CHAPTER 25

Inserting Flash and Shockwave Elements

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Animated splash screens, sound-enabled banners, button bars with special fonts, and other exciting Web elements are often built with Macromedia's Flash. Flash combines vector graphics and streaming audio into great-looking, very low–bandwidth files that can be viewed in a browser using the Flash Player Plugin. Flash's vector graphics have also turned out to be just the thing for Web-based cartoons. Beginning with version 4, Flash gained its own scripting language, ActionScript, and added MP3 compression to its streaming audio. With a huge base of installed players — as of this writing, well over 90 percent of browsers can view basic Flash content — Flash is an excellent way to liven up a Web page.

But Flash is not Macromedia's only solution for building interactive presentations for the Web. To many Web designers, Shockwave has represented the state of the art in Web interactivity since Macromedia first created the format in 1995. With Shockwave, multimedia files created in Macromedia's flagship authoring package, Director, can be compiled to run in a browser window. This functionality gives Web designers the capability to build just about anything — including interactive Web interfaces with buttons that look indented when pushed, arcade-style games, multimedia Web front-ends, and complete Web sites built entirely in Director — bringing a CD-ROM look-and-feel to the Web. Today, Shockwave continues to be an important force on the Web, as the enormous success of Macromedia's Shockwave.com amply demonstrates.

The final component in Macromedia's vector-graphic toolbox is a server-side technology called Generator. Generator works with templates built in Flash to display customized graphics, built on-demand. In its initial release, Generator was available only to designers working on big-budget, high-end sites and did not gain a sizeable foothold in the market. However, Macromedia has recently changed its pricing policy on Generator, making the technology much more accessible to developers.

As you might expect, Macromedia makes it easy to incorporate Shockwave, Flash, and Generator files into your Dreamweaver projects. All these formats have special objects that provide control over nearly all their parameters through the Property inspector — and each format is cross-browser compatible by default. Using

Dreamweaver's Flash Button and Flash Text tools, it's delightfully easy to incorporate customized, well-crafted Flash elements in your Web page without knowing a bit of Flash.

To take full advantage of the enhanced graphics potential of Flash and Shockwave's multimedia capabilities, you need to understand the differences between Director and Flash, as well as the various parameters available to each format. In addition to covering this material, this chapter also shows you how to use independent controls — both inline and with frames — for your Shockwave and Flash movies.

Director and Flash: What's the Difference?

Director (the program you use to make Shockwave movies) and Flash share many features: interactivity, streaming audio, support for both bitmaps and vector graphics, and "shocked fonts." Both can save their movies in formats suitable for viewing on the Web. So how do you choose which program to use? Each has its own special functions, and each excels at producing particular types of effects. Director is more full-featured, with a complete programming language called Lingo that enables incredible interactivity. And Director movies can include Flash animations. Director also has a much steeper learning curve than does Flash. Flash is terrific for short, low-bandwidth animations with or without a synchronized audio track; however, the interactive capabilities in Flash are limited compared to Director.

Director is really a multimedia production program used for combining various elements: backgrounds, foreground elements called *sprites*, and various media such as digital audio and video (see Figure 25-1). With Director's Lingo programming language, you can build extraordinarily elaborate demos and games with Internet-specific commands. When you need to include a high degree of interactivity, build your movie with Shockwave.

One of the primary differences between Director and Flash is the supported graphic formats. Director is generally better for bitmap graphics, in which each pixel is mapped to a specific color; both GIF and JPEG formats use bitmap graphics. Flash, on the other hand, uses primarily vector graphics, which are drawing elements described mathematically. Because vector graphics use a description of a drawing — a blue circle with a radius of 2.5 centimeters, for instance — rather than a bitmap, the resulting files are much smaller. A fairly complex animation produced with Flash might be only 10K or 20K, whereas a comparable digital video clip could easily be 10 times that size.

Aside from file size, the other feature that distinguishes vector graphics from bitmap graphics is the smoothness of the line. When viewed with sufficient magnification, bitmap graphics always display telltale "stair-steps" or "jaggies," especially around curves. Vector graphics, on the other hand, are much smoother. In fact, Flash takes special advantage of this characteristic and enables users to zoom into any movie — an important effect that saves a lot of bandwidth when used correctly.

However, these differences were significantly blurred with the release of Director 7, which incorporates its own native vector graphics and introduces the capability to include Flash movies within Director movies. In Director 8.5 — aka Director 8.5 Shockwave Studio — 3D-graphics creation is heavily supported. Flash 4 blurred the line the other way by incorporating streaming MP3-encoded audio and QuickTime integration, both things that were traditionally the province of Director. In Flash 5, Flash's scripting capabilities have been

significantly beefed up with the expansion of ActionScript into a JavaScript-based programming language. And Flash MX, its most recent incarnation, contains many exciting new features, such as support for incorporating video in Flash movies, enhanced graphic design tools, a customizable ActionScript editor, and much more.

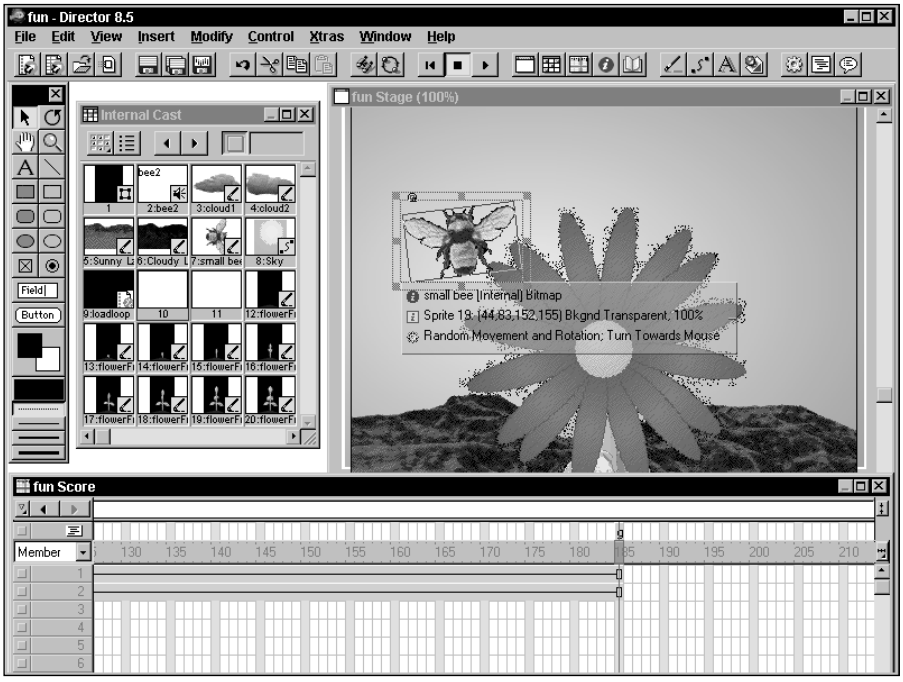


Figure 25-1: Director works mainly with bitmaps and video and enables "multimedia programming" using Lingo.

Flash animations can be used as special effects, cartoons, and navigation bars within (or without) frames (see Figure 25-2). Although Flash isn't the best choice for games and other complex interactive elements, you can use Flash to animate your navigation system — complete with sound effects for button-pushing feedback.

If Flash is a power tool, Director is a bulldozer. Director has been significantly expanded to handle a wide variety of file types — such as QuickTime, MP3, RealAudio, and RealVideo — with advanced streaming capabilities. Supporting multimedia interactivity is Director's own programming language, Lingo, which has also been enhanced. Furthermore, Director now includes multiplayer support for network game play and chat rooms, XML parsing, embedded compressed fonts, up to 1,000 sprite channels, and a potential frame rate of 999 frames per second (one heckuva fast-forward . . .). Luckily, Dreamweaver enables you to pack all that power into a Web page with its Shockwave object.

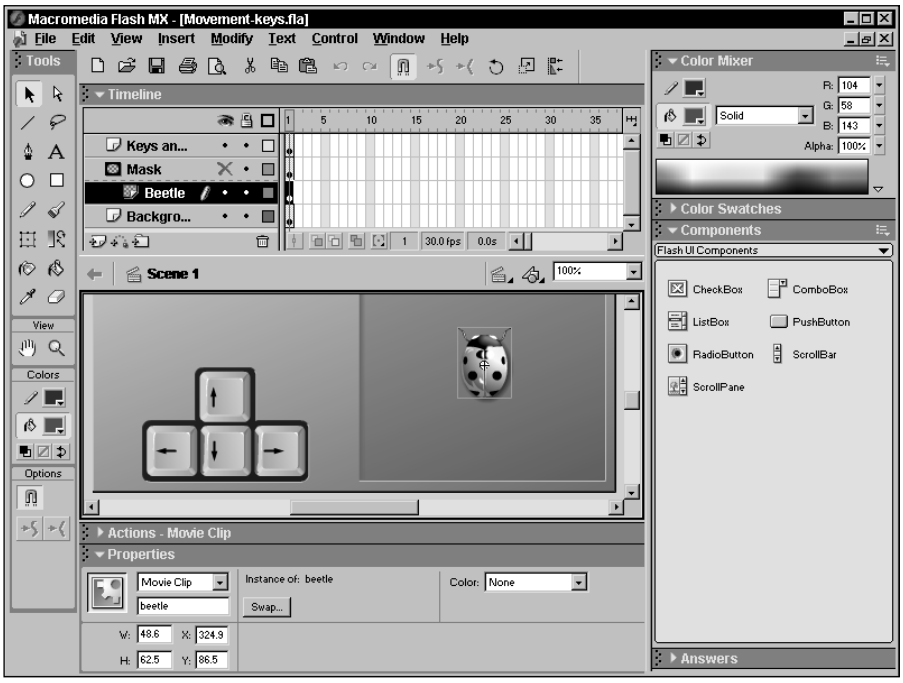


Figure 25-2: Flash movies range from a more cartoon-like look, thanks to Flash's lightweight vector graphics, to full-motion video.

Including Flash and Shockwave Movies in Dreamweaver Projects

Dreamweaver makes it easy to bring Shockwave and Flash files into your Web pages. The Insert bar provides an object for each type of movie, both located in the Media category.

Because Shockwave and Flash objects insert both an ActiveX control and a plugin, Dreamweaver enables you to play the movie in the Document window. When not playing, it displays a plugin placeholder icon (see Figure 25-3).

Before you can successfully include a Shockwave file, you need to know one small bit of information — the dimensions of your movie. Dreamweaver automatically reads the dimensions of your Flash file when you insert the Flash movie object. Unfortunately, if you're incorporating a Shockwave movie, you still need to enter the dimensions in the Shockwave Property inspector.

To find the width and height of a Shockwave movie, load it in Director and then choose Modify ➪ Movie ➪ Properties to open the movie's Property inspector. You'll find the dimensions therein.

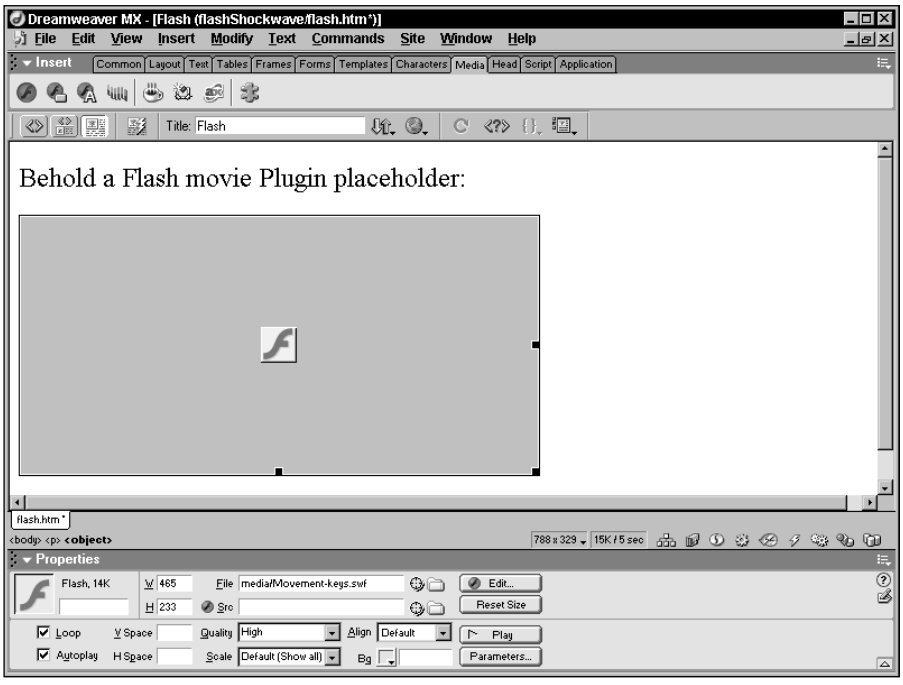


Figure 25-3: Dreamweaver includes many interface elements for working with Shockwave and Flash.

Note

It is essential to know the movie's height and width before you can include it successfully in Dreamweaver-built Web pages. During the development phase of a Dreamweaver project, I often include the movie dimensions in a filename, as an instant reminder to take care of this detail. For example, if I'm working with two different Shockwave movies, I can give them names such as navbar125x241.dcr and navbar400x50.dcr. (The .dcr extension is automatically appended by Director when you save a movie as a Shockwave file.) Because I consistently put width before height in the filename, this trick saves me the time it takes to reopen Director, load the movie, and choose Modify ➪ Movie to check the measurements in the Movie Properties dialog box. The alternative to keeping track of the Director movie's dimensions is to choose File ➪ Save as Shockwave Movie in Director. Doing this creates an HTML file with all the necessary parameters (including width and height), which can be inserted into Dreamweaver. You'll find a detailed description of this process later in this chapter.

To include either a Shockwave or Flash file in your Web page, follow these steps:

1. Position the cursor in the Document window where you'd like the movie to appear.
2. Insert the movie using any of the following methods:
   - Choose Insert ➪ Media ➪ Shockwave or Insert ➪ Media ➪ Flash from the main Dreamweaver menu.

- In the Media category of the Insert bar, select the Shockwave or Flash Button.
- Drag the movie object from the Assets panel to the Document window. Remember to choose the appropriate category in the Assets panel: Shockwave or Flash.

3. In the Select File dialog box, enter the path and the filename in the File Name text box or select the Browse (Choose) button to locate the file. Click OK.

Note If you drag the movie from the Assets panel, this step is not applicable because Dreamweaver automatically sets the File attribute to that of your movie file.

4. If you clicked OK in the Select File dialog box, and if Media is selected in your Accessibility preferences (Edit ➪ Preferences ➪ Accessibility), the Object Tag Accessibility Attributes dialog box appears, as shown in Figure 25-4:

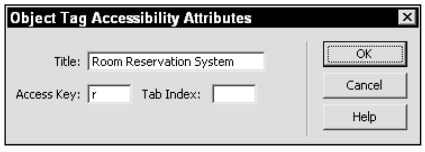


Figure 25-4: You can use the Object Tag Accessibility Attributes dialog box to specify a title, access key, and tab index for your inserted media objects.

In the Title field, enter a title for your media object.

In the Access Key field, enter a one-letter access key for your object. To select the object in the browser, you would press Alt (Command) + access key; for example: Alt+G (Command+G).

Note Entering an Access Key value only places the `accesskey` attribute in the <object> tag; it's up to the browser to properly interpret what action, if any, should be taken when the access key combination is pressed.

In the Tab Index field, enter a number for the tab index of your object. By entering a number, you can specify the order in which users tab through objects and links on your page. Pressing Tab successively jumps from the object or link whose tab index is set to 1, to the object or link whose tab index is set to 2, and so on. For this to work correctly, you must specify the `tabindex` attribute for all of the page's objects and links.

5. Dreamweaver inserts a small plugin placeholder in the current cursor position, and the Property inspector displays the appropriate information for Shockwave or Flash.

   If you inserted a Shockwave movie, make sure to enter the correct width and height dimensions in the Property inspector. Dreamweaver supplies this information automatically for Flash files.

6. Preview the Flash or Shockwave movie in the Document window by selecting the Play button in the Property inspector. You can also choose View ➪ Plugins ➪ Play.

7. End the preview of your file by selecting the Stop button in the Property inspector or selecting View ➪ Plugins ➪ Stop.

Generating HTML within Director

In Director, you can generate a file with all the appropriate HTML code at the same time that you save your Shockwave movie with just the selection of a checkbox. When you choose File ➪ Save as Shockwave Movie in Director, the dialog box contains a Generate HTML option. Selecting this option causes Director to save an HTML file with the same name as your Shockwave movie but with an appropriate file extension (.html for Macintosh and .htm for Windows). You can easily copy and paste this HTML code directly into Dreamweaver.

When you open the Director-generated HTML file, you see the name of your file and the Shockwave placeholder, correctly sized and ready to preview. To move this object into another Web page in progress, just select the Shockwave object and choose Edit ➪ Copy. Then switch to your other page and choose Edit ➪ Paste. Naturally, you can also use the keyboard shortcuts or, if both pages are accessible, just drag and drop the object from one page to another.

Tip

If you have more than one Flash or Shockwave movie on your page, you can control them all by choosing View ➪ Plugins ➪ Play All, and View ➪ Plugins ➪ Stop All. If your files appear in different pages in a frameset, you have to repeat the Play All command for each page.

Shockwave and Flash have some different features in the Dreamweaver Property inspector. These differences are covered separately in the following sections.

Specifying Shockwave Properties

After you've inserted your Shockwave file, you're ready to begin entering the specific parameters in the Property inspector. The Property inspector takes care of all but one Shockwave attribute, the `palette` parameter. Some of the information, including the ActiveX Class ID, is automatically set in the Property inspector when you insert the movie.

On the CD-ROM

In the Additional Extensions\Joseph Lowery\Commands folder on the CD-ROM, you can find a custom command called Insert Shockwave HTML that automates the process of inserting a Shockwave movie and its Director-generated HTML. If you'd prefer a version developed by Macromedia that does the same job, visit the Dreamweaver Exchange to download the Insert Shockwave extension. To access the Dreamweaver Exchange, choose Help ➪ Dreamweaver Exchange from within Dreamweaver or go to `www.macromedia.com/exchange/dreamweaver`.

To set or modify the parameters for a Shockwave file, follow these steps:

1. Select the Shockwave placeholder icon.
2. In the Shockwave Property inspector, enter the width and height values in the W and H text boxes, respectively, as shown in Figure 25-5. Alternately, you can click and drag any of the three resizing handles on the placeholder icon.

Tip

Pressing the Shift key while dragging the corner resizing handle maintains the current aspect ratio.

3. Set and modify other Shockwave movie attributes as needed; see Table 25-1 for a list.

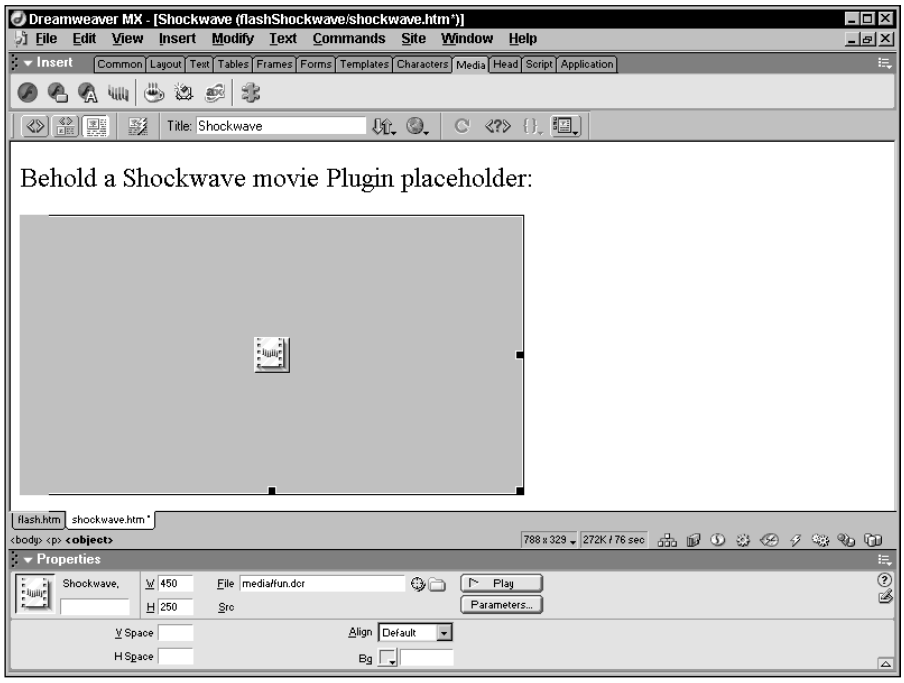


Figure 25-5: Modify parameters for a Shockwave property through the Shockwave Property inspector.

Table 25-1: Property Inspector Options for Shockwave Objects

Shockwave Property	*Description*
Align	Choose an option to alter the alignment of the movie. In addition to the browser default, your options include Baseline, Top, Middle, Bottom, Texttop, Absolute Middle, Absolute Bottom, Left, and Right.
Bg	Use this option to specify a background color for the movie area. Note that this color also appears while the movie is loading and after it is done playing.
V Space	To increase the amount of space between other elements on the page and the top and bottom of the movie Plugin, enter a pixel value in the V (Vertical) Space text box. Again, the default is zero.
H Space	You can increase the space to the left and right of the movie by entering a value in the H (Horizontal) Space text box. The default is zero.
Name	If desired, you can enter a unique name in this unlabeled field on the far left of the Property inspector. The name is used by JavaScript and other languages to identify the movie.

Additional parameters for Shockwave

As with other Plugins, you can pass other attributes to the Shockwave movie via the Parameters dialog box — available by clicking the Parameters button on the Property inspector. Use Tab or the Add (+) button to insert additional parameters. Enter the attributes in the left column and their respective values in the right. To remove an attribute, highlight it and select the Remove (–) button.

Automatic settings for Shockwave files

When you insert a Shockwave or Flash file, Dreamweaver writes a number of parameters that are constant and necessary. In the `<object>` portion of the code, Dreamweaver includes the ActiveX Class ID number as well as the `codebase` URL; the former calls the specific ActiveX control, and the latter enables users who don't have the control installed to receive it automatically. Likewise, in the `<embed>` section, Dreamweaver fills in the `pluginspage` attribute, designating the location where Navigator users can find the necessary plugin. Make sure you don't accidentally remove any of this information — however, if you should, all you have to do is delete and reinsert the object.

Only one other general attribute is usually assigned to a Shockwave file, the `palette` parameter. If you want to deploy this attribute, you'll have to add it by hand in Code view. `palette` takes a value of either background or foreground:

- ✦ If `palette` is set to background, the movie's color scheme does not override that of the system; this is the default.
- ✦ When `palette` is set to foreground, the colors of the selected movie are applied to the user's system, which includes the desktop and scroll bars.

Note that `palette` is not supported by Internet Explorer.

Caution

Web designers should take care when specifying the `palette=foreground` parameter. This effect is likely to prove startling to the user; moreover, if your color scheme is sufficiently different, the change may render the user's system unusable. If you do use the `palette` parameter, be sure to include a Director command to restore the original system color scheme in the final frame of the movie.

Designating Flash Attributes

Flash movies require the same basic parameters as their Shockwave counterparts — and Flash movies have a few additional optional ones as well. As it does for Shockwave files, Dreamweaver sets almost all the attributes for Flash movies through the Property inspector. The major difference is that several more parameters are available.

To set or modify the attributes for a Flash file, follow these steps:

1. After your Flash movie has been inserted in the Document window, make sure that it is selected. Dreamweaver automatically inserts the correct dimensions for your Flash movie.
2. Set any attributes in the Property inspector as needed for your Flash movie. (Refer to the previous descriptions of these attributes in the section "Specifying Shockwave Properties.") In addition, you can also set the parameters described in Table 25-2.

