or bytes you want to modify and type the new value.*
8. *Click on the **Write** button to apply the Sector Edit Modification.*

SECTOR EDIT



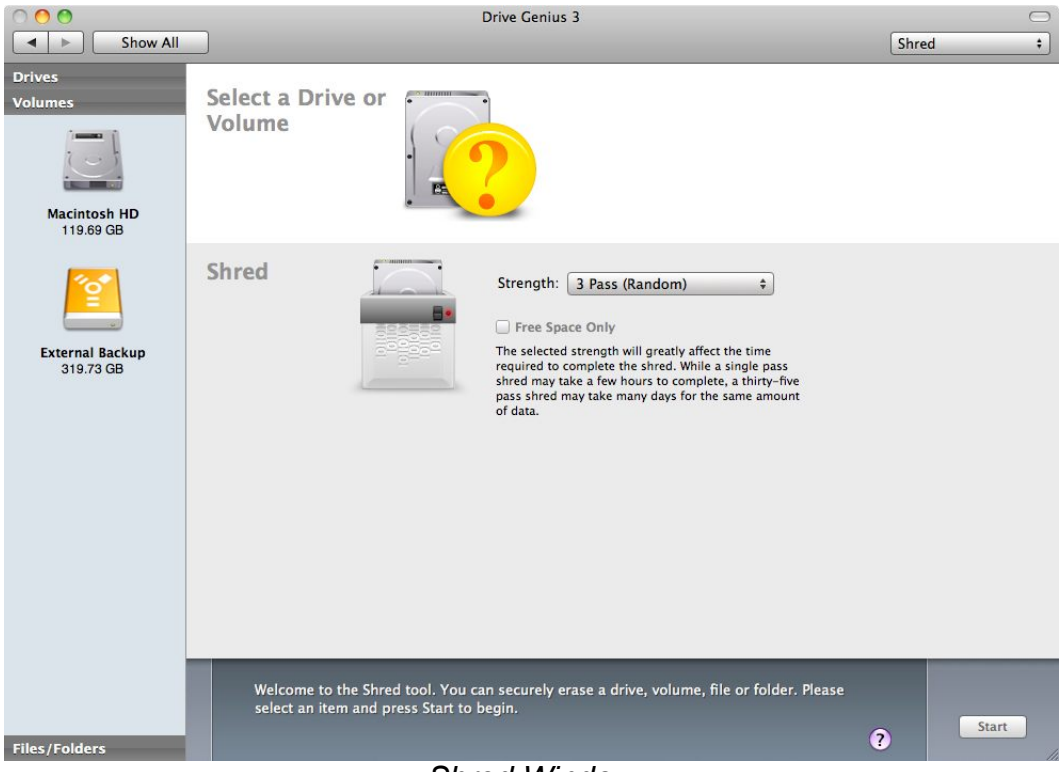
Editing a File

9 Shred

Drive Genius 3's Shred function is used for securely erasing the contents of a volume or the whole drive. There are many reasons to perform a shredding operation instead of simply dragging the files into the trash. For example:

- To avoid identity theft and protect your credit.
- Stop intellectual property theft.
- Permanently get rid of your data files so no one can recover them. For example, a volume with adult oriented materials.
- Permanently delete any software that you are not going to be using on your new machine since software licenses usually only apply to one computer.
- Most Government/large corporations require the drives to be securely erased before disposing or transferring to other users

The only secure way to erase your drive is by overwriting the previous data patterns. Drive Genius 3 has been written to conform to the United States Department of Defense standards for drive sanitation.



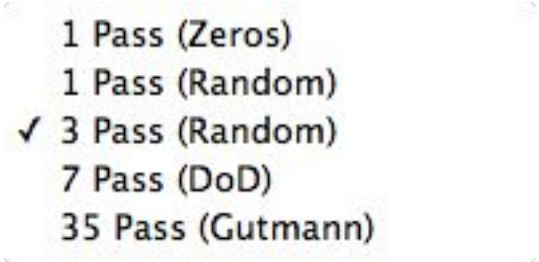
Shred Window

Shred overwrites the volume or the drive with 1 (Zeros), 3 (Random), or 7 pass (DoD) and ensures all previous data will never be recoverable. Drive Genius also features a 35 pass (Gutmann) option, which overwrites every block of data 35 times. Drive Genius 3's Shredder function conforms to the U.S. Department of Defense standard for drive sanitization (DoD 5220.22 M), and it works with IDE (ATA), SATA, SCSI, USB, and Firewire hard drives.

Note: US Department of Defense in the clearing and sanitizing standard DoD 5220.22-M recommends the approach “Overwrite all addressable locations with a character, its complement, then a random character, verify for clearing and sanitizing information on the writable media”.

Drive Genius 3 can shred a file, folder, volume or the whole drive. If you are shredding your startup volume or your startup drive, you will need to startup the system from the Drive Genius 3 DVD, or startup from another drive with Drive Genius 3 installed.

Drive Genius 3 also allows you to permanently erase the free space on your volume making it impossible for anyone to retrieve old files you have previously deleted.



Shred Options

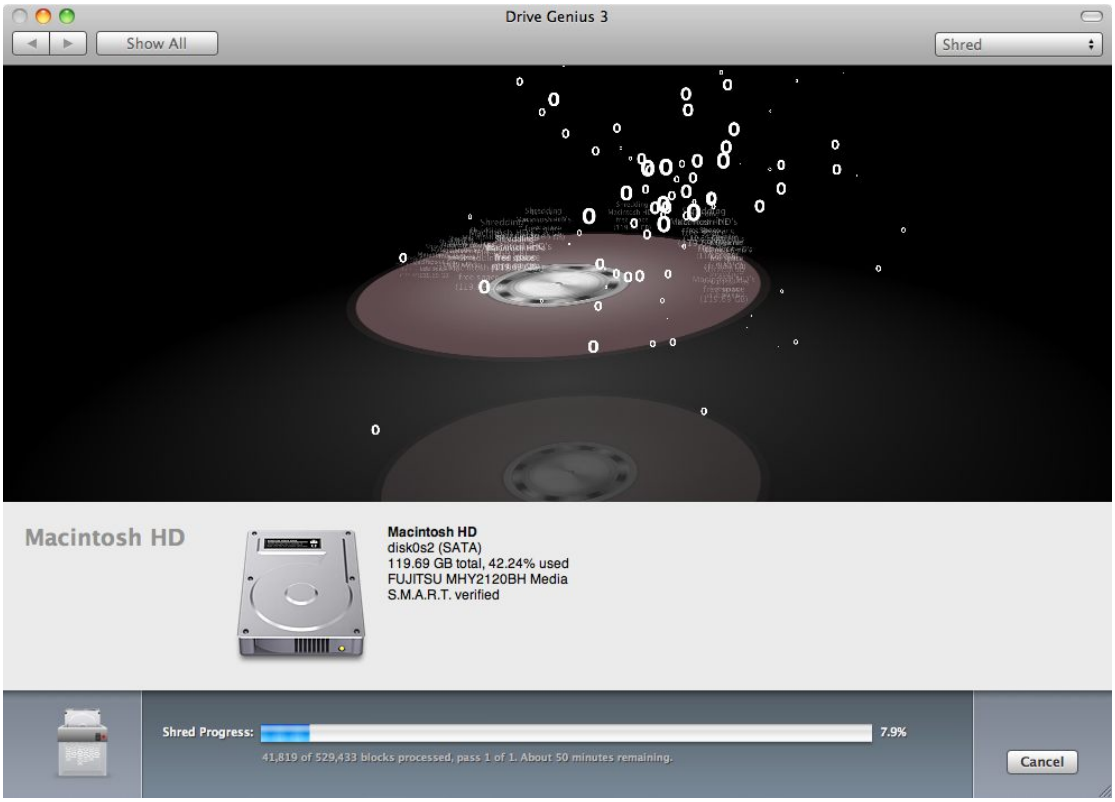
9.1 Shredding a Volume or Drive

Shredding a volume or drive will permanently remove all data. After the operation, a newly initialized HFS+ partition will appear on the desktop.

When shredding a volume, you may choose to shred the unused space by enabling **Free Space Only**. This will skip any active files and overwrite the free space of the drive to prevent previous files from being found.

► ► ***To Shred a Drive or Volume:***

1. *Launch Drive Genius 3 or startup from one of the preferred methods outlined in section 2.1, or the startup DVD.*
2. *Click on the **green arrow**.*
3. *Click on the **Shred** icon.*
4. *Select the volume or drive you want to shred.*
5. *Select the Shred **Strength** for erasing the volume or drive.*
6. *Click on the **Start** button to proceed.*
7. *To Cancel, click on the **Cancel** button.*



Shred in Process

9.2 Shredding Free Space

Drive Genius 3 allows you to permanently erase the free space on your volume in a secure fashion making it impossible for anyone to retrieve old files you have previously deleted. Technically, this process is achieved by first filling up your volume with temporary files, and then writing a secure pattern over the files.

This process is particularly important if your hard drive is to be shared among a few users, selling the computer, or disposing the hard drive.

Free Space Only Selection

► ► ***To Shred the free space of a Volume:***

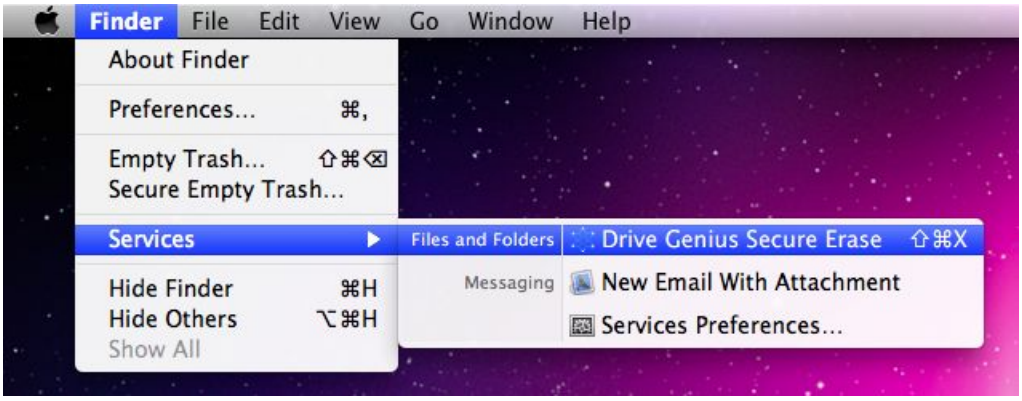
1. *Click on the Volumes category.*
2. *Select the volume which has the free space you want to shred.*
3. *Make sure the **Free Space Only** checkbox is checked.*
4. *Click on the **Start** button.*

If you have a big volume or slow machine, shredding free space can take a while to finish. If you erase the free space on a disk or other device, there is no way any file recovery programs will be able to retrieve your deleted files up to that point.

9.3 Shredding a File or Folder

Shredding a file or folder conveniently allows you to select an individual file or directory to be shredded. This can be done without emptying your current trash can and ensure a sensitive file is immediately removed from your system. Shredding a folder will shred all the corresponding files in the folder. It is highly recommended to backup the files prior to shredding.

You can shred individual files and folders quickly by dragging the files or folders from the Finder onto the Drive Genius 3 icon on your Dock. Furthermore, a shortcut is added into the Finder's Services menu for quick access to Secure Erase.



