

# Desktop Science

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## Linking 101. Managing imported graphic files in FrameMaker, Illustrator, and PageMaker

*Ahem. Good morning. Please be seated.*

*In previous classes, we have discussed the ethical, moral, philosophical, and sociological implications of design decisions made in the course of creating today's graphics software applications. In your most recent assignment, I asked the class to split into teams to consider a particular problem inherent in publishing programs—namely, what to do with files imported from other applications.*

*I would like to commend the work done by the team made up of Mr. PageMaker, Ms. Illustrator, and The Entity Known As FrameMaker. I believe that they have stated the problem clearly, have drawn the correct conclusions, and have developed good—if not always perfect—solutions. It is particularly interesting to note that, while each member of this team has come up with an individual approach that varies slightly from those of the other team members, the approaches are all remarkably similar.*

*Please stop fidgeting. Mr. PageMaker, you may remove your hat.*



### Problem? What problem?

What's going on in the imaginary classroom scene described here? The students—all desktop-publishing applications—are confronting questions each of them must face: What *should* happen when you import a file from another application? Should the program create a copy of the file and store it inside the document? (This is usually called *embedding*.) Or should the file be stored outside the document, with the application referring to the file on disk for information when printing or drawing the imported file on your screen? (This method is often called *linking*, although this term is somewhat misleading, as we'll see later.) This area is one of the most misunderstood parts of PageMaker,



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Illustrator, and FrameMaker.

What's the practical outcome of choosing one way of dealing with imported files over another? If you opt to embed the imported graphic, your document file increases in size by the size of each file you import. Store the graphic file outside the document, and you save disk space and keep your document file trim—but you'll have to keep track of the graphic file for printing (and, in some cases, for display).

In my opinion, the choice should be easy for a software developer to make: provide both methods, and let users choose to use one method, or the other, or both. That's what PageMaker, Illustrator, and FrameMaker have done.

With this flexibility, however, comes responsibility. You, the user, have to know which method you're using, and what advantages and disadvantages come with it (especially when it comes to printing the document file or moving it to another computer).

## Thinking about linking

FrameMaker and Illustrator use different terminology, but they work the same way. In both applications, you can store a graphic either inside or outside the document file. In FrameMaker, a graphic you've imported using the Copy Into Document option is embedded in your document file; one you've imported using the Import by Reference option is stored outside the document file. In Illustrator, linked graphics are stored outside the document file; embedded graphics are stored inside. You can't maintain a link to an external file while embedding a copy of the file in your document, as you can in PageMaker.

In PageMaker, linking is really about two separate but related things.

- A file's storage location. PageMaker tracks whether a copy of the imported file has been stored (embedded) inside the document file or if it's been stored outside the document.
- A file's creation and modification status. PageMaker can track where an imported file came from and what's happened to it—*whether or not the file is embedded in the document.*

Of the three programs, PageMaker has the most flexible—and therefore potentially confusing—system for managing imported files. In PageMaker, you can create a link to a file even if you've embedded the file in a document, and you can tell PageMaker to forget about a link to an embedded file. Both options are very useful.

But this capability causes prob-

lems when you talk about your PageMaker publications with users of other publishing programs. To them, "linked" files are *always* stored externally. They assume that you'll need to have a copy of each linked file to print the document. And they keep on making this assumption—even if the files are embedded in the document (and therefore aren't needed for printing). To PageMaker, the *link* is simply a way of keeping track of the original file—and can be maintained for embedded graphics, as well as for those stored outside a document. I've seen many a PageMaker job mistakenly delayed at an imagesetting service bureau because of "missing" linked files—files that were, in fact, embedded in the document.

When you change an externally stored (that is, not embedded) file, all three programs update any instances of that file in your document file. When you update the source file of a graphic you've embedded in an Illustrator or FrameMaker document, nothing happens to the version of the graphic in your document file. This may or may not be what you want to have happen. In PageMaker, the graphic updates—or does not update—based on the state of the options in the Link Options dialog box (more on this later).