Table 25-2: Additional Property Inspector Options for Flash Objects

Flash Parameter	*Possible Values*	*Description*
Autoplay	Checked (default)	Enables the Flash movie to begin playing as soon as possible.
Loop	Checked (default)	If Loop is checked, the movie plays continuously; otherwise, it plays once.
Quality		Controls anti-aliasing during playback.
	High (default)	Anti-aliasing is turned on. This can slow the playback frame rate considerably on slower computers.
	Low	No anti-aliasing is used; this setting is best for animations that must be played quickly.
	Auto High	The animation begins in High (with anti-aliasing) and switches to Low if the host computer is too slow.
	Auto Low	Starts the animation in Low (no anti-aliasing) and then switches to High if the host machine is fast enough.
Src		Src specifies the .fla Flash source file. To edit a .swf Flash movie file, you must modify the movie's .fla source file.
Scale		Scale determines how the movie fits into the dimensions as specified in the Width and Height text boxes.
	Show All (default)	Displays the entire movie in the given dimensions while maintaining the file's original aspect ratio. Some of the background may be visible with this setting.
	Exact Fit	Scales the movie precisely into the dimensions without regard for the aspect ratio. It is possible that the image could be distorted with this setting.
	No Border	Fits the movie into the given dimensions so that no borders are showing and maintains the original aspect ratio. Some of the movie may be cut off with this setting.

Setting the scale in Flash movies

Be careful with your setting for the Scale parameter to avoid unexpected results. If you have to size a Flash movie out of its aspect ratio, the Flash Player needs to know what to do with any extra room it has to fill. Figure 25-6 demonstrates the different results that the Scale attribute can provide. Only the figure in the lower right is at its proper dimensions. The gray box is the actual size of the authoring canvas.

Tip

Dreamweaver makes it easy to rescale a Flash movie. First, from the Property inspector, enter the precise width and height of your file in the W and H text boxes. Then, while holding down the Shift key, click and drag the corner resizing handle of the Flash placeholder icon to the new size for the movie. By Shift+dragging, you retain the aspect ratio set in the Property inspector, which enables you to quickly enlarge or reduce your movie without distortion.

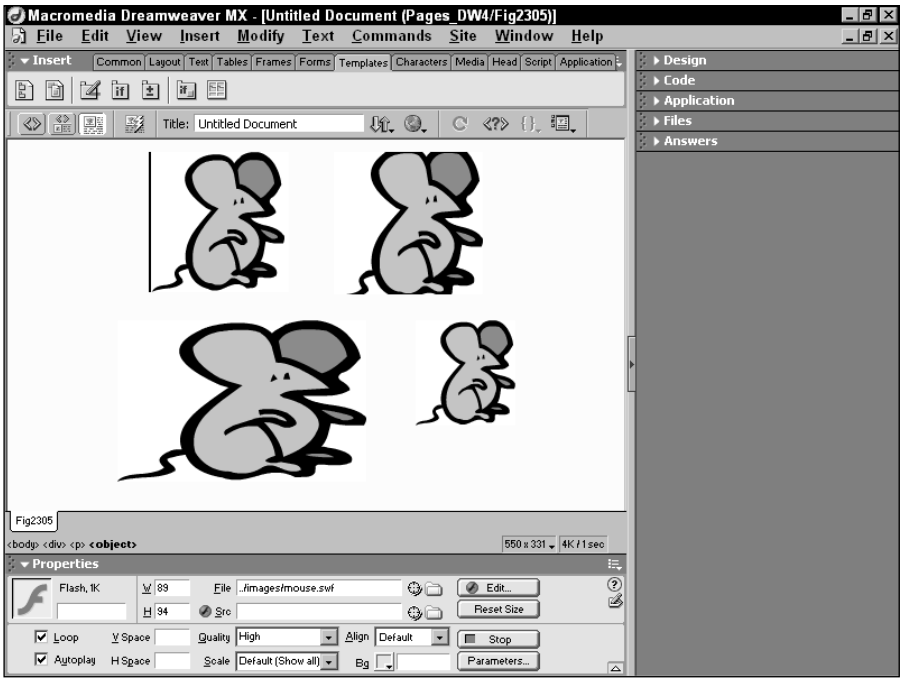


Figure 25-6: Your setting for the Scale attribute determines how your movie is resized within the plugin width and height measurements.

Additional parameters for Flash

Flash has two additional attributes that can be entered through the Parameters dialog box (click the Parameters button on the Property inspector): `salign` and `swliveconnect`. The `salign` attribute determines how the movie aligns itself to the surrounding frame when the Scale attribute is set to Show All. In addition, `salign` determines which portion of the image is cut off when the Scale attribute is set to No Border. The alignment can be set to L (left), R (right), T (top), or B (bottom). You can also use these values in combination. For example, if you set `salign` to `RB`, the movie aligns with the right-bottom edge or the lower-right corner of the frame.

The `swliveconnect` attribute comes into play when you're using FSCommands or JavaScript in your Flash movies. FSCommands are interactive commands, such as Go to URL, issued from inside the Flash movie. The Netscape browser initializes Java when first called — and if your Flash movie uses FSCommands or JavaScript, it uses Java to communicate with the Netscape Plugin interface, LiveConnect. Because not all Flash movies need the LiveConnect connection, you can prevent Java from being initialized by entering the `swliveconnect` attribute in the Parameters dialog box and setting its value to `false`. When the `swliveconnect=false` parameter is found by the browser, the Java is not initialized as part of the loading process — and your movie loads more quickly.

Creating Flash Buttons and Crafting Templates

The original argument against using Flash was: "Not everyone has the Flash plugin, so not everyone can see Flash movies." Nowadays, this argument is more or less moot with Flash Plugin market penetration at 98+ percent (for Flash 2 players), 97+ percent (Flash 3 players), 96+ percent (Flash 4 players), and 90+ (Flash 5 players).

Although Flash is often used to create standalone movies, cartoons, and interactive games, it is also capable of making excellent navigation aids. One feature of traditional user interfaces — audio feedback, the "click" that one hears when a button has been chosen onscreen — has been long missing on the Web because of the lack of a universally available sound engine. With navigation buttons created in Flash, sound is very easy to incorporate, as are animation effects and smooth blends. Best of all, these effects require extremely low bandwidth and often weigh less on a page than a comparable animated GIF file, even without the sound.

New Feature

Dreamweaver designers can add the power and beauty of Flash objects to their Webpage–design palette. Both animated Flash buttons and static Flash Text (covered later in this chapter) may be created directly within Dreamweaver. Flash buttons are based on template designs created in Flash and customized in Dreamweaver. This separation of design and implementation enables Flash graphic designers to create the overall look for a navigational button or button series, and Dreamweaver layout artists can incorporate this look into the proper page design, adding the appropriate button text, links, and background color where needed. Flash buttons, like any Flash movie, may be previewed in Dreamweaver and resized as needed.

Dreamweaver comes with 44 different Flash Button templates, with additional styles available at the Macromedia Exchange. The buttons are primarily intended to be used as links to other Web pages, although some are designed as VCR-like player controls. To insert a Flash button, follow these steps:

1. Make sure that the current document has been previously saved.

   If you're working on a new document, Dreamweaver requires that you save it before adding a Flash button.

2. Choose the Flash Button object from the Media category of the Insert bar or select Insert ➪ Interactive Images ➪ Flash Button. The Insert Flash Button dialog box, shown in Figure 25-7, is displayed.

3. Select a button type from the Style list.

   The previews shown in the Sample area are live demonstrations and will play as designed when moused-over and/or clicked. There is, however, one exception: No sound is heard in preview; you have to preview the Flash button in the browser to get the full effect.

4. Enter your desired button text label in the Button Text field. If you leave this field blank, the button will have no label.

   The Button Text field is physically limited to 50 characters, although for most practical purposes, your text will be shorter. Certain symbols, such as those in the Control group, ignore the text and font settings.

5. Select a typeface from the Font drop-down list.

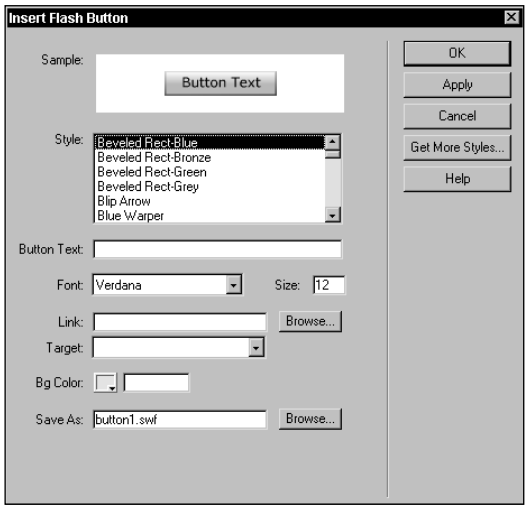


Figure 25-7: Choose Apply to test typeface and text-size variations when creating your Flash button.

The fonts listed are TrueType fonts found on your system. Most of the button templates have a preselected font and text size. If the preselected font is not found on your system, a small alert appears at the bottom of the dialog box.

6. Enter the desired font size, in points, in the Size field.
7. If the button is to link to another page, enter the absolute or document-relative URL in the Link field. Alternatively, you can choose the Browse button to locate the file.

   Flash movies don't handle site-root–relative links correctly, so your link needs to be either absolute, such as `www.idest.com/dreamweaver/`, or document-relative. Use document-relative links only if the Flash button is to be stored in the same folder as the page referenced.
8. If you are working in a frame-based site or you want the link to open in another page, select an option from the Target drop-down list.

   The standard system targets — _blank, _self, _parent, and _top — are always available. Additional frame names appear if the Flash button is inserted in an existing frameset.
9. If the Flash button is to be placed on a page or in a table with a background color other than white, select the Bg Color swatch to choose an appropriate background. Alternatively, the hexadecimal color number or standard color name may be entered directly into the Bg Color text field.
10. In the Save As text box, enter a path and filename for the Flash button file. If you like, you can use the suggested default name in the site root or select the Browse button to choose a different location.
11. Choose Apply to insert the button in the cursor location on the page.
12. Click OK when you're done.

If you'd like to see what other styles are available, open the Insert Flash Button dialog box and choose Get More Styles. Your primary browser will launch and go to the Dreamweaver Exchange, where you can search for new styles. After you've installed the additional extensions using the Extension Manager, you'll need to relaunch Dreamweaver to see the new styles. Note that selecting Get More Styles immediately closes the dialog box without creating a button.

After your Flash button is inserted, it can be modified on the page. Select the Flash Button object to activate the Flash Button Property inspector that, along with the standard Flash Property inspector, offers two new useful custom controls: Edit and Reset Size. Selecting Edit reopens the Insert Flash Button dialog box and enables you to modify any of the settings. Use Reset Size if you have altered the dimensions of the Flash button — by dragging one of the sizing handles or entering new values in the Width and/or Height fields — and want to return to the original size.

If you've moved an existing Flash button to a frame-based design, select the button and choose Edit from the Property inspector. Under Target, you'll find names for all the frames in your new frameset to make it easy to position your content.

Creating your own Flash Button templates

The Flash button samples that ship with Dreamweaver are nice, but to be truly useful, you — or someone on your team — must be able to create your own templates that fit the design of your site. The Flash Button templates you see previewed in Dreamweaver are actually Generator templates, created in Flash.

Generator is only available in Flash 5 and has been discontinued in Flash MX. Thus, Flash MX may not be used to create custom templates.

To create the Generator templates, you'll need Flash 5 and the free Generator authoring extensions from Macromedia. The authoring extensions are included in Flash or can be downloaded from the Macromedia site at `www.macromedia.com/software/generator/download/extensions.html`.

The next step is to create a button in Flash. As with other Flash buttons, your graphic should be converted to a button-type symbol, and it may use all four keyframes: Up, Over, Down, and Hit. After you've built the button, follow these steps to add the Generator functionality:

1. In Flash, choose Window ➪ Generator Objects.
2. From the Generator Objects panel, drag the Insert Text object over the previously built button.

   Position the Insert Text object so that its center is located where you'd like your button text to appear.
3. When the Insert Text object is in place and selected, the Generator Insert Text panel, displaying the appropriate properties, appears. Double-click the Insert Text object to bring the panel to the front if necessary.

   Within the panel, set several parameters to placeholder values so that the Insert Flash Button dialog box in Dreamweaver can function properly. In each case, enter the value in the right column.

4. Enter the following values in the Generator Insert Text panel:
   - **Text:** Enter {Button Text}
   - **Font:** Enter {Button Font}
   - **Font Size:** Enter {Button Size}
   - **Alignment:** Enter left, right, center, or justified
   - **Vertical Alignment:** Enter top, center, or bottom
   - **URL:** Enter {Button URL}
   - **Window:** Enter {Button Target}
5. Shrink the movie to the size of your button by dragging the button to the upper-left corner of the stage and choosing Modify ➪ Movie. In the Movie Properties dialog box, select the Match Contents option.
6. Save the movie as a .fla file so that you may adjust it later.
7. Choose File ➪ Export Movie and select Generator Template as the file type. Save the template in the Dreamweaver/Configuration/Flash Objects/Flash Buttons folder.

Now your Flash button is almost ready to use. If you like, you can choose the Flash Button object in Dreamweaver and see your button; however, no sample text is displayed. There's one last procedure that's required if you want to preview your Flash button with sample text. Interestingly enough, you use the Flash Button object to create the preview:

1. Open Dreamweaver and save a blank page.
2. Choose the Flash Button object.
3. Select your newly inserted button from the Style list. New buttons are found at the end of the list.
4. Enter desired default values in the Text, Font, and Size fields. These values are preset whenever this particular Flash button is chosen.
5. In the Save As field, store the file under the same name as your style in the Dreamweaver/Configuration/Flash Objects/Flash Buttons Preview folder.
6. Click OK when you're done.

The next time you access the Flash Button object, your custom template will display a full preview with text.

Working with Flash Text

The addition of Flash Text to Dreamweaver goes a long way toward solving one of the Web designer's most perplexing problems: how to achieve good-looking text that uses nonstandard fonts. HTML enables you to specify the use of a nonstandard font in a Web page, but this font appears in a user's browser only if the user happens to have that particular font installed on his or her system. For this reason, few designers stray outside tried-and-true options, such as Arial, Helvetica, and Times New Roman, for the majority of their content. This use of limited fonts is especially grating to print designers coming to the Web who rely on typography as a primary design tool. The advent of Dynamic HTML promised to bring a wider selection of typefaces with so-called *dynamic font technology,* but lack of built-in cross-browser support for any one system dashed those hopes.

The Flash Text feature enables the designer to use any TrueType font to create low-weight, jaggies-free headings, right from within Dreamweaver itself. The ubiquitous nature of the Flash Player ensures cross-browser support without resorting to GIF images, which are often not as crisp as required. Moreover, with Flash Text, you can easily declare a second color for automatically enabled rollovers — you don't even have to attach a Dreamweaver behavior.

The Flash Text feature is especially useful for creating headings in a corporate-approved typeface. Because it doesn't involve downloading a font resource, as dynamic font technologies do, there is no concern about the misuse of copyrighted fonts. The only downside to Flash Text over a dynamic font technology is that unlike dynamically created fonts, Flash Text cannot be searched on a page. To overcome this limitation, Web designers can include key phrases in `<meta>` tags.

To use the Flash Text object, follow these steps:

1. Make sure your page has been saved before proceeding.
2. Choose Flash Text from the Media category of the Insert bar or select Insert ➪ Interactive Images ➪ Flash Text. The Insert Flash Text dialog box appears, as shown in Figure 25-8.

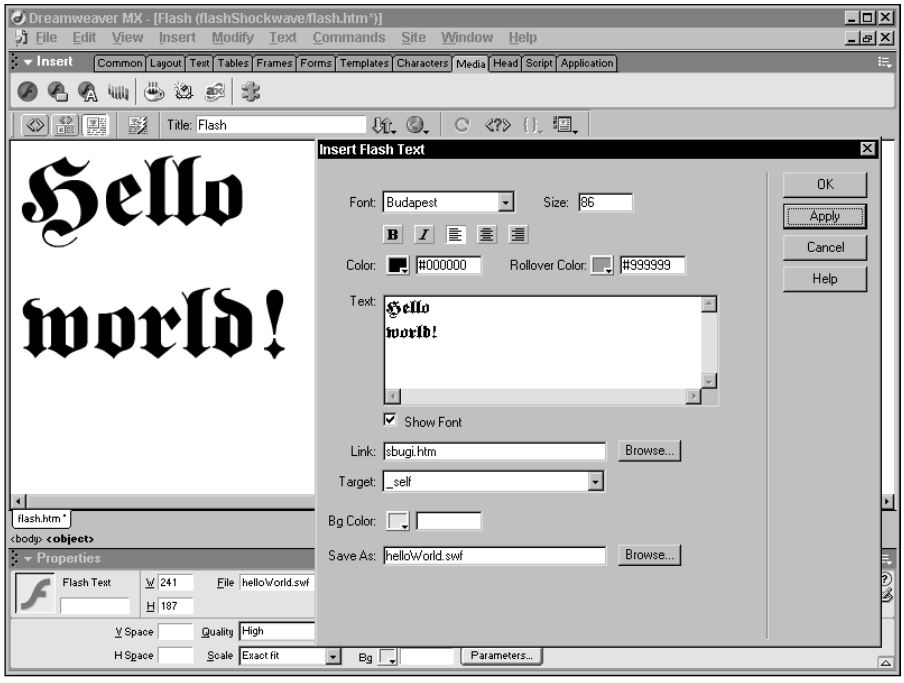


Figure 25-8: Use the Flash Text object to create headlines with a nonstandard or custom font.

3. Select the desired typeface from the Font drop-down list.
4. Enter the font size desired in the Size field.
5. Choose Bold and/or Italic styles for your text.

6. Select the alignment on the page: left, center, or right.
7. Select a basic color from the color swatch or enter a hexadecimal value or valid color name in the Color field.
8. If desired, choose a secondary color for the text to change to when the user moves his or her mouse over the Flash Text from the Rollover Color swatch.
9. Enter the desired text in the Text field.

   Other than practical considerations, there's no real limit to the amount of text that can be entered, and line returns are acceptable.
10. If you want to see the text in the default font in the Text field — rather than your selected font — disable the Show Font option.
11. If desired, enter an absolute or document-relative URL in the Link field.

    As with Flash buttons, site-relative links are not available in Flash Text objects.
12. If you're working in a frame-based site or want the link to open in a new browser window, choose the appropriate Target from the drop-down list.
13. Optionally, choose a background color from the Bg Color swatch.
14. Enter a path and filename to store the object in the Save As field. Alternatively, select the Browse button to locate a folder.

    If you're using document-relative links in the Flash Text object, be sure to store the object in the same folder as the current document.
15. Click Apply to preview what your button will look like in your document and then click OK when you're done.

Caution When you are editing a Flash Text button, clicking Apply overwrites the existing button file and replaces it with your new, edited version. Alas, there is no undo for the Apply command . . . so think twice before clicking that Apply button!

As with Flash buttons, you can resize a Flash Text object by dragging the resizing handles; press the Shift key while dragging to constrain the dimensions to their initial width and height ratio. Click Reset Size on the Property inspector to restore the original dimensions. To edit a Flash Text object, choose Edit from the Property inspector or simply double-click the object to open its Insert Flash Text dialog box.

When you create a Flash Text object, Dreamweaver makes a GIF representation that can be displayed during layout — you may notice some roughness in the lines, especially if you resize the object. You can, at any time, select Play from the Flash Text Property inspector (or choose Preview in Browser) to see the true Flash object with its smooth vector shape.

Configuring MIME Types

As with any plugin, your Web server has to have the correct MIME types set before Shockwave files can be properly served to your users. If your Web page plays Shockwave and Flash movies locally, but not remotely, chances are good that the correct MIME types need to be added. The system administrator generally handles configuring MIME types.

The system administrator needs to know the following information to be able to correctly configure the MIME types:

- **Shockwave:** application/x-director (.dcr, .dir, .dxr)
- **Flash:** application/x-shockwave-flash (.swf)

Both Shockwave and Flash are popular plugins, and it's likely that the Web server is already configured to recognize the appropriate file types.

Movies made by an earlier version of Flash, called FutureSplash, can also be played by the Flash Plugin—but only if the correct MIME type is added: application/futuresplash, with the file extension .spl.

Managing Links in Flash Movies with Dreamweaver

Many Web sites rely heavily on Flash movies, substituting movies for entire pages that would otherwise be created with HTML. Others take advantage of Flash's interactivity in their main navigation buttons. Adding links to buttons in Flash is easy, but embedding multiple URLs into multiple SWF files can make modifying a site's structure a nightmare, forcing you to re-create every SWF file in your site. Luckily, Dreamweaver comes to the rescue with link management features that are SWF-savvy.

Dreamweaver extends its link management capabilities to include the links contained in Flash SWF movies. Edit links within an SWF file manually in the Site Map, or move SWF files in the Site Files view and let Dreamweaver clean up behind you.

Within the Site panel, you can drag SWF files to new folders just as you would an HTML file. Unless your Update Links when Moving Files preference is set to Never, Dreamweaver will either modify the links in the SWF file accordingly or prompt you for permission to do so.

Be careful with the type of links you use—Flash (or, more accurately, browser playback of Flash) can't handle every type. Absolute URLs are very common in Flash movies because they can be used in every situation. Document-relative links may be used successfully in all cases if the Web page and the Flash file are stored in the same folder. Site-root–relative links, such as `/products/widgets.htm`, should not be used in Flash movies.

To modify the links in an SWF file manually, follow these steps:

1. Display the Site Map of your desired site by pressing F8 to open the Site panel, selecting the site from the drop-down list, choosing the Expand/Collapse button to display the expanded Site panel, and clicking the Site Map button.
2. Choose View ➪ Show Dependent Files to include dependent files such as Flash movies in the Site Map.
3. Locate the SWF file that you want to modify. If it contains any links, a plus sign is shown next to its icon. Click the plus sign to expand a branch of links from the SWF file, as shown in Figure 25-9.
4. To change a link, select it and choose Site ➪ Change Link, press Ctrl+L (Command+L), or right-click (Control+click) the link and choose Change Link from the shortcut menu. Dreamweaver displays a Select HTML File dialog box.
5. Select a new file by navigating to an HTML file or entering a URL. Click OK when you're done.

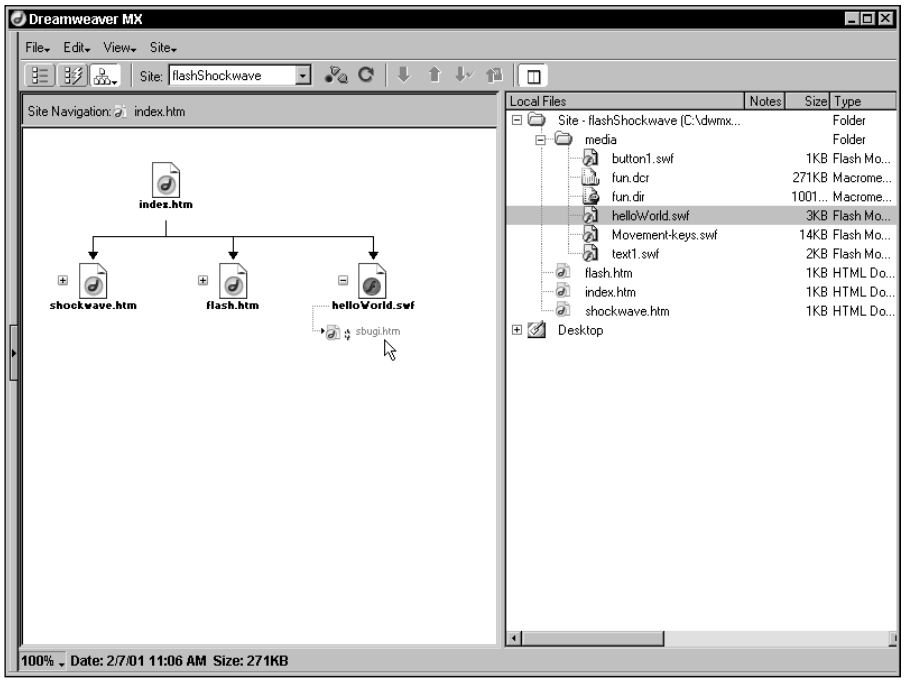


Figure 25-9: Dreamweaver's Site Map displays links contained in Flash SWF movies.