Secure Erase Available through the Finder

► ► ***To Shred a file or folder:***

1. *Launch Drive Genius 3.*
2. *Click the **green arrow**.*
3. *Click on the **Shred** icon.*
4. *Click on the **Files/Folders** category and click on **Choose File**...*
5. *Select the file or folder you want to shred from the Open prompt.*
6. *Select the Shred **Strength** for erasing the file.*
7. *Click on the **Start** button to begin shredding the file or folder.*
8. *To cancel, click on the **Cancel** button.*

10 Integrity Check

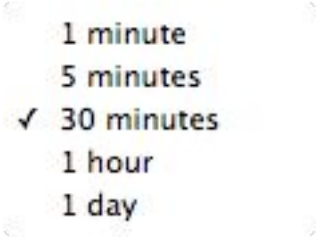
Integrity Check is a suite of diagnostics designed to test the overall integrity of the disk drive by writing and reading various block sizes to and from the drive. This test is ideal to see the performance of rapidly writing and reading files over time such as a mailing server. By simulating the reads and writes of data, you can see how your hard drive performs with your data.

Integrity Check Window

The options within Integrity Check allow you to choose the transfer sizes of data, the test duration, and the test type.

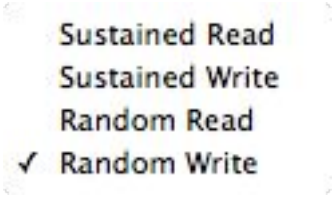
Transfer Size

The transfer size ranges from 2KiB to 16MiB. For setups such as a mail server or accounting server, test the drive using the 2KiB block. Small block size help simulate database servers, as they do lots of little searches and hardly ever read lots of data at a time. Use a bigger block size if you use the drive for graphic intensive applications and digital audio and video applications to properly test your hard drive's performance.



Test Duration

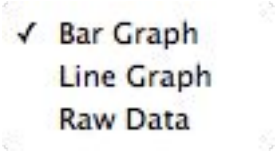
The length of the test can be varied from one minute to one day. The longer the duration given to the test, the more reliable the results are. Start with smaller time frames and give it a longer period to detect more subtle flaws.



Test Type

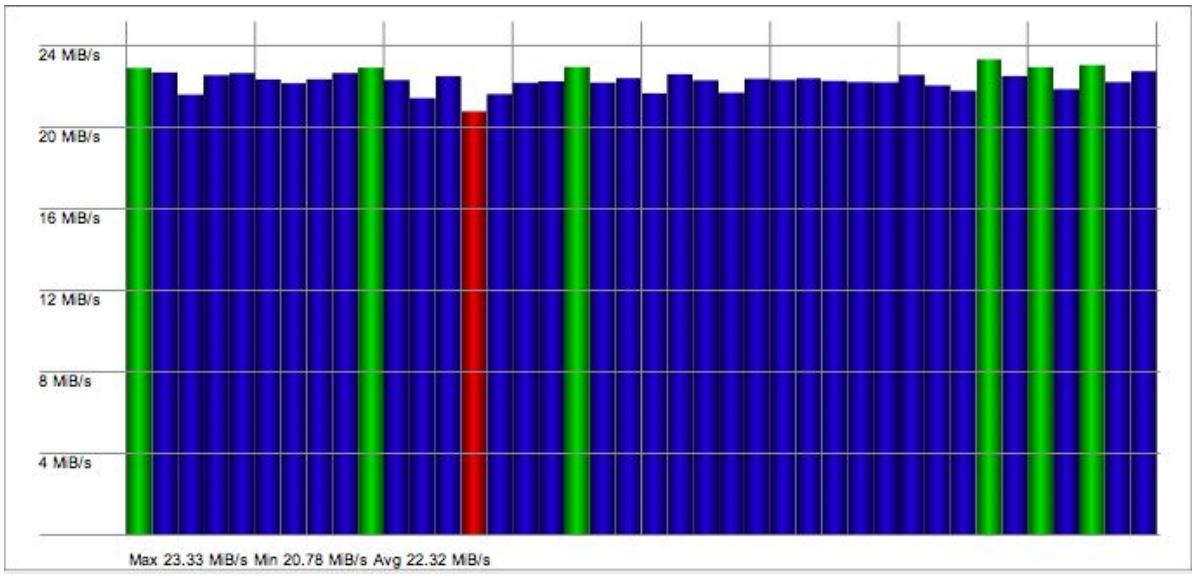
The test type will indicate whether a read or write test will be performed on the hard drive.

- **Sequential Read:** measures how many single-block reads can be performed in one second. This test is affected by read caching (the larger the read cache, the faster the performance).
- **Sequential Write:** measures how many single-block writes can be performed in one second. This test is affected by write caching (the larger the write cache, the faster the performance).
- **Random Read:** measures drive performance for reads of blocks of data from 2 kilobytes to 16 megabytes. For small block sizes, seek time and rotational latency are weighted more heavily. For large block sizes, the transfer rate is weighted more heavily.
- **Random Write:** measures drive performance for writes of blocks of data from 2 kilobytes to 16 megabytes. For small block sizes, seek time and rotational latency are weighted more heavily. For large block sizes, the transfer rate is weighted more heavily.



Selecting a Graph Type

The graph type allows you to choose the way the data is displayed, as a bar graph, line graph, or raw data.



Bar Graph

Each bar on the graph represents a write/read process and its transfer rate. Drive Genius 3 represents each bar with a color to indicate the performance of the transfer speed:

- **Green:** Fastest transfer rates (maximum speed).
- **Blue:** Average transfer speed.
- **Red:** Slowest transfer rates (minimum speed).

Drive Genius 3 will help update the colors of the bars as the Integrity Check progresses to help determine the overall performance of the hard drive.

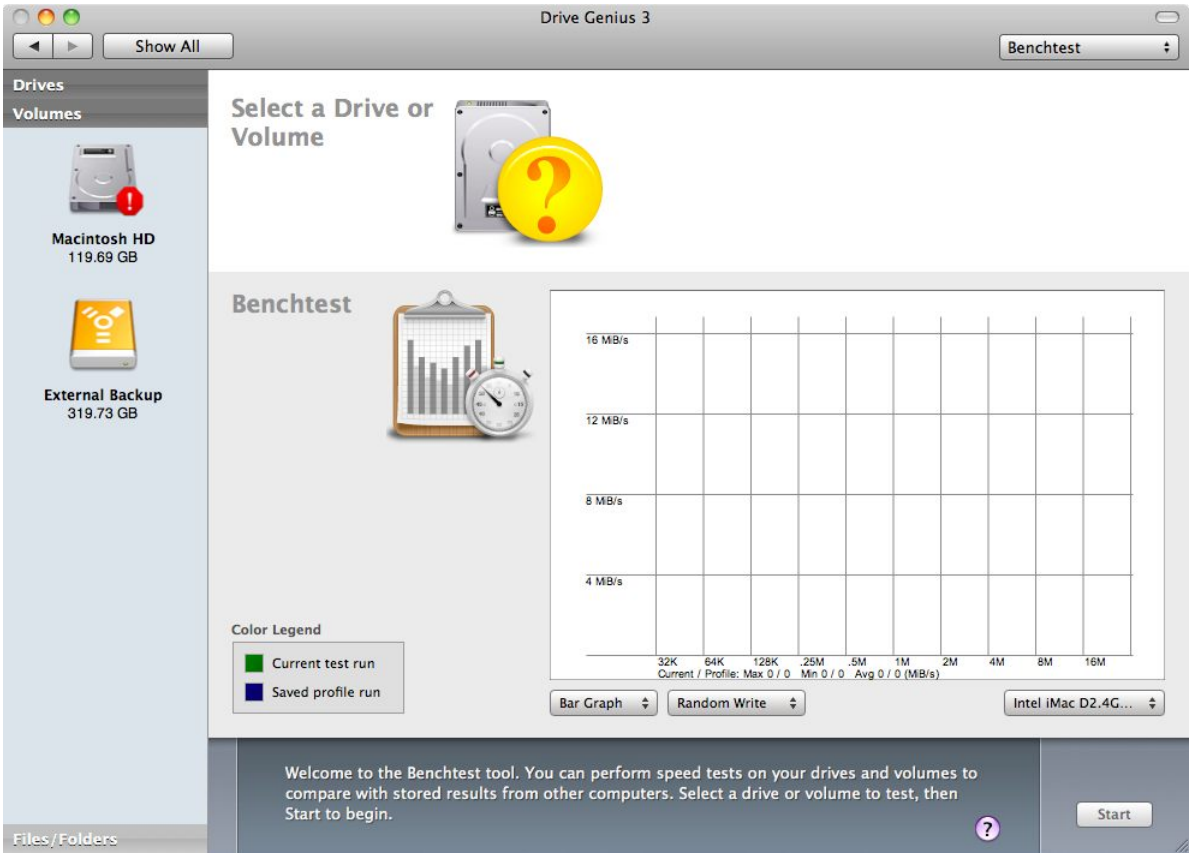
► ► ***To use Integrity Check on a volume or drive:***

1. *Launch Drive Genius 3 or startup from one of the preferred methods outlined in section 2.1, or the startup DVD.*
2. *Click on the **green arrow**.*
3. *Click on the **Integrity Check** icon.*
4. *Select the volume or drive you want to test.*
5. *Select the options for type, size, and time.*
6. *Click on **Start**.*
7. *To cancel, click on the **Cancel** button.*

11 Benchtest

Benchtest is a comparison tool to display the performance of your hard drive against similar or different base machine configurations. Using Benchtest will allow you to see how your machine compares to a base model computer to gauge the performance of your hard drive. If your machine performs below the standards of a base model computer, this may be a sign your hard drive is in need of maintenance such as a Defrag.

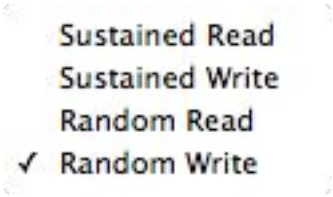
To perform Benchtest on your startup volume, you must startup to one of the preferred startup methods outlined in section 2.1 of this user guide.



Benchtest Window

To get the most accurate test results, we recommend that you do not run the Benchtest with other processes running in the background. Avoid running other CPU intensive applications in the background as this may also affect the results.

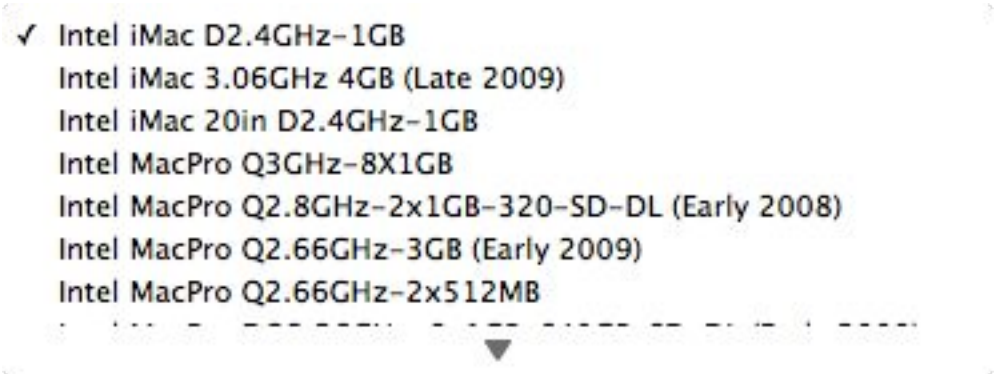
Depending on the speed of the drive and the CPU, it may take up to 10 minutes to finish the test. The test data is updated as soon as each task is complete. The display options within Benchtest allow you to choose the graph type, test type and the comparison machine model.



