CHAPTER 1

Direct Downloading or File Sharing: Making the Right Choices for Efficiency and Safety

In This Chapter

- Downloading 101: Where to start getting music and videos
- Using typical file-sharing and direct downloading sites
- Understanding the risks of file sharing and direct downloading
- Using FTP sites and major search engines
- Choosing between file sharing and direct downloads

Downloading music and video, in its popular form, has been around only a few years and is still evolving. It has little in common with other forms of trading files because you never know what you're going to get. Downloading music and video from the Internet can be great fun and very exciting, but you've got to be savvy to protect yourself. This chapter looks at the various ways you can download files, the sites that offer files for download or sharing, and the risks and rewards of file sharing and downloading.

Downloading Music and Video Files

You've downloaded files already, whether you know it or not. When you view Web pages, you're downloading files. When you put a floppy disk or CD-ROM in your computer and copy files to your hard drive, you're downloading files. When you upgrade your software, you're downloading files. When you check your e-mail, you're downloading files.

There are few activities as ubiquitous and yet as mysterious as downloading or sharing files. It's ubiquitous because everyone who uses a computer does it, and it's mysterious because few people *really* understand the risks they're taking or how to protect themselves.

But you don't have to be a geek or a computer whiz to have fun. Computers are finally becoming as easy to use as refrigerators, washing machines, or microwave ovens; just switch them on, and use your favorite settings to perform your tasks. With the right information, you can be safe and have fun too. I'll start by defining the top two methods for downloading music and video files from the Internet.

File Sharing versus Direct Downloading

First, a few definitions. *Downloading* is the act of getting a file; *uploading* is the act of sending a file. *Direct downloading* means getting a file whole (often by paying for it), while *file sharing* is the act of trading files in small bits and pieces with other folks (often at no cost to you). When you listen to tracks from an Internet radio station, the file is *streamed* to you (as in *streaming audio* or *streaming video,* meaning it plays back on your player software without the entire file being completely downloaded and you don't get to save it). Listening to streaming music is not the same as downloading or file sharing.

Whatever way you get a music or video file, you are copying bits to your computer: in RAM memory, to your hard drive, or burned onto a CD or DVD. How you copied those bits is not as important as where you got those bits, because there are risks associated with each file-sharing or direct-download site.

These are the primary risks:

- **Security issues.** Does the file contain viruses, worms, or spyware? Will the file crash your system, destroy your data, or talk about you behind your back (communicate with its maker without you knowing)?
- **Legal issues.** Is the file an illegal copy (stolen goods), or do you have the right to possess and play back the file? If the file is legal, what limitations does your contract impose?
- **System issues.** Is your system prepared to handle the file with enough hard drive space, processing power, RAM, and the appropriate player software to run the file? Depending on compression or lack thereof, 1 MB a minute is an average time/memory ratio for a downloaded file, but this ratio can be much larger. So, if you have 500 downloaded songs of four minutes apiece, that's 2 GB right there.
- **Quality issues.** Is the file corrupted or of poor quality? On some digital music files, poor quality reveals itself in hissing and skipping. Did you get what you paid for (if you did pay for it)?

Some free (and mostly illegal) download sites list the file size of all tracks available for download. You will notice some differences in available files for identical tracks. Substandard music files can be smaller in size than their superior counterparts. That can be because the person making the file available for download set up a tape recorder next to their PC, played the track "over the air" and into a PC microphone, transferred it to their PC's music directory, from where it was made available for download.

You can mitigate your risks by learning all you can about the two main ways to get music and video files (file sharing or direct downloading) and by finding and using sites that you can depend on. A more detailed discussion of risks is provided later in this chapter.

Typical File-Sharing and Direct-Download Sites

Finding file-sharing and direct-download sites is fairly easy, and you've probably heard of a few from your friends. I'll take a look at a couple of the most popular of these sites and see what they have in common.

File sharing on Kazaa

Kazaa can be found at `www.kazaa.com`. At this Web site, you'll find the current versions of Kazaa. As of this writing, versions 2.7 (free, supported by ads and pop-ups) and 2.6. (for $29.95, without ads or pop-ups) are available. Running on both a PC and a Mac, the Kazaa software is a desktop application that allows you to connect to other computer users and search for and trade files. It comes with the Kazaa Media Desktop Interface that helps you search the Web for files.

