Chapter 1

Firing Up Your iPod

In This Chapter

- Comparing iPod models
- Powering up your iPod
- Using and recharging your battery
- Scrolling through the iPod main menu
- Resetting the iPod

Bob Dylan and Dave Van Ronk in Greenwich Village, David Bowie and Iggy Pop on the Lower East Side, and the Velvet Underground in the subway. Dire Straits on Wall Street, Steely Dan in Midtown, and Sonny Rollins on the Brooklyn Bridge. The Drifters on Broadway, Miles Davis uptown, John and Yoko on the Upper West Side. Charlie Parker in Harlem, Yo-Yo Ma on the Upper East Side, Primal Fear across Central Park. "The music must change," sang Roger Daltrey of the Who, and the only way you can conveniently carry that much music around while touring the Big Apple in one day is with an Apple iPod.

Music has changed so much during the shift from purchasing music in stores to obtaining music online that the music industry hardly recognizes it, and the Apple iPod music player is one of the major catalysts. The iPod holds so much music that no matter how large your music collection, you will seriously consider putting all your music into digital format on your computer, transferring portions of it to the iPod, and playing music from both your computer and your iPod from now on. You might never stop buying CDs, but you won't have to buy all your music that way. And you'll never again need to replace the music that you already own.

As an iPod owner, you're on the cutting edge of music player technology. This chapter introduces the iPod and tells you what to expect when you open the box. We describe how to power up your iPod and connect it to your computer, both of which are essential tasks that you need to know how to do — your iPod needs power, and your iPod needs music, which it gets from your computer.

Introducing the iPod

The iPod is, essentially, a hard drive and a digital music player in one device, but that device is such a thing of beauty and style and so highly recognizable by now that all Apple needs to do in an advertisement is show it all by itself. Even the 60GB iPod (the largest capacity as of this writing) weighs less than two CDs in standard jewel cases, and the iPod nano weighs just 1.5 ounces.

The convenience of carrying music on an iPod is phenomenal. For example, the 60GB iPod model can hold around 15,000 songs. That's about a month of nonstop music played around the clock — or about one new song a day for the next 40 years. And with the iPod's built-in skip protection in every model, you don't miss a beat as you jog through the park or your car hits a pothole.

A common misconception is that your iPod becomes your music library. Actually, your iPod is simply another *player* for your music library, which is safely stored on your computer. One considerable benefit of digital music technology is that you can use your computer to serve up your music library and make perfect-quality copies. Copy as much of it as you want onto your iPod, and take it on the road. Two decades from now those digital songs will be the same in quality — the music won't be trapped on a cassette or CD that can degrade over time (CDs can stop working after 15-20 years). The wonderfully remixed, remastered, reconstituted version of your favorite album can be copied over and over forever, just like the rest of your information, and it never loses its sound fidelity. If you save your music in digital format, you will never lose a song and have to buy it again.

The iPod experience includes iTunes (or, in older-generation models, MusicMatch Jukebox), which lets you organize your music in digital form, make copies, burn CDs, and play disc jockey without discs. Suddenly your music world includes online music stores and free music downloads. Without iTunes (or MusicMatch Jukebox), your iPod is merely an external hard drive. As a result of using iTunes (or MusicMatch Jukebox), your music library is more permanent than it ever was before because you can make backup copies that are absolutely the same in quality. We introduce iTunes in Chapter 2. If you're using MusicMatch, visit the companion Web site at `www.dummies.com/go/ipod`.

You'll spend only about ten seconds copying an entire CD's worth of music from iTunes on your computer to your iPod. Any iPod can play any song in the most popular digital audio formats, including MP3, AIFF, WAV, and Apple's AAC format, which features CD-quality audio in smaller file sizes than MP3. The iPod also supports the Audible AA spoken word file format.

The iPod is also a *data player,* perhaps the first of its kind. As an external hard drive, the iPod serves as a portable backup device for important data

files. You can transfer your calendar and address book to help manage your affairs on the road, and you can even use calendar event alarms to supplement your iPod's alarm and sleep timer. Although the iPod isn't as fully functional as a personal digital assistance (PDA) — for example, you can't add information directly to the device — you can view the information. You can keep your calendar and address book automatically synchronized to your computer, where you normally add and edit information. We cover using the iPod as a data player in detail in Chapter 22 and as a general-purpose hard drive in Chapter 23.

Comparing iPod Models

Introduced way back in the Stone Age of digital music (2001), the iPod family has grown by four generations as of this writing, and spawned at least 20 different models, including a private-label version (the HPod from Hewlett-Packard) and a custom version (iPod U2 Special Edition, featuring all of U2's songs).

Today's iPod works with iTunes on either Windows computers or Macs, but that wasn't always the case. The first-generation iPods work only with Macs. In 2002, Apple introduced the second generation — one version for Windows and another for the Mac, using the same design for both. For the third generation (2003), Apple changed the design once again.

Third-generation and fourth-generation iPods, and offshoots such as iPod mini, iPod shuffle, and color-display iPod, work with either Windows or Mac and come in a variety of hard-drive sizes. One way to tell what kind of iPod you have is by its navigational controls. By design, you can hold an iPod in your hand while you thumb the *scroll wheel* (our generic term for scroll wheel, scroll pad, touch wheel, or click wheel). The LCD screen on full-size models offers backlighting so that you can see it in the dark.

For a nifty chart that shows the differences between iPod models, see the "Identifying iPod different models" page on the Apple iPod Web site (`http://docs.info.apple.com/article.html?artnum=61688`).

First-generation iPods

Apple doesn't sell first-generation iPods anymore, but you might see a few on eBay. More likely, their proud owners are Mac users who still find them useful. Despite its high price tag ($399) compared with other MP3 players, the first 5GB iPod (offering 5GB of storage space) was an unqualified success when it

was introduced in October 2001. Apple sold more than 125,000 units within 60 days. "Listening to music will never be the same again," Apple CEO Steve Jobs told the press at the introduction of the first iPod, and he was right. Months later, Apple introduced the 10GB model.

