

Powering Your iPod

In This Chapter

- Comparing iPod models
- Connecting to a power adapter, dock, or computer
- Using and recharging your battery
- Saving power and battery life

The iPod has evolved into a range of mobile devices — from the current iPod shuffle, iPod nano, iPod classic, and iPod touch models described in this chapter, to the iPhone and iPad models described in books such as *iPhone For Dummies* and *iPad For Dummies*. Along the way, Apple has not only completely changed the way people play music, audio books, and videos, but also has changed the way people shoot photos and videos, play games, check e-mail, use computer applications, and use the Internet.

But don't just take my word for it. "It's hard to remember what I did before the iPod," said Grammy Awardwinner Mary J. Blige in an Apple press release. "iPod is more than just a music player; it's an extension of your personality and a great way to take your favorite music with you everywhere you go." Pope Benedict XVI has an iPod engraved with his coat of arms. President Barack Obama gave the U.K.'s Queen Elizabeth II an iPod preloaded with rare songs by Richard Rodgers. And when Bono of U2 gave an iPod shuffle to George H. W. Bush, the former president joked, "I get the shuffle and then I shuffle the shuffle."



The convenience of carrying music on an iPod is phenomenal. For example, the least expensive iPod model — the \$49 2GB iPod shuffle can hold 500 songs, which is plenty for getting around town. The 64GB iPod touch (\$399) can hold about 14,000 songs as well as run apps, connect to the Internet, make FaceTime video calls, and play video on a slick screen,

whereas the \$249 160GB iPod classic, which is designed more for playing music, can hold around 40,000 songs — that's more than 8 weeks of nonstop rock around the clock. (Prices may vary as Apple introduces new models.)

This chapter introduces the iPod models, and includes how to power them up and connect them to your computer, which are essential tasks.

Comparing iPod Models

The iPod was first invented for playing music, but now you can download movies and TV shows and select from a library of hundreds of thousands of applications (known as *apps*) for the iPod touch that offer everything from soup to nuts. The iPod touch can also shoot videos and still pictures. You can keep track of your calendar and contacts with an iPod classic as well as store loads of music, but with an iPod touch, you can also enter and edit calendar and contact entries, check and send e-mail, visit your favorite websites, get maps, obtain driving directions, read e-books and periodicals, take iTunes U courses, check the current weather, and even check your stock portfolio.

Introduced way back in the Stone Age of digital music (2001), each model of the iPod family has grown by several generations, now including:

- The iPod touch (fifth generation): This one looks and acts like an iPhone, but without cellular phone calls. It relies on Wi-Fi, which is short for *wi*reless *fi*delity, to connect to networks offering the Internet.
- The iPod classic: Following the original iPod design, the iPod classic offers the highest music capacity.
- ✓ The iPod nano: This is the ultra-portable iPod with the mighty 2.5-inch display that is small enough to hide in your palm and large enough to show videos. It comes in a variety of colors, and responds to multi-touch gestures like the iPod touch.
- The tiny iPod shuffle: This is an iPod designed just for audio, which you can clip to your sleeve.



To find out more about previous generations of iPods, including detailed information about cables and connections, see Bonus Chapter 1 in the free tips section of the author's website (www.tonybove.com/tips). For a nifty chart that shows the differences among iPod models, see the Identifying iPod Models page on the Apple iPod website (http://support.apple.com/kb/HT1353).

Getting in touch with iPod touch

I want to call it a *device*, but it's so much more — the iPod touch, shown in Figure 1-1, puts the entire world in your pocket. It's your passport to millions of songs as well as movies, TV shows, and other content on the iTunes Store. It lets you communicate with your friends and family with FaceTime video calls and instant messaging, and participate in social and gaming networks such as Facebook and the Game Center. It records stunning HD video as well as photos and lets you edit them before sharing them. And, of course, it offers a library of hundreds of thousands of applications (known as *apps*) that offer everything from soup to nuts, including thousands of games — but I get into that later in this chapter.



Figure 1-1: iPod touch in all its glory.

