

HOUR 3

Importing Graphics into Flash

What You'll Learn in This Hour:

- ▶ How to import vector graphics into Flash
- ▶ How to import bitmap (raster) graphics
- ▶ Ways to avoid imported graphics
- ▶ How to optimize and maintain the best quality possible when importing

In the last two hours, you've seen how you can create sophisticated custom graphics very quickly in Flash. Despite how powerful Flash's graphic creation tools are, eventually you might want to import graphics created elsewhere. Two good reasons for this are to use photographic images or to use existing graphics (instead of re-creating them from scratch). You can certainly use these other graphics inside Flash—and that's what you're going to learn how to do in this hour. Before we start, let me suggest that—when it's practical—you should try to create your graphics inside Flash because they'll tend to keep your file size small.

Vector Graphics Versus Raster Graphics

Vector graphics have certain characteristics that are due to how they are stored by a computer. A vector graphics file contains the math to redraw the image onscreen. For example, a circle includes information such as the radius, the line thickness, and the color. All the graphics you create inside Flash are vector based. Vector graphics have two advantages: The file size tends to remain small (therefore, it downloads fast), and the image can be scaled to any size without any degradation of the image quality (a circle is still a circle, even if it's a large circle).

Vector graphics are great, but it's important to realize their disadvantages. Vector graphics require the user's computer to work hard to display the image (it has to do a lot of math) so you may see slower performance if an animation contains vector graphics. Also, vector graphics often look "computery" or antiseptic because they tend to involve geometric shapes. Both disadvantages can be overcome, but you should be aware of them.

Bitmapped graphics (also called *raster graphics*) are fundamentally different from vector graphics. A raster graphics file contains the color information for each pixel. If the image is 100 pixels by 100 pixels, that's 10,000 pixels, each of which has a color value. As a result, raster graphics are almost always relatively large files. Raster graphics also can't be scaled very effectively. They tend to get grainy, similar to a photograph that has been enlarged. An advantage of raster graphics is that they appear onscreen very quickly.

It might seem that vector graphics are obviously the better choice. However, the decision of whether to use vector graphics or raster graphics should be based on the nature of the image. If the image is geometric, with clear delineations of color, a vector graphic is a good choice. If the image is a photograph of a person or a geographic location, nothing but a bitmap will do. Selecting which format to use is pretty easy when you know the considerations of each type.

Reasons to Avoid Importing Graphics

Flash's capability to create nice vector graphics might be the best justification for this warning: Don't import graphics into Flash unless you have to! In this hour, you'll learn how to import graphics—but that doesn't mean it's always a good idea. If there's one way to make your Flash movie download or play more slowly, it's importing graphics unnecessarily. You need to find ways to avoid importing graphics.

Wanting to import graphics is a natural tendency. If you show a graphics professional who's an expert with Adobe Illustrator or Adobe Photoshop how to draw in Flash, his first question will be how to bring his Illustrator or Photoshop files into Flash. This hour you'll learn the answer.

However, if you consider why a graphics professional would ask that in the first place, you expose a problem. People can do some amazing (and complicated) things with other drawing tools. Some of the ways that graphics files get more complicated include the use of gradients, intricate text, and lots of individual objects. Using such complicated graphics in Flash causes two problems. First, Flash can't always handle all the intricacies in a complicated file, so sometimes the imported file doesn't look perfect. Second, a complicated file downloads and plays more slowly than one that

isn't complicated—so why would you want such a file in a Flash movie? The number-one consideration when deciding whether to import a graphic into Flash is whether a simpler version can be re-created in Flash or whether the graphic can at least be simplified before being imported into Flash. If you ask the graphics person to re-create the image in Flash, he might say that it doesn't enable him to do what he intended. In that case, your solution lies in making the graphic simpler—not in squeezing it into Flash.

Having said all this, you might still need to import graphics. Maybe you have a photograph (or another raster graphic) that you want to use, or perhaps you have a simple existing vector graphic (such as a company logo) that you don't want to redraw in Flash. We'll discuss raster graphics in the section "Using Bitmaps (Also Known as Raster Graphics)," later in this hour, but first let's look at importing vector graphics.

Importing Vector Graphics

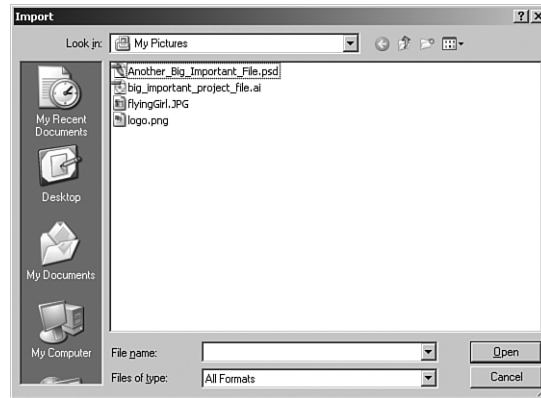
There may be times when you have an existing vector graphic that you need to include in a Flash movie. Typically, such a vector graphic is likely to be geometric—although not necessarily. Regardless of the exact form of the vector graphic, unless it's super-complicated, you'll be able to import it into Flash.

