Bonus Chapter 4

Using Your iPod for Backup and Restore

In This Chapter

- Using your iPod for backing up full-resolution images and files
- Transferring photos from a camera or card reader to your iPod
- Putting Mac OS X, OS 9, or Linux on your iPod

Although an iPod is a road warrior's dream weapon for combating fatigue and boredom, it can also prove invaluable as a tool for quick information and saving your files from disaster — that is, if you update and maintain its hard drive contents wisely. Don't let hard drive space go to waste: Fill up your iPod and let it be your road manager. You can put your most important applications, utilities, and files on the iPod hard drive as a backup.

Mac users can even put a version of the Mac Operating System (OS 9 or OS X) on FireWire-based second-, third-, and fourth-generation iPods in case of emergencies, and they can boot the system from an iPod. (Unfortunately, you can't do this with Windows.) Apple doesn't recommend putting the Mac OS on older iPods because using the iPod as a startup hard drive might make your iPod too hot from overuse.

The key to these capabilities is that you can enable your iPod to act as an external hard drive. See Chapter 22 for details on how to do this.

We don't recommend using an iPod regularly as a hard drive to launch applications because iPods are designed for sustained playback of music and video. You can eventually burn out the device by using it to launch applications. Instead, use its external hard drive capabilities for backing up and copying files. Copy applications to a hard drive before launching them.

Transferring Full-Resolution Photos and Images

Picture quality with a digital camera is measured by the number of pixels — specific points of information in a picture, also known as the image *resolution.* Digital cameras are described by the image resolution in millions of pixels, or *megapixels (MP).* Higher megapixel counts usually result in better images. For example, a 2MP camera produces good 4" x 6" prints and acceptable 8" x 10" prints. A 3MP camera produces very good 4" x 6" prints and magazine-quality 8" x 10" prints. A 5MP camera produces good quality 10" x 14" prints. And so on.

By default, a color-display iPod doesn't need full photo resolution to display them well on televisions and use them with video projectors, which are far lower in resolution than prints. Certainly, the tiny iPod display doesn't need high resolution in the photos that it displays. And, the higher the resolution, the more space the photo takes. So, during file transfer, iPod software optimizes photos for video display to save space.

If you intend to use your iPod to transfer images to another computer or to make a backup of your photos in their original resolution, you can set an option to include full-resolution versions of the photos when transferring photos.

Using the Include Full-Resolution Photos option copies full-resolution photos into the Photos folder of your iPod, which you can access on your computer by enabling your iPod for hard drive use. Follow these steps:

1. **Select the device name in the iTunes Source pane.**
2. **Click the Photos tab.**

   The Photos synchronization options page appears. (See Chapter 12 for details on synchronizing photos with your iPod.)
3. **Select the Sync Photos From option and then choose a photo library or a folder from the pop-up menu.**

   You can choose your photo library (such as iPhoto on a Mac, or Adobe Photoshop Album in Windows) from the pop-up menu to synchronize photo albums, or choose a folder from the pop-up menu (such as your Pictures folder). You can also opt for Choose Folder from the pop-up menu to browse files and folders on your hard drive or other storage media (such as a CD-ROM or a server volume). In Finder or Windows Explorer, browse your hard drive (or other storage media) for the folder containing images and then click Choose (Mac) or OK (Windows).

4. **Select one of the following photo options below the Sync Photos option:**
    - *All Photos and Albums:* Synchronizes all photos and albums from the library or folder selected in Step 3 with your iPod.
    - *Selected Albums:* Synchronizes the photo albums from the library (or subfolders from the folder) selected in Step 3. You can scroll the list box to see all photo albums in your photo library (or subfolders in your folder). Select the check box to select a photo album (or subfolder) to synchronize with the device.
5. **Select the Include Full-Resolution Photos option.**
6. **Click Apply to apply the changes.**

Transferring Photos from a Camera

You can use your iPod as a portable hard drive that doubles as a storage repository for your photos — even an older iPod that doesn't display photos. With full-size iPods that have a dock connector, you can use an accessory to temporarily store photos from digital camera memory cards at full resolution so that you can later import the photos into your computer.

If you're traveling with just your digital camera and your iPod, you can shoot all the pictures you want without worrying about filling up your camera's memory card. Just connect the camera to your iPod and transfer the photos to your iPod hard drive; you can use the Apple iPod Camera Connector (available from the Apple store) or the Belkin Media Reader for iPod (`http://catalog.belkin.com`). Delete the pictures from your camera's memory card and then go snap some more. You could travel for weeks on end, shooting thousands of photos in locations around the world, without running out of space in your iPod.

The key to these capabilities is that an iPod can serve as an external hard drive. After you mount the iPod on your Mac or Windows desktop, you can use it as a hard drive.

The Apple iPod Camera Connector and other accessories like it connect to an iPod's dock connection to transfer photos quickly to the Photos folder on your iPod hard drive. Your iPod can hold hundreds or even thousands of photos (depending on how much music is already stored on it). These accessories work only with full-sized iPod models with dock connectors.

