
The Tekserve Mac FAQ

David Lerner and Aaron Freimark

The Tekserve Mac FAQ

By David Lerner and Aaron Freimark
with a lot of help from Jazmin V. Hupp

With questions and answers contributed by: Kamian Allen, Ben Casey, David Cook, Dustin D'Andrea, Gene Daly, Scott Douglas, Max Drake, Rob Erickson, Genevieve Ernst, Denis Flynn, Cara Foley, Rob Gilpatric, Alexander Gray, Dayton Hill, Paolo Kapunan, Jason Kramer, Kristy Kyrgiazoglou, Bernard Nazario, Charlie Thomas, Sandy Trapp, Adam Tyson, Monica Woehlert, James Yang, Ripley Young, and many others.

Copyright 2006 David Lerner. All rights reserved.
Printed in the United States of America.

Published by Tekserve Corporation in collaboration with O'Reilly & Associates, Inc., 1005 Gravenstein Highway North, Sebastopol, CA 95472.

Editors:	David Lerner, Aaron Freimark and Ari Moore
Cover Designer:	Ari Moore
Cover Photograph:	Dick Demenus
Interior Designers:	Ari Moore and David Futato

While every precaution has been taken in the preparation of this book, the publisher, authors, and contributors assume no responsibility for errors or omissions, or for dangers resulting from the use of the information contained herein.

Contents

Introduction	2
Where Do I Go for Help?	3
When Should I Bring my Computer to Tekserve?	6
The Basics	9
I Can't Start My Mac	13
Unexpected Quits, Crashes, Freezes, and Kernel Panics.	20
Annoyances	25
Get Ahead by Backing Up	29
Mac OS X – Upgrading and Reinstalling	35
Passwords	40
Opening and Saving Files.	41
Keyboard Shortcuts	44
Avoiding Spam, Viruses and other Deliberately Bad Stuff	47
Printing	50
Plugging Things In	53
Memory and Storage	56
Portable Computers and Batteries	58
Communications, Internet, and AirPort	60
File Sharing	64
iPod and iTunes	66
Windows XP, Vista, Bootcamp, Parallels and Beyond.	68
Other Questions	69
Tekserve: New York's Old Reliable Mac Shop	70
Index	73
Special Start-up Command Keys	78

The Tekserve Mac FAQ

Introduction

We bought Macs because they *work*. While our Windows-bound friends are continually barraged by viruses, spyware, missing drivers, and bizarre incompatibilities, we're cruising along making movies, sharing photos, publishing websites, and playing MP3s. Some of us are even creating eye-popping high definition video effects *in real time*.

In a certain context, this productivity is remarkable. As the Macintosh operating system has matured over the years, so has its complexity. Today, a Mac mini is pre-installed with 395,162 files, each one intended to perform some task. Every layer of this system must work reliably—from the basic hardware functions of the kernel, through the networking and file operations of the Unix core, to Aqua's graphical interface, to the clicks and beeps of each particular program.

But when trouble strikes, this complexity makes troubleshooting pretty darn difficult. There's much more that can go wrong (and yet more often than not, it just works).

This book is a compilation of common questions we get about Macintosh hardware and Mac OS X. It is short enough that you can read through it easily, and maybe discover some useful new tricks. We've also tried to organize it so that you can flip to a particular section in an emergency.

We begin with **Where Do I Go for Help?, When Should I Bring my Computer to Tekserve?**, and then the **Basics**, such as useful websites and some tips to help you keep your data safe and your Mac running smoothly.

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

We go into more detail with **Get Ahead By Backing Up, Mac OS X – Upgrading and Reinstalling, Passwords, Opening and Saving Files, Keyboard Shortcuts, Avoiding Spam, Viruses and other Deliberately Bad Stuff** and **Printing**.

The next sections cover hardware—**Plugging Things In, Memory and Storage, Portable Computers and Batteries**, and **iPod and iTunes**.

Next, we go over **Communications, Internet, and AirPort**, and how to set up **File Sharing**. Then we touch on **Windows XP, Vista, Boot Camp, Parallels and Beyond**.

Finally, we end up with a few **Other Questions** that we couldn't quite fit into any of the other categories, and then some information about Tekserve.

This guide largely covers issues relevant to Mac OS X versions 10.3, and 10.4. When OS X 10.5 Leopard is released, we'll post an update on Tekserve's website, www.tekserve.com/faq. You'll also find earlier editions of this FAQ (going back to 1998) on our website.

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?

I just bought a new Mac. Where is the manual?

New Macs come with a very short printed setup guide. The “manual” is built into the computer and can be viewed under the *Help* menu. If a Finder window is active you will see *Mac Help*, if the active window belongs to another application, you will see help re-

lated to that specific application. If you are new to computers (or to Macs), or just want more printed information, you can buy one of many books that are available. We like *Mac OS X: The Missing Manual*, by David Pogue. (This is one of many Mac related books we stock at Tekserve.)

I can't even find the little manual you mentioned above. How do I get another one?

You can download a PDF of nearly any Apple product manual from the last several years at www.apple.com/support/manuals.

What's the best way to get help using my Mac?

Just play with it. Experiment. Try things. Even try the *Help* menu.

Don't I risk breaking something?

It's pretty hard to break a Mac or OS X just by using it. But there are a few precautions. If you have important/interesting/valuable stuff on your computer, you need to have copies of that stuff in one or two other places. We'll talk about backup later, but some methods are to burn data onto DVDs, backup to external hard drives, use Apple's .Mac backup service, or even email copies of important work to a friend or to another email account. When working on stuff you care about, every once in a while save a copy of the file with a new name (*a*, *b*, *c*...). If one file somehow gets damaged, you'll be able to go back to the previous one. The other precaution is to 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.

With those two precautions — don't move files you didn't create, and keep good backups — you are pretty free to try things on your Mac without risk of hurting anything.

What about Apple's own support?

Consumers Reports has recently rated 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 in-

formation, and you can drill in 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 (without a shipping and handling fee). If you are entitled to phone support, call 800 APL-CARE (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?

At www.apple.com/support, on the lower right side of the main screen, enter your product serial number under *About Your Support Coverage* and click *Go*.

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 try Google. We type the whole question into the Google search box, and frequently find the answer in the first page of responses. But we also 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 (800 275-2273) if you've purchased it for your machine, or try reading this guide 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, backup your computer and bring it into Tekserve. Or, call our Professional Services group to schedule a Tekserve engineer to visit you.

Hardware Repairs

If your machine is having an electrical, mechanical or physical problem we can give you a free quote for the best solution. If the machine and its problem are covered by Apple Warranty, an Apple Repair Extension, or AppleCare, Apple will pay for the repair. Whether your machine is in or out of warranty, we can get it up and running again (or advise you if it might be time to move on to new one). Depending on your problem, it can take a while to diagnose. Be prepared to stay between 30 minutes to an hour and a half for consultation. If you don't have time to wait, you can ask for a "Quick Drop-Off" and we'll call you with an estimate within 72 hours. However, it's usually much faster for us to complete a repair if you take the time for us to evaluate it while you are here.

Okay, I'm bringing my computer in. 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 under "About Us" at www.tekserve.com to see if it's a special day.

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, since they are not covered by warranties or AppleCare and are more expensive to 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 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 within 24 hours (weekdays). Otherwise, we usually estimate four to five business days. We offer flat-rate computer rentals during a Tekserve repair (\$99 for an iBook or \$199 for a PowerBook, plus the cost of transferring data if you don't have a good backup).

Should I bring the mouse and keyboard or the power adapter?

Unless the problem you are experiencing is related to the mouse or keyboard, please don't bring those with you. If it's a tower or an iMac, we don't need any cables at all. If it's a portable computer, an Apple display, or a Mac mini, please do bring the power adapter.

Should I backup the computer first?

Gosh, I thought we already discussed this! If you have anything you care about on your computer, you should ALWAYS keep it fully backed up. After all, the computer could fail or be lost or stolen or dropped at any time. But yes, bringing the computer in for service is a perfect reason to do a full and complete backup (if you can).

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

Many failures and repairs don't affect the hard drive or the data, although you may not be able to access your data until the repair is done. If you were unable to backup 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 FireWire hard drive.

What if the data is very important but Tekserve can't backup 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 will refer you to DriveSavers, who is 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. But for problems with printers and scanners and other external widgets, we'd urge you to try to solve it 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 be careful.

My whole computer network is down. Can Tekserve help?

Yes, please call our Professional Services group at 212 929-3645 x305 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*.

The Basics

How do I get the latest Apple software updates?

If you have a fast Internet connection, the best way is to use the Software Update feature in OS X. Choose *Software Update...* from the *Apple* menu. Your computer will query Apple's servers to find the latest updates for your particular computer. You may be asked for an administrative password during installation.

If you don't have a fast Internet connection, some of these updates may take a very long time to download. You can note the recommended updates, and come into Tekserve to purchase a low-cost Updates CD, or if you have a portable computer and an AirPort card, come by Tekserve and use our free wireless Internet access. (There are more and more public places to get free wireless, such as Bryant and Tompkins Square Parks.)

You mention non-Apple programs or updates I should have. How do I find them?

An excellent resource we like is the website www.versiontracker.com. This directory lists most programs available for the Mac, their current version, and links to download any updates.

VersionTracker provides separate sections for Mac OS X and Mac OS 8 and 9, along with comments and user reviews—so you can see in advance if the update has caused problems for other users. (Don't go crazy installing stuff you find there, though—less is sometimes more.)

How do I know what version of the System software I have?

Click on your desktop. Then click in the *Apple* menu at the top-left corner of your screen. The first item will say *About this Mac* or *About this Macintosh* or *About this Computer*. Select that item and release your mouse. In the resulting window will be the version of your System: 9.2 or 10.2.1 or 10.4.8 or something like that. This window also tells you how much memory is installed in your computer.

NOTE

This edition of the FAQ only covers Mac OS X 10.3 and 10.4. Older—and perhaps even newer—editions are at www.tekserve.com/faq.

What are some hints on keeping my Mac trouble-free?

1. Save multiple copies of critical files on multiple drives, disks, or tapes, some at another location. In short, backup constantly and religiously, especially when you are under deadline pressure. Save

early and often. When you are working on important documents, you may want to periodically save a new version (append a letter to the name, like *important-work-a.doc*, *important-work-b.doc*).

