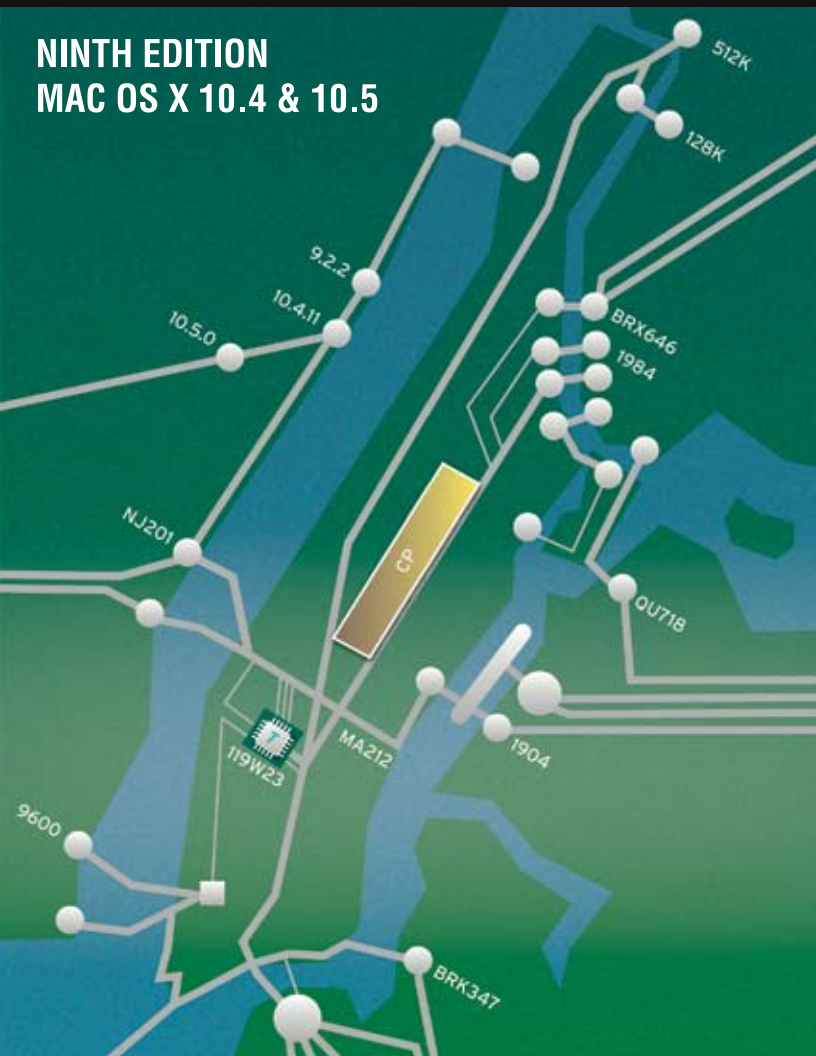


TEKSERVE Mac FAQ

NINTH EDITION
MAC OS X 10.4 & 10.5



David Lerner, Aaron Freimark, and Jazmin Hupp

The Tekserve Mac FAQ

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9th Edition

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Printed in Canada.

Published by Tekserve Corporation 119 W. 23rd St, New York City, NY.

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Graphic Design: Shirari Industries

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The Tekserve Mac FAQ

Introduction

The first Tekserve Mac FAQ was published in 1998 with 25 pages on floppy disk drive repairs, SCSI woes, and Apple bombs. Over the last 11 years, the technology has changed but most of our basic advice hasn't. We're still teaching customers how to back up their computers (page 23), what to do if liquid is spilled on their laptops (page 9), and how to troubleshoot slow applications (page 20). Although these are timeless lessons of computer ownership, we'll be the first to admit that computers have gotten a lot more complicated since we started.

Our advice for Mac users has grown tremendously, as we've expanded to serve the thousands of customers who visit us every week. With 200 employees, we have specialists in every field from Pro Tools to iPod accessories, and a huge knowledge base. In 1998, our 128kbps ISDN connection was something to brag about. Today, the Internet is the first resource we check when something goes wrong with our gadgets.

In the interest of saving more than a few trees, only the first part of our advice has been printed in this edition. More answers to customer questions are available on our website at www.tekserve.com/faq. There, you'll find hundreds of additional questions about getting the most out of your Mac or iPod's battery, sharing files with Windows users, using Windows on your Mac, printer troubleshooting, avoiding Spam, recognizing viruses, and much more. You can also download the previous eight editions, with our advice for earlier operating systems (Mac OS 8 to Mac OS X 10.3) and older machines.

This print edition covers the basics of caring for your Mac and how to troubleshoot anything that would prevent you from going online to find an answer on www.tekserve.com/faq. We start with

Where Do I Go For Help? on page 3 and **When Should I Bring my Computer to Tekserve?** on page 5.

The next few sections deal with problems you may encounter, starting with the most critical (**I Can't Start My Mac** on page 10), the simply serious (**Crashes, Freezes and Kernel Panics** on page 17), and the just frustrating (**Annoyances** on page 19).

Next we cover a few major Mac ownership tasks with **Get Ahead By Backing Up** on page 23, **Mac OS X – Upgrading and Reinstalling** on page 36, and dealing with **Passwords** on page 41.

Finally we cover the last two topics that might prevent you from accessing our FAQ online with **A Full Hard Drive is an Unhappy Hard Drive** on page 44, and **Getting Online and AirPort** on page 46.

We cover the most common questions from new and experienced Mac users, but you might have one to add to future versions of this guide. If you think the answer to your question might be useful to other Mac users, please send your suggestion to faq@tekserve.com.

Where Do I Go for Help?

What about Apple's own support?

Consumer Reports consistently rates Apple as having the best support in the business. One place you can see that is at their website, www.apple.com/support. There is a wealth of good and accessible information, and you can drill pretty deep. (But they know to start simple.)

What if the Apple website didn't help?

Most new Apple products come with a one-year hardware warranty, and 90 days of free telephone support. AppleCare for computers and displays extends the phone support and hardware coverage to three years from the purchase date. iPods come with only a single support call during the first 90 days, and there's a \$30 shipping and handling fee for hardware repairs after six months. AppleCare extends your iPod support and hardware coverage to two years from

the purchase date (with no shipping and handling fee). If you are entitled to phone support, call (800) APL-CARE, aka (800) 275-2273. Did we mention that you must buy the AppleCare before the original warranty expires, and that Tekserve provides a discount on AppleCare?

How do I check my Apple warranty or AppleCare coverage?

Visit www.apple.com/support/oss/ with your product's serial number. If you aren't sure how to find your serial number, search for article HT1349 at www.apple.com/support.

HOW TO ACCESS APPLE SUPPORT ARTICLES

Throughout this book, we'll refer to Apple support articles by their six-digit code (e.g. HT1349). To read any article, visit www.apple.com and enter the code into the support search field. The correct article should be one of the first search results.

Apple couldn't help, or said it was a "third party" issue. Now what?

If it is a "third-party" issue, try to contact the manufacturer or publisher of the item or check their website. If that doesn't help, we always recommend Google. Type the whole question into the Google search box. We do find complete nonsense on the Internet, so raise your shields!

Does Tekserve offer telephone support?

We haven't found a way to provide great phone support, so we don't offer it. Sorry. If you call, we're probably going to tell you to bring it in for us to check it out in person.

How do I get someone to come to my office or home to help me with the problem?

Tekserve offers on-site Professional Services. Call us at (212) 929-3645.

When Should I Bring My Computer to Tekserve?

Most repairs fall into one of two categories:

Software Repairs

Software repairs are required when a program, data, or your operating system is having a problem. These repairs are usually not covered under warranty and can often be solved at home. Try calling AppleCare at (800) 275-2273 if you've purchased it for your computer, or try checking Tekserve's support database at www.tekserve.com/faq to solve your problem first. If the problem is with a specific application, check the manufacturer's website for software updates or support. If those resources can't solve your problem, back up your computer and bring it into Tekserve. Or you may also call our Professional Services group to schedule a Tekserve engineer to visit you.

Hardware Repairs

If your computer is having an electrical, mechanical, or physical problem we can give you a free quote for the best solution. If the computer and its problem are covered by Apple Warranty, an Apple Repair Extension, or AppleCare; Apple will pay for the repair. Even if your computer is out of warranty, we can get it up and running again (or advise you if it might be time to move on to a new one). We'll do our best to get you in and out in 30 to 45 minutes. It can take longer on weekdays after 5 p.m. and weekends.

What should I do before I bring my computer in for repair?

- Make notes about the problem(s) you are having. When a problem occurs, write a note with the time, what you were doing on the computer, and exactly what happened (error messages, odd sounds, shut-down, etc.)
- Back up your computer (if you can). If you are unable to back up your computer, Tekserve can usually do so for an additional charge. Many failures and repairs don't affect the hard drive or your data, but without a backup you will not be able to access

your data until the repair is completed. See “How to Back up Your Computer Before a Repair” on page 28 for details.

- *(Optional)* If your computer’s password is confidential, change it (if you can). We will need to know your administrative password for many repairs, so you may want to temporarily change it. See “How can I change my system password?” on page 43 for instructions.
- Bring your power adapter with your portable computer, Apple display, or Mac mini. We don’t need any cables for other desktop Macs. Unless the problem you are experiencing is related to the mouse or keyboard, you don’t need to bring those with you.

How do I avoid activation problems with iTunes, Adobe Creative Suite, or Final Draft after the repair?