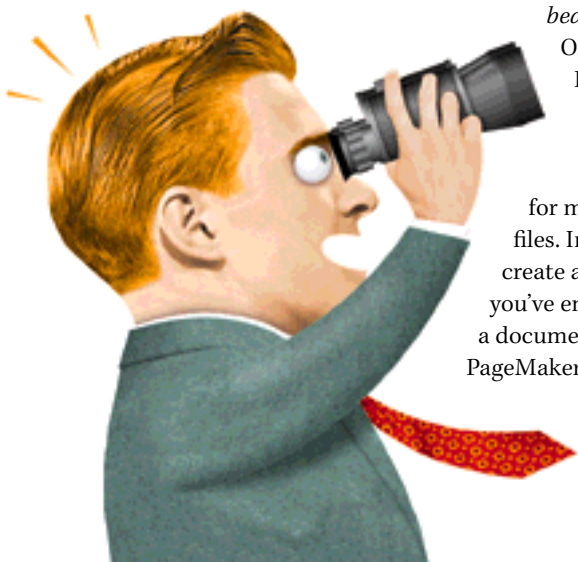
## Where are your files?

Here's an overview of the methods used by each program to define the storage location of placed graphics.

**Illustrator.** To find out whether a graphic is stored inside or outside an Illustrator 7 document, select the graphic and choose Selection Info from the File menu. Illustrator displays the Selection Info dialog box. Choose Linked Images from the Info pop-up menu. If the selected graphic is stored externally, Illustrator displays information about the graphic in the Selection Info dialog box. If it's not, choose Embedded Images from the Info pop-up menu to see information about the embedded image. To see the storage options for all of the imported graphics in a document, press Ctrl + Shift + A (Windows) or Command + Shift + A (Mac) to deselect all objects, and then choose Document Info from the File menu. Choose Linked Images or Embedded Images from the Info pop-up menu to display a listing of linked or embedded graphics.

In Illustrator, you control a graphic's storage location when you place the file. To store the graphic outside the document, turn on the Link option in the Place dialog box (this is Illustrator's default). Turn this option off when you want to embed a copy of the graphic inside your document file.

To embed all of the graphics in a file, turn on the Include Placed Files option as you save the file in Illustrator 7 format. (Note: The Include Placed Files option does not work correctly with linked EPS files. If you use it, Illustrator will write all the code from the EPS into the illustration file, and it will print correctly if the illustration file is itself an EPS and placed into another application. But if you open the file in Illustrator again, you'll need to re-place your EPS.)



To embed a bitmap image, I use a sneaky trick—I rasterize it. Select the graphic and look at its specifications in the Selection Info dialog box (choose Linked Images to view the information if it's not already visible). Close the Selection Info dialog box and choose Rasterize from the Object menu. Illustrator displays the Rasterize dialog box. Make the settings in this dialog box match the specifications of the original image (make sure you leave the Anti-Alias and Create Mask options off), and click OK to rasterize the image. Illustrator duplicates the image and stores the copy inside your document. On a related note, running any of the bitmap (Photoshop) filters on linked graphics will also automatically embed them.

**FrameMaker.** When you import a graphic into a FrameMaker document, the Import File dialog box gives you two options: Import by Reference and Copy Into Document. Select Import by Reference to store the file outside the document, or select Copy Into Document to embed the file in the document.

To change the storage location for a graphic, replace it: Select the graphic, and choose File from the Import submenu of the File menu. In the Import File dialog box, select the filename of the graphic, and then select the storage option you want to use. Click Import, and FrameMaker replaces the graphic with itself, changing the storage method as it does so.

**PageMaker.** To set or view the options for a placed graphic in PageMaker, select the graphic with the pointer tool and choose Link Options from the Element menu. In the Link Options dialog box, turn on the Store Copy in Publication option to embed a copy of the graphic inside your document file. To store the graphic outside the document, turn this option off.

When you turn on the Store Copy in Publication option, you can also choose to have PageMaker automatically update the placed graphic if the original graphic has been changed since you were last inside the document. You may or may not want to use this feature (I never do), but if you do, please, please also turn on the Alert Before Updating option. I know too many people who have lost their sanity because PageMaker updated images while they weren't paying attention (even though it was only doing what it had been told to do). If you turn off the Store Copy in Publication option, PageMaker always automatically updates the placed graphic if the original file has changed since you last worked in the PageMaker file.