Importing from a File

Although Flash can actually import several vector file formats, I can assure you the two most reliable formats are Adobe Illustrator files (.ai) and Adobe Flash SWF files (.swf). A viable third option is to import Freehand files (.fh11 through .fh7) but that product is not being actively promoted anymore. The main choice is whether you try to import a native .ai or .fh11 file or you first generate a .swf (from your vector program) and import that .swf. You can use Flash to export a .swf, but here I'm talking about using a graphics tool to export a .swf. Illustrator and Freehand as well as many other tools have special export features that take special care to generate a .swf that's free from any special features only supported in those tools.

Importing from file is as simple as selecting File, Import and then pointing to the file you want, as shown in Figure 3.1. You see several file types listed, but that doesn't mean they all work equally well. Not only are several image file formats listed (both raster and vector), but video and audio file formats also appear. Let's first look at the vector image formats worth considering: Illustrator, Freehand, and SWF.

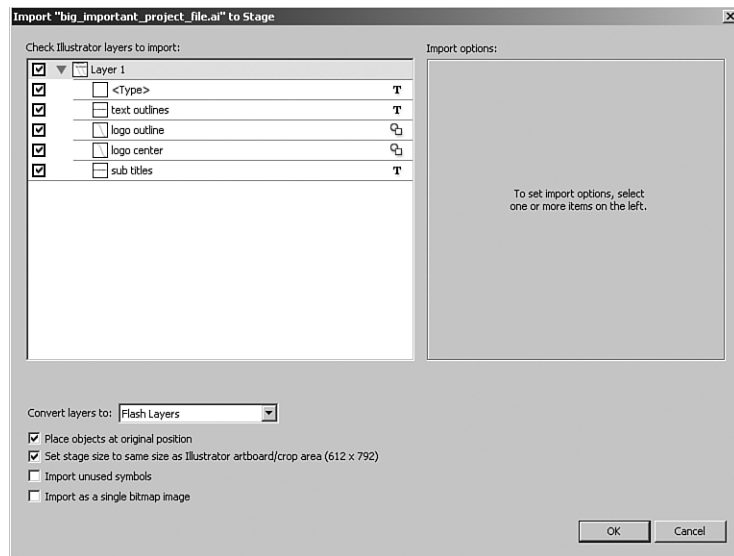
FIGURE 3.1
Importing images (or audio) can be as simple as selecting the file you want to import.



Importing Illustrator Files

Flash CS3 added an extremely seamless Illustrator importer feature. All you do is select File, Import, Import to Stage and select an .ai file. The import dialog appears as shown in Figure 3.2 and you'll see all the layers and even the nested hierarchy of groups and path layers as it was laid out in Illustrator. This means it will be as simple or as complex as the graphic artist made it. Having so many layers listed can seem complicated, but there's surprisingly little to learn in this dialog.

FIGURE 3.2
When you import an Illustrator file you'll see all the layers in the original file.



The basic approach to importing is to first decide which layers you want to import and then decide (either individually or globally) the manner in which you want to import those elements. You may want to leave everything in a vector form, or treat

some elements as bitmapped graphics. Additionally, there are options that let you create movie clips as you import. (Movie clips are self-contained objects that can be easily recycled throughout your Flash movie—but they’re not covered until next hour.) To exclude specific layers from import, simply click to remove the check mark next to that layer. Unchecking a layer that contains nested layers excludes all the nested layers, as shown in Figure 3.3.

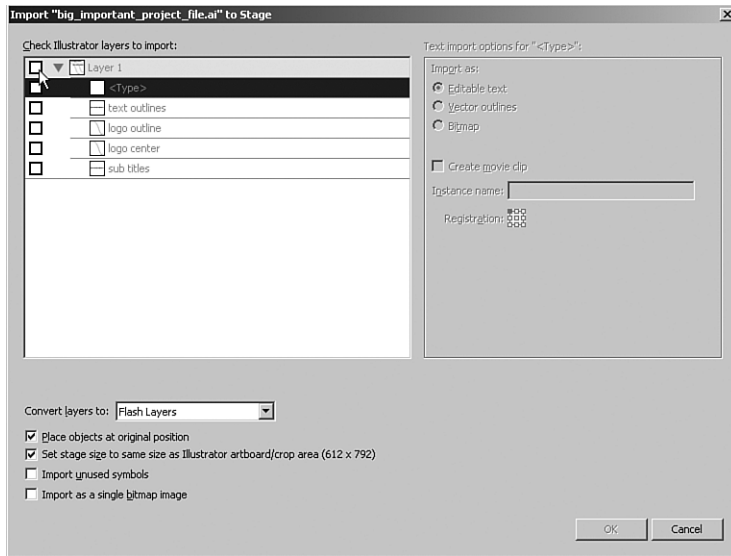


FIGURE 3.3

You can select or deselect layers and nested layers when importing an Illustrator file.