Before major repairs, you should deactivate any applications that required online activation when you installed them. If you forget, you may have to contact the software developer to reset your activations.

iTunes Store: Under the *Store* menu choose *Deauthorize Computer*. After the repair, choose *Authorize Computer* to play your iTunes Music Store purchases again. You can authorize up to five different computers at a time. If you forgot to deauthorize your computer before the repair, you can reset your authorizations once a year. See www.apple.com/support article HT1420 for details.

Adobe Creative Suite 2 or later: Go to the *Help* menu to deactivate any Adobe software that you have installed. Call Adobe at (800) 833-6687 if you have problems.

Final Draft: While connected to the Internet, choose *Deactivate* from the *Help* menu. Call (818) 789-6281 if you have problems.

Do I need to make an appointment?

No, you don’t need to make an appointment. Please come on by; we are open seven days a week. We suggest that you come at least half-

an-hour before our closing time. We do close (or shorten our hours) on a few holidays, you can check www.tekservice.com/about/hours for hours and directions.

How much do you charge for an estimate?

We will do an initial evaluation and give you an estimate for free. Of course, it is an ESTIMATE. A technician may need to revise the estimate when they get inside the Mac. Sometimes the repair turns out to cost less than we estimated.

Spills and accidental damage are the main reasons for having to give a revised estimate on a repair. So if we take apart your portable and find the food, smell the wine, or see the electrolytic corrosion, we'll have to call you back and give you a new estimate.

How long will the repair take?

This varies quite a bit. In general, if we can complete the repair within half-an-hour and we have the part in stock, we'll do it while you wait. If we are replacing a functioning hard drive with a larger one and transferring the data (or installing a new drive with no data transfer), we can do it in 24 hours (weekdays). Otherwise, we usually estimate three to five business days. We offer flat-rate computer rentals during a Tekserve repair; currently \$99 for a MacBook, \$199 for a MacBook Pro, \$299 for a Mac Pro, plus the cost of transferring data if you don't have a good backup.

What if the data is very important but I can't back up the computer?

Many failures and repairs don't affect the hard drive or the data, although you will not be able to access your data until the repair is done. If you were unable to back up the Mac yourself and need the data while we are fixing the computer, or just feel better having a backup, we can help. One of the services we offer is to remove the hard drive from a broken computer and backup the data, usually to an external hard drive.

What if the data is very important but Tekserve can't back up the computer?

Sometimes the problem is the hard drive itself, or the directory structures that allow data to be read from the drive. If you want the data on the computer, but there is a problem with the hard drive or the hard drive directory, we can perform a data recovery. We charge a flat rate, based on the size of the drive. If we fail to recover the data, even after many hours of effort, we will not charge you anything, unless you asked for rush service.

What if Tekserve can't recover my data?

We can coordinate sending your drive to DriveSavers. They are able to do more advanced, and more expensive, data recoveries in a "clean room" (which we don't have). They will give you a 20% discount and waive their \$200 evaluation fee based on our referral. We don't get a commission from them (but they've bought us dinner a few times). More to the point, in our experience they are very good at what they do.

My peripheral device isn't working. Can Tekserve help?

If it's a hard drive that's not working and the data is important, you may want to bring it to us right away. We can test whether the hard drive's enclosure or the hard drive itself has failed for a fee. (The testing fee can be applied towards a new hard drive enclosure or data recovery.)

For problems with printers, scanners, and other external widgets, we'd urge you to try to solve the problem yourself before schlepping it to us. The first step is usually to check the manufacturer's website for software or driver updates. The second step is to do a Google search on the problem you are having. We just type into the Google search box things like "Finjet 300 paper jam" or "R3660 problems." The third step is usually to call the manufacturer. These days most ink-jet printers aren't repaired when they fail; warranty repair usually means the manufacturer ships you a refurbished replacement. And sad to say, once the warranty is over, it's rarely economical to repair a \$50-\$300 printer or scanner. Although we can help with

connectivity problems, we don't do hardware repairs on printers, non-Apple monitors, or scanners. There are some websites full of information, like *www.fixyourownprinter.com*, but you can spend a lot of time and money and still end up with something that doesn't work, so just be careful.

My whole computer network is down. Can Tekserve help?

Yes, please call our Professional Services group at (212) 929-3645 to arrange an on-site visit.

Can I set up a corporate account to simplify service?

Yes, please talk to your Tekserve Account Manager, call us at (212) 929-3645, or email *sales@tekserve.com*.

Spills

I just spilled beer/tea/cough syrup on my keyboard (well, my cat threw up on it).

On a portable computer immediately do the following things:

- Immediately shut down the computer and unplug the power cord.
- Remove the computer's battery.
- Disconnect any peripherals (printers, iPods, scanners, cameras, etc.)
- Lay the computer upside down on paper towels to get as much liquid as possible to drip out.
- Note what was spilled on your computer.
- Bring the Mac into Tekserve as soon as possible.

Do not try to turn it back on. Liquids can help electrical current move about the components of your Mac in destructive ways. Don't shake the computer (this will only spread the liquid around). Finally, don't use a hair dryer on it (even at a low setting a hair dryer will

damage sensitive components). Liquid and spill damage is *not* covered by warranty or AppleCare (but may be covered by some insurance policies or credit cards). You can learn more about Tekserve's spill cleaning service at www.tekserve.com/service/spill.

If you've spilled on a desktop computer's keyboard, shut down the computer, unplug the keyboard, and turn it upside down. Wait a day or few for it to dry. It may all be okay now. If not, buy a new keyboard. (Former *Byte* columnist Jerry Pournelle says just to take it in the shower with you and rinse it thoroughly and then dry it for a few days, but he also believes in Star Wars missile defenses.) New Apple USB keyboards start at around \$49 and other brands are available for less.

I Can't Start My Mac

What if my computer won't wake from sleep?

Newer Macintosh portable computers may go into "deep sleep" mode and appear completely dead. Wake them up by momentarily pressing the power button (only press briefly, don't keep it held down).

I press the power button, and nothing happens.

More than we want to admit, the problem is something simple. Make sure the computer's power cable is plugged in, your keyboard and monitor are plugged in, your power strip or UPS is switched on, and the circuit breaker hasn't been tripped. An old tech support joke ends with the punch line, "Of course I can't read the manual—there's a blackout."

If you have a portable, reset the Power Manager (see "What is resetting the Power Manager?" on page 15). If you have a G4 Tower you may need to use the "Cuda" reset button on the logic board (to the right of the battery), particularly after a power loss.

If you are sure the outlet is good, the computer's power supply or logic board may have died. Bring in the computer for an evaluation.

I turn on my computer and see a blinking question mark or hear a series of musical notes or beeps (or what sounds like a car crash or broken glass), or I see the power LED blinking a repeating pattern, or get a picture of an unhappy Mac on the screen with some numbers under it.

Every time you start your Mac, it performs some self-diagnostics. With these signals, the Mac is telling that it failed to pass those diagnostics.

1. Turn everything off, and disconnect all external USB and FireWire devices (except your mouse, keyboard and monitor if applicable). Disconnect scanners, external hard drives, printers, and so on. Now that your external stuff is disconnected, start the Mac and see if the external devices caused the problem. If so, reconnect them one at a time to see when the problem returns.
2. A series of beeps on recent Macs can indicate a hardware problem, usually bad or incompatible RAM. On some computers, the power LED will flash as many times as the beeps, plus one, repeating the sequence every five seconds. Apple sometimes changes the definitions of beeps on new computers, so you may want to check Apple Knowledge Base article HT1547 (www.apple.com/support) for your specific computer. The current beep codes are:

1 beep	no RAM installed
2 beeps	incompatible RAM installed
3 beeps	RAM failed test
4 beeps	problem with the boot ROM on the logic board
5 beeps	processor is bad

If you recently added RAM to the computer, you may want to try removing it (if you are comfortable doing this and have the right anti-static equipment).

4. If you still get the sad Mac tones, your problems are more serious—memory, the logic board, the hard drive, or an add-on such as a PCI card. At this point, if you still have trouble, you should probably bring the computer in for service.

I turned on my computer and just see a little blinking prohibitory symbol (a “no smoking” sign without the cigarette) or a blinking folder and happy face.

This means your Mac can't find a disk with the proper software to start. There are a few things you can try, but these computers often wind up at Tekserve for data recovery.

First try to zap the PRAM: Hold down ⌘-Option-P-R while turning on the Mac. Keep holding those keys down until you hear the startup bong two or three times. Then press the “x” key, which will sometimes tell your Mac to start up from OS X.

If that doesn't work, try starting from the System Install disc, this is the first gray disc from the set that came with your Mac. (If the disc is immediately ejected, you may have a stuck button on your mouse or trackpad. Or perhaps it isn't really a startup disk and is lacking the software needed to start up your computer. Turn off the Mac, unplug the mouse, and then see if it starts okay from the disc or your hard disk.)

WARNING

In some instances, repair programs will make things worse. Please read the next section carefully.

-
1. With the System disc in your computer, restart the Mac while holding down the “c” key. Wait for the Installer to finish loading. But we are not going to install the system now, we are starting up from the disc so we can run Disk Utility.
 2. At the first Installer screen, look under the *Utilities* menu, and choose *Open Disk Utility...*

WARNING

Don't click *Erase*—that will wipe out everything on your drive.

-
3. If you see your startup disk on the left side of the Disk Utility window, you can try to repair it using Disk Utility. Choose your startup volume by name, then click *Repair Disk*.

4. When finished, quit Disk Utility. Then look in the *Utilities* menu, and choose *Startup Disk*. If you see your disk in the list, click it, and click the *Restart* button. If you still get a blinking icon, you might need to reinstall your system.