Enclosed in a single piece of anodized aluminum, less than a quarter of an inch thick, and weighing just a little over 3 ounces, the iPod touch is really a pocket computer — it uses a flash memory drive and the iOS operating system. It shares design characteristics and many of the features of its more famous cousin, the iPhone, with built-in speaker and volume controls, an accelerometer for motion detection (such as rotation and shaking), and Internet connectivity for surfing the Web and checking e-mail. Like the newest model iPhone, the newest model iPod touch sports a three-axis gyro for measuring or maintaining orientation (used extensively by games), and a

4-inch, widescreen, multi-touch Retina display that offers a stunning 1136-x-640 pixel resolution at 326 pixels per inch — so many pixels that the human eye can't distinguish individual ones.

The newest iPod touch also offers the 5-megapixel iSight camera on the back for recording HD (1080p) video at up to 30 frames per second (with audio). And you can use a front-facing 1.2-megapixel video camera for taking photos, recording HD (720p) videos, and making FaceTime video calls over the Internet.

The Siri intelligent personal assistant is also included with the newest iPod touch. With Siri and an Internet connection, you can talk in a normal voice to ask for directions, look up contacts, search the Internet, schedule appointments, and so on, as I describe in Chapter 18. For example, you can ask Siri for baseball scores. Any app that has a keyboard, such as Notes (as I show in Chapter 3), can use Siri to understand the text you speak, so that instead of typing, you can speak and your words will be entered as text.

Apple offers the following sizes of iPod touch models as of this writing, and they all use the same battery that offers up to 40 hours of music playback or 8 hours of video playback:

- The 32GB model holds about 7,000 songs, 40,000 photos, or about 40 hours of video. (With 7,000 songs, you could play a full week of non-stop music.)
- The 64GB model holds about 14,000 songs, 90,000 photos, or about 80 hours of video.

The newest model iPod touch can do nearly everything an iPhone can do, except make cellular-service phone calls or pinpoint its exact location with the Global Positioning System (GPS). Even so, the iPod touch can find its approximate location with Internet-based location services, and you can make the equivalent of a "phone call" using FaceTime, the Skype app, and an Internet connection, as I describe in Chapter 18. It also offers stereo Bluetooth for using wireless headphones and microphones.

Going mano a mano with iPod nano

Apple has brought its multi-touch technology to a screen the size of a credit card. The iPod nano is the thinnest iPod ever made and comes in a full spectrum of colors. It plays music, videos, podcasts, audio books, and music videos.

This mini marvel (see Figure 1-2) offers a 2.5-inch Multi-Touch display with 240 x 432 pixels of resolution at 202 pixels per inch, which can show videos and crisp images of your album cover art, and includes a motion sensor so that you can shake it to shuffle songs. Apple offers one 16GB model that holds about 4,000 songs. It also offers an FM tuner for listening to radio and a pedometer to keep track of your footsteps.



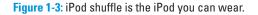
Figure 1-2: iPod nano plays FM radio as well as videos and music.

The battery in the iPod nano gives it the power to play up to 30 hours of music — all day and all of the night — or 3.5 hours of video.

Doing the iPod shuffle

If the regular iPod models aren't small enough to fit into your lifestyle or your budget, try the ultra-tiny 2GB iPod shuffle for \$49 (see Figure 1-3). Its built-in clip lets you attach it to your clothing or almost anything. The iPod shuffle has no display but offers buttons on the front to control playback. This design keeps the size and weight to a minimum.





The iPod shuffle can also talk to you with the VoiceOver feature. Press the VoiceOver button on top of your iPod shuffle to hear the title and artist of the song. VoiceOver even tells you whether your battery needs charging.

The 2GB iPod shuffle holds about 500 songs, assuming an average of 4 minutes per song, using the AAC format at the High Quality setting for adding music (as described in Chapter 5). The battery offers up to 15 hours of power between charges.

Twirling the iPod classic

The iPod classic, shown in Figure 1-4, is an undeniable classic that Apple has kept in its product line for a good reason: Customers like it. It uses the same click wheel and buttons as previous models, combining the scroll wheel with pressure-sensitive buttons underneath the top, bottom, left, and right areas of the circular pad of the wheel. With the iPod classic, it's all about music storage on the road — Apple provides a single slim, 4.9-ounce 160GB model in black or silver that can hold 40,000 songs, 25,000 photos, or about 200 hours of video; and its battery offers up to 36 hours of music playback or 6 hours of video playback.