Quick Layer Selecting

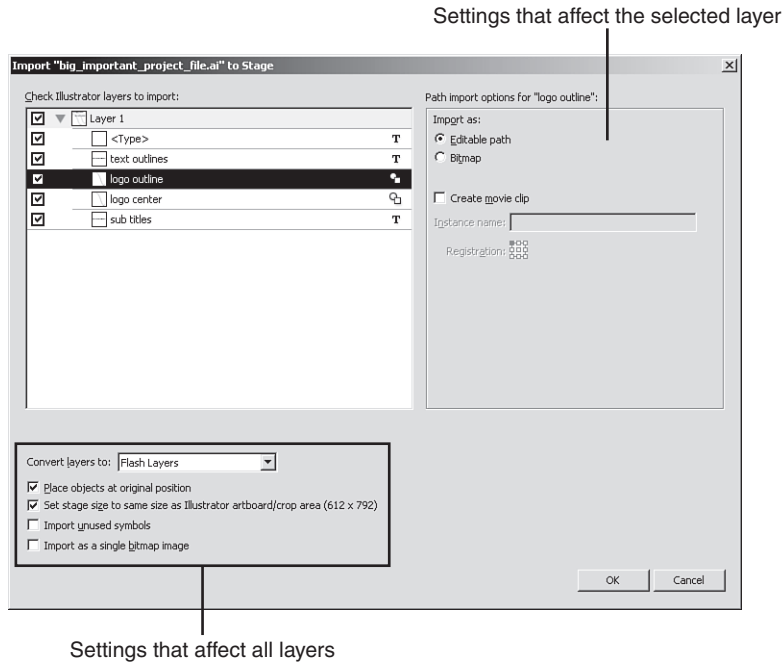
You can quickly check or uncheck a series of layers if, when you click one layer’s check mark, you keep your mouse pressed and continue to drag over other layers’ check marks.

***Did you
Know?***

After you’ve decided which layers you’re going to import, you can decide how those elements should be imported. The global settings that appear at the bottom left of the import dialog (as shown in Figure 3.4) affect everything you import. The simplest way to import every selected layer is to select the option Import as a Single Bitmap Image. Although this will retain the image and all the fidelity created by the artist, the imported image can’t be scaled without losing quality. That is, if you convert the image to a bitmap, the image will have all the characteristics of bitmaps (as described earlier this hour). I should note that such an imported bitmap supports transparency (that is, it will behave as a PNG file, which you’ll learn more about later this hour).

FIGURE 3.4

The settings at the bottom left of the Illustrator Import dialog affect every layer you're importing. Individual layer options appear on the right side.



Let me point out a few more global options (the bottom-left area). The option to Place objects at original position is really a no-brainer. Even if you don't force your Stage size to match the Illustrator file (the second check box), having items placed in their relative position is vastly more convenient. I mean, you can always move the items to a new location if you want, but it would be tedious to have to move them into place later. Finally the Convert Layers To drop-down menu defaults to turn Illustrator layers into Flash layers. This makes sense because Flash, just like Illustrator, has layers that affect the visual stacking. The thing is that you can also select to place all imported layers into a single Flash layer and you'll still get the visual stacking you'd expect. In Hour 12, "Using Layers in Animations," you'll learn that Flash layers do more than just affect the visual stacking; they also let you maintain independent animations. The point here is that you don't have to create a new Flash layer for each layer in the Illustrator file. Finally, the option to turn Illustrator layers into Flash keyframes is useful if the artist created an animation frame by frame but put each step of the animation into a new layer. Naturally, this would take some coordination with the artist and—in my experience—most artists don't use Illustrator as an animation tool.

Assuming that you aren't opting to import everything as a single bitmap image, you can individually set options for each layer you're importing. Click the layer (not the check mark) and to the right you'll see the options shown in Figure 3.4.

The options available for individual layers come down to two decisions: First, do you import as an editable vector graphic (“editable path”) or as a bitmap; and two, do you want to create a movie clip while you’re importing? If you’re never going to scale the object and you’re either planning to animate the object or the image is very complex, then you may consider converting it to a bitmap. In most cases I’d expect you’ll want to leave it as a vector. Next hour you’ll learn all about movie clips and you may consider revisiting this dialog then.

Bitmaps Import as JPG

If, when importing an Illustrator file, you choose to convert objects to bitmap graphics, know that they’ll be treated as JPGs (not PNG). Later this hour you’ll learn how imported bitmaps can be treated as either JPG or PNG. For now just know that you may need to come through and clean up the imported bitmaps if you want to change them to PNG.

**By the
Way**

Importing FreeHand Files

I feel a bit like a Luddite discussing how to import FreeHand documents, but just because Adobe hasn’t updated it since it was acquired along with Macromedia doesn’t mean people don’t still use it. In fact, when Flash and FreeHand were Macromedia products, they added some pretty decent import options for FreeHand. When you select File, Import, Import to Stage and point to a FreeHand document you’ll see the dialog shown in Figure 3.5.

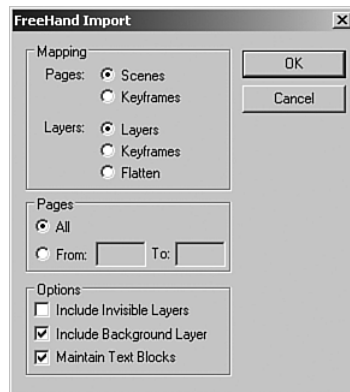


FIGURE 3.5
When you import a FreeHand file, Flash provides this dialog box.

This dialog serves primarily as a way to map features in FreeHand to work with Flash. For example, Flash needs to know how you want to handle pages for which there is no Flash equivalent. All these options are fairly easy to interpret.