If your hard disk or volume didn't show up in Disk Utility, you can try using a utility like DiskWarrior. However, make sure the repair program is up to date and read the next question before using it.

Can I make things worse by doing repairs with TechTool, Disk Utility, DiskWarrior, or similar utilities?

Unfortunately, yes. In most instances, these programs are good tools that help solve problems. But “repairing” certain problems can leave you worse off than before—in some cases, even destroy a disk from which a professional could easily have recovered data. Basically, when your drive's directory is scrambled, anything that writes to the disk has the potential to do harm. Running TechTool Pro and some other utilities can actually write over the directory that it's fixing, so occasionally it does damage.

Running a data *recovery* utility such as Data Rescue should be fine, if you copy the recovered files to a different drive. If you recover the files onto the same damaged drive, you will be overwriting other data you wish to recover, compounding existing directory damage and making things worse. A few utilities offer to save an “Undo” file so that you can go backward, but we've seen them crash in the middle of a repair, and the Undo file itself was corrupted or incomplete.

You can also use DiskWarrior to recreate a disk directory, but don't rush to write the new directory to the disk. Instead, click the *Preview* button on DiskWarrior's last screen to mount the volume using the rebuilt directory and copy your files to another drive. Check the files thoroughly before you write the new directory or reformat the original drive.

If you are thoroughly backed up, you can use any repair utility with confidence. If you are not backed up and your data is essential to you, consider getting professional help. We're not trying to scare you

into always hiring us—we're trying to scare you into always making lots of backups!

When I start up my Mac it stays on a blue screen for hours and never shows me the desktop.

We've listed some of the best bets below.

1. If you use an Ethernet cable, unplug it and restart. If the Mac starts up you should carefully check your network preferences for incorrect information.
2. Unplug any external devices from your system.
3. Check for old and incompatible third-party startup items, preference panes, and login items. Perform a Safe Boot (see the next question), and look in the following places for items you may have previously installed. Drag the suspects to the desktop to disable them. If you are unsure, it is best to leave the item in place.

Type	Location
Preference Panes	<i>Macintosh HD/Library/PreferencePanes</i> <i>Macintosh HD/Users/myname/Library/PreferencePanes</i>
Startup Items	<i>Macintosh HD/Library/StartupItems</i> <i>Macintosh HD/Library/Launch Agents</i> <i>Macintosh HD/Library/LaunchDemons</i> <i>Macintosh HD/Users/myname/Library/LaunchAgents</i>
Login Items	Open System Preferences, then: Click <i>Accounts</i> , then <i>Login Items</i>

ABOUT FOLDERS AND SLASHES

We use the forward-slash character ‘/’ as shorthand to indicate folders on your Mac. This notation is called a *path* in Mac OS X. Each word between slashes is a folder name. Start in any Finder window, and click the name of your startup disk in the left pane (often *Macintosh HD*). Then open each folder in order. So for *Macintosh HD/Library/PreferencePanes*, open your startup disk, then open the folder *Library*, and then the folder *PreferencePanes*.

What is a “Safe Boot” and how do I use it?

Some applications start as soon as your Mac starts. On rare occasions, these may cause incompatibilities. We mostly see this issue after a system update.

If your Mac has trouble starting up, you can use Safe Boot to disable these additions and load only Apple-required extensions.

Make sure your Mac is shut down and then press the power button. After you hear the startup tone, immediately hold down the Shift key until you see the note “Safe Boot” on the startup screen. This can take several minutes, so you must be patient.

Not all functions are available in Safe Mode. To return to normal, restart without holding down any keys.

What is resetting the Power Manager (PMU) or System Management Controller (SMC)? When should I do it, and how?

The Power Manager (or Power Management Unit, abbreviated PMU) is used to control fans, heat sensors and startup on PowerPC-based Macs (G4 and G5). On Intel-based Macs this is called the System Management Controller (SMC). You should not arbitrarily reset the SMC or PMU. However, you may need to reset your SMC or PMU if you encounter one of the following symptoms.

1. Computer does not turn on when power button is pressed.
2. Portable computer does not sleep or wake correctly when lid is opened or closed.
3. Fans run on high when the system is not warm.

4. Battery is not charging when it should be.
5. LED on portable Mac's power adapter behaves incorrectly.
6. Display or keyboard backlight adjustment does not work properly. By default your screen brightness should change depending on the brightness of the light around you (unless you've turned that feature off in Display Preferences).

Here's how to reset the PMU or SMC on different Macs (search www.apple.com/support for "reset PMU" or "reset SMC" for the latest info with pictures):

Intel iMac and Mac Pro

If it's on, turn it off. Disconnect all peripherals and the power cord. Keep it unplugged for at least 15 seconds. Then plug it back in and restart.

MacBook, MacBook Pro, and PowerBook G4 (15-inch 1.67/1.5 GHz, 17-inch 1.67 GHz)

If it's on, turn it off. Disconnect the AC adapter and remove the battery. Press and hold the power button for five seconds, and then release. Reconnect the battery and AC adapter, then restart.

MacBook Air

If it's on, turn it off. Connect the power adapter to a working power source. Press the (left) Shift-Control-Option keys along with the power button once. (You must use the keys on the left side of the MacBook Air keyboard.) Wait 5 seconds and press the power button to start the MacBook Air.

PowerBook G4 (12-inch & 12-inch DVI, 1.33/1.5 GHz, 15-inch FireWire 800/1.33 GHz, and 17-inch 1.33/1.5 GHz)

If it's on, turn it off. Simultaneously press then release the keys Shift-Control-Option-power button. Do not press the fn (function) key using this combination. Wait at least five seconds, and press the power button to restart.

PowerBook G4 (15-inch DVI, 1 GHz, and 867 MHz)

If it's on, turn it off. Flip down the two keyboard latches located between the Esc and F1 keys, and the F11 and F12 keys. Lift the keyboard. Press and release the reset button located on the upper right side of the logic board near the power button. Wait at least five seconds, flip the keyboard back into place, and press the power button to restart the computer.

PowerBook G4 (FireWire and Gigabit Ethernet) and iBook (Dual USB and later)

If it's on, turn it off. Press the reset button next to the video port on the back or side of the computer. Wait at least five seconds and then press the power button to restart.

Crashes, Freezes, and Kernel Panics

My mouse and keyboard stopped working.

It may seem like your computer froze, but quite often it's the mouse or keyboard that stopped responding. If your mouse is plugged into a keyboard or hub, try connecting the mouse directly to the Mac and restarting. If you use a wireless mouse or keyboard, you may need to recharge or replace the batteries. If your wireless device uses Bluetooth to connect to your Mac, make sure you have Bluetooth turned on in your System Preferences and try to re-connect to the device.

NOTE

It is fine to plug in USB and FireWire devices when the computer is on. However, storage devices such as flash disks or hard drives should always be dismounted (drag the icon to the trash, which will turn into an *eject* icon) before you disconnect them.

Some keys on my keyboard are typing numbers, and others don't work at all.

You are probably using a portable computer, and have accidentally pushed the Num Lock function key (F6 on most portables). Push it again to regain your normal keyboard.

My number keys aren't working.

You may have accidentally activated “mouse keys” in the *Universal Access* preference pane. Open *System Preferences*, then *Universal Access*, then the *Mouse* tab, and turn off “Mouse Keys.”

My Mac froze up. Now what?

If it's a desktop Mac, first check if the mouse or keyboard got disconnected. We like to check that the caps lock key lights up when we press caps lock. If that works, then your keyboard is working; perhaps your mouse has a bad connection. Sometimes just unplugging and re-plugging the mouse will cause the Mac to “wake up.” If you're sure your mouse and keyboard are working then you can force-quit the program that froze.

⌘-Option-Escape will let you force-quit any program (the one that froze). You'll see a window that lets you select which application to force-quit. When you force-quit you lose all unsaved work in that particular program, but other open applications remain open and usable.

If these suggestions don't work, you've probably lost all your work since you last saved. Restart with the power switch or the reset button or press these three buttons together: ⌘-Control-Power On (on Macs without a reset button).

My screen just got all wonky with a message in English, French, German, and Japanese, and now nothing responds.

That's called a kernel panic. The kernel is the innermost level of the system software, responsible for controlling hardware like PCI cards, drives, video, networking, and memory. When the kernel receives instructions it doesn't expect, it may “panic” and freeze the com-

puter. Your only recourse is to reboot your computer by pressing the reset button, holding down the power button until it shuts off, or even pulling the power cable in extreme circumstances.

Kernel panics should be very rare. If they are frequent or repeatable, first check “kernel extensions” that are installed with PCI cards and USB hardware. Although they live in *Macintosh HD/System/Library/Extensions*, they are intricately connected with your system, and you shouldn’t just drag them in and out. Reinstall the latest updates to any third-party hardware you have—use the installers provided by the vendors. If you have unused drivers to old hardware still in your system, ask the publisher or developer for a removal utility.

Kernel panics can also indicate a bad RAM (memory) chip that needs replacing. Tekserve provides a lifetime warranty on all RAM that we sell. Bring in your Mac (not just the RAM) and we’ll test and swap the RAM if necessary.

If none of that works, you may have more serious hardware problems, such as a bad logic board or processor. Bring in your Mac for evaluation.

Annoyances

My trackpad is jumping around.

Brushing a second finger against the trackpad can cause this, but trackpads also respond to the capacitance of your finger and are affected by moisture. Try washing and drying your hands.