2. Spend a little time getting ready to cope with a problem before you have one. All Macs come with a bootable disk with System software—keep it handy. If you own a copy of DiskWarrior, keep it up to date. It's also helpful in many recovery situations to have an external storage device like a FireWire hard drive. It's even better if you install a bootable system on that drive.
3. Don't save the only version of an important file on a CD or USB flash drive (in fact, you should never have only one copy of an important file). Make multiple copies. Don't erase your last backup to make a new one—you might be backing up a corrupted file and might need the previous backup. And remember—it isn't a backup if it's the only copy! The act of removing a document from your internal drive and placing it on another drive or disk (rather than making a copy and leaving the original) is archiving, not backing up.
4. At least one of your recent backups should be in a different location (i.e., off-site). When working on critical material, you can email a copy to a co-worker or another email account once in a while. An Apple .Mac (“dotmac”) account for \$99 per year includes 1GB of off-site storage on Apple's servers via a very simple backup program that can perform scheduled backups. Time Machine in Mac OS X 10.5 should be great for backups, but it hadn't shipped when we wrote this, check www.tekserv.com/faq for updated info.
5. Install and use the latest version of your preferred antiviral software (such as Intego VirusBarrier). You should be sure to install the regular anti-virus update, which is as simple as clicking on an *Update* button in the program.
6. Once a month, boot from your OS X Install CD or DVD and run Apple's Disk Utility to *Repair Disk*, which will repair any directory damage on your drives (always backup first). Disk Utility can also *Repair Permissions*, but there's no need to do this

regularly. After a full backup, you can also safely use a utility like DiskWarrior (our favorite).

7. Own the software you use, read the manuals, and keep the original program discs in a safe place. You might also want to backup copies of important application installer CDs/DVDs and keep them off-site, along with their serial numbers and installation codes.

My hard drive has trouble getting going, but it always starts after a few tries. Should I bother backing it up?

No, your data is of no importance and you can probably recreate it within a few months. After all, you have lots of paper printouts to recopy from and you're a fast typist.

Seriously, if your computer or hard drive is doing anything unusual—squeaking, chirping, having trouble getting going, read/write errors, missing or damaged files—take it as a reminder to do a complete backup to another drive, removable media, or website. Please!

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

Shut down, unplug the keyboard from the computer, 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.) Don't forget that a new USB keyboard costs only \$29.

If it's a portable computer, remove the battery and the power cord and bring it in for service immediately. Don't turn it on! The internal backup battery can cause electrolytic corrosion and lead to an expensive logic board repair. Liquid and spill damage is *not* covered by warranty or AppleCare (but may be covered by some insurance policies or credit cards).

I Can't Start My Mac

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 isn't blown. 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 below). 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 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.

This can happen if you have certain older CDs in your drive when you boot, so first try removing any CDs. If that doesn't cure it, read on.

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

1. Turn everything off, and disconnect all external USB, FireWire, and SCSI devices (except your mouse, keyboard and monitor if applicable). This includes devices such as 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. With SCSI, you must turn everything off before connecting or disconnecting devices.

2. Zap the PRAM. This is special *parameter memory* that stores crucial settings for your Mac and can become corrupted. Zapping it means resetting it to the original defaults. 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. If this doesn't work, continue with the next step.
3. A series of beeps on recent Macs can indicate a hardware problem, usually bad or incompatible RAM. On some machines, 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 machines, so you may want to check the online Apple Knowledge Base (www.apple.com/support) for your specific machine. The current beep codes are:

1 beep	all RAM sockets are empty
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 an accelerator or 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 CD or DVD that came with your computer. (If the CD is 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 boot your computer. Turn off the Mac, unplug the mouse or trackpad, and then see if it starts okay from the CD or your hard disk.)

WARNING

In some instances, repair programs will make things worse. This is why we say to always backup everything, so that if a repair fails, you have another recourse.

-
1. With the System DVD 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 booting from the DVD so we can run Disk Utility.
 2. At the first Installer screen, look under the *Installer* 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*. When finished, quit Disk Utility, quit the Installer without installing, and restart. If you get a blinking icon, you might need to reinstall your system.
 4. 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 Norton Disk Doctor, TechTool, Disk Utility, DiskWarrior, Disk First Aid 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 Norton Disk Doctor or TechTool Pro actually writes to the directory that it’s fixing, so occasionally it does damage. However, running a data *recovery* utility such as Data Rescue, Norton’s Volume Recover, or Unerase 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 offers to save an “undo” file so that you can go backwards, 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 boot the Mac it stays on a blue screen for hours and never shows me the desktop.

We’ve listed some of the best bets below. If you want a very complete list, take a look at www.apple.com/support and search for article 106464.

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 SCSI, USB or FireWire devices from your system.
3. If you have a Mac purchased before 2005, check for and remove any corrupted fonts in the Classic *System Folder* (you'll need to boot from another disk or from OS 9). The easiest way to do that is to rename the folder from *Fonts* to something like *Not My Fonts*.
4. Check for 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>/Library/PreferencePanes</i> <i>/Users/myname/Library/PreferencePanes</i>
Startup Items	<i>/Library/StartupItems</i>
Login Items	Open System Preferences, then: 10.4: Click <i>Accounts</i> , then <i>Login Items</i> 10.3: Click <i>Accounts</i> , then <i>Startup Items</i>

ABOUT FOLDERS AND SLASHES

We used 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 */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?

Applications you install on your Mac usually sit dormant until you click on them. However some programs need to run all the time. For example, a fax program needs to be awake to listen for an incoming ring, and iCal can remind you of an appointment even if iCal isn't running.

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. Press the power button. After you hear the startup tone, immediately hold down the Shift key. You should see the note “Safe Boot” on the startup screen.

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

What's “resetting the Power Manager” (or PMU) mean, 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 most recent Macs. On all portables it also helps maximize battery life. It stores some special information for itself in NVRAM (PRAM); if this information gets corrupted, you may have trouble running on batteries, or your fans may run at full speed. When you have battery or fan or startup problems, it's frequently a real problem with the battery or the computer, but sometimes it's just a software problem with the Power Manager. Here's how to reset the Power Manager on different Mac portables (search www.apple.com/support for “reset PMU” for the latest info with pictures):

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

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, and restart.

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.

G4 PowerBook (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.

Original iBook and iBook (FireWire)

If the iBook is on, turn it off. Using a blunt object like a paperclip, press the reset button above the power button at the base of the display. Wait at least five seconds, then reconnect the AC adapter and press the power button to restart.

G3 Series PowerBooks with bronze keyboard

If the PowerBook is on, turn it off. Press the reset button on the rear of the computer (find it between the video and modem jacks). Wait at least five seconds, then reconnect the AC adapter and press the power button to restart.

Unexpected Quits, Crashes, Freezes, and Kernel Panics

A program I just installed won't start up.

Even though you just bought the program, it may be out of date. That may mean that some recent update by Apple to its software “broke” the program. The CD you bought was packaged many months before distribution. Check the publisher’s website or www.versiontracker.com for updates to the program, which ought to be free.

It is also possible your Mac may not meet the requirements for the software. Carefully read any documentation, including the *read me* file on the install disc.

A program I frequently run won't start up.

First, think about what has changed since the last time you ran the program. Perhaps you installed a system update that “broke” the program. In that case, check the publisher’s website or www.versiontracker.com for any updates to the program. Call or email the software publisher if you need serious help. Most of the time updates are free. Occasionally a publisher decides to charge for an update (usually called an “upgrade” at that point), and you may need to pay to get the program working again.

Perhaps you changed some fonts on your system. Certain programs for Mac OS X require specific fonts to be available, and they may behave strangely or refuse to start up—often without an error message—if the fonts aren’t available. Especially check that Helvetica and HelveticaNeue fonts are active. The program Font Book included with Mac OS X 10.3 and 10.4 (in the Applications folder) may help you determine which fonts you have in your system. It helpfully notes duplicate fonts with a bullet.

If you are running Mac OS X 10.4 (Tiger), then Font Book goes one step further. Select some or all of your fonts, and choose *Validate Fonts* from the *File* menu. You should consider removing any fonts

with problems. (You can also choose *Resolve Duplicates* from the *Edit* menu to automatically disable any unnecessary duplicates.)

Finally, you may want to reinstall the program from your original discs, remembering to apply any updates to make it current.

One of my programs just stopped working and a message tells me it has “Unexpectedly Quit.”

This may not indicate a systemic problem with your Mac. Start the program again, or even restart the computer (using the *Apple* menu) and start the program again. If it works the second time, it may not be worth the effort to track the problem down.

If the program begins quitting “expectedly,” it’s time to start sleuthing. Think about what’s changed on your computer since the program last worked well. See the next question for troubleshooting tips.

In either case, you likely lost what you were doing in that program since your last save. Some programs, such as Microsoft Word and Excel, will try to show you unsaved work when you next start that program—but most programs don’t try to recover. (Since the documents weren’t saved they weren’t stored on the disk, and a disk recovery utility won’t help, unless the program saved some “Temp” files.)

In Mac OS X 10.4 Apple introduced some new built-in troubleshooting. If an application quits unexpectedly (crashes), you will get a dialog box offering to report the problem to Apple or *Reopen* the program. If you click the *Reopen* button and the program quits unexpectedly a second time, the dialog box changes and now offers to *Try Again* with “the application’s default settings” (preferences). If it works this time, you know the preferences were the problem. However, some programs (like Apple Mail) keep a lot of important information in preferences. Now it’s time to go to www.apple.com/support and find knowledgebase article 301084, and read about your options.

General application troubleshooting (or, “MajorSoft WordMangler gives an error whenever I do X, Y, then Z.”)

If your problems occur only with one particular program or action, and are fairly repeatable, they should be easy to fix:

1. Reboot your Mac to sweep your computer's RAM clean.
2. Check the publisher's website or www.versiontracker.com for updates or patches to the program, and try installing them. You may have a known problem that has already been solved.
3. Using the *Accounts* panel in System Preferences, create a brand-new user. Log in as that user and attempt to repeat the problem. That will give you a clean set of preferences to test out. If the problem goes away, log out, log back in under your regular user name, and delete (or at least move) the application's preferences from the *Library/Preferences* folder in your home directory (your folder in the *Users* folder). If the problem is still there when you log in as a new user, the problem is rooted in the application or operating system.
4. Some problems can be traced to corrupt, damaged or compressed fonts. If you are using Suitcase, Font Reserve, or another font management program, use it to close all your fonts. Restart the computer and see if the problem is solved. If so, you need to work your way through your fonts and see which one is the culprit. If you are using Mac OS X 10.4 (Tiger), see the question above for how to validate your fonts.
5. If these steps don't solve the problem, contact the company that publishes the program. Many vendors offer good free tech support, and sometimes you will have a standard problem that they can quickly identify and tell you how to fix. Many vendors also have support forums online. This is especially useful for those vendors that charge for telephone tech support, as their online support is still free. You also get the benefit of the input from other users, who may have encountered the same problems and have workarounds you can use until the vendor fixes the bug.

Always write down the steps you are trying. If you eventually need outside help, the record will be very helpful. But writing a novel won't help—generally a service provider will have trouble solving any problem that can't be described in a few sentences.

My mouse and keyboard stopped working.

It may seem like your computer froze, but quite often it's the mouse and/or keyboard that stopped responding. Try unplugging and re-plugging the mouse. If this doesn't help, turn off the computer, plug only the mouse into the USB port on the computer (rather than into the keyboard, monitor or hub), and then restart. If this works, your computer itself is okay, but there is probably a bad connection in your keyboard. Try a replacement keyboard.