Figure 1-4: iPod classic can hold 40, 000 songs.

Thinking Outside the Box

Apple excels at packaging. Don't destroy the elegant box while opening it. Keep the box in case, heaven forbid, you need to return the iPod to Apple the box ensures that you can safely return it for a new battery or replacement.

The iPod touch and iPod nano models come with stereo Apple EarPods, which are as good as some of the better earphones on the market — contoured to fit your ear and minimize sound loss. The iPod shuffle and iPod

classic come with the Apple Earphones, which are suitable for most people. So you might be fine with what you get — except that if you want to use remote control buttons for playback or a voice microphone close to your mouth (which is useful for iPod touch voice calls and voice recording), you can get the Apple EarPods with Remote and Mic in the accessories section of the Apple Store. And, of course, there are many alternatives — a visit to a local Apple Store, or any electronics department or store (such as Fry's) can boggle your mind with displays of accessories, and you can order them online at the online Apple Store (easily accessed from www.apple.com) or other sites such as Amazon.com (www.amazon.com).

The iPod touch, iPod classic, and iPod nano are each supplied with a cable that connects your iPod (or a dock for the iPod) to your computer or to the AC power adapter using a Universal Serial Bus (USB) connection — a way of attaching things to computers and bussing data around while providing power. The iPod touch and iPod nano cables have a USB connector on one end and Apple's Lightning connector on the other end to connect either to a Lightning-compatible dock or directly to the iPod nano or iPod touch. The iPod shuffle includes a special cable to connect to a USB power adapter or to your computer. The iPod classic uses a cable with a USB connector on one end and Apple's older flat dock connector on the other end, which is compatible with the older docks.

You may want to have around a few things that are not in the box. For example, even though you don't really need an AC power adapter or dock (because you can connect the iPod directly to your computer to recharge your battery), a power adapter or dock is useful for keeping the battery charged without having to connect the iPod to your computer.

Although you can store your apps, content library, personal information, and settings for an iPod touch in Apple's iCloud, you may still want to use a computer and iTunes to manage these things and keep your iPod touch in sync with them. You need a computer and iTunes to manage and back up the content on an iPod nano, iPod shuffle, or iPod classic. Basically, that computer has to be a Mac running the most recent version of OS X (the operating system) or a PC running Windows XP, Vista, Windows 7, or Windows 8.



You've seen requirements before — lots of jargon about MB (megabytes), GB (gigabytes), GHz (gigahertz), and RAM (random access memory), sprinkled with names like Intel, AMD, and OS X. To see the most up-to-date requirements, visit the Apple download page (www.apple.com/itunes/download). This page is cool: It shows Macintosh requirements if you're visiting using a Mac (with a Windows Requirements link), or PC/Windows requirements if you're visiting using a PC (with a Macintosh Requirements link).

Applying Power to an iPod

All iPod models come with essentially the same requirement: power. You can supply power to your iPod (and charge your battery at the same time) by using the provided cable and your computer, or you can use an optional AC power adapter that works with voltages in North America and many parts of Europe and Asia.

Connecting to a computer or power adapter

An iPod can draw power from a computer or from a power adapter. There are also accessories such as *docks* that offer power and power strips with USB ports for recharging devices.



A dock can be convenient as a base station when you're not traveling with your iPod because you can remove any travel case and just slip it into the dock without connecting cables. Just connect it to an Apple or a third-party dock and then use the cable supplied with your iPod to connect the dock to your computer or power adapter. You can pick up a dock at an Apple Store, order one online, or take advantage of third-party dock offerings. Some docks, such as the Apple Universal Dock, keep your iPod classic or iPod nano in an upright position while connected. Some docks also provide connections for a home stereo or headphones, and some docks offer built-in speakers.

On the bottom of the iPod touch and iPod nano is the Lightning connector for connecting the USB cable or Lightning-compatible dock. You find the older, larger flat connector on the bottom of the iPod classic. The iPod shuffle uses the earphone connector with a special USB cable.