Here are some tips to help you import drawings into Flash. First, if you use FreeHand, be sure to take advantage of FreeHand's symbols because they translate directly to Flash's symbols so that graphics can be recycled. You'll learn about symbols and Flash's Library in Hour 4, "Using the Library for Productivity." Also, each object created in FreeHand should be separated into its own layer. Although you can easily put multiple objects on one layer, you'll be able to access individual objects more easily if you create multiple layers.

There are many text effects that you can create in FreeHand and Illustrator that don't translate to Flash. For example, text attached to paths doesn't remain editable when a file is imported into Flash. Also, because only FreeHand supports strokes on text, Flash ignores this effect. Fine adjustments to font sizes and kerning are possible in FreeHand and Illustrator, but they don't work as well in Flash, so font spacing often changes slightly when a file is imported into Flash. Sometimes text automatically converts to paths (which means it isn't editable when it gets into Flash). These are just some general tips. Creating the smallest, best-looking image that imports seamlessly into Flash might take some additional experimenting in either FreeHand or Illustrator.

Importing Flash Player Files

The simplest and most consistently reliable option for importing vector graphics into Flash is to import Flash Player (.swf) files. Most graphics people don't think of .swf as an image file format—it's even listed as "Flash Movie" in the import dialog. Just realize a one-frame movie is really a graphic. Of course, a .swf is not like a FreeHand file or an Illustrator file because it's not fully editable. When using newer versions of FreeHand and Illustrator, you can export your working files directly into the .swf format. They export amazingly well, the final files are quite small, and the images retain all the details and quality of the originals.

The best process is to create a graphic in whatever program you prefer and then if that program doesn't export .swfs, open the file in a program that does (such as FreeHand, Illustrator, Fireworks, or several others). Then simply export it as a .swf. You can then import the .swf directly into a Flash file. Even if the graphics program you use doesn't support exporting .swf files, you can open the file in a tool that does and export a .swf from there. This means that the graphics tool you select must export files in a format that is supported by the tool you use to export .swf files.

Using Bitmaps (Also Known as Raster Graphics)

In this section you'll see how bitmap (raster) graphics can be used in Flash. Raster graphics have inherently unique characteristics that can't be created inside Flash. The only warning related to using this option is to make sure you really *need* raster graphics. The following are some cases that justify the use of raster graphics:

- ▶ A photograph. The only time to consider using a vector alternative to a photograph is when the picture is of a very geometric object. Otherwise, photographs should be raster graphics.
- ▶ A series of still images extracted from frames of a short video.
- ▶ An image with special effects that can't be achieved with a vector tool, such as clouds, fire, water, and other natural effects. (Of course, this is an invitation for a talented artist to re-create such an effect by using a vector tool such as Flash.)

If you're unfamiliar with the difference between vector graphics and raster graphics, learning when one choice is better than the other can take some time. The file formats `.gif`, `.jpg`, `.png`, `.bmp`, and `.pct` are all raster graphics formats. However, just because a file was saved in one of these formats doesn't mean it was done appropriately. It's the nature of the image in the file that matters. If all you have is a `.gif`, for example, you need to first look at its contents to judge whether it's appropriate for raster graphics. Here's an easy way to decide: If you can trace or redraw the image in the file (with Flash's drawing toolbar, for instance), you're much better off redrawing it. If it's a photograph, you would never be able to trace it (so leave it as a raster graphic). If it's a picture of a plain box, maybe you could draw it and thus take advantage of all the benefits of vector graphics without even bothering with raster graphics.

To make matters slightly more complex, you can use Photoshop to create and edit layered bitmapped images. So when importing Photoshop documents you can decide exactly how to import each individual layer. In addition, Photoshop supports editable text, which isn't a raster graphic at all. Because importing Photoshop files is more involved, there's a separate section on importing such layered documents that follows the more general discussion of importing flat raster graphics.

Importing Flat Raster Graphics

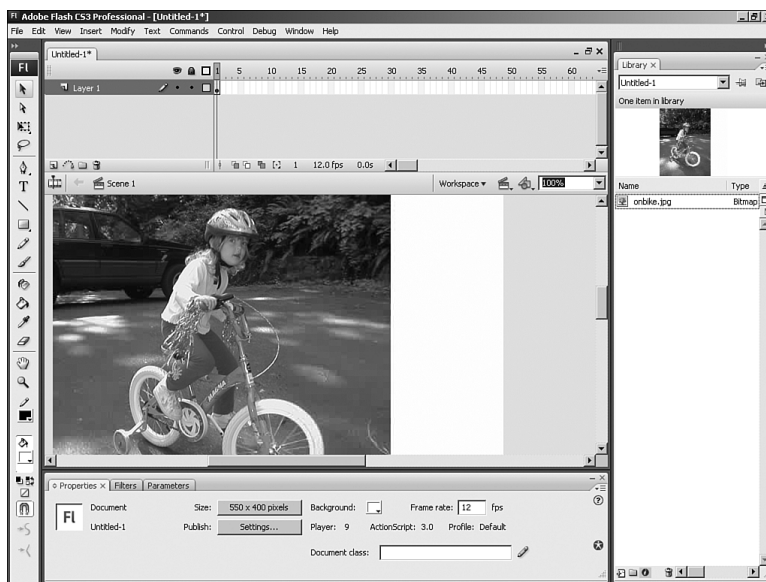
Importing a flat raster graphic (that is, not a Photoshop file) is pretty simple to do. You just select File, Import, Import to Stage, to open the Import dialog box and then point to any raster graphic that Flash supports: .jpg, .png, .gif, .bmp, .tif, or .pct. That's it.

