



# Take good care of your hard drive

I'm making my annual plea for all of you to take care of hard drive maintenance. It's not uncommon for me to respond to three to five hard drive crashes in a week during the winter. Maybe it's static or perhaps it's just all the extra work your machines do during the fall of the year. I know of one newspaper that has an aquarium and humidifier at their office to combat the static.

Drives get old and wear out just like any mechanical device. Most last from five to seven years. You can keep your hard drive running longer by performing regular maintenance and, as always, backing up often.

To keep Macintosh hard drives at peak performance, your best bet is to run a third party utility such as Norton Utilities, Tech Tool Pro or Disk Warrior. These utilities work best when started from the disk. To purchase the utilities or for more information, check their Web sites at [www.wymantec.com/nu/nu\\_mac](http://www.wymantec.com/nu/nu_mac) (Norton), [www.micromat.com](http://www.micromat.com) (Tech Tool Pro) and [www.alsoft.com/DiskWarrior/](http://www.alsoft.com/DiskWarrior/).

For Windows machines use system tools, such as disk cleanup and disk defragmenter.

Another good utility that you may recall from older OS versions is the OSX Disk Utility, which is somewhat like an upgrade to Disk First Aid.

User permissions associated with files or applications occasionally become damaged, which can prevent a file or application from opening. This problem can also cause the computer to run slow. If you have either of these problems, try using Disk Utility to repair permissions on the startup disk.

System crashes, power interruptions and third party application installers can all contribute to disk permission problems.

Repairing permissions on the startup disk or volume helps keep file permissions in order on the disk. If your computer's performance has slowed down, repairing disk permissions may solve the problem. Using the Disk Utility to repair permissions is also a good maintenance task after updating the system or installing new software.

Many of you have asked me to explain disk permission. It's something everyone using an OSX network environment is going to have to learn so here's an explanation.

The Mac OSX Finder can be used to see permissions settings for some files and folders. To locate your login, look in system permissions under accounts. This can aid in troubleshooting permissions-related issues. However, you can only change permissions for files and folders that you 'own.' To view and change permissions in the Info window, follow these steps:

1. Select a file or folder in the Finder.
2. From the File menu, choose 'Show'.



computer notes  
from the road

by WILMA MELOT

3. Choose 'Privileges' from the pop-up menu in the Info window.
4. Using the pop-up menus, change permissions settings as necessary.
5. *Optional:* If you are changing permissions for a folder and want the changes to apply to enclosed folders as well, click 'Apply'. Apply only appears when you show info for folders. Changes made using the Info window take effect as soon as they are made.

Those of you working over a network who want others to be able to read and write shared files need to make sure your shared folder has 'Read & Write' showing under the group access. Click 'Apply' to enclosed items and say 'yes' to the warning. This gives all files in the folder 'Read & Write' permission.

Following is information for techies who want to know how this really works. This is information only. Don't alter your folders. Most things you install in Mac OSX are installed from package files (file name extension is ".pkg"). Each time something is installed from a ".pkg" file, a "Bill of Materials" file (file name extension is ".bom") is stored on the hard drive. For example, if you look in the Receipts folder, you should

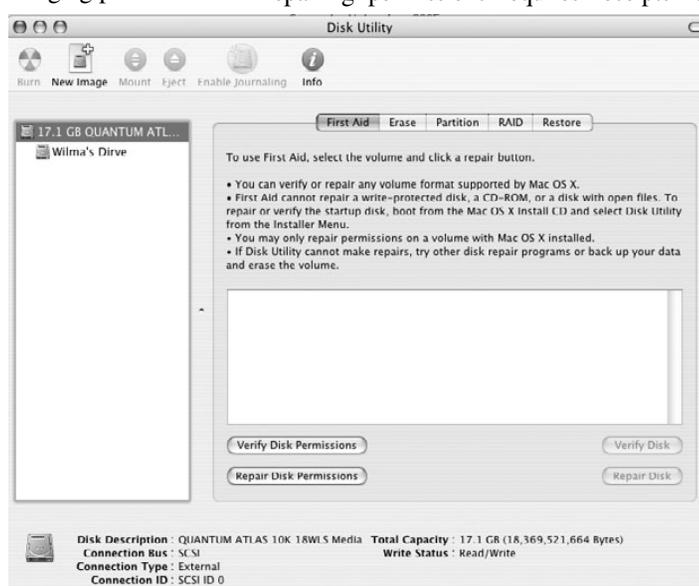
see all kinds of files that end with .pkg, including some that were created when Mac OSX was installed (such as BaseSystem.pkg). Don't trash these small files.