To connect your iPod touch, iPod nano, or iPod classic to your computer or power adapter, plug the Lightning connector or flat connector of the cable into the iPod (or into a dock holding your iPod), and then plug the USB connector on the other end of the cable into the USB 2.0 or USB 3.0 port on your computer or the USB connector on the power adapter.

The iPod shuffle is supplied with a special USB cable that plugs into the earphone connection of the iPod shuffle and draws power from the USB connection on the computer or from a USB power adapter. Plug one end of the included cable into the earphone connection of iPod shuffle and the other end into a USB 2.0 or USB 3.0 connection on your computer or power adapter.

When you first connect your iPod to a computer, iTunes starts up and begins the setup process (see Chapter 2). After syncing, the computer continues to provide power through the USB 2.0 or USB 3.0 port to the iPod.

16

Why USB 2.0 or USB 3.0 port? What happened to 1.0? Most PCs and all current Macs already have either USB 3.0 or USB 2.0, which is all you need to sync an iPod with your computer. Although you can use a low-speed USB 1.0 or 1.1 connection to sync an iPod, it's slower than molasses on a subzero morning for syncing.



To find out more about previous generations of iPods, including detailed information about USB and FireWire cables and connections, see Bonus Chapter 1 in the free tips section of the author's website (www.tonybove.com/tips).

Turning it on and off

Touch any button to turn on an iPod classic. To turn off an iPod classic, press and hold the Play/Pause button. To keep an iPod classic from turning on by accident, you can lock it with the Hold switch on the top. The Hold switch locks the iPod buttons so that you don't accidentally activate them — slide the Hold switch so that it exposes an orange layer underneath. To unlock the buttons, slide the Hold switch so that it hides the orange layer underneath.



If your iPod classic shows a display but doesn't respond to your button-pressing, don't panic. Just check the Hold switch and make sure that it's set to one side so that the orange layer underneath disappears (the normal position).

To turn on an iPod shuffle, slide the three-way switch to expose the green layer underneath. To turn it off, slide the three-way switch to hide the green layer. With the three-way switch or On/Off switch, iPod shuffle models don't need a Hold switch.

To turn on an iPod nano, press the Sleep/Wake button on top. Press it again to turn it off. To conserve battery life, the screen goes dark anyway if you don't touch it for a while — press the Sleep/Wake button to turn it back on.

Awaken your iPod touch by pressing the sleep/wake button, which is located on the top of the iPod touch. The iPod touch presents the Slide to Unlock slider at the bottom of the screen, and stays locked until you slide your finger across the slider to unlock it. If you press the sleep/wake button again, it puts the iPod touch back to sleep and locks its controls to save battery power.

You can turn the iPod touch completely off by holding down the sleep/wake button for about 2 seconds, until you see the Slide to Power Off slider; then slide your finger across the slider to turn it off. You can then turn it back on by pressing and holding the sleep/wake button.



After awakening but before unlocking your iPod touch, you can press the physical Home button twice quickly to display music controls. Slide the volume control to set the volume; tap the play/pause, back, or forward buttons to control playback (for details on music playback, see Chapter 12). You can also tap a camera icon to launch the Camera app. See Chapter 14 for details on taking photos and videos.

iPods can function in temperatures as cold as 50° F (Fahrenheit) and as warm as 95° F, but they work best at room temperature (closer to 68° F). If you leave your iPod out in the cold all night, it might have trouble waking, 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 I describe in Chapter 19.

To save battery power, you should plug an iPod into AC power or your computer before turning it back on from a completely off state. And speaking of battery details, check out the next section.

Facing Charges of Battery

You can take a 6-hour flight from New York to California and watch videos on your iPod touch the entire time without recharging. The iPod models are supplied with built-in rechargeable lithium-ion batteries that offer the following playback time:

- The iPod shuffle offers 15 hours of music.
- The iPod nano offers 30 hours of music or 3.5 hours of video.
- The iPod classic offers 36 hours of music or 6 hours of video or photo display with music.
- The iPod touch offers 40 hours of music, or 8 hours of video, browsing the Internet using Wi-Fi, or displaying photo slide shows with music.



To find out more about the batteries in previous generations of iPods, see Bonus Chapter 1 in the free tips section of the author's website (www.tonybove.com/tips).