Test Type

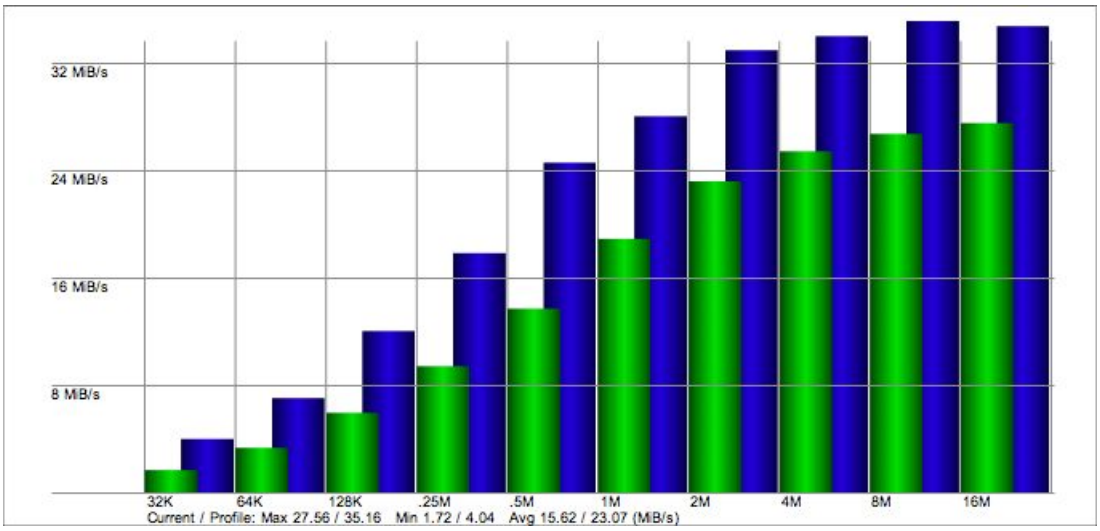
Drive Genius 3 will perform each test type to indicate the transfer rate for each size of data. The test type will indicate whether a read or write test will be performed on the hard drive. To display any of the tests, simply select it from the pop-up menu.

- **Sequential read:** measures how many times single-block reads can be performed in one second. This test is affected by read caching (the larger the read cache, the faster the performance).
- **Sequential write:** measures how many times single-block writes can be performed in one second. This test is affected by write caching (the larger the write cache, the faster the performance).
- **Random read:** measures drive performance for reads of blocks of data from 2 kilobytes to 16 megabytes.
- **Random write:** measures drive performance for writes of blocks of data from 2 kilobytes to 16 megabytes.



Comparison Window

Drive Genius 3 gives you the ability to compare your benchtest results with base lines from various machine specifications. To select other drives for comparison, click on the comparison drop-down menu. You may delete any previously saved benchtests by selecting **Edit** from the comparison drop-down menu.



Screenshot of Bar Graph

The graph type allows you to choose the way the data is displayed, as a bar graph, line graph, or raw data. For bar and line graphs, green represents your hard drive's performance, while blue represents the selected comparison machine's performance.

- **Bar Graph:** For each data size, a pair of bars measures your hard drive's transfer speed versus the selected machine's base line results.
- **Line Graph:** For each data size, a pair of plotted points will draw a line to compare your hard drive's transfer speed versus the selected machine's base line results.
- **Raw Data:** Displays numerical figures for each data size for the compared machines.

When your benchtest completes, you may save your results by clicking on **File** and selecting **Save**. This saves your results for you to create a baseline of your hard drive's performance and use for comparison of your system overtime. You may select any benchtests you have saved in the comparison drop-down list.

► ► ***To use Benchtest on a volume or drive:***

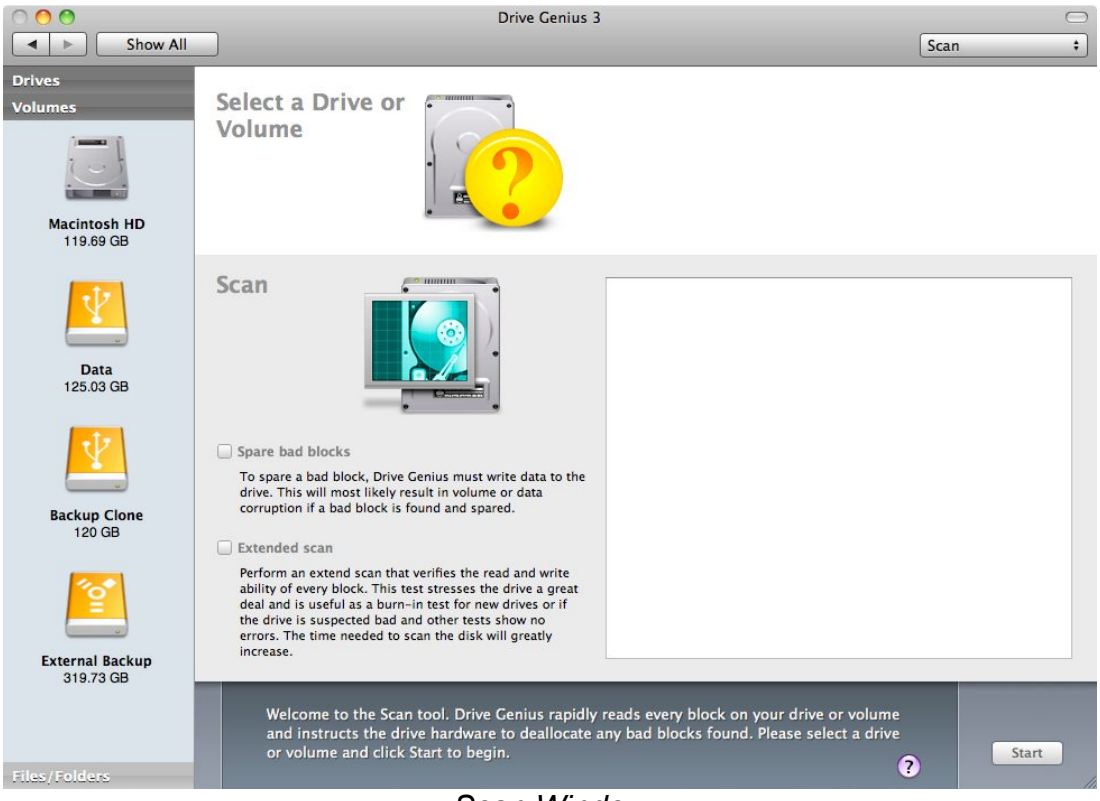
1. *Launch Drive Genius 3 or startup from one of the preferred methods outlined in section 2.1, or the startup DVD.*
2. *Click on the **green arrow**.*
3. *Click on the **Benchtest** icon.*
4. *Select the volume or drive you want to test.*
5. *Select the options for graph type and comparison machine.*
6. *Click on **Start**. To cancel, click on the **Cancel** button.*
7. *Review the Benchtest's results. Select the test type to review each set of results.*
8. *Click on **File** and select **Save** to save your benchtest results.*

12 Scan

Scan is designed specifically to verify that every sector (block which can contain information) on your volume or drive can be read correctly. Drive Genius 3 introduces advanced features for performing **extended scans** and **spare bad blocks** to assist the hard drive's internal mechanism to properly reallocate bad sectors.

Data on a hard drive is stored in a series of blocks. During normal operation every block of the data should be able to be written to and read from again. However, a hard drive can develop a problem where one or more blocks may lose storage capacity and become unreadable. Surface scanning is a process of requesting a read on every block on the drive in sequence and determining whether the drive reports an error on any of these requests.

A standard scan will count the number of detected bad blocks to inform you of the hard drive's physical sectors. The time required for a Scan test is dependent on the drive's capacity, rotational speed, and the physical state of the hard drive. All the blocks on the hard drive are read in sequential order.



Scan Window

12.1 Spare Bad Blocks

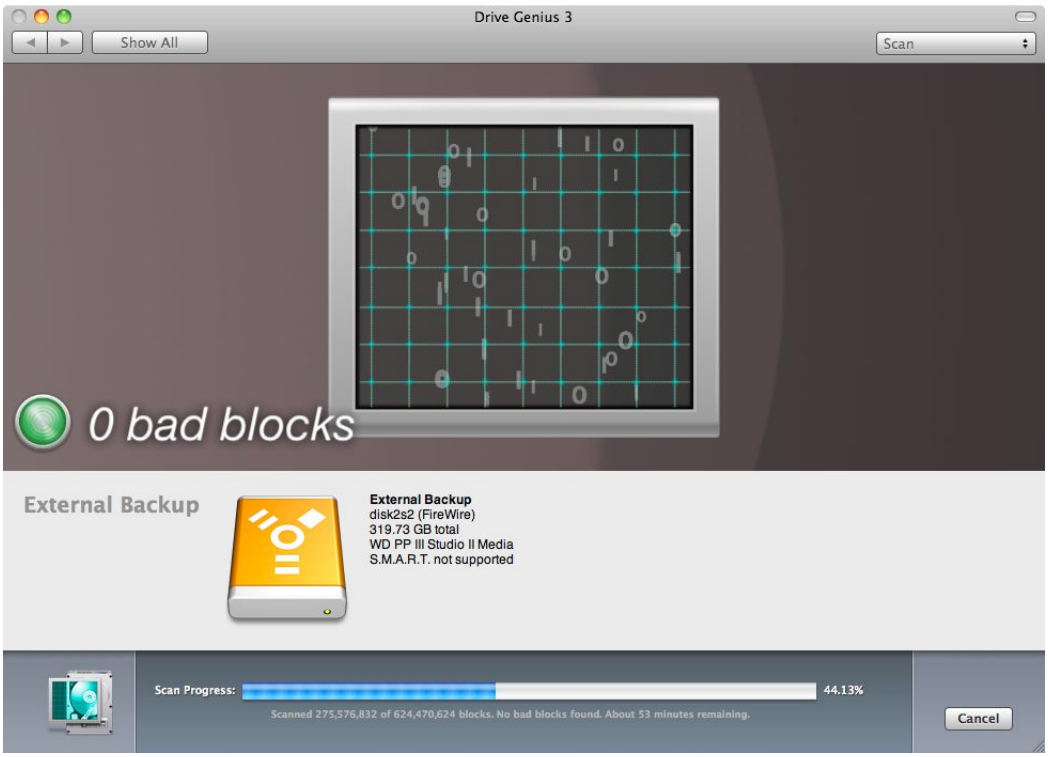
Most current hard drives will automatically reallocate any bad blocks they come across to another sector on the hard drive. Each hard drive has a set amount of space to handle these bad blocks and reallocations.

If you suspect there are bad blocks on the volume or hard drive, you may enable **Spare Bad Blocks** to allow Drive Genius 3 instruct the hard drive to dereference the bad blocks. When Drive Genius 3 detects a bad block, it will attempt to read the information for the bad block and write it back to the same block. This will indicate to the hard drive that the sector is not available, which will require its internal mechanisms note the bad sector and reallocate the data onto a different sector.