Recent portables feature a new trackpad that can recognize two or more fingers as a command for scrolling. Apple support article TA22966 says that you can, “Reset the trackpad by placing your entire palm directly onto the whole trackpad for 3 to 4 seconds, and then remove your hand from the trackpad in one smooth motion.”

My computer takes several minutes to start up.

If your computer pauses when the gray Apple appears with a spinning gear beneath, it is trying to repair the hard drive’s directory.

This usually occurs when the computer wasn't shut down properly. If this occurs regularly, read the question "Why does directory damage occur?" on page 24.

Make sure your Ethernet cable has a good connection, or try unplugging it entirely. Mac OS X doesn't need a network, but if one is present it needs to be working properly.

Unless you are on a corporate or educational network, you can safely delete the *Macintosh HD/Library/Preferences/DirectoryService* folder to see if that helps. (If you are on a large network, check with your network administrator to see if they advise against this procedure, as it will reset your connections to any master directory servers on your network.)

You may also have a problem with the disks, internal or external, connected to your Mac. Disconnect external drives, eject discs and try again. If the problem persists, it's a great time to back up your data. Then you can try Disk Utility (covered in the "I Can't Start My Mac" section on page 12). It's even possible that you have a hardware problem at this point.

My applications run really slowly.

The attractive interface of OS X comes at a price—every drop shadow, translucent menu, and spinning rainbow requires processing speed and memory (RAM) to run. We've also noticed that since OS X is so good at multitasking, users tend to run many applications at the same time. That, too, requires more memory.

You will probably never see an error in Mac OS X complaining that your Mac is out of memory. Instead, your system will begin using more and more of your hard disk as temporary RAM storage. This is called *paging out*, and it slows down your Mac considerably.

(To see for yourself, open Activity Monitor from *Applications/Utilities*. This shows every process running on your Mac, its usage of the CPU, memory, and virtual memory. At the bottom of the main window, select *System Memory*. Check that the number of *Page outs* isn't growing quickly over time.)

Here are some things to try to speed things up again:

1. Revise your expectations. A three-year-old iMac will never be as snappy as the latest Core 2 Duo.
2. Check the Dock frequently to see what is running (indicated by a small black triangle or blue ball next to the application's icon), and quit the applications you aren't using. Remember that closing an application's windows *does not* quit the application. To quit, click the application's icon in the Dock, open the application menu (named *Word*, *iTunes*, *Safari*, etc.) and choose *Quit Word* (*Quit iTunes*, *Quit Safari*, etc.) You can also hold down the application's icon in the Dock, and choose *Quit* in the small menu that pops up.
3. Always keep at least 10% of the storage space on your hard drive free. Too little empty space on your startup hard drive will slow a system to a snail's pace. (Most computers only have one hard drive, which is your startup drive. If your computer has multiple hard drives, the top one on your desktop is usually your startup drive.) To check the disk space, click once on the icon of your startup disk and choose *Get Info* from the *Finder* menu. Disk space used and available is shown under *General*. You may need to click the triangle next to *General* to reveal the information.
4. Add more RAM to your system. For Mac OS X 10.4 we recommend a minimum of 512 MB, but performance will be better with 1 GB. With OS X 10.5, we recommend a minimum of 1 GB, but prefer 2 GB. If you are doing any graphic design or video work, 2 GB of RAM is a minimum. If you bring your Mac to Tekserve, we'll help you decide how much RAM you need and we'll install it for you while you wait. Tekserve RAM is guaranteed for life.
5. Check Activity Monitor, and select the column header labeled "%CPU." The application or process using most of your system will be listed first. (Note: "mdimport" is the process to add data to Spotlight and "WindowServer" manages your Mac's graphical interface.)

The clock on my computer keeps going back to 1-1-1904, or 8-27-1956, or 1969 or 1970.

On some portable models, serious crashes (or pressing the reset button) can sometimes cause the clock to reset. The crashing may be a sign of a problem, but the clock changing is normal. If a portable computer's battery is completely discharged, the clock may also reset.

Older PowerBooks and Power Mac towers (before the G5) have an internal backup battery on the computer's logic board that may need to be replaced.

My computer was just repaired and now I can't play stuff I purchased on iTunes.

Log into your account by clicking on your email address in the iTunes store (or click the *Sign In* button). Under the *Store* menu choose *Authorize Computer*. You can authorize up to five different computers to play your iTunes purchases. Don't worry if you forgot to deauthorize your computer before the repair. You can reset your authorizations once a year. See Apple support article HT1420 for details.

If you lost the songs themselves, you're in trouble. We've heard that iTunes customer service may reset an iTunes account once in a lifetime to let you re-download your songs, but we've never had to do that.

I can't mount any disk images or I can't move applications in the Applications folder or I get errors in iPhoto.

Your hard disk drive's permissions may need to be repaired. While booted from your normal startup drive, open Disk Utility (in the Utilities folder, in the Applications folder). Click the name of your startup disk, and click *Repair Disk Permissions*.

What does Repair Disk Permissions do?

Every file, folder, and application on your hard drive has associated permissions that specify which users can read, write, or run that

file. For example, you can set up your computer so that your cat can't delete your dog's files. These complex permissions can become confused or corrupt, and even administrators can be prevented from opening applications.

When your system was first installed, and every time you install an application or update through an Apple Installer, a receipt is left on your system. This receipt (in *Macintosh HD/Library/Receipts*) lists what files were installed, where, and what the permissions were supposed to be. Programs that were installed by dragging the application directly to the Applications folder or using a non-Apple installer do not leave receipts.

The Repair Disk Permissions function reads all these receipts, and attempts to reset the files on your disk to match their state at installation. This can be quite useful.

Get Ahead by Backing Up

In this section we'll cover the basics of data backup, how to choose a backup strategy, how to back up before a repair, and how to use Time Machine.

The Basics of Data Backup

What is a backup?

A backup is a copy of your files on another storage device (another hard drive, CD or DVD, or even an on-line account).

Why should I back up?

Even the most reliable computer can fail or experience data corruption. Computers can be left in taxis, dropped, or damaged in fires. You could accidentally delete your baby pictures. A warranty may cover failure of computer hardware but there is no warranty protection for the operating system, applications, data loss, or corruption. While the causes of software and hardware problems are many, the solution is simple. Back it up!

We recommend making two, or even three, backups of precious files. We also suggest keeping at least one copy at a different location in case of fire or theft. Sooner or later you are guaranteed to lose data so be prepared.

What makes hard drives prone to failure?

The most common causes of hard drive failure are:

1. Mechanical failure of the drive caused by being dropped, bumped while in use, wear and tear, or manufacturer defect.
2. Data corruption or directory damage caused by forgetting to eject disks before unplugging or powering them down, computer crashes, power loss, or plain bad luck.
3. Environmental disasters like fires, floods, power surges, or extreme heat and humidity.

Drive technology is improving all the time—they have “loading ramps” and “Sudden Motion Sensors” and “Perpendicular Recording” and other acronymizable features. Every day they figure out how to cram more data into less space, so while they are making the drives smarter and safer, they are also making the data denser and more fragile. Backups are the safety net that can turn a disaster into no big deal.

Why does directory damage occur? Is it my fault, and can I prevent it?

The computer’s operating system is responsible for reading and writing data to your drives. Besides writing the actual data, the OS has to update the indices that keep track of which file is where, like a table of contents for your data. If the computer crashes, loses power, or experiences another problem, it’s possible that a file is written properly, but its index gets corrupted.

There are a few precautions you can take. It’s best to not move a computer while the drive is spinning. Ideally, you would put a portable computer to sleep before moving it. When you are finished with an external hard drive or USB flash drive, you should always eject the

disk by dragging it to the Dock's *Trash* icon (which will change to an eject symbol) before disconnecting that external drive. Properly ejecting disks makes sure that their directories are properly updated before you disconnect them. If you are shutting down the computer, the system automatically ejects all disks when shutting down.

Finally, if your computer starts to shut off, crash erratically, or you think you've lost data, you should quickly find and solve the cause of those failures. Little problems can grow into big problems.

What should I back up my data onto?

We recommend an external hard drive at least twice the size as your internal drive for incremental backups, such as Time Machine. Select your hard drive and hold down \mathbb{H} -I to see your hard drive's capacity. FireWire is better than USB, if your Mac has a FireWire port.

After you've got that set up you have lots of options. CDs and DVDs are great ways to store data cheaply and are easy to transport. USB flash drives are ultra-portable and are a great way to keep your documents with you. If you have a fast upload speed on your Internet connection (or are very patient) you can use an online storage service like MobileMe, Mozy, or Jungle Disk. A free alternative (if you can remember to do it frequently) is to email yourself files to a service like Gmail. If you travel often or just don't have a lot of space, take a look at a portable external hard drive.

Not only computers need backing up...

Look into backing up all your digital devices. Your iPod and iPhone should already be backed up to your Mac. If you don't sync your cell phone, sit down with it tonight and enter all your contacts into Address Book. You can also check with your cell phone provider to see if they offer an online contact backup or a way to connect your cell phone to your computer.

How to Choose a Back Up Strategy

Here are the three methods of backing up data. Choose a style that suits your needs and an external hard drive to go with it. Time Machine, included with OS X 10.5 Leopard, is a great primary backup

solution for most people (except FileVault users). We strongly recommend using two of the methods below on two separate storage devices and keeping one backup in a separate location.

Simple Copy Backups are the simplest and quickest method. Just drag and copy your most important files to a CD/DVD, a USB thumb drive, or an external hard drive. (You can't drag your computer's entire hard drive to an external hard drive because it will create an alias to the drive instead of copying it.) Drag your entire user folder (*Macintosh HD/Users/yourname*) to grab the most important files. You don't need any special software to do this.