Recharging your battery

The iPod battery recharges automatically when you connect it to a power source. For example, it starts charging immediately when you insert it into a dock that's connected to a power source (or to a computer with a powered USB connection). It takes 4 hours to recharge the iPod touch or iPod classic battery fully from a drained state (less if partially charged), and only 3 hours for an iPod nano or iPod shuffle.



Need power when you're on the run? Look for a power outlet in the airport terminal or hotel lobby and plug in your iPod with your AC power adapter — the battery fast-charges to 80 percent capacity in 2 hours. After that, the battery receives a trickle charge for the rest of the time until it's fully charged.

Don't fry your iPod with some generic power adapter. Use *only* the power adapter from Apple or a certified iPod adapter, such as the power accessories from Belkin, Griffin, Monster, XtremeMac, and other reputable vendors.

You can use your iPod while the battery is charging, or you can disconnect it and use it before the battery is fully charged. A battery icon with a progress bar in the upper-right corner of the iPod touch, iPod nano, or iPod classic display indicates how much power is left. When you charge the battery, the battery icon displays a lightning bolt. The battery icon is completely filled in when the battery is fully charged, and it slowly empties into just an outline as the battery is used up. When you awaken an iPod touch that's plugged in to power, you see a large battery icon indicating how much juice you have. When you charge the battery, the large battery icon includes a lightning bolt.

You can check the battery of an iPod shuffle by turning it on or by connecting it to your computer. You can check the battery status without interrupting playback by quickly turning the iPod shuffle off and then on again. The tiny battery status light next to the headphone connector tells you how much charge you have:

- **Green:** The iPod shuffle is fully charged (if connected to a computer) or charged at least 50 percent.
- Orange: The iPod shuffle battery is still charging (if connected to a computer) or is as low as 25 percent. If the iPod shuffle is connected to your computer and blinking orange, this means that iTunes is synchronizing it don't disconnect the iPod shuffle until it stops blinking.
- **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.



To hear the VoiceOver feature speak your battery status ("full," "75 percent," "50 percent," "25 percent," or "low"), click and hold the center button of the earbud controls.

In iTunes, the battery icon next to your iPod shuffle's name in the Devices section of the source pane shows the battery status (you learn about the iTunes source pane in Chapter 5). The icon displays a lightning bolt when the battery is charging and a plug when the battery is fully charged.

Maintaining battery mojo

There are ways to keep your battery healthy. I recommend a lean diet of topping off your battery whenever it is convenient.

Using and recharging 100 percent of battery capacity is called a *charge cycle*. You can charge the battery many times, but there is a limit to how many full charge cycles you can do before needing to replace the battery.

Each time you complete a charge cycle (100 percent recharge), it diminishes battery capacity slightly. Apple estimates that the battery loses 20 percent of its capacity (meaning it holds 80 percent of the charge) after 400 full charge cycles. Recharging your battery when it's only half empty does not count as a full charge cycle, but as half a charge cycle. That means you can use half its power one day and then recharge it fully, and then use half the next day and recharge it fully again, and this would count as one charge cycle, not two.

It's a good idea to *calibrate* 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 at least 4 hours for an iPod touch or iPod classic, or 3 hours for an iPod nano or iPod shuffle). Although this doesn't actually change battery performance, it does improve the battery gauge so that the gauge displays a more accurate reading. This calibration occurs anyway if you fully recharge the battery, but if you've never done that, you can calibrate by disconnecting the iPod from any power for 24 hours to make sure the battery is empty and then fully recharging the battery.

Lithium-ion batteries typically last 3 years or more, but 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 (don't leave it out in the rain, either — water can easily damage it).

For a complete description of how Apple's batteries work, see the Apple Lithium-Ion Batteries page at www.apple.com/batteries.



The iPod built-in rechargeable battery is, essentially, a life-or-death proposition. After it's dead, it can be replaced, but Apple charges a replacement fee plus shipping. If your warranty is still active, you should have Apple replace it under the warranty program (which may cost nothing except perhaps shipping — and with AppleCare service, even the shipping may be free). Don't try to replace it yourself because opening your iPod invalidates the warranty.



