Chapter 8

Audio and Your Web Browser

Your browser must use support programs to play audio files. You have a lot more options than you might think in what players your browser uses. This chapter explains how Netscape Navigator and Internet Explorer play audio, and how you can control the players.

What you'll learn:

- How Web browsers handle audio
- How to set up helper applications for Netscape and Internet Explorer
- How to use the most popular plug-ins: Media Player 5.2, Crescendo, and QuickTime
- Where to find and change information about your plug-ins and helper applications in Netscape Navigator

How Web Browsers Open and Play Audio Files

Web browsers do not provide their own audio playback capabilities. Instead, they call on external players to open and play audio files. Your browser might have a repertory of three or four players to handle different types of audio. A typical collection would include

WAVS, MIDIs, & RealAudio • 7507-4/1 • ch08.2 • Chapter 8 • Proof 2 • MS • 10/2/98 • p.167

Crescendo for MIDIs, Media Player for WAVs and other sampled sounds, and RealPlayer for RealAudio.

Plug-ins and helper applications

Browsers use two types of players: helper applications and plug-ins. A *helper application* is not connected with the browser in any way. It's a standalone application, such as Jet-Audio or SoundApp, that runs in its own window with its own menus, toolbar, and all its other features. Whenever you play a file that needs a helper application, you must wait while the browser starts the application and passes the file to it.

On the other hand, a *plug-in* is an extension of the browser's basic capabilities. Each plug-in you install becomes a part of the browser. The browser loads all its plug-ins when it starts — the more plug-ins you have, the longer your browser takes to start and the more memory it needs. On the plus side, the plug-in is ready to go when you call on it.

A plug-in often does not have a window to call its own. Its controls appear in the browser's window. Figure 8-1 shows an example of the Crescendo controls as they appear on a Web page displayed by Netscape. As with most audio plug-ins, the controls give you the ability to play, pause, and stop the sound. The size of the control graphic depends on how much room the Web page allocates to the plug-in. Some pages give no room for controls, and the sound plays without your being able to stop or control it. Others allocate less space than your controls need, and you see just a portion of your controls (or a distorted version). Others leave plenty of space and you may see your entire controls with some white space around them. Some Webmasters seem to think that everyone has the same controls they do. They put in just the right amount of space for their controls, which may not be the right amount for yours. (If you have your own Web page, you can avoid this problem by reading Appendix D on the CD-ROM.)

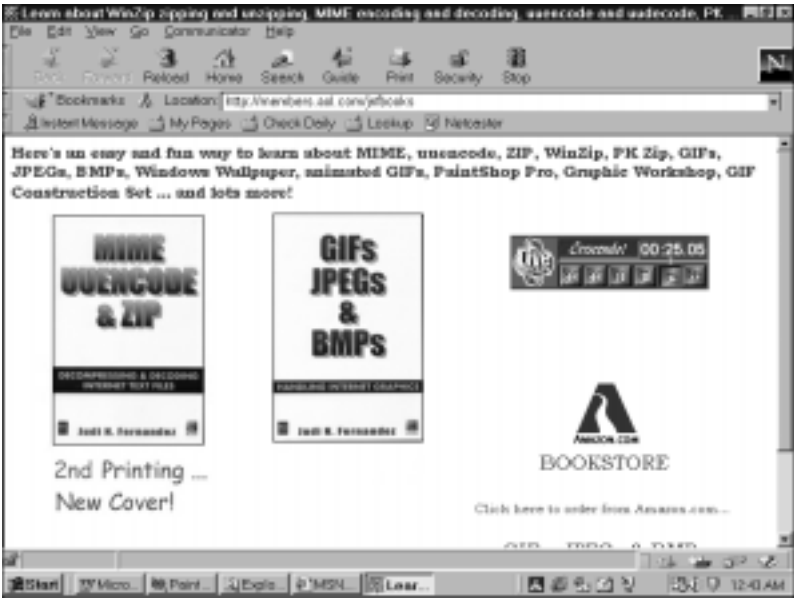

Figure 8-1 *Like all plug-ins, Crescendo appears in the browser's window.*

Since a helper application stands alone, any program can be designated as a helper application. But a plug-in must be specially written to fit with your browser, and it can't be used outside the browser because it can't stand alone. Some applications include both types of components, however. When you install QuickTime 3, for example, you get both a standalone program called Movie Player and the QuickTime plug-in.