12.2 Extended Scan

Extended Scan will verify the read and write ability of every sector on the hard drive. Unlike Spare Bad Blocks, which only writes for any found bad blocks, Extended Scan will read from every block and write the data back onto the same block to force the hard drive to reallocate any data from bad blocks. Enabling Extended Scan will greatly increase the time needed to complete the scan.

This test is especially helpful to test the physical performance of the hard drive if you have experienced a slow down in accessing data, or have acquired a used computer.



Screenshot of Scan in Progress

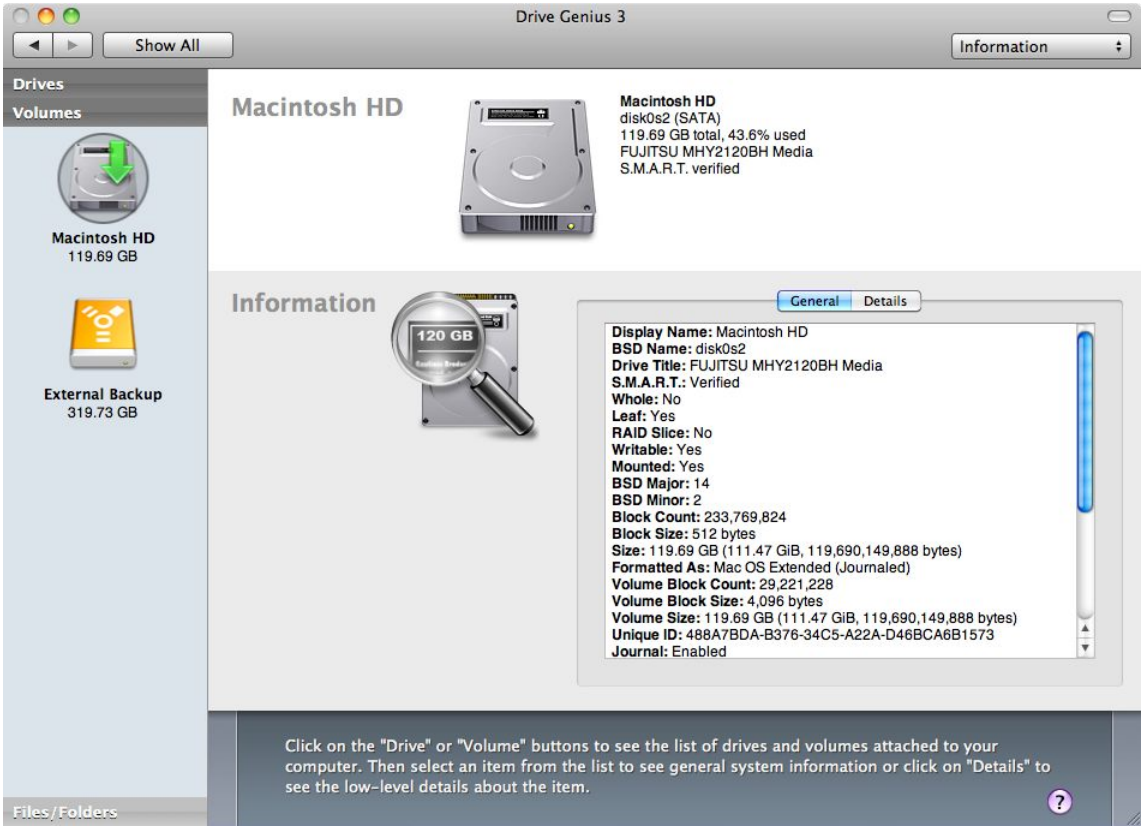
Scan in Progress

► ► ***To Scan your volume or drive:***

1. *Launch Drive Genius 3 or startup from one of the preferred methods outlined in section 2.1, or the startup DVD.*
2. *Click on the **Scan** icon.*
3. *Highlight the volume or drive you want to scan.*
4. *Enable the options for **Spare Bad Blocks** or **Extended Scan** if you want to perform an in-depth scan.*
5. *Click on the **Start** button.*
6. *To cancel, click on the **Cancel** button.*

13 Information

Information provides technical details about your volumes and drives, such as total blocks, partition ID and partition scheme information that expert users may find useful. Displayed information may be saved into a text file by clicking on the **File** menu and selecting **Save**.



Information Window

►► ***To get information on your volume or drive:***

1. *Launch Drive Genius 3.*
2. *Click on the **Information** icon.*
3. *Select the volume or drive you want to get Information about.*
4. *Click on the **General** or **Details** tab for switch between the information.*
5. *To save the information, click on the **File** menu and select **Save**.*

14 Initialize

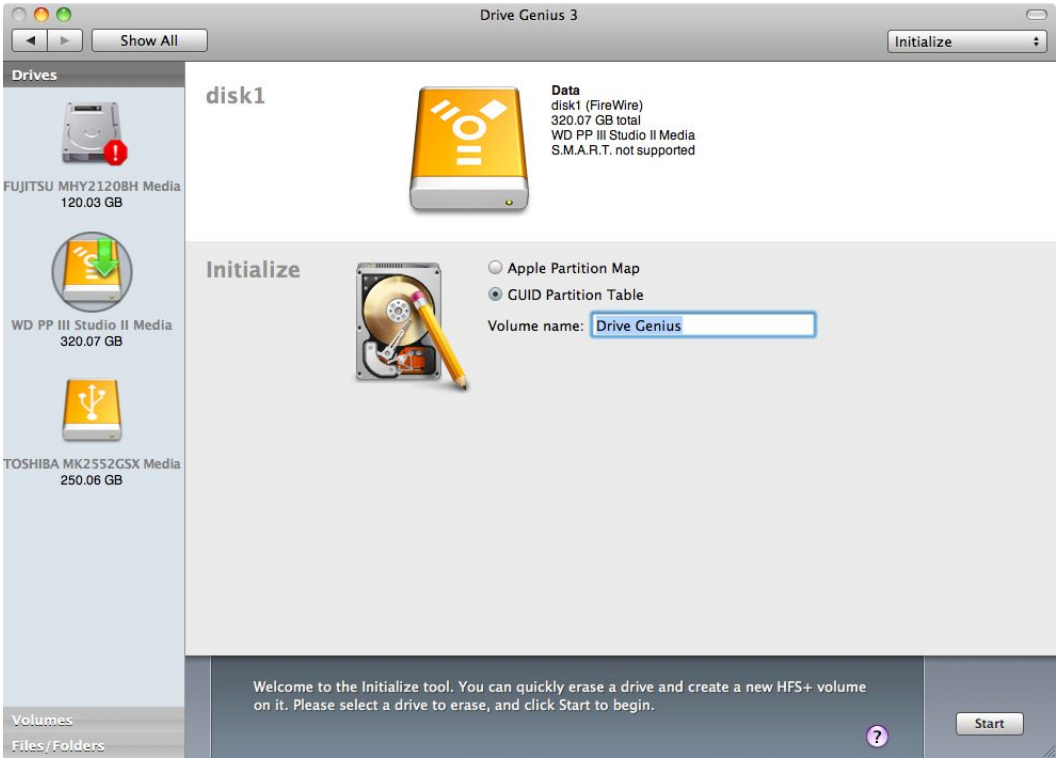
Drive Genius 3's **Initialize** feature is the easiest way to prepare a disk for general use. Most hard drives are already formatted at the factory. However, many hard drives are not ready for Mac use. Initialize will:

- Install the Apple driver
- Write a partition map
- Create a new volume and mount it to the desktop

Initializing will wipe out the first few thousand blocks of the drive in order to place a device driver and the partition map on the drive. The rest of the drive is intact, but files that were previously on the drive will not be accessible anymore. If you accidently initialize a drive and it contains information you did not backup, you will need software such as “Data Rescue” to recover the files.

If you are initializing your startup drive or you only have a single drive connected to your system, you will need to startup the system from one of the preferred startup methods outlined in section 2.1 of this user guide.

When you are done initializing the drive, quitting Drive Genius 3 will shut down the computer. You are now ready to install an operating system to your internal drive. Please refer to section 2.1 for basic Mac OS X installation guidelines, or to the documentation that shipped with your Mac.



INITIALIZE

Initialize Window

The Initialize window allows you to reformat the hard drive in two different Macintosh formats:

- ***Apple Partition Map:*** This partition scheme is necessary for installing the Mac Operating System based on PowerPC processors (such as G3, G4, and G5 machines). This format is recognized by all versions of the Mac Operating system and can be used with Intel-Based Macintosh computers for storing data.
- ***GUID Partition Scheme:*** This partition scheme is necessary for installing the Mac Operating System based on Intel processors (such as MacBooks, MacBook Pros, or Mac Pro Desktop machines). This format is recognized by Mac Operating System 10.4. and above.

Determine what machine type you will be using the hard drive for and select the appropriate format to reformat the device.

The **Volume Name** field allows you to create the name of the volume once the Initialize process is complete.

► ► ***To initialize your drive:***

1. *Launch Drive Genius 3 or startup from one of the preferred methods outlined in section 2.1, or the startup DVD.*
2. *Click on the **green arrow**.*
3. *Click on the **Initialize** icon.*
4. *Select the drive you want to initialize.*
5. *Select the Apple Partition Map or GUID Partition Table depending on which Mac you are using.*
6. *Type in a name for the volume in the Volume name field.*
7. *Click on the **Start** button to proceed.*
8. *To cancel, click on the **Cancel** button.*

15 Repartition

Repartition enables you to resize and manage partitions (volumes) on your hard drives. Unlike traditional methods of backing up, erasing and repartitioning the drive, Drive Genius 3 allows you to expand or shrink partitions without erasing them.

Drive Genius 3 is extremely easy to use. In just a few clicks, Drive Genius 3 will defragment and resize your partition to the size of your choice. You can use the Repartition feature to create and delete partitions. Drive Genius 3 includes many custom icons that can be automatically applied to your newly created partition. The Repartition feature can hide partitions from users as well. Last but not least, the feature also has the ability to shift a partition on the hard drive in addition to reconstructing partition maps.

The Repartition feature is an easy to use utility. However, we strongly recommend you read the following sections to familiarize yourself with its features. The Repartition feature is extremely powerful and will have a negative effect on your drive if not used correctly.

Repartition Window

REPARTITION

There are five key areas within the Repartition window:

- **Drive Name and Icon:** The top of the window will display the icon, name, and total size of the select hard drive.
- **Partition Pie Chart:** The pie chart shows all the partitions on the currently selected hard drive. The pie chart will also show hidden partitions and partitions with file systems not supported by the OS. Free space contains no data. Clicking on a section of the pie chart will select the partition to be modified.
- **Selected Partition:** The right panel will display the name, partition type, and size of the currently selected partition to be modified. A different partition may be selected by clicking on the name field and choosing a different selection.
- **Tool Buttons:** The buttons will perform the repartition function described on the button. These buttons will become available depending on the partition that is selected.
- **Context-sensitive Help:** Provides help and descriptions of the currently active screen or feature.