The Kazaa software uses peer-to-peer (P2P) technology to allow you to communicate with other Kazaa users and share files.

For a detailed discussion of P2P, please see Chapter 7.

The term P2P primarily indicates that you are connecting to other computers directly instead of connecting through a central server. The files you search for and download come from other users of the system and are not stored in some server at Kazaa headquarters. Besides making the system more practical, this strategy has some positive legal implications for Kazaa.

Interestingly, the Kazaa Web site mentions that some users are automatically designated as Supernodes, meaning that they serve an important function for other users by storing local lists of files offered for sharing by all users "near" them, based on the fact that the Kazaa software detected that they have a "modern computer and a broadband connection."

According to the Kazaa site, being automatically designated a Supernode is harmless to your computer, and that's true under some circumstances. Still, as you will learn in Chapter 9, you may be vulnerable to detection by connection-sniffing software used by music industry organizations looking for copyright violators.

There can also be fundamental issues of system performance and fairness. Having a utility such as Kazaa on your desktop and trading files with it uses up some of your connection bandwidth and computer memory, slowing your system down. Also, when someone else is using your computer and bandwidth without paying for it, it seems a little unfair. And if it's happening to your work computer and connection, your boss may not appreciate it.

What Kazaa does for you

Kazaa provides software that allows you to make P2P connections to other users of the same software across the Internet, and the software has search features to help you find the files you crave. When you find a file you want, you can download it and play it using Kazaa's software.

That's about it. It doesn't sound like much when it's put this way, but there's really nothing magical about being able to search for a file, find it, download it, and play it. What the file-sharing sites really try to offer is ease of use, security, anonymity, safety, quality, low (or no) cost, and so on, all lumped under the heading of "user experience."

In Chapter 3, you'll find a more detailed look at the similarities and differences between the major file-sharing sites and how they stack up in key attributes.

Direct downloading on Musicmatch

Direct-download sites such as Musicmatch differ from file-sharing sites primarily in that they store files on a central server from which you can search and download. You can find Musicmatch at `www.musicmatch.com`. Like Kazaa, Musicmatch is a desktop software application for downloading and playing files (currently Musicmatch Jukebox 9.0, with new versions released every 3 to 6 months), but the software connects directly to the Musicmatch server, searches for files on it, and downloads from that server. The basic player software and jukebox are free (currently you can get a Plus version with more features for $19.99), but individual tracks are 99 cents, and whole albums are $9.99.

The Musicmatch software helps you search for and find tracks, but also comes with a special matching feature that helps you find new music you might like. It plays whole files for you, but it also functions as an Internet radio appliance, allowing you to listen to streaming audio. It also allows you to store your own CDs in a library file. With this function, you can create playlists and classify the songs you want to listen to by style of music, or even by individual artist.

Desktop Software Applications

Software performs work for you. When your computer starts up, there is a small piece of software that checks the machinery to see whether it is ready for the operating system to take over. After the operating system takes over, your desktop application software has the ability to run. Desktop software applications are what most of us use all day long to perform our jobs and have fun. Some desktop software applications, such as browsers and e-mail software, are designed to connect to the Internet and communicate with other computers. Sometimes, part of the work performed by a desktop software application is actually done on another computer to which the software connects. Just a few years ago, the term *desktop software application* meant a standalone application that didn't talk to any other computer or communicate across the Internet. Today, those boundaries are rapidly blurring.

Like many direct-download sites, the Musicmatch software is free but the tracks cost money. You might think that is a disadvantage, but sometimes, if the price is right, paying for something has serious benefits. The music tracks available for purchase are likely to have been professionally prepared by the artist's record company. However, in the rare event that you have downloaded a clunky file of poor sound quality, you can ask for your money back.

In Chapter 2, the major direct-download sites are reviewed and issues like this discussed in more detail.