NOTE

It is fine to plug in USB and FireWire devices when the computer is on. However, storage devices like flash disks or 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 uncheck *Mouse Keys*.

My Mac froze up. Now what?

First check for simple stuff, like the mouse connector came loose from the keyboard. We like to check that the caps lock key lights up when we press caps lock. If that works, then your mouse probably has a bad connection. Sometimes just unplugging and replugging the mouse will cause the Mac to “wake up.”

⌘-Option-Escape will let you force-quit the current 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 programs 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 computer. 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 suspect "kernel extensions" that are installed with PCI cards and USB hardware. Although they live in */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. You should also try selecting *Ignore accidental trackpad input* in the *Trackpad* pane of the mouse and keyboard preference pane.

The PowerBooks released in 2005 feature a new trackpad that can recognize two fingers as a command for scrolling. Apple support article 301047 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 boot.

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

Unless you are on a corporate or educational network, you can safely delete the */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 CDs and try again. If the problem persists, it's a great time to backup your data. Then you can try Disk Utility (covered in the “I Can't Start My Mac” section earlier in this FAQ). It's even possible that you have a hardware problem at this point.

My programs 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 programs 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, click on *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 underneath or alongside the application icon), and quit the programs you aren't using. Remember that closing an application's windows *does not* quit the program. To quit, click on the application's dock icon, open the application menu (named *Word*, *iTunes*, *Safari*, etc.) and choose *Quit Word* (*Quit iTunes*, *Quit Safari*, etc.), or just click and hold on the application's icon in the dock, and select *Quit* in the small menu that pops up.
3. Always keep at least 5% 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. To check the disk space, click once on the icon of your startup disk and select *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. With Mac OS X 10.3 and 10.4 we recommend a minimum of 512 MB, but performance will be better with 1 GB. If you are doing any graphic design or video work, 1 GB of RAM is a minimum. If you bring your Mac to

Tekserve, you'll be sure to purchase the right kind, and we'll install it for you while you wait. Tekserve RAM is guaranteed for life.

5. Check Activity Monitor, and click on the column header labeled %CPU. The program or process using most of your system will be listed first. (Notes: *mdimport* is the process to add data to Spotlight in 10.4, 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.

This usually means that the backup battery on your computer's logic board needs replacement. On a portable computer, your internal PRAM battery may be dead—leave the computer plugged in for two or three days to recharge it. After two or three years, a portable computer may need its internal PRAM battery replaced by a technician. 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.

There was also a peculiar bug in Mac OS X 10.3.3 that caused this in certain systems. Update to 10.3.4 or later to fix it.

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 select *Authorize Computer*. You can authorize up to five different computers to play your iTunes purchases. 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 guess that we followed our own advice on backups.

I can't mount any disk images/I can't move programs in the Applications folder/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 program 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 programs.

When your system was first installed, and every time you install an application or an update, the installer leaves a receipt on your system. This receipt (in */Library/Receipts*) lists what files were installed, where, and what the permissions were supposed to be. (The receipt files are optimized for computer use, and aren't easy for users to read.)

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.

A CD or DVD is stuck in my Mac.

Don't pull it out with pliers; that might destroy the drive. Try launching iTunes and clicking the *Eject* button in the lower right corner. If this doesn't work, try restarting the computer while holding down the mouse button (the left one if you use a two button mouse) or holding down the Eject key if your keyboard has one. If that doesn't work, try ejecting the disc by carefully pushing a straightened paper clip into the little hole alongside the drive (if any). If that still doesn't work, try restarting while holding down the ⌘ -Option-O-F key combination to enter Open Firmware, type *eject cd* in lower case letters, then press Return. Then type: *mac-boot* and press Return again. If this doesn't work, the Mac probably needs to be disassembled to

get the disc out, and the drive might even be damaged. If your Mac has a slot-loading CD or DVD drive, you should insert only regular round 5.25" discs. Mini CDs and novelty CDs (like business-card-shaped discs) will get stuck, and might even void your warranty.

Mac OS X also includes a hidden utility to eject discs. Look in */System/Library/CoreServices/Menu Extras* and double click *Eject.menu*. This will put a new *Eject* menu near the clock in your menu bar.

Get Ahead by Backing Up

What is a backup?

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

Why should I backup?

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 wedding or 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 some how. Fortunately there are many ways to backup your Macintosh.

What makes hard drives prone to failure?

Hard drives are incredible feats of engineering. When they were first invented fifty years ago, they were the size of a refrigerator. Now they can be the size of your thumb, and hold more data than that fridge-sized drive did. Twenty years ago you only had a few term papers on your hard drive, but now you have your email, your photos, your

music and much more. It's one very concentrated point of potential failure.

Inside every hard drive are one or more platters (usually glass) coated with magnetic material. The platter is spinning at 4,200 to 10,000 RPM. There are tiny read/write "heads" floating over the platter on delicate arms. The distance from head to platter is less than the breadth of a human hair. If the head accidentally touches the platter, it acts like a snowplow, scraping the magnetic material and your data off the platter. Forever. That's just one way they can fail. 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 making the data denser and more fragile. Backups are the safety net that can make 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. If the computer crashes, loses power, or experiences another problem, it's possible that a file is written properly, but its index gets corrupted. OS X 10.3 introduced "journaling," which helps a little, but doesn't prevent the problem.

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 using an external USB or FireWire drive or flash disk, you should always eject the disk by dragging it to the *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, you don't need to eject disks. The OS will take care of properly updating each drive before it actually shuts down the computer.

So, directory damage is usually not your fault, and you probably can't prevent it, but you can help. If your computer starts to shut off or 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.

Does OS X 10.5 Leopard's "Time Machine" make backup worries irrelevant?

No. Time Machine will be another great way to back stuff up, but not a complete solution. We are expecting that Time Machine alone will justify an upgrade to Leopard. But we are writing this well before OS X 10.5 is available, and we've just started to experiment with early pre-release versions of Time Machine. When OS X 10.5 Leopard ships sometime in the first half of 2007 Tekserve will post an update to this section at www.tekserve.com/faq.

How should I backup?

Here are three methods of backing up for home users. Choose a style that suits your needs and an external FireWire hard drive to go with it. To ensure against all types of failures you should use two of the methods below on two separate storage devices.

Simple Copy Backup

Drag your most important files to another disk, USB drive, CD, or network drive. Everything you don't drag is left to chance. Even just burning a disc with your word documents and baby pictures is a step in the right direction. The drawback of this method is that if your entire computer crashes it will take a long time to reload everything. If you have the space, try to backup your entire User folder. (Located in `/Users/myname`) This should give you a copy of all your user data but won't copy your operating system or programs. If you are backing up your files by hand, don't forget the following:

Type	Location
Applications that you have downloaded	Keep and backup all the original installation files and disk images of applications that you download.

Type	Location
Address Book data	<i>/Users/myname/Library/Application Support/AddressBook</i>
Mail data	<i>/Users/myname/Library/Mail</i>
Safari bookmarks	<i>/Users/myname/Library/Safari</i>
Firefox bookmarks	<i>/Users/myname/Library/Application Support/Firefox/Profile</i>

Some programs have special commands to help you save backup files—Address Book has a *Backup Address Book* option under the *File* menu, and most web browsers like Safari have *Export Bookmarks* under the *File* menu. But backing up your entire User Folder is really better than trying to pick and choose!

Complete Bootable Clones

By using software you can make an exact copy of everything on your hard drive (including invisible system files and “permissions”). If your hard drive crashes you will be able to work off your bootable clone on a similar Mac. All you have to do is attach your external hard drive to a working Mac and hold down the Option key when you start the machine. This will allow you to chose your bootable clone backup as the startup disk and continue working just like you were using your regular machine. (Oops, your backup is suddenly your main hard drive. Now it needs to be backed up too!) Then when your machine is finished being repaired you can clone your backup over to the repaired machine quickly with all the changes or additions you’ve made since. The drawback of this method is that it only backs up the current versions of your files; if you accidentally delete or change something you won’t have a backup of it. We’ve had good experience with SuperDuper for making bootable clones.

Incremental Backup

This method copies all the information from your hard drive once and then creates a file with all the changes and additions you’ve made since. This allows you to restore files you’ve deleted since your last

backup or changed accidentally. In rare cases if one backup increment becomes corrupted (incorrect) you may not be able to restore files created after that point. Retrospect is the current gold standard in Macintosh incremental backup, but it's not always intuitive to use. Time Machine in OS X 10.5 may be much simpler to use and understand.

Why should I make multiple backups?

Although one backup can protect you from the majority of failures, you should consider making two just in case. We like to keep a bootable clone around so we always have a complete copy of everything that we can work with in case of a failure. In addition, an incremental backup insures that we have every file we've worked with, in case we accidentally delete something. If you keep a second backup in a different location (work, safety deposit box, Mom's house) you'll be sure to have your data even if your office is in a flood or fire or if your backup drive is stolen along with your computer.

It's important to remember that computers can be lost, stolen or damaged. Separate backups of your data can help you recover quickly.

What should I backup my data onto?

Start with a FireWire hard drive that is at least as big as your internal hard drive. (Select your hard drive and hold down ⌘-I to see your hard drive's capacity.) After you've got that setup 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, no matter where you are. You can use Apple's iDisk to store your data online if you have a .Mac membership or email yourself files to an Internet service like Gmail. Even your iPod can be used as an external hard drive for backups. If you travel often or just don't have a lot of space, take a look at a portable external hard drive. They fit in the palm of your hand and are an easy way to always have data with you (but please leave a second copy at your home or office).

Why are some external hard drives more expensive than others?

Just like everything else in the world, you get what you pay for. Cheaper external hard drives can fail more easily than higher-grade models. If you are only backing up to one hard drive, you should get a good one. If you have more than one backup, don't worry. Tekserve carries a large range of drives from inexpensive options that are best used a few times a week to drives meant for pro-audio and video professionals using them 24 hours a day.

How often should I backup?

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 backup at least once a day. If you wouldn't start to sweat unless you lost at least two weeks of data, you should backup once a week. The important thing is to REMEMBER to backup. Either use software that automatically schedules itself to backup frequently or put reminders in your calendar.

Not only computers need backing up...

Look into backing up all your digital devices. Your iPod and phone should already be backed up to your Mac. (If they are not syncing with a computer you should set that up.) Sit down with your cell phone 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.

More Backup Tips from Tekserve

When you are working on important documents, periodically save a new version. Choose Save as... and name the new version something like important-work-b.doc or important-work-031506.doc.

Make sure to keep the original discs from ALL the software you buy and their serial numbers in a safe place. (We use a CD binder to make it easier). You may even want to make backups of your

most important software CDs with Toast or Disk Utility. Store these backups with their serial numbers off-site.