Note

If your preferences call for Dreamweaver to prompt you before updating links, Dreamweaver will ask you to confirm that you want the link changed.

The link in your SWF file is changed.

Caution

Dreamweaver changes links within SWF files, but the links in the original Flash document that you edit in Flash itself will remain unchanged. Make sure you update your Flash document before exporting a revised SWF file.

Providing User Interaction with Shockwave Movies

What happens after you've installed your Shockwave or Flash files? Many movies are set to play automatically or upon some action from the user, such as a mouse click of a particular hotspot within the page. But what if you want the user to be able to start or stop a movie in one part of the page, using controls in another part? How can controls in one frame affect a movie in a different frame?

Dreamweaver includes a Control Shockwave or Flash behavior that makes inline controls — controls on the same Web page as the movie — very easy to set up. However, establishing frame-to-frame control is slightly more complex in Dreamweaver and requires a minor modification to the program-generated code.

Cross-Reference

Both of the following step-by-step Techniques rely on Dreamweaver behaviors. If you're unfamiliar with using behaviors, you should review Chapter 23 before proceeding.

Dreamweaver Technique: Creating inline Shockwave controls

Certainly, it's perfectly acceptable to make your Shockwave or Flash movies with built-in controls for interactivity, but sometimes you want to separate the controls from the movie. Dreamweaver includes a JavaScript behavior called Control Shockwave or Flash. With this behavior, you can set up external controls to start, stop, and rewind Shockwave and Flash movies. Use the following steps to create inline Shockwave or Flash controls:

1. Insert a Shockwave or Flash object in your page by choosing either the Shockwave or Flash Button from the Media category of the Insert bar.
2. From the Select File dialog box, enter the path to your file in the File Name text box or select the Browse (Choose) button to locate your file.
3. For Shockwave, enter the width and height of your movie in the W and H text boxes, respectively, in the Property inspector. The dimensions for Flash movies are entered automatically.
4. Enter a unique name for your movie in the text box provided.
5. If you are inserting a Flash movie, deselect the Autoplay and Loop options.
6. To insert the first control, position the cursor where you'd like the control to appear on the page.
7. Type the text or insert the image that will function as your control. Select this text or image.
8. In the Link box of the Property inspector, enter `javascript:;` to create an empty target.
9. Open the Behaviors panel by selecting the Show Behaviors button from the Launcher or by pressing Shift+F3.
10. If necessary, change the selected browser to 4.0 and Later Browsers by clicking the Add Action (+) button and selecting Show Events For ➪ 4.0 and Later Browsers.
11. Use the Add Action (+) button to choose the Control Shockwave or Flash action.
12. In the Control Shockwave or Flash dialog box (see Figure 25-10), select the movie you want to affect from the Movie drop-down list.

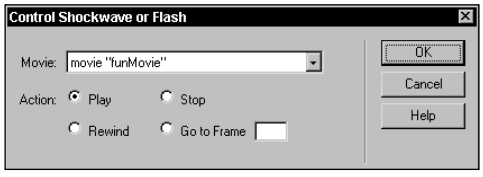


Figure 25-10: In the Control Shockwave or Flash dialog box, you assign a control action to an image button or text link.

13. Now select the desired action for your control. Choose from the four options: Play, Stop, Rewind, and Go to Frame. If you choose the Go to Frame option, enter a frame number in the text box.
14. Click OK to close the Control Shockwave or Flash dialog box.
15. Repeat Steps 6 through 14 for each movie control you'd like to add. Figure 25-11 shows a sample Web page with Play, Stop, and Rewind text controls.

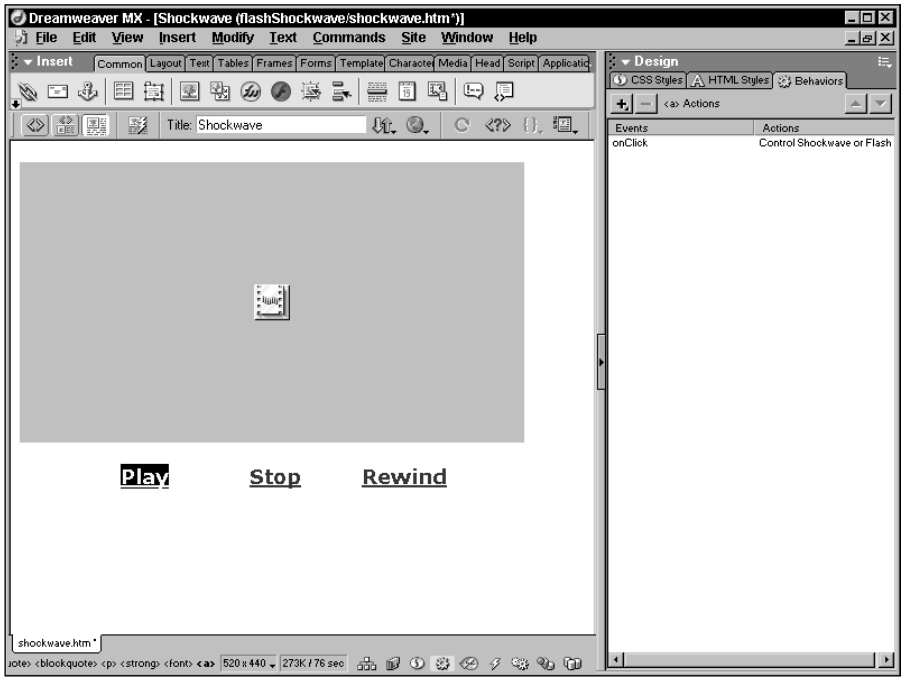


Figure 25-11: Simple Play, Stop, and Rewind controls were added to this page in just a few minutes using the Control Shockwave or Flash behavior.

Dreamweaver Technique: Playing Shockwave movies in frames

Framesets and frames are great for Web sites in which you want your navigation and other controls kept in one frame, and you also want the freedom to vary the content in another frame. It's entirely possible to set up your movie's playback buttons in one frame and the Shockwave movie in another. The method and the tools used are similar to those used in the preceding Dreamweaver Technique for adding same-page controls to a Shockwave movie. For this Technique using frames, some HTML hand-coding is necessary, but it is relatively minor — only one additional line per control!

As you saw in the previous section, Dreamweaver's Control Shockwave or Flash behavior lists all the Shockwave and Flash movies in the page and enables you to choose the one you want to affect (refer back to Figure 25-9). Unfortunately, the behavior looks on only one page, not through an entire frameset. However, with a little sleight-of-hand and a bit of JavaScript, you can get the effect you want.

Before you begin applying this Technique, you should construct (and save) your frameset and individual frames. Be sure to give each frame a unique name, because you have to provide the names in order to address the correct frames.

Use the following steps to place Shockwave controls in frames, as shown in Figure 25-12:

1. In one frame, insert the images or links that are going to act as the Shockwave controls. (For this demonstration, the control frame is named `frControl`.)
2. In another frame, insert the Shockwave file by choosing the Shockwave object from the Media category of the Insert bar. (For this demonstration, the movie frame is named `frMovie`.)
3. Be sure to modify the Shockwave Property inspector with the necessary parameters: name, width, and height.
4. Copy the Shockwave placeholder by selecting it and choosing Edit ➪ Copy.
5. Position the cursor in the `frControl` frame and paste the placeholder in a temporary position by choosing Edit ➪ Paste. At this point, the placement for the placeholder is not critical, as long as it is in the same frame as the images or links you are going to use as controls. The placeholder will be deleted shortly.

   Instead of using the Copy and Paste commands, you can hold down the Ctrl (Command) key and click and drag the placeholder to its new temporary position.
6. Now select the first image or link you want to use as a control. As described in the preceding Technique, attach the Control Shockwave or Flash behavior to the selected object. As you learned in the preceding exercise, this entails the following actions:
   - With the image or link selected, open the Behaviors panel.
   - Add the Control Shockwave or Flash action.
   - In the Control Shockwave or Flash dialog box, specify the movie and select the required action (Play, Rewind, Stop, or Go to Frame).
7. The major work is finished now. All you still need to do is add a little HTML. Switch to Code view, open the Code inspector, or use your favorite external editor to edit the file.
8. Locate the image or link controls in the code. Each JavaScript routine is called from within an `<a>` tag and reads something like the following, where `fMovie` is the name of the Flash movie:

```
<a href="javascript:;"
   onClick="MM_controlShockwave('document.fMovie',↩
'document.fMovie','Play')">
```

9. Wherever you see the JavaScript reference to document, change it to

```
parent.frameName.document
```

where *frameName* is the unique name you gave to the frame in which your movie appears. In our example, `frameName` is `frMovie`, so after the replacement is made, the tag reads as follows:

```
<a href="javascript:;"
onClick="MM_controlShockwave('parent.frMovie.document.↩
fMovie','document.fMovie','Play')">
```

By making this substitution, you've pointed the JavaScript function first to the "parent" of the current document — and the parent of a frame is the entire frameset. Now that we're looking at the entire frameset, the next word (which is the unique frame name) points the JavaScript function directly to the desired frame within the frameset.

If you have a number of controls, you might want to use Dreamweaver's Find and Replace features to ensure that you've updated all the code.

10. Finally, delete the temporary Shockwave movie that was inserted into the frame containing the controls.

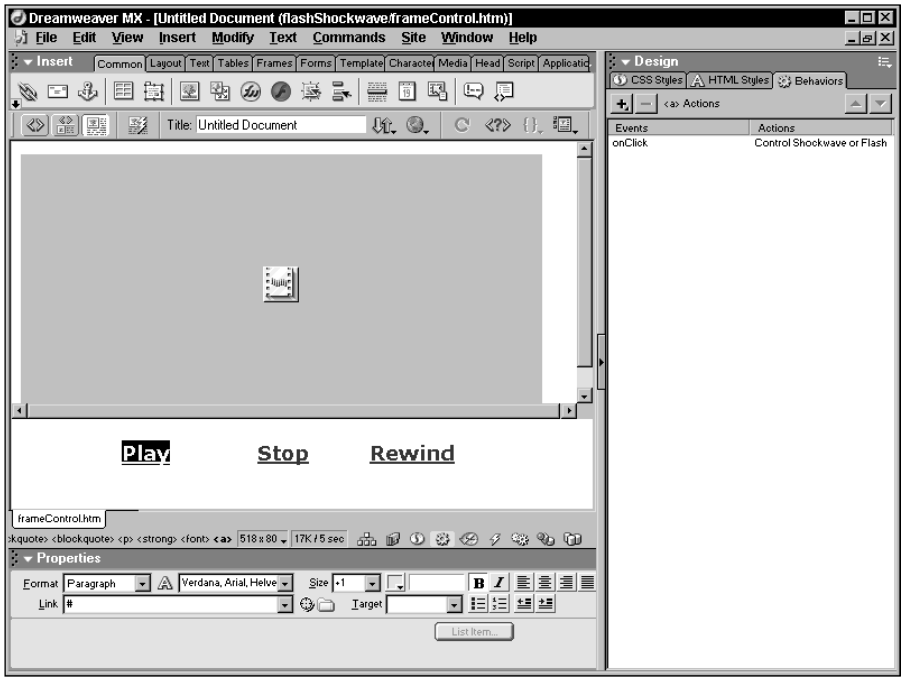


Figure 25-12: The same setup as in the previous figure, but with the controls and movie in separate frames.

Test the frameset by pressing F12 (primary browser) or Shift+F12 (secondary browser). If you haven't changed the Property inspector's default Tag attribute (the default is Object and Embed), the Shockwave movie should work in both Netscape and Internet Explorer.

Dreamweaver Technique: Triggering behaviors from Flash movies

Flash includes several of its own behaviors for creating interactivity, but Flash behaviors don't use JavaScript as Dreamweaver behaviors do. A Flash-heavy project might benefit from Dreamweaver's Open Browser Window or Popup Message behaviors as much as the next site. The Technique in this section shows you how to trigger Dreamweaver behaviors from buttons in a Flash movie.

What Flash buttons do is specified in the Flash authoring environment, not in Dreamweaver. Dreamweaver can attach behaviors to HTML elements such as anchor tags and body tags, but not to plugins. The solution lies in creating dummy "buttons" in Dreamweaver and copying the JavaScript code from those links into the actions attached to Flash buttons, within Flash itself.

Note

The following Technique can be used for any Dreamweaver behavior. The JavaScript Integration Kit for Flash 5 (JIK) extension, covered later in this chapter, has several built-in functions, including Open Browser Window and Swap Image. Use the following procedure if you don't want to use the JIK extension or you need to incorporate a behavior not included in that extension.

To trigger Dreamweaver behaviors from Flash buttons, follow these steps:

1. Create a new Dreamweaver document or open an existing one.
2. Create a null link that represents a button in your Flash movie. If you want a Flash button to open a new browser window, attach the Open Browser Window behavior to your null link, as shown in Figure 25-13.

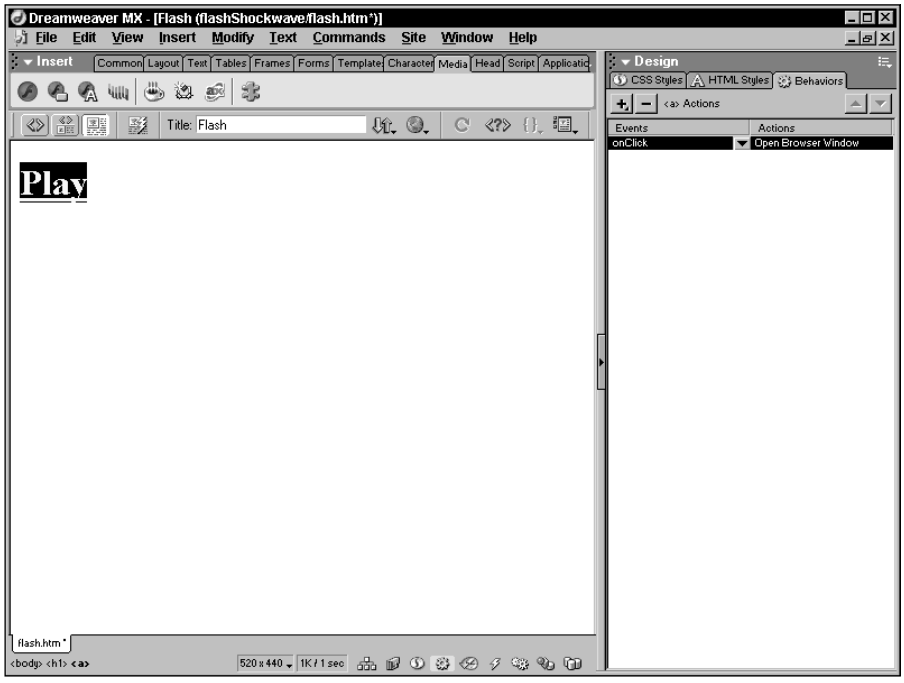


Figure 25-13: Attach a behavior you want to trigger from Flash to a null link in Dreamweaver.

3. Place your cursor within the null link and choose the `<a>` tag from the Tag Selector in Dreamweaver's status bar to completely select the link.

4. Choose View ➪ Code and Design to display page code and design together. Note that the null link is selected in both the Code and Design portions of the Document window and looks something like the following:

```
<a href="javascript:;"↩
   onClick="MM_openBrWindow('index.htm','newWindow',↩
   'status=yes,scrollbars=yes,width=200,height=300')">
 Play</a>
```

5. Select everything between the "..." quotes in the `onClick` attribute — including the parentheses (as shown in Figure 25-14) — and copy it to the clipboard. This is the actual JavaScript that you want the Flash button to execute.

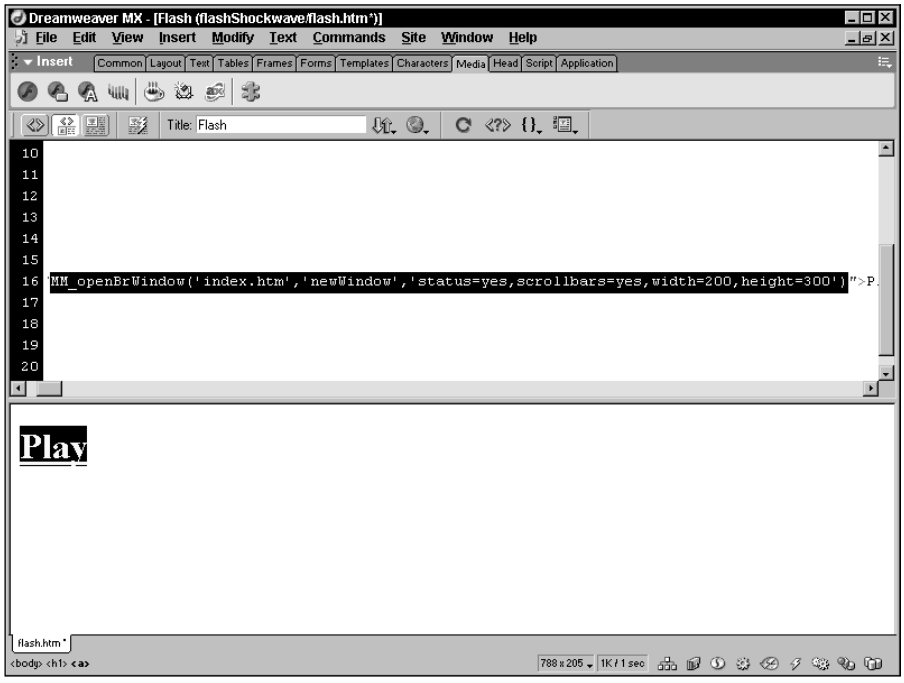


Figure 25-14: Select the JavaScript that the Flash button should execute from within the `onClick` attribute of your anchor tag.

6. In Flash, select the button to which you want to add the Dreamweaver behavior and then open the Actions panel, as shown in Figure 25-15.

7. Click the Add Action (+) button and choose Actions ➪ Browser/Network ➪ getURL to add a getURL behavior to your Flash button. In the URL text box, enter the following:

```
javascript:
```

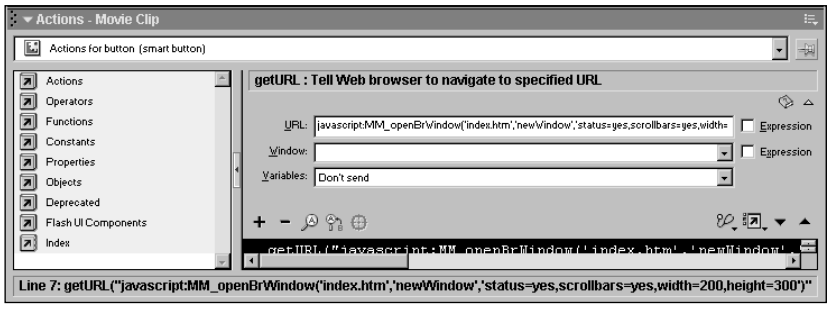


Figure 25-15: Add your JavaScript code to a Flash button Get URL behavior in the Object Actions tab of the Instance Properties dialog box in Flash.

and then paste the contents of the clipboard — your JavaScript code — so that you have something that looks like the following (refer to Figure 25-15):

```
javascript:MM_openBrWindow('myBuddy.htm','','↩
scrollbars=yes','width=250,height=200')
```

8. Repeat Steps 2 through 7 for each additional button or behavior you'd like to use. Note that multiple function calls in a javascript: statement must be separated by semicolons:

   ```
   javascript:funcCall1(arglist); funcCall2(arglist); etc.
   ```

9. Export your Flash movie as an SWF file and place it into the same page in Dreamweaver where you built your null links. Note that the `<head>` tag of this page contains JavaScript functions that match your null links and the JavaScript inside your Flash movie.

10. Delete your null links — but not the JavaScript functions in the `<head>` tag — and publish your page.

When users click the buttons in your Flash movie, `javascript: URL` sends the commands to the browser, executing the JavaScript functions in your Web page. Flash buttons open new browser windows, pop-up messages, and so on. This works in Netscape and in Internet Explorer.

Tip

Shockwave authors can also use JavaScript URLs from Lingo to trigger Dreamweaver behaviors in a manner similar to the procedure just shown. The JavaScript-savvy can also reference its own JavaScript functions using this method.

Dreamweaver Technique: Using the JavaScript Integration Kit for Flash

With an eye toward smoothing the integration between Flash and Dreamweaver, Macromedia released the JavaScript Integration Kit for Flash (JIK). The JIK is a suite of commands and behaviors installable in Dreamweaver — versions 3 and later — via the Extension Manager. You can download the current version from the Macromedia Exchange; choose Commands ➪ Get More Commands to go directly online. The JavaScript Integration Kit for Flash consists of four main components:

- **Macromedia Flash Player Controls:** Enable the designer to include interactive control over Flash movies in a Web page. New Dreamweaver behaviors assign play, stop, rewind, fast-forward, pan, and zoom actions to any graphic element. In addition, an HTML drop-down menu can be turned into a Flash movie selector.
- **Advanced Form Validations:** Ensures that your visitors are entering the proper type of information in your Flash form. You can apply any of 18 client-side form validations — everything from a required, non-blank to an International Phone Validation.
- **Browser Scripts for Flash:** Embeds up to 10 different JavaScript functions in the Dreamweaver page, callable from any Flash 5 movie. With these functions, your Flash movie can control form elements such as text fields and select lists, open remote browser windows, set cookies, and swap images on the Web page.
- **Flash Dispatcher Behavior:** Detects the visitor's Flash Player version and redirects to a suitable Web page.

The beauty of the JIK is that its various components can be mixed and matched to achieve a wide range of effects and control. The resulting Web page offers a greater degree of interactivity for the visitor as well as for the Flash designer.

Macromedia Flash Player Controls

One method of engaging your Web page visitors is to give them more control over their viewing experiences. Rather than just displaying a movie from beginning to end, allow the viewer to pause, rewind, and play the animation at will. Flash's vector-based nature even enables the user to zoom in and out, without loss of image clarity. Although all this functionality is available through Flash ActionScript, not all designs require the controls to be maintained within a Flash movie. The Flash Player Controls allow all the common VCR-like functionality — and then some — to be assigned to HTML elements such as images or hotspots.

When the JavaScript Integration Kit is installed, 10 different behaviors are grouped under the MM Flash Player Controls:

- Fast Forward Flash
- Go To Flash Frame
- Go To Flash Frame Based on Cookie
- Load Flash Movie
- Pan Flash
- Play Flash
- Rewind Flash
- Set Flash by List
- Stop Flash
- Zoom Flash

As with any other Dreamweaver behavior, the Player Controls must be assigned to a target: a text link, an image map hotspot, or a graphic with a link attached. Typically, such a graphic button would use the null link `javascript:;` to act as a trigger but not actually open a URL.

You must have at least one Flash movie in the page before the Flash Player Controls become available, as shown in Figure 25-16. Once activated, the user interfaces for the Flash Player Controls vary according to their function, as detailed below. With the Play, Stop, Rewind Flash behaviors, you just pick the Flash movie you want to control from the drop-down list. All the other behaviors also include this option, so you can affect any movie on the page.