Pros: This is the least expensive data backup method. Discs and USB thumb drives are easy to store off-site.

Cons: You may miss something important and you may forget to do it regularly.

If you are backing up your files by hand, don't forget the following:

Type	Location
Applications, music, or movies that you have downloaded	Keep and back up all the original installation files and disk images of files that you download.
Address Book data	<i>Macintosh HD/Users/yourname/Library/Application Support/AddressBook</i>
iCal data	<i>Macintosh HD/Users/yourname/Library/Calendars</i>
Mail data	<i>Macintosh HD/Users/yourname/Library/Mail</i>
Safari bookmarks	<i>Macintosh HD/Users/yourname/Library/Safari</i>
Firefox bookmarks	<i>Macintosh HD/Users/yourname/Library/Application Support/Firefox/Profile</i>

Complete Bootable Clones are an exact copy of everything on your computer, created by using special software. This insures that you

have a copy of absolutely everything on your computer just in case. We've had good experiences with SuperDuper! for making bootable clones. Read our step-by-step instructions under "How to Create a Bootable Clone Backup," page 28, to set one up.

Pros: You can usually use the bootable clone with any similar Mac to continue using your applications and data during a repair. Plus it's really quick to recover after a repair using a clone. This is a good backup to keep off-site.

Cons: A clone is out of date almost as soon as it is made. You need to remember to periodically update the backup. This method also only backs up the current versions of your files, if you accidentally deleted a file three months ago, you won't find it on your backup.

Incremental Backups make an initial full copy, then incrementally and automatically copy changes. Old files, even ones you have deleted, are kept around for a while. Time Machine, one of the marquee features of Leopard, automatically backs up your entire hard drive every hour. In rare cases if one backup increment becomes corrupted (incorrect) you may not be able to restore files created after that point. Which is why you should test your incremental backup periodically by trying to restore files.

Pros: Automatically backs up your work in progress, so you don't need to think about it. Recovery of an individual file is very quick.

Cons: Requires lots of disk space to keep around so many versions of the same files. Recovery of an entire disk can take a while. Incremental backups are not appropriate for off-site backups.

How often should I back up?

The answer to this question really depends on how often you use your computer. Think about what you did with your Mac in the last 24 hours, the last few days, the last week, and the last month. If you would be unhappy losing data created within the last 24 hours, you should back up at least once a day. If you wouldn't start to sweat unless you lost at least two weeks of data, you should back up once a week. Time Machine will create backups for every hour of the last 24 hours, every day of the last month, and every week past that until

your backup disk is full. The important thing is to REMEMBER to back up. Either use software that automatically schedules itself to back up frequently or put reminders in your calendar.

Why should I make multiple backups?

Most people don't test their backup until their computer fails and they need the data. Often we see them find out (too late) that there was an error that made their only backup unreadable and they have lost all their files even though they thought they were backing up.

We recommend keeping a second backup in a different location (work, safety deposit box, Mom's house) in case your computer is in a flood or fire or if your backup drive is stolen along with your computer.

How To Create A Bootable Clone Backup

We recommend making a bootable clone backup before any repair if you can. In most cases, you can continue to use your applications and data normally with any similar Mac during the repair. You can rent a Mac from Tekserve if you don't have a spare. Follow the instructions under questions A through C to set up, create, and test your first bootable clone backup.

You'll Need:

1. 1 to 4 hours (about 30 minutes of setup and hours of waiting, depending on how much data you have on your hard drive). It's usually easiest to set it up to run overnight.
2. Blank external hard drive at least as large as your computer's internal hard drive. (Select your hard drive and go to *File>Get Info* to see your hard drive's capacity.) If your computer has FireWire ports, get a FireWire external hard drive, if your computer only has USB, get a USB external hard drive. Stop by or call us to order one and have it delivered.
3. SuperDuper! from www.shirt-pocket.com. This shareware application is around \$30 but you can use it for free to create your first bootable clone.

For Users with Windows installed via Boot Camp

If you have Windows installed on a separate hard drive partition using Boot Camp, these instructions won't backup the Windows partition of your computer. You need to backup any files, applications, or settings from Windows separately.

A. Reformat and partition a new drive for backup (bootable clone or Time Machine).

Depending on the type of external hard drive you purchase, it may not be formatted properly to work with your Mac. The easiest thing to do is to reformat any external drive before you use it.

WARNING

Formatting the drive will erase any data on the drive. Make sure you back up any data you want to keep before proceeding.

1. Connect the external hard drive to your Mac with the FireWire or USB cable (if you have both, use FireWire). Some hard drives need to be plugged into a power outlet or have an "on" switch hidden somewhere.
2. Open Disk Utility from *Macintosh HD/Applications/Utilities*.
3. You should see the external hard drive listed in the left pane of Disk Utility. It will usually be listed twice. Once with the capacity of the drive and its technical name and then indented below, you'll see the drive's name as it appears on your desktop. Select the listing for your drive with its capacity and technical name. Then select the *Partition* pane from the options in the upper center area.
4. In the pop-up menu under "Volume Scheme," choose *One Partition* and then name it.
5. **MOST IMPORTANT STEP:** Select the *Options* button below the partition boxes. If you are using the drive with Intel-based Macs select "GUID Partition Table." If you are using the drive with PowerPC-based Macs (G4, G5), select "Apple Partition Map." Click *OK*.

6. From the Format pop-up box, select “Mac OS Extended (Journaled).”
7. Click *Apply* and then after reading the confirmation dialog, click *Partition* or *Erase*.

B. Create the bootable clone backup.

Download and install SuperDuper! from www.shirt-pocket.com. It's free to create your first bootable clone without activating it (but well worth the \$30 if you plan to continue using it).

1. Select your computer's internal hard drive (usually *Macintosh HD*) in the left drop down menu labeled “Copy.”
2. Select your newly created backup hard drive in the right drop down menu labeled “to.”
3. Start the backup by pressing *Copy Now*.

The first backup should take several hours. Avoid using your computer during this time.

C. Test the bootable clone backup. (Also how to start up your Mac from an external hard drive.)

1. Connect the external hard drive to your computer with the appropriate cable. Restart your computer and hold down the option key as the computer restarts.
2. A gray screen with two (or more) hard drives will appear. Select your backup drive.
3. The computer will then start up from your backup drive instead of its regular internal hard drive. You may notice activity lights flashing on the external drive.
4. If you're running OS 10.4.6 or later, go to the Apple menu in the upper left corner and choose *About This Mac*. In the resulting window, make sure your backup drive is listed as the “Startup Disk.” If you're running OS 10.4.5 or earlier, check that the backup drive is the first drive listed on the desktop. If

your backup drive isn't listed in one of these places, then you haven't started up from the external drive, try again.

5. Once booted from the external hard drive, open a few files and applications to make sure everything is working. If everything looks good, you're done! Shut down your computer, unplug the backup drive, and put the drive in a safe place. *Don't leave the clone connected to your Mac, since it can get confusing very quickly!*

Time Machine

How do I start using Time Machine?

You'll need a Mac running OS X 10.5 Leopard and an external hard drive or Time Capsule to use Time Machine. (You can also use an additional internal hard drive on a Mac Pro or a networked drive, but an external hard drive is simple and portable.) The capacity of your external hard drive determines how far back Time Machine will keep data backups for you. We generally recommend an external hard drive twice the size of your computer's hard drive.

First you'll want to follow the instructions under how to "reformat and partition a new drive for backup" on page 29. Then with the drive plugged into your computer, go to your *System Preferences* and select the *Time Machine* icon. There you can turn Time Machine on and select your external hard drive as the backup disk. The first Time Machine backup will usually take hours, so you may want to set it up to run overnight. You can continue to work on your computer while the backup runs.

Time Machine will continue making automatic backups for every hour of the last 24 hours, every day of the last month, and every week past that until your backup disk is full. Just plug in the drive whenever you want Time Machine to work. You can tell it is working by looking at the "counter-clockwise" icon in the menu bar.

How do I restore individual files from a Time Machine backup?

This is the fun space part. The fastest way to recover a missing item is to use Time Machine together with Spotlight.

1. Open a Finder window and type a word or phrase from the missing file into the search field in the upper-right corner. You may want to focus the search by selecting a search location (where the file was located) or adding search parameters by pressing the plus (+) button.
2. Open Time Machine (from the Dock or Applications folder.)
3. Use the arrows and the timeline along the right side of your screen to browse through the Time Machine backups. Your search is performed in every window.
4. When you find the item you want to restore, select it and click *Restore*. You can then choose to replace the current file with the restored backup or keep both files.

If you don't know what the file you are looking for is called or what terms to search for it (i.e. a random photo stored in your iPhoto library) you can still restore it with Time Machine. Open the Apple application that the file used to appear in and then launch Time Machine. You can then browse backward through time and see how your files appeared in iPhoto, iTunes, Mail, etc. When you find the missing item, click *Restore*. **WARNING:** Do not perform a restore operation while Aperture is running. You may lose data from your library if you perform a restore while Aperture is open.

How do I restore my user account using Time Machine?

Do NOT create a new user account with the same name as any user account you plan to restore. (If you already did, back up any files from that user, go to the *User* pane of System Preferences and create a new administrative user with a unique name. Then log in as the new administrative user and delete the user account with the duplicate name.)

If you want to restore your user files but not system software, you can use Migration Assistant.

