



Take Control *of* Upgrading to Tiger

by Joe Kissell

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READ ME FIRST

Welcome to *Take Control of Upgrading to Tiger*, version 1.0.

Upgrading to a new version of Mac OS X can be a daunting prospect, but with some expert advice, you'll be running Mac OS X 10.4 Tiger in no time. This ebook eliminates the uncertainty and the confusion, guiding you through every step of the process. This ebook was written by Joe Kissell, edited by Tonya Engst, and published by TidBITS Electronic Publishing.

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Basics

In reading this ebook, you may get stuck if you don't know certain basic facts about Mac OS X or if you don't understand Take Control syntax for things like working with menus or finding items in the Finder. Please note the following:

- **Path syntax:** I occasionally use a *path* to show the location of a file or folder in your file system. Path text is formatted in bold type. For example, Tiger stores most utilities, such as Terminal, in the Utilities folder. The path to Terminal is: **/Applications/Utilities/Terminal**.

The slash at the start of the path tells you to start from the root level of the disk. You will also encounter paths that begin with ~ (tilde), which is a shortcut for any user's home directory. For example, if a person with the user name **joe** wants to install fonts that only he can access, he would install them in his **~/Library/Fonts** folder, which is just another way of writing **/Users/joe/Library/Fonts**.

- **Finding preference panes:** I sometimes refers to Mac OS X preferences that you may want to adjust. To change these system-wide settings, open System Preferences by clicking its icon in the Dock or choosing System Preferences from the Apple menu. You access a particular preference pane by way of its icon, or the View menu. For example, to see "the Displays preference pane," you would launch System Preferences and then click the Displays icon or choose View > Displays. To see "the Color pane of the Displays system preferences," you would do the same thing, and then click Color.
- **Menus:** When I describe choosing a command from a menu in the menu bar, I use an abbreviated description. For example, the abbreviated description for the menu command that creates a new folder in the Finder is "File > New Folder."

INTRODUCTION

Upgrading your Mac's operating system is a bit like removing your house's existing foundation to add a new garage underneath—something that happens frequently here in San Francisco. In both cases, the procedure is conceptually simple: set aside the parts you want to keep; remove some old pieces; add some new pieces; replace the original structure onto the new foundation; and reconnect all the infrastructure that was severed in the process. Assuming all goes well, the final product is more stable and has wonderful new features.

In the case of Mac OS X 10.4 Tiger, tens of thousands of pieces—the files that make up the operating system and your data—must go into just the right places with just the right settings. Ensuring that this happens is the job of the installer application, which knows what needs to go where. Apple wants you to think of the process as a simple one: double-click the installer, answer a few easy questions, wait for the installation to complete, and enjoy your new operating system. And to their credit, Apple has made some wonderful improvements in the Tiger installer that promise to eliminate many frustrations of earlier upgrades. Many users will have just the sort of trouble-free upgrade we all hope for.

Even so, a major system upgrade such as this one is a complex operation with many potential pitfalls. Problems can and do occur. Some users will find that they can't complete the installation process but won't know why: Some will be unsure which options to choose, or what effect they'll have. Some will be unable to reboot their Macs after the installer finishes. Some will be unable to print or access the Internet. Some will lose important data, encounter software incompatibilities, or find that their peripherals no longer work. I've run into all these problems and more at one time or another, and I want to spare you such inconveniences.

I have performed hundreds of operating system installations and upgrades, including, at last count, 42 of Tiger (no kidding). I've learned how to prevent, solve, or work around most of the problems that can occur, and I share that information here so that you will have a fantastic experience upgrading your own computers to run Tiger. This ebook is your anti-anxiety guide to every step of the process.