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 machine, you can skip to step 3.

NOTE

You cannot install an operating that is older than the one that came on your machine originally. For example, if your portable computer came with Mac OS X 10.4 Tiger, you cannot downgrade to 10.3 Panther.

1. Check the system requirements. Every operating system has minimum requirements that your machine 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 it 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 five or six 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. You will 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 without a hitch, it is better to be safe than sorry. We suggest using a backup program and external FireWire 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 “Get Ahead by Backing Up” section, p. 29.)
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 hand corner of your screen and chose *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 CD/DVD that you want to install. After a few moments the disk will mount on your desktop. Double-click on the *Install Mac OS X* icon and then click *restart* to begin.
7. First the Installer will show an introduction, read it 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—hidden 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 check *Preserve Users and Network Settings* so that the installer knows not to touch any of your personal data. If this sub-option is not checked, 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 third-party software applications may not work after an Archive & Install and you will have to reinstall them.
 - c. Clean Install (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 install. This option erases the hard drive and installs a completely new version of Mac OS X. WARNING: Your data and applications and settings (everything on 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 bundled with your computer like iPhoto, iMovie and others.
9. Customize (Optional). After you've chosen your install type and clicked continue you can chose to customize the installation. Most users will just hit 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. OS X installs about 1.5GB of printer drivers, additional fonts and additional foreign languages. If you don't think you will need some of those items, uncheck their boxes before clicking the upgrade button. We recommend installing the BSD Subsystem (some third party applications depend on it).

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 (if it's a portable) 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. Apple probably improved OS X since the time that your system disc was issued. While connected to the Internet, go to the *Apple* menu in the upper left hand corner and chose *Software Update*. Install all the Apple 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?

If your old computer is also running OS X, when you first start the new computer the Setup Assistant will offer to transfer your old files. You'll just need a FireWire cable to connect the two computers. We offer this service if you are buying a new computer from Tekserve. You can also use that feature later by launching the Migration Assistant (in the Utilities folder). If a migrated printer setup fails to work, you may need to delete the printer in Printer Setup Utility and recreate it.

After a data transfer or clean install, how do I get my files and programs 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 original CDs or downloads of the latest software 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 programs like 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 */Library/Preferences* or in */Library/Application Support*, so move those as well. (These folders, and the ones mentioned below, are in the */Library* folder in the root of your hard disk.)
- Additions to System Preferences are often in */Library/PreferencePanes*. 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 */Library/StartupItems*. This is uncommon enough that you may not have that folder at all. But again, we suggested re-installing 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 */System*, 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. If it is your system password, see the questions below to change it to something you'll remember.

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 the program Keychain Access. Your 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 to select the entry you want. Then check the *Show password* checkbox at the bottom of the window. Keychain will ask for your system (login) password. Type it, and click *Allow Once*. 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 can I change my system password?

Select *System Preferences* from the *Apple* menu, then click on the *Accounts* pane. Then click on your account on the left and finally click the *Change Password* button on the right.

How can I change another user's password?

Log on as a user with administrative privileges (usually the first user setup 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.

What if I forgot my password?

Insert your Mac OS X installer disc. Reboot your Mac, while holding down the C key. This forces your Mac to start up from the CD. At the installer screen, look in the *Utilities* menu (the *Installer* menu in OS X 10.3), 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).

Opening and Saving Files

My system keeps telling me "There is no application to open the document..."

There are two likely reasons why this is happening. First, you may not actually have an application that can read that file. If someone sent you an Excel spreadsheet, but you never installed Excel on your computer, then you won't be able to open the file.

The other situation is that you do have the application, but your computer hasn't yet found out that your document can be opened by it. Mac OS X figures out document associations in part by their filename extensions, which is the part of their name after the last period. For example, the file *readme.txt* has an extension of "txt". You can show extensions in the Finder. Choose *Preferences* from the *Finder* menu, click the *Advanced* icon, and check *Show all file extensions*. (That's the first option we check on any new system and we recommend you do the same.)

If you have a missing or incorrect extension on one of your documents, your Mac may have trouble with it. You can try to fix it or add the extension. (Likewise, if you change the extension of a working document, it may stop working.) Extensions are important not

only on Mac OS X, but also if you send documents to Windows users.

Here are a few common extensions:

Extension	Indicates
dmg	Disk Image
doc	Word
jpg	JPEG photo
gif	GIF graphic
mov, mp4	QuickTime movie
mp3	MP3 music
m4p, m4a	MPEG-4 Audio (from the iTunes Music Store)
pdf	Acrobat PDF
ppt, pps	PowerPoint
psd	Adobe Photoshop
qxd	QuarkXPress
rtf	Rich Text Formatted (word processing)
tif, tiff	TIFF photo
txt	Text
xls	Excel spreadsheet
exe	Windows app, or perhaps a compressed archive.
com, scr, pif	Windows app; likely a virus that is impotent on a Mac
vcf	Address Book Card (vCard)
zip	Compressed “archive” file

When I double-click on my document, it opens in the wrong application. How can I change this?

Click once on the document to highlight it, and choose *Get Info* from the *File* menu. Click the *Open with:* triangle. Then you can

choose your favorite application from the pop-up menu. If you would like to associate all similar documents with this application, click the *Change All...* button.

When I try to save a file someplace outside my Documents folder, I get a file error and can't save. What gives?

Remember that Mac OS X is a multi-user operating system and you may not have permission to write files outside of your Documents folder. Some applications don't report permission errors properly and you may get a file error instead. If you are the only user of your computer but didn't set it up, someone who did might have added a non-administrative user with limited permissions as the default user.

How do I save a file on a disc that a Windows computer can read, or read a Windows disc on the Mac?

These days it is often easiest to email the file (in Apple Mail, click the *Send Windows Friendly Attachments* checkbox when you attach the file). But if you want to use a disc, you'll have almost no trouble.

Mac OS X inherently recognizes most PC discs and has even adopted PC-style filename extensions (which we thought we had escaped from). Be sure the file uses the appropriate extension (such as *.doc*) or else you'll have difficulty on the Windows end.

To actually use Mac files on a PC or PC files on a Mac, you need a compatible application (like similar Mac and PC versions of Excel) or else a file translator. DataViz sells a good universal translator called MacLink Plus. Microsoft Office files created on the Mac or PC are usually interchangeable with the same programs on the other platform, typically going forward or back one or two versions in terms of compatibility. However, newer versions may have features that are not supported in older versions, so simpler files are more likely to exchange without hassle.

Fonts can be a big hassle when exchanging documents. Fonts with the same name but from different "foundries" may not be identical. Your text is very likely to reflow, changing line endings and page breaks.

Also, many graphics programs don't save included graphics in the document itself. You may need to send these linked files separately.

Acrobat PDF is a great solution for exchanging graphic layouts without the hassle of reflowing text or linked graphics. (You can easily make almost any text or graphics file into a PDF by opening it, choosing *Print...* from the *File* menu, and then clicking on the *Save as PDF* button in the *Print* dialogue window that comes up.) However, PDF's are basically snapshots of files, they are not easily editable at the receiving end.

If you are transferring a video, you can use a standard format such as MPEG. More and more PC users have installed QuickTime (free from www.apple.com/quicktime/download)—make sure your friend is one of them. If they've installed iTunes on their PC, they already have QuickTime.

A CD or DVD burned in Mac OS X is, by default, cross platform. Also, Macs can read CDs burned on Windows PCs, as well as Windows floppy disks (but who uses floppies anymore?). Most USB flash drives come formatted as "FAT32" which both Macs and PCs can read and write without problem (although a few file names may be shortened or modified when copied to FAT32 disks).

Keyboard Shortcuts

What are keyboard shortcuts?

One of the easiest ways to speed up your work and impress your friends is to learn a few key commands. These are key combinations that you hold down to access functions that are usually listed in your menus. The nice thing about the Macintosh operating system is that many of these key commands work across multiple programs. Depending on your keyboard, your keys may be labeled differently than we show below.

Control key – usually the key closest to the end of the keyboard on the button row, sometimes labeled Ctrl and abbreviated as ^.

Command key – the key closest to the Spacebar, usually labeled with the Apple symbol and ⌘. On Windows keyboards there will be a Windows logo (but the Mac will still see it as a Command key ⌘).

Option – the key between Command and Control, usually labeled as Opt. On Windows keyboards this will be labeled Alt. Sometimes abbreviated as ⌥.

Mostly Universal: Key combinations that work in the Finder and on most Mac applications

Key Combination	Function
⌘-O	Opens <i>Open</i> dialogue
⌘-S	Saves
⌘-P	Prints
⌘-F	Opens <i>Find</i> dialogue
⌘-Z	Undoes previous action
⌘-X	Cuts selected data
⌘-V	Pastes selected data
⌘-C	Copies selected data
⌘-A	Selects all
⌘-W	Closes window
⌘-Option-W	Closes all windows
⌘-H	Hides active program or window
⌘-Shift-N	Creates a new folder
⌘-T	Shows font palette
⌘-Shift-C	Shows colors palette
⌘-Shift-3	Takes a screenshot which is then saved on your desktop
⌘-Shift-4	Allows you to select a section of your screen for a screenshot
⌘-Control-Click	On almost any file, dock item or application, brings up a contextual menu with more things you can do with that file

Tiger (Mac OS X 10.4) and Onward Only

⌘-Tab	Brings up menu that allows you to tab through open applications. Hold down z as you press tab to switch to another program. If you continue to hold down Z, you can press ` or Shift-Tab to go backwards through open applications. While holding down z you can also press H to hide the selected application or Q to quit the application.
F9	Displays miniatures of all the open windows in all applications and allows you to select which one to work in by clicking on it with your mouse. Great for those of us who tend to have lots of windows open at once.
F10	Displays miniatures of all open windows in the current application only.
F11	Pushes all windows off to the side of the screen so you can access the desktop. Press F11 again to restore the normal view.
F12	Brings up your dashboard and widgets
⌘-Space	Opens your spotlight search
⌘-Control-D	In Apple's own applications, this brings up the dictionary definition of the word directly under the cursor. You can click the More button to see the entire dictionary and thesaurus entry for the word.

Abandon Ship: Keys to press when things aren't going so well

⌘-Option-Esc	When an application freezes, hold down these three keys. This will bring up a menu that allows you to select the misbehaving application and force quit it immediately. (Caution: You will lose any of your unsaved work by force quitting the application.)
⌘-Control-Eject	Quit all applications and restart

What about special keys to use at startup?

Please see the chart at the very end of this FAQ.

Avoiding Spam, Viruses and other Deliberately Bad Stuff

Can Mac OS X get viruses?

Yes. Microsoft Word and Excel are susceptible to *macro viruses*. These are embedded within Word and Excel documents, and can mangle your Word or Excel settings or even erase the document you are working on. Since they can jump between Macs and Windows PCs, and since people commonly share Word and Excel documents, there is a pretty high risk of exposure. Both Word and Excel have had a preference for “Macro virus protection” for years. Make sure it is enabled. If you open a document and see a warning, be sure to click *Disable macros* to protect yourself from Macro viruses.