First-generation iPods work only with Macs, connecting to a Mac with a standard FireWire cable. The first generation offers a distinctive scroll wheel that physically turns with your finger as you use it. These early iPods are hefty at 6.5 ounces and have a stainless-steel back and dual-plastic top casing.

FireWire is called *IEEE 1394* by the engineers who designed it and *DV terminal* by camcorder manufacturers that use it, except Sony, which calls it *i.Link*.

These models don't offer all the features of newer generations and can't be used with accessories that are designed for newer generations. For example, you can't expect these older models to use extensions such as voice recorders and memory card readers. First-generation models can't be updated to version 2 or newer versions of the iPod software, so they also lack support for features such as adding notes to the iPod and setting up an on-the-go playlist. However, battery life is comparable to newer models, offering up to eight hours before requiring a recharge. (For more about battery life, see "Facing Charges of Battery," later in this chapter.)

Second-generation iPods

Just as enterprising Linux and Windows developers were trying to cobble together ways to make the iPod work with their systems, Apple introduced a second-generation design in the form of two models: the 20GB iPod for the Mac and the 10GB for Windows, which was supplied preformatted for Windows. The Windows model of the second generation shipped with MusicMatch Jukebox.

Second-generation models use an innovative solid-state touch wheel that doesn't physically turn as you use it but instead responds to finger pressure. These models use a standard FireWire connection to connect to the computer with a six-pin FireWire cable.

Second-generation models can't be updated to version 2 or 3 of the iPod software, so they don't offer all the features of the third and fourth generation and can't be used with dock-connector and voice recorder accessories designed for third-generation and fourth-generation models. Although standard FireWire accessories (such as power adapters for automobiles) are available for these models, digital camera accessories such as memory card readers are not (as of this writing).

Third-generation iPods

The third-generation models, many of which are still sold in stores as of this writing, include the 10GB, 15GB, and 30GB models introduced in 2003, and the 20GB and 40GB models introduced later in that same year. All third-generation models share the same basic features and work with the Mac or Windows, and Apple continually provides software updates for these models.

Models of the third generation are thinner than the second generation and use touch-sensitive buttons with audible feedback (replacing the pressure-sensitive buttons of the second generation that offer tactile feedback). Third-generation models also use a *dock connector* to connect to a computer or power supply; see Figure 1-1. The dock keeps your iPod in an upright position while connected and lets you connect a home stereo or headphones through the dock, which makes it convenient as a base station when you're not traveling with your iPod — you can slip the iPod into the dock without connecting cables.

The dock doesn't come standard with the 15GB model, but you can order it as an extra from the Apple Store.

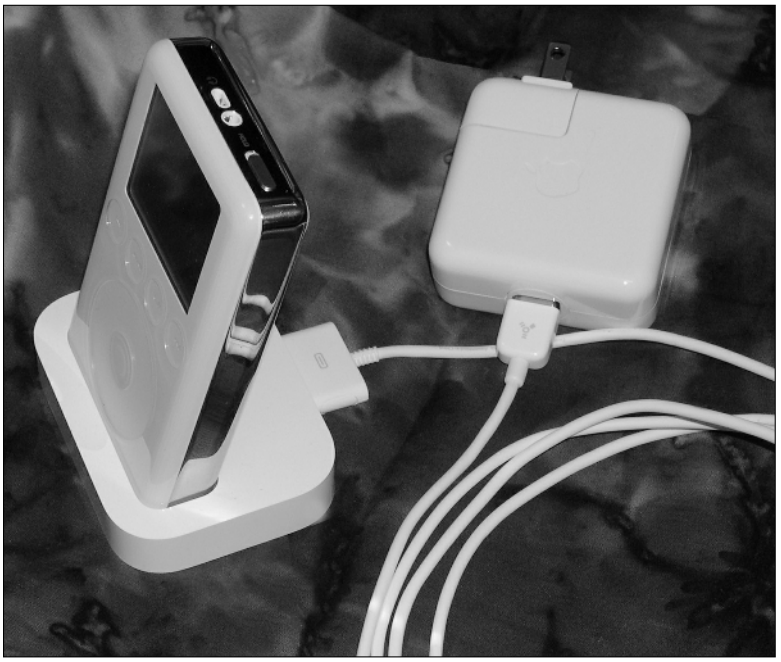

Figure 1-1: The third-generation iPod in its dock connected to the power adapter.

The supplied cables connect to the dock on one end (or to the iPod itself, if you don't use a dock) and connect to a computer or power supply on the other end, using standard FireWire or USB 2.0 (some models may not include the USB cable, but you can order it from the Apple Store for about $20). (PC users crave choice — you can read about USB in the sidebar "FireWire or USB: That is the question" in this chapter.)

iPod mini

The iPod mini, an offshoot of the third generation, is small enough to fit in a shirt pocket; see Figure 1-2. Its smooth, ultra-thin, anodized aluminum case comes in five different colors. The original model houses a 4GB drive that can hold about 1,000 songs — as much as the original 5GB model; newer models sport a 6GB drive that holds about 1,500 songs. (An iPod mini can fit more songs in the same amount of space because Apple introduced a better compression format called AAC in second-generation models, as described in Chapter 17. The AAC format can also be used in older models, so in effect when Apple introduced AAC the capacity of all models increased.)

Figure 1-2: iPod mini fits in a shirt pocket.

Besides its smaller size (and therefore, smaller dock), another of iPod mini's distinguishing characteristic is the click wheel, which offers the same functions as the third-generation iPod touch wheel but is more suitable for such a small device. The click wheel combines the scroll wheel and buttons, with pressure-sensitive buttons underneath the top, bottom, left, and right areas of the circular pad of the wheel.

iPod mini has the same features as full-size third-generation iPods except that it uses a different set of accessories because of its size, and it offers up to 18 hours of battery time between charges. We describe both types of iPods and their accessories throughout this book.