TIGER UPGRADE QUICK START

This ebook contains a lot of details, not all of which you need to know. But before upgrading, you should be familiar with the overall process. Here's a brief overview of the upgrade steps you should take:

Prepare to upgrade:

- Make sure your computer can run Tiger. See [Check Your Hardware for Compatibility](#).
- Make room for your new operating system. See [Make Sure You Have Enough Disk Space](#).
- Decide which of the three upgrade methods (Upgrade Mac OS X, Archive and Install, or Erase and Install) is best for you. See [Choose an Upgrade Method](#).
- Turn off login items (a.k.a. startup items) to avoid certain software incompatibilities. See [Disable Login Items](#).
- Back up before you go forward! See [Back Up Your Data](#).
- Avoid getting stuck without the capability to run Classic applications. See [Make Sure You Have a Mac OS 9 Installer](#).
- Prepare your disk by checking for errors and possibly partitioning. See [Verify Your Hard Disk](#) and [Consider Partitioning Your Hard Disk](#).

NOTE If you're upgrading from Mac OS 9, skip ahead to [Upgrading from Mac OS 9?](#) for more information before proceeding.

Perform a customized upgrade:

- Make some initial selections in the Tiger installer. See [Select a Destination](#) and [Select an Upgrade Method](#).
- Be sure you have all (and only) the Tiger components you need. See [Choose Optional Software](#).
- Proceed with the installation. See [Have a Cup of Tea](#).
- Perform basic setup tasks, and if appropriate, transfer files from a backup drive. See [Use Setup Assistant](#) and [Transfer your old data](#).

After the upgrade:

- Apply updates to Mac OS X and critical applications. See [Run Software Update](#).
- Find missing features and avoid unpleasant surprises. See [Set Up Your Tiger Environment](#).
- Restore missing files, applications, drivers, Unix software, and login items. See [Restore Missing Files](#) and [Appendix A: Software Sources](#).
- If your circumstances require it, reinstall Mac OS 9 to run Classic applications. See [Install Mac OS 9 for Classic \(If Necessary\)](#).
- Perform one final check to be sure your disk is still healthy. See [Verify Your Disk \(Again\)](#).
- Problems? If your computer isn't working properly after the upgrade, don't panic. See [Troubleshoot Upgrade Problems](#).

CHECK YOUR HARDWARE FOR COMPATIBILITY

All currently shipping Macs, and most models sold within the past 5 years or so, can run Tiger. However, Apple's new system requirements exclude certain models. In particular, not every computer that can run Panther can also run Tiger.

NOTE Planning to use an external FireWire drive? Be sure to read [Update \(or Disconnect\) FireWire Hard Drives](#), later in this section.

Processor and FireWire Support

Tiger requires a PowerPC G3, G4, or G5 processor and built-in FireWire. The FireWire requirement is new (Panther required only built-in USB), and makes for a more awkward distinction between which models support Tiger and which do not. Here's the breakdown:

- **eMac:** all eMac models include FireWire.
- **iBook:** The first iBook model, released in 1999, had no FireWire port. iBooks sold from mid-2000 on include FireWire.
- **iMac:** The slot-loading iMac DV, released in October 1999, was the first iMac to include FireWire; earlier models, such as the tray-loading Rev. A–D iMacs, have no FireWire ports and therefore cannot run Tiger. FireWire ports appear on all iMac G4 and G5 models, and all iMac G3 models released since 2000.
- **Mac mini:** all Mac mini models include FireWire.
- **PowerBook:** The original (“Kanga”) PowerBook G3, which lacks FireWire, cannot run Tiger; neither can the “Wallstreet” PowerBook G3 or the “Lombard” PowerBook (Bronze Keyboard), for the same reason. However, the “Pismo” PowerBook (FireWire) includes FireWire, as do all Titanium and Aluminum G4 models.
- **Power Mac:** The original beige Power Macintosh G3 and the Power Macintosh G3 All-In-One lack a FireWire port, but every Power Mac G3, G4, and G5 from the blue & white G3 (released in January 1999) onward has built-in FireWire.

Note that simply adding a FireWire card to an unsupported Mac does not make it Tiger-compatible; the installer will refuse to run.

CHOOSE AN UPGRADE METHOD

For users with an earlier version of Mac OS X already installed¹, the Tiger installer offers three upgrade options:

- Upgrade Mac OS X (the default upgrade method)
- Archive and Install
- Erase and Install.