A browser shows a strong preference for plug-ins over helper applications. When you ask it to open a file, it looks for a plug-in first. If it finds a plug-in, it automatically opens and plays the file without any fuss. On the other hand, it treats a helper application like a stranger coming to the back door asking for work. It looks for a helper application only if it can't find a plug-in. When it finds a helper application, it does not load and start it automatically. Instead, it displays a message suggesting that you save the file to disk rather than open it. Figure 8-2 shows Microsoft Internet

Explorer's version of this message. Notice that the default choice is to save the file.

Figure 8-2 *Internet Explorer displays this message when you try to open a file that uses a helper application.*

Of course, there's good reason for all this suspicion. Some files on the Internet carry viruses or their cousins (worms, Trojan horses, and the like). If there's any chance of infection, you should save a file to disk and scan it with at least two up-to-date virus scanners before attempting to open it. Fortunately, a sound file cannot be infected. It contains only audio information and no program instructions. So feel free to open a sound file immediately if you wish. You can avoid being asked about sound files in the future by disabling "Always ask before opening this type of file."

Caution

No virus scanner can catch 100 percent of today's epidemic of viruses. That's why I say you should use *at least* two scanners. Since you're most likely to catch the newest viruses, be sure to update all your scanners every two weeks or so. And by the way, files such as Microsoft Office documents, spreadsheets, and databases can carry viruses. Please don't assume they are safe because they're not programs. Many high-end office applications include macro programming features, and macros can be programmed to do a lot of damage to your files.

Most Web sites leave it up to you to use whatever player you prefer. But sometimes a site designates a particular plug-in for a file. Even though Crescendo is your chosen MIDI player, for example, a particular page may call on QuickTime to play its MIDIs. Usually, the site also provides a URL for downloading the player. If the download site is provided, your browser offers to download and install the plug-in for you. If a site does not specify a download site, your browser merely tells you that you need the plug-in and leaves it up to you to locate and install it.

Helper applications for Microsoft Internet Explorer and Netscape Navigator

When your browser can't find either a plug-in or a helper application for a file, it asks you what to do. Internet Explorer first displays the dialog box you see in Figure 8-2. (For safety's sake, the "Always ask" option cannot be disabled for unknown file types.) If you decide to open the file, Internet Explorer triggers the standard Windows dialog box for opening files of unknown types, shown in Figure 8-3, where you can select the application to open the file. If you leave "Always use this program to open this file" enabled, Internet Explorer registers the file type for the selected application. From then on, the registered program will be used as a helper application for that file type.

Netscape Navigator does not make so bold as to register a new file type for you. But it does give you a chance to set up a new helper application. Figure 8-4 shows the dialog box that Netscape Navigator displays for unknown file types. If you want to save the file without opening it, choose Save File to open a common Save As dialog box. To set up a helper application, choose Pick App to open a browse box where you can select the application. If you want to download and install a new plug-in for the file type, choose More Info to browse to Netscape's Plug-In Finder Web page, which is described under "Navigator's Helpful Plug-In Features" later in this chapter.

Figure 8-3 *You use this dialog box to tell Windows how to open an unregistered file type.*

Figure 8-4 *Netscape displays this dialog when you try to open a file type that it does not recognize.*

ActiveX

Some Web sites might play music on your system via Microsoft's ActiveX controls. *ActiveX* is a collection of technologies for turning a static Web site into a dynamic, interactive program. (*Technologies* is Microsoft's word for ActiveX. I wish I could come up with a less vague term, but it's such an all-encompassing collection that no other word really fits.) ActiveX is built into Internet Explorer 3.0 and higher but not Netscape Navigator, of course. So if you use Netscape Navigator exclusively, you won't get the advantage of sites programmed with ActiveX. Most ActiveX sites also are programmed via a language such as Java or Javascript to interact with

Navigator too, but often not as efficiently or as powerfully as with Internet Explorer.

Tip

The CaptiveX plug-in from NCompass Labs makes ActiveX controls work with Netscape Navigator. See Appendix E on the CD-ROM for the address where you can download it.

ActiveX *controls* are one of the ActiveX technologies. A control is a program module that can be inserted on a Web page, such as a stock ticker, an interactive map, or a live multimedia broadcast (or — to get back to the topic of this book — a sound player's control panel). Most of the popular players discussed in this chapter can be either plug-ins or ActiveX controls.

ActiveX gives the programmer a lot of power — perhaps too much power. Java and the scripting languages cannot write on your hard disk, for example, while ActiveX can. The possibility of destructive ActiveX controls is scary, although none have been reported. Each person or group who develops a control must sign it digitally. Internet Explorer displays a warning including the developer's signature whenever a site tries to use a control. Figure 8-5 shows a typical warning message. Notice that it includes links for more information about the control and its developer. You can also choose the More Info button to get help with the message. You choose Yes to accept the control or No to reject it. You can also enable "Always trust content from *so-and-so*," and Internet Explorer will no longer ask you about controls from that developer.