Fourth-generation and color-display iPods

In 2004 Apple introduced a fourth-generation iPod that uses the same click wheel and buttons that iPod mini uses. Fourth-generation iPod software includes the ability to randomly shuffle song playback with the press of a button, and to charge up the iPod through the USB connection to your computer. (Previously only FireWire connections to the computer provided power.) The fourth-generation iPods were at first available in 40GB and 20GB models with black-and-white displays. Currently, Apple offers 20GB and 60GB models with color displays that can store photos and display slideshows.

The fourth-generation units with black-and-white displays offer up to 12 hours of battery time between charges. You can play up to 15 hours of continuous music on a color-display iPod between charges, or up to five hours of continuous slideshows with music. The battery is the same type as used in other models — the improvement is in how the software manages power in the iPod. Like third-generation iPods, the fourth generation also uses a dock connector to connect the iPod to a computer or power supply, and the dock itself is available separately from the Apple Store. The fourth-generation iPods connect to computers using either FireWire or USB connections.

The fourth-generation iPod models differ from earlier models by offering a top-level Music choice in the main menu and the ability to create multiple on-the-go playlists. You can also play audio books at slower or faster speeds while maintaining natural-sounding pitch.

Considered a "fifth generation" by some, the iPod color display models, including the earliest model known as *iPod photo,* let you store and view color digital photos as well as store and play sound; it also does everything a fourth-generation iPod can do and uses the same accessories. As of this writing, Apple provides a 20GB model and a whopping 60GB model that can hold up to 15,000 songs and full-color album cover art — or as many as 25,000 photos.

The 60GB iPod with color display, shown in Figure 1-3, uses the same click wheel and buttons iPod mini uses. The color display provides crisp definition for the iPod's menus, making them easier to read, even in sunlight.

Figure 1-3: The iPods with color displays let you store photos and present slideshows in color.

The iPod color display, at 220×176-pixel resolution and over 65,000 colors, offers excellent viewing with built-in backlighting. With the optional AV cable, you can connect the iPod to a television monitor or video projector for a video-quality slideshow. It even optimizes your photos to fit on a standard (4:3 ratio) or widescreen (16:9 ratio) TV.

To get photos onto your color-display iPod, you can transfer them directly from iPhoto on a Mac or Adobe Photoshop Elements or Adobe Album on a Windows PC — it even synchronizes with photo albums to grab your latest shots. And with the optional iPod Camera Connector, you can copy photos directly from a digital camera to the iPod hard drive, saving memory card space in your camera as you continually take more photos. iTunes also automatically copies album cover art supplied with the music you buy from the iTunes Music Store, so you can enjoy the art while playing the music.

iPod nano

Apple's new iPod nano model is thinner than a pencil — only 0.27 inches — but it packs a powerful color backlit display, the fourth-generation click wheel and dock connection, and full support for fourth-generation iPod features. Apple achieved this design by using *flash memory*, which are chips that hold their contents without power, rather than a hard drive. The iPod nano, shown in Figure 1-4, is meticulously designed to feel good in your hand. While as small as a business card and feather light, it is not flimsy or delicate — the stainless steel back and polymer front don't flex.

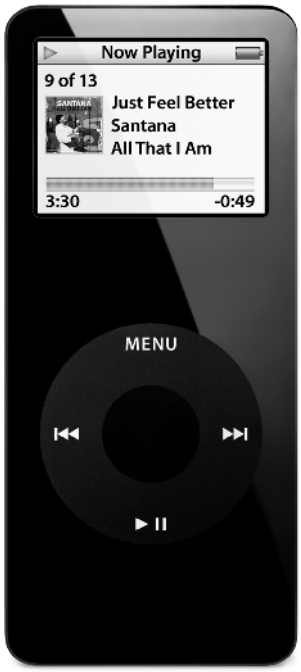

Figure 1-4: The iPod nano is the smallest fully featured color-display model (photo courtesy of Apple).

Apple offers 2GB and 4GB models in stylish black or white. The 2GB model holds about 500 songs, while the 4GB model holds about 1,000 songs. Both provide up to 14 hours of playback time between battery charges, or four hours of a photo slideshow.

The iPod nano color display improves the readability of the iPod's menus even in sunlight, and lets you view album art as well as photos downloaded from your computer. However, one major difference between an iPod nano and a full-size color-display iPod is that you can't use an iPod nano to display photos and slideshows on a television or with video equipment.

While the iPod nano offers a dock connection that works with most accessories that connect via the dock, it supports only USB and USB 2.0 — although you can use a FireWire cable to connect to the FireWire AC Adapter to charge its battery. (You can read about USB in the sidebar "FireWire or USB: That is the question.")

The iPod nano offers a headphone minijack and dock connection, but not a remote controller connection, so you can't use some accessories designed for full-sized iPods such as voice recorders and remote controllers. However, you can use most of the accessories that can connect to the iPod mini dock connection, such as speaker systems and car stereo adapters, though the iPod nano's dock connection is off-center. Power-related accessories that use the dock connection, such as car chargers, external batteries, and Apple's USB charger, also work fine, but some wireless transmitter accessories that rely on the remote controller connection don't work. Many new accessories are designed specifically for the iPod nano and are available at `www.apple.com/ipodnano/accessories.html`.

You can't get a new iPod model without new features, and the iPod nano is no exception. The new Stopwatch feature, which includes a lap counter, is a natural for a model that is designed for sport and exercise. The Clock can tell you the time in other parts of the world. It also offers a Screen Lock to protect access with a password. The iPod nano is also the first to display a podcast indicator (a small blue dot) that indicates podcasts you haven't heard yet. And the new Lyrics screen shows any lyrics you've added to the iTunes song information window for a track.

Doing the iPod shuffle

If the regular iPod models are not small enough to fit into your lifestyle, try the iPod shuffle, which is as much a fashion statement as a state-of-the-art music player — this one you can wear! The iPod shuffle, shown in Figure 1-5, is 3.3 inches long, less than 1 inch wide, and about a third of 1 inch thick — so tiny it weighs only 0.78 of an ounce, which is little more than a car key or pack of gum. You can hang it from your ears using the supplied earbuds and wear it around your neck like a necklace.