You will select one of these methods later, when you run the installer (see [Perform a Customized Upgrade](#)), but you should know about them now, because the method you choose will determine some of the other preparatory steps you must take. Most users will opt for the default choice, assuming that Installer Knows Best. In an ideal world, this would be the most painless upgrade. Unfortunately, with every new system upgrade, some users who choose this method run into serious problems—especially if they don't prepare for it properly.

In *Take Control of Upgrading to Panther*, I recommended Archive and Install (with some modifications) for most users. With Tiger, however, Apple has added a new file transfer capability that makes Erase and Install a more attractive option for many users—while also presenting you with an array of potentially confusing options. Ultimately, your choice of upgrade method will depend on your Mac setup. Review the following descriptions, and then see [Which Method Is Right for You?](#) for help deciding which one to use.

Upgrade Mac OS X

The default method, Upgrade Mac OS X, attempts to make the transition as simple as possible by leaving all your files, applications, and settings in place. The installer replaces all the components of your old Mac OS X installation with their Tiger equivalents, and deletes those that are obsolete. Meanwhile, it leaves all user-installed files (including preferences) intact.

¹ If you install Tiger onto a volume that does not already have a Mac OS X installation, the “Upgrade Mac OS X” choice becomes “Install Mac OS X.” This option installs a clean copy of Tiger on the selected volume, but does not erase any other files that may already be present there.

DISABLE LOGIN ITEMS

The items that open automatically when a user logs in were originally called (logically enough) login items. Under Panther, the name changed to startup items, which was confusing because there are entirely different items that launch on startup, before users log in, that are *also* called startup items. Thankfully, Apple changed the name back to login items in Tiger. By whatever name, though, you should disable these *before* performing an upgrade (and re-enable them later).

If you follow one of my recommended upgrade methods, the Apple installer will helpfully try to reactivate all your login items. However, if your login items include applications that are incompatible with Tiger, you may experience crashes or other unexpected behavior on your first boot. Although you can temporarily disable login items during Tiger's initial startup process, this may prevent the installation from finishing. Therefore, I recommend disabling all login items *before* installing Tiger, and reactivating them afterward.

NOTE I deliberately ordered this step before [Back Up Your Data](#) (next), because if you perform an Erase and Install and permit the installer to transfer your old files (as I recommend), you will in so doing copy any login items from your backup onto your new Tiger system—negating the value of disabling them in the first place. If, however, you perform an Upgrade or Archive and Install (see [Choose an Upgrade Method](#), just previously), you may prefer to disable your Login items *after* backing up so that your backup, should you need to boot from it, will still contain your login items.

Because you will want to reactivate most or all of these items later, I recommend writing down the names of your login items before disabling them.

TIP The Login Items list may contain a few items you don't recognize, because the files are hidden inside application bundles. To be sure you know exactly where all the files are located, move the mouse pointer over each item to display its full path.

BACK UP YOUR DATA

System upgrades, because they affect so many parts of your hard disk, and at such a low level, are occasions when problems are especially likely to occur. So I can't emphasize this strongly enough: before upgrading, back up your data. The time you spend now may save you countless hours of frustration later.

TIP If your hard drive died today, would you be unable to get back to work quickly? If someone stole your computer, would all your valuable files be lost forever? Tragedies such as these happen surprisingly often. Learn how to minimize downtime and thoroughly protect your photos, documents, and other important information by reading my ebook *Take Control of Mac OS X Backups*.

<http://www.takecontrolbooks.com/backup-macosx.html>

If you already follow a regular backup regimen (good for you!), verify that you have recently backed up all your important files, and *test* your backup by seeing if you can successfully restore a few representative files. (For a list of the files to which you should pay particular attention, see “Back Up Your Personal Files,” next.) If not, this is a perfect time to start. A backup utility will make the process much easier. Nearly every serious Mac geek I know (including myself) uses EMC Dantz's Retrospect for backups (<http://www.dantz.com/>), but many other fine programs will do the job. (See my ebook on backups, referenced in the tip just above, for other recommendations.)

Whether or not you already use a commercial utility for backups, I recommend that before upgrading to Tiger, you also *duplicate* (or “clone”) your entire hard disk—make a complete, bootable copy—just to be safe. (This is especially important if you erase your disk when installing Tiger.) See “Make a Duplicate” (a few paragraphs ahead) for instructions.