PageMaker makes it easy to take the third route—you can set a threshold at which it will ask if you want to store a copy of a graphic inside the document. By default, this threshold is 256 K—PageMaker automatically stores files smaller than that inside the document (this default works pretty well and is what I use). Place a file larger than 256 K, however, and PageMaker will ask how you want it stored. You can change the threshold using the Alert When Storing Graphics Over option in the More Preferences dialog box (to get there, choose Preferences from the File menu, and then click

More in the Preferences dialog box). Changing the threshold has no effect on files you've already placed.

PageMaker's Links Manager (PageMaker 6.5) or Links (previous versions) dialog box gives you a central place to view and edit the storage and link status of all the files you've placed in a document. To display it, choose Links from the File menu.

You can also use this dialog box to tell PageMaker to *unlink* a given file—that is, to forget completely about its link status so that PageMaker won't have to keep track of the file anymore. Choose the filename from the list, and then click Unlink. If the file isn't already stored inside the document, PageMaker copies it, stores it inside the document, and then removes the filename from the list of linked files.

PageMaker includes the Global Link Options plug-in, which gives you a way of changing the storage settings for all the files linked to your document. This means that you can quickly change linking strategies. To display the plug-in, choose Global Link Options from the Plug-ins submenu of the Utilities menu.

### A few tricks

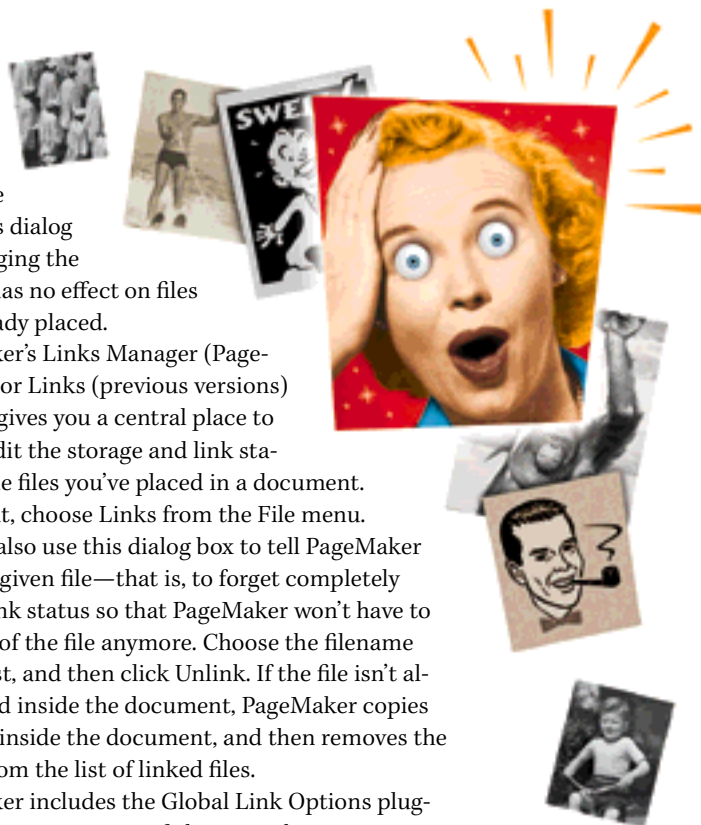
Here are a few of my favorite linking-related tips.

**Updating shortcuts.** In Windows and Macintosh versions of PageMaker and Illustrator, and the Macintosh version of FrameMaker, you can use a shortcut to open and edit an externally stored graphic in its originating application—hold down Alt in Windows (in PageMaker and Illustrator) or Option on the Macintosh and double-click the graphic on your document page. This switches to the application you used to create the graphic (Photoshop, for example), and opens the graphic in that application. When you save the graphic and return to your document, your publishing application updates the imported graphic. However, we do *not* recommend that you use this technique in Illustrator 7.x with a non-EPS linked image from Photoshop—doing so can change the arbitrary origin point to the center of the object when you try to use a transformation tool, or it can cause the watch cursor or the Place progress bar to appear unexpectedly.