Although far less common, Mac OS X is also vulnerable to other types of viruses, such as Trojan horses and worms. These show up so infrequently on the Mac, it has a reputation for being “virus free.” But don’t use that as an excuse to backup less often.

Most of the viruses that make the headlines, taking over email and such, are specific to the Windows world. Even if you receive an infected file of this type, it can’t infect your Mac.

Another threat is from bugs in the applications included with Mac OS X or in the system itself. Although most bugs only affect your ability to use the computer happily, there is a class of bugs that can open up your system to malicious outside users. To help avoid these situations, do the following:

- Install all security updates recommended by the Software Update application
- Keep a good password on your OS X account.

Do I need Anti-Virus software?

Depending on how you use your computer, you may want to invest in anti-virus software. The majority of viruses come to your computer as attachments via email. So do not open attachments sent

from email addresses that you do not recognize or that you are not expecting. The second most common source of viruses is in files and programs downloaded from websites or file sharing services. A cool new freeware screensaver might just have a virus attached. Only install software from websites or people you trust. Some common viruses hijack a victim's email to send virus laden emails to everyone in their address book, so bad stuff can sometimes look like it's coming from a trusted friend or associate. (If you use Apple's *mac.com* email, attachments are automatically scanned for viruses.) Lastly, although a Windows virus will probably not affect your computer, you can still pass that virus along to other Windows users. So if you work with a lot of Windows users and files, you may want to install anti-virus software to help protect them.

What if I use Boot Camp or Parallels to install Windows on my Mac?

If you install Windows on your Mac, it is just as vulnerable to viruses, worms and malicious attacks as any PC running Windows. And if you use Parallels to run Mac and Windows in parallel, all the bad stuff can mess with your Mac files as well as your PC files. You will definitely want to protect your Windows installation with protective software such as Norton Antivirus and Webroot's Spy Catcher.

I think I have a virus. What should I do?

You may be able to find and remove it with the free open source ClamAV, available in a Mac version at www.markallan.co.uk/clamXav/. If you are more comfortable with a commercial product, you can buy the latest version of Norton AntiVirus or Intego VirusBarrier. But don't stop there—the virus definitions that come with the product are probably already out-of-date. You must download the latest update for the program you bought. Updates are released online every month; new shrink-wrapped boxes are usually many months old. Install the program, update it, and run it.

Do I need a firewall?

A firewall helps block incoming Internet traffic to your computer that you did not authorize. OS X comes with a pretty effective fire-

wall that you can configure in the *Sharing* pane in *System Preferences*. Your cable modem, DSL modem or wireless base station may include a firewall as well. Read the manual for your device to learn how to configure it.

What are phishing scams and how can I avoid them?

Phishing attacks or scams are when a hacker pretends to be a website you know and trust in order to get you to reveal your password, social security number, credit card number or other personal information. These are usually emails that look like they come from your bank, credit card company or PayPal, asking you to click on a link to “verify your information.” Those links often take you to a copy-cat version of the website you are expecting. Any information you enter into the fake website will be recorded by the attacker and usually used to commit identity theft. To avoid phishing scams, never ever click on a link in an email that is asking you for personal information or to “verify your account.” Instead open a new browser window and manually type in the well-known address of the website by hand (like *www.citibank.com*). If the company really needed you to log in and verify your information, that should be the first thing it says when you log in.

Another type of popular email scam usually involves someone in Africa who needs help getting ten million dollars out of the country since their economy collapsed. They would be happy to give you a million or so if you can just give them a few thousand dollars to help them get to America. There is no easy money in this world. If it sounds too good to be true, assume it is. Remember that as soon as you wire money there is NO way to get it back. Wiring your money overseas (or even giving them your bank account number to supposedly wire you money) is the equivalent of making a small bonfire and burning it. You’ll never see your money again.

How do I avoid getting spam?

Spam is unsolicited bulk email messages usually offering products like Viagra or \$100 college degrees. Over 80% of the email Tekserve currently receives is detectable spam or viruses. That being said, how do you avoid all that junk? The first step is to guard your private

email address as if it were the crown jewels. Only give your email address out to people that you personally know. Get a secondary “junk” email address with a free service like Google Gmail, that you can use for registering for websites, contests or downloading software. Try not to post your real email address on any websites—spammers troll websites and add any email address they find to their lists.

Apple’s Mail program has a junk mail filter that you can train to become quite effective. Go to *Mail > Preferences > Junk Mail* to check your settings. Mail learns which email is spam as you teach it. Anytime you receive spam, select the message and press the junk mail button (next to delete). Check your brown messages regularly and if Mail has mistakenly marked a message that is not spam, press the *not junk* button. The more messages you train Mail, the better it becomes at catching spam on its own.

Printing

How can I add a printer to my Mac?

Adding a printer can be the most unnecessarily complex and frustrating procedure many users ever experience. Luckily, 80% of the time, it is as simple as plugging in a cable.

If you have a USB printer, try to just plug it in. Your Mac’s operating system has many printer drivers pre-installed, so the printer may simply work without additional effort.

Every time you print a document, your Mac pops open a window for setting printing options. The first of these options is your chance to select a printer. An automatically configured printer will show up in this list. Just select it, and you are good to go.

You may also see here a submenu for *Shared Printers* connected to other Macs on your network. If you can select one, then you are ready to print.

You may also see a submenu for *Bonjour Printers* that are connected to AirPort base stations or other print servers. Again, if you can select one, you are done.

If you still haven't found the printer you are looking for, you're beginning to understand the "frustrating" point mentioned above. If you just purchased the printer, make sure you carefully followed the instructions for powering on and connecting the printer, and for installing any drivers you may have needed. You may need an updated driver from the manufacturer's website. Most of the time, the instructions will lead you down the right path and have you printing in no time. (If it's an old printer with a new computer, don't use the original printer install CD, go straight to the web for the latest driver. Even with a new printer, there may already be an updated version of the driver on the manufacturer's website.)

If you need to add a printer you did not purchase yourself (in an office, for example), things are more vague. First you need to make sure the printer is capable of handling Macs. Ask someone who knows, check the printer manufacturer's website, usually under "drivers" or call the printer's manufacturer. Then follow these steps. (We're going to assume the printer can use AppleTalk; most Mac-compatible printers can.)

Mac OS X 10.4:

1. Open *Printer Setup Utility* in the */Applications/Utilities* folder.
2. Click the *Add* button.
3. A Printer Browser will open, which will (hopefully) find all printers on your network (if they are recent enough). Select your printer.
4. Rename the printer, if desired, in the field below the browser.
5. Verify that *Print Using* has selected the correct driver.

Mac OS X 10.3:

1. Open your System Preferences and click *Network*.
2. In the *Show* pop-up menu, choose the network interface you are using (probably *Built-in Ethernet* but it could be *AirPort*).

3. Click the *AppleTalk* tab, and then check *Make AppleTalk Active*. Quit System Preferences.
4. Open *Printer Setup Utility* in the */Applications/Utility* folder.
5. Click the *Add* button. Your Mac may pause for several minutes for no good reason.
6. In the top pop-up menu, choose *AppleTalk*.
7. Cross your fingers, wiggle your nose, chant “A la peanut butter and jelly sandwiches,” and watch your desired printer show up in the list. Select it, and click *Add*.

Wasn't that simple? The trouble is, it may not have worked. In step 6, try looking through some of the pop-up menu's other choices. *Epson AppleTalk* may be another possibility, or *Windows Printing*.

In any version, you also may need to download a driver from the printer manufacturer's website. Make sure you get the one for OS X, install it, and then reopen the Printer Setup Utility.

How can both my Macs share one printer?

There are certain prerequisites, but then it's not so tough:

1. Everyone needs to be running Mac OS X 10.2 or later.
2. Networking must already work—everyone should be able to access the Internet, for example, though the same router. See the *Communication, Internet, and AirPort* section for instructions.
3. The printer should already be working well on one Mac.

Say Bonnie wants to share her USB printer with Clyde. Bonnie should open her System Preferences, and click on *Sharing*. She'd check the box next to *Printer Sharing* to enable it.

Clyde then simply tries to print. When asked to choose a printer, he should look in the pop-up menu and look in *Shared Printers*. Bonnie's printer should show up.

This works only when Bonnie's Mac is on and awake, of course. If you want another solution that doesn't depend on the Mac, you can use certain AirPort Base Stations with many USB printers. For an office with a heavier printing load, we recommend a networkable printer with Ethernet.

When I try to print to my inkjet printer, I get an error message that the printer is not responding. What's wrong?

When you turn on your inkjet printer, it performs a self-test before it enters normal operation mode. If one of the components fails the startup test or an ink cartridge is empty, the printer enters an error mode in which it will not respond to any commands from the computer. Normally it will indicate the error with a flashing light or an error message. The first things to check are whether the paper is properly seated in the sheet feeder, and whether there is ink in the ink cartridge. When the printer is ready, you should see a steady green light on the printer.

Plugging Things In

Where is the audio input jack on my new Mac?

For a few years many Macs lacked analog audio input jacks, but they made a comeback recently (and most now have both analog and optical digital connections). If you need to feed analog audio into a Mac that lacks an analog input, you need a USB audio interface, like a Griffin iMic (which is not a microphone at all, but rather a line/mic level to USB adapter), or a more advanced interface like an Edirol UA-1EX or Roland UA-25. If you are serious about audio on the Mac, you will be looking at more sophisticated products, such as the DigiDesign Mbox 2 or a FireWire audio interface, such as the Metric Halo products or DigiDesign 002. Tekserve's Pro Audio Video department can help you choose the best interface for your needs.

Why won't my speakers plug into the Apple Speaker jack on my computer?

The Apple Speaker jack was a special micro jack used from about 2000 to 2004 that is only designed to connect Apple brand speakers (although Griffin makes an expensive adapter to connect other stuff to it). Non-Apple brand computer speakers plug into the regular audio out mini-jack on your computer, not the Speaker jack.

Macs don't come with SCSI drives anymore—so what new acronyms are available for drives?

Serial-ATA and Ultra-ATA (also called EIDE or IDE) drives have improved dramatically in the last several years, and performance differences between ATA and old-fashioned SCSI are much smaller than they used to be. But the price differences are still quite large. These days, we recommend SCSI drives (or disk arrays) only for rare audio, video, and server applications with very high data rates. Even then, an external eSATA array or a Fibre Channel solution such as the excellent Xserve RAID is usually our first choice.

If my computer has both USB and FireWire ports, which type of external drive or DVD burner should I get?

FireWire is always faster and is the preferred interface for these devices. Many hard drives and DVD burners now come with both interfaces, so you can use them with really old computers that might lack FireWire. But if your computer has FireWire, use it.