Back Up Your Personal Files

If you always store data in its default location, most or all of your personal files are somewhere in your home folder, located in `/Users`. This includes documents, photos, movies, and music files as well as preferences, fonts, AppleScripts, saved email, Address Book and iCal entries, and many third-party preference panes—plus the items that

MAKE SURE YOU HAVE A MAC OS 9 INSTALLER

Although Mac OS X supports a Classic environment that enables you to run older Mac software, Mac OS 9 does not come with Tiger. If you don't already have Mac OS 9 installed, you must obtain it and install it separately in order to run Classic applications under Tiger (though Tiger functions perfectly well without it). Even if you *do* have Mac OS 9 installed, it will disappear if you choose to erase the volume that holds it when you upgrade. Unless you're certain you won't need the Classic environment, or that you will preserve your Mac OS 9 System Folder when you upgrade, make sure you have a CD, DVD, or disk image containing a Mac OS 9 installer.

Your Macintosh most likely came with a Mac OS 9 installation CD, a Software Install and Restore DVD, or an Additional Software and Apple Hardware Test CD containing Mac OS 9—or you may have a Mac OS 9 installation CD from the original version of Mac OS X. On some Software Install and Restore DVDs, the installer, located at the top level of the DVD, is called “Install Applications & Mac OS 9”; on other discs, the installer is called “Install Applications & Classic Support” or “Install Extra Software.” In any case, you can choose to install Mac OS 9 without the other applications that came with your computer.

You can install Mac OS 9 either before or after Tiger. Your Mac OS 9 System Folder can reside on the same volume as Mac OS X, but I recommend installing it on a separate volume or partition. See [Consider Partitioning Your Hard Disk](#) for guidance about creating an extra partition, then see [Install Mac OS 9 for Classic \(If Necessary\)](#) for details on the installation process itself.

TIP If your computer is capable of booting into Mac OS 9 and you wish to keep that as an option, the volume that contains Mac OS 9 must also have the appropriate disk drivers. See [Consider Partitioning Your Hard Disk](#), later in this ebook, for details.

VERIFY YOUR HARD DISK

Before installing Tiger, you should check your disk for errors and repair them if necessary. (You can skip this step if you are erasing the volume you will be installing Tiger onto or if you will be partitioning your hard disk.) To verify and repair your hard disk:

1. Insert the Tiger Install DVD, run the installer, and click the Restart button when prompted.
2. When your computer restarts from the DVD, click through the language selection screen, and then choose Utilities > Disk Utility.
3. From the list on the left, select the volume you wish to install Tiger onto, and click the First Aid tab on the right.
4. Click Repair Disk and wait for the repair to complete. If Disk Utility reports that it repaired any errors, click Repair Disk a second time to verify that the disk has no further errors.
5. If Disk Utility reports errors it cannot repair, you must either use a third-party utility to repair the error, or erase the volume before installing Tiger. When it comes to disk utilities, I recommend that you use AlSoft's DiskWarrior (<http://www.alsoft.com/DiskWarrior/>) or TechTool Pro from MicroMat (<http://www.micromat.com/>).

Your hard disk should now be free of errors that would prevent a successful upgrade. You can quit Disk Utility, if you have not already done so, and proceed with the installation of Tiger.

TIP Even if Disk Utility reports no errors, you might consider using a utility such as DiskWarrior before upgrading to Tiger. Third-party utilities frequently find (and fix) problems that Disk Utility does not.

CONSIDER PARTITIONING YOUR HARD DISK

All Macs ship with a hard disk configured as a single large volume. You can divide your disk into two or more smaller volumes or *partitions*, each of which appears as a separate disk. Partitioning is an entirely optional step, and for many users, it's more trouble than it's worth. Under certain circumstances, however, partitioning may be valuable. Before deciding whether to partition a disk, be aware of some pros, cons, and consequences.

Understand Why (or Why Not) to Partition a Disk

No one, strictly speaking, *must* partition a disk. In fact, Tiger's design assumes that all your applications, documents, media files, and so on reside on the same volume. Plus, Tiger itself and many major applications like to have plenty of "breathing room," which they normally assume will be on the startup volume. So by partitioning your disk you may be setting yourself up for extra work to make everything function correctly. Why go to that effort?