However, importing not only places the graphic on the Stage but also puts a master bitmap item into the Library. If you import a raster graphic and then delete the object from the Stage, the master bitmap item will still be in the Library (which you can find by selecting Window, Library). It's called a bitmap item, and it has a little icon that looks like a picture of a tree (as shown in Figure 3.6).

After a raster graphic is imported, you need to keep it in the Library. The bitmap icon that appears in the Library provides a way to specify how the image should be exported when you create a movie for the web. If you leave it unchanged, your raster graphics export under the default settings. You can also specify special settings for just that image. In the following task you'll import a raster graphic and explore some of these settings.

FIGURE 3.6

After you import a raster graphic, the bitmap item appears in your Library.



Try It Yourself

Import a Raster Graphic

In this task you'll import a raster graphic. Here are the steps:

1. In a new file, select File, Import, Import to Stage, to open the Import dialog box and then select a .bmp, .pct, .png, .jpg, or .gif file. If you don't have an image handy, just visit any web page and right-click an image to select an option to save it on your desktop. Then use that image as the file to import into Flash. Note that you don't want to import an image saved directly from a digital camera because it's probably huge.
2. Click the graphic on the Stage and delete it. Because it's a raster graphic, it's still safely in the Library.
3. Open your Library by selecting Window, Library or by pressing Ctrl+L.
4. Click the line in your Library that has the tree icon and the name of the file you imported.
5. In the Library, select Options, Properties. (The Options menu is inside the Library window at the top right.) The Bitmap Properties dialog box shown in Figure 3.7 appears. (This dialog box might look slightly different, depending on what type of file you imported.)

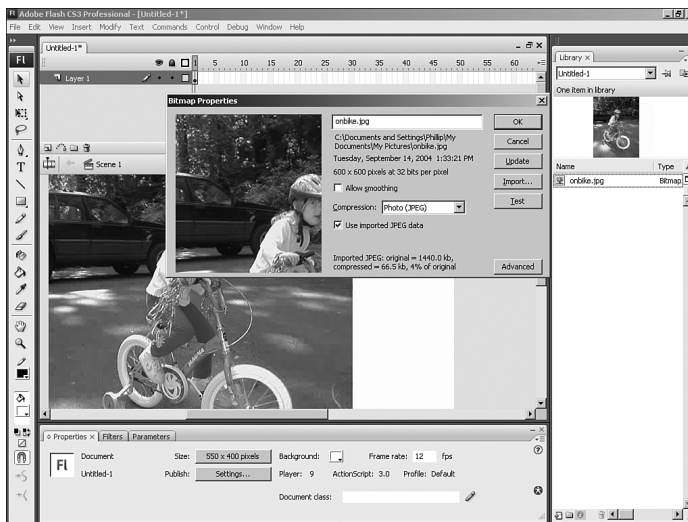


FIGURE 3.7

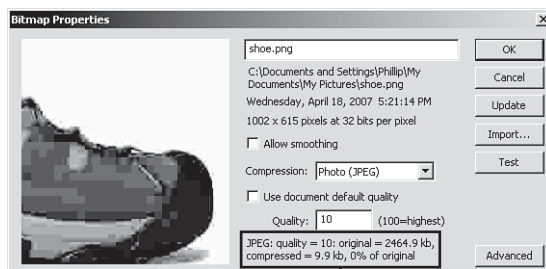
The Bitmap Properties dialog box offers control over how each bitmap item in your Library will be treated during export.

6. In the Bitmap Properties dialog box, decide what export settings to use for this graphic. (Leave this dialog box onscreen while you walk through the next section.)

Adjusting Bitmap Properties

Flash imports all kinds of raster formats, but uses only JPG, GIF, or PNG in an exported movie. In addition, any raster graphic is generically called a bitmap item after it's inside Flash's Library. This means that no matter what file type you import, you must use the Bitmap Properties dialog box to choose between JPEG (and its compression level) and lossless GIF/PNG for exporting. If you decide to use JPG compression, you'll want to experiment with different settings and click the Test button after each change to see the effects on both image quality (in the little picture at the top left) and file size (in the text information at the bottom of the dialog box). See Figure 3.8. The process involves experimentation—making adjustments and viewing the corresponding results.

FIGURE 3.8
Selecting a low JPEG compression (10) and clicking Test provides a preview of the resulting image and its file size.



File size information

Did you Know?

Zooming Compression Preview

When testing different compression settings, you can zoom in on the preview window on the Bitmap Properties dialog by right-clicking and choosing Zoom In.

JPEG compression is usually the most efficient option. Unless you import a .png or .gif, Flash sets the bitmap properties to JPEG by default. It's slightly confusing because if you import a .jpg file, Flash uses Imported JPEG Data by default, as shown in Figure 3.9. This option tells Flash to maintain the imported file's original compression (that is, don't recompress). Leaving this option selected is generally desirable because it's a bad idea to recompress.