What does all this mean to you as you're browsing Web sites? At first, you may be aware of ActiveX controls because Internet Explorer must ask you about each one. You may also need to download a number of controls from the sites that use them. But as you build up a collection of controls and establish trust for certain developers, you'll become less aware of the difference between ActiveX controls and plug-ins.

Figure 8-5 *Internet Explorer warns you when a site uses an ActiveX control.*

Some Popular Audio Plug-ins

Some people collect plug-ins like others do Beanie Babies. They have to have all the latest ones. Even if you aren't quite that avid a collector, you probably want to check out new releases every once in a while to see if you want some of the new features. Should you have more than one plug-in? You might need several to cover all the file types. Some handle several types, such as QuickTime and Media Player. Some handle specific types, like Crescendo for MIDIs. Some handle only their own proprietary types, like Stream Works.

Windows Media Player

Chapter 2 introduced the standalone Media Player that comes with Windows 95 and 98 and plays WAVs plus a few other file formats. The new Windows Media Player is a much more comprehensive program, acting as both a standalone player and as a browser plug-in. Microsoft designed it to be the only player you need, and it handles a lot more formats than the old Media Player. But as you can see from the following list, it doesn't handle some of the popular emerging formats:

Sampled formats: WAV, MP2, MP3, AIFF, AIFC, AU, and SND

MIDI formats: MID and RMI using the Roland GS Sound Canvas (but not KAR or any of the MOD formats)

Streaming formats: RealAudio and NetShow (but none of the other proprietary formats)

Video formats: AVI, MPEG, and MOV

Figure 8-6 shows what the Windows Media Player plug-in control panel looks like when you open a Web page that calls for a multimedia file. (Don't forget that the control panel you see on a Web page depends not on the Web page but on what plug-in you have installed with your browser.) As you can see, Windows Media Player's plug-in control panel uses the standard icons for play, forward, backward, and so on. The speaker is a mute button. The slider at the right is a volume control, with low on the left and high on the right. If the Web page doesn't leave enough room for the entire control panel, Media Player shows the most important parts, the buttons for playing and stopping, and the slider.

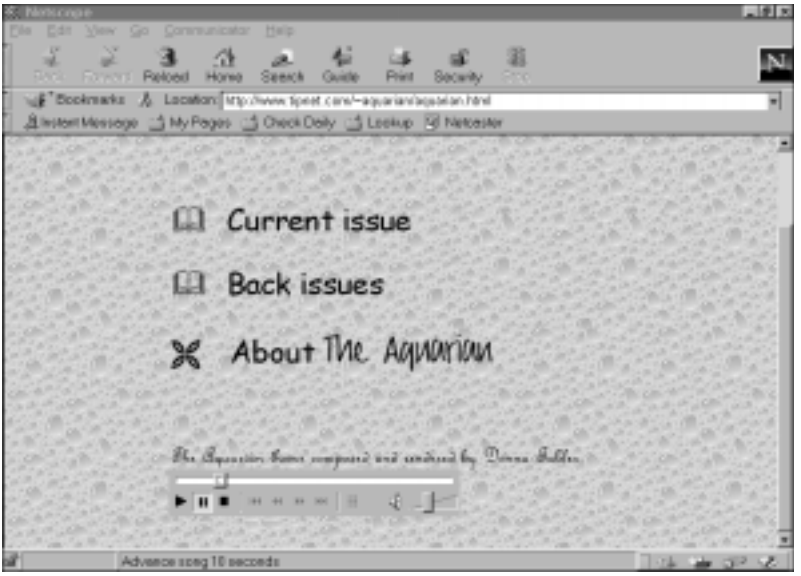

Figure 8-6 *Windows Media Player displays this control panel as a plug-in.*

Right-clicking the control panel pops up a context menu containing these options:

- Play/Pause — Same as the Play and Pause buttons
- Stop — Same as the Stop button
- Navigate — In media shows with marked sections, lets you select a section
- Language — Lets you select a language
- Volume — Same as the volume slider and mute button
- Full Screen — Expands a video to fill the screen (no function for audio)
- Zoom — Zooms a video (no function for audio)
- Properties — Displays the file's properties such as filename and length

- Statistics — For streaming audio, displays statistics such as frames skipped and frame rate
- More Information — Displays information about a NetShow show
- Options — Provides additional options such as left-right balance and Repeat Forever
- Error Details — Displays details about an error message
- Help — Opens the help library
- About — About Media Player

The new Media Player 5.2 came out too late to make it onto this book's CD-ROM, but you can download it from Microsoft's Web site:

```
http://www.microsoft.com/windows/mediaplayer/default.asp
```

(If the address has changed, please check my Web site at `http://members.aol.com/jnfbooks` for the updated address.)