The Repartition window has several tool buttons to help repartition a hard drive:

- **Reset:** Resets the partition map to regain extra space wasted during a hardware device-to-device copy.
- **Add:** Adds a new volume to the drive. This button becomes available when selecting Free Space on the Pie Chart.
- **Delete:** Deletes the selected volume. This button becomes available when selecting a volume on the Pie Chart.
- **Hide:** Hides the selected partition on your drive. This button becomes available when selecting a volume on the Pie Chart.
- **Reveal:** Reveals any hidden partitions on your drive. This button becomes available when selecting a hidden volume on the Pie Chart.
- **Shift:** Shifts volumes to manipulate the partition map without requiring you to erase the data. This button becomes available when selecting a partition on the Pie Chart.
- **Resize:** Expand or shrink your mac formatted partitions without requiring you to erase the volume. This button becomes available when selecting a partition on the Pie Chart.
- **Customize:** Customize the volume with a selectable icon.

15.1 Resizing Partitions

Resize allows you to resize your OS X formatted disk partitions (volumes) without requiring you to erase the volume. Partitions can be shrunk in order to make room for a new partition, or they can be expanded to take advantage of free space on the drive.

► ► ***To run Repartition on your drive:***

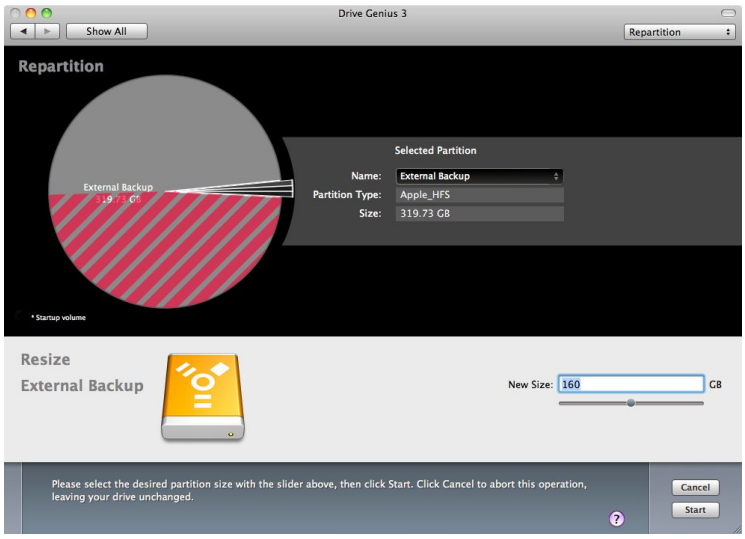
1. *Launch Drive Genius 3 or startup from one of the preferred methods outlined in section 2.1, or the startup DVD.*
2. *Click on the **green arrow**.*
3. *Click on the **Repartition** icon.*
4. *Select the drive you want to repartition.*

15.1.1 Shrinking Volumes

Shrinking volumes is very helpful to make space for another partition or to take space from one volume and give it to another volume. You cannot shrink a volume smaller than the amount of space used on the volume.

► ► ***To shrink your volume:***

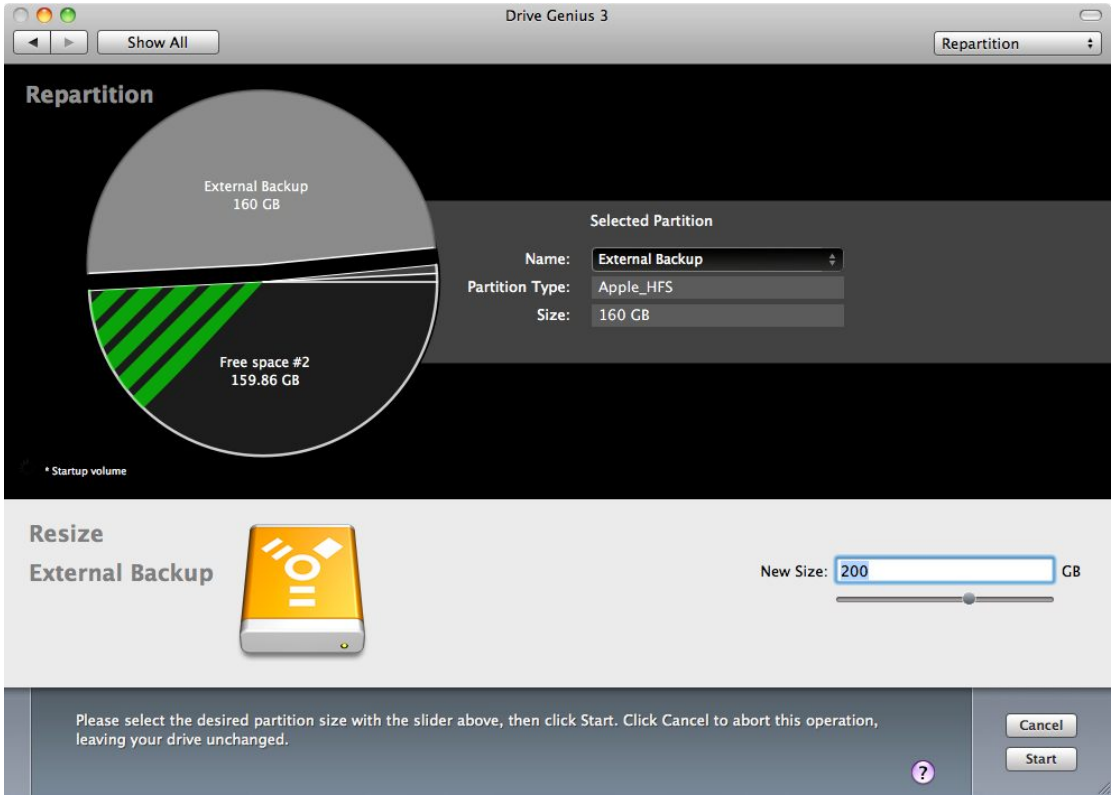
1. *Select the partition you would like to shrink from the Pie Chart.*
2. *Click on the **Resize** button.*
3. *Move the slider to the left to decrease the size of the partition, or type in a smaller new size of the volume and press the Enter key to set the value.*
4. *Click on **Start** to Resize the volume.*
5. *If the data on the volume needs to be defragmented to compact the space, a prompt will appear to confirm the defragmentation process. To defrag the volume, click on **Continue**. To cancel the Resize, click on **Cancel**.*
6. *After the Resize is completed, a new free space partition will be present in the Partition Pie Chart.*



Volume is Resized down

15.1.2 Expanding Volumes

Expanding a volume allows you to increase the size of a partition by using adjacent free space. You will need to have free space counterclockwise to the volume you want to expand. You cannot expand a volume if there is no “Apple_Free Space” adjacent to it.



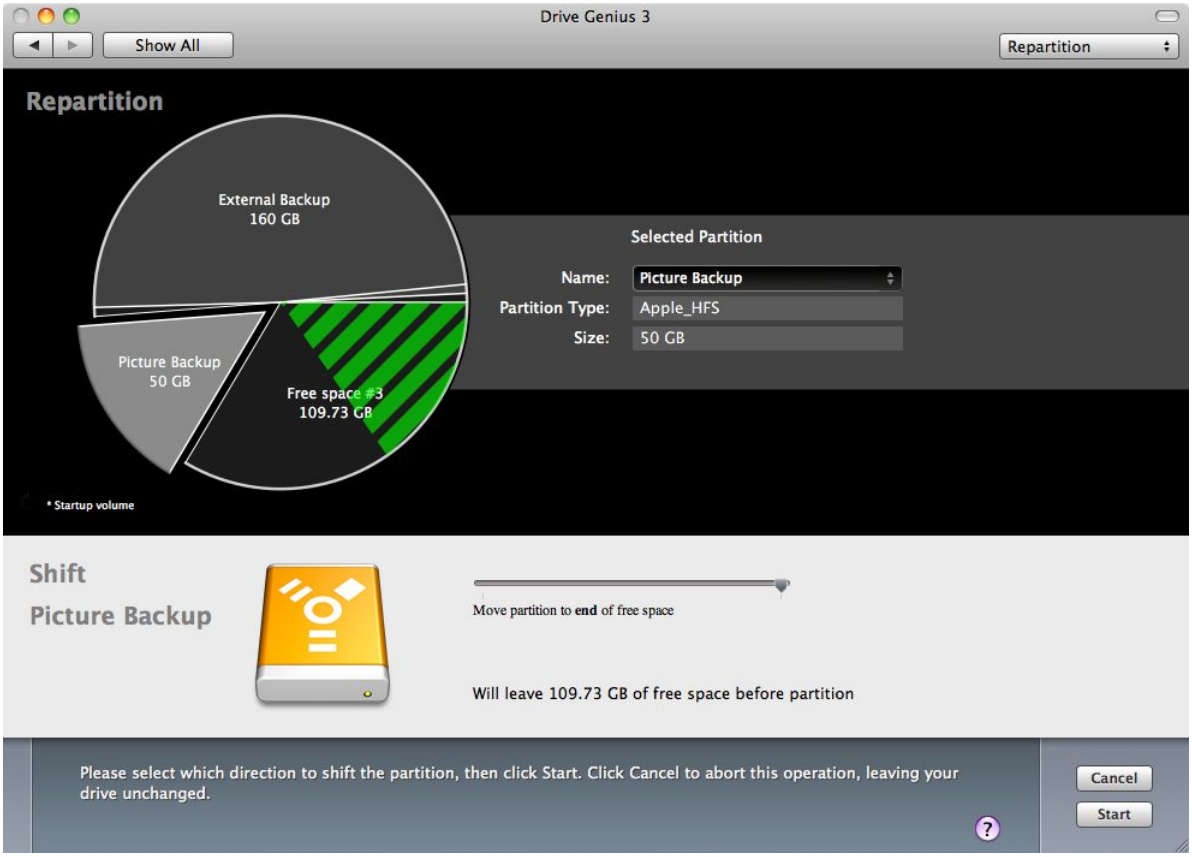
Selecting a volume to expand

► ► ***To Expand your volume:***

1. *Select the partition you would like to expand from the Pie Chart.*
2. *Click on the **Resize** button.*
3. *Move the slider to the right to increase the size of the partition, or type in a larger new size of the volume and press Enter to set the value.*
4. *Click on **Start** to resize the volume.*
5. *After the resize is complete, the selected partition will be larger in size.*

15.1.3 Shifting Volumes

Drive Genius 3 allows you to shift partitions (volumes) without requiring you to erase the volume. Partitions can be moved clockwise and counter clockwise on the drive allowing you to combine free spaces into one. When you shift a partition, the partition's data is unaffected. The free space adjacent to the partition will determine how far forward or backward you can move the partition. If there is no free space adjacent to it, the partition cannot be moved. Additionally, you cannot move an Apple_Free Space partition.