The 512MB iPod shuffle can hold 120 songs, and the 1GB model can hold 240 songs — assuming an average of 4 minutes per song, using the AAC format at the High Quality setting (as described in Chapter 17). Remember, the iPod shuffle is not for storing music permanently — you use it just to play selections from your iTunes library on your computer. It has no display, but that's actually a good thing, because it keeps the size and weight down to a minimum — and you don't need a display to play a couple of hundred songs in random or sequential order. You can also use your iPod shuffle to hold data files, just like an external flash memory drive.

Figure 1-5: The iPod shuffle weighs less than an ounce and offers skip-free playback.

With skip-free playback, lightweight design, and no need for a display, you can easily use it while skiing, snowboarding, or even skydiving (and if you're at a high altitude, try "Expecting to Fly" by Buffalo Springfield, or "Astral Traveling" by Pharoah Sanders). That's because it uses flash memory rather than a hard drive — you can shake it as hard as you want without a glitch. The iPod shuffle's battery, similar to those used in other fourth-generation iPods, offers up to 12 hours of power between charges.

Unlike other iPods, the iPod shuffle can't play tunes in the AIFF or Apple Lossless formats, which consume a lot of storage space but are higher in sonic quality. You can play songs in the AAC format (including songs from the online iTunes Music Store) or the MP3 format. These formats compress the music to use much less space. You can also use the Audible book format and the uncompressed WAV format. See Chapter 17 for more details on encoding formats.

To turn on the iPod shuffle, use the three-position toggle switch on the back; a green stripe below the switch helps you see what position the switch is in. The top position turns the iPod shuffle off; the middle position starts playing the list of songs from beginning to end in sequential order; and the bottom position shuffles through songs randomly — you don't know what song will come next, and that's its appeal. You may want a little randomness in your life.

Using the buttons on the front side that look like standard CD-player buttons, you can skip forward to the next song or skip back to the previous one. The center button either starts or pauses playback. The plus (+) button turns the volume up, and the minus (-) button turns it down.

The iPod shuffle shines a yellow LED on the front side to show when the player is charging, and a green LED when the shuffle is completely charged. A blinking green LED indicates that the player is on pause. On the back side just below the toggle switch is a Battery Status button that, when pressed, flashes an LED that indicates how much battery juice remains: Green is a good charge, yellow a low charge, and red a very low charge. No glow means no power remains.

Underneath the cap on the tip of the iPod shuffle is a convenient USB 2.0 connector that links the iPod shuffle to a computer or to an optional power supply and supplies power for recharging its battery. You don't need a separate cable. The iPod shuffle charges its battery from your computer, so you don't need the optional power supply. You can also get the optional $29 iPod shuffle External Battery Pack, which provides 20 additional hours of playtime with two AAA batteries.

Thinking Inside the Box

Don't destroy the elegantly designed box while opening it; you might want to place it prominently in your collection of Equipment That Ushered in the 21st Century. Before going any further, check the box and make sure that all the correct parts came with your iPod.

Things you have and things you need

The iPod box includes a CD-ROM with the iTunes software for the Mac and PC and the FireWire or USB cable you can use to connect your iPod to a computer. All models (except the iPod shuffle and iPod nano) come with an AC power adapter for connecting either the older iPod (using FireWire) or the newer iPod-in-dock to an AC power source.

With most models, you also get a set of earbud headphones and a remote controller that connects to the iPod by wire. The accessories don't stop there — you might also have a carrying case and some other goodies. Optional accessories, many of which we describe in this book, are available at the online Apple Store (`www.apple.com/store`).

You also need a few things that don't come with the iPod:

- **A PC or Mac to run iTunes:** On a PC, iTunes requires Windows 2000 or XP, a 500-MHz Pentium-class processor or faster, and a minimum of 128MB (256MB or more recommended). With a Mac, iTunes requires Mac OS X 10.2.8 or newer for connecting with FireWire (OS X 10.3.4 or newer for connecting via USB or for using AirPort Express), a 400-MHz G3 processor or better and at least 256MB of RAM. The iTunes installer for the PC also installs the newest version of QuickTime, replacing any older version you may have. Macs have QuickTime preinstalled; however, you may need to upgrade your version of QuickTime to 6.5.2 (current as of this writing) or newer to use purchased music from the iTunes Music Store in other iLife applications on a Mac.

- **A PC to run MusicMatch Jukebox *(alternative to iTunes):*** You can alternatively use the iPod with MusicMatch Jukebox and a 300 MHz or faster PC with at least 96MB of RAM running Windows Me, 2000, or XP (with at least 128MB of RAM). If you're using MusicMatch, visit the companion Web site at `www.dummies.com/go/ipod`.
- **FireWire or USB connection on a PC:** PCs running Windows must have either FireWire (also called IEEE 1394) or USB 2.0. All Macs provide USB and most provide FireWire — it's your choice. See the sidebar "FireWire or USB: That is the question" in this chapter for more information about FireWire and USB 2.0 connections on PCs.
- **FireWire cable *(alternative to USB):*** While older iPod models came with a FireWire cable, current color-display iPods are supplied with just a USB cable for connecting to either a Mac or a PC. You can use a FireWire connection on either a Mac or PC by using a FireWire cable, available from the Apple Store.
- **iTunes 4.9 or newer:** You can download Mac or Windows versions for free from the Apple Web site (`www.apple.com/itunes`). The CD-ROM supplied with current-model iPods should have both versions of iTunes as well. Older models, still available in stores and online, may include versions of iTunes as old as version 4.5 — which is fine, because version 4.5 works. (It just doesn't have all the features of 4.9.) You can download version 4.9 or newer versions at any time to replace it.
- **MusicMatch Jukebox for PCs *(alternative to iTunes):*** CD-ROMs supplied with some older iPod models provided MusicMatch Jukebox instead. You can use MusicMatch Jukebox if you don't meet the requirements to run iTunes.
- **Applications for managing contacts and calendars (*Optional):*** Mac users can install Address Book (for managing contacts) and iCal (for managing calendars), both of which can synchronize your iPod with contacts and calendars. Both are available for free from `www.apple.com`. Windows users can use Outlook or Outlook Express for creating a contacts list and calendars for an iPod.