1. While connected to the Internet, run *Software Update* from the Apple menu in the upper left corner of your screen. Install everything available and restart your computer if required.

2. Connect the external hard drive with the Time Machine backup to your computer.
3. Open Migration Assistant from *Macintosh HD/Applications/Utilities*. Enter your administrative password if required.
4. Under the migration method choices, choose *From a Time Machine backup or other disk*.
5. Select the external hard drive containing the previous Time Machine backups (it may take some time to scan the disk.)
6. Select which “User Accounts” you would like to migrate.

How do I restore my entire system using Time Machine?

You'll need your Time Machine backup drive and a Mac OS X Install disc to restore your system. (Disc one of the gray DVDs that came with your Mac works just fine.)

WARNING

Restoring your entire system will erase all existing data so make sure to back up any new data. If you excluded your Applications or System folder from Time Machine backups, you should restore user accounts instead.

1. Connect your Time Machine backup disk to your computer.
2. Insert the Mac OS X Install disc, and double-click the install Mac OS X icon. (If your computer does not have an operating system installed, you'll need to start up the computer from the disc by holding “c” while you turn on the computer.)
3. Once the Installer loads (you may need to select a language first) choose *Restore System from Backup* from the *Utilities* menu.
4. In the Restore Your System dialog box, click *Continue*. Then select your Time Machine backup drive.
5. Select the Time Machine backup you want to restore (usually the most recent one.)

6. Follow the onscreen instructions.

Time Machine will perform a full backup of your system after it finishes the restore. This is normal and won't delete your older backups (unless you've run out of space on your backup drive.)

What should I do when my Time Machine backup drive fills up?

As your backup drive fills up, Time Machine will delete older backups to make room for new ones. Launch Time Machine and check how many weeks you are able to browse through. If you don't mind losing the older data, then you don't need to do anything.

If you want to save the older files, you'll need to connect a new backup disk. After you connect the new disk, open Time Machine preferences and click *Change Disk* to choose it as your Time Machine backup disk. You'll be able to access your older backups anytime by connecting your old backup disk (store the old backup disk in another location in case of a disaster).

Time Machine fills up my backup drive too fast. What can I do?

If your external hard drive is at least twice as large as the amount of data you are backing up, you should be able to get through at least a month of backups. If you can't, there are a few very specific types of files that may be causing your problems and need to be excluded. You can exclude items from future backups to save space. Open Time Machine preferences and click *Options*. Then click the plus sign (+) to add items that you don't want backed up. Make sure you have a separate backup plan for anything you exclude.

An incremental backup works by storing all the files you've added or deleted since the last backup. This works well with sets of individual files because each file is stored separately. This works very poorly with applications, like Entourage, that use one large database file to store all your information. With an application such as Entourage, every time you receive an email, it changes the database file. Time Machine treats the changed database as a new file and backs up the entire database file. If you have a large email database, this can fill up your backup drive pretty fast. You can exclude database files but make sure to setup another backup plan for any files you exclude.

If you run Windows with Parallels or VMWare, your computer stores a large disk image of the entire operating system installation. This file changes every time you do anything in Windows and will fill up your Time Machine drive fast. You'll want to exclude the disk image from Time Machine backups and use Parallels or VMWare's snapshot feature to backup your Windows installations separately. If you use Parallels, exclude the file ending in .hdd from *Macintosh HD/users/yourname/Documents/Parallels/virtual machine name*. If you use VMWare, exclude the file ending in .vmwarevm from *Macintosh HD/users/yourname/Documents/Virtual Machines*.

If you edit a lot of large files (1GB+), you can end up filling up a backup drive pretty quickly. This is because every time you edit a large file, Time Machine will save the new version as a separate file. You may want to exclude some files or use a different backup solution.

I can't see any of my Time Machine backups.

If you can't see past backups in the "time travel" window, it's perhaps because your computer's name contains characters that aren't letters or numbers. Updating to Mac OS X 10.5.5 fixes this issue.

When I try to backup with Time Machine it fails immediately or after copying some of the data.

Most likely your external hard drive isn't formatted properly. Follow the instructions under how to "reformat and partition a new drive for backup" on page 29.

I use FileVault and Time Machine doesn't seem to work.

Time Machine only backs up user data protected by FileVault when you log out. You also won't be able to explore your past backups in the cool time travel window. So if you only plan to use Time Machine to restore your entire system and you don't mind logging out to backup, then you're OK. If not, you'll want to choose another backup solution.

I use Aperture and I'm having Time Machine issues.

Update to Mac OS X 10.5.3 or later. This should fix most compatibility issues between Time Machine and Aperture. Do not perform a restore operation while Aperture is running. You may lose data from your library if you perform a restore while Aperture is open.

I use Anti-virus software and I'm having Time Machine issues.

If you use third-party anti-virus scanning software and have issues, make sure to exclude your Time Machine back up folder from virus scanning (Backups.backupdb on the Time Machine disk).

Mac OS X — Upgrading and Reinstalling

How do I upgrade or reinstall Mac OS X?

This is a mini guide on how to reinstall or upgrade your operating system. For more information please check www.apple.com/support or the install guide on your operating system disc. This article is for users who are upgrading their operating system to the newest version as well as users who need to reinstall their operating system. If you are reinstalling the same operating system that you currently have on your computer, you can skip to step 3.

NOTE

You cannot install an operating system that is older than the one that came on your computer originally. For example, if your Mac came with Mac OS X 10.5 Leopard, you cannot downgrade to 10.4 Tiger.

1. Check the system requirements. Every operating system has minimum requirements that your computer must meet. Check the side of the retail box or included documentation to see if your computer has enough RAM, hard drive space, and a compatible processor. Even if your computer meets the requirements, you may not be happy with the performance—we find that installing

the latest operating system on a Mac that's more than four years old can result in a poor user experience.

2. Check your current software. Some software will work with a new operating system and some will need to be upgraded to continue working. Go to the website of your software manufacturer to see if an upgrade is necessary to run on the latest operating system. Some software manufacturers may charge for updates and some older software may not be available for a new operating system at all. For example, OS 9 Classic is not supported in Mac OS X 10.5 Leopard. After you upgrade, you will no longer be able use any OS 9 applications. You also need to check for new drivers for your printers, scanners, and any other third-party peripherals you plan to continue using.
3. Backup your entire computer. Although many operating system upgrades go off without a hitch, it is better to be safe than sorry. We suggest using a backup application and external hard drive to create a complete bootable clone of your hard drive. That way you have absolutely everything from your computer in case a file is lost, gets corrupted, or the install fails. If you value your data, back it up before you continue. (See “How to Create a Bootable Clone Backup” p. 28)
4. Clean house. Take a few moments to organize any files you have laying around, delete unnecessary items, and empty your trash. Disconnect any external hard drives or peripherals. You should only have a power cord, mouse, keyboard, monitor, and Internet connected at this point.
5. Update. While connected to the Internet, go to the *Apple* menu in the upper left corner of your screen and choose *Software Update*. Install all the Apple updates available and restart your computer. (This is to make sure that you have the latest Apple Firmware updates for your computer.)
6. Insert the OS X DVD that you want to install. After a few moments the disc will mount on your desktop. Double-click the *Install Mac OS X* icon and then click *Restart* to begin.

7. First you'll be required to choose a language. The Installer will show instructions, read them and then click the *Continue* button. Then you will have to agree to the software license. The Installer will scan your computer and ask you to select your hard drive but don't click *Continue* yet!
8. Options—in the lower left corner of the select a destination screen is an *Options* button. Click it to choose one of the following.
 - a. Upgrade Mac OS X: Use this option if you are working on an older version of OS X and would like to upgrade. This upgrades your system software, while preserving your personal data.
 - b. Archive & Install: Use this option when you are having software problems and would like to try to resolve them without reinstalling everything. This option moves your existing system files to a folder named Previous System. A new copy of Mac OS X is installed, replacing the now-archived system files. Make sure you select the checkbox labeled "*Preserve Users and Network Settings*" so that the Installer knows not to touch any of your personal data. If this sub-option is not selected, the Installer will archive your user data too and install new user folders. Remember that archived data is still accessible and still on the hard drive but is not in active use. Some peripherals and applications may not work after an Archive & Install and you will have to reinstall them.
 - c. Clean Installation or Erase & Install: If you have already tried an Archive & Install to solve your software problems or want to cut to the chase, you are ready for a clean installation. This option erases the hard drive and installs a completely new version of Mac OS X. WARNING: Your data, applications, and settings (everything on this drive in your computer) will be completely erased! You will need to reinstall all of your extra applications from their original discs and reintegrate all of your personal data from a backup copy somewhere else. If you do not have the restore discs that originally came with your

computer, you may also lose all the free software that was included with your computer (iPhoto, iMovie, and others).

9. **Customize (Optional).** After you've chosen your install type and clicked *Continue* you can choose to customize the installation. Most users will just continue and allow the operating system to do an easy install with all of the normal files. However you may want to slim down your install by choosing the *Customize* button. Mac OS X 10.5 Leopard installs about 5.3 GB of printer drivers, additional fonts, and foreign languages. If you don't think you will need some of those items, deselect their checkboxes before clicking the *Upgrade* button.
10. Let the games begin! Hit *Install* to be on your way towards a new operating system. Make sure your computer is plugged into an outlet and let it do the work. Installations can take quite a while.
11. Once you restart with the newly installed OS X, you'll want to do another update. While connected to the Internet, go to the *Apple* menu in the upper left corner and choose *Software Update*. Install all the updates available and restart your computer if required. Then check *Software Update* again until you've installed them all.