To transfer the photos to the iPhoto library on a Mac, mount the iPod as a hard drive. Then import the photos by dragging the files directly from the iPod hard drive and dropping them over the iPhoto window. To transfer the photos to a Windows photo application, such as Adobe Photo Album or Photoshop Elements, drag the files or the entire Photos folder directly from the iPod hard drive into a folder on your hard drive and then open them with the photo application.

With the Apple iPod Camera Connector, you can shoot your photos, transfer them into a color-display iPod for storage, preview them on the iPod, and continue shooting. Depending how much space you have on your iPod, you could continue shooting photos indefinitely without having to visit your computer or use more memory cards.

The iPod Camera Connector is a convenient adapter — about the size of a flash memory card and about twice as thick — that connects to a color-display iPod dock connection and lets you plug in a USB cable connected to your digital camera. You can then temporarily store photos from digital camera memory cards at full resolution on the iPod, and you can import them later into your computer.

To transfer photos with the iPod Camera Connector, follow these steps:

1. **Connect your digital camera to the iPod Camera Connector.**

   Use the USB cable supplied with your camera.

2. **Connect the iPod Camera Connector to the dock connection of your color-display iPod.**

3. **Turn on your digital camera.**

   The Import menu appears on the iPod color display, showing the number of photos in the camera and the space occupied, along with the Import and Cancel menu functions.

4. **To import photos, highlight Import and press the Select button.**

   The Photo Import menu appears, showing the progress of the download to your iPod. During this process, you can choose the Stop and Save function to save the pictures you've downloaded or Cancel to cancel the download. When the download finishes, your color-display iPod gives you the option to erase the camera's memory card.

Taking Your System on the Road

Life on the road can be hazardous to your laptop's hard drive, and if any portion of the hard drive containing system files is damaged, your system might

not start up. When this happens, you ordinarily use the installation CDs or DVDs to start the computer, scan and fix the hard drive trouble spots, and reinstall the operating system (OS). The installation CDs or DVDs let you load and start — *boot* — the system onto your computer regardless of the status of the hard drive. With a Mac, you can accomplish the same thing with another hard drive set up with a system to boot your computer.

Well, your iPod *is* another hard drive. Older iPod models that use FireWire for updating — the first through fourth generations — can also boot a Mac with a replacement OS. This feature could prove very handy for saving your Mac in a system crisis if you have a spare OS saved on your iPod. It's even more useful for people who want to boot another OS, such as Linux. Unfortunately, it doesn't work with the current fifth-generation models that rely on USB 2.0 for updating, but it does work with the Intel-based Mac models that can boot from a USB 2.0 drive. Although Apple doesn't officially support system booting from an iPod, you can load the iPod with a minimally configured Mac or Linux system and then use the iPod to start up your Mac. Depending on the size of your iPod, you should be able to fit both a minimal system and a considerable amount of music on the iPod. (Mac models introduced after January 2003 can't start up with Mac OS 9, so you need to save Mac OS X to your iPod unless you use an older Mac.)

Although you can safely copy files and folders to and from your iPod (using it as a hard drive), booting a system from an iPod severely strains the hard drive and shortens the life of your iPod — so do this only in an emergency. iPods' drives just weren't designed to support that kind of activity over a long period of time, and the heat alone could eventually fry your iPod.

To get the most functionality from your iPod, make sure that you have the latest version of iPod software. To update your iPod software to the latest version, see Chapter 24.

To copy files and applications to your iPod, first enable the iPod as a hard drive, as we describe in Chapter 22.

Installing Mac OS X

If you use an older Mac that can run OS X 10.1 (not an Intel-based or G4 Mac) and a FireWire-based iPod (first through fourth generation models), you probably can get by with this older, leaner, meaner version of OS X as an emergency system to boot your computer. To install a custom version of the older OS X 10.1 on the FireWire-based iPod, first enable the iPod as a hard drive, as we describe in Chapter 22, and then follow these steps:

1. **Insert your Mac OS X installation CD into your Mac and follow the directions to start the installation process.**

   You have to restart the Mac with the installation CD while holding down C to start the computer from the CD.

2. **When the installer asks you to select a destination, choose the iPod hard drive.**

   Do not use the option to erase and format the hard drive because the hard drive of your iPod is specially formatted for playing music, and formatting it in this manner prevents it from playing music again. *Do not* format it! If you format or erase an iPod hard drive by mistake, you must restore it to its factory condition; see Chapter 24.

3. **Specify a custom installation instead of a standard installation.**

   To make sure that you don't use too much hard drive space on your iPod, choose a custom installation of OS X. In the custom installation section, choose only the languages that you need. These language options take up a lot of space, and you probably don't need them.