Using FireWire or USB cables with a Mac

If you have a Mac and a full-size iPod, the choice is easy: FireWire has been a part of every Mac since at least 2000. (To find out about FireWire, see the sidebar "FireWire or USB: That is the question" in this chapter.) However, differences exist between iPod generations.

Current (third-generation and fourth-generation) models, including iPod mini and color-display models, offer a special cable with a flat dock connector to connect the dock — or the iPod itself — to the Mac's FireWire or USB port. The dock includes a cable with a flat dock connector on one end and a FireWire or USB connector on the other (some cables have both FireWire and USB). You can connect the FireWire or USB end of the cable to the computer (to synchronize with iTunes and play iPod music in iTunes) or to the power adapter.

The connection on the bottom of the iPod is the same as the connection on back of the dock. Plug the flat connector of the cable into the iPod or dock, and then plug the six-pin FireWire connector on the other end to the FireWire port on your Mac (marked by the Y symbol that resembles a radiation symbol), or plug the USB connector to the USB port on your Mac.

The full-size third-generation iPods don't support USB 2.0 on the Mac, but iPod mini, iPod nano, and fourth-generation models support it if your Mac offers USB 2.0, and a USB cable is provided. You need OS X 10.3.4 for connecting via USB 2.0 to a Mac.

The iPod shuffle offers only a USB connector: Remove the cap from one end and connect it directly to the USB or USB 2.0 connection on your Mac. You can also use an iPod shuffle Dock or a USB extension cable (available from Apple at `www.ipod.com/store`).

First-generation and second-generation models offer only a standard FireWire connection, so you can use a standard Mac-style FireWire cable to connect the iPod to the Mac's FireWire connection. Plug the six-pin connector of a standard FireWire cable into the iPod, and plug the six-pin connector on the other end to the FireWire port on your Mac. (The six-pin connector is marked by the Y symbol that resembles a radiation symbol.)

Using FireWire or USB cables with a PC

If you have a Windows PC you can use FireWire (called IEEE 1394 in PC circles), or USB 2.0 (a.k.a. *high-powered USB*), which is available on most current desktop PCs and laptops. While you can use a low-powered USB connection, it doesn't supply power to most iPod models, and performs too slowly.

FireWire or USB: That is the question

If you use a Mac, FireWire is the choice to make unless your Mac offers USB 2.0 and you're using an iPod mini, color-display iPod, or iPod shuffle — all three of which support USB 2.0. The iPod shuffle supports only USB and USB 2.0, so you have no choice but to use the USB or USB 2.0 connection.

FireWire can hustle data at rates up to 400 Mbps over its cable. That's typically fast enough — with FireWire, you can transfer an entire CD's worth of music in less than ten seconds.

USB (Universal Serial Bus) has been around for a while, connecting hundreds of nifty devices to PCs. USB version 1.1 offers a speed of only 12 Mbps. The more advanced generation of USB, Version 2.0, has a transfer rate of 480 Mbps — that's 40 times faster than the first version — but since USB in practice does not sustain that rate for the entire data transfer, as FireWire does, FireWire is still a wee bit faster.

Both FireWire and USB 2.0 connections are plug-and-play: You can plug them in at any time whether your computer is on or off. Depending on the device that you use with these connections, FireWire or USB 2.0 can provide power to the device. For example, fourth-generation iPods, the iPod shuffle, the iPod nano, and the color-display iPod can draw power from a USB 2.0 connection.

Many Mac models now sport USB 2.0 connectors, but for many older Mac users, FireWire is the only choice. Many desktop PCs and laptops offer PCI and/or CardBus slots for adding FireWire or USB 2.0 cards, and some PCs offer built-in FireWire or USB 2.0.

Have we made your choice easier yet? If you have a PC with USB 2.0 (which is more common than one with FireWire), go with it. The only drawback is that with an iPod older than the fourth generation, you might not be able to get power from the connection (depending on the PC), so you wouldn't be able to recharge its battery from your PC.

You can add FireWire to your PC with an expansion card such as the FireCard 400 CardBus card from Unibrain (`www.unibrain.com`), which plugs into a PC desktop or laptop CardBus slot. Before you buy a FireWire/IEEE 1394 card, make sure that it's compatible with your hardware and operating system. Apple offers approved FireWire expansion cards at the online Apple Store (`http://store.apple.com/1-800-MY-APPLE/WebObjects/AppleStore`).

If you have trouble installing your FireWire or USB 2.0 card or using your iPod with it, see Chapter 27 for troubleshooting tips.

FireWire/IEEE 1394 expansion cards are available in various formats: Some offer the standard six-pin port found on Macs, and some offer a four-pin port that is also used in camcorders. If your card has a six-pin port, you can plug your iPod cable directly into it.

For cards with four-pin ports, Apple provides the FireWire cable adapter, as shown in Figure 1-6, and you can hook it up to the standard six-pin connector at the end of your FireWire cable. The small four-pin connector on the adapter plugs into the four-pin port on the FireWire card. Then plug the other end of

your cable to your iPod or your dock. You can purchase a special FireWire/IEEE 1394 cable that has a six-pin plug on one end and a four-pin plug on the other — look for it in well-stocked electronics stores that sell digital camcorders, as many camcorders use such a cable.

Figure 1-6: The FireWire cable adapter for connecting to a FireWire card that has a four-pin port.

The FireWire cable adapter is supplied with full-size fourth-generation iPods but not with iPod mini or iPod nano. You can purchase one from the Apple Store.

If you use USB 2.0 with your PC, you can use the USB 2.0 cable supplied with your iPod, iPod nano, or iPod mini. The USB 2.0 cable has a flat dock connector on one end and a USB 2.0 connector on the other. Apple also offers a combination FireWire/USB 2.0 cable with a dock connector on one end and a cable that forks into two connectors — one for FireWire and one for USB 2.0 — but this cable won't work with an iPod nano for music transfer.

Don't use another USB device in a chain, or a USB 2.0 hub, to connect your iPod — unless the hub is a powered hub. Note that a USB keyboard acts like a hub, but is not powered. Therefore it wouldn't provide power to the iPod.