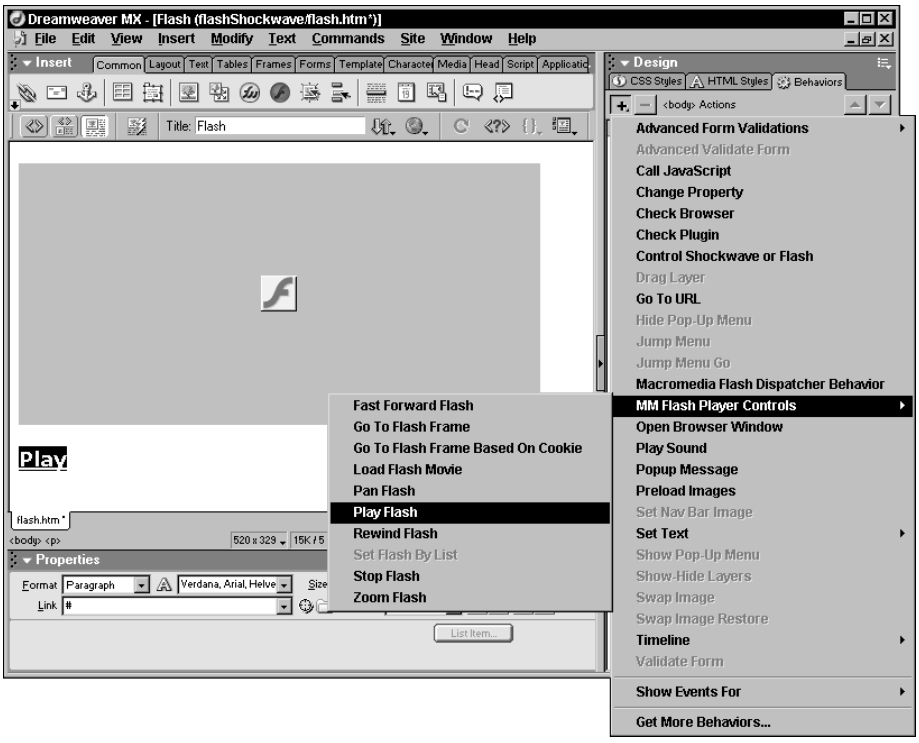


Figure 25-16: The Flash Player Controls become active once a Flash movie is present in the current Dreamweaver document.

To use the Flash Player Controls, follow these steps:

1. Insert at least one Flash movie by choosing it from the Assets panel or selecting the Flash object.
2. Enter a unique name in the name field of the Flash Property inspector (the blank field in the upper left of the inspector) for each movie.
3. Select the text link, hotspot, or image to trigger the behavior.

   If you'd like to apply the Set Flash By List behavior, select a form list object. Note that this behavior is dimmed in Figure 25-16, because a form list object is not selected.
4. Choose Window ➪ Behaviors or click the Show Behaviors button in the Launcher to open the Behaviors panel.
5. Choose the Add Action (+) button from the Behaviors panel and select the desired behavior under the MM Flash Player Controls heading.

   The chosen behavior's dialog box appears, similar to the one shown for Pan Flash in Figure 25-17.

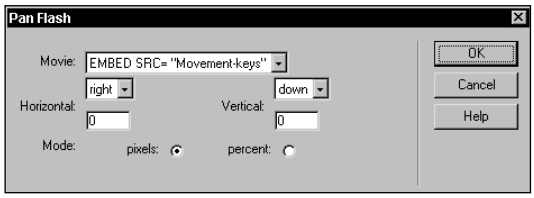


Figure 25-17: With the Pan Flash behavior, your viewer can move around a Flash movie in any direction. As shown, this behavior pans in a diagonal direction, down and to the right, every time it is triggered.

6. Select the parameters for your behavior.

   - For the Play Flash, Rewind Flash, and Stop Flash behaviors, select the desired animation to affect from the Movie drop-down list.
   - For the Fast Forward Flash behavior, select the desired animation to affect from the Movie drop-down list. In the first blank field, enter the desired value you want the movie to advance by. Select either Frames or Percent from the drop-down list. For example, to advance the movie by 5 percent each time the behavior is called, enter **5** in the first field and choose Percent from the list.
   - For the Go To Flash Frame behavior, select the desired animation to affect from the Movie drop-down list and then enter the frame number to move to in the Go To Frame field.
   - For the Go To Flash Frame Based on Cookie behavior, select the desired animation to affect from the Movie drop-down list, enter the name of the cookie to read in the Cookie Name field, enter the value to look for in the Cookie Value field, and then enter the frame number to advance to when the cookie name and value are read in the Go To Frame field.
   - For the Load Flash Movie behavior, select the desired animation you want to replace from the Replace Movie drop-down list. Enter the filename for the movie to load in the With Movie field or locate the movie by selecting the Browse button. Input the level to load the movie into in the Level field.

     To replace an existing movie with the loaded movie, enter a level number that is currently occupied by another movie. To replace the original movie and unload every level, choose 0 for the level. To begin playing the movie immediately, set the Play option to Yes; otherwise, set Play to No.

Caution As Dreamweaver warns you, the Load Flash Movie behavior is not supported for Netscape browsers.

   - For the Pan Flash behavior, select the desired animation to affect from the Movie drop-down list. Choose the Horizontal and/or Vertical direction — up, down, right, or left — to pan to from the drop-down lists, and then select the degree of the pan by entering a value in the fields below each direction. You can pan diagonally by entering nonzero values for both the Horizontal and Vertical direction. Choose whether you'd like the pan values to operate in either Pixel or Percent mode.

- For the Set Flash by List behavior, select the desired animation to affect from the Movie drop-down list. Choose the list object from the Select Box drop-down list, and input the level to load the movie into in the Level field. To replace an existing movie with the loaded movie, enter a level number that is currently occupied by another movie. To replace the original movie and unload every level, choose 0 for the level.

  To begin playing the movie immediately, set the Play option to Yes; otherwise, set Play to No. In order for the Set Flash by List behavior to work properly, you'll also need to set the values of each of the list items to a relative or absolute file URL pointing to an .swf file. Click the Parameters button on the List/Menu Property inspector to enter new labels and their corresponding values.

Caution As Dreamweaver warns you, the Set Flash By List behavior is not supported for Netscape browsers.

- For the Zoom Flash behavior, select the desired animation to affect from the Movie drop-down list. Enter the value desired in the Zoom field. To zoom in, enter a number greater than 100; to zoom out, enter a number below 100. To reset the movie to the original zoom level, enter **0**.

7. After you've chosen all the desired parameters from the dialog box, select OK to close it. The Behaviors panel displays the event and action for the behavior just applied.
8. By default, `onClick` is the selected event. To change the triggering event to `onMouseOver` or `onMouseOut`, select the down arrow between the event and the action and choose the desired event from the list.

Advanced form validations

HTML forms can be tricky: The more you use forms to gather information from your visitors, the greater the possibility for user error. If, for example, your online form includes two fields for a telephone number — one for the United States and one for international visitors — you'll want to ensure that the proper data is entered in the correct field. To ensure that a user enters the type of information that you're expecting in your Flash form, the information needs to be validated. The JavaScript Integration Kit includes methods for validating 18 different types of data.

For the advanced form validations to work, you must work with both your Flash movie and the Dreamweaver page in which the movie is embedded. Here's an overview of the process:

On the Dreamweaver side:

- ✦ Create a form with hidden fields — one for each of the Flash fields you want to validate.
- ✦ Attach the Advanced Validate Form behavior to the form itself.
- ✦ Add one of the Browser Scripts for Flash functions, `FDK_setFormText`, to the page.
- ✦ Attach the desired validation behavior to the `<body>` tag of the current document.

On the Flash side:

- ✦ Make sure every form field has a unique variable name assigned to it.
- ✦ Add a `getURL` action to the `on (press)` event of the Submit button, calling the `FDK_setFormText` function inserted into the Dreamweaver page.
- ✦ Add another `getURL` action to the `on (release)` event of the Submit button, which invokes the `FDK_Validate` function — which was put on the Dreamweaver document by the Advanced Validate Form behavior.

Keep track of the names of the Hidden field inputs inserted in Dreamweaver, as well as the name of the form itself; they both are referenced when the functions are added in Flash.

Now that you have an overview, go through the process in a little more detail. Again, start with the Dreamweaver page:

1. Choose Insert ➪ Form to add a form to your document.

   In Dreamweaver, the form is automatically named (`form`*n*).

2. Within the form, add a Hidden form field for every Flash field you'd like to validate. Give each Hidden field a unique name and leave the Value field blank.

3. Select the `<form>` tag in the Tag Selector and, from the Behaviors panel, choose the Advanced Validate Form behavior. The Advanced Validate Form dialog box appears, as shown in Figure 25-18.

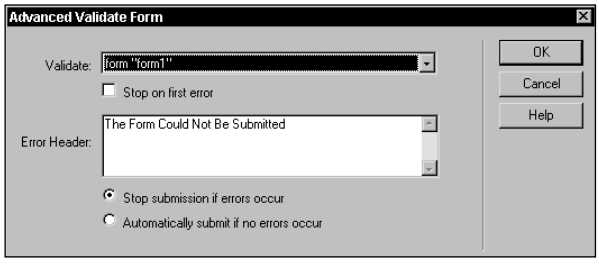


Figure 25-18: The Advanced Validate Form behavior controls how validations overall are applied.

4. In the Advanced Validate Form dialog box:

   - Select the form containing the Hidden elements you want to use from the Validate drop-down list.
   - To stop validating when an incorrect entry is encountered, check the Stop on First Error option.
   - Enter any desired message in the Error Header text area. The Error Header information is displayed in addition to any validation-specific error messages.
   - If your behavior is assigned to an `onSubmit` event (the default), choose the Stop Submission If Errors Occur option; otherwise, select the Automatically Submit If No Errors Occur option.
   - Select OK to close the dialog box when you're done.

5. Choose Commands ➪ Browser Scripts for Flash.

   The Browser Scripts for Flash command, discussed in more detail later in this section, embeds functions in the Dreamweaver page for communicating with Flash.

6. When the Browser Scripts for Flash dialog box opens, select the `FDK_setFormText` option; close the dialog box when you're done.

   The final preparation in Dreamweaver is to add the individual validation behaviors required.

7. Select the `<body>` tag from the Tag Selector and choose the Add Action (+) button in the Behaviors panel. From the drop-down list, select the desired validation behavior from the Advanced Form Validations category.

   Most of the Advanced Form Validations behaviors have similar dialog boxes in which you can choose the particular form element (the Hidden field relating to the Flash form field) affected, make the field required, and set the error message. The differences between the various behaviors are detailed in Table 25-3.

Repeat Step 7 for every validation you'd like to apply in the form.

Table 25-3: Advanced Form Validation Behaviors

Behavior	*Description*
Alphanumeric Validation	Displays an error if non-alphanumeric characters are entered.
Credit Card Validation	Removes any spaces or hyphens and then displays an error message if the card number is not valid; this behavior does not authorize credit card purchases.
Date Validation	Optionally allows dates in the future, past, or in a particular range and specific format.
E-mail Validation	Ensures that the entry contains an ampersand (&) and a period (.).
Entry Length Validation	Accepts a defined number range of characters—for example, from 5 to 10.
Floating Point Validation	Displays an error if a non-number is entered; floating-point numbers can contain decimals.
Integer Validation	Displays the message if a non-number or a number with decimals is entered; you can also set an acceptable number range.
International Phone Validation	Removes parentheses, spaces, and hyphens and then ensures that at least six digits are entered.
Like Entry Validation	Checks one form field entry against another; this is typically used for password verification.
Mask Validation	Enables the designer to require a specific pattern of text, and/or numbers to be entered. Use A to indicate a letter, # for numbers, and ? if the entry can be either a letter or a number. For example, the mask A###?? requires a letter followed by three numbers, followed by two other alphanumeric characters.
Nonblank Validation	Displays a message if the field is left empty.
Radio Button Validation	Ensures that at least one option in a specified radio button group is selected. *Note:* This behavior is used only with HTML form elements.
Selection Made in List Validation	Displays an error if the user does not make a selection from a specific drop-down list. *Note:* This behavior is used only with HTML form elements.
Social Security Validation	Removes any hyphens, checks for a proper length, and then reformats the number into a 3-2-4 configuration, as in 123-45-6789.

Behavior	*Description*
Time Validation	Displays an error if a valid time with minutes within a certain range is not entered. Military time and most variations of A.M. and P.M. are accepted.
URL Validation	Looks for valid URL protocols and displays an error message if one is not found at the start of the entry. Accepted URLs include the following: `ftp://`, `http://`, `javascript:`, `file://`, `gopher://`, `https://`, `mailto:`, `rlogin://`, `shttp://`, `snews://`, `telnet://`, `tn3270://`, and `swais://`.
US Phone Validation	Verifies that the entered information is either 7 or 10 digits after removing any parentheses and hyphens.
US Zip Code Validation	Requires the entry to be either 5 or 9 digits.

Now that the Dreamweaver page is prepped, you're ready to prepare the Flash movie:

1. In Flash, add the required form fields as text input fields.
2. In the Text Options panel, enter a unique name in the Variable field.
3. Make sure your form has a graphic that acts as a Submit button.
4. Select the Submit button graphic and open the Object Actions panel.
5. Add an `on (press)` event and attach a `getURL` function to the event.
6. In the `getURL` function, call the `FDK_setFormText` function that was embedded into the Dreamweaver page. The `FDK_setForm Text` function takes three arguments: the name of the form, the name of the field to be validated, and the variable name assigned to the corresponding field in Flash.

   For example, say the form is named `theForm`, and you've created a field for gathering an e-mail address and given it a name in Dreamweaver such as `emailHidden`. In Flash, the variable assigned to the corresponding text field might be called `emailField`. In this case, the `getURL` function would read as follows:

   ```
   getURL("javascript:FDK_setFormText('theForm','emailHidden','"↩
   add emailField add "')";)
   ```

   Note the addition of the word `add` on either side of the variable name. This syntax is required for the parameters to be passed correctly.
7. Continue adding as many `FDK_setFormText` functions as you have fields to validate to the same `getURL` action. Separate each function with a semicolon.

   After you've entered all the required `FDK_setFormText` functions, you'll need to add one last event and function.
8. In the Object Actions panel for the Submit button graphic, add an `on (release)` event and attach a `getURL` action to it.
9. In the `getURL` action, insert the `FDK_Validate` function. This function takes four arguments, which correspond to the options available in Dreamweaver's Advanced Form Validations dialog box: `FormName`, `stopOnFailure`, `AutoSubmit`, and `ErrorHeader`. Both `stopOnFailure` and `AutoSubmit` are Booleans and accept either `true` or `false`.

As an example, suppose the form is again called `theForm`. Also suppose that you'd like the form to stop processing when an error is encountered. You also want it to be automatically submitted. Your general error message reads, "Attention!! I found an error on the form!" In this case, the `getURL` function would look like the following:

```
getURL("javascript:FDK_Validate('theForm',true,true,'Attention!!↩
I found an error on the form!\\n\\n');");
```

The `\n\n` (escaped as `\\n\\n`) after the function call acts as a hard return in the alert box to separate the generic message header from the specific validation error.

The final step is to cross the bridge again from Flash to Dreamweaver, bringing your exported Flash movie into the Dreamweaver page. Be sure to give it a unique name in the Property inspector.

Browser Scripts for Flash

With the JavaScript Integration Kit, integration is a two-way street: Not only is it easier to control Flash movies, the Flash movies can also affect the HTML page. The JIK includes one overall command called Browser Scripts for Flash, which offers five different types of control:

- Setting a form element's value
- Opening a remote browser window
- Setting a cookie
- Setting list menu items
- Swapping images for rollovers

Implementing these functions in Dreamweaver is simplicity itself: Just choose Commands ➪ Browser Scripts for Flash and check off the desired options, as shown in Figure 25-19. The various functions are grouped into five different categories. If you open a page with these functions already in place, you'll find the option already selected; deselecting the checkbox removes the function from the page when the dialog box is closed.

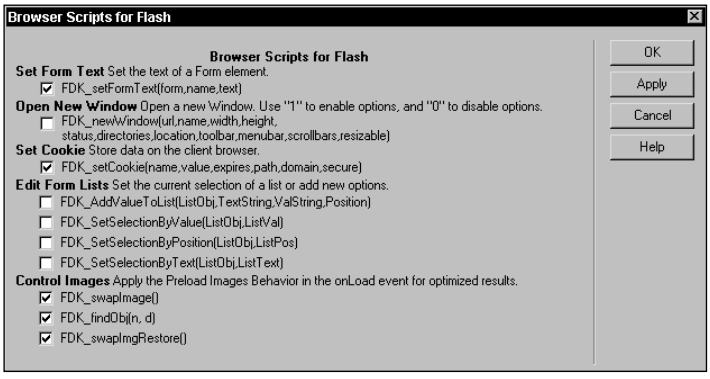


Figure 25-19: The Browser Scripts for Flash dialog box enables you to easily insert or remove functions that you can call from Flash.

Like the form validations, using the Browser Scripts is a two-program process. After you've installed them in Dreamweaver, you call the function in a Flash action. Each of the functions takes its own series of parameters; and, typically, each one is invoked using an action such as `getURL`. The functions and their arguments are explained in Table 25-4.

Table 25-4: Browser Scripts for Flash Functions

Function	*Arguments*	*Description*

`FDK_setFormText`	`formName`
	`elementName`
	`variableName`
		Sets the value of a form element.

`FDK_newWindow`	`URL`
	`windowName`
	`width`
	`height`
	`status`
	`directories`
	`location`
	`toolbar`
	`menubar`
	`scrollbars`
	`resizable`
		Opens a remote browser window. The width and height values are entered in pixels; for all other parameters (except URL and windowName), enter a **0** to disallow the element, and a **1** to include it.

`FDK_setCookie`	`cookieName`
	`cookieValue`
	`expiresWhen`
	`path`
	`domain`
	`secureBoolean`
		Sets a cookie from within a Flash movie and can be used in conjunction with the Go To Flash Frame Based on Cookie behavior.

`FDK_swapImage`	`imageName`
	`[blank]`
	`replacementPath`
	`1`
		Performs an image swap in the HTML document. The second parameter is intentionally left blank.

`FDK_swapImgRestore`	`n/a`	Restores a previously executed image swap. For complex pages using multiple image swaps, it's best to explicitly swap the image from its replacement to its original source, rather than use the FDK_SwapImgRestore behavior.
`FDK_findObj`	`n/a`	Used in conjunction with the FDK_SwapImage behavior.

`FDK_AddValueToList`	`ListObj`
	`TextString`
	`ValString`
	`Position`
		Inserts a new value into a form list element.

Continued

Table 25-4: *(continued)*

Function	*Arguments*	*Description*
`FDK_SetSelectionByValue`	`ListObj` `ListValue`	Determines the selection of a list item with a given value.
`FDK_SetSelectionByPosition`	`ListObj` `ListPos`	Determines the selection of a list item in a particular list position.
`FDK_SetSelectionByText`	`ListObj` `ListText`	Determines the selection of a list item with a given label.

Flash Dispatcher behavior

The final component of the JavaScript Integration Kit, the Flash Dispatcher behavior, is designed to smooth visitor access to your Web-based Flash content. The Flash Dispatcher checks to see if the visitor to your site already has the Flash Player and, if so, what version. If the proper version — or no player at all — is found, this behavior gives you several options. The visitor's browser can be redirected to a Flash-less page or to a site for downloading an appropriate version if an automatically downloaded version is not possible.

To apply this behavior, select the `<body>` tag from the Tag Selector and, from the Behaviors panel, choose Macromedia Flash Dispatcher Behavior. In the dialog box (see Figure 25-20), you have the following options:

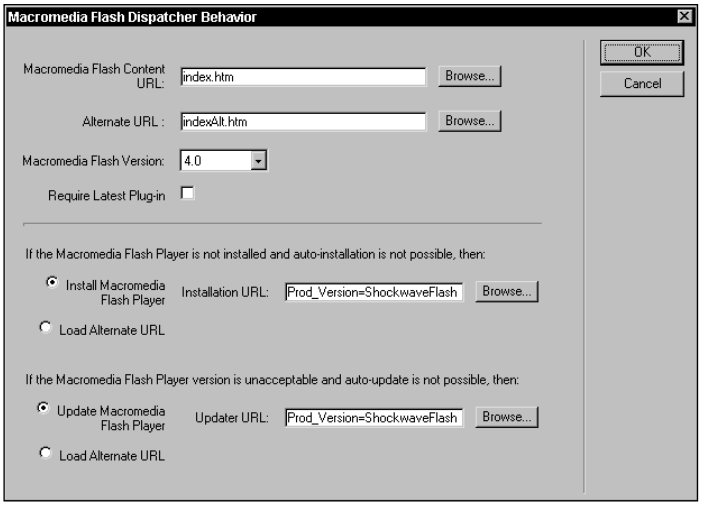


Figure 25-20: Make sure that only visitors with the proper Flash Player can see your movies with the Flash Dispatcher Behavior.

- **Macromedia Flash Content URL:** Enter or locate the path to the page containing the Flash movie.
- **Alternate URL:** Enter or locate the path to a Web page the visitor should go to if the proper Flash Player is not found.

- **Macromedia Flash Version:** Choose the lowest permissible version from 2.0, 3.0, 4.0, or 5.0.
- **Require Latest Plugin:** Select this option to require the latest version of the Flash Player.
- **Player Not Installed Options:** Any visitors who do not have the Flash Player installed are sent to a selectable download page or are directed to use the alternate URL.
- **Player Unacceptable Version:** Any visitors who do not have the required version of the Flash Player installed are sent to a selectable upgrade page or are directed to use the alternate URL.

The Flash Content URL can be the same page that the behavior is applied to or, in the case of what is referred to as a *gateway script*, another page.

Editing Flash Movies from within Dreamweaver

I'd like to close this chapter with a lovely new Dreamweaver MX feature: Flash Edit. Yes, that's right: You can now edit your Flash movies from within Dreamweaver (provided, of course, that you have Flash MX installed on your system). Dreamweaver doesn't do the actual movie editing work, of course. Here's how it works:

New Feature

When you click on the Flash Edit button, Dreamweaver launches Flash; you edit your movie in Flash, save your update, exit Flash, and end up back in Dreamweaver. It makes for a seamless Dreamweaver/Flash collaboration.

To edit a Flash movie from Dreamweaver:

1. In Dreamweaver, open the document that contains the Flash movie.
2. Do one of the following to begin editing your movie in Flash:
   - Select the Flash movie placeholder, and in the Flash Property inspector, click the Edit button.
   - Ctrl+double-click (Command+double-click) the Flash movie placeholder.
   - Right-click (Control+click) the movie placeholder, and choose Edit With Flash from the shortcut menu.
3. Dreamweaver launches Flash and automatically opens the selected movie's source FLA file or prompts you to open it manually. (To enable Flash to open the the FLA file automatically, you must assign it to the Flash object's Src field in Dreamweaver.)
4. In Flash, make the desired changes to your movie. The Flash Document window indicates that you are editing a movie from Dreamweaver, as shown in Figure 25-21.
5. When you are finished editing in Flash, click the Done button.

   Flash saves your changes to the source FLA file, updates the SWF file, and then whisks you back to Dreamweaver.

Caution

Whenever you edit a Flash movie from within Dreamweaver, a new iteration of Flash starts—even if Flash is already running. Unfortunately there is no known workaround for this known bug.

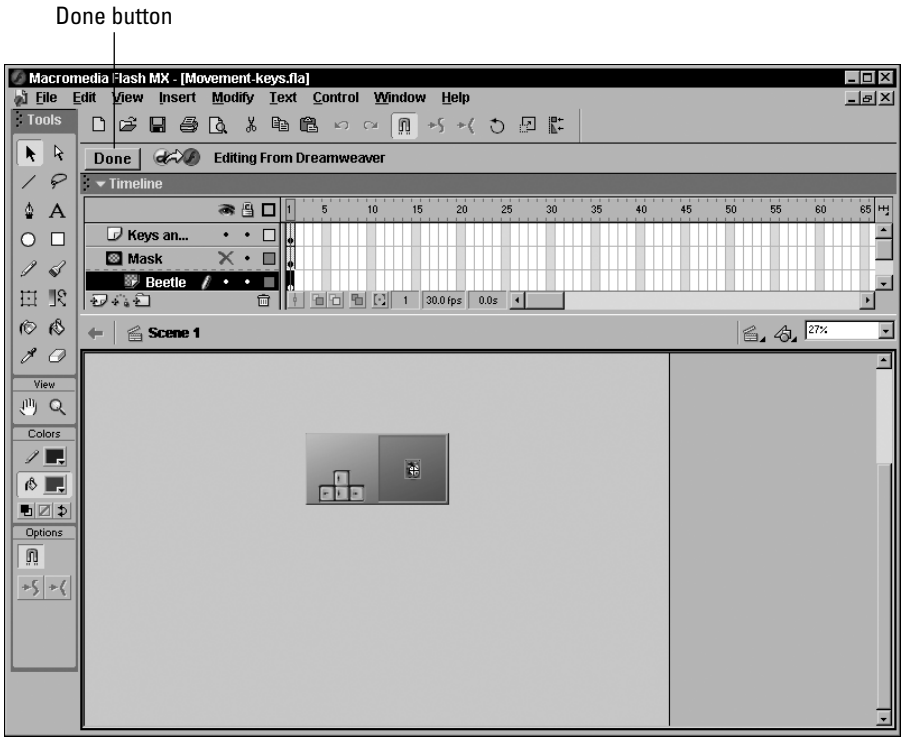


Figure 25-21: Using Dreamweaver's Flash Edit button, you can edit your Flash movies without having to exit/restart the Dreamweaver program.