I'm upgrading to a new Macintosh, how do I copy my files over?

When you first start up the new Mac, the Setup Assistant will offer to transfer your old files from your old Mac. If both computers have FireWire, you just need a FireWire cable to connect them. If your new computer doesn't have a FireWire port, you can use an Ethernet cable or wireless network to migrate files, as long as both computers are running Mac OS X Tiger 10.4.11 or later. See Apple support article HT3231 for instructions.

If a migrated printer setup fails to work, you may need to delete the printer in the Printer Setup Utility and recreate it.

We offer a setup service if you are buying a new computer from Tekserve. You can also transfer files after you've already set up your new Mac by launching Migration Assistant (in the Utilities folder).

If you plan to do this, do NOT create a new user account with the same name as any user account you plan to transfer. If you do, you'll be forced to rename the user account you restore and it will cause little annoyances later on.

After a data transfer or clean installation, how do I get my files and applications working again?

If you were able to use Apple's Setup or Migration Assistant, this doesn't apply to you. If you were forced to do a "clean" install to solve serious problems, you may need to do this. This could also be useful if your data was recovered through a scavenging method because your disk directories were a mess.

NOTE

This is a complex operation and prone to error, which can leave your computer in a dysfunctional state and compromise your data. We highly recommend making separate external backups of both your "new" system and your transferred data before attempting to integrate them. Unless you tend toward geekiness, we strongly suggest getting professional help with this.

The challenge is to get your old working software back without bringing back old problems. Here are some hints:

- Make a backup of your new, working system before you begin bringing back old software.
- Copy as little as possible. It is better to install from downloads of the latest software or original CDs than to copy over your old software. We highly recommend reinstalling all applications from original discs or downloads rather than trying to copy them over.
- Move only a few files at a time. Test after each move, so you can isolate any problems that may arise.
- Before you replace an existing file with your saved copy, think carefully. In all likelihood you should keep the newer, fresh copy, avoiding possible corruption.

You won't need to move all your folders into your new system. Here are a few of our favorites:

- If possible, use *Import* under the *File* menu in applications such as Mail, iPhoto, and iTunes to get your old data into your current system.
- Most of your preferences will live in the *Library* subfolder of your User folder. Move those first. This will include Mail and bookmarks.
- Some applications store important preferences in either *Macintosh HD/Library/Preferences* or in *Macintosh HD/Library/Application Support*, so move those as well.

Additions to System Preferences are often in *Macintosh HD/Library/PreferencePanels*. These are frequently incompatible with new versions of the OS, so now is a great time to check www.versiontracker.com for updates. You should NOT move these, but rather reinstall from original or updated installers.

Applications infrequently put invisible but important applications in *Macintosh HD/Library/StartupItems*. This is uncommon enough that you may not have that folder at all. But again, we suggest reinstalling all applications from their original discs or downloads, not trying to copy them over. So don't copy these either!

We strongly recommend against copying kernel extensions or anything else from your old *Macintosh HD/System folder*, since they may not be recognized by the new system and could get you in big trouble.

Passwords

I'm being asked for my password and I don't know it. What's my password?

It's your dog's name.

Seriously, if you have forgotten your password, don't fret. There are four types of passwords that you can forget and each requires a different tactic to recover.

1. System password: This is the password you need to log in, install new software, and change some system preferences. See the question, “How do I reset my system password?” below.
2. Login keychain password: This is the password to access your keychain, which stores all the passwords you asked your Mac to remember from websites and other applications. See the question, “How do I reset my keychain password?” on the next page.
3. Website and email passwords: See the question below to recover a password you asked your Mac to save for you.
4. FileVault password: The encryption for FileVault is very strong, and there’s not much you can do if you forget your password.

How do I recover a password I forgot for a website or email application?

If you forgot a password to a website or for your email, your Mac may have remembered it for you. Open the *Applications* folder then the *Utilities* folder, then launch Keychain Access. Your login keychain is where your Mac safely stores passwords when you ask it to “Remember this password.” It sometimes saves them even when you don’t ask it to. Scroll down the entries and double-click the password you want. Then select the *Show password* checkbox at the bottom of the window. Enter your keychain password (by default, the keychain password is the same as your user account password when you first created it.) Type it, and click *Allow Once* or *Allow*. Your password for the selected service will appear at the bottom of the window.

Now you see the importance of choosing a good login password—it’s the key to all your other stored passwords as well.

How do I reset my system password?

Insert your Mac OS X System disc. Reboot your Mac, while holding down the “c” key. This forces your Mac to start up from the disc. After selecting a language, look in the *Utilities* menu and choose *Reset Password*. Choose your hard disk, and create a new password

for yourself. Then click *Save*, close the window, and quit the Installer to restart (don't reinstall Mac OS X).

Now your keychain password and system password are different (when you first created your user account, they were the same.) Your Mac will ask you for your old keychain password every time you open an application or website that uses stored passwords. Follow the instructions in the next question to reset your keychain password.

How do I reset my keychain password?

You cannot recover your keychain password but you can remove it from active duty. Deleting the keychain sets aside the original default keychain password file and creates a new one (you can add the file back if you remember your password later.) Open Keychain Access from *Macintosh HD/Applications/Utilities*. Choose *Edit* from the *Keychain List* menu and select the login keychain. Click *Delete* (-) to remove it.

How can I change my system password?

Select *System Preferences* from the *Apple* menu and then click the *Accounts* pane. Then select your account from the left and finally click the *Change Password* button on the right. This will automatically change your login keychain password as well.

How can I change another user's password?

Log on as a user with administrative privileges (usually the first user set up on the computer), and use the *Accounts* pane of *System Preferences* as above. If you are not an administrative user, then you shouldn't (and can't) change someone else's password.

A Full Hard Drive is an Unhappy Hard Drive

I just got a message that my “startup disk is almost full.” What does that mean?

This means that you are running out of space on your hard drive, and it's making your Mac slow and churlish. Most computers have only one hard disk drive, and that is the startup drive. If you have more than one drive, the startup drive is usually the icon in the upper right corner of your desktop.

To see how much space you have left on your internal hard drive, click its icon on your desktop. Then go to the *File* menu and choose *Get Info*. The info window will show your hard drive's capacity and available gigabytes. We recommend that you leave 10% of your hard drive free for daily use. (For example, if you have a 200 GB hard drive, you should keep about 20 GB available.)

If you have less than 10% of your hard drive's capacity remaining, you have a few choices:

- Remove extra applications and data from your hard drive (see instructions under the next questions).
- Purchase external hard drive(s) to provide additional storage space for your files.
- Have Tekserve upgrade your computer to a larger internal hard drive (usually completed in one business day).

If you have a Mac Pro, Tekserve can add additional internal hard drives to your computer while you wait (unless you already have the maximum number of hard drives installed).

How do I remove extra files from my hard drive?

Take your time and be careful to only delete what you intend to. Do not move or rename files that you didn't create. Mac OS X needs

a lot of special files in special places, and it put them there already. Leave them be.

If you have files that you don't use frequently, you can transfer them to an external hard drive or burn them onto CD/DVDs. For important files, you should do both. This is because external hard drives can fail and CD/DVDs can be damaged or lost. After you've confirmed that the files are working from an external drive or CD/DVD, you can delete them from your hard drive. Remember that moving files to the trash doesn't make more room – you also have to choose *Empty Trash* from the *Finder* menu.

If you use iPhoto, you should check the trash of your iPhoto library. Deleting a photo in iPhoto moves it to the iPhoto trash, which is only emptied into the main computer's trash when you select *Empty Trash* from the *iPhoto* menu.

If you have a very large iTunes library you may want to get an external drive to store it and free up space on your internal hard drive, check out Knowledge Base article HT1449 from www.apple.com/support.

An easy way to figure out what is taking up the most space on your drive is with the shareware application What Size or GrandPerspective. They examine all the files on your computer and let you see which are the largest. You can find both programs by searching at www.versiontracker.com. These applications will show you many system files that your Mac hides from you (for good reasons) don't move or delete any files that you didn't create.

How do I remove extra applications from my hard drive?

Make sure you have the original installation discs and installation codes for any applications you may want to run again. If you've downloaded any important applications online, it's a good idea to burn copies of the installation files to a CD or DVD just in case. Once you've confirmed that you have everything you need to run that application again, you can uninstall it.

Some applications have an uninstall utility, which is usually located in the Applications folder. Applications that don't come with their

own uninstall utility, will need to be removed manually. Drag the application's icon from the Applications folder to the Trash. There are normally small support files and any files you created using the application left over. If there are preference files, support files, or a cache that the application has created, those will not be removed by deleting the application. You can check the application's website for uninstall instructions or use the cheap utility AppZapper from www.appzapper.com.

FireWire Target Disk Mode

How do I use FireWire Target Mode?

FireWire Target Disk Mode allows a Mac to mimic a FireWire external drive so you can access its data through another Mac. Use this technique to quickly transfer data between Macs or backup data from an ailing Mac. First, connect two Macs with a FireWire cable. (Unfortunately, there is no way to do this with USB.) Then hold down the "t" key while you start the Mac you want to transfer data from. The computer should enter a special FireWire Target disk mode, indicated by a FireWire icon floating around the screen. It will show up as an external hard drive to your other Mac and you'll be able to access its data. You can also run data recovery or repair applications on a drive this way, if your computer won't start up.

Getting Online and AirPort

How do I connect my Mac to a DSL modem?