QuickTime 3

QuickTime is Apple's multimedia player. This book's CD-ROM includes QuickTime 3 for both Windows and Macintosh. QuickTime acts as both a standalone player and a plug-in. It offers two major components: PictureViewer displays still pictures, while MoviePlayer plays movies and sounds. You saw in Chapter 3 that MoviePlayer plays karaoke files. It plays a few other formats as well:

Sampled formats: AIFF, AIFC, WAV, AU, and MP2

Synthesizer formats: MIDI (using the Roland GS Sound Canvas)

The fine print

The basic version of QuickTime is free. The Windows version works with Windows 95, 98, and NT 4.0. It requires a 486-DX2/66 or higher, 16MB RAM, a Sound Blaster compatible card. Also, the following are recommended for better performance: DirectX 3.0, DirectDraw, and DirectSound. (These can all be downloaded from Microsoft's Web site.) The Macintosh version works with 7.1 or higher. It requires 16MB RAM for PowerPC or 8MB RAM for 68K machines; 68K-based computers must also support Color QuickDraw.

Figure 8-7 shows the QuickTime plug-in control panel on a Web page. The Volume button pops up a small volume slider. The Play button turns into a Stop button when the sound is playing. Rewind and Fast Forward move a few seconds back and forward in the file. You can also change positions by dragging the slider.

The menu button pops up a small menu with these items:

- Open this Link — If the plug-in is linked to a site
- Plug-in Settings — To configure the plug-in
- About QuickTime Plug-in — About the plug-in

Figure 8-8 shows the Plug-in Settings dialog box, which opens when you choose the Plug-in Settings option. If you don't want sounds to start automatically — perhaps you're browsing at the office — disable the "Play movies automatically" option. You can keep movie and sound files out of your browser's cache by disabling "Save movies in disk cache." But since QuickTime doesn't give you a Save As option, you may want to cache movies and sounds. As Chapter 9 explains in more detail, you can save movie and sound files by copying them from your cache to some other folder.

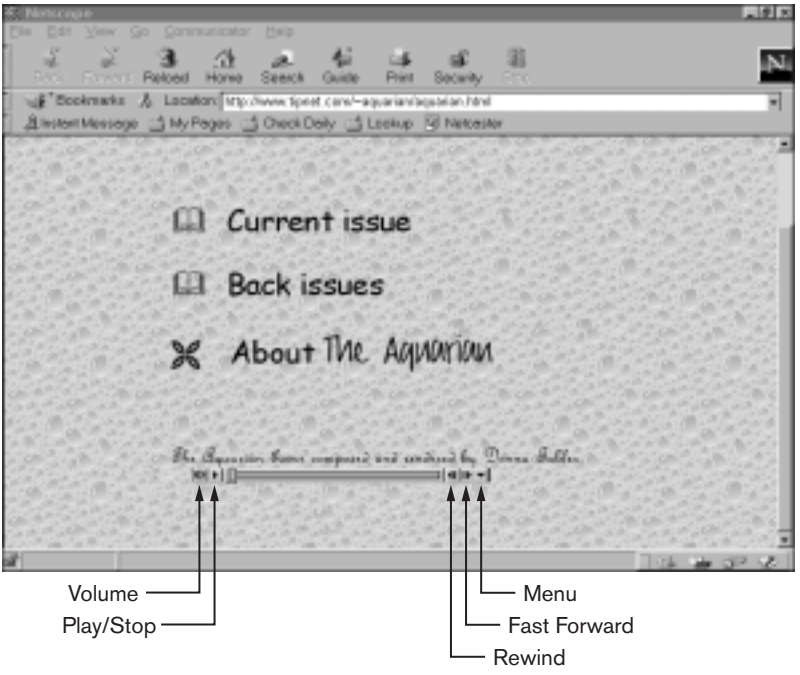

Figure 8-7 *QuickTime 3 displays this control panel as a plug-in.*

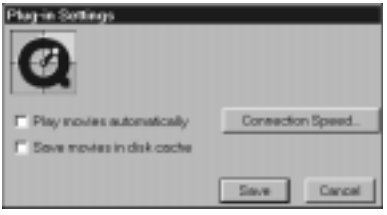

Figure 8-8 *You use the Plug-in Settings dialog box to configure QuickTime's plug-in options.*

Crescendo

LiveUpdate's Crescendo is a MIDI player with some special features. I particularly like the way you can detach the plug-in from a

Web page and float it on your desktop. That way, it continues to play a MIDI even when you leave the original site and continue browsing other sites. This book's CD-ROM includes both the Windows and the Macintosh version of Crescendo.