Summary

Together, the interactive power of Shockwave and the speedy glitz of Flash can enliven Web content like nothing else. Dreamweaver is extremely well suited for integrating and displaying Shockwave and Flash movies. Here are some key pointers to keep in mind:

- Saving your Director movies as Shockwave movies enables them to be played on the Web with the help of a plugin or ActiveX control.
- Flash movies are a way to enhance your Web pages with vector animations, interactivity, and streaming audio. Flash movies require the Flash Player Plugin or ActiveX control.
- Dreamweaver has built-in objects for both Director and Flash movies. All the important parameters are accessible directly through the Property inspector.
- You need only three parameters to incorporate a Shockwave movie: the file's location, height, and width. Dreamweaver automatically imports a Flash movie's dimensions. You can get the exact measurements of a Shockwave movie from within Director.
- Dreamweaver comes with a JavaScript behavior for controlling Shockwave and Flash movies. This Control Shockwave or Flash behavior can be used as-is for adding

external controls to the same Web page, or — with a minor modification — for adding the controls to another frame in the same frameset.

- ✦ Dreamweaver behaviors can be triggered from a Shockwave or Flash movie.
- ✦ The JavaScript Integration Kit for Flash is a powerful set of extensions that enables Flash movies to control Dreamweaver behaviors and HTML elements to activate Flash movies.
- ✦ You can launch Flash to edit Flash movies right from within Dreamweaver.

In the next chapter, you will learn how to add video to your Web pages.

✦ ✦ ✦

CHAPTER 26

Adding Video to Your Web Page

In This Chapter

Creating video for the Web

Including video clips in your Web pages

Inserting QuickTime Player movies

Using streaming video

In a world accustomed to being entertained by moving images 50 feet high, it's hard to understand why people are thrilled to see a grainy, jerky, quarter-screen-size video on a Web page. And in truth, it's the promise of video on the Web, not the current state of it that has folks excited. Many of the industry's major players, including Microsoft and Apple, are spending big bucks to bring that promise a little closer to reality.

QuickTime and RealVideo are the most popular formats on the Web, and both are cross-platform. Video can be downloaded to the user and then automatically played with a helper application, or it can be streamed to the user so that it plays while it's downloading.

This chapter describes the many different methods for incorporating video — whether you're downloading an MPEG file or streaming a RealVideo movie — into your Web pages through Dreamweaver.

Video on the Web

It may be hard for folks not involved in the technology of computers and the Internet to understand why the high-tech Web doesn't always include something as "low-tech" as video. After all, television has been around forever, right? The difficulties arise from the fundamental difference between the two media: Television and radio signals are analog, and computers are pure digital. Sure, you can convert an analog signal to a digital one — but that's just the beginning of the solution.

The amount of information stored on a regular (analog) VHS cassette is truly remarkable. Moving that amount of information about in the ones and zeros of the digital world is a formidable task. For example, storing the digital video stream from any digital video camcorder uses up storage space at the rate of about 1 gigabyte every 5 minutes, and that video is already compressed. Large file sizes also translate into enormous bandwidth problems when you are transmitting video over the Web.

To resolve this issue of mega-sized files, industry professionals and manufacturers have developed various strategies, or *architectures*, for the creation, storage, and playback of digital media. Each architecture has a different file format, and thus each requires the user to have a playback system — whether a plug-in, ActiveX control, or Java applet — capable of handling that particular format.

In an effort to keep file sizes as small as possible, Web videos are often presented in very small dimensions. It's not uncommon to display a video at a puny 180 by 120 pixels. Furthermore, you'll notice a major difference between conventional and Web-based video in terms of quality. Television video displays at roughly 30 frames per second, and film at 24 frames per second; but the best Web video rarely gets above 15 frames per second — virtually guaranteeing choppy motion in scenes with any action in them. Lossy compression also leads to *artifacting* — visible flaws introduced by the compression itself.

Given all the restrictions that video suffers on the Web, why use it at all? Simply because nothing else like it exists, and when you need video, you have to use video. Take heart, though. Advances are occurring at a rapid rate, both in the development of new video architectures and codecs (a codec is a compression algorithm) and in new, higher-speed Internet delivery systems, such as cable modems and DSL telephone lines. What you learn in this chapter enables you to include video in your Dreamweaver-built Web pages today and gives you a good foundation for accommodating future enhancements.

The Streaming Media Big Three

Technologies — and the companies that create them — come and go on the Internet. Over the past few years, quite a few different streaming media solutions have presented themselves and then faded away, leaving us with the current "Big Three": RealMedia, QuickTime, and Windows Media. These three technologies together represent almost the entire streaming media market, and the vast majority of Internet users have at least one of the corresponding players; many have two or even all three.

RealMedia

RealNetworks released the first streaming media system — RealAudio — in 1995. Over the years, RealAudio has evolved into RealMedia and now supports video, images, text, Flash movies, and standard audio types such as AIFF and MP3. All these media types can be combined into a single presentation using Synchronized Multimedia Integration Language (SMIL). The three primary software components of RealMedia are as follows:

- **RealOne Player:** This is the newest client software for viewing RealMedia content. RealOne Player is free and offers a full set of basic RealMedia viewing features. RealOne Player Plus is a subscription service that costs about $10/month and offers advanced viewing features along with 24/7 exclusive access to CNN.com, ABCNEWS.com, E!, FOXSports.com, and more. The RealOne Players are available at `www.real.com/player`. The RealOne Player interface is shown in Figure 26-1.

Note

At the time this book was being written, both RealOne Players were available only for Windows 98, 2000, ME, NT and XP, although, presumably, the RealNetworks engineers were hard at work on Macintosh and Unix versions. If the RealOne Players are not yet available for your platform when you read this, you can always turn to RealOne's predecessors, the cross-platform RealPlayers, which are available from `www.download.com`.

- **RealSystem Producer:** This encoding software converts most types of audio and video (MPEG, QuickTime, and so forth) files to RealMedia (.rm) files. You can get RealSystem Producer Basic for free or the full-featured RealSystem Producer Plus for around $200. Read all about it at `www.realnetworks.com/products/producer`.

Figure 26-1: RealOne Player's interface enables the user to forego a Web browser completely when browsing for streaming media.

✦ **RealSystem Server:** This server software serves up RealMedia over Real-Time Streaming Protocol (RTSP). RealSystem Server Basic, which is free, is limited to 25 concurrent users. To support more users, you need to move up to a commercial product: RealSystem Server Plus (60 users) or RealSystem Server Professional (100–2,000 users). For more information, go to `www.realnetworks.com/products/basicserverplus`.

Note

You can still offer RealMedia to your users over the Web's regular HTTP without any special server software. HTTP streaming is, however, far more limited than RTSP streaming.

RealNetworks has led the way in cross-platform authoring and playback. Versions of RealPlayer are available for Windows, Macintosh, Unix, Linux, and OS/2. (Hopefully, when you read this, the same will be true for RealOne Players.) Versions of RealProducer are available for almost as many platforms. WebTV even plays RealAudio 3.0. By contrast, QuickTime is limited to Windows and Macintosh, and Microsoft's streaming video solution is basically Windows-only.

RealNetworks has also led the way in terms of users; for years it was the only option for large-scale streaming media sites. Even now, when it faces the stiffest competition it's ever had, its market share is very high. RealPlayer is included with major browsers, as well as with Windows and Red Hat Linux.

Tip

See `www.real.com` for examples of RealMedia content.

QuickTime

What "QuickTime" refers to is widely misunderstood. Some people confuse the video format QuickTime Video with QuickTime itself, but QuickTime Video is just one of the things a QuickTime movie might contain. Sometimes the high-profile QuickTime Player is confused with QuickTime, but it is just one dependent application.

The best way to explain QuickTime is to say that it's a multimedia operating system, enabling applications such as CD-ROM titles to run on top of it and use the features it provides. These features include support for audio, video, images, 3D objects, MIDI music (including a software wavetable synthesizer), streaming video, Flash movies, and MP3 audio. After you have QuickTime 4+ installed on your computer, Macromedia Director can access digital video, Flash can export complete QuickTime presentations, and otherwise pedestrian applications can play synthesized music.

With the inclusion of streaming video in QuickTime, Apple dressed up the QuickTime MoviePlayer with an eye-catching brushed aluminum look and changed its name to QuickTime Player. Apple positioned itself as a competitor to RealNetworks in the Web broadcasting field and now has almost *35 percent* of the streaming market. QuickTime movies have a .mov filename extension.

Like RealMedia, QuickTime streaming has three main software components:

- **QuickTime and QuickTime Player:** All the viewing goodness of QuickTime and QuickTime Player (see Figure 26-2) is free and available for Macintosh and Windows at `www.apple.com/quicktime`. QuickTime is also included with all Macintosh computers, and installed on Windows by CD-ROM titles. Just as with RealOne and RealPlayer, users can spend more time in QuickTime Player and less in a browser because of the favorites storage and Flash navigation elements in many streaming presentations.

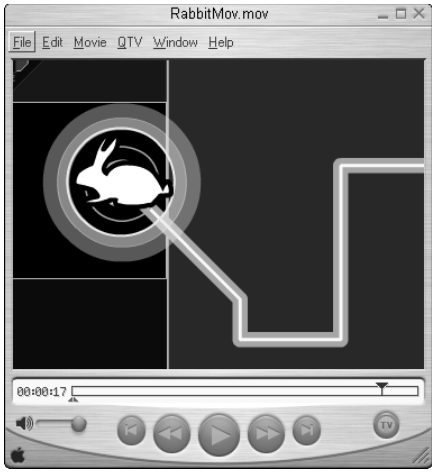


Figure 26-2: The QuickTime player offers a slick interface with retractable controls.

- **QuickTime Pro and QuickTime Player Pro:** For about $30, Apple sells you a key code that unlocks the content creation features of QuickTime and turns it into QuickTime Pro,

enabling QuickTime-dependent applications to create a vast range of QuickTime content. QuickTime Player becomes QuickTime Player Pro: a great piece of software that provides easy content conversion and cut-and-paste video compositing, although the interface is Spartan and sometimes hides functionality. Apple has a directory of third-party QuickTime authoring resources at `http://developer.apple.com/quicktime/`.

- **QuickTime Streaming Server:** QuickTime Streaming Server delivers video over the Web using the standard RTSP, just like RealPlayer. Apple released QuickTime Streaming Server as open source software, and it is available completely free — no per stream charge, either — for Mac OS X, Linux, Solaris, and Windows NT/2000. See `www.apple.com/quicktime/servers`.

Tip

Examples of QuickTime streaming content can be found on the QuickTime home page at `www.apple.com/quicktime`.

Windows Media

Microsoft has released a succession of media technologies over the years in an effort to gain some sort of foothold in content creation and delivery. The history of Microsoft multimedia is an incredible story of acquisitions, rebranding, orphaned technologies, and outright copying of everybody else.

With Windows Media, however, Microsoft has gone all out, providing a solid — if unexciting — solution with lots of partners. Still, Windows Media's greatest asset is its automatic inclusion with every Windows PC, virtually guaranteeing it a huge installed base as time goes on. Windows Media files have filename extensions of .asf or .asx. The software involved in Windows Media includes the following:

- **Windows Media Player:** The supercharged Windows Media Player (see Figure 26-3) received a complete face-lift when it evolved from version 6 to version 7 — and with the new changeable skins feature, it's quite the literal face-lift. In addition to Web streaming, the Windows Media Player accesses many other media types, including audio CDs, Internet radio, and portable devices. It supports many file extensions, including .asf, .asx, .avi, .mpg, .mpeg, .mp3, .qt, .aif, .mov, and .au. The Windows Media Player home page is at `www.microsoft.com/windows/mediaplayer`.

Figure 26-3: The Windows Media Player offers instant access to many media types as well as switchable skins (shown here is the sexy "Raptor" skin).

✦ **Content creation and server software:** A directory of tools for working with Windows Media can be found at `www.microsoft.com/windows/windowsmedia`. Most are from Microsoft themselves, and all are Windows-only.

Tip

The Windows Media home page is located at `www.windowsmedia.com` and includes sample content.

Working with Video Clips

If you have short video clips you'd like to put on the Web, you may not need the industrial strength — or the hassle and expense — of a streaming media solution. Short video clips can be included in a Web page just by linking to them or embedding them.

Depending on the viewer's software setup, video clips either download completely and then start playing right away; or start playing as soon as enough of the video has arrived to make uninterrupted playback possible, as shown in Figure 26-4.

Figure 26-4: QuickTime Player starts playing video clips when it has downloaded enough to ensure that playback is uninterrupted.

Video clips come in a few common formats, described in Table 26-1. In addition to the video format itself, what *codec* (en**co**der/**dec**oder) a particular video clip uses is also important. A codec provides video compression, and it is required for decompression at playback time. Many codecs are included with Windows and with QuickTime, so codecs are not usually a problem, unless you're authoring for platforms other than Windows and Macintosh.

Caution

One codec to watch out for if you're making cross-platform movies is the Intel Indeo Video codec, sometimes used for Video for Windows (AVI) files. The Indeo codec for Macintosh is not included with QuickTime and must be installed manually by Macintosh users.

Table 26-1: Video Clip File Formats

Video Format	*Typical File Name Extension*	*Description*
MPEG	.mpg, .mpeg, .mpe	The MPEG video format is the work of the Motion Picture Experts Group. Windows computers usually play MPEG video clips with Windows Media Player or another, older Microsoft player. Macintosh systems play MPEG clips with QuickTime.
QuickTime	.mov	QuickTime movies can contain a multitude of media types and usually require QuickTime for playback.
QuickTime Video	.mov	A QuickTime movie that contains plain video only and can be played by almost any video player on a machine that doesn't have QuickTime installed, as long as the right codec is available.
Video for Windows (AVI)	.avi	The popular (but now officially unsupported) format used by Microsoft's Video for Windows (also known as ActiveMovie or NetShow). As with QuickTime Video, clips can be played in almost any player, as long as the right codec is installed.

MPEG, QuickTime Video, or AVI clips are good candidates for linking or embedding because there are a wide variety of players on multiple platforms that can play them. QuickTime movies are best aimed squarely at the QuickTime Player because of the multiple media types that they contain.

Linking to video

To keep 21st-century TV/movie-addicted users interested in your site, you might want to spice things up by including a (low-bandwidth!) video or two. To add a video clip to your Dreamweaver Web page, follow these steps:

1. Select the text, image, or dynamic element that you want to serve as the link to the video file.

   Tip

   If you use an image as a link, you might want to use a frame from the video clip in order to provide a preview.

2. In the Property inspector, enter the name of the video file in the Link text box or select the Folder icon to browse for the file.

   To choose a dynamic source, choose the Select File Name From Data Sources option in the Select File dialog box. Be sure your selected data source contains either relative or absolute links to a video file.

3. Because video files can be quite large, it's also good practice to note the file size next to the link name or enter it in the Alt text box, as shown in Figure 26-5.

Figure 26-5: You can insert any video file for user download by creating a link to it, as if it were a simple Web page.

Embedding video

You can gain more control over the way your video clip plays by embedding it in the Web page with the `<embed>` tag. Modifying the attributes of the `<embed>` tag enables you to modify how the video is presented. Video clips inserted this way play back in whatever players are available, just as linked video clips do.

New Feature

The Assets panel includes a Movies category that holds QuickTime movies, MPEG videos, and Windows Media file types. As with all the other Assets panel categories, you must select the Refresh Site List button (the curved arrow at the bottom of the Assets panel) to initially populate the panel with all the movies in the current site. The preview pane includes a Play button for displaying the movies before they are inserted in the page.

To embed a simple video clip in a Web page, follow these steps:

1. Choose Insert ➪ Media ➪ Plugin, or select the Plugin object from the Media category of the Insert bar, or drag the file from the Movie category of the Assets panel to your Web page.
2. If you inserted a Plugin object, select the video file in the Select File dialog box.

   Movies dragged onto the page from the Assets panel already include the source path. The Plugin placeholder is displayed as a 32 × 32 icon.
3. In the Plugin Property inspector, enter the dimensions of your video clip in the width and height boxes, marked W and H, respectively. Or size the Plugin object directly by dragging one of its selection handles.

Playing Videos within Dreamweaver

Dreamweaver can access and use Netscape plugins to display video right in the Document window at design-time. These plugins can be installed in Netscape's Plugins folder, in Internet Explorer's Plugins folder, or in Dreamweaver's own Plugins folder. Dreamweaver checks all three every time it starts up. Installing the correct plugins into Netscape and enabling Dreamweaver to use them from there can make maintaining your plugins easier, because many come with browser-specific installation programs that are hard to adapt to Dreamweaver.

Whenever a file is embedded for playback via a plugin, a green Play button appears in the Property inspector. To play a particular video in Dreamweaver's Document window, all you have to do is select the Plugin placeholder and click the Play button. The video begins playing, and the green Play button becomes a red Stop button, as shown in Figure 26-6. To stop playback — surprise! — just click the Stop button.

Tip

How can playing a video during the design phase be useful? I've used this capability to sample the background color of the page from the background of a video's title or ending frame so that the video clip fits seamlessly into the page.

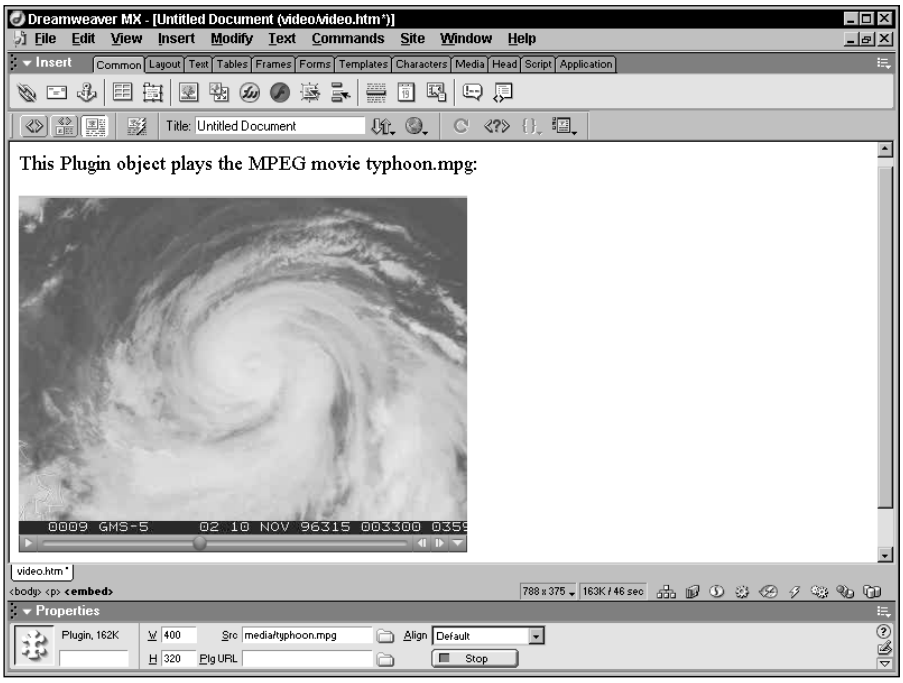


Figure 26-6: Playing video within Dreamweaver is as simple as having the right plugin installed and clicking Play.

You can also use the menus and the corresponding keyboard shortcuts to control the digital video in the Document window: View ➪ Plugins ➪ Play or Ctrl+Alt+P (Command+Option+P), and View ➪ Plugins ➪ Stop or Ctrl+Alt+X (Command+Option+X). If you have multiple videos inserted on the page, you can play them all by choosing View ➪ Plugins ➪ Play All or by using the keyboard shortcut Ctrl+Alt+Shift+P (Command+Option+Shift+P), and stop them with View ➪ Plugins ➪ Stop All or Ctrl+Alt+Shift+X (Command+Option+Shift+X).

Caution Unsupported plugins are listed in the UnsupportedPlugins.txt file in Dreamweaver's Configuration/Plugins folder. The one plugin identified by Macromedia as not working with Dreamweaver is the Video for Windows Plugin on Windows. If you're relying on this plugin for video playback, you still have to preview your video files through a browser.

Inserting QuickTime Movies

The HTML command for incorporating a QuickTime movie (or any other medium that requires a plugin) is the `<embed>` tag. Because so many different types of plugins exist, Dreamweaver uses a generic Plugin inspector that enables an unlimited number of parameters to be specified. If you regularly work with QuickTime movies, using a custom QuickTime Dreamweaver object such as the one shown in Figure 26-7 can streamline the process. Although you still need to add some parameters by hand, having easy access to the most common ones can be a real time-saver.

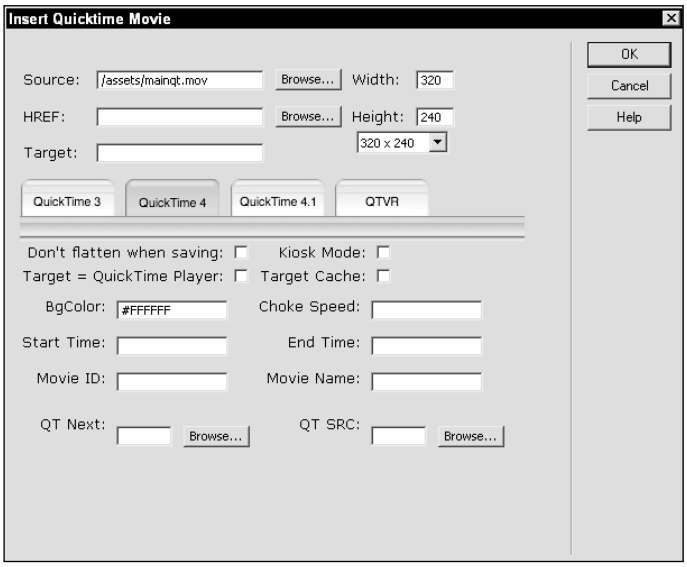


Figure 26-7: Add a third-party QuickTime object to Dreamweaver to simplify embedding QuickTime movies.

Only three `<embed>` tag parameters are absolutely required for a QuickTime movie: the source of the file, the movie's width, and the movie's height. The QuickTime Plugin, however, also offers an amazing array of additional `<embed>` tag attributes to enable you to fine-tune the way content is presented.

Note

The QuickTime Plugin is used by both Netscape and Internet Explorer on both Windows and Macintosh to enable the browser to interface with QuickTime.

To insert a QuickTime movie in your Web page, follow these steps:

1. Choose Insert ➪ Media ➪ Plugin, or select the Plugin object from the Media category of the Insert bar, or drag the movie file from the Movie category of the Assets panel to your Web page.
2. If you inserted a Plugin object, select the QuickTime movie file in the Select File dialog box. If you dragged the movie file from the Assets panel, the Plugin's Src attribute is automatically set to the QuickTime movie file pathname.

Tip

If you're working on a Macintosh and your QuickTime movie doesn't have a filename extension, add **.mov** to the end of its name before embedding it or placing it on the Web.

3. In the Plugin Property inspector (shown in Figure 26-8), enter the dimensions of your QuickTime movie in the width (W) and height (H) boxes, or size the Plugin object directly by dragging one of its selection handles.