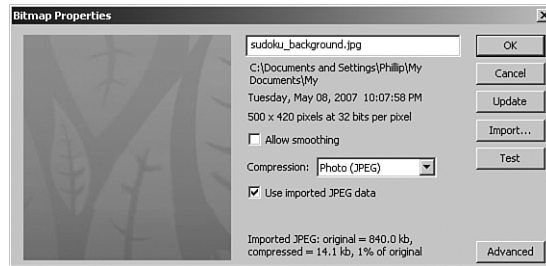


FIGURE 3.9
Only imported
.jpg files
enable you to
use the JPEG
compression
contained in the
original file.

Three Ways to Use Imported Raster Graphics

There are three suitable approaches to using raster graphics in Flash. First, you can start with the highest-quality image possible (for instance, .png, .bmp, or .pct) and then experiment with Flash's JPEG compression to find the best compromise. Second, you can import a .bmp, .png, or .pct and leave the image uncompressed; this gives you the highest quality and also the largest file size. This is also the only option to maintain a .png's transparency settings. Finally, you can use image editing software—such as Fireworks—to create a .jpg file with the best compromise (of file size and quality) that can be imported into Flash. This way you can take advantage of the Selective JPG feature in Fireworks. If you use this option, you need to remember to leave the Use Imported JPEG Data option selected. If the image has already been compressed (using JPEG compression), you shouldn't allow Flash to recompress because the result would be a poor-quality image.

**Watch
Out!**

Importing other popular formats, such as .bmp and .pct, also causes Flash to opt for JPEG compression by default. However, the Bitmap Properties dialog box displays a different option: Use Document Default Quality, as shown in Figure 3.10. Although this looks similar to the Use Imported JPEG Data option discussed earlier, it's a different option entirely. Leaving this option selected causes Flash to use a global setting to compress the file. The global settings are made when you publish the movie. These topics are discussed in more detail in Hours 19 and 24.

You can control what compression method is used on individual imported images by simply deselecting Use Document Default Quality (or deselecting Use Imported JPEG Data for that matter—but keep in mind the earlier caution about recompression). When this option is deselected, a field appears where you can type the JPEG compression level you desire. Instead of guessing what compression level is best, you can use the Bitmap Properties dialog box to experiment. A lower number results in a smaller file but also lowers the quality. If you click Test after each change, you see a drastic difference between 100 and 1. After you make each change, you can click the Test button to review the effect on file size and quality, as shown in Figure 3.11. You should experiment until you get the best compromise of image quality and file size.

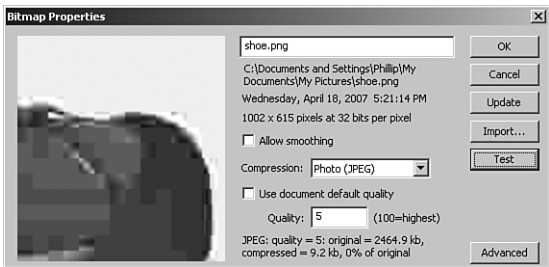
FIGURE 3.10

When you import non-.jpg files, you can use the global (default) quality settings for the whole Flash file.



FIGURE 3.11

Setting the quality to 5 cuts this image size to less than 1/100 of its original, but the quality is visibly affected.



The image portion shown in the image window at the top left of the Bitmap Properties dialog box shows exactly how the image will look when it is exported. You can zoom into this window by right-clicking and then you can pan around to get a better view.

Figure 3.12 shows the results of using several different compression levels on the same image. Notice that JPG 80 and JPG 100 are almost identical in quality, but JPG 80 has a much smaller file size.

FIGURE 3.12

The results of different compression settings on the same image shows how quality degrades and file size shrinks.



JPG 10 15KB



JPG 20 24KB



JPG 80 87KB



JPG 100 355KB

You get the ultimate quality by using the compression option Lossless (GIF/PNG). It is selected by default when you import .png and .gif files, but you can select it any other time you want to use it. When this option is selected, Flash leaves the image in its original state. This option always provides the best quality—but not without a price. File size is always highest when this option is selected. This is a suitable alternative if you're making a movie that doesn't need to download from the web—maybe if you're just making a presentation you'll deliver on your hard drive or CD-ROM. Otherwise, you should use this option only on images that you want to retain the best quality possible. If your imported image is a .gif that already has a small file size, selecting Lossless is perfectly suitable. And because even 100% JPEG compression causes *some* image degradation, the Lossless option is suitable for images that are particularly important. Finally, the only way Flash supports 32-bit graphics (that is, raster images with varying degrees of transparency) is through .png items that you set to Lossless. That is to say, the fact that PNG is the only format that supports transparency is another perfectly legitimate reason to use PNG.

Smoothing

Regardless of which compression option you use for your imported bitmaps, there's another option in the Bitmap Properties dialog called Allow Smoothing (as shown earlier in Figure 3.11). If you plan to scale or rotate the raster graphic, you'll want to click that check mark. Normally, a bitmap with its explicit number of pixels will look fine without smoothing. But smoothing lets Flash apply a tiny bit of blur when the image's pixels don't align perfectly with the screen's pixels (which will be the case when you rotate or scale an image). You can see the effect of smoothing in a side-by-side comparison in Figure 3.13.