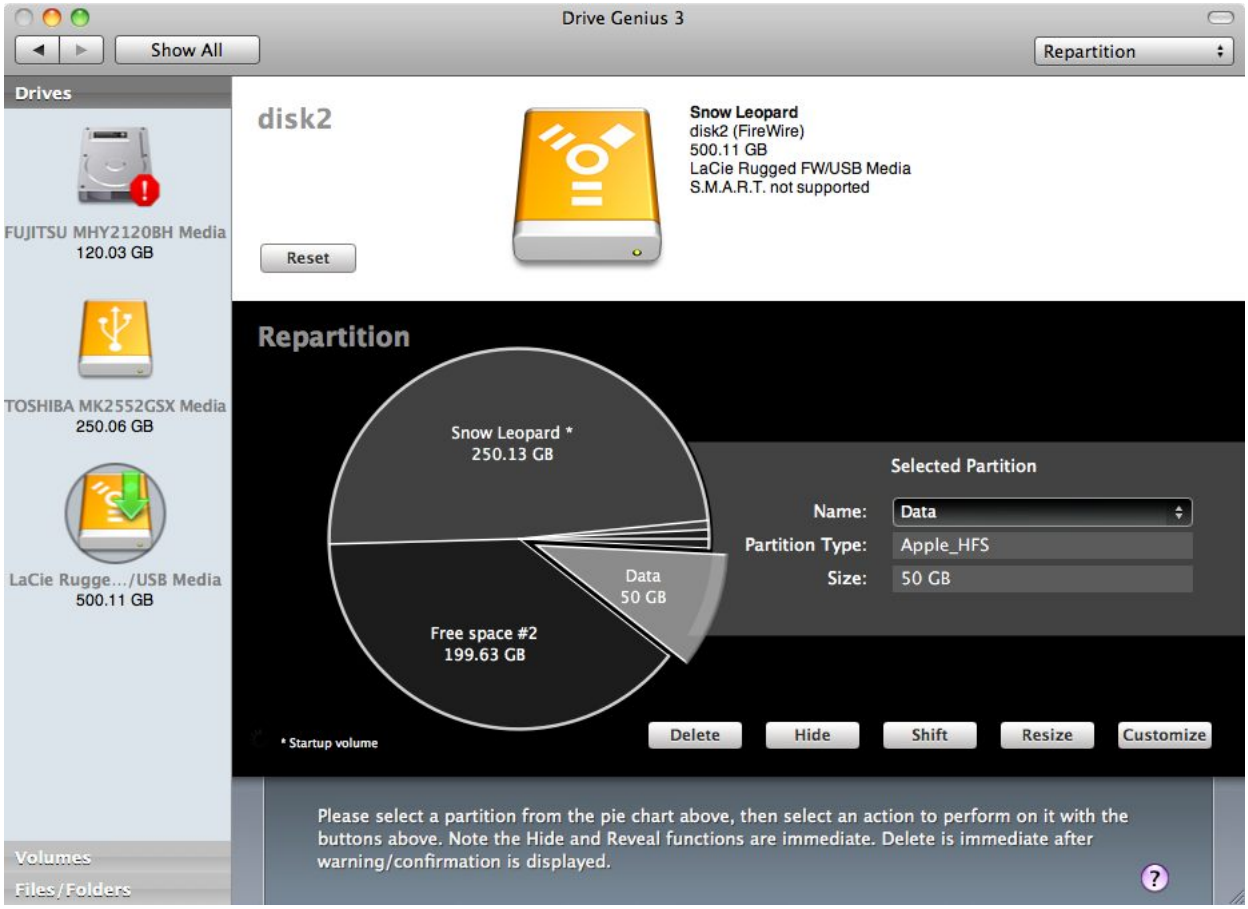


Choosing direction to shift partition

The shift window will display the selected partition and the location to where the partition will be moved, indicated by the green highlight on the Pie Chart.

► ► ***To Shift your volume:***

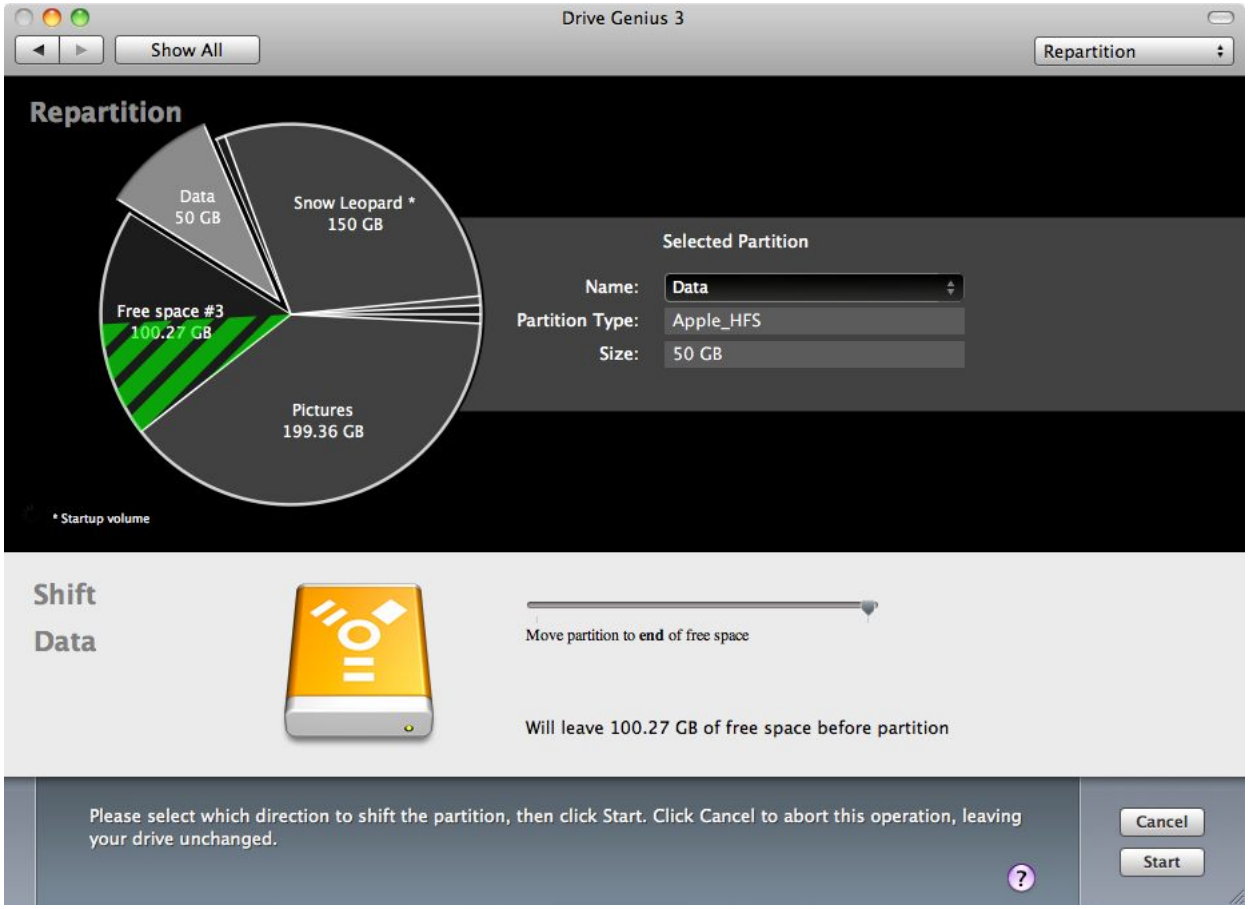
1. *Select the partition you would like to shift from the Pie Chart.*
2. *Click on the **Shift** button.*
3. *Choose the direction you would like to shift the partition.*
4. *Click on the **Start** button to proceed.*



After the Shift

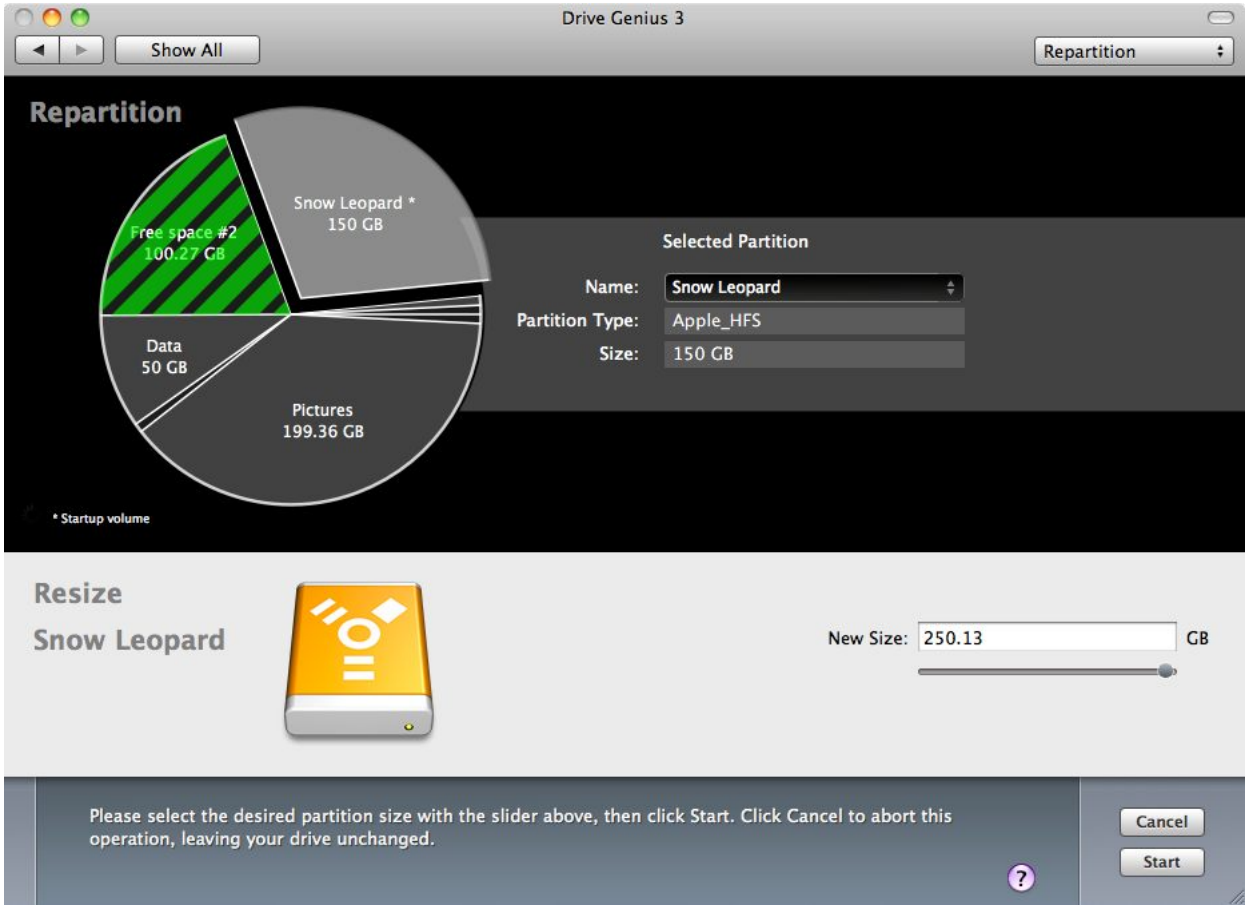
15.1.4 Using Partition Shifting Before Expanding a Volume

To expand a volume in the Repartition pie chart, you will need to have free space adjacent (counterclockwise) to the volume you want to expand. You cannot expand a volume if there is no Apple Free_Space counterclockwise to it. If the Apple Free_Space is clockwise to the volumes you want to expand, you will need to shift the volume before expanding the volume.