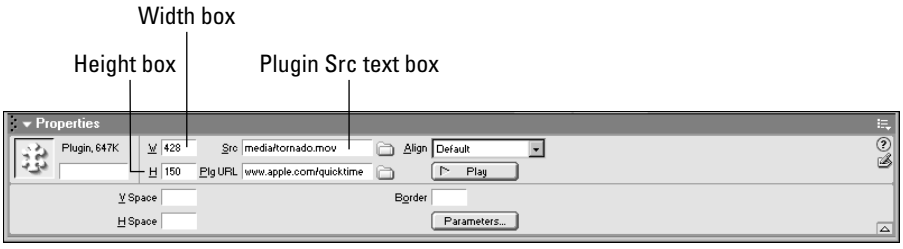


Figure 26-8: When inserting a QuickTime movie, specify the properties and values in the Plugin Property inspector.

Tip

If you don't know the dimensions of your QuickTime movie, open it in the QuickTime Player, choose Movie ➪ Get Movie Properties, and select Size from the options list on the right of the dialog box that appears.

4. In the Plg URL text box, enter `http://www.apple.com/quicktime`. This is the Web address to which users who don't have QuickTime are directed by their browser.
5. Select the Parameters button to open the Parameters dialog box (see Figure 26-9), where you can enter additional `<embed>` tag attributes: the name in the left column and the value in the right column. Use Tab to move between the columns. Table 26-2 lists the most commonly used `<embed>` tag parameters for QuickTime movies. Use this list to add any parameters that you may require and click OK when you're done.

Note

Any of the parameters or their values may be linked to a data source by selecting the lightning-bolt icon and choosing an appropriate field from the Dynamic Data dialog box.

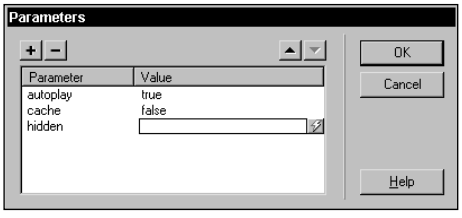


Figure 26-9: Use the Parameters dialog box to enter attributes for any plug-in. Dynamic values may be entered by selecting the lightning-bolt icon and choosing a field from a defined recordset.

Tip

Dreamweaver's Plugin Property inspector enables you to enter several additional attributes generally used with other objects, such as images. These include `Align` (alignment), `V Space` (vertical space), `H Space` (horizontal space), and `Border` (border). You can also enter a name in the Plugin text box if you plan to refer to your QuickTime movie in JavaScript or another programming language.

Table 26-2: QuickTime Plugin Parameters

QuickTime Plugin Parameter	*Possible Values*	*Description*
`Autoplay`	true or false; default set by user in QuickTime Plug-in Settings	When set to false, a movie won't play until the user clicks Play in the controller. Otherwise, it starts playing as soon as enough data is downloaded to ensure uninterrupted playback.
`Bgcolor`	RGB colors in hexadecimal, such as "#FFFFFF"; or valid HTML color names, such as "red"	Specifies the color of the space set aside by the width and height attributes but not taken up by the QuickTime movie. Add a border to a QuickTime movie by setting the appropriate `bgcolor` and increasing the width and height attributes by a few pixels.
`Cache`	true or false; default set by user in QuickTime Plug-in Settings	Specifies whether the browser should store the movie in its cache for later retrieval. Doesn't work in IE.
`Controller`	true (default for most movies) or false (default for QuickTime VR, Flash, and image files)	Displays the controller panel attached to the bottom of the movie
`Dontflattenwhensaving`	(does not take a value)	When included, using the Save As QuickTime option on the QuickTime Plugin's controller menu saves the movie without resolving references (not self-contained).
`endtime`	30-frame SMPTE time-code — hours:minutes: seconds:frames (30ths of a second)	Indicates the point in the movie where playback should stop
`Height`	A value in pixels; usually the height of the movie	Reserves a space in the page for the QuickTime movie
`Hidden`	(does not take a value)	Tells the QuickTime Plugin not to show the movie. Audio is played, however.
`Href`	URL	A link to go to when the movie is clicked. You can supply either an absolute or a relative URL. QuickTime movies replace the current movie in-place; Web pages open in the browser.
`kioskmode`	true or false (default)	Eliminates the QuickTime Plugin's controller menu when set to true
`loop`	true, false (default), or palindrome	Causes the movie to loop continuously when set to true. The palindrome value causes the QuickTime Player to play alternately forward and backward.

QuickTime Plugin Parameter	*Possible Values*	*Description*
`Movieid`	a number	A number identifying the movie so that another wired sprite movie can control it
`Moviename`	a name	A name identifying the movie so that another wired sprite movie can control it
`Playeveryframe`	true or false (default)	When set to true, forces the movie to play every frame, even if it must do so at a slower rate than real time. Disables audio and QuickTime Music tracks.
`Pluginspage`	`www.apple.com/quicktime`	Where users who don't have QuickTime should be sent to get it
`Qtnext`*n*	URL	Specifies a movie as being *n* in a sequence of movies. The movie specified in the `src` attribute is movie 0 (zero).
`Qtnext`	goto*n*	Tells the QuickTime Plugin to open movie *n* in an already specified sequence of movies
`Qtsrc`	URL	Tells the QuickTime Plugin to open this URL instead of the one specified by the `src` attribute. This is a way to open files that don't have a .mov filename extension—such as MP3 files—with the QuickTime Plugin, regardless of how the user's system is set up. Use a dummy movie in the `src` attribute.
`qtsrcchokespeed`	movie-rate, or a number in bytes per second	Downloads the movie specified in the `qtsrc` attribute in chunks; movie-rate indicates to use the movie's data rate.
`scale`	tofit, aspect, or a number (default is 1)	Resizes the QuickTime Player movie. By setting scale to fit, you can scale the movie to the dimensions of the embedded box as specified by the height and width values. Setting scale to aspect resizes the movie to either the height or the width while maintaining the proper aspect ratio of the movie. Set to a number, the size of the movie is multiplied by that number.
`starttime`	30-frame SMPTE time-code — hours:minutes: seconds:frames (30ths of a second)	Indicates the point in the movie where playback should start

Continued

Table 26-2: *(continued)*

QuickTime Plugin Parameter	*Possible Values*	*Description*
`Target`	name of a valid frame or window (_self, _parent, _top, _blank, or an explicit frame/window name) or QuickTimePlayer	Enables the link specified in the `href` attribute to be targeted to a specific frame or window. The value QuickTimePlayer causes the movie specified in the `href` attribute to be opened in the QuickTime Player.
`Targetcache`	true or false (default)	Same as the `cache` attribute but for the movie called by a poster movie using the `href` attribute
`Volume`	0 to 100 (default)	Controls the volume of the audio track(s). 0 is softest; 100 is loudest.
`Width`	A value in pixels; usually the width of the movie	Reserves a space in the page for the QuickTime movie

QuickTime versions

Before inserting a QuickTime movie into a Web page, it's helpful to know what version of QuickTime your movie requires. Because QuickTime movies can contain a variety of track types, each containing a different type of medium, some movies may play back with QuickTime 3, whereas others require QuickTime 4 or higher.

You can identify the different tracks in a QuickTime movie by opening it in QuickTime Player and choosing Movie ➪ Get Movie Properties. In the QuickTime dialog box that appears, the options list on the left details the various tracks, as shown in Figure 26-10. If your movie has Flash or MP3 audio tracks, it requires QuickTime 4 or higher for playback. It's a good idea to note this somewhere in your Web page and offer users a link to `http://www.apple.com/quicktime` so that they can upgrade if necessary.

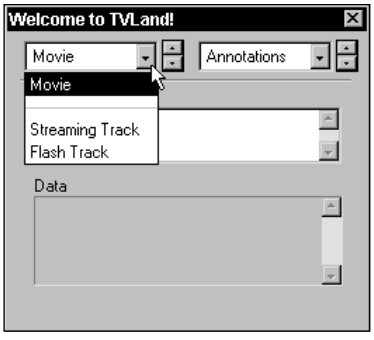


Figure 26-10: In addition to the streaming video track, this QuickTime movie has a Flash track that provides the opening titles and closing credits.

Playing QuickTime VR

QuickTime VR (QTVR) enables the user to "look around" in a virtual space created from a panoramic image or to rotate an object around its center point in three dimensions ("object movies"). The QuickTime VR author can also designate certain areas in the movie as hotspots that, when selected by the user, activate a link to another page or another movie. Although purists argue that QTVR is not really virtual reality, the technology is a low-bandwidth, quick-and-dirty virtual reality that makes sense on today's Web. QTVR is commonly used to show homes, cars, and other products to potential buyers.

When you view a QuickTime VR movie, the QuickTime Player provides Zoom buttons (– and +), (see Figure 26-11) and a custom mouse pointer pans the image left and right.

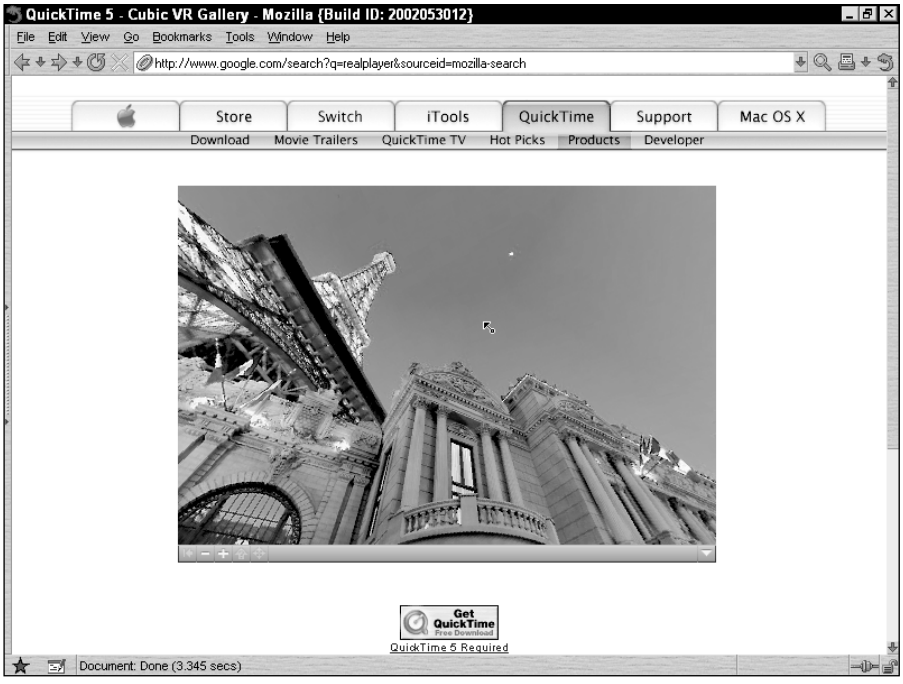


Figure 26-11: QuickTime VR's panoramic views enable the user to look around in a panoramic picture by moving the cursor right, left, up, and down.

QuickTime VR `<embed>` tag attributes are entered in the same manner as other QuickTime Plugin attributes: Click the Parameters button in the Plugin Property inspector to open the Parameters dialog box and enter attributes and values. As with a regular QuickTime Player movie, the only required parameters for a QTVR movie are the source file, movie width, and movie height.

Table 26-3 lists the QuickTime Plugin `<embed>` tag attributes that work with QuickTime VR only.

Table 26-3: Additional Parameters for QuickTime VR Movies

QuickTime VR Parameter	*Possible Values*	*Description*
`Correction`	none or full (default)	Applies the correction filter
`Fov`	0 (default) to 360	Specifies the initial field-of-view angle, in degrees
`Hotspot`*n*	URL	Defines the URL for any designated hotspot. Replace *n* with the identification number given the hotspot during QTVR authoring.
`Node`	A number less than or equal to the number of nodes in the movie	Specifies which node of a multinode movie is opened first
`pan`	0 (default) to 360	Sets the initial pan angle in degrees
`target{n}`	_self, _parent, _top, _blank, a frame or window name	Targets the URL of the similarly numbered hotspot at a specific frame or window
`tilt`	–42.5 to 42.5 (0 is the default)	Sets the initial tilt angle in degrees

Caution Some parameters, meaningful to regular QuickTime Player movies, are not appropriate for QuickTime VR movies. These include `autoplay`, `controller`, `hidden`, `href`, `loop`, `playeveryframe`, `target`, and `volume`.

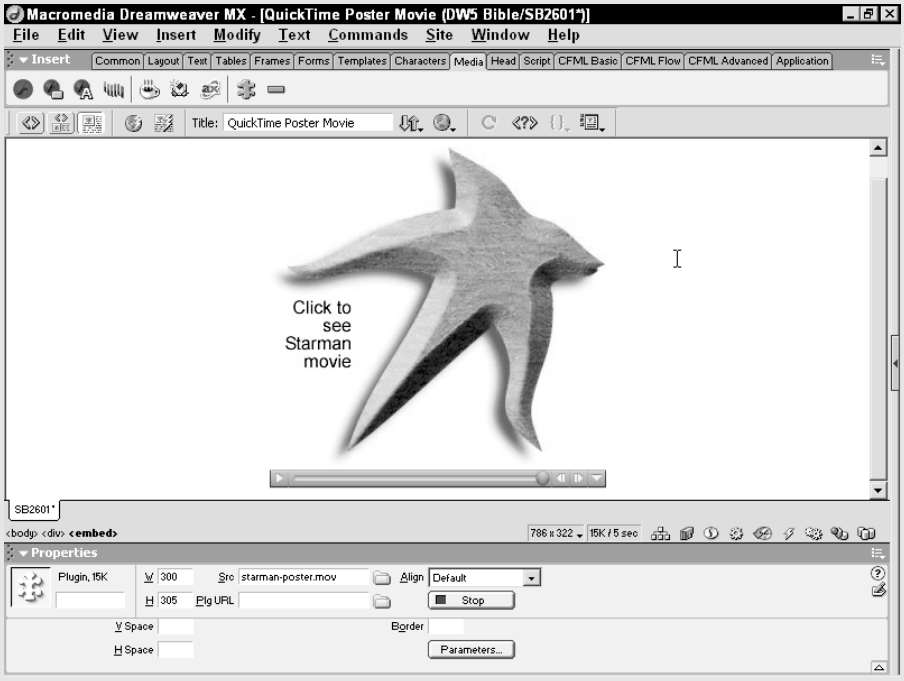
Streaming with RealMedia

If you've ever downloaded a few minutes of digital video over a slow modem connection, you know the reason why streaming video was invented. In an age when immediacy rules, the wait until the complete video file is transferred and then loaded into the video player can seem to last an eternity. *Streaming*, on the other hand, enables the multimedia content to begin playing as soon as the first complete packet of information is received, and then to continue playing as more digital information arrives. Video is just one form of media to get the streaming treatment: You can also stream audio, animation, text, and other formats.

Using a Poster Movie

One of the nicest features of the QuickTime Plugin is the capability to have one movie replace itself with another. This enables you to place very lightweight (small file size), single-image "poster movies" into your Web pages instead of the full clips, so that the rest of the elements in your page load quickly. When the user clicks a poster movie, it replaces itself with your full movie,

which begins downloading or streaming immediately. A poster movie can be a preview of the full movie that replaces it or a generic QuickTime image, as shown in the following figure.



Creating a poster movie requires QuickTime Pro. Simply open your movie in QuickTime Player Pro, move to the frame you'd like to use as a preview, choose File ➪ Export, and select Movie to Picture from the Export options list and Photo-JPEG from the Use options list. This exports the current frame as a QuickTime Image using JPEG compression. Choose File ➪ New Player to create a new untitled movie, and then select File ➪ Import to import your picture into this new movie. Save your work as a self-contained movie. A good idea for a filename might be the name of your full movie with "poster" prefixed.

Embed your poster movie in your Web page as described previously in this chapter and use the Plugin Property inspector's Parameters button to add the `href` attribute with the value set to the URL of your full movie, so that the `<embed>` tag looks like the following:

```
<embed src="my_poster_movie.mov" width="360" height="180"
       href="my_full_movie.mov">
</embed>
```

You can also make multiple-frame poster movies if you like. As long as you keep the file size low, your pages will seem to load more quickly, and you'll provide your users more control over the way they experience them.

Regardless of which streaming video protocol you use, the procedure for incorporating the file on your Web page is basically the same, although the details (such as filename extensions) differ. In order to demonstrate the general technique and still offer some specific information you can use, the next section details how to include streaming RealMedia clips with Dreamweaver. Check with the developer of the streaming video format you plan to use to get the precise installation details. Typically, a great deal of information is available for free on the developers' Web sites.

A RealMedia example

When incorporating RealMedia into your Web pages, you have a variety of playback options. You can set the video so that a free-floating RealPlayer is invoked, or you can specify that the video appears inline on your Web page. You can also customize the controls that appear on your Web page so that only the ones you want — at the size you want — are included.

Creating RealMedia metafiles

RealMedia uses its own specialized server software called RealServer to transmit encoded video files. Rather than call this server and the digital video file directly, RealMedia uses a system of *metafiles* to link to the RealMedia server and file. A metafile is an ordinary text file containing the appropriate URL pointing to the RealServer and video file. The metafiles are distinguished from the media files by their filename extensions:

- RealMedia files: .rm, .ra, .rp, .rt, .swf
- Metafile that launches the independent RealPlayer: .ram
- Metafile that launches the RealPlayer Plugin: .rpm

To create the metafile, open your favorite text editor and insert one or more lines pointing to your server and the video files. Instead of using the `http://` locator seen with most URLs, RealMedia files address the RealServer with an `rtsp://` (Real-Time Streaming Protocol) indicator. The contents of the file should take the following form:

```
rtsp://hostname/path/file
```

where *hostname* is the domain name of the server on which the RealMedia files are stored, *path* is the path to the file, and *file* is the name of the RealMedia file. For example, to display a training video, the metafile contents might look like the following:

```
rtsp://www.trainers.com/videos/training01.rm
```

You can include multiple video clips by putting each one on its own line, separated by a single return. RealMedia plays each clip in succession, and the user can skip from one clip to another.

Inserting RealMedia in your Web page

After you've created both the encoded RealMedia file and the metafiles, you're ready to insert them into your Web page. You have two basic techniques for including RealMedia, either as a link or using the `<embed>` tag.

Using a link

Generally, if you want to invoke the free-floating RealPlayer, you use a link; the `href` attribute is set to an address for a metafile, as follows:

```
<a href="videos/howto01.ram">Demonstration</a>
```

When the link is selected, it calls the metafile that, in turn, calls the video file on the RealServer. As the file begins to download to the user's system, the RealPlayer program is invoked and starts to display the video as soon as possible through the independent video window, as shown in Figure 26-12. The link can be inserted in Dreamweaver through either the Text or Image Property inspector.

Figure 26-12: You can set up your RealMedia clip so that it plays in its own RealPlayer window. This is the RealOne Player's "compact" view (compare with Figure 26-1).

Using <embed>

If, on the other hand, you'd like to make the video appear inline with the Web page's text or graphics, you use Dreamweaver's Plugin object to insert an `<embed>` tag. Position the pointer where you want the RealMedia to be displayed, and either choose Insert ➪ Media ➪ Plugin, or select the Plugin object from the Media category of the Insert bar. In the Select File dialog box that appears, select the video's metafile.

HTTP Streaming

To gain the maximum throughput of your RealVideo files, it's best to use the RealServer software. However, some Web site clients must economize and can't afford the specialized server. Not widely known is the fact that you can use a regular World Wide Web server to stream RealVideo and other RealMedia files over HTTP.

Two prerequisites exist for HTTP streaming: Your system administrator must first correctly configure the MIME types, and you must provide multiple files to match the right user-selectable modem speeds. The proper MIME types are as follows:

- audio/x-pn-RealAudio (for .ra, .rm, or .ram files)
- audio/x-pn-RealAudio-plugin (for .rpm files)
- video/x-pn-RealVideo (for .ra, .rm, or .ram files)
- video/x-pn-RealVideo-plugin (for .rpm files)

RealServer automatically selects the right file for the user's modem connection. If you are using HTTP streaming capabilities, you should offer multiple files to accommodate the various Internet connection rates, such as 28.8K, 56K, and higher (for cable and DSL).

Besides a reduction in download speed, the other disadvantage to using HTTP streaming instead of RealServer streaming is the reduced number of simultaneous users who can be served. RealServer can handle hundreds of connections at the same time; HTTP streaming is far more limited.

When the Plugin object representing the RealMedia clip is selected, you can enter values for the `<embed>` tag in the Property inspector. The only attributes required for a RealMedia clip, as with the QuickTime Player object, are the file source and the width and height of the movie. Similarly, as you can with QuickTime Player, you can control your RealMedia movie with a healthy number of attributes. Enter attributes by selecting the Parameters button on the Plugin Property inspector and entering attributes and their values in the Parameters dialog box (shown earlier in Figure 26-9). RealMedia parameters are listed in Table 26-4.

Table 26-4: Parameters for RealMedia Movies

RealMedia G2 Parameter	*Possible Values*	*Description*
`Autostart`	true or false (default)	Tells RealPlayer to start playing as soon as content is available
`Console`	*name*, _master, _unique	Determines the console name for each control in a Web page that has multiple controls. Force controls on a page to refer to the same file by giving them all the same *name*. A value of `_master` links to all controls on a page, whereas `_unique` connects to no other instances.

RealMedia G2 Parameter	*Possible Values*	*Description*
`Controls`	all (default), controlpanel, imagewindow, infovolumepanel, infopanel, playbutton, positionslider, positionfield, statuspanel, statusbar, stopbutton, statusfield, volumeslider	Enables the placement of individual control panel elements in the Web page. You can use multiple controls in one attribute or multiple `<embed>` tags to build a custom RealMedia interface.
`nolabels`	true or false (default)	Suppresses the Title, Author, and Copyright labels in the Status panel. If you set `nolabels` to true, the actual data is still visible.

Summary

Digital video on the Web is in its infancy. Bandwidth is still too restricted to enable full-screen, full-motion movies, no matter what the format. However, you can include downloadable as well as streaming video content through Dreamweaver's Plugin object and Plugin Property inspector.

- ✦ Even with compression, digital video has steep storage and download requirements.
- ✦ You can include a digital video movie to be downloaded in your Web page by linking to it as if it were a Web page.
- ✦ Use Dreamweaver's Plugin object when you want your video to be presented inline on your Web page. The Plugin Property inspector then enables you to alter the video's parameters for any video architecture.
- ✦ QuickTime is a cross-platform, multimedia architecture that offers much more than just video. QuickTime movies can include QuickTime VR, MIDI music, 3D objects, Flash movies, and more.
- ✦ To enable your visitors to view your digital video clips as soon as possible, use a streaming video technology such as RealMedia, QuickTime, or Windows Media. Streaming video files can be displayed in a separate player or embedded in the Web page.

In the next chapter, you learn how Dreamweaver helps you incorporate sound and music into your Web pages.

✦ ✦ ✦

CHAPTER 27

Using Audio on Your Web Page

In This Chapter

Digital audio fundamentals

Music files overview

MP3 mini-primer

Linking and embedding sound

Streaming audio

Web sites tend to be divided into two categories: those totally without sound, and those that use a lot of it — there's not much middle ground. Many music and entertainment sites rely heavily on both streaming audio and downloadable audio files, such as MP3.

In this chapter, you learn how to use audio in the Web pages you design with Dreamweaver. You look at traditional digital audio formats such as AIFF and WAV, and how you can turn these into files suitable for publishing on the Web, in formats such as MP3 and RealAudio. You also look at music formats, such as standard MIDI files and QuickTime Music.

Lest you forget that you're Dreamweaving here, you look at some Dreamweaver extensions you can use to get audio-enabled sites up and running in no time. But before you leap into those deep waters, it'd be a good idea to get an overview of digital audio and its place on the Web.

Cross-Reference

Because the primary technologies for distributing streaming audio are also the primary technologies for streaming video, you may find it helpful to familiarize yourself with the Big Three streaming media technologies — RealMedia, QuickTime, and Windows Media — introduced in Chapter 26.

Digital Audio Fundamentals

Digital audio files are digitized representations of sound waves. Although not as heavy as digital video, digital audio files — even those that have been compressed — are still a strain for today's Web. As usual, minimizing file sizes wherever possible makes for a better experience for users of your Web site.

File formats

Many different formats for digital audio files are in use today across the various computer platforms. The most common formats are described in Table 27-1 and can be identified by their unique filename extensions and/or by their icons on Macintosh systems.