Keeping an iPod in a snug carrying case when charging is tempting, but it's also potentially disastrous. 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.

If you don't use your iPod for a month, even while it's connected to power and retaining a charge, it can become catatonic. Perhaps it gets depressed from being left alone too long. At that point, it may not start — you have to completely drain and recharge the battery. To drain the battery, use it for many hours or leave it unconnected to power for 24 hours. Then, to fully recharge the battery, connect it to power for at least 4 hours without using it (or longer if you are using it).

Saving power

The iPod classic and older models include a hard drive — and whatever causes the hard drive to spin causes a drain on power. iPod nano, iPod shuffle, and iPod touch models use a flash drive, which uses less power but still uses power when playing content. The iPod touch also uses power doing things like accessing the Internet, using Bluetooth devices, keeping up with notifications, and running apps. Keeping these activities to a minimum can help you save power.



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

- Pause. Pause playback when you're not listening. Pausing (stopping) playback is the easiest way to conserve power.
- Lock it (with the iPod nano or iPod touch). Press the sleep/wake button on top to immediately put it to sleep and lock its controls to save battery power. You can set your iPod touch to automatically go to sleep by choosing Settings->General->Auto-Lock from the Home screen, and then choosing 1 Minute, 2 Minutes, 3 Minutes, 4 Minutes, or 5 Minutes (or Never, to prevent automatic sleep).
- Hold it (with the iPod classic). Flip the Hold switch on the iPod classic to the locked position (with the orange layer showing underneath) 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.
- Back away from the light. Turn down the brightness on an iPod touch by choosing Settings-DBrightness and dragging the brightness slider to the left. Turn it down on an iPod nano by tapping Settings-DGeneral-DBrightness. Use the backlight sparingly on the iPod classic select Backlight Timer from the iPod Settings menu to limit backlighting to a number of seconds or set it to Off. (Choose Settings from the main menu.) Don't use the backlight in daylight if you don't need it.
- Don't ask and don't tell where you are (with an iPod touch). Turn off Location Services if you aren't using apps that need it. Choose Settings Drivacy Docation Services from the Home screen, and tap On for the Location Services option at the top to turn it off (tap Off to turn it back on). See Chapter 4 for details.

- Let the postman ring twice (with an iPod touch). Check e-mail less frequently. You may want to turn off Push and change your Fetch settings, as I describe in Chapter 16. Turn off instant notifications from Facebook and other sources — see Chapter 4 for details.
- Put a cap on Bluetooth (with an iPod touch or iPod nano). Turn off Bluetooth (choose Settings c)General Bluetooth and tap the On button to turn it off) if you're not using a Bluetooth device.
- ✓ Drop back in from the Internet (with an iPod touch). Turn off Wi-Fi when not browsing the Internet or using Maps: Choose Settings⇔Wi-Fi and tap the On button to turn it off.
- Fasten your seat belt (with an iPod touch). Turn on Airplane Mode to automatically turn off Wi-Fi and Bluetooth at once, before the flight attendant reminds you to do it: Choose Settings and tap Off to turn Airplane Mode on.
- ✓ **Turn it off completely.** To turn off an iPod nano, press the Sleep/Wake button. To turn off an iPod classic, press and hold the Play/Pause button. To turn off an iPod shuffle, slide the switch to the off position, hiding the green layer underneath the switch. You can turn the iPod touch completely off by holding down the sleep/wake button for about 2 seconds, until you see the Slide to Power Off slider; then slide your finger across the slider to turn it off. You can then turn it back on by pressing and holding the sleep/wake button.



Starting an iPod touch or iPod classic that was completely turned off takes quite a bit of power — more than if it woke from sleep. If you do turn it off, plug it in to AC power or your computer before turning it back on.

✓ You may continue. Play songs continuously without using the iPod controls. Selecting songs and using the back and forward buttons require more energy. Also, turn off your iPod equalizer (EQ) if you turned it on — choose Settings⇔Music and tap EQ, and then tap Off.

Always use the latest iPod software and update your software when updates come out, as I describe in Chapter 19. Apple constantly tries to improve how your iPod works, and many of these advancements relate to power usage.