Other Ways to Download Music and Video

The terms upload and download are synonymous with sending and receiving, respectively. So when you upload a file, you send it or copy it from your computer to another computer or to a disk. And when you download a file, you retrieve it from another computer or disk and place it on your own computer. With that in mind, file sharing and direct downloads are not the only ways to find and download music and video. If you have a friend who happens to have a track you want, your friend could do any of the following:

- ✦ Copy it to a CD, DVD, or even a floppy disk, and give it to you
- ✦ E-mail it to you
- ✦ Post it to a Web site and give you the URL
- ✦ Upload it to an FTP site for you to download

Music and video files are just like any other file type; they can be copied and passed around quite easily. But there are still the same concerns about legality, quality, security, playability, and size. Just because your friend has a track doesn't mean that it is legal, free of viruses, or playable on your player.

Inconvenience Dead Ahead

A number of these MP3 sites force you to go through inconvenient registration procedures before you can download. There are also multiple reports of these download sites passing the e-mail and other contact information they gather about you to third parties, some of which may send you unwanted e-mail pitches. I discuss this topic in more detail in Chapter 8.

And since music and video files are often large, especially if they are high quality, fitting the track on a floppy disk or sending it by e-mail may be difficult. If you are attempting to redistribute a 5 minute long, 5 MB music file, that could be bigger than your e-mail service provider allows. The file will also be several times the size of the 1.44 MB capacity of most 2-side, double-density floppy disks.

Getting files by disk or e-mail

You probably already understand how to copy a file to a floppy or burn it to a CD. And e-mailing files as attachments is deceptively simple as well; in addition to the fact these files may be too large to send, you should be sure that you don't send so many files or such large files that you overload your recipient's mailbox. Plus, if your recipient has a slow dial-up connection, it may take him or her a long time to download the files you send.

Web-based e-mail services such as Yahoo! and Hotmail offer much more mailbox space than they once did; however, personal mailboxes on other services often still have a 5 to 10 MB limit per message.

If you want more details about copying files and creating CDs, there is more information in Chapter 10.

Finding files and FTP sites with a search engine

You can also use the major search engines to find music files and anonymous FTP sites that offer music for download. Follow these steps to use Google to find sites that offer music and video files.

1. **Go to the Google main page at** `www.google.com`**.** If you've not used the Google search engine before, you will find it a very good resource for searching the Web.
2. **Type** Finding MP3 files **in the Google search field, and click Google Search.** You'll get a list of sites that help you find MP3 files. The ones you're looking for are search engines specializing in MP3s. For example, consider MP3search at `www.mp3search.com`. Figure 1-1 shows this site.

Figure 1-1: The MP3search Web site

In addition to these steps, you can use Google's search box to directly look for files by extension. If you type in, for example, **"Tom Petty"** and **"MP3"** (in quotes), Google will dish up a search results page likely to include several MP3 files available for direct download.

The difference between this site and file-sharing or direct-download sites is that you are not required to buy anything or install any software to use it (although it does offer a program called GetRight for $20 that helps you download tracks more efficiently, but it's not required). Your browser does all the work.

You can also use search engines to help you find anonymous FTP sites. Logging in to an FTP site is done with an FTP client, such as CuteFTP or WS_FTP, but usually you can make your browser work as an FTP client. All you have to know is the FTP hostname (such as `ftp.bigtip.com`) and a username and password for the site. If the FTP site allows anonymous access, you can usually use "anonymous" as the username and your e-mail address as the password. Even a fake e-mail address will often work.

Figure 1-2 shows the Wicked Downloads site (`www.wickeddownloads.com`), which has a variety of links to FTP sites. Note the disclaimer about the files not being verified and also about anonymous FTP sites commonly requiring uploads for the privilege of downloading. You have no guarantee that the files you're downloading are legal or free of viruses, so caveat emptor.