- **Provide limited insurance against disk errors:** After you partition a disk, you can install an operating system on each volume. If your main system develops disk errors that prevent it from booting correctly, simply restart from another partition to run a disk utility or recover important files. Of course, in the case of a severe error that affects the entire drive, this scheme will fail—and if you have a bootable CD or DVD containing Disk Utility or another repair tool, you can use that instead and save several gigabytes of space on your drive.
- **Separate system files from user-created files:** Some people keep all their documents, media files, and third-party applications on a separate volume, so that, if necessary, they can erase the Mac OS X volume and install a clean copy of the operating system without much inconvenience. Separating user-created files in this way can also simplify making backups, since you can instruct your backup application to back up only the files on the extra partition, rather than trying to pick out the files and folders you want from the main volume.

PERFORM A CUSTOMIZED UPGRADE

With your hardware checked, your data safely backed up, and plenty of free disk space, it's time to begin the upgrade. (If you're upgrading from Mac OS 9, be sure to read [Upgrading from Mac OS 9?](#) first.) Insert the Tiger DVD and double-click the Install Mac OS X icon. In the window that appears, click the Restart button, and enter your administrator password when prompted. Your computer restarts from the DVD and the installer runs.

TIP In the unlikely event that your computer does not restart from the DVD, try the [Computer Won't Start Up from the DVD...](#) steps in "Troubleshoot Upgrade Problems." This section also has tips for solving a several problems you might encounter during installation.

The installer asks you to choose a language, and then it presents you with an Introduction screen and a Software License Agreement. Click your way through those screens.

Select a Destination

The next screen asks you to select which volume to install Tiger onto. If you have only one volume, this is an easy choice; if you have multiple partitions and/or disks, be sure to select the correct one. The installer tells you if the selected volume has sufficient disk space; if not, it tells you how much more you need. (You can reduce this amount by deselecting optional software packages in a moment.) Then...

Stop!

Do not click Continue, do not pass Go, do not collect \$200. Not even if your disk has plenty of space. Before you go on to the next step, click the Options button at the bottom of the window to display a dialog where you can choose one of three upgrade methods discussed just ahead (**Figure 2**). This choice is crucial to your future happiness!

NOTE If you use the Tiger upgrade DVD obtained through the Mac OS X Up-to-Date program, you most likely can install Tiger only onto a volume that already has some version of Mac OS X installed. If you need to put Tiger on another volume, install Panther there first.

RUN SOFTWARE UPDATE

Shortly after your computer starts up under Tiger for the first time, Software Update should run automatically. If it does not, choose Software Update from the Apple menu. Software Update checks if a newer version of Mac OS X (or any of the software installed with it) is available—and if so, offers to download and install it.

Depending on the specifics of your system, the choices available will vary. In general, I recommend installing updates for all software you use regularly, especially Tiger itself. Apple often releases system updates (i.e., 10.4.x) in the weeks just following a major OS release in order to fix significant bugs or limitations found in the initial version. Before doing anything else with Tiger, make your system as stable as possible by applying these updates.

TIP If Software Update lists an update you can't use (such as new versions of software for an iPod or iSight if you don't own one), you can prevent the update from reappearing in the list by selecting it and choosing Update > Ignore Update.

Some Mac users feel anxious every time a software update appears, having heard horror stories of half-baked releases that cause as many problems as they fix. I won't lie to you: major errors occasionally sneak into system updates. But this happens rarely, and in most cases, Apple resolves such problems promptly. In addition, a fair number of errors that appear to be update-related are in fact the result of existing problems on the user's machine, minor issues such as incorrect permissions, or even (gasp!) user error. I can't guarantee that a software update will never break something, but in my experience, the benefits of incremental updates overwhelmingly outweigh the risks—especially if you maintain good backups.

NOTE If you need to downgrade to an older version of Tiger (for example, 10.4.0) after installing an update (see [How to Downgrade](#)), be aware that the Tiger Upgrade DVD does not permit an Archive and Install if the installed version is newer than what's on the DVD. You must use the full retail version of the DVD (or a Software Restore disc), or else do an Archive and Install of *Panther* first, and then upgrade to 10.4.x.