Crescendo's streaming feature starts playing a MIDI file before it finishes downloading. This typically cuts your waiting time in half. Crescendo offers two streaming levels. The free version, which is included on this book's disk, can respond to sites that use the SiteStream feature — in other words, the streaming is done from the site. The Crescendo Plus version, which costs $29.95, can stream MIDIs from any site — the streaming is done at your end. (Only the free version is included on the book's CD-ROM. See Appendix E on the CD-ROM for the address where you can order Crescendo Plus.)

The fine print

The Crescendo 3.0 plug-in for Windows works with Windows 95, 98, or NT and Netscape Navigator 2.0 and higher; it also works with Microsoft Internet Explorer. The Crescendo 3.0 ActiveX control for Windows works with Internet Explorer 3.0 and higher. The Crescendo 2.0 plug-in for Macintosh works with System 7.1 and higher and requires QuickTime 2.1 or higher. (QuickTime 3.0 is included on this book's CD-ROM.)

Figure 8-9 shows the Crescendo plug-in as part of a Web page displayed by Netscape Navigator. The ActiveX control looks exactly the same. As you can see from the labels in the figure, the buttons use the common icons. The button labeled Rewind returns to the beginning of the song. The Back and Forward buttons each move 10 seconds backward or forward. Unlike many other players, there is no position slider — the counter shows you where you are in the song. Crescendo's slider controls the volume of your MIDI device.

Figure 8-9 shows the full Crescendo control panel. Depending on how much space a Web site allocates, you may see a smaller control panel or just a piece of the control panel. You can right-click any of these to pop up Crescendo's context menu.

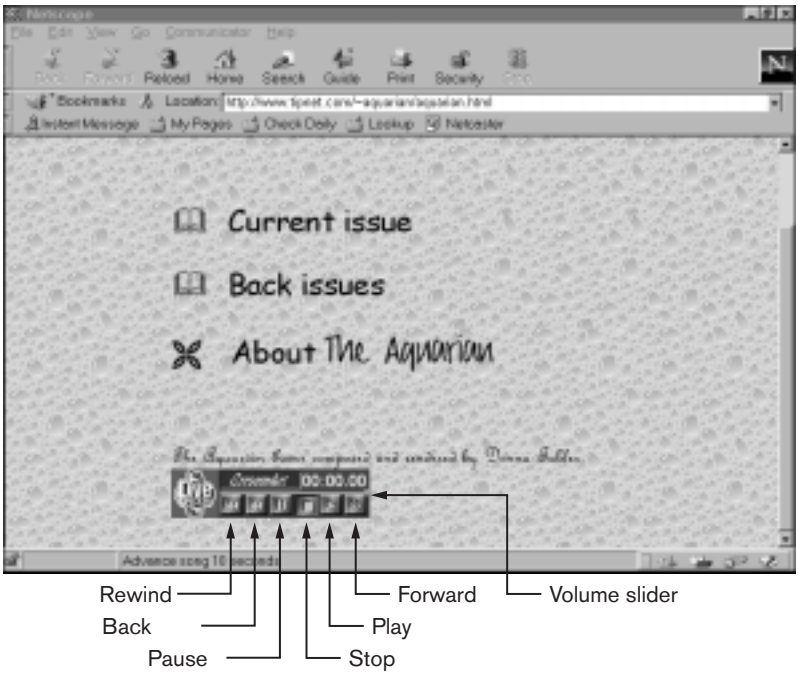

Figure 8-9 *Crescendo's control panel includes typical playback buttons.*

You float the Crescendo plug-in or control by right-clicking the plug-in and choosing Detach (float). Figure 8-10 shows an example of the floating plug-in, which has its own window, menu bar, and so on. In the figure, it is sitting on top of the Netscape Navigator window, but you can move it, minimize it, and otherwise treat it like the independent window that it is.

Tip

Crescendo's Auto-Detach option automatically floats the plug-in or control every time. To enable Auto-Detach, right-click the control panel and choose Options ➪ Allow Auto-Detach. Or in the detached window, choose Options ➪ Allow Auto-Detach.