In PageMaker, you can choose the program you want to use to edit the graphic by holding down Alt + Shift (Windows) or Option + Shift (Macintosh) as you double-click the graphic. PageMaker displays the Choose Editor dialog box. Choose the program you want to use to edit the graphic, and click OK.

In PageMaker, you can also use this shortcut on graphics you've embedded in your document—just make sure you turn on the Update Automatically option for that graphic before you switch to the application you'll be using to edit it—if you don't do this, the graphic won't update when you return to PageMaker.

**Save linked files to your document's folder.** If



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you've ever moved or renamed a folder full of files you've placed in a document, you've probably experienced the horror of having to relink to those files one at a time. How can you keep from repeating this? The simplest way (and what I do most of the time) is to store linked files in the same folder as the document file—PageMaker, Illustrator, and FrameMaker can always find linked files there. If you're using FrameMaker, you can store the files in folders inside the document file's folder.

**Let your program do some of the hunting.** When FrameMaker discovers it can't find linked files, you'll see the Missing File dialog box. Locate the first missing graphic, turn on the Update Document to Use This Path option, and click OK. FrameMaker updates the linked graphic. The next time FrameMaker encounters a graphic you've "imported by reference" (i.e., stored outside the document), it'll check this folder before asking you to locate the lost file.

When PageMaker discovers that it can't find a linked graphic as it opens a document, you'll see the Cannot Find [filename] dialog box. Just as in FrameMaker, you locate the first missing graphic and update the link to it; PageMaker adds the folder containing the graphic to the list of folders it searches automatically. To keep PageMaker from searching this folder, hold down Alt (Windows) or Option (Macintosh) as you click the Link button.

## File-management strategies

What's the best way to work with imported files? That depends on who you are and what sort of document you're working on. Here are three main approaches.

### Store all your graphics outside your document.

When you do this, your document file size stays small—at least compared to an identical document using embedded graphics. Here are some of the other advantages and disadvantages of this approach.

- You can't move, rename, or otherwise change the location of the graphics you've placed in your document file (this includes renaming or moving any of the folders or drives containing the graphics)—unless you're prepared to relink to all of the graphics (or move them to your document's folder).
- You can update a graphic and expect to see the changes from the update appear in your document.
- You have to remember to take the files with you when you bring

your publication file to another computer, such as when you take your document to an imagesetting service bureau.

**Store all your graphics inside your document.** When you do this, your document file size increases by the size of each graphic file you import, or more. Unless you delete the original file (usually a bad idea), you'll be taking up at least twice as much disk space, per graphic, as you would have if you had stored the graphic externally. On the other hand, here are some advantages of this approach.

- You can move, rename, or even delete the original graphics files without fear of changing their appearance in your document. If you want to do this, and you're using PageMaker, you'll have to make sure that the Update Automatically option in the Link Options dialog box has been turned off.
- You have only one file to worry about—your document file—and it contains all of the information you need to print or display it.

**Store small graphics inside the document and large graphics outside the document.** This approach gives you the best (or worst) of both worlds. Your document size isn't as large as if you'd stored all the graphics inside the file, but you've still got to keep track of the graphics you've stored externally.

In PageMaker, you've got help. When you choose Save As from the File menu, you'll see two options in the Save Publication As dialog box: Files for Remote Printing and All Linked Files. Both options copy a document's linked files to the same location you choose for the document, but they work a little differently. Select the Files for Remote Printing option when you want to copy only those files you've stored outside the document. Select the All Linked Files option to copy (as you'd expect) all the graphics files you've placed in your document and haven't unlinked, regardless of their storage status.

You can also use PageMaker's Save for Service Provider plug-in to create a package of files to hand off to your imagesetting service bureau.

## Class dismissed

*That's all the time we have today. Mr. PageMaker, Ms. Illustrator, and The Entity Known As FrameMaker may take the remainder of the week off. The rest of you would all do well to study their example. Empower your users by giving them a choice, provide tools to support their decisions, and you really can't go wrong.*

*Ms. Illustrator, you are forgetting your clamshell.*

Please feel free to drop me a line care of the magazine or at [okvern@ix.netcom.com](mailto:okvern@ix.netcom.com). I'd love to hear from you, and your comments help me make this column better—and they're a lot of fun! I can't always reply, but I read and consider every message. Thanks! ♦

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