SET UP YOUR TIGER ENVIRONMENT

Other ebooks in the Take Control series, such as Matt Neuburg's *Take Control of Customizing Tiger*, help you to get the most from the new Finder, discover hidden features, and organize your working environment (<http://www.takecontrolbooks.com/tiger-customizing.html>). However, you should be aware of a few things right away.

Spotlight Indexing

As soon as Tiger starts up the first time, Spotlight (Apple's slick, new, high-speed search tool) begins indexing all the files on all mounted volumes. This process can take anywhere from a few minutes to several hours, depending on how many files you have. During this time, you'll notice a lot of disk activity, and you'll see a pulsating dot in the center of Spotlight's magnifying glass icon on the right side of your menu bar. (Clicking this icon while indexing is proceeding displays an estimate of the time remaining.) You must wait for Spotlight to complete this initial indexing pass before you can use its search features. Thereafter, however, Spotlight will quickly and unobtrusively index new or modified files in the background.

Missing Features?

Some of Mac OS X's standard features have been renamed, reorganized, or otherwise changed. Before you panic, read on:

- **Bluetooth Serial Utility:** The functions of the Bluetooth Serial Utility have been reorganized and rolled into the Bluetooth preference pane (click the Sharing tab to set up serial port services).
- **Find:** Pressing Command-F (or choosing File > Find) in the Finder displayed a new Find window under earlier versions of Mac OS X. Under Tiger, the Find command causes the frontmost Finder window to switch into Find mode, with new toolbar icons and window contents. This way of searching for files gives you capabilities similar to the old method, but because it uses Spotlight technology, you have even more options—and searches are much faster than before.
- **iDVD, iMovie, and iPhoto:** Although Panther included copies of iDVD, iMovie, and iPhoto, Tiger does not. (Your existing applications will be preserved—but you won't automatically get a new

RESTORE MISSING FILES

(Note: If you selected Upgrade Mac OS X as your installation method, the next several pages do not apply to you. You can skip ahead to [Restore Login Items.](#))

As I mentioned earlier, whether you use Archive and Install (and its Preserve Users and Network Settings option) or Erase and Install (transferring user files, applications, and documents from a backup volume), the installer does not copy *all* your old files. To some extent, this is a good thing—many of the files not copied are the ones most likely to cause problems after upgrading. If you were going to copy all the old files anyway, you might as well have chosen Upgrade instead; you gain little from Archive and Install or Erase and Install.

That said, many users will find that they need some of these items. To complicate matters slightly, the list of files not copied into the active system differs depending on whether you used Archive and Install or Erase and Install. Here are a few prominent examples of missing files.

Not copied during Archive and Install *or* Erase and Install:

- Drivers for peripherals such as mice, scanners, and audio equipment and other system enhancements packaged as kernel extensions (located in `/System/Library/Extensions`)
- Any user-installed files inside `/usr`—including the entire `/usr/local` directory, which may contain Unix software such as MySQL (and its data)
- Files you may have modified inside `/private/etc`, such as `/private/etc/httpd/httpd.conf`, the Apache config file

Copied during Erase and Install but *not* copied during Archive and Install:

- Third-party preference panes that were installed in `/Library/PreferencePanels` (as opposed to a user's `~/Library/PreferencePanels` folder)
- The `/Library/CFMSupport` folder, which contains components needed for Palm synchronization
- The contents of `/Library/Components`, which may include files required for utilities such as TypeIt4Me and iGlasses

UPGRADING FROM MAC OS 9?

If Tiger is your first version of Mac OS X, much of what I've talked about won't apply to you, as your Mac has no existing Mac OS X files or settings to be copied. Never fear, the upgrade path is easy—in some ways easier than upgrading from a previous version of Mac OS X.