The second partition needs to be shifted

As an example: To expand the Snow Leopard (150GB) volume, the Data (50GB) volume will need to be shifted counterclockwise; this will move the 100.27GB of Free Space adjacent to the Snow Leopard volume. To do this, select the Data (50GB) partition, click the **Shift** button, and click the **Start** button.



Free space may be used for expanding the adjacent partition

When the shift is completed, the free space may now be used for the Snow Leopard partition.

15.2 Creating and Deleting Volumes

Drive Genius 3 allows you to create or destroy a volume on your hard drive. The Delete tool deletes a volume and destroys all its data. This partition will be marked as free space until you create a new volume or expand an existing volume.

Once the volume is deleted, the data will not be available for further use. If you have important data on the volume, back up the data before deleting the volume.

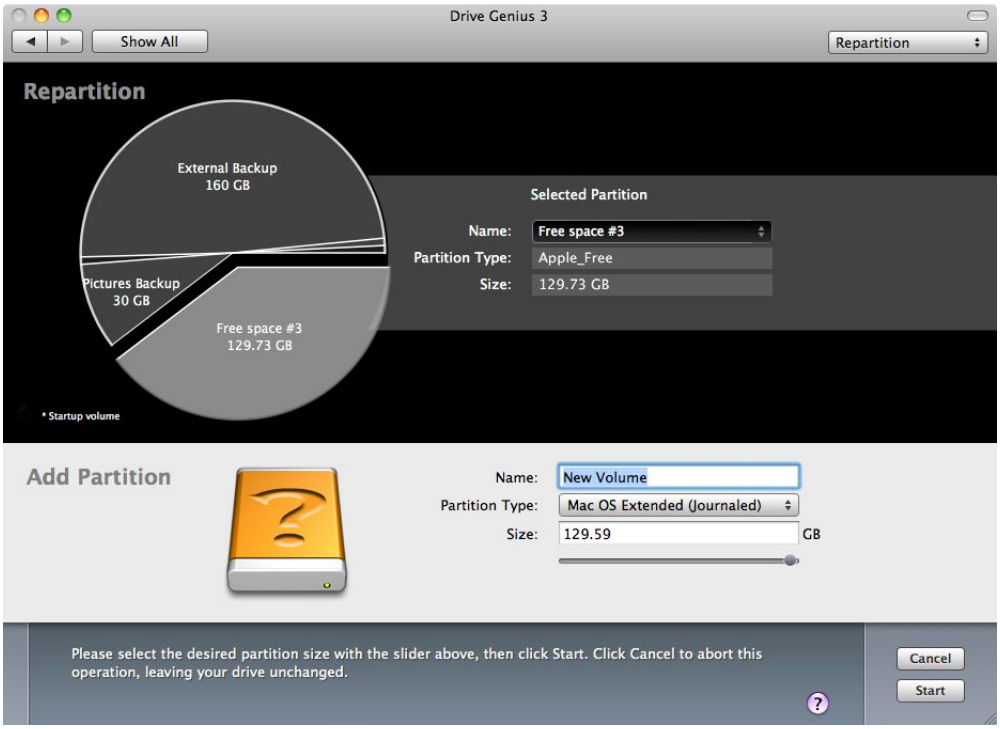
► ► ***To Delete a volume:***

1. *Select the partition you would like to delete from the Pie Chart.*
2. *Click on the **Delete** button.*
3. *A confirmation prompt will appear. Click on **Delete Volume** to remove the volume from the drive. To cancel the delete process, click on the **Cancel** button.*

The Add tool will add a partition by using the free space on the hard drive.

► ► ***To Add a volume:***

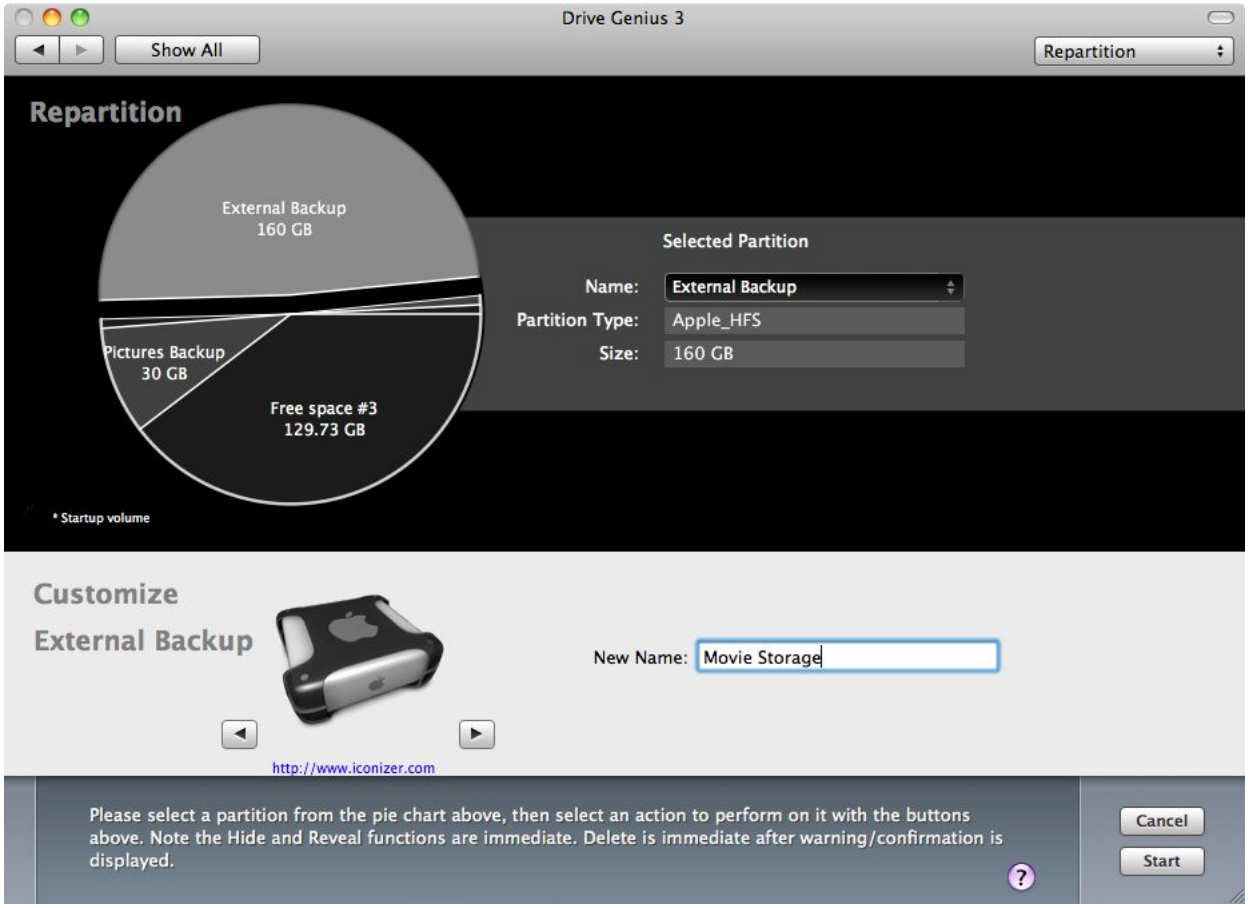
1. *Select the free space portion of the Pie Chart.*
2. *Click on the **Add** button.*
3. *Enter a Name and choose a size for the volume by dragging the slider or typing in a size of the volume and press the Enter key to set the value.*
4. *Click on the **Start** button.*
5. *After the Add is complete, the volume will be shown in the Pie Chart.*



Add Partition Window

15.3 Customize

The **Customize** tool allows you to rename the volume and set a custom icon on your volume icon.



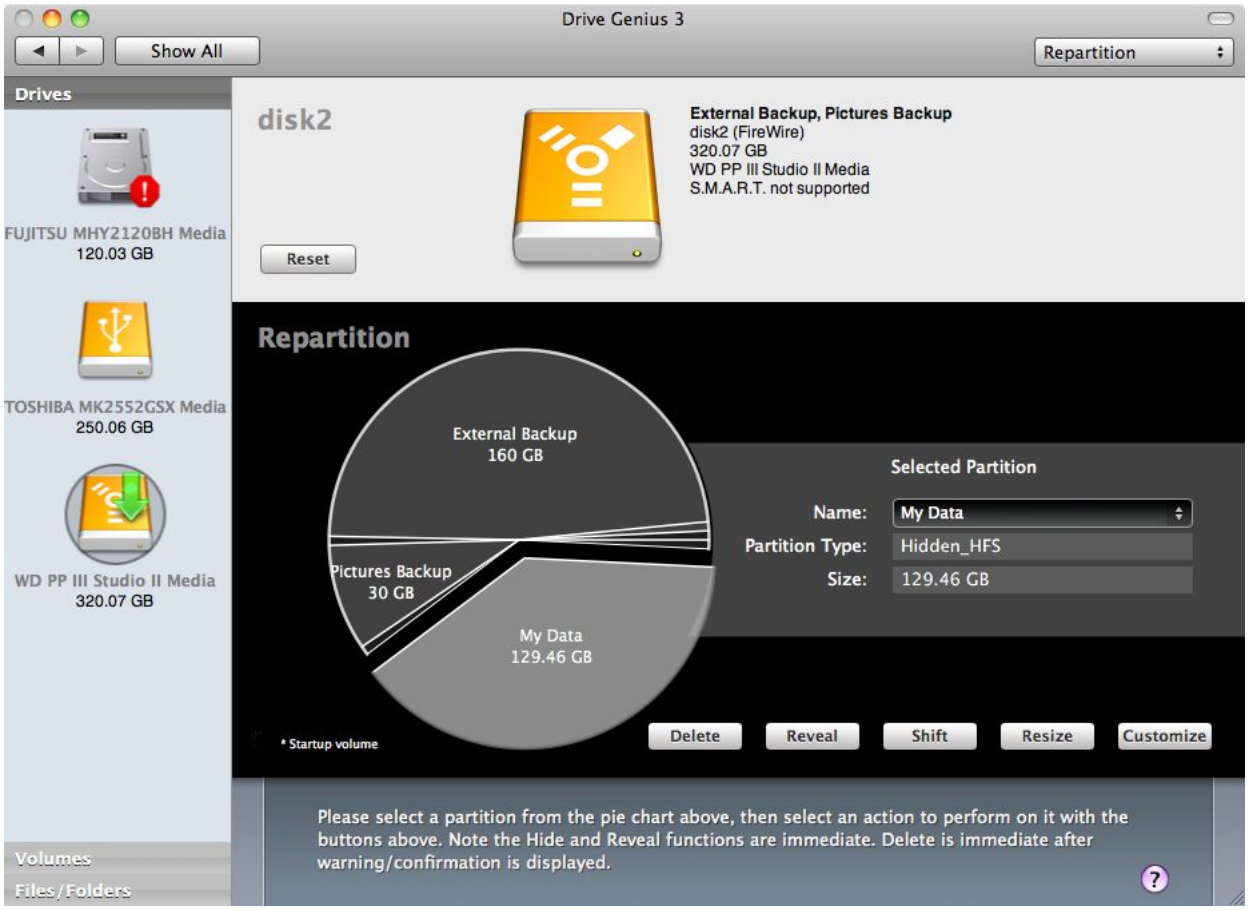
Customize Window

► ► ***To Customize a volume:***

1. *Select the partition you would like to customize from the Pie Chart.*
2. *Click on the **Customize** button.*
3. *Choose a new icon to apply to volume. Click on the left or right arrow to cycle through the available icons.*
4. *Enter a new name into the Name field to change the volume name.*
5. *Click on the **Start** button.*

15.4 Hiding and Reveling Volumes

You can use Drive Genius 3 to hide and reveal volumes on your hard drive. The Hide volume operation allows you to secure volumes against unwanted user access by changing the partition type to a Hidden_HFS. Hidden volumes will not be visible under normal circumstances and will not mount automatically.