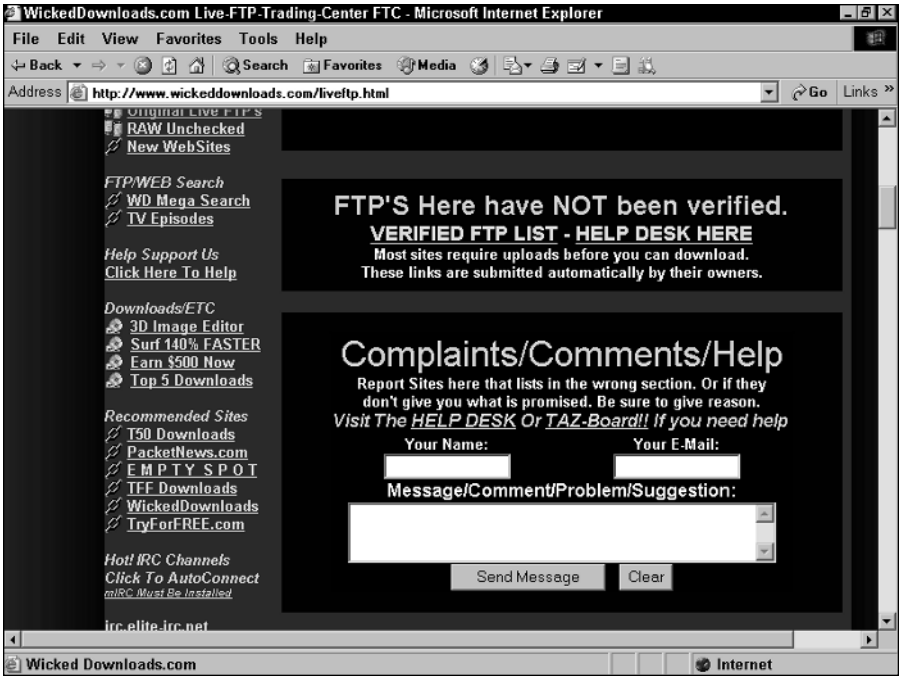

Figure 1-2: The Wicked Downloads Web site

Risks of File Sharing and Direct Downloading

As was discussed earlier in this chapter, you encounter five categories of risks anytime you share files or download them directly: security, legal, system, quality, and sites that sell your registration information to third parties who may spam you.

These legal and quality risks are present no matter how you acquire files, because in most cases you can't tell what's in the file by name, and after you open a file (double-click or play it back), it's usually too late then. In fact, some files, on some operating systems, can do their damage even without being opened. The following sections look at the risks in order of immediacy and try to quantify the risks in terms of the damage that's possible.

Security risks

The first risk you face, whenever copying a file to your computer, is that the file may contain a virus that could cripple your system or destroy your data. This is not necessarily the biggest risk you face, just the most immediate one. Running anti-virus software can mitigate this risk by examining the newly copied file for virus "signatures." However, if a virus is brand new, your anti-virus software won't have the appropriate signature in its database yet.

So, to prevent your system data from being lost, always back up your files, especially critical data files. You can reload your operating system and software applications, but data that hasn't been backed up can be very time-consuming and expensive to recover (if it can be recovered at all).

On your hard drive, the files that make your computer work are the operating system (OS) and software applications. You should have the original disks that came with your system and any software you bought, so you can reload your OS and applications if they get destroyed. But you need to back up data files. You can do this in several common ways: copy data files to floppy disks, burn files to CD, copy files to a tape backup, or copy files to an online backup site. How frequently should you do this? If you use your computer only a little or place a low value on your files, perhaps you should back up your files once or twice a month. If you use your computer every day and place a high value on your files, perhaps you should do a backup twice a day. And make sure that you become familiar with procedures for restoring lost files; some automated backup software is very easy to use for backups, but difficult or confusing for restoring files.

Viruses from your system can also infect someone else's computer or might have a low-level infection. Viruses often hold off damaging your system until they've had a chance to reproduce. Some viruses copy themselves onto disks or CDs; some send themselves via e-mail to everyone in your address book; some even transmit themselves to your Instant Messaging buddy list.

And sometimes viruses aren't out to damage your system; they simply want to spy on you. An unscrupulous person can gain much by capturing your personal information and transmitting it back to headquarters. By the way, this is exactly the same mechanism used legitimately by some software makers, and with your permission no less! Read the fine print in that privacy policy or software license agreement before you install it, please!

You'll find much more about viruses and how they operate in Chapters 5 and 6, and about privacy policies and software license agreements in Chapters 2 and 3.