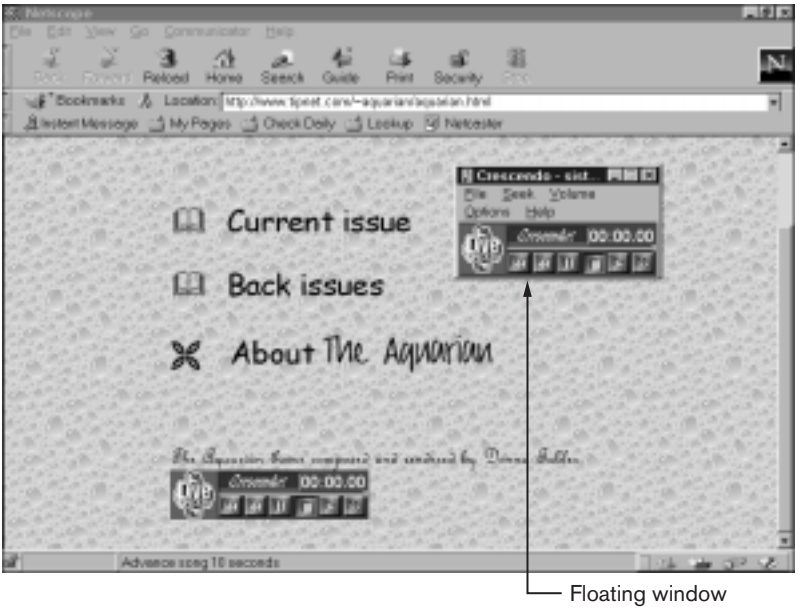

Figure 8-10 *When you float the Crescendo plug-in, it appears in its own window.*

Some Crescendo stream sites play not just a single song but a playlist, also known as a *jukebox*. You can skip ahead to the next song or back to the previous one. Right-clicking the Crescendo control panel brings up a context menu with options to control a single song or a playlist:

- Previous Song — Return to the previous song in a playlist
- Rewind Song — Same as the Rewind button

- Back 10 sec — Same as the Back button
- Pause — Same as the Pause button
- Stop — Same as the Stop button
- Play — Same as the Play button
- Forward 10 sec — Same as the Forward button
- Next Song — Skip to the next song in a playlist
- Detach (float) — Floats the control panel
- Stop All — Stops the playlist
- MIDI Reset — Resets your MIDI device
- Save As — Lets you save the current MIDI
- Volume — Adjusts the volume
- Options — Lets you select options such as Allow Looping and Allow Auto-Detach
- Help — Links to LiveUpdate's online help site
- Buy Crescendo Plus! — Links to LiveUpdate's page where you can buy Crescendo Plus!
- About — About Crescendo
- Go to LiveUpdate — Links to LiveUpdate's home page

Tip

When you float Crescendo, you can access these commands via the menu bar in the floating window.

Netscape Navigator's Helpful Plug-In Features

If you choose not to install any third-party plug-ins, Netscape Navigator can still play audio files using its own LiveConnect plug-ins: LiveAudio, Netscape Media Player, and RealPlayer LiveConnect-enabled plug-in. LiveAudio handles WAV, AU,

AIFF, MIDI, and Netscape's own sampled format, called *Netscape Packetized Audio* (LA or LMA). Netscape Media Player handles Netscape's own streaming format, *Streaming Audio Metafiles* (LAM). The RealPlayer LiveConnect-enabled plug-in handles files in RPM format.

Figure 8-11 shows the LiveAudio plug-in on a page displayed by Netscape Navigator. As you can see, it provides the basic controls and little else. Right-clicking the plug-in pops up a context menu where you can choose Play, Pause, Stop, Save As, and About. Save As comes in handy for saving background music files from Web sites, as detailed in Chapter 9.