The iPod shuffle offers only a USB connector: Remove the cap from one end and connect it directly to the USB or USB 2.0 connection on your PC. You can also use an iPod shuffle Dock or a USB extension cable (available from Apple at `www.ipod.com/store`).

Powering Up Your iPod

All iPods come with essentially the same requirement: power. Fortunately, it also comes with a battery and a way of charging it — either directly from your computer, or using a cable and an AC power adapter that works with voltages in North America and many parts of Europe and Asia. (See Chapter 15 for information about plugging into power in other countries.)

First-generation and second-generation iPod models offer a Mac-style FireWire connection on the top of the iPod. The power adapter also sports a FireWire connection, so all you need is a standard six-pin FireWire cable to plug in. Third-generation and fourth-generation models, color-display iPods, and iPod minis can use a dock that offers FireWire and USB connections. The dock can also connect to your home stereo through a line-out connection. The iPod nano models come with a USB dock cable that provides power from the USB port on your computer.

A FireWire connection to a Mac provides power to the iPod and recharges the battery as long as the Mac isn't in sleep mode. A FireWire connection to a FireWire/IEEE 1394 card in a PC might not be able to provide power — check with the card manufacturer. The smaller 4-pin connections for FireWire/IEEE 1394 cards typically don't supply power to the iPod.

If your iPod shows a display but doesn't respond to your touch, don't panic — check the Hold switch on top of the unit and make sure that it's set to one side so that the orange bar disappears (the normal position). You use the Hold switch for locking the buttons, which prevents accidental activation.

You might notice that the iPod's display turns iridescent when it gets too hot or too cold, but this effect disappears when its temperature returns to normal. iPods can function in temperatures as cold as 50 degrees and as warm as 95 degrees (Fahrenheit) but work best at room temperature (closer to 68 degrees).

If you leave your iPod out in the cold all night, it might have trouble waking from sleep mode, and it might even display a low battery message. Plug the iPod into a power source, wait until it warms up, and try it again. If it still doesn't wake up or respond properly, try resetting the iPod as we describe in "Resetting Your iPod," later in this chapter.

Facing Charges of Battery

You can take a six-hour flight from New York City to California and listen to your iPod the entire time — and with some models, listen all the way back on the return flight, without recharging. All iPod models use the same type of built-in rechargeable lithium-ion battery with the following power specs:

- The first-, second-, and third-generation iPod models offer up to eight hours of battery power.
- The fourth-generation models and the iPod shuffle offer up to 12 hours.
- The iPod mini offers up to 18 hours.
- The iPod nano offers 14 hours of music playing time or 4 hours of photo display with music.
- The color-display iPod models offer 15 hours of music playing time or 5 hours of photo display with music.

However, keep in mind that playback battery time varies with the type of encoder that you use for the music files in iTunes — Chapter 17 has more information about encoders. It also varies depending on how you use your iPod controls and settings.

It takes only four hours to recharge the battery fully for all models. Need power when you're on the run? Look for a power outlet in the airport terminal or hotel lobby — the battery fast-charges to 80-percent capacity in two hours. After the first two hours, the battery receives a trickle charge for the next two hours, until fully charged.

Don't fry your iPod with some generic power adapter — use *only* the power adapter supplied with the iPod from Apple.

A battery icon in the top-right corner of the iPod display indicates with a progress bar how much power is left. When you charge the battery, the icon turns into a lightning bolt inside a battery. If the icon doesn't animate, the battery is fully charged. You can also use your iPod while the battery is charging, or disconnect it and use it before the battery is fully charged.

To check the battery status of an iPod shuffle, press the battery status button on the back (the long button above the Apple logo and below the position switch). If the battery status light is green, the iPod shuffle is fully charged; if yellow, the charge is low; if red, very little charge is left and you need to recharge it. If no light is visible, the iPod shuffle is completely out of power and you need to recharge it to use it.

Maintaining battery life

The iPod's built-in rechargeable lithium-ion battery is, essentially, a life-or-death proposition. After it's dead, it can be replaced, but the replacement may cost more than $50 (some services may charge less for older models). If your warranty is still active, you should have Apple replace it — don't do it yourself because opening the iPod invalidates the warranty.

Fortunately the battery is easy to maintain. We recommend *calibrating* the battery once soon after you get your iPod — that is, run it all the way down (a full discharge) and then charge it all the way up (which takes four hours). Although this doesn't actually change battery performance, it does improve the battery gauge so that the iPod displays a more accurate indicator.

Unlike nickel-based batteries that require you to fully discharge and then recharge in order to get a fuller capacity, the iPod lithium-ion battery prefers a partial rather than a full discharge, so avoid frequent full discharges after the initial calibration (frequent full discharges can lower battery life).

Lithium-ion batteries typically last three years or more and are vulnerable to high temperatures, which decrease their life spans considerably. Don't leave your iPod in a hot place, such as on a sunny car dashboard, for very long.

For a complete description of how Apple's lithium-ion batteries work, see the Apple — Batteries page at `www.apple.com/batteries`.

The bottom of the iPod warms up when it's powered on. The bottom functions as a cooling surface that transfers heat from inside the unit to the cooler air outside. The iPod's carrying case acts as an insulator, so be sure to remove the iPod from its carrying case before you recharge it.

Keeping the iPod encased in its carrying case when charging is tempting but also potentially disastrous. The iPod needs to dissipate its heat, and you could damage the unit by overheating it and frying its circuits, rendering it as useful as a paperweight. To get around this problem, you can purchase one of the heat-dissipating carrying cases available in the Apple Store. For example, Marware (`www.marware.com`) offers the SportSuit Convertible case ($39.95).

Even when not in use, your iPod drinks the juice. If your iPod is inactive for 14 days, you must recharge its battery — perhaps the iPod gets depressed from being left alone too long.

Saving power

Full-size iPods include a hard drive, and whatever causes the hard drive to spin causes a drain on power. Your iPod also has a *cache* — a memory chip holding the section of music to play next. The iPod uses the cache not only to eliminate skipping when something jostles the hard drive but also to conserve power because the drive doesn't have to spin as much.