Each ".bom" file contains a list of the files installed by that package, and the proper permissions for each file. When you use Disk Utility to verify or repair disk permissions, it reviews each of the

".bom" files in /Library/Receipts/ and compares its list to the actual permissions on each file listed. If the permissions differ, Disk Utility reports the difference (and corrects them if you use the Repair feature).

Files that aren't installed as part of an installer package are not listed in a receipt and therefore are not checked. For example, if you install an application using a non-Apple installer application, or by copying it from a disk image, network volume or other disk rather than installing it via Installer, a receipt file isn't created. This is normal. Also, certain files whose permissions can be changed during normal usage without affecting their function are intentionally not checked.

If you have modified the contents of the folder "/Library/Receipts," the Repair Permissions feature won't work as expected. Repairing permissions requires receipts for



Apple-installed software. Additionally, the utilities only repair Apple-installed software and folders (which does not include users' home folders).

Steps for using Disk Utility

1. Insert your Mac OSX CD-ROM disk or Restore DVD disk, then restart the computer while holding the 'C' key.
2. Once started up from CD or DVD, choose Disk Utility from the Installer menu.

**Do not click Continue in the first screen of the Installer.** If you do, you must restart from disk to access Disk Utility.

3. Click the First Aid tab.
4. Click the disclosure triangle to the left of the hard drive icon to display the names of your hard disk volumes and partitions.
5. Select your Mac OSX volume, if necessary.
6. Click Repair.

Disk Utility checks the disk.

Always start up from the disk to use Disk Utility. Otherwise, you might see some disk error messages.

If the Verify and Repair buttons are dimmed in the Disk Utility window, make sure you have selected a volume to check.

Good luck with your drives.

# plugged IN

## Apple creates a new Mac



Steve Jobs speaks and a new Macintosh computer is born. The new Mac Mini retails for \$499, but it's not a cheap computer. Apple engineers designed this small wonder from the ground up to deliver the most Mac for the least dinero. There's not an inch of wasted space in this petite two-inch tall, 6.5-inch square anodized aluminum enclosure. The Mac Mini comes standard with:

- 256MB DDR333 SDRAM - 1 DIMM
- 40GB Ultra ATA Drive
- Combo Drive
- 56K v.92 Modem
- Mac OS X v10.3 Panther
- 1.25GHz PowerPC G4
- 2 USB Ports
- 1 Fire Wire Port
- Ethernet Built-in



Just add a monitor to this newly released model and you're ready to go.

Other features of the Mini include an adapter for older monitors, a DVI to Video Adapter, upgradeable memory to 1GB, and Apple's standard iLife software.

The Mini fits anywhere and comes ready for wireless.

It supports nearly every digital camera and most newer scanners will hook up without installing software. Apple has really gone a long way to make sure the driver you want is already installed.

The Mini uses a G4 chip that boots in OS9 as well as OS X. It doesn't have the new 64-bit architecture of the G5.

Mac Mini ships without a keyboard or mouse. You can order a keyboard and mouse from Apple for \$58 or use an old keyboard and mouse from your last computer. By the way, the wireless keyboard from Apple is only \$99.

If I were going to make a prediction, I'd say I'll probably be seeing this machine on many of your desktops.

Take a look at the Mini if you're wanting to upgrade but, remember, it's not as long-term a machine as the G5. Think it over carefully before you jump on the Mini wagon.