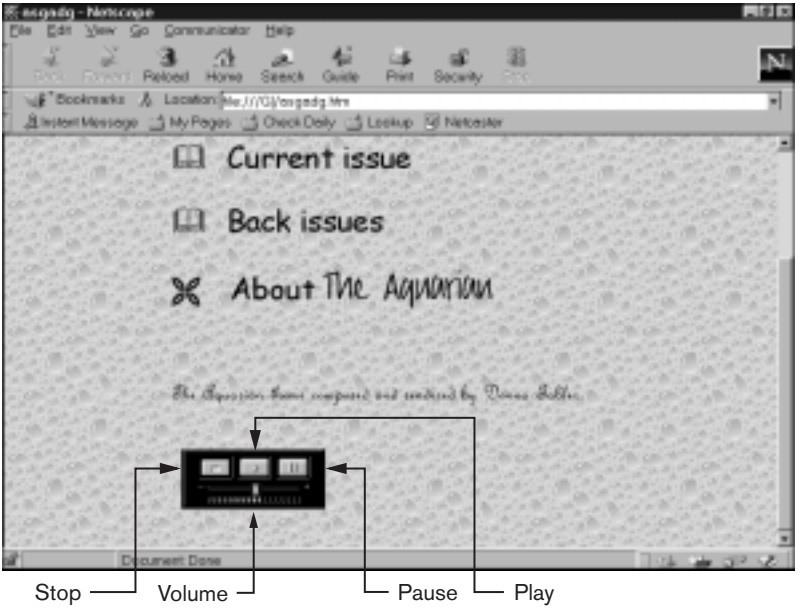

Figure 8-11 *This is Netscape's LiveAudio plug-in*

With so many possible plug-ins, how do you manage the ones you have installed? Fortunately, Netscape Navigator lets you see what you have installed, and their order of priority. Figure 8-12 shows the page that opens in Navigator when you choose Help ➪

About Plug-Ins in the either the Windows version or the Macintosh version of Navigator 4.0*x*. It lists all your installed plug-ins in their order of priority, with a detailed list of the file formats they support. The example in Figure 8-12 lists QuickTime as the first plug-in, so QuickTime will be used for any files it supports. When you open a file that QuickTime doesn't support, Navigator continues down the list until it finds the first plug-in that handles that format.

Figure 8-12 *In Windows, Netscape Navigator's About Plug-ins feature lists your plug-ins in order of priority.*

Tip

You do not have to be online to open About Plug-Ins. It's on your computer.

Notice that About Plug-Ins shows the full pathname for the plug-in. In Figure 8-12, the QuickTime plug-in is in the file named `F:\NETSCAPECOMMUNICATOR\PROGRAM\plugins\npqtplugin.dll`. You could remove a plug-in by deleting its DLL file if it doesn't have an uninstall feature as QuickTime does. Suppose you want to temporarily disable a plug-in, perhaps to try out another one that's lower down on the list. You could exit Navigator, change the file's name, and then restart Navigator. To restore the plug-in, exit Navigator, restore the file's original name, and restart Navigator.

Tip

Netscape maintains a Web site of Navigator-compatible plug-ins. You can read up on all the latest plug-ins and download the ones you'd like to try. To open the page from the About Plug-Ins page, click "For more information on Netscape plug-ins, click here."

To find out what helper applications you have set up with Netscape Navigator, choose Edit➪Preferences to open the dialog box shown in Figure 8-13. In the Category panel on the left, open the Navigator group and select Applications, as shown in the figure. The boxes on the right show all your helper applications—your plug-ins, too. When you select a type of file in the list, the File Type Details box shows the Windows filename extension for that file type, along with the helper application or plug-in for it. Not only can you view your helper applications and plug-ins in the Preferences dialog box, you can also edit them.

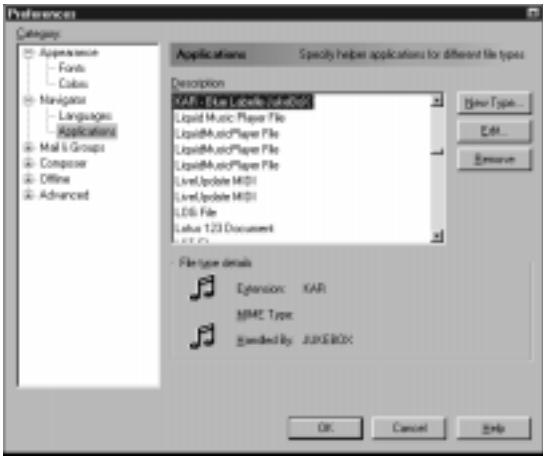

Figure 8-13 *You can view and change your Netscape Navigator helper applications and plug-ins in the Preferences dialog box (Windows version).*

Figure 8-14 shows the Macintosh version of the Preferences dialog box. It contains the same information, although it's laid out a little differently. (I find its table layout easier to work with.)