If you use the AIFF or WAV formats for importing music into iTunes (or MusicMatch Jukebox), don't use these formats with your iPod — convert the music first, as we describe in Chapter 20. These formats take up way too much space on the iPod hard drive and fill up the iPod cache too quickly, causing skips when you play them and using too much battery power

because the drive spins more often. (See Chapter 5 for importing with iTunes. Chapter 17 provides detailed information about these formats.)

The following are tips on power saving while using your iPod:

- **Pause:** Pause playback when you're not listening. Pausing (stopping) playback is the easiest way to conserve power.
- **Back away from the light:** Use the iPod backlight sparingly. Select Backlight from the iPod main menu to turn it on or off, or turn the Backlight Timer setting to a number of seconds, or to Off, in the iPod's Settings menu. (Choose Settings from the main menu.) Don't use the backlight in daylight if you don't need it.
- **Hold it:** Flip the Hold switch to the lock position (with the orange bar showing) to make sure that controls aren't accidentally activated. You don't want your iPod playing music in your pocket and draining the battery when you're not listening.
- **You may continue:** Play songs continuously without using the iPod controls. Selecting songs and using Previous/Rewind and Next/Fast-Forward requires precious energy. Not only that, but the hard drive has to spin more often when searching for songs, using more power than during continuous playback.

Always use the latest iPod software and update your software when updates come out. Apple is always trying to improve the way your iPod works, and many of these advancements relate to power usage.

Replacing your battery

Apple customers aren't always happy campers. Early iPods came with batteries that couldn't be replaced, but all it took were a few premature battery failures and quite a few customer complaints for Apple to institute a battery replacement service. Apple also offers a special AppleCare warranty for iPods.

You can't remove or replace the iPod internal battery yourself — you need Apple to replace it if it dies.

If your iPod isn't responding after a reset (see "Resetting Your iPod" in this chapter for how to reset your iPod), follow the troubleshooting steps in Chapter 27. If these steps don't restore your iPod to working condition, you might have a battery problem. Go to the Apple support page for the iPod (`www.apple.com/support/ipod`) and click the iPod service FAQ link to read frequently asked questions and answers about iPod support. Then click the iPod battery service request form link on the support page and follow the instructions to request service and return your iPod for a replacement.

The only time we had to do this (with a 30GB iPod), Apple required us to send just the iPod unit itself, without the power adapter or any other accessories, to Apple's service facility. Within a week, Apple sent back a brand new iPod (same model).

Thumbing Through the Menus

After you import music into the iPod, you're ready to play music. The design of the iPod lets you hold it in one hand and perform simple operations by thumb. The iPod's unique circular scroll wheel makes scrolling through an entire music collection quick and easy. With your finger or thumb, scroll clockwise on the wheel to scroll down a list, or counter-clockwise to scroll up. As you scroll, options on the menu are highlighted. Use the Select button at the center of the scroll wheel to select whatever is highlighted in the menu display.

In full-size third-generation models, the touch-sensitive buttons above the scroll wheel perform simple functions when you touch them. (First-generation and second-generation models aren't touch-sensitive, so you need to press them.)

iPod mini, iPod nano, and fourth-generation iPods, including color-display models, provide a click wheel that offers the same functions as the scroll wheel *and* the clickable buttons. It has pressure-sensitive buttons underneath the top, bottom, left, and right areas of the circular pad of the wheel. These areas tilt as you press them, activating the buttons.

The iPod main menu for fourth-generation, iPod nano, and color-display models, shown in Figure 1-7, offers the following selections:

- **Music:** Select music by playlist, artist, album, song, genre, or composer, or select an audio book.
- **Photos:** Select photos by photo album or select individual photos in the photo library. This selection appears only on color-display models.
- **Extras:** View and set the clock and alarm clock, view contacts, view your calendar, view notes, and play games.
- **Settings:** Set display settings, menu settings, the backlight timer, the clicker, and the date and time.
- **Shuffle Songs:** Play songs from your music library in random order.
- **Backlight:** Turn on or off the backlighting for the iPod display.
- **Now Playing:** This appears only when a song is playing — it takes you to the Now Playing display.

The iPod main menu for third-generation models offers the following selections:

- **Music:** Select music by playlist, artist, album, song, genre, or composer, or select an audio book.
- **Playlists:** Select a playlist to play.
- **Extras:** View and set the clock and alarm clock, view contacts, your calendar, or notes, and play games.
- **Settings:** Set display settings, menu settings, the backlight timer, the clicker, and the date and time.
- **Backlight:** Turn on or off the backlighting for the iPod display.
- **Now Playing:** This appears only when a song is playing — it takes you to the Now Playing display.

The main menu for first- and second-generation iPods and iPod mini offer the following selections:

- **Playlists:** Select a playlist to play.
- **Browse:** Select music by playlist, artist, album, song, genre, or composer, or select an audio book.
- **Extras:** View and set the clock and alarm clock, view contacts, view your calendar, view notes, and play games.
- **Settings:** Set display settings, menu settings, the backlight timer, the clicker, and the date and time.
- **Backlight:** Turn on or off the backlighting for the iPod display.
- **Now Playing:** This appears only when a song is playing — it takes you to the Now Playing display.

Pressing the iPod Buttons

The buttons on full-size iPod models do various tasks for song playback:

- **Previous/Rewind:** Press once to start a song over. Press twice to skip to the previous song. Press and hold to rewind through a song.
- **Menu:** Press once to go back to the previous menu. Each time you press, you go back to a previous menu until you reach the main menu.
- **Play/Pause:** Press to play the selected song, album, or playlist. Press Play/Pause when a song is playing to pause the playback.
- **Next/Fast-Forward:** Press once to skip to the next song. Press and hold Next/Fast-Forward to fast-forward through the song.

Figure 1-7: The iPod color display main menu with backlighting on.