**FIGURE 3.13**

Applying smoothing to the image on the left improves it when rotated, but the same effect makes the image look soft.

The downside of smoothing is that images can look a bit fuzzy—so don't use it if you're not rotating or scaling the image. Even if you're using the image in a detailed animation, you'll want to opt for smoothing. Compared to how raspy a modified image looks without smoothing, you'll probably want to click the check mark to allow smoothing when appropriate.

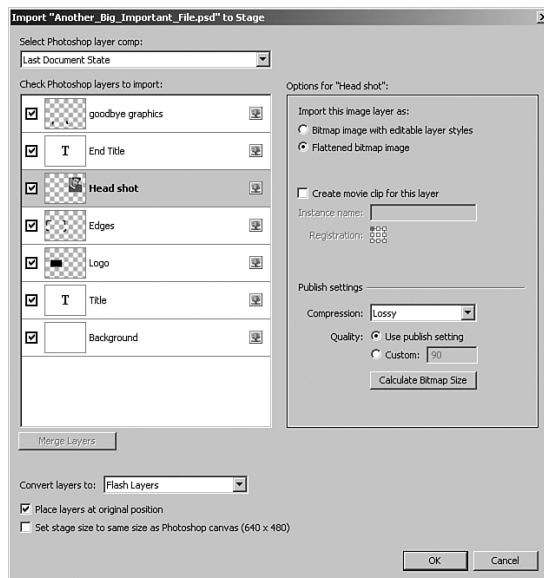
Importing Layered Raster Graphics

Flash CS3 can now import Photoshop .psd files. In my opinion this is—by far—the biggest new feature in Flash CS3! The value is that artists can work in Photoshop and you can very conveniently import the graphics they create. Compared to having the artist individually export each element and then you import it and place it in the correct position, this is a huge workflow improvement. What's doubly great about this new feature is that it's so intuitive there's not a whole lot to learn. Naturally, there are a few points I should make.

Like the Illustrator Import dialog, when you select File, Import, Import to Stage and point to a Photoshop file, you'll see all the layers and folders contained in the source Photoshop file, as shown in Figure 3.14.

There are some striking similarities in the Photoshop import dialog to the Illustrator one shown earlier—though this one is more advanced. You can see similar global options at the bottom left as to whether to keep objects in position and whether to convert layers into Flash layers or keyframes. Also similar is the way you can include or exclude layers by clicking check marks.

FIGURE 3.14
Importing a Photoshop document lets you select how to import each layer.



A particularly handy feature in Photoshop, called *layer comps*, lets you save multiple arrangements of your layers and their contents. Artists can include tons of layers with all the graphics for an entire project in a single Photoshop file. But then they can make multiple compositions—for example, one where only the layers related to the home screen in your project are visible and another where the layers for a video section are visible. With layer comps, artists can quickly view different arrangements without going through and turning layers on and off. When you import a Photoshop document with layer comps you'll see them listed at the top left, as shown in Figure 3.15. This gives you a quick way to select all the layers related to a particular layout.

After you've selected the layers you want to import, you can set the options for how each layer gets imported on the right side of the import dialog. That is, provided you don't want to accept the defaults, you individually select each layer and make adjustments to the options on the right. All layer types can be imported as a flattened bitmap, which is—by far—the best way to retain the exact look created by the artist. You'll see slightly different options in text layers and shape layers as I'll discuss in a minute. But the big difference (over the Illustrator importer discussed earlier this hour) is that for each layer that you import as a flattened bitmap you can individually set the publish settings.

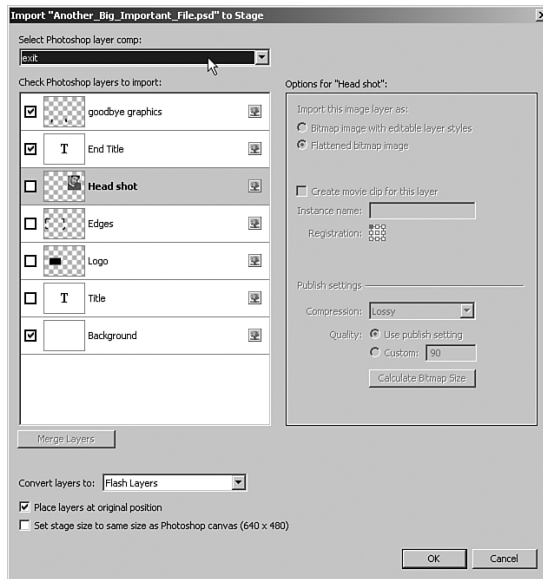


FIGURE 3.15
You can use the Layer Comp drop-down to quickly select the layers related to a particular layout.

The publish settings for each imported layer affect the Bitmap properties for the contained objects when they appear in the Library. These settings are the same ones you just learned about in the section “Adjusting Bitmap Properties.” This way, you can make the decision between JPG and PNG/GIF and whether to use the Flash document’s publish settings for compression (or set them individually for each item). The funky thing is that the terms are slightly different than the ones you just learned! Where the Photoshop importer says “Lossy compression,” that translates to JPG in the Bitmap Properties dialog (accessible by double-clicking an item after it’s in the Library). Where the Photoshop importer says Lossless, that means PNG.