Table 27-1: Web Digital Audio File Formats

Audio Format	*Typical File Name Extension*	*Description*
AU	.au, .snd	Very common on the early Unix-dominated Web. Uncompressed and no longer suitable for Web use.
AIFF	.aif, .aiff	The Audio Interchange File Format was developed by Apple. Uncompressed versions can be played in most browsers, but avoid using AIFF on the Web if possible.
Flash	.swf	Not just an animation format, Flash streams PCM- or MP3-compressed audio at various bit rates.
MP3	.mp3, .mp2	The MPEG Audio Layer 3 format features high-quality digital audio files with excellent compression. MP3 has become the standard for downloadable music. It plays in QuickTime Player 4+, RealPlayer G2 6+, Windows Media Player 5.2+, and a whole range of standalone players that work as browser helper applications.
QuickTime	.mov	A QuickTime movie with a soundtrack only
RealAudio	.ra or .ram	The audio component of RealNetworks' RealMedia. Lots of players. Good quality at low bit rates, but not as good as MP3.
Rich Music Format	.rmf	Beatnik's hybrid audio/music format. Samples are either PCM or MP3 compressed.
Shockwave Audio	.swa	The audio component of Shockwave, they're low bit-rate MP3 files with a different file header. They stream over HTTP, and any MP3 player can play them locally.
WAV	.wav	Co-developed by Microsoft and IBM, this is the default audio format for Windows. Uncompressed versions play in browsers, but avoid using them on the Web whenever possible because of their large file sizes.
Windows Media	.asf, asx, .wma, .wmv	Microsoft's streaming media solution

Which audio format should you choose? That depends on a combination of factors, including your target audience, available bandwidth, and the purpose of the audio's content.

Although most browsers can play standard digital audio files, such as AIFF and WAV, the sheer uncompressed bulk of these files renders them unsuitable for the Internet, especially now that so many highly compressed formats exist. In the early days of the Web, with slower computers and less advanced compression technologies, these uncompressed audio files were the only game in town. But today, fast computers are capable of easily decoding MP3 and RealAudio, and free players for those formats are common.

A live Internet broadcast dictates a streaming solution such as RealAudio, QuickTime, or Windows Media. If you're offering complete songs for download, you may not have to look any further than MP3. It's not uncommon to offer a sound file in multiple formats. Although many users have more than one player, offering your audio in a few formats gives you a better chance of reaching everybody.

Cross-Reference For more on RealAudio, QuickTime, and Windows Media, refer to Chapter 26.

Converting one audio file format to another typically involves opening the source file in an audio editor that can read that format and exporting it in another format. If you lack a professional audio editor such as SoundForge or Peak, a simple alternative is to use QuickTime Pro; it reads and writes a lot of formats. You can also easily cut and paste sections of files—to remove or add a few seconds of silence, for example.

Making audio files lighter

As well as categorizing audio by file format, you can also think of audio on the Web as being in one of two categories: uncompressed and compressed. AIFF and WAV audio files come in compressed and uncompressed formats, but only the uncompressed versions play in Web browsers. If you can't compress an audio file in some way, the only way to reduce its file size is to reduce its quality in one of three ways:

- **Convert a stereo file into a mono file:** A stereo file has two audio channels, whereas a mono file has only one. Converting a stereo file to mono halves its file size.
- **Lower the bit depth:** from 16-bit to 8-bit, for example. A lower bit depth reduces the accuracy and cleanness of the stored audio waveforms.
- **Lower the sample rate:** from 44 kHz to 22 kHz, for example. This lowers the range of audio frequencies in the recording, chopping off the "high end" or treble frequencies.

You can make the preceding conversions by opening the audio file in an application such as Sonic Foundry Sound Forge and changing the desired parameters, as shown in Figure 27-1.

Network-ready audio file types that were specifically created for the Internet, such as MP3 and RealAudio, are compressed through encoding. Rather than arbitrarily lower the quality of the file to make it lighter, you pick a target bit rate, as shown in Figure 27-2, and the encoding software produces the best quality file it can at that bit rate. If you've ever exported a JPEG graphic from an image editor and specified a target file size, the principle is the same.

When working with a compressed audio format, you ideally start with the best "master copy" that you have in an uncompressed format, such as AIFF or WAV, and then encode that audio file as MP3 or RealAudio. If you want your audio to move quickly, even over dial-up connections, choose a low bit rate such as 24 Kbps, but be aware that the sound quality will be less than ideal.

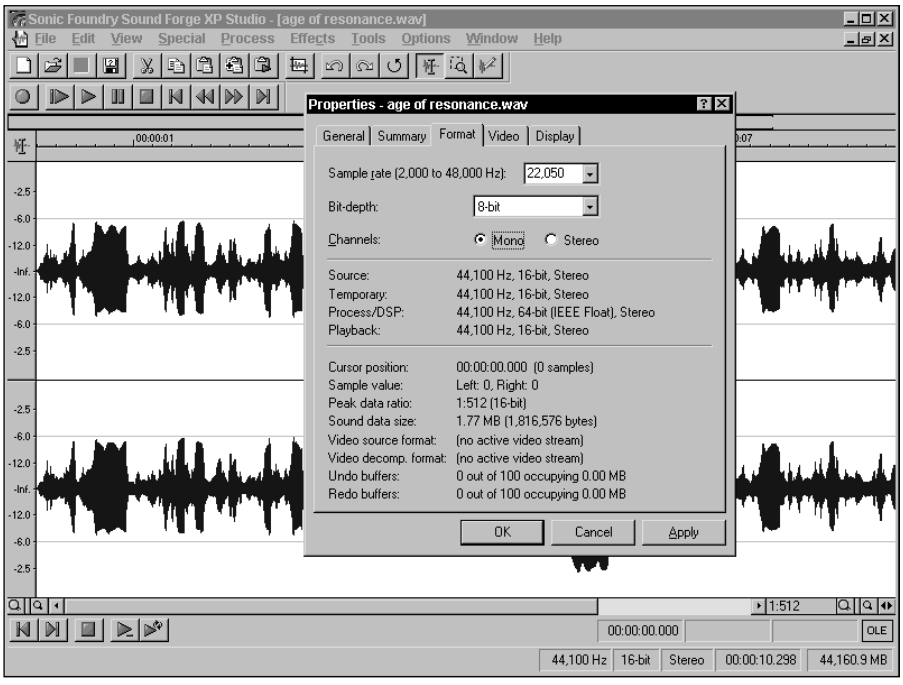


Figure 27-1: Changing a WAV file's sample rate, bit-depth, and channels settings in Sound Forge from 44,100, 16-bit, stereo to 22,050, 8-bit, mono will produce a much smaller file with significantly degraded sound quality.

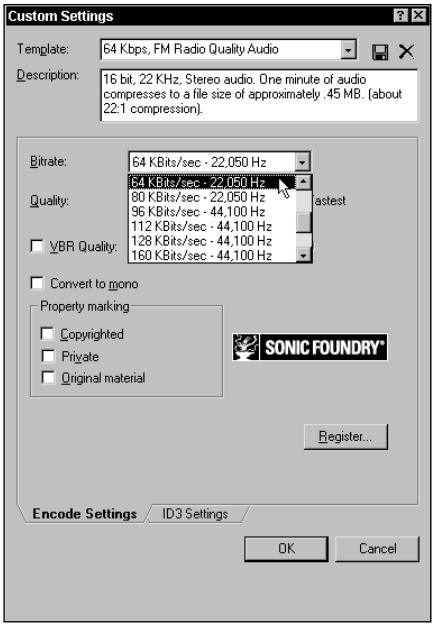


Figure 27-2: Choosing a 32K bits-per-second (32 Kbps) rate when converting a WAV file to an MP3 file in Sound Forge.

Always keep a master copy of your audio file when you're encoding. Encoding a file is often a "lossy" compression; in other words, information/quality is lost in order to create smaller files. Although you can convert an MP3 back to an AIFF, it will not be the same quality as the original AIFF from which the MP3 was made. The process is similar to converting a TIFF to a JPEG, rather than zipping and unzipping the TIFF files.

Music Files

In the nineteenth century, before the technology to electronically record audio existed, a musical performance could be "recorded" by making a series of stipples on a cylinder. The performance could then be played "live" for the listener through a music box. Later, player pianos used rolls of paper with appropriate holes punched in them to cause the piano keys to mimic the performances of far away or long-dead musicians. In the early 1980s, electronic musical instrument manufacturers created Musical Instrument Digital Interface (MIDI) to enable the keys of one electronic keyboard to trigger the sounds in another. It wasn't long before somebody realized that the MIDI information being output by all electronic keyboards could be recorded, thus turning any electronic instrument into a modern-day music box or player piano.

The key to using music files on the Web is their very small file size. A music file is the ultimate in compressed sound: The musical instruments aren't even included! For example, a three-minute, full-fidelity, 128 bps stereo MP3 file would weigh in at just under 3MB. A QuickTime movie that only contains a music track could give you ten minutes of music for 60k and have similar fidelity, although you're limited to the sounds contained in the QuickTime synthesizer, of course.

Today, music files appear on the Web in one of three ways:

- **QuickTime Music:** MIDI information is stored as a music track within a QuickTime movie, and it is played back through the QuickTime software synthesizer (or through a hardware synthesizer such as a sound card if the user has configured QuickTime to use one). The QuickTime synthesizer sounds have often been criticized for being a little bland. Music tracks can coexist with all other kinds of QuickTime media in one movie, so they make excellent soundtracks for digital video tracks. QuickTime movies have a filename extension of .mov.
- **Rich Music Format:** Beatnik's hybrid audio/music format. MIDI information is played through the Beatnik player's software synthesizer, which contains generally excellent and often original sounds. Moreover, additional instrument sounds can be included in an RMF by adding digital audio samples with the Beatnik Editor. RMF files are unique among music file formats in that users cannot get the raw MIDI data out of them. Some content authors see this is as an advantage. RMF files have an .rmf filename extension.
- **Standard MIDI files:** This is the "raw data" of MIDI music files. The biggest drawback to these is that the Web author cannot know what kind of synthesizer the user will use to play back a MIDI file. On older Windows machines, this synthesizer may not even include actual instrument sounds, but instead use FM synthesis to come up with very poor approximations. Standard MIDI files have a filename extension of .mid, .midi, or .smf.

Occasionally, you may want to render a music file as a digital audio file in order to play it in a situation where a synthesizer is unavailable. Doing this the hard way involves playing the file through a synthesizer and recording the output to a digital audio file. You have an easier way,

however, if you have QuickTime Player Pro. Open your QuickTime Music or import your Standard MIDI file into QuickTime Player Pro and then choose File ➪ Export and specify Music to AIFF. QuickTime Player Pro creates a digital audio file of its "performance" of the music using the QuickTime software synthesizer. You can also convert a QuickTime Music track back into a Standard MIDI file. Choose Music to Standard MIDI when you export.

Caution RMF files are designed to disallow this conversion. Always keep the original Standard MIDI file when you create an RMF.

MP3 Mini-Primer

The MP3 audio format has quite simply taken the Web — and the world — by storm. Whereas other downloadable music formats come with caveats such as ownership by one company or built-in limitations on how users can use the files they purchase, MP3 just did the work and got the job done. MP3 software players are common. A number of manufacturers offer MP3 hardware for a variety of uses, including home, car, and personal stereos.

Tip MP3.com remains the one-stop place for information about MP3. Visit `www.mp3.com`.

Generally, the MP3 "scene" shows interest in new and/or unusual artists, offers a selection of dynamic, full-featured players (see Figure 27-3), and maintains an attitude of music appreciation. Conversely, non-MP3 downloadable music has generally featured bland players, corporate music, proprietary technologies, and an unhealthy fascination with watermarking and controlling content. It's not hard to see why the market chose MP3.

Figure 27-3: Many standalone MP3 players, such as Winamp and Audion, feature sexy looks that can be changed by applying new "skins."

Player support

Table 27-2 lists common MP3 player software — including old friends such as RealPlayer that now handle MP3 — and the URLs where they can be found. Many of these applications offer to set themselves up as browser helper applications. You might feature some of these links at the bottom of pages with MP3 content, so users who are new to MP3 can get a leg up.

Table 27-2: Common MP3 Players

Player Software	*URL*
Audion (Mac only)	www.panic.com/audion
iTunes (Mac only)	www.apple.com/itunes
QuickTime Player	www.apple.com/quicktime
RealJukebox	www.real.com/jukeboxplus
RealOne Player	www.real.com/realone
Winamp (Windows only)	www.winamp.com
Windows Media Player	www.microsoft.com/windows/windowsmedia/en/download

Note Providing users with a link to MP3.com (www.mp3.com) is another way to offer them a great selection of players.

Encoding MP3

The most common MP3 files are downloadable music files. These files aim for "CD quality" and so are recorded with a bit rate of 128 Kbps. This works out to a little less than 1 megabyte per minute for a stereo, 44.1 kHz file, which is too heavy to move quickly on today's Web. You can encode an MP3 using a variety of bit rates, though. Lower bit rates mean lower quality, but even at 16 Kbps, speech sounds pretty good, and the 60k per minute bulk of a mono file will be music to your ears.

Caution Beware of MP3 encoders that sacrifice quality for speed. Many encoders simply eliminate the upper audio frequency range so that they can encode the rest in record time. Although this might be fine if you're encoding your CD collection into a massive jukebox on your computer, it is less than ideal for content creators who want the best-quality encoded files. One source for more information is www.mp3-converter.com/encoders/mp3_encoder_reviews.htm.

Linking to Audio Files

The simplest way to add sound to a Web page is to create a link to an audio file by specifying the filepath in the Link text box of the Text or Image Property inspector. When the user clicks that link, the sound file downloads, and whatever program has been designated to handle that type of file opens in a separate window. An exception to this is the QuickTime Plugin. Instead of opening linked audio files in the QuickTime Player, it opens them within the browser window as if they were a new Web page. To get back to your Web page, the user clicks the browser's Back button.

To create a link to an audio file in Dreamweaver, follow these steps:

1. Select the text or image that you want to serve as the link to the audio file.
2. In the Property inspector, enter the name of the audio file in the Link text box, or select the Folder icon to browse for the file.

   To link to a dynamic source, choose Select File Name from Data Sources and select an appropriate field from the available recordset(s).
3. Because audio files can be large, it's good practice to note the file size next to the link name, as shown in Figure 27-4, or to enter it in the Alt text box for your image.

When you use the link technique for incorporating sound, you have no control over the position or appearance of the player. However, you can control these factors and more by embedding your audio.

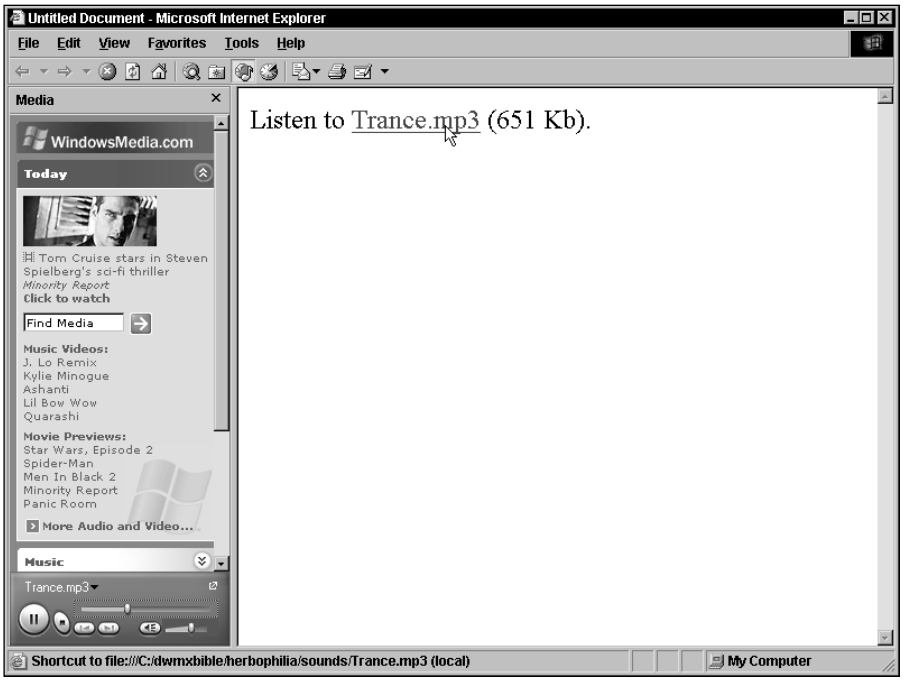


Figure 27-4: When the Trance.mp3 link was clicked, Internet Explorer 6 downloaded the Trance.mp3 file and then opened/played it in the browser's built-in MP3 player (lower left).

Embedding Sounds and Music

Embedding a sound file truly integrates the audio into your Web page. Embedding the sound file also gives you a much greater degree of control over the presentation of the audio player itself, including the following:

- The clip's play volume
- Which part, if any, of the player's controls is visible
- The starting and ending points of the music clip

As with any other embedded object, you can present the visual display inline with other text elements — aligned to the top, middle, or bottom of the text, or blocked left or right to enable text to flow around it. Dreamweaver controls all these parameters through two different objects: the Plugin object and the ActiveX object. Each type of object calls a specific type of player. For example, the default Plugin object calls the LiveAudio Plugin in a Netscape browser and the Windows Media Player control in Internet Explorer. Calling the Windows Media Player as an ActiveX object explicitly enables you to modify a great number of parameters for Internet Explorer — which are completely ignored by Navigator. You learn all of your embedding options, including techniques for cross-browser audio, in the next few sections.

Note

Unfortunately, the Assets panel does not include a Sound or Audio button. To insert audio elements, you must use the Plugin button in the Media category of the Insert bar.

As with video, Dreamweaver uses the generic Plugin object to embed audio in your Web page. The object requires only three parameters: the source of the audio file and the width and height of the object. To embed an audio file in your Web page, follow these steps in Dreamweaver:

1. Position the cursor where you want the control panel for the audio file to appear.
2. Insert the Plugin object by choosing Insert ➪ Media ➪ Plugin or by clicking the Plugin button from the Media category of the Insert bar.
3. In the Select File dialog box that appears, choose your audio file.
4. Use *either* of these two techniques to size the Plugin placeholder:
   - Click the resizing handles on the Plugin placeholder and drag it out to a new size.
   - Enter the desired values in the W (Width) and the H (Height) text boxes of the Property inspector.

   For a default audio plugin, use a width of 144 pixels and a height of 60 pixels. These dimensions are slightly larger than necessary for Internet Explorer's audio controls, but they fit Navigator's controls perfectly, as shown in Figure 27-5, and the control panel does not appear to be "clipped" when viewed through any browser.

When the Plugin object is inserted, Dreamweaver displays the generic Plugin placeholder.

Playing background music

Background music, played while the user is viewing online material, is one of the Web's hidden treasures. When used tastefully, background music can enhance the overall impact of the page. Conversely, when abused, it can drive users away in droves.

Making a regular embedded sound into a background sound is as simple as adding a few parameters to the `embed` tag: `hidden` tells the browser not to display any controls, `autostart` tells it to start playback automatically, and `loop` tells it to play the audio continuously. Although you can add these attributes to the `embed` tag manually in the HTML Code window, it's easier to add them using the Property inspector. Follow these steps to embed background music in a Web page:

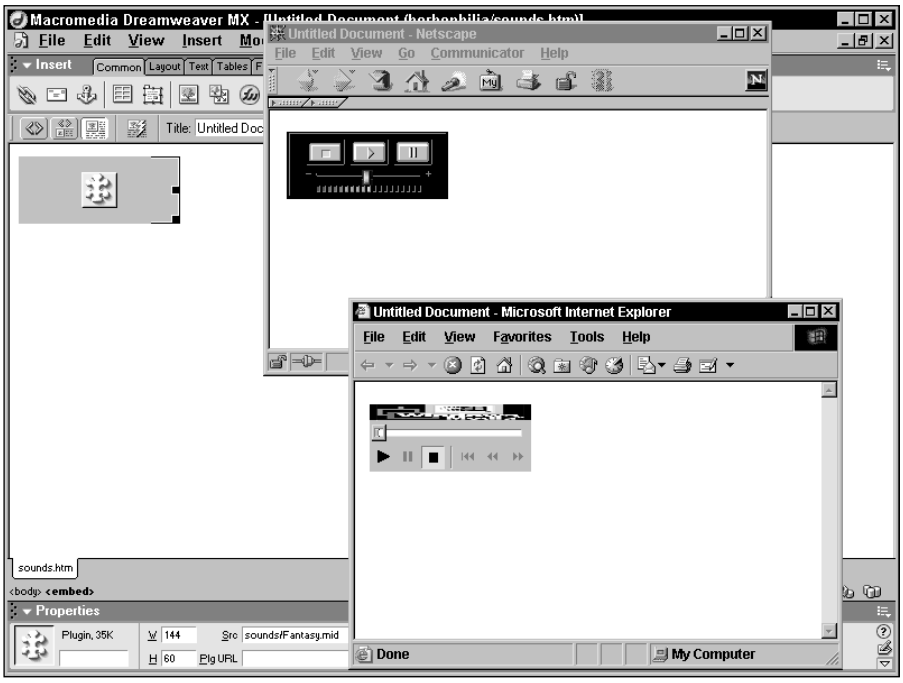


Figure 27-5: Internet Explorer's Windows Media Player needs less space than Netscape's LiveAudio player, so it fills the rest with a crushed version of its logo.

1. Position the cursor near the top of your Web page. Choose Insert ➪ Media ➪ Plugin or click the Plugin button from the Media category of the Insert bar.
2. Choose your audio file in the Select File dialog box.
3. In the Property inspector, enter **2** in both the H (Height) and W (Width) text boxes.

Note

Entering a width and height attribute is necessary for compatibility with older browsers.

4. If your Property inspector is not already expanded, expand it now (by clicking the arrow icon in the lower-right corner of the inspector). Click the Parameters button to open the Parameters dialog box.
5. In the Parameters dialog box, select the Add (+) button and enter `hidden` in the Parameter column. Click in the Parameter column and type in the first parameter. Use Tab to move to the Value column and enter `true`, as shown in Figure 27-6. Use Tab again to move to the next parameter.
   - Use Shift+Tab if you need to move backwards through the list.
   - To delete a parameter/value pair, highlight it and select the Remove (–) button at the top of the Parameters column.

- To add a new parameter, select the Add (+) button to move to the first blank line, and use Tab to move to the next parameter.
- To move a parameter from one position in the list to another, highlight it and select the up or down arrow buttons at the top of the Parameters column.

6. Enter `autostart` as the next parameter and give it the value `true`.
7. To make the audio clip repeat, enter `loop` as the next parameter; and in the Value column, enter the number of times you want the sound to repeat. To make the audio repeat indefinitely, enter `true` as the value.
8. Click OK to finish.

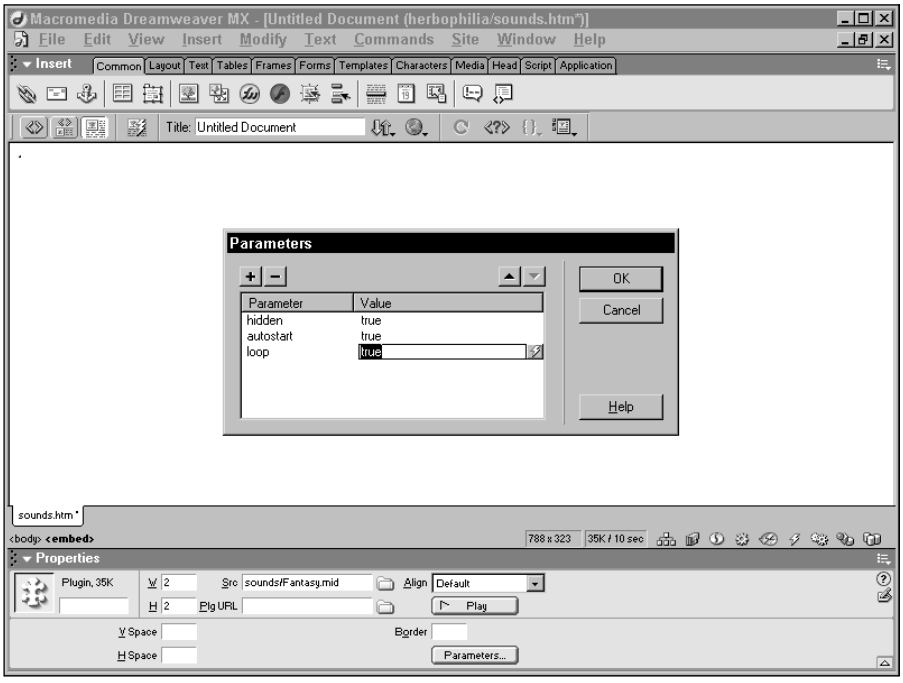


Figure 27-6: Inserting a 2x2 pixel Plugin object (barely visible, in the upper-left corner) that plays Fantasy.mid as background music.