To upgrade from Mac OS 9, follow these steps:

1. As always, begin by backing up your entire hard disk to another volume using the utility of your choice (see [Back Up Your Data](#)). Carbon Copy Cloner is a Mac OS X-only utility, but Retrospect works quite well under both operating systems.
2. Be sure your hardware is compatible (see [Check Your Hardware for Compatibility](#)).
3. If you have a second bootable volume (or a bootable Mac OS 9 CD), start from that volume, run Disk First Aid, and use the Repair Disk function. If not, after booting from the Tiger Install DVD, click through the language selection screen and then run Disk Utility by choosing Utilities > Disk Utility.
4. Figure out which volume you want to use for Tiger. You can install Tiger on the same volume that contains Mac OS 9, and the installer automatically sets up Tiger to use your old System Folder as its Classic environment. But read [Consider Partitioning Your Hard Disk](#) to see if that option may be useful to you.
5. If you have not already done so, insert the first Tiger Install DVD, double-click the installer icon, and click Restart.
6. When the installer reaches the Select Destination screen, choose the volume you want to use for Tiger. If you're installing Tiger on the same volume as Mac OS 9, click Continue to use the default installation method. If Tiger is going onto a different volume, click Options and choose Erase and Install.
7. When asked to choose an Installation Type, click Customize. Review the section [Choose Optional Software](#) under "Perform a Customized Upgrade" for details about optional software.

When the installation finishes, find yourself a good book (or ebook!) to acquaint yourself with your new operating system.

TROUBLESHOOT UPGRADE PROBLEMS

Even if you diligently followed all the instructions in this ebook, you might encounter problems while upgrading. I can't anticipate every difficulty you may have (or provide solutions in every case), but here are some of the most likely issues and how to deal with them.

Computer Won't Start Up from the DVD...

After launching the installer and restarting, if your computer will not boot from the installation DVD, do this:

1. Shut down your computer and wait for a few seconds. If the DVD was ejected, make sure it is free of smudges, scratches, and fingerprints, and reinsert it.
2. Press the Power button, and immediately hold down the C key to force the computer to boot from the DVD. If this doesn't work...
3. Restart your computer, this time holding the Option key. Icons representing each valid startup volume will appear on the screen. Click the icon for the installation DVD, and then click the right arrow. If this doesn't work...
4. Shut down your computer, and then remove *all* peripherals, network cables, and anything else attached to your computer except the Apple-supplied keyboard, mouse, and display. (You may also need to remove any third-party video and PCI card(s) and even, in rare cases, extra RAM modules.) Then go back to Step 2 (and Step 3 if necessary). If this doesn't work...
5. Zap your PRAM. To do this, restart, and immediately hold down the Command, Option, P, and R keys. When you hear the second startup chime, release the keys and immediately press the C key as in Step 2. If this doesn't work...
6. Contact Apple. Start with the Support section of the Apple Web site; if that does not contain the help you need, contact AppleCare (if applicable) or visit your local Apple Store for assistance.

You should be able to restart from the Tiger Install DVD by the time you finish these steps.

HOW TO DOWNGRADE

As wonderful as Tiger is, you might find it necessary to downgrade to your old system at some point if:

- An essential application does not work under Tiger.
- You encounter frequent crashes or compatibility problems.
- Drivers for your third-party hardware are not available.

Reverting to an older system is never pleasant, but if you've followed the instructions for backing up your old system, it can be relatively straightforward. To perform a downgrade, follow the instructions under the heading that best matches your situation.

Reverting to a Bootable Duplicate

If, before upgrading to Tiger, you created a clone of your old system on another volume (as discussed under [Back Up Your Data](#)), follow these steps:

1. If you modified any documents while working in Tiger, be sure to save a copy of those documents onto another volume before restoring your cloned system. Also, resist the temptation to leave your Tiger Applications folder in place when restoring an earlier system. Many of the updated applications will not run under earlier systems.
2. Start up your computer from a volume *other than* the one containing Tiger. This can be the hard disk or partition where your cloned system exists, a startup CD or DVD, or any other volume with a valid Mac OS X system.

NOTE The following steps assume you're using Carbon Copy Cloner. Retro-spect users, if you previously used the Duplicate feature to clone your hard disk, click the Immediate tab, then click Duplicate once again (rather than Restore) to copy your cloned volume back to its new location. After restoring your volume, skip to Step 5.