Figure 8-14 *You can view and change your Netscape Navigator helper applications and plug-ins in the Preferences dialog box (Macintosh version).*

How to edit an application or plug-in assignment in Netscape Navigator:

1. Choose Edit➪Preferences to open the Preferences dialog box.
2. In the Category list, open Navigator and select Applications. All the current applications are listed in the Applications box.
3. Locate and select the application you want to edit.
4. Choose Edit to open the Edit Type dialog box. Figure 8-15 shows the Windows version of this dialog box. The Macintosh version is similar.
5. If you don't want to assign an application to the file type, select Save to Disk.
6. To assign an application to the file type:
   a. Select Application.
   b. Choose the Browse button to open a browse box where you can select the application.
   c. Choose Open to close the browse box and return to the Edit type dialog box.
7. If desired, enable "Ask me before opening downloaded files of this type." (For Macintosh, select "Unknown: Prompt user.")
8. Choose OK to close the Edit Type dialog box.
9. Repeat steps 3 through 8 for each file type you want to change.

Figure 8-15 *You edit a Netscape Navigator helper application or plug-in assignment in this dialog box (Windows version).*

What's on the CD-ROM?

I have included several popular player plug-ins on this book's CD-ROM. You may want to try these to see if you prefer them to the major plug-ins described earlier in the chapter.

Beatnik

Beatnik from HeadSpace, shown in Figure 8-16, is a multiformat player for both Macintosh and Windows. It handles many of the standard audio formats such as MIDI, WAV, AU, AIFF, and several of the MOD formats. It also plays its own Rich Music File (RMF) format. This is a MOD type of format, which incorporates a software synthesizer and built-in wavetable, along with copyright information and other documentation. Beatnik also lets Web designers add sound for events such as clicking a button or moving the mouse over an icon.

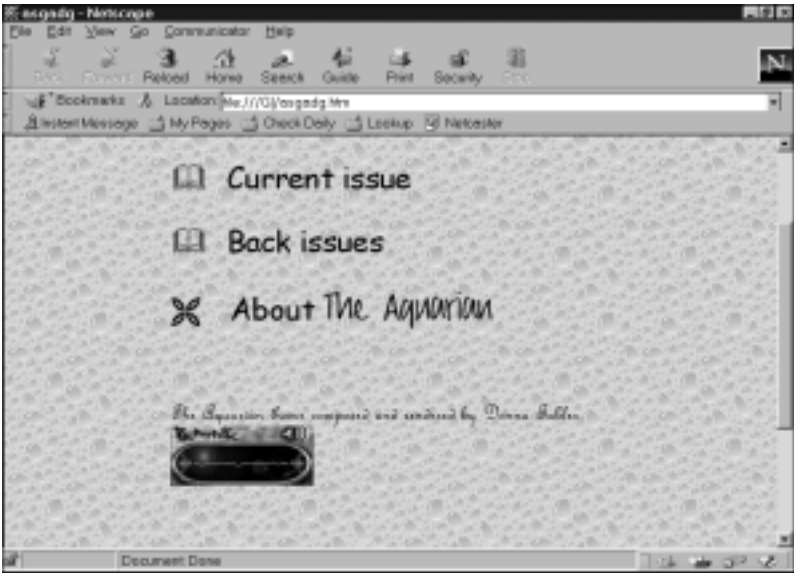

Figure 8-16 *Beatnik's player offers three views, including this waveform view.*

The fine print

Beatnik is free, but it expires in 180 days to encourage you to download the latest version. Both the Windows and the Macintosh version work with Netscape Navigator but not Microsoft Internet Explorer. (Headspace says their ActiveX control for Internet Explorer will be released soon.) The Windows version runs on Windows 95, 98, and NT and requires a Pentium 90 or faster and Netscape Navigator 3.01 or higher. The Macintosh version runs on a PowerPC running Sound Manager 3.1 or higher and Netscape Navigator 3.01 or higher. Please note that Beatnik runs into serious problems with Netscape Navigator 3.0!

MacZilla

Knowledge Engineering's MacZilla, shown in Figure 8-17, is a Macintosh product only. It acts as both a plug-in and a standalone player, handling a variety of multimedia files, including AVI, MPEG, and MIDI.. MacZilla's claim to fame is that it downloads multimedia files in the background while you continue to browse. The player pops to the front in a free-floating window when the file has finished downloading. MacZilla can also extract multimedia files from Netscape Communicator e-mail and ZIP archives.

Figure 8-17 *MacZilla is shown here as a Netscape plug-in.*

The fine print

MacZilla works on 68K and PowerPC CPUs. It requires QuickTime 2.1 or higher. It works with Netscape Navigator 2.0 and Microsoft Internet Explorer. The shareware fee is $10.

What's Next?

Now that you've got great music playing in your browser, how can you download and save it on your hard drive? Chapter 10 explains how to download audio files from Web sites, FTP sites, newsgroups, and e-mail.