4. **After installation finishes and the Mac restarts from the iPod, continue through the setup procedure and then use Software Update in System Preferences to update the Mac system on your iPod.**

   Most likely, a lot of system updates are waiting for you (released after the date of your installation CDs). Take the time to update your system because these updates might make a difference how your computer performs with certain applications.

To install a custom version of OS X version 10.2 (Jaguar) through version 10.4.7 (Tiger) on your iPod, you can use SuperDuper! (`www.shirt-pocket.com/SuperDuper/SuperDuperDescription.html`). Although you could clone your system by using the UNIX `ditto` command in the Terminal window of Mac OS X, this process is tedious, and you could easily make a mistake.

You can also install a custom version of OS X version 10.3 (Panther) or version 10.4 (Tiger) on your iPod by connecting your iPod as a hard drive and then using the Disk Utility program supplied with OS X. (It's in the Utilities folder inside your Applications folder.) Using Disk Utility, drag the icon for a source hard drive with a version of OS X to the Source text box in the Disk Utility dialog, and then drag your iPod hard drive icon into the Destination text box. Click Restore, and the program does everything for you.

To start a Mac in an emergency situation from an iPod that runs Mac OS X, connect the iPod, hold down Option, and choose Restart from the Apple menu. (Or, if your system is already hosed, use the Power button to reboot

while holding down Option.) Eventually, while the Mac resets itself and scans itself for any startup drives, all the startup drives appear as icons in a row, with a right-pointing arrow underneath the icons. Click the icon representing the iPod hard drive and then click the right-pointing arrow to start the system from that drive.

While you're at it, copy the Disk Utility program to your iPod so that you can repair any Mac's hard drive by using your iPod as the startup drive.

Installing Mac OS 9

Macs sold since 2003 no longer use OS 9, and some older models can't use a FireWire drive (such as an iPod) as a startup drive. However, you can still install OS 9 on an iPod to use as a startup drive for a Mac that can run OS 9. To install a custom version of OS 9 on your iPod, connect your iPod as a hard drive and then follow these steps:

1. **Insert your Mac OS 9 installation CD into your Mac and follow the directions to start the installation process.**

   You have to restart the Mac with the installation CD while holding down C to start the computer from the CD.

2. **When the installer asks you to select a destination, select the iPod hard drive.**

3. **After the installation finishes, quit the installation program.**

   That's all you have to do. The installer does everything for you.

To start a Mac from an iPod that holds Mac OS 9, connect the iPod, hold down Option, and choose Restart from the Apple menu. (Or, if your system is already hosed, use the Power button to reboot while holding down Option.) Eventually, while the Mac resets and scans itself for any startup drives, all the startup drives appear as icons in a row, with a right-pointing arrow underneath the icons. Click the icon representing the iPod hard drive and then click the right-pointing arrow to start the system from that drive.

Removing the Mac OS from your iPod

Removing Mac OS 9 from an iPod is easy: Drag the System Folder from the iPod hard drive to the Trash when your iPod is connected as a hard drive.

Removing Mac OS X isn't as easy because OS X installs hidden files and directories, and there is no easy way to drag them to the Trash. (Perhaps that's why Apple doesn't support this feature.) The quickest and easiest way to remove OS X from an iPod is to restore the iPod, as we describe in Chapter 24. Restoring erases and reformats the iPod to its original factory condition. Be sure to copy any important files stored on your iPod before restoring it. Although all your music and files are erased in this one step, it's much easier to add your music from iTunes, your calendars and contacts, and your files than it is to try to delete files associated with OS X. Restore and then copy everything back to your iPod as needed.

Installing Linux

Linux, an OS first conceived and implemented by Linus Torvalds when he was a student programmer in Finland, has been enhanced and refined by an enormous community of volunteer programmers to become the flagship work of the open-source software movement. One of the many virtues of Linux is that it can run on just about any computing platform. Linux already runs well on a variety of processors from Intel, Motorola, IBM, and others and behaves similarly on all.

People who use Linux on their desktop or laptop PCs or Macs can also put Linux on their iPods. Although versions of Linux can be downloaded for free, commercial companies also package Linux in a *distribution* — either on CD or DVD or for downloading — and often include automatic installation programs or wizards that help you through the process of configuring the system for different hardware configurations. Yellow Dog Linux, in a distribution from Terra Soft Solutions Corp. (`www.yellowdoglinux.com`), can be set up to boot a computer on any model iPod that uses FireWire for updating. You can then use the iPod to boot Linux on your Mac and experiment with Linux without ever installing Linux on your Mac's hard drive. You can fit a minimal 1GB configuration onto any FireWire-model iPod and still have room for music.

To enable using an iPod with computers running Linux, the iPodLinux Project (`http://ipodlinux.org`) provides a customized uClinux (`www.uclinux.org`) kernel to run on the iPod. Its simple user interface — dubbed *podzilla* — offers familiar navigational menus for accessing various functions in iPodLinux, such as playing music, file browsing, and image viewing. As of this writing, iPodLinux is safe to install on first-, second-, and third-generation iPods.