What is FireWire Target Mode?

FireWire Target Mode allows a Mac to mimic a FireWire external drive so you can connect it to another Mac. On most Macs with built-in FireWire, you can press the T key while starting up, and the computer should enter a special FireWire Target (or disk) mode, indicated by a FireWire icon floating around the screen. That computer will then act like an external FireWire hard drive. You can use a standard 6-pin FireWire cable to mount it on another Mac's desktop like any other drive. You can even run data recovery or repair programs on a drive this way if your computer won't boot.

When I add a new device to my computer, like a USB printer, should I install the software that came with it?

As Apple has upgraded the OS, they have included support for all sorts of devices. So we suggest trying the device first. If it works without installing new software, you are ahead of the game.

Old drivers can lead to kernel panics, and you usually don't know how old the driver on that CD is. We always prefer drivers downloaded from the manufacturer's website rather than drivers packaged in boxes. You can also check *www.versiontracker.com* for the latest driver updates.

Will a new LCD display attach to my Mac?

Almost every LCD display currently sold (at least sold at Tekserve) has a DVI connector to attach to the computer. So the question is really, "Does my Mac have a DVI port?" Power Macs since the original Blue G3 have either a DVI video card, or an ADC video card and a short ADC-to-DVI adapter cable. Recent PowerBooks and MacBooks have a mini-DVI connector and will require an inexpensive adapter. iBooks and original Titanium PowerBooks have analog VGA out only, so you will need an LCD display that supports the analog VGA connector. Many non-Apple brand LCDs that we stock also support VGA, although you may need an extra cable.

The exception is Apple's biggest LCD, the 30-inch Cinema HD Display. This monster requires a unique video card (with dual link DVI) that works only in the Power Mac G5, Mac Pro, PowerBook, or MacBook Pro with built-in Dual-Link Support and enough VRAM.

Older LCD displays will mostly follow the same rule. Again, the exception comes from Apple's own displays, some of which used a proprietary ADC connector to channel video, power and USB signals. If you have one of these displays, and a Mac without an ADC video card, you can purchase a \$99 DVI-to-ADC adapter to fit together all the plugs. However, a new display may be a better investment.

Memory and Storage

What's the difference between RAM and a hard drive? Don't they both store data?

Computers have two kinds of storage. The hard disk drive retains data even when the power is off, and it stores the Mac OS (operating system, what makes it all work), all of your programs, data files, music, pictures and so forth. The hard drive is semi-permanent storage (hard drives can and do fail, which is why we recommend backups). RAM is kind of like a scratch pad, where the computer puts everything it is working on right now. The RAM is forgotten when you shut down. All your work is saved to the hard drive. If you are retouching a photograph in Photoshop, it will be much faster if the computer can read the entire photo off of the hard disk and into RAM at once. If you don't have enough RAM, the computer will have to keep constantly swapping data between the hard drive and RAM, and things will operate more slowly. Data in RAM can be manipulated very fast, while reading and writing to a hard drive is much slower.

How do I know if I need more RAM?

In OS X, your computer allocates RAM (random access memory) to programs and processes automatically. If you use memory intense programs (i.e. games, video or graphics editors) or just like to have a lot of programs open at once, you may want to upgrade your memory. Also if your computer seems to be running slowly or hanging with a spinning beach ball regularly, you may need more memory. One way to check is to go to */Applications/Utilities/Activity Monitor*. Click on the *System Memory* tab and watch the graph as you work. If you have enough memory, the pie chart should continue to have chunks of green (free memory) or blue (inactive memory) throughout your tasks. If the pie chart fills up with red (wired memory) and yellow (active memory) your computer is probably being slowed down because it is using all the memory available. While in Activity Monitor, also look down at the bottom where it says *Page ins/out*. If the outs are growing, you need more RAM.

Tekserve can install more memory in your machine while you wait. Of course Tekserve RAM meets or exceeds all Apple specifications and comes with our lifetime immediate replacement warranty.

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 often the icon in the upper right corner of your desktop. Tower shaped Macs have room for additional hard drives inside them, and all Macs can connect to external hard drives through FireWire and USB (and also over Ethernet, Fibre Channel and other means). Compact Flash and USB Flash Drives have no moving parts and use only special digital chips like RAM, but they read and write data more slowly and can retain their data even without power. The Mac treats them like any other drive.

If your startup disk is almost full, your computer may behave sluggishly and you might even be unable to save new files. To find out what's taking up space on your drive, you can download a freeware utility called What Size from www.versiontracker.com. You can prune the files on your hard drive to make more room (but please be sure that you archive copies of those files to CDs, DVDs or an external drive). Remember that moving files to the trash doesn't make more room — you also have to select *Empty Trash* from the Finder menu. And then your files are truly gone, so be careful.

If you have a very large iTunes library you may want to get an external drive to store it all and free up space on your startup disk. Please see Apple Knowledge Base article 301748 at www.apple.com/support.

Of course, if your hard drive is getting full and there's nothing to prune, you should consider upgrading to a larger drive. See the next question.

Is it easy to upgrade the hard disk in a Mac?

Some are easier than others. Tekserve usually completes hard drive upgrades within 24 hours, including transferring all the data from the old drive (so your computer looks and works just like it did before, except that the hard drive has more free space). Drive sizes are constantly growing. There are now iPods that have hard drives larger than many computers.

You can also purchase external hard drives to provide additional storage space for your work and your backups. FireWire is always faster and better than USB. Many external drives now have both interfaces. Tekserve stocks a wide variety of external drives and can recommend the best one based on your specific requirements (size, cost, speed, etc.).

I bought a new 500GB drive, but the empty drive has only 460GB free. Where's the rest?

Hard drive manufacturers calculate hard drive sizes using base 10, where 1000 bytes equals one kilobyte. But computers do everything in binary (base 2), where it takes 1024 bytes to store a kilobyte of data. In addition, the computer's OS uses part of the drive for a directory to keep track of the actual data. As a result, the usable capacity of a hard drive is typically 90 to 93% of the advertised capacity.

Portable Computers and Batteries

Does a battery drain when not in use? Are new batteries fully charged?

All batteries have some "self-discharge," usually 1% to 3% per day. That means that the battery will be dead after a month or two of sitting on the shelf and will need a full charge. Brand new batteries are always shipped without much charge, and must be charged before use. For more information on portables and batteries, see www.apple.com/batteries.

How do I know if my battery is subject to a safety recall?

Apple, Dell and others have all had battery recalls in the last year or two. Most of the problem batteries were made by Sony, normally a very reliable supplier. To check if your battery is subject to recall, go to www.apple.com/support/batteryprogram to see if your battery has been recalled. You can order a replacement right on that website, you'll need both your computer's serial number and the battery's model and serial number. Due to safety and other issues, the battery exchanges are handled only through the mail, not at retail locations like Tekserve or Apple.

Is it okay to run my portable computer without a battery?

Yes, you can run Apple portable computers from just their power adapter without a battery. If you need to operate without a battery, after you start the computer up you should check the clock and reset it if need be before working on any files. Otherwise your file modification dates and dates on emails you send may be cockywampus.

Most PowerBooks and MacBook Pros have an internal rechargeable backup battery that saves your PRAM settings (display resolution, clock, etc.). If you leave a PowerBook unplugged for a week or two without a regular battery installed, that internal battery will be depleted, your settings will be lost, and you may have trouble starting up the computer. iBooks (of all sorts) and all 12-inch PowerBook G4s don't come with—or need—a backup battery, but they should have a regular battery in place to preserve their settings.

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).

Should I get AppleCare for my portable?

Portable computers are manufactured more precisely, get rougher handling than desktop computers, and are expensive to fix. We think that Apple's own extended warranty program, called AppleCare, is a

good investment for portables. Of course Apple is betting that you won't need it and that they'll come out ahead, but many of us would rather spend \$249 or \$349 on insurance to avoid the chance of a \$500 or \$1,000 repair. AppleCare doesn't cover data, broken plastic or physical damage from dropping, spills, or abuse. You also get three years of phone support from Apple for the computer and the Apple software that came with it. AppleCare can be purchased only before your original warranty expires, and it cannot be renewed. AppleCare now provides worldwide coverage (where Apple offers service).

Communications, Internet, and AirPort

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

Mac OS X 10.4 allows you to set up preferred networks in the *Network* preference pane in *System Preferences*. 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.

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

There are several things you can try. AirPort can use a number of different channels, but most base stations default to the same channel, so first try using the AirPort Admin Utility (in the Utilities folder in your Applications folder) to change to another channel (your computer always tries all channels, only the base station is stuck with one). If you don't have an Apple AirPort base station, you probably configure the base station through your web browser; check the manual for your particular base station. If you want to be scientific about it, use a shareware utility like iStumbler to check which channels are most popular and 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 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.

How do I save my Internet settings or switch among different service providers?

Make new “locations” in the pop-up menu at the top of the *Network* preference pane in *System Preferences*. This saves all your network preferences, AirPort, TCP/IP, PPP, modem, etc. Note that Mac OS X has an *Automatic* location setting with *all ports active*, which automatically switches to the first available connection (e.g., you unplug from Ethernet at work and go home, it detects your home AirPort network, and switches automatically). To disable this behavior, select *Network Port Configurations* from the *Show* pop-up and uncheck the ports you want to be ignored.

Can lightning really damage my modem or Ethernet port?

Yes. Whenever there is a big thunderstorm we see a number of Macs with dead modems come in for service afterward. We've also seen lightning destroy Ethernet ports through cable and DSL modems, requiring expensive logic board repairs. (One newspaper in the suburbs lost over 20 Macs during a storm; their insurance did cover it, but some policies exclude such damage.) We suspect this happens most often to computers in houses or brownstones with outdoor phone wiring rather than big apartment buildings, but we recommend unplugging from the phone line or cable modem during storms. Or you can try a surge protector with phone line or Ethernet port protection, but we haven't tested how well they work.

Because the Ethernet port is part of the logic board it can be very expensive to repair, some people use AirPort or a USB network adapter as an inexpensive workaround instead of repairing the logic board.

Is AirPort compatible with 802.11a, 802.11b, 802.11g or 802.11n? And what the heck does Pre-N mean?

The electronics industry works together to form common standards so that Apple wireless works with Dell wireless and so on. There are

a number of different standards organizations. The IEEE (Institute of Electrical and Electronic Engineers) has promulgated the 802.11 standards for wireless computer networking.

The original Apple AirPort followed the 802.11b specification, and was capable of 11Mbps speed. Apple later introduced “AirPort Extreme” which is 802.11g, capable of 54Mbps (in theory at least). The Apple AirPort Express uses 802.11g. AirPort and AirPort Extreme are fully compatible (working at a common lower speed), so AirPort Extreme also works just fine with 802.11b wireless base stations and routers. 802.11a never caught on except at a few corporate campuses, but recent Macs can talk 802.11a as well. 802.11n is the next (faster) wireless standard scheduled for adoption in 2007. Again, existing AirPort and AirPort Extreme products should be interoperable with 802.11n at a common speed. Pre-N refers to products that some companies have released which comply with their guess at the final 802.11n spec. Since they are Pre-standard, interoperability and highest speeds are not assured. Apple is likely to release 802.11n products after the standard is finalized.