Targeting Specific Plugins

You can exercise a much finer degree of control over the audio in your pages by calling specific plugins. The trade-off, unfortunately, is that by designating a plugin, you reduce the size of your potential audience. Some plugins are specific to a browser or browser version. Moreover, plugins that aren't distributed with the major browsers face an uphill battle in terms of market penetration. If you use a plugin, you can always expect some users to be resistant to downloading the necessary software. Before you incorporate any plugin, you must weigh these issues against your overall design plan.

A great number of audio plugins are available and offer a broad variety of functionality and features. A good place to see a list of those available is the Plugin Plaza (`http://browserwatch.internet.com/plug-in.html`). In addition to offering complete descriptions, this site also has links directly to the download areas.

Windows Media Player audio

The Windows Media Player is Internet Explorer's default multimedia player. You can use it to play the standard audio formats, including MP3, WAV, AIFF, AU, or MIDI files. Calling Windows Media Player directly as an ActiveX control, however, gives you far more flexibility over the player's appearance and functionality: its width, height, control panel display, loudness, number of loops, and so on.

Calling the Windows Media Player ActiveX control

To incorporate the Windows Media Player ActiveX control, follow these steps:

1. Position the cursor where you would like the Windows Media Player control panel to appear. Choose Insert ➪ Media ➪ ActiveX or click the ActiveX button from the Media category of the Insert bar. The Property inspector displays the ActiveX object options.
2. In the ClassID text box, enter the ID for the Windows Media Player control: `CLSID:22d6f312-b0f6-11d0-94ab-0080c74c7e95`.

If you've entered this long Windows Media Player class ID previously, you can click the arrow button and choose the ID from the drop-down list.

3. Change the width and height values in the W and H text boxes to match the desired control display. The Windows Media Player display resizes to match your dimensions as closely as possible.
4. Click the Parameters button.
5. Select the Add (+) button and enter the first parameter: `FileName`. Use Tab to move to the Value column.
6. Enter the path and filename for your audio file. Unfortunately, there is no Browse (Choose) button in the Parameters dialog box, so you must enter the pathname by hand. If the audio file resides in your site, make sure to specify a relative URL rather than an absolute one.
7. Continue entering the desired parameters and values for your audio file, as shown in Figure 27-7.
8. Click OK when you're finished.

The Windows Media Player ActiveX control has many parameters to choose from — 34, to be exact. Explaining all of these parameters is beyond the scope of this book, but Table 27-3 describes the key parameters that parallel the LiveAudio attributes.

As with plugins, all of the parameters and/or values of an ActiveX control may be linked to a dynamic source. From the Parameters dialog box, select the lightning-bolt icon in either the Parameter or Value column to expose the available recordset fields.

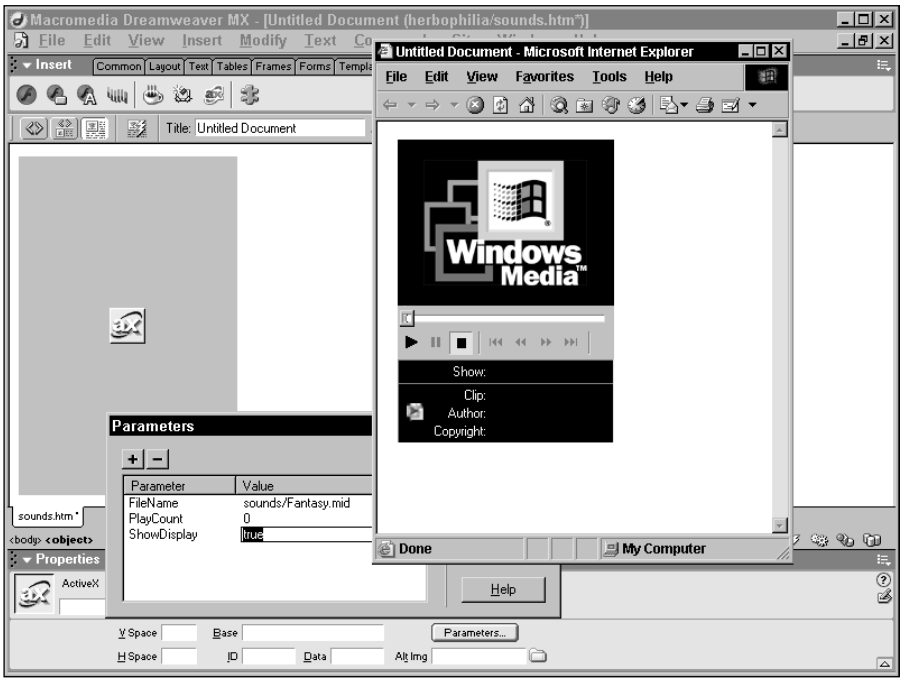


Figure 27-7: Inserting a Windows Media Player ActiveX control object into a Web page.

Table 27-3: Windows Media Player Parameters

WMP Parameter	*Possible Values*	*Description*
`AutoStart`	true (default) or false	Determines if the sound begins playing when the download is complete
`FileName`	Any valid sound-file URL	Specifies the sound file to be played
`PlayCount`	Any integer	Sets the number of times the file should repeat. If the value is 0, the sound loops continuously. The default is 1.
`SelectionStart`	Number of seconds	Determines the beginning point for the audio clip, relative to the start of the file
`SelectionEnd`	Number of seconds	Determines the ending point for the audio clip, relative to the start of the file
`ShowControls`	true (default) or false	Shows the control panel if set to true
`ShowDisplay`	true or false (default)	Shows the display panel if set to true
`Volume`	Any integer, from 0 (loudest, default) to 10,000 (softest)	Sets the loudness of the audio

Caution Windows Media Player's default volume setting is 0, but this is the highest setting, not the lowest setting. Specifying a higher number for the volume parameter lowers the volume of the sound.

Using Embed with ActiveX

All ActiveX controls are included in HTML's `<object>...</object>` tag pair. Dreamweaver codes this for you when you insert any ActiveX control. Netscape doesn't recognize the `<object>` tag, and Internet Explorer doesn't recognize the `<embed>` tag when it's within an `<object>` tag, so it's possible to target both browsers with one `<object>` and `<embed>` pair.

After you've entered the `FileName` parameter and value for the Windows Media Player ActiveX control, select the Embed checkbox in the Property inspector. The same name that you specified as the `FileName` now appears in the Embed text box. Dreamweaver takes advantage of the fact that Netscape doesn't recognize the `<object>` tag by inserting the `<embed>` tag inside the `<object>...</object>` tag pair. The resulting HTML looks like the following:

```
<object classid="CLSID:22d6f312-b0f6-11d0-94ab-0080c74c7e95"
 width="193" height="270">
  <param name="FileName" value="sounds/Fantasy.mid">
  <param name="PlayCount" value="0">
  <param name="ShowDisplay" value="true">
  <embed src="sounds/Fantasy.mid" width="193" height="270"
   filename="sounds/Fantasy.mid" playcount="0" showdisplay="true">
  </embed>
</object>
```

Note that Dreamweaver picks up the attributes and parameters from the ActiveX control to use in the `<embed>` tag. You often have to adjust these, especially the width and height values, which differ markedly for Internet Explorer and Netscape audio player displays.

Using Netscape's LiveAudio Plugin

LiveAudio is Netscape 4.x's default audio player and is used when you do basic embedding of an audio file, as well as when you attach a sound file to a URL. Both of these methods of incorporating audio, however, barely scratch the surface of what LiveAudio is capable of doing. LiveAudio uses up to 13 different parameters to shape its appearance and functionality in the Web page, and it also accepts a full range of JavaScript commands.

Note The LiveAudio plugin is not installed by default with Netscape 6.x. In fact, at the time this is being written, Netscape 6.x has no default audio plugin. (Netscape recommends downloading/installing the Winamp plugin for audio playback.) Therefore, this section pertains to Netscape 4.x browsers.

To take advantage of LiveAudio's full capabilities, you must enter the audio file's parameters and values through Dreamweaver's Property inspector. Follow these steps to specify the parameters for your Plugin object:

1. Insert the Plugin object — either by choosing Insert ➪ Media ➪ Plugin or by dragging the Plugin object from the Media category of the Insert bar to a place on your Web page.
2. In the Select File dialog box, choose your audio file.

3. From the expanded Property inspector, select Parameters to open the Parameter dialog box.
4. Click in the Parameter column and type in the first parameter. Use Tab to move to the Value column and enter the desired value. Use Tab again to move to the next parameter, then the next value, and so on.

   For most plugins, including LiveAudio, the order of the parameters is irrelevant.
5. Repeat Step 4 until all parameters are entered, as shown in Figure 27-8.
6. Click OK when you're done.

The parameters for LiveAudio affect either the look of the player or the qualities of the sound. The main parameter for altering the player's appearance is `controls`. Depending on the value used, you can display the default control panel, a smaller version, or individual controls.

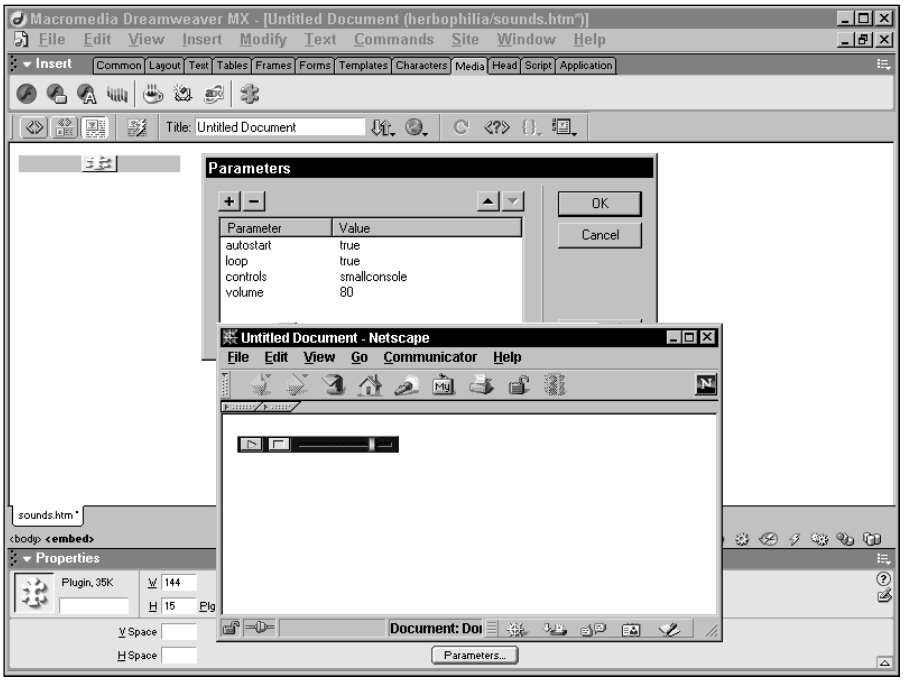


Figure 27-8: Inserting a Plugin object for Netscape 4.x's LiveAudio console.

You can embed individual controls anywhere on your Web page. To link the various controls, you use the `mastersound` keyword in each `<embed>` statement and set the `name` parameter to one unique value for all files. Finally, set the source in one `<embed>` tag to the actual sound file and set the other sources in the other files to a dummy file called a *stub* file, such as this one:

```
<embed src="bgMusic.mid" name="background" mastersound
 moreParameters...></embed>
...
<embed src="dummy.mid" name="background" mastersound
 moreParameters...></embed>
```

```
...
<embed src="dummy.mid" name="background" mastersound
 moreParameters...></embed>
```

Table 27-4 describes all the parameters available for LiveAudio, except those set by Dreamweaver's Property inspector (`source`, `height`, `width`, and `alignment`).

Table 27-4: LiveAudio Parameters

Parameter	*Acceptable Values*	*Description*
`autostart`	true or false (default)	If autostart is set to true, the audio file begins playing as soon as the download is completed.
`controls`	console (default), smallconsole, playbutton, pausebutton, stopbutton, or volumelever	Sets the sound control to appear
`endtime`	minutes:seconds; for example, 00:00	Determines the point in the sound clip at which the audio stops playing
`hidden`	true	Expressly hides all the audio controls; sound plays in the background
`loop`	true, false, or an integer	Setting loop to true forces the sound file to repeat continuously until the Stop button is selected or the user goes to another page. To set the number of times the sound repeats, set `loop` equal to an integer. The default is false.
`mastersound`	none	Enables several `<embed>` tags to be grouped and controlled as one. Used in conjunction with the `name` attribute.
`name`	a unique name	Links various `<embed>` tags in a file to control them as one. Used in conjunction with the `<mastersound>` attribute.
`starttime`	minutes:seconds; for example, 00:00	Determines the point in the sound clip at which the audio begins playing
`volume`	1 to 100	Sets the volume of the audio clip on a scale from 1 to 100 percent

Installing Streaming Audio

Although audio files are not nearly as large as video files, downloading them can take a long time. Audio-on-demand — or *streaming audio* — is an alternative to such lengthy downloads.

Cross-Reference

Streaming audio files have a lot in common with streaming video files, as covered in Chapter 26.

For streaming audio, you have the same Big Three choices as with streaming video — RealMedia, QuickTime, and Windows Media — plus Shockwave streaming audio and Flash movies.

Cross-Reference Shockwave and Flash are covered in Chapter 25.

Working with floating or embedded RealAudio players

Before including a link to a RealAudio file, you first must make a basic choice: Is the player going to be free-floating or will it be embedded in the page? It's purely a design decision, but the coding necessary is completely different. To insert a RealAudio streaming audio file with a free-floating player, shown in Figure 27-9, follow these steps:

1. Select the link or image that you want to use to begin the RealAudio file.
2. In the Property inspector, enter the path to the RealAudio metafile in the Link text box or use the Browse For File button to locate the file. Make sure that the metafile has a .ram or .rpm extension.

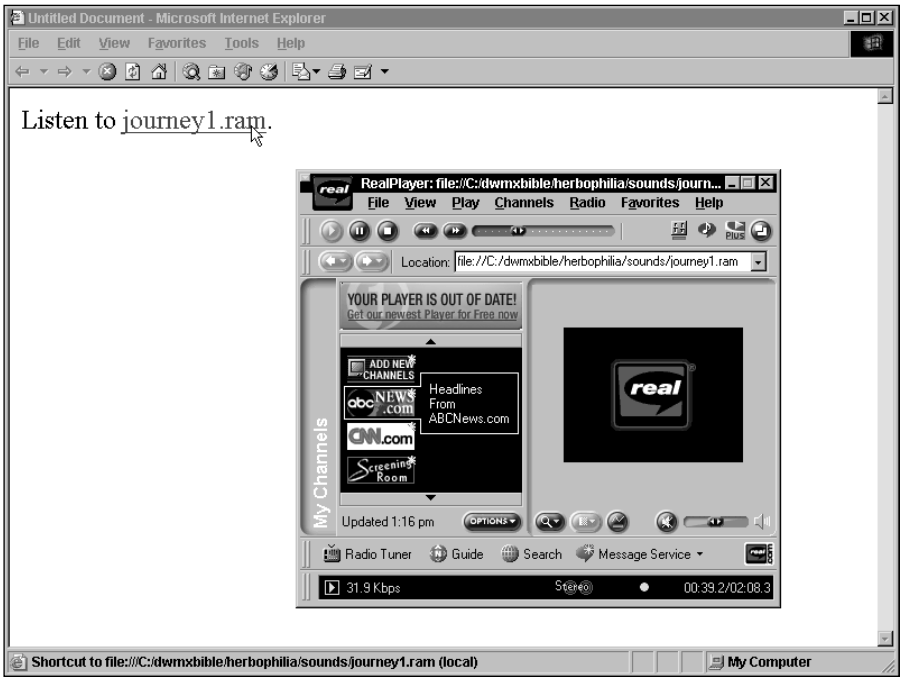


Figure 27-9: This is a free-floating RealPlayer player, opened by clicking on the journey1.ram link.

An embedded player is best inserted using Dreamweaver's ActiveX object — the embedded player consists of multiple ActiveX objects, one for the player control (or controls) and one for audio file itself. The separation of content and player makes it easy to link the content to a data source while maintaining the same control panel.

ActiveX objects can only be displayed/played in Internet Explorer; Netscape does not support ActiveX.

If desired, your design may include a single control panel or a series of controls — play, stop, fast-forward, rewind, and so on — all affecting your audio. The two key RealAudio parameters are `controls` and `console`. The `controls` parameter sets the type of control being inserted; the `console` parameter indicates which embedded audio file is being played.

To embed a RealAudio file with separate controls, you must follow a two-phase procedure. First, embed the actual audio file or, if the source is dynamic, a link to a data source:

1. Choose Insert ➪ Media ➪ ActiveX or select the ActiveX object from the Media category of the Insert bar. Dreamweaver inserts an ActiveX placeholder.
2. From the ActiveX Property inspector, set the ClassID to RealPlayer.
3. Change the Width and Height values in the W and H text boxes to 0 for audio-only playback.
4. If you know the `codebase` URL, enter it in the Base text box.

   The `codebase` property is an Internet location from which the ActiveX control can be automatically downloaded and installed if the browser does not find the control on the user's system. The codebase values are provided by the ActiveX control creator.
5. Click the Parameters button to display the Parameters dialog box.
6. Click the Add (+) button and enter the first parameter: `src`. Use Tab to move to the Value column and enter the path and filename for your file.

   To serve different audio files from a data source, select the lightning-bolt icon from the Value column. In the Dynamic Data dialog box, select an appropriate field containing URLs of RealMedia files.
7. Enter the next parameter, `console`, in the left column.
8. In the Value column, enter a unique name for the sound file.

   This unique console name will be used to link the controls to the audio file.
9. Click OK when you're finished.
10. In the Property inspector, select the Embed option to make the audio cross-browser compatible.

Now you're ready to add the controls that enable user interactivity:

1. Again, choose Insert ➪ Media ➪ ActiveX or select the ActiveX object from the Media category of the Insert bar.
2. From the ActiveX Property inspector, set the ClassID to RealPlayer.
3. Change the Width and Height values to the size desired for the type of controls selected. Some common dimensions are as follows:
   - **All:** Width: 375, Height: 100
   - **ControlPanel:** Width: 350, Height: 36
   - **PlayButton:** Width: 44, Height: 26
   - **PlayOnlyButton:** Width: 26, Height: 26 (These dimensions apply to all individual controls, such as PauseButton and FFCtrl.)

4. Select Parameters in the Property inspector.
5. In the Parameters dialog box, enter `controls` in the first column; and enter the name of the control (that is, `controlpanel`, `playbutton`, `pausebutton`, and so on) in the second column.
6. Add a second parameter, `console`. The value of console should be the same as entered for the audio file in Step 8 of the previous series of steps.
7. Click OK to close the Parameters dialog box.
8. Select Embed on the Property inspector to ensure cross-browser compatibility, as shown in Figure 27-10.

Repeat these steps to add additional individual controls. When you're done, test your Web page by previewing it in a browser.

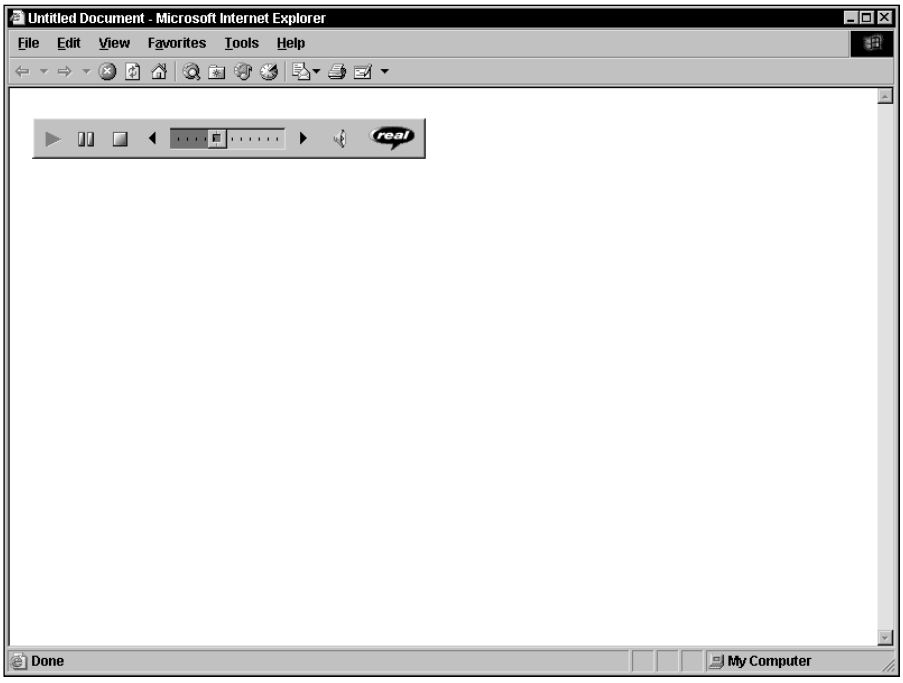


Figure 27-10: This is an embedded RealPlayer control panel.

Accessing RealAudio parameters

For a streaming audio file, only the source file and the dimensions are really required, but it probably comes as no surprise to you that a great number of attributes are available. You can add any of the attributes found in Table 27-5 through the Parameters button of the selected RealAudio file's Property inspector.

Table 27-5: RealAudio Parameters

RealPlayer Attribute	*Possible Values*	*Description*
`autostart`	`true` (default) or `false`	Enables the RealAudio clip to start playing as soon as content is available
`console`	`_master` or `_unique`	Determines the console name for each control in a Web page that uses multiple controls. To force controls on a page to refer to the same file, use the same `console=name` attribute. The `console name _master` links to all controls on a page; `_unique` connects to no other instances.
`controls`	`all`, `controlpanel`, `infovolumepanel`, `infopanel`, `statuspanel`, `statusbar`, `playbutton`, `playonlybutton`, `pausebutton`, `ffctrl`, `rwctrl`, `stopbutton`, `mutectrl`, `mutevolumectrl`, `volumeslider`, `positionslider`, `positionfield`, or `statusfield`	Enables the placement of individual control panel elements in the Web page. You can use multiple controls in one attribute, or multiple `<embed>` tags to build a custom RealAudio interface.
`nolabels`	`true` or `false` (default)	Suppresses the Title, Author, and Copyright labels in the Status panel. If you set `nolabels` to `true`, the actual data are still visible.

Summary

Adding sound to a Web page brings it into the realm of multimedia. Dreamweaver gives you numerous methods to handle the various different audio formats, both static and streaming. With custom Dreamweaver objects and actions, enhancing your Web site with audio is a snap.

- The common downloadable audio file formats are MP3, AIFF, WAV, AU, and RMF.
- The common downloadable music file formats are MIDI, QuickTime Music, and RMF.
- You can either link to a sound or embed it in your Web page. With standard audio, the linking technique calls an independent, free-floating player; the embedding technique incorporates the player into the design of the page. Hiding the player creates background music or sound.
- Third-party plugins offer far greater control over the appearance and functionality of the sound than relying on a browser's default plugin; to use a third-party plugin, however, your user must download it.
- Streaming audio provides almost instant access to large audio files, and RealAudio is one of the leaders in player deployment.

In the next chapter, you learn how to use Dreamweaver templates to enhance your Web-page creation skills.

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