In order to connect to a DSL modem directly, you'll need to know the user account and password for that DSL account. Some DSL providers also require certain Domain Name Server (DNS) address(es) and/or a static IP address to be entered. Most providers will give you a software setup CD that will help you do this but here's how to generally connect to any DSL modem that uses PPPoE (Verizon, AT&T, and some others):

1. Verify that your computer is connected to the modem securely with an Ethernet cable.

2. Turn off your DSL modem and computer for a minute. Turn on the DSL modem and make sure it connects to the Internet based on its status lights. Then turn on your computer.
3. Open *System Preferences* and select the *Network* pane.
4. If you're using Tiger, choose *Built-in Ethernet* from the *Show* pop-up menu, select the *PPPoE* tab, and select the checkbox for *Connect using PPPoE*. If you're using Leopard, click the plus (+) sign in the lower left corner. Choose *PPPoE* from the *Interface* pop-up and click *Create*.
5. Type in your account name and password in the appropriate fields. If you want all users of your computer to use this connection, select the checkbox labeled "Save password" or "Remember this password."
6. If your Internet service provider gave you a static IP address, you'll need to do some additional steps. In Leopard, click the *Advanced* button. In Tiger and Leopard, then click the *TCP/IP* tab and choose *Manually* from the *Configure IPv4* pop-up menu. Enter the static IP address in the *IPv4 Address* field.
7. If your Internet service provider requires domain name server address(es) to be entered, follow these steps. In Tiger type the address(es) into the *DNS Server* field on the *TCP/IP* tab. In Leopard, select the *DNS* tab and click the plus (+) button in the lower left corner to add address(es). Click *Ok*.
8. Click *Apply* or *Apply Now*. If you aren't automatically connected, there is one more step. In Tiger, open Internet Connect from your *Applications* folder. Select *PPPoE* and click the *Connect* button. In Leopard, you may need to click the *Connect* button near the area where you entered your username and password in Network preferences.

If these steps don't work for you, you'll have to contact your Internet service provider's technical support.

How do I connect my Mac to a cable modem?

Check with your Internet service provider to see if they require you to enter a specific IP address, subnet mask, router address, and/or DNS server addresses to connect. Here are the general steps to connect your Mac to a cable modem.

1. Start by turning off all the computers connected to the cable modem. Cycle the power on your cable modem by turning it off for a few minutes and then turning it back on.
2. Wait for the modem to connect to the Internet (as indicated by its flashing lights) and then turn your computer back on. Try to open a website now. If it works, you're good to go, if not, keep reading.
3. Open your *System Preferences* and select the *Network* pane. Select your Ethernet port from the *Show* pop-up menu (Tiger) or from the left bar (Leopard).
4. In the *Configure* pop-up box select *Using DHCP*, if you receive your IP address automatically. Choose *Manually* if your service provider gave you a specific IP address, DNS server, or search domain to use. Enter those items into the so-named fields.
5. Click *Apply* or *Apply Now*.

If these steps don't work for you, you'll have to contact your Internet service provider's technical support.

How can I ask my Mac to prefer a certain AirPort network?

You can set up preferred networks in the *Network* preference pane of *System Preferences*. If you're using OS X 10.4 Tiger, double-click the AirPort status to configure the interface. You'll see a line that reads *By default, join: Automatic*. Change this to *Preferred Networks*. You can find additional options under the *Options* button. If you're using OS X 10.5 Leopard, select *AirPort* from the left bar and click

the *Advanced* button in the lower right. On the *AirPort* tab you can add or delete preferred networks and set other options.

My AirPort reception is very inconsistent and sometimes drops out for no reason. What can I do?

You may be experiencing interference. You can change your base station's radio channel (frequency) to see if things improve. If you want to be scientific about it, use a shareware utility, such as iStumbler, to check which channels are most popular (strongest) in your neighborhood, and pick a different one. Our gurus say that you should try channels 1, 6 and 11 before any others.

If you're using OS X 10.4 Tiger, open the AirPort Admin Utility from *Macintosh HD/Applications/Utilities*, select your base station and click the *Configure* button. Change the number in the *Channel* drop down menu of the *AirPort* tab and click *Update*.

In OS X 10.5 Leopard, open AirPort Utility from *Macintosh HD/Applications/Utilities*, select your base station and click the *Manual Setup* button. Select the *Wireless* tab and change the number in the *Channel* drop down menu.

If you have a third-party wireless base station, you will probably need to configure the base station through your web browser; check the manual for your particular device.

If that doesn't help, try turning on *Interference Robustness* in the AirPort menu. You should also try to place your base station higher up and away from microwave ovens, cordless phones, and fluorescent lamps, all of which can provide local interference.

When I go to select a wireless network, the AirPort menu always says it's "scanning."

This is a normal feature of Mac OS X 10.5 Leopard. Every time you go to select a network it re-scans to check if any new networks are available.

Tekserve: New York's Old Reliable Mac Shop

If you're in New York and need help with your Mac, or want to buy a Mac or anything that works with it, please stop by. If you are outside New York City, please give us a call (or come on by—New York is a great place to visit).

**119 West 23rd Street
between 6th & 7th Avenues
New York NY 10011
Phone: (212) 929-3645 • Fax: (212) 463-9280
help@tekserve.com • www.tekserve.com**

What services does Tekserve offer?

Warranty and non-warranty repair on all current Macs, and older models going back many years (but we'll try to dissuade you from spending hundreds of dollars to repair a computer no longer worth that much). We do hardware repairs, hard drive and memory upgrades, software work, and data recovery. We also offer out of warranty iPod repairs and battery replacements.

Our Professional Services group offers desk-side, network and audio/video support. Tekserve Professional Services also has a team of engineers who specialize in data storage, audio and video applications for the Mac, configuring everything from a Final Cut Pro System, to an HD-capable Xsan, to a DigiDesign Icon-based audio production facility.

Does Tekserve sell Macs and other products, too?

Yes. In addition to our depth of technical talent, we have a strong team of systems consultants, account executives, and a huge inventory. We have a 25,000 square foot walk-in store and warehouse in New York's Chelsea neighborhood. We stock virtually every current Apple product, and thousands of related hardware, software and accessory items. We sometimes have special inventory of discontinued Apple products as well. We don't sell everything—we sell products

that we are comfortable recommending that will work well with your Mac.

Do you offer corporate accounts?

Yes. First, we'd like to team you up with one of our corporate account executives, so you have a single point of contact. Please email sales@tekserve.com to get connected. We accept written purchase orders from Fortune 1000 companies, governmental entities, and most educational institutions. If your company's structure requires that you be billed and you have an excellent D&B rating, email credit@tekserve.com and we'll send you a credit application. We also accept corporate credit cards and company checks (with approval).

What makes Tekserve different?

What we think sets Tekserve apart is that we started out as a service provider, and we still lead with service. We have over 40 certified technicians, including several data recovery experts, and we maintain a very large inventory of parts.

Our approach to sales is based on service—not just trying to move boxes, but actually meeting the customer's needs. For instance, we offer turnkey Final Cut Pro video editing systems with everything you need to plug in and start editing. For corporate purchasers, we can configure and ship computers to multiple locations, with your standard software install already loaded and asset tags in place.

Our motto—borrowed from an old Walker Evans photo—is “Honest Weights, Square Dealings.” If you are ever dissatisfied in any way with our service, please let us know and we'll try to make it right.

What if I just don't have time to wait for a repair?

If you need to keep working while you wait for your repair, let us know. We offer a wide variety of rental computers and can even help you transfer your data in some cases. For more information about rentals and how Tekserve can assist you, give us a call or check www.tekserve.com/rentals.

Do you provide a messenger service to pick up and deliver stuff?

We prefer that you use your own messenger service, but in many cases, we can arrange to pick up and deliver (for an additional fee). If you send us stuff by messenger, please attach a note telling us who, what, when, where, and why. You'd be surprised at the mystery parcels we receive. We also deliver new systems, cables, and accessories by messenger, UPS, and FedEx.

Do you offer financing on new computers?

For corporate purchases from \$2,500 up to millions of dollars, we offer leasing plans from Apple Commercial Credit and others. Please visit www.tekserve.com/business/financing to apply for a business lease. All financing is subject to credit approval (and lots of other fine print).

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Command Key Combinations

Startup Manager	Option while booting, allows you to choose which volume to start up from if you have more than one startup volume or CD
Start Up from Optical Disc	“c” while starting up This tells the computer to start from the CD or DVD (like a system or utility disc) instead of the hard drive
FireWire Target Mode (also called Target Disk Mode)	“t” while starting up This temporarily turns a Mac into an external FireWire drive that you can mount on the desktop of a second Mac to copy data or even run utilities. When you are done, eject the “disk” and press the power button on the FireWire Target Mode Mac to shut it down.
Ignore internal hard disk drive	⌘-option-shift-delete while booting (some Macs ignore selected startup device)
Eject all removable media	Press and hold mouse button while starting up
Safe boot	Shift key while starting up, only loads essential extensions at boot and disables login (startup) items; try this if you just installed a new extension or driver and got a kernel panic
Verbose Startup Mode	⌘-v (shows what’s going on during startup)
Single User Startup Mode	⌘-s (brings you to Unix style text prompt)
Zap PRAM	⌘-option-p-r
Software reboot (lose all unsaved work)	⌘-control-power on (to restart after a crash on some Macs)

For many more keyboard shortcuts, check out Dave Polaschek’s “Magical Macintosh Key Sequences” page at www.davespicks.com/writing/programming/mackeys.html

The Tekserve Mac FAQ

NINTH EDITION • MAC OS X 10.4 & 10.5

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Printed in Canada