Legal risks

Some files (such as underage pornography) are patently illegal to own. Simply possessing such files exposes you to enormous legal risks, not to mention the associated damage to your standing in the community. But if you're not a pedophile, you're at no risk, right? Wrong!

Because you have no way of knowing, definitively, the contents of a file without opening it (and even that may not be enough), a perfectly innocent download on your part could result in an illegal file being present on your hard drive, without you knowing anything about it.

This is an extreme example; a more common legal risk is simply copying files that you don't have a right to copy. For example, did you buy all the software you're running? Or did you copy it from a friend's disks? Or did you get it when you bought your computer used? Many, many people have bought used computers with an operating system and software applications already present, but if you read the fine print in software licenses, you'll see that there is no provision for transferring the software license when the computer is sold. And you're certainly not legally entitled to make copies of other people's software.

And then there is the practice of *burning* or *ripping* (terms for copying media files to disk) tracks from CDs. Controversy abounds about how much right an individual has to make copies of music they have purchased for personal use, but clearly copying and selling them or even copying and giving them away is illegal. The Recording Industry Association of America (RIAA) has been filing lawsuits against individuals for violating copyright laws by illegally copying music for several years now.

Chapter 9 has a great deal more information about intellectual property, the RIAA, and protecting yourself from illegal downloads.

Quality concerns

When you download a file, if it is free of viruses and is legal, you still have to consider quality. For music and video files, if the original material is of low quality, the file will be low quality, no matter how clean and perfect the recording. Even if the digital music file you have downloaded may seem large enough to be of good technical quality, it can be afflicted by poor musical quality. In such cases, you are likely to open the file to find the digital file actually sounds like it was transferred from a tape recorder from the back row of a stadium. Just as in the pre-download world, crap is still crap even if the cover of the CD looks great.

Many other factors can lead to poor quality, such as using an incorrect sampling rate, the wrong format for a particular use, or too much lossy compression (see the Introduction for more details about digitizing music and video, sampling rates, and compression).

System concerns

If all else is well, the final concern is your own computer system. If you've downloaded a fine collection of music files, you're not going to get much out of it if your system doesn't have enough space to store them, enough RAM and CPU power to play them back properly, or a good enough sound card and speaker set to output the music. You should know enough about your system to determine its capabilities. Consider spending some money for upgrades if necessary. Upgrading your computer is relatively inexpensive these days, and you can get great sound capability for just a little money. It's more important to make sure that all parts of your system are

equally capable, because there's no point in having a great set of speakers and wimpy sound card.

Chapter 4 has more information about what kinds of hardware to buy and how to match it up.

Top Points for Consideration when Choosing Between File Sharing and Direct Downloading

1. **Cost:** Sharing files doesn't cost anything, but you have to be careful not to accept illegal files or get viruses. Direct downloading copyrighted music files isn't always free, but it is usually legal.
2. **Legality:** If you've paid for a file, it is more likely to be legal, meaning that your fee legally entitles you to certain storage and playback privileges.
3. **Ease of use:** You can find music and video files by searching the Internet, calling around to your friends, and so on. But using file-sharing or direct-download software is easier, because the major companies put lots of effort into their desktop applications.
4. **Privacy:** File-sharing services afford more privacy in most cases, because you don't necessarily have to provide your personal information in order to use them. Direct downloading, especially for a fee, means that you're giving billing information to the company, which in many cases entitles them to market to you via e-mail or other means.
5. **Security:** Direct-download sites generally offer more security, because it's in their interest to double-check each file they offer to make sure that it is virus-free. Because direct-download sites get their music files from the manufacturer, it's much more likely that they are free of viruses (but not guaranteed). File-sharing services such as Kazaa do incorporate anti-virus protection, but of course there is no perfect anti-virus software so a malicious person could share files that are infected.

Summary

Many Web sites and software programs make the process of obtaining music and video files easy. These Web sites and programs generally fall into two categories: file sharing and direct downloading.

File-sharing sites provide software that uses P2P technology to let you search for and download files from any other user's computer. Direct-download sites provide software that lets you search for and buy files directly from their server.

In this chapter, as well as in chapters to follow, I describe these sites, software programs, and how to use them effectively, safely, and legally.

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