Although you’ll always see the best quality by importing layers as flattened bitmaps, other options also have some value. In the case of text layers, you can opt to import as editable text. This way you can make edits to the actual wording later. However, realize you’ll immediately lose any layer effects applied to the text. (Photoshop supports very detailed text effects that are unmatched in Flash.)

For both shape and text layers you can choose to keep paths and layer styles editable. In my experience, however, not only does this mean you’ll see subtle differences in the image after it’s inside Flash, but a complex Photoshop document translates to a complex Flash document. My advice is to be prepared to test any import process if you’re not importing as flattened bitmaps.

To summarize the suggested workflow, select the layers you want to import (either by clicking the check marks or by selecting a layer comp, which effectively selects the layers for you) and then go through each layer to adjust the publish settings (or do this later via the Library item's bitmap properties). It's sort of amusing that the biggest new feature in Flash CS3 only took a few paragraphs to explain, but that just shows the feature is very intuitive.

Summary

You should create all the graphics you can right inside Flash. If this hour taught you nothing else, remember that it's always better to create graphics in Flash than to try to import them from outside.

However, there are times when you want to import graphics, such as when you have an existing graphic that would be impossible or difficult to re-create in Flash or when a graphic requires a raster file type (usually a photograph). When you're certain you want to import, there are ways to do so.

Q&A

Q *Importing Photoshop and Illustrator files looks pretty cool, but I don't have those programs. How can I test out some of what I learned this hour?*

A Oh yeah. I uploaded some sample .ai and .psd files in the downloads section for this book at www.phillipkerman.com/teachyourself.

Q *I'm having trouble importing images from a digital camera. I have some great shots of my cactus collection but they're huge after I import them. How can I resize them?*

A Because multi-megapixel cameras produce originals that can be thousands of pixels wide, you don't want to import these directly. Instead, first use an image editing program such as Fireworks to resize the image to something that will fit comfortably on a normal screen size—that is, less than 1024×768 or 800×600. By the way, taking a megapixel image and scaling it down inside Flash does not improve the sharpness. Actually, it does the opposite if you don't select the Allow Smoothing option—but worse still, the file size will be huge. Don't do that; resize (and possibly optimize) before importing!

Q *I have a photograph that must remain as a raster graphic. After I scan it into the computer and touch it up, what file format should I choose? There are so many.*

- A** Generally, you want to keep all your raster graphics in the highest-quality format possible before importing into Flash. One exception is when you use a tool such as Fireworks to produce an optimally compressed image (say, with varying degrees of compression using a JPEG mask). If you use an outside program to compress the image, you should just make sure you don't recompress in Flash (simply leave the default setting Use Imported JPEG Quality). Alternatively, if you import a high-quality .pct, .bmp, or .png, you can compress it in Flash until you're satisfied with the compression level. JPEGs are all right, but they always have some compression that could result in artifacts. GIFs are not a good alternative because they can't have more than 256 explicit colors. Simply changing the file format of an existing image will never make a graphic better, and it will potentially make it worse. You should start with the best quality possible and then bring it down as the very last step.

Q *How do you determine how much one graphic is contributing to the final movie's file size?*

- A** If it's a raster graphic, you can explore the Bitmap Properties dialog box, which tells you exactly how big a graphic is. With vector graphics, determining the size is more difficult. Ultimately, you should copy the graphic into a new file and export a .swf of that file (by selecting File, Export). You can look at the file size. Sometimes it's not so important how much one graphic is contributing, especially if it's an important graphic. However, your concern should always be to not add to the file size unnecessarily.

Q *I have a fairly simple graphic (as an Illustrator file) that I would like to import into Flash. It's impossible to redraw in Flash, so I have to import it, right?*

- A** This sounds like a contradiction to me: The file is simple, but it's impossible to draw in Flash. Make sure you're fully exploiting the potential of Flash. (Read Hour 2, "Drawing and Painting Original Art in Flash," again if necessary.) If you have to import the image, do so. You may still have the best luck if you first export it from Illustrator as a .swf before importing, however.

Workshop

The Workshop consists of quiz questions and answers to help you solidify your understanding of the material covered in this hour. You should try to answer the questions before checking the answers.

Quiz

1. What's the most appropriate image file format to import into Flash?
 - A. Raster.
 - B. Vector.
 - C. It depends on the nature or content of the image.
2. If you import a .gif image into Flash, what kind of compression will Flash use on the image when it exports the entire movie?
 - A. It depends on the Compression setting in the Bitmap Properties dialog box.
 - B. Flash always uses JPEG compression, but it's up to you to specify what quality level to use.
 - C. GIFs are exported as GIFs.
3. How do you import photographs created with a digital camera?
 - A. You can't, you must use conventional film.
 - B. It's simple; just select File, Import.
 - C. Be sure to resize the image in an outside program first, then select File, Import.

Quiz Answers

1. C. Although a vector graphic has benefits over a raster graphic, the most appropriate image file format to import into Flash depends on the graphic. Photographs usually have to stay as raster graphics.
2. A. Each image imported can have a unique compression setting that is not dependent on its original format. By default, however, imported .gifs get exported as .gifs.
3. C. Maybe I'm being mean including a question whose explanation is only found in the Q&A section, but be sure to read the second question in that section if you didn't get this answer right, because it's important.