Volume hidden by Repartition

►► ***To Hide a volume:***

1. *Select the volume you want to hide on the Pie Chart.*
2. *Click on the **Hide** button. The Partition Type will change to Hidden_HFS, keeping the volume hidden the next time the hard drive mounts.*

►► ***To Reveal a volume:***

1. *Select the hidden volume you want to reveal on the Pie Chart.*
2. *Click on the **Reveal** button. The Partition Type will change to Apple_HFS, revealing the volume the next time the hard drive mounts.*

16 Drive Genius 3 Menu

This chapter discusses the available options from the Drive Genius 3 toolbar located at the top of the screen.

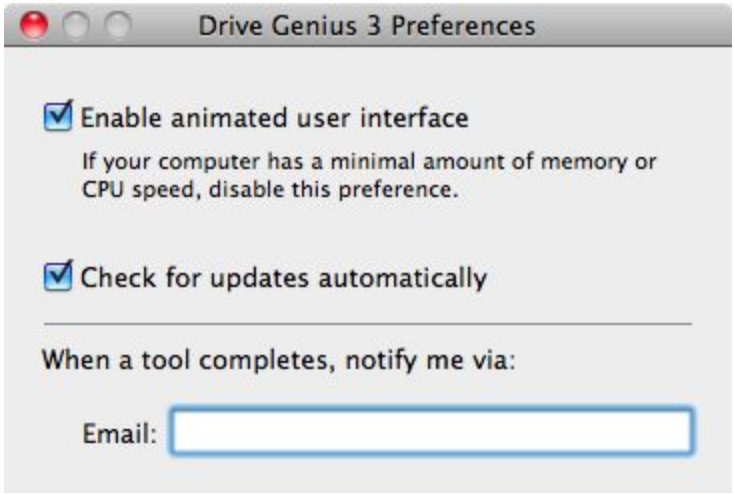
16.1 Preferences

***Enable animated user interface**:* The interface is an alternative to view Drive Genius 3 features on your hard drive. Animated mode provides the same features and performance as Drive Genius 3's non-animated interface. Systems that do not meet Drive Genius 3's animation requirements will default to non-animated mode.

***Check for updates automatically**:* Enabling this option will have Drive Genius 3 inform you of any updates and download the latest version at the application's startup

***Email Notifications**:* Including an email address in the provided field will send an email to the specified address when a feature in Drive Genius 3 has completed. More than one email address can be included by using the comma (,) to separate addresses.

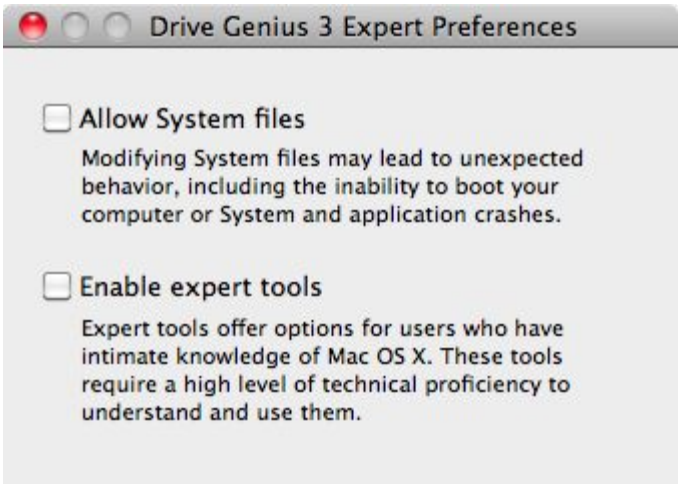
Drive Genius 3 sends emails using the default email application. Apple's Mail, Microsoft Entourage, and Stickshift Software's Mailsmith are supported; if one of these is not the default email application, Drive Genius will attempt to use Apple's Mail application. Your email application must be configured correctly for emails to be sent. Email notifications are only sent if the computer is idle.



Preferences Window

16.2 Expert Preferences

Drive Genius 3 has additional features intended specifically for expert users who are familiar with their system. Holding the **Control** and **Option** keys while selecting **Preferences** will change the selection to **Expert Preferences**.



Expert Preferences Window

Allowing System files: Enabling this option allows Drive Genius 3 to search or modify system files on a hard drive. This option applies to the Shred, Sector Edit, and DriveSlim™ features.

Allow System Files should only be enabled by expert users that are familiar with the operating system's files. Modifying or deleting system files may cause unexpected behavior, such as inability to startup your computer or system and application crashes.

Enable expert tools: Enabling this option allows DriveSlim's Orphan File search.

16.3 Uninstall

To completely remove Drive Genius 3 and its utilities from your hard disk, click on **Uninstall** from the Drive Genius 3 menu. A prompt will appear to confirm you want to uninstall the application and will require administrator authentication to complete the process:

Uninstall: Drive Genius 3 will remove only its support files from the operating system, but will leave the application and registration in its folders for future references.

Uninstall All: Drive Genius 3 will remove all its files, including the support files, registration files and move the application to the trash can.

Uninstall Confirmation

17 Questions and Answers

Q. DriveSlim™ is showing me a lot of files to delete. What files do I select?

A. Users should only delete files they are familiar with and are not using (files they know can be safely deleted). If you see any files that you believe may be System related, it is best to leave those files on your system. DriveSlim™ will show all files on your drive according to the options you have selected. It is the responsibility of the user to determine which files he/she can delete safely.

Q. After running DriveSlim™ and archiving the files I marked, I have not seen the amount of drive space freed up that I was expecting. What happened to my space?

A. By archiving, we are moving the files onto a compressed disk image (dmg). To completely free the space on your drive, you may move this disk image onto an external hard drive (or DVD if the space allows).

Q. Do I have to be restarted from an alternate drive to use DriveSlim™?

A. No. Since DriveSlim™ does not need to unmount the hard drive, you may run DriveSlim™ directly from your desktop by installing the Drive Genius 3 Applications folder.

Q. Why can't I run Repartition, Duplicate or Repair when launching Drive Genius 3 from my hard drive?

A. In order for Drive Genius 3 to run certain operations, Drive Genius 3 must unmount the drive. Since the operating system is in use by the volume, Drive Genius 3 will not be able to unmount the volume. This requires you to startup from one of the alternate startup methods outlined in section 2.1 of this user guide.. Installing Drive Genius on your internal startup hard drive will allow you to work on any connected external hard drives, but you will need to startup from an alternate startup drive to work on your internal startup volume.

Q. Will Drive Genius 3 work with RAID drives?

A. Drive Genius 3 introduces support for hardware based RAID and Apple software RAID. Software RAID support is limited; the physical drives belonging to the RAID set cannot be used with most tools. The logical RAID volume though is fully supported by all tools. Please note that SoftRAID is **not** supported.

Q. Does Drive Genius 3 work with Bootcamp?

A. Drives formatted with Bootcamp now have limited support by Repartition in Drive Genius 3. Drive Genius 3 is capable of shifting Windows Bootcamp partitions, but cannot resize the Windows Bootcamp partition. This limited support for Bootcamp is intended to help utilize the available free space after duplicating hard drives with Bootcamp partitions onto larger hard drives.

Q. Does Drive Genius 3 work with ExFAT/FAT32/NTFS formatted hard drives?

A. Drive Genius 3 provides limited support for FAT32, ExFAT and NTFS formats.

Q. Should the sleep mode be disabled prior to running Duplicate or Defrag?

A. Drive Genius 3 prevents the hard drive from automatically sleeping while a tool is running. Although the display may naturally turn off during a long process, the hard drive is never put to sleep while a tool is in progress. If the display goes to sleep, simply move the mouse to wake up the monitor.

Q. Can Drive Genius 3 copy the active startup volume/device to another hard drive?

A. No, Drive Genius 3 requires the source and the target volume to be unmounted before proceeding with the duplication. Use one of the alternate startup methods outlined in section 2.1 to copy your main drive.

Q. Does the target volume/device have to be larger than the source volume/device?

A. Yes, the target volume has to be the same size or larger than the source volume for a Duplicate.

Q. Will Drive Genius 3 report a problem during a Duplicate if the source volume/device is corrupted?

A. No. Since Drive Genius 3 uses a bit-by-bit copy, every problem will be copied over without regard for the errors on the hard drive. This will result with a direct copy of the original hard drive. If the source hard drive is failing to mount/startup, the destination hard drive will also result with the same issues. This is ideal for creating a copy of a device for the purpose of troubleshooting, such as using Data Rescue 3 to scan for data from the duplicated device.

Q. I am trying to resize a volume on the startup disk, and Drive Genius 3 gives an error with the message “Unable to unmount”. What gives?

A. In order to modify a volume on the startup disk, you will need to startup from one of the alternate startup methods outlined in section 2.1 to perform the resize.

Q. I have two partitions with data on my drive. Can I merge them into one partition?

A. Drive Genius 3 cannot merge two volumes together. We are looking to adding this feature in a future version.

Q. Does Drive Genius 3's partitioning without erasing feature' mean I do not need to backup my data?

A. Changing information on a volume involves some risk. Drive Genius 3 endeavors to ensure that that there is no possibility of data corruption during the resizing process. No

safety system can beat the security of having a backup.

Q. If I hide a partition using Drive Genius 3, is the partition secure?

A. No, the partition can be made visible again by using Drive Genius 3. The hidden mode is designed as a simple/convenient way to hide your data from prying eyes.

Q. What is the largest volume size I can resize to?

A. Volumes formatted with Mac OS X default settings can be resized up to 16TiB.

Q. I notice there are a few tiny partitions created on my hard drive when I ran Drive Genius 3's partitioning feature. What are they for? What can I do with them?

A. The small partitions were created by Apple (OS 10.3 or higher). Disk Utility leaves gaps of 128MB between partitions both in front and behind the space used by the volumes. Drive Genius 3 exposes these tiny volumes when it works on the partition map.

Q. How do I get the latest startup DVD for Drive Genius 3?

A. The DVD may be created by downloading the latest startup DVD image from our website. After downloading the startup disk image, open Apple's Disk Utility, located in the */Applications/Utilities/* folder. Click on the “Burn” icon (or select “Image->Burn” from the toolbar menu) and select the downloaded disk image. Insert a blank DVD-R and click on the “Burn” button. Once the DVD is created and ejected, use a permanent marker to write “Drive Genius 3” and version number on the DVD.

Q. Do I need to enter in my serial number each time I startup from the DVD?

A. No. After installing the Drive Genius 3 application into your Applications folder and activating the product on your desktop, the DVD will no longer ask you for your serial number when you startup from it. Drive Genius 3 will skip the serial number entry if an attached hard drive is mounted that contains the registered preference file for Drive Genius 3 on that machine.

Q. I need technical support help, what should I do?

http://prosoftengineering.com/contact_us.php

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