APPENDIX A: SOFTWARE SOURCES

If you want to be sure you have the latest and most compatible firmware, drivers, and utilities for Tiger, use these download links to save yourself some time.

FireWire hard drive firmware:

- EZQuest:
<http://www.ezq.com/helpdesk/index.php?t=answ&id=38>
- FireWire Depot: <http://www.fwdepot.com/thestore/default.php>
- Firewire Direct:
<http://www.firewiredirect.com/site/panther.shtml>
- Glyph: http://www.glyphtech.com/site/support_updates.html
- LaCie: <http://www.lacie.com/support/drivers/>
- Macpower: <http://www.macpower.com.tw/news/2003/10/30/112>
- Other World Computing:
<http://eshop.macsales.com/Reviews/Framework.cfm?page=/hardwareandnews/oxford/oxfordandpanther.html>
- WiebeTech: <http://www.wiebetech.com/techsupport.html>

Audio & MIDI equipment drivers:

- Apogee Electronics: <http://www.apogeedigital.com/downloads/>
- Digidesign: <http://www.digidesign.com/download/>
- Echo Digital Audio:
<http://www.echoaudio.com/Downloads/Drivers.php>
- Edirol: <http://www.edirol.com/support/drivers.html>
- Mark of the Unicorn: <http://www.motu.com/>
- M-Audio (includes MIDIMan):
<http://www.m-audio.com/index.php?do=support.drivers>
- Novation: <http://www.novationmusic.com/downloads.asp>
- RME Intelligent Audio Solutions:
<http://www.rme-audio.de/english/mac/osx96.htm>

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About the Author

Joe Kissell is the author of numerous print and electronic books about Macintosh software, including *Take Control of Upgrading to Panther*, *Take Control of Mac OS X Backups*, *Take Control of Spam with Apple Mail*, and *Take Control of Email with Apple Mail*. He has worked in the Macintosh software industry for more than 10 years, including positions managing software development for Kensington Technology Group and Nisus Software.



Joe holds the honorary title “Curator of Interesting Things” at alt concepts, an Internet publishing and consulting company. He invites you to read his popular Interesting Thing of the Day column at <http://itotd.com/>.

When not writing computer books or articles about interesting things, Joe likes to travel, cook, practice t'ai chi, and imitate the “ba-deep” sounds his TiVo makes. He lives in San Francisco with his wife, Morgen Jahnke.

To contact Joe about this ebook, send him email at jwk@mac.com and be sure to include the words **Take Control of Upgrading to Tiger** in the subject of your message.

This is a free sample of “Take Control of Upgrading to Tiger.”
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Author's Acknowledgements

The entire group of Take Control authors offered numerous suggestions and tips that made this a much better ebook. I also appreciate the helpful feedback I received from readers of *Take Control of Upgrading to Panther*. I incorporated many of their suggestions into this ebook as well.

This ebook has been brought to you by the letter T and the number 4.

Shameless Plug

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You may also be interested in:

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<http://www.takecontrolbooks.com/tiger-customizing.html>
- *Take Control of Users & Accounts in Tiger*, by Kirk McElhearn
<http://www.takecontrolbooks.com/tiger-users.html>

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Adam and Tonya are well-known in the Macintosh world as writers, editors, and speakers, and they have written innumerable online and print publications. They are also parents to Tristan, who thinks ebooks about trains, ships, and dinosaurs would be cool.

Production Credits

- Cover: Jeff Carlson, <http://www.necoffee.com/>
- Take Control logo: Jeff Tolbert, <http://jefftolbert.com/>
- Editor in Chief: Tonya Engst, <http://www.tidbits.com/tonya/>
- Publisher: Adam Engst, <http://www.tidbits.com/adam/>

And a big thanks to the many readers of the previous version of this ebook, *Take Control of Upgrading to Panther*. Their enthusiasm and suggestions have inspired us at every step along the way.

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Take Control of Upgrading to Tiger

Published by:

TidBITS Electronic Publishing

50 Hickory Road

Ithaca, NY 14850 USA

<http://www.takecontrolbooks.com/>

April 2005. Version 1.0

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