How do I connect my Mac to DSL or a Cable Modem?

Usually via Ethernet—all recent Macs have a built-in RJ45 Ethernet port and will plug right into a cable or DSL modem. The Ethernet port looks like a wider than normal telephone jack and may be labeled with a < ●●● > symbol. You can also connect an AirPort Base Station or other wireless router to your DSL or cable modem and then use AirPort cards in any recent Mac. If you want to connect more than one Mac to a single DSL or cable modem without AirPort, you may need a router. Many suppliers such as Verizon now supply an Ethernet router with AirPort-compatible wireless at no extra charge.

TIP

Most cable and DSL modems need to be reset before they will work with a new or additional computer on your network. Cycle the power on your DSL or cable modem by turning it off for a few minutes then turning it back on.

Is DSL or a cable modem safe?

With DSL and cable modems, your computer is usually always connected to the Internet. With some cable modems, other users in your neighborhood may be able to access your shared files or networked printers. You should turn off file sharing and web sharing, or at least set complex passwords. You can turn on Mac OS X's software firewall in the *Sharing* preference pane, but that doesn't solve all problems. Depending on the importance and secrecy of your files, you may want to get a hardware firewall. An AirPort Base Station provides some firewall functions such as network address translation (NAT). If you are not using AirPort, a router provides these services (and more) while allowing you to share a single cable or DSL connection among multiple computers.

Are AirPort, 802.11 and wireless really insecure?

Well, it's not the most secure network available. When your data is traveling on a wire, an intruder would have to tap it; definitely possible, but a bit of a hassle. With AirPort, your data is a radio transmission, still not totally in the clear, but a whole lot more available to the world. No encryption is really great encryption, and the WEP encryption offered by most AirPort is considerably less secure than the SSL encryption in most web browsers. Studies have shown vulnerabilities in the security of IEEE 802.11b and 802.11g technologies such as AirPort and its WEP encryption. Recent AirPort software allows for the newer WPA Personal encryption. Keep in mind that using other encryption—such as Virtual Private Networks (VPNs), secure HTTP (pages beginning with *https:*) and Secure Shell (SSH)—to transfer sensitive information (credit card numbers, etc.) provides an extra layer of security, leaving pure gibberish in the hands of your friendly network intruder.

What about my AirPort Base Station? Can people steal my bandwidth?

First of all, set a decent network password using the AirPort Setup Assistant. Don't use your dog's name. In addition, current AirPort software will allow you to restrict access to your base station based on the MAC address (or "AirPort ID") of the AirPort cards you have

in your machines. You can find the unique 12-character AirPort ID on the label of each AirPort card or in the Apple System Profiler. Or, you may choose to openly share your broadband Internet connection with friends and neighbors.

File Sharing

I want to transfer files from one Mac to another. How do I do that?

There are many ways to move files from one computer to another: you can email them to yourself, burn them on CD or DVD, or copy them via an external drive (USB or FireWire—even an iPod). You can also put files on an Apple iDisk or other network servers and then copy them back to the other computer. If both Macs have FireWire, you can use FireWire Target mode (press T while the computer is starting up) to make one computer act like an external FireWire drive that you then connect to the other computer.

Finally, you can network the two computers and use File Sharing to move files back and forth. This may be the best approach if you will be moving large files back and forth regularly. There are three steps: network the computers with wires or AirPort, share the files on one computer, and access the files from the other computer.

How do I network two or more computers?

If you are using AirPort or a DSL or cable modem router, the computers are already networked.

If there are two computers and nothing else, plug a \$10 Ethernet cable between the two. All current Macs autosense what they are connected to, so you don't need a special crossover cable (but a crossover cable works between *any* two Macs, even ones that don't autosense).

For more than two computers, use AirPort, a cable/DSL router with built-in Ethernet switch, or an Ethernet switch (available in sizes from 4-port to 48-port, which can be stacked for larger networks).

Plug the Ethernet port of each computer into the Ethernet switch. A light should turn on to indicate a good connection.

How do I turn on File Sharing?

1. Open *System Preferences* in the *Apple* Menu. Click on *Sharing*.
2. Make sure that *Computer Name* at the top of the window is set to something that makes sense.
3. If you want another Mac to connect to your Mac, make sure that the checkbox next to *Personal File Sharing* is checked. If you want a Windows PC to connect to your Mac, click *Windows Sharing* (and in 10.4 click the *Enable Accounts...* button). For better security, don't check the other methods of sharing that are listed.
4. Under Mac OS X 10.3 or 10.4, note the small print at the bottom of the Sharing window. It will display text such as "Other user can access your computer at `afp://192.168.1.2/`". Note that address—it will be helpful later.

Under Mac OS X, you don't need to specifically set up sharing for folders. Guests can automatically access everything in the *Public* folder inside your user home folder. If you log in using your own name and password, you can access everything in your own Home folder. (This is a good time to consider your password and reset it to something more secure.)

How do I access a shared computer over the network?

If you wrote down an address in Step 4 above, then connecting isn't too difficult. In the *Go* menu, select *Connect to Server* (on a Windows PC, just open any browser window). Type in the address you wrote down, and click *Connect*.

If that didn't work, you can try the following.

1. Browse for the shared Mac. In the Finder, click on the *Network* marble icon in any Finder window. Then look in Local or Servers for the name of the shared computer:

2. Click on the shared computer name to highlight it and click the *Connect* button.

When prompted for a name and a password, enter the name and password you previously created on the other computer, or choose *Guest*. You will now see a list of shared folders. Choose one and click *OK*. The shared folder now shows up on your own desktop.

What if I followed the instructions above, and I don't see the other computer when I try to connect?

We assumed that your TCP/IP settings were already correct. The Mac's Bonjour feature should automatically configure networking most of the time. If you have changed the networking in certain ways (that would usually mean you don't have Internet access), then you might need to go to the *Network* preference pane and choose *Using DHCP Server* in the Configure pop-up menu. You might have to do this on one or both of the two computers.

We didn't cover OS 9, but when connecting OS X Macs to OS 9 Macs, you might also need to enable File Sharing over TCP/ IP in the OS 9 Mac's File Sharing control panel.

iPod and iTunes

iPod issues?

Apple says that these five steps (known as the five Rs) will conquer most iPod issues:

1. Reset your iPod.
2. Retry with a different USB port.
3. Restart your computer.
4. Reinstall iPod and iTunes software.
5. Restore your iPod.

They will walk you through it at www.apple.com/support/ipod/five_rs

How do I get music on my iPod?

Start by adding music to the iTunes library on your computer. Launch iTunes, insert a music CD, when you see the tracks listed, click *Import*. Once you've got some music in your library, connect your iPod and let iTunes help you set your preferences. If you choose to have your iPod sync automatically, iTunes will do the rest; if you would rather select particular music yourself, simply drag and drop playlists or tracks from your library onto the *iPod* icon in the iTunes sidebar.

How do I set iTunes to import a whole series of CDs easily?

From the *iTunes* menu, select *Preferences...* then click the *Advanced* icon, then the *Importing* tab. Change the pop-up labeled *On CD insert* to *Import Songs and Eject*.

How do I charge my iPod's battery?

The iPod will charge whenever it is connected to your computer. If you don't have your computer, you can get an inexpensive USB charger and use the cable that came with the iPod.

Does Tekserve repair iPods?

The only repair we offer is an out-of-warranty, while-you-wait battery replacement for \$49. We think that spending \$100 or more to repair an out-of-warranty device that cost a few hundred dollars is probably not a good investment. If you really want to fix an older iPod, we've heard good things about www.ikaput.com. Apple has chosen to restrict iPod warranty repairs to themselves, so unfortunately we can't help you if the iPod is covered by warranty (but we can sell you iPod AppleCare—see the next question).

Apple says it will cost \$30 to repair my iPod under warranty. How can that be?

During the one year warranty, Apple charges a \$30 handling fee for repairs after the first six months (even at iPod or Genius bars in their stores). You can avoid that fee, and double the warranty to two years

including telephone tech support, by purchasing AppleCare for the iPod before the one-year warranty expires.

If I decide to replace a broken iPod do I just throw it away?

When you buy a new iPod at Tekserve, we will give you a 10% discount if you turn in your old iPod (dead or alive) for proper recycling.

My iTunes library is taking up too much space on my computer. Can I move it to an external disk?

Yes. This is fairly involved if you want to preserve your playlists, ratings and history. Please see Apple Knowledge Base article 301748 at www.apple.com/support. You may also want to look at article 304447, which explains how to open a different library when starting iTunes (in case you decide to keep your full library on an external drive, and a smaller travel iTunes library on your portable computer).

Windows XP, Vista, Boot Camp, Parallels and Beyond

This is a Macintosh FAQ, why does it say Windows XP right up there?

In 2006 Apple transitioned the processor in Macintosh computers from the PowerPC G4 and G5 to new Intel processors—the very same Intel processors used in Dell, HP and other Windows (“Wintel”) computers. The Intel Macs still come with Apple’s award winning OS X operating system and run it beautifully. Then Apple went further, and released Boot Camp so you can actually install Windows XP on a Mac.

What exactly does Boot Camp do?

Boot Camp is a collection of software compiled by Apple that allows you to install Windows XP as a separate operating system on your Intel Mac. Each time you start your computer you will be able to choose between running Mac OS X or Windows XP. When you purchase a new Intel Mac from Tekserve, we can set up Boot Camp

and install Windows XP for less than the price of a retail copy of Windows. This means you can run “Windows only” software on the Mac (but not at the same time as you are running Mac software). Right now Boot Camp is still “beta” software and it will expire when Leopard OS X 10.5 ships in 2007. But Apple has promised to put the release version of Boot Camp into 10.5, and presumably by then it will support not just Windows XP, but Windows Vista too.

Running Windows XP on a Mac could be useful, but what if I want to use both Mac OS X and Windows without restarting?

The answer is a program called Parallels Desktop. You (or Tekserve) can install Parallels Desktop on any of the new Intel Macs. Then you (or we) can install Windows XP (or a large number of other operating systems) and run Windows in parallel with the Mac OS X, jumping back and forth between them whenever you like.

I just have one Windows program that I need to run a few times each month. Spending hundreds of dollars to buy and install a copy of Windows XP seems like a lot of time and expense and potential for all the bad Windows stuff a Mac was supposed to avoid.

At the time we’re writing this it hadn’t yet been released, but a program called Crossover Mac promises to let you run Windows applications on your Intel Macintosh without needing to install Windows itself. Sounds too good to be true, but the beta versions are fairly promising. Naturally there are more compatibility issues than if you actually install Windows XP on the Mac. To check if the particular program you need to run will work with Crossover, check www.codeweavers.com/compatibility/.