The buttons and scroll wheel on full-size iPods can do more complex functions when used in combination:

- **Turn on the iPod.** Press any button.
- **Turn off the iPod.** Press and hold the Play/Pause button.
- **Disable the iPod buttons.** To keep from accidentally pressing the buttons, push the Hold switch to the other side so that an orange bar appears (the Hold position). To reactivate the iPod buttons, push the Hold switch back to the other side so that the orange bar disappears (the normal position).
- **Reset the iPod.** Set the Hold switch to the Hold position, and then move it back to normal. Then, on first-, second-, or third-generation iPods or iPod mini, press the Menu and Play/Pause buttons simultaneously for about five seconds until the Apple logo appears in the iPod display; for fourth-generation and color-display iPods, press the Menu and Select buttons simultaneously for six seconds. You can reset the iPod if it gets hung up for some reason. (For example, it might get confused if you press the buttons too quickly.) This operation resets the iPod, essentially restarting the iPod's hard drive. It doesn't change the music or data on the iPod. See "Resetting Your iPod," later in this chapter.

- **Change the volume.** While playing a song (the display reads `Now Playing`), adjust the volume with the scroll wheel — clockwise turns the volume up, counterclockwise turns the volume down. A volume slider appears on the iPod display, indicating the volume level as you scroll.
- **Skip to any point in a song.** While playing a song (the display says `Now Playing`), press and hold the Select button until the progress bar appears to indicate where you are in the song, and then use the scroll wheel to scroll to any point in the song. Scroll clockwise to move forward, and counterclockwise to move backward.

Setting the Language

Wiedergabelisten? Übersicht? (Playlists? Browse?) If your iPod is speaking in a foreign tongue, don't panic — you're not in the wrong country. You might have purchased an iPod that's set to a foreign language. More likely, someone set it to a different language accidentally or on purpose (as a practical joke). Fortunately, you can change the setting without having to know the language that it's set to.

To set the language, no matter what language the menu is using, follow these steps:

1. **Press the Menu button repeatedly until pressing it doesn't change the words on the display, or until you see the word *iPod*.**

   If pressing the Menu button no longer changes the display, you're at the main menu. With fourth-generation models, the menu displays iPod no matter what language is selected — and you know you're at the main menu.

2. **Choose the third option from the top on fourth-generation iPods without color displays. Choose the fourth option from the top on iPod mini, iPod models with color displays, and older models. (In English, this is the Settings option.)**

   Scroll clockwise until the item is highlighted, and then press the Select button. The Settings menu appears.

3. **Choose the third option from the bottom of the Settings menu (which, in English, is the Language option).**

   The Language menu appears.

4. **Choose the language that you want to use. (English is at the top of the list.)**

If these steps don't do the trick, the menu may have been customized (something you can discover how to do in Chapter 22). Someone could have customized it previously, or perhaps you accidentally pressed buttons that customized the menu. To get around this problem, you can reset all the iPod settings back to the defaults. (Unfortunately, resetting your iPod settings back to the defaults wipes out any customizations that you've made; you have to redo any repeat/shuffle settings, alarms, backlight timer settings, and so on.)

Follow these steps to reset all your settings, no matter what language displays:

1. **Press the Menu button repeatedly until pressing it doesn't change the words on the display, or until you see the word *iPod*.**

   If pressing the Menu button no longer changes the display, you're at the main menu. With fourth-generation models, the menu displays iPod no matter what language is selected — and you know you're at the main menu.

2. **Choose the third option from the top on fourth-generation iPods without color displays. Choose the fourth option from the top on iPod mini, iPod models with color displays, and older models. (In English, this is the Settings option.)**

   The Settings menu appears.

3. **Choose the option at the bottom of the menu (in English, the Reset All Settings option).**

   The Reset All Settings menu appears.

4. **Choose the second menu option (in English, the Reset option; the first menu option is Cancel).**

   The Language menu appears.

5. **Choose the language you want to use. (English is at the top of the list.)**

The language you choose now applies to all the iPod menus. But don't pull that practical joke on someone else!

Resetting Your iPod

If your iPod doesn't turn on, don't panic — at least not yet. First check the Hold switch's position on top of the iPod. If it's in the locked position (with orange showing), slide it to the normal position. If it still doesn't work, check whether the iPod has enough juice. Is the battery charged up? Connect the iPod to a power source and see whether it works.

There are times when your iPod freezes up or seems confused, and it just won't start up. Pressing more than one iPod button at the same time might have caused this problem, or perhaps you disconnected the iPod from your computer before it had a chance to display the iPod's main menu (or in older models, the message saying it's okay to disconnect). In situations like this, you can *reset* the iPod.

Resetting the iPod isn't the same as resetting the *settings* of your iPod. If all you need to do is reset the settings on the Settings menu, you can choose Settings➪Reset All Settings➪Reset from the main menu. (We cover the settings on the Settings menu in Chapter 22.) All your menu and display settings return to their original values.

This section is about a different kind of reset — similar to pressing a reset button on a computer. This operation resets the operating system of the iPod and restarts the system. Sometimes when your iPod gets confused or refuses to turn on, you can fix it by resetting it. Follow these steps:

1. **Toggle the Hold switch to the locked position and then back to the unlocked position.**

   This step is like the beginning of a secret handshake.

2. **On fourth-generation models, including color-display models, press the Menu and Select buttons simultaneously.**

   On older models, press the Menu and Play/Pause buttons simultaneously.

3. **Hold these buttons for at least six seconds until the Apple logo appears; then release the buttons when you see the Apple logo.**

   The appearance of the Apple logo signals that your iPod is resetting itself, so you no longer have to hold down the buttons.

   Releasing the Menu and Select buttons (or Play/Pause on older models) as soon as you see the Apple logo is important. If you continue to hold down the buttons after the logo appears, the iPod displays the low battery icon (which looks like a slashed battery), and you must connect it to a power source before using your iPod again.

Set your iPod on a flat surface to press multiple buttons more easily. Make sure that when you press the Select button, you don't touch any part of the click wheel. Also make sure that you're pressing the Menu button toward the outside of the click wheel, and not near the center.

After resetting, everything should be back to normal, including your music and data files.