Other Questions

How do I clean my screen?

Never spray anything onto the screen. Apple says to wet a lint-free cloth and use it to wipe the screen clean. Don’t drip liquid down into the screen or bezel. Don’t use scratchy paper towels. “Klear Screen” is the greatest. Apple and Sony both recommend it.

Where can I donate my old computer?

Nearly any group accepting donations wants working computers, not junk. Many insist on fairly recent units that will get people smoothly onto the Internet. A few non-profits in this area are:

- www.cristina.org/dsf
- www.thepencilbox.org
- www.sharetechnology.org
- www.worldcomputerexchange.org

If your computer is not of interest to non-profits, but you don't want to just ditch it, you can probably give it away through www.craigslist.org, or www.freecycle.org rather than just throwing it in the trash. And if you are going to trash it, you can do it in an environmentally sound manner through New York's own Department of Sanitation at www.nyc.gov/html/nycwasteless/html/recycling/electronicsrecycling.shtml. Tekserve offers free recycling of your old computer when you buy a new one.

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 Ave
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 computers, 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.

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 20,000 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 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 are also happy to accept corporate credit cards and company checks.

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.

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?

Yes, for individuals purchasing up to \$20,000 of equipment, we offer the Tekserve Credit card through American General Bank. 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/credit for details. All financing is subject to credit approval (and lots of other fine print).

Index

Symbols

.Mac 4
/ (slash) 17

A

Activity Monitor 26, 27, 56
adapters
 audio 53
 video 55
ADC. *See* adapters: video
AirPort 60–64
 getting software updates with 10
 printing with 50, 51
 sharing printers 53
analog audio 53
anti-virus software. *See* viruses
AppleCare warranty 5, 6, 12, 59
AppleTalk 51, 52
applications
 after a data transfer 38–40
 general troubleshooting 22–23
 unexpectedly quit 21
 won't launch 20–21
Archive & Install 37
ATA drives 54
attachments 43
audio
 input jack 53

B

backups 29–35
 archiving vs. 11
 data recovery 8
 experimenting and 4
 reasons for 1–78
 repairs and 8
bandwidth 63
batteries 58–60
 inaccurate clocks 27
 Power Manager 18–19

 safety recall 59
beeps
 at startup 13–15
blue screen 16
Boot Camp 68
 and viruses 48
booting. *See* startup

C

cable modems 62
CDs and DVDs
 backing up to. *See* backups
 cross-platform 44
 driver installation 20
 importing music from 67
 novelty 29
 stuck 28
 updates from Tekserve 10
Cinema Display 55
Classic System Folder 17
cleaning screens 69
Clean Install 37
 data transfer 38
clock 27
cockywampus 59
cordless phones 61
corruption
 and backups 29
 directory damage 30
 permissions 28
crashes 20–24
Crossover Mac 69

D

data recovery. *See* Tekserve: data recovery
Data Rescue (application) 16
data transfer
 recovering after 38–40
date & time 27
DHCP 66

- DigiDesign 53
- directory damage 30
- Disk First Aid (application) 16
- disk images 28, 31
- Disk Utility (application) 11, 15, 16, 25, 28, 35
- DiskWarrior (application) 11, 12, 15, 16
- displays
 - cleaning 69
 - connections 55
- documents
 - backing up. *See* backups
 - file extensions 42
 - fonts in 43
 - no application 41–42
 - problems saving 43
 - unsaved 21, 24, 46, 78
 - viruses. *See* viruses
 - wrong application 42–43
- donating old computers 70
- Dot Mac. *See* .Mac
- driver
 - obtaining from the Internet 9
- drivers
 - avoiding installation from CD 55
 - during OS installation 35, 37
 - printer 50
 - removing 24
- DriveSavers 8
- DSL
 - and lightning 61
 - connecting 62
 - firewalls 49
 - resetting 62
 - security 63
- DVDs and CDs. *See* CDs and DVDs
- DVI. *See* adapters: video
- E**
 - Edirol audio interface 53
 - EIDE drives 54
 - Eject 28
 - encryption 63
 - Epson 52
 - Erase & Install 37
 - errors
 - drive 12
 - general application
 - troubleshooting 22–23
 - iPhoto 28
 - permissions 28
 - printing 53
 - saving 43
 - Ethernet
 - booting problems and 17, 25
 - connecting drives with 57
 - connecting to AirPort 62
 - connecting to cable or DSL 62
 - file sharing 64
 - lightning damage 61
 - printing 51, 53
 - switching locations 61
 - extensions
 - disabling 18
 - filename 41–42, 43
 - kernel 24, 40
 - extensions, document 41
- F**
 - fibre channel 54, 57
 - file extensions. *See* extensions:
 - filename
 - files. *See* documents
 - file sharing 64–66
 - Final Cut Pro 71, 72
 - firewalls 48
 - FireWire
 - audio interface 53
 - ejecting drives 30
 - external drives 8, 11, 13, 17, 33, 57
 - file sharing 64
 - hot-plugging 23
 - Target Mode 54, 64
 - upgrading using 38

- USB vs. 54, 58
- firmware
 - Open. *See* Open Firmware
 - updates 36
- fluorescent lamps 61
- folders
 - Applications 28
 - blinking at startup 14
 - Classic System Folder 17
 - permission problems 43
 - Preferences 22
 - Previous System Folders 37
 - sharing 65
 - slashes and 17
 - StartupItems 40
 - transferring to a new Mac 38–40
- Font Book 20
- Font Reserve (application) 22
- fonts 17, 20, 43
- force quit 24, 46
- freezing up 24

G

- G3 / G4 / G5. *See also* PowerPC
 - problems starting G4 13
 - video connections 55
- Griffin 53, 54

H

- hard drives
 - archiving files 11
 - backups. *See* backups
 - FireWire. *See* FireWire
 - repairing permissions 28
 - SCSI, ATA, SATA, etc. 54
 - trouble starting 12
- Hardware Repairs. *See* repairs:
 - hardware
- hub, USB 23

I

- iBook
 - AppleCare 59
 - battery 59
 - resetting power manager 19

- video connections 55
- iCal 18
- IDE drives 54
- IEEE 62, 63
- iMic. *See* adapters: audio
- ink 53
- inkjet printers. *See* printers
- Intego VirusBarrier 48
- Internet 60–64
 - as backup 33
 - disconnecting while upgrading 36
 - firewall 48
 - free 10
- iPhoto 28, 39
- iPod 66–68
 - AppleCare 5
- iTunes 66–68
 - after repair 27
 - ejecting CDs with 28
 - importing 39

J

- jacks
 - audio 53, 54
 - Ethernet 62

K

- kernel extensions 24, 40
- kernel panics 24
- keyboards
 - bringing in for repair 7
 - numbers only, or no numbers 23
 - shortcuts 44–46, 78
 - spills 12
 - unresponsive 23
- Klear Screen 69

L

- LCD. *See* displays
- LED, flashing power 14
- Leopard (OS X 10.5) 3, 31
- library
 - iTunes 57, 67, 68

lightning 61

M

MacBook, MacBook Pro 58–60

AppleCare 59

battery 59

resetting power manager 18

video connector 55

MacLink Plus 43

Mac OS X

Upgrading and Reinstalling
35–40

macro viruses. *See* viruses

manual 3, 4

mdimport 27

memory 56–58

Metric Halo 53

Microsoft Office

after crash 21

cross compatibility 43

viruses 47

microwave ovens 61

Migration Assistant 38

monitors. *See* displays

mouse. *See* trackpad

bringing in for repair 7

unresponsive 23

musical notes, at startup 13

N

“No application to open the
document” 41

NAT 63

networks 60–64

Norton Antivirus 48

Norton Disk Doctor 16

Norton Volume Recover 16

O

Open Firmware 28

OS X. *See* Mac OS X

P

paper clip 28

Parallels Desktop 69

and viruses 48

passwords

AirPort 63

forgetting 40, 41

resetting 40–41

viruses and 47

PCI cards 14

permissions 28

phishing 49

Pogue, David 4

PowerBook

AppleCare 59

battery 59

resetting power manager 18–19

trackpad problems 25

video connections 55

power manager 13, 18–19

PowerPC 68

PPP 61

PRAM 14, 15, 27

PreferencePanels 17, 39

printers

adding 50–52

drivers 51, 52

repairing 9

sharing 52–53

unresponsive 53

privileges

administrative 41

programs. *See* applications

public folder 65

Q

question mark, blinking 13

R

RAM

hard drive vs. 56

insufficient 25, 35, 56

kernel panics and 24

paging out 26

problems with 14

warranties 24, 57

Repair Disk Permissions 28

- repairs
 - hardware 6
 - iPods 67, 68
 - peripherals (printers, etc.) 9
 - prevention 10
 - software 6
- Retrospect 33
- Roland 53
- routers 52, 62, 63, 64
- S**
- Safe Boot 18
- scanners
 - repairing 9
- screens. *See* displays
- security
 - AirPort 63
 - file sharing 65
 - updates from Apple 47
- slash (/) 17
- slowness
 - programs 25
 - startup 25
- software. *See* applications
- software repairs. *See* repairs:
 - software
- spam 49
- speaker jacks. *See* adapters: audio
- speakers 54
- spills 7, 12
- SSL 63
- startup disk 15, 17, 26, 28, 32, 57
- StartupItems 17, 40
- storage devices. *See* hard drives
- Suitcase (application) 22
- T**
- TCP 61, 66
- TechTool 16
- Tekserve 70–72
 - appointments 7
 - corporate accounts 9, 71
 - data recovery 8
 - estimates 7
 - financing 72
 - messengers 72
 - Professional Services 6, 9, 71
 - Quick Drop-Off 6, 72
 - sales 71
- time. *See* clock
- Time Machine 31, 33
- trackpad 25
- U**
- Unexpectedly Quit 21
- Universal Access 23
- unsaved work 21, 24
- updates (software) 9
- V**
- VersionTracker 10, 20, 22, 39,
 - 55, 57
- VGA. *See* adapters: video
- viruses 47–50
- VPN 63
- W**
- warranties
 - AppleCare 5
 - iPods 67
 - novelty CDs 29
 - portables and 59
 - RAM 24, 57
 - software isn't covered 29
 - spills 7, 12
 - third-party 9
- Webroot Spy Catcher 48
- WEP 63
- Windows, Microsoft 68–69
 - saving and reading files 43
 - viruses 48
- Word, Microsoft. *See* Microsoft Office
- WPA 63
- X**
- Xsan 71
- Xserve RAID 54

Command Key Combinations

Startup Manager	Option while booting, allows you to choose which volume to boot from if you have more than one startup volume or CD
Boot from Optical Disc	“c” while booting 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 booting 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 booting
Safe boot	shift key while booting, 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.