Exporting PDF

PDF is now a standard format for both print output and online distribution. Adobe® InDesign® takes advantage of this versatile format by allowing you to export page layouts as PDF files. InDesign's PDF capabilities are extremely full-featured, and navigating your way through its extensive dialog boxes may take some guidance.

Thankfully, those guides are available. Two page-layout experts, Olav Martin Kvern and David Blatner, take you through InDesign's PDF-export options, dispensing wisdom and humor along the way. You'll learn about optimization, compression, and encoding, as well as making bookmarks and applying color management.

Adobe InDesign can export Adobe Acrobat Portable Document Format files (what normal people call "PDF"), which can be used for remote printing, electronic distribution, or as a graphic you can place in InDesign or other programs. InDesign doesn't need to use the Acrobat Distiller (or the Distiller Assistant) to create PDF files.

Note, however, that Distiller usually makes more compact PDF files than exporting directly from InDesign, which may be important if your PDF files are destined for the Web. If you want to use Distiller to make PDF files instead of creating them directly using the Export feature, you must use the Print dialog box to write PostScript to disk first.

While PDF is great for putting publications on the World Wide Web, or for creating other sorts of on-line publications, most of us ink-on-paper types care more about making PDF files suitable for print. Fortunately, InDesign can export PDFs for just about any purpose, on-screen or on-press. It all depends on how you set up the export options.

When you export a PDF (by selecting Export from the File menu and choosing PDF from the Type pop-up menu), InDesign displays the Export PDF dialog box. This dialog box contains six panels for setting PDF export options: General, Compression, Marks & Bleeds, Advanced, Security, and Summary (see Figure 1). Remember that in all paneled dialog boxes like this one, you can jump to the second panel by pressing Command-2/Ctrl-2, the third panel with Command=3/Ctrl-3, and so on. Above all these panels sits the Style pop-up menu, which lets you select a PDF export style (each of which is a collection of various export options). You may be familiar with these styles, as they're basically identical to those found in Illustrator and Distiller.

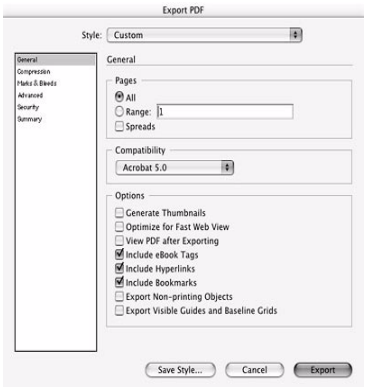

Figure 1: Export PDF Options, General Panel

Above all these panels sits the Style pop-up menu, which lets you select a PDF export style (each of which is a collection of various export options). You may be familiar with these styles, as they're basically identical to those found in Illustrator and Distiller.

The General panel of the Export PDF dialog box is a hodge-podge of options, controlling everything from what pages get exported to whether InDesign should launch Acrobat after saving the file.

Page Ranges. Which pages do you want to export? Just as in the General panel of the Print dialog box, you can export all document pages (click the All option) or specify individual page ranges (135-182) or non-contiguous pages (3, 7, 22) in the Range field. Note that unless you have Absolute Numbering selected in the General panel of the Preferences dialog box, you'll need to type page ranges with their actual names. For instance, if you want to export the first four pages and you're using roman numerals, you'll have to type "i-iv". If you've specified a page number prefix, like "A", you'll have to include that in the Range field, too.

Reader's Spreads. When you turn on the Spreads option, InDesign exports each spread in the page range you've specified (see above) as a single page of the exported PDF. This is called "reader's spreads" because the spread appears as it would to a reader flipping through a book or magazine. This does not create "printer spreads," which you need to print a saddle-stitched booklet. You need a separate plug-in to do that.

Compatibility. Who is your audience for this PDF file? Most people have Acrobat 5 now (or at least the free Acrobat 5 Reader), but if there's any chance your recipient only has Acrobat 4, you'll need to choose Acrobat 4 from the Compatibility pop-up menu. But there's another reason you want to pay attention here: If you have used any transparency effects in your document, the Compatibility pop-up menu controls who does the flattening. Choosing Acrobat 4 means you want InDesign to flatten the file.

Acrobat 5 can read the unflattened transparency effects. If we're sending files to our printer or an imaging bureau that we trust knows about flattening, then we'd much rather send them Acrobat 5 PDF files.

Generate Thumbnails. Creates a preview image, or "thumbnail" of each page or spread (if you're exporting reader's spreads) you export. You can display thumbnails when you view the PDF using Acrobat or Acrobat Reader. They don't do much for us, and they increase the size of the file.

Optimize for Fast Web View. The key word here is "Web." The only time you'd want to turn this on is when you're creating a document that will only be viewed on the Web. When this option is off, InDesign includes repeated objects (such as objects from master pages) as individual objects on each page of the PDF. When you choose Optimize PDF, InDesign exports a single instance of each repeated item for the entire PDF. When the item appears on a page in the PDF, InDesign includes a reference to the "master" item. This reduces the file size of the PDF without changing the appearance of the exported pages. When on, InDesign also overrides the settings in the Compression panel with its own Web-appropriate settings, and restructures the file so that it can be downloaded one page at a time from a Web server rather than having to download the whole megillah.

View PDF after Exporting. When you turn this option on, InDesign opens the file in Acrobat Reader or Acrobat after exporting the PDF.

Include eBook Tags. The Include eBook Tags checkbox determines whether InDesign adds structure tags inside your PDF files. These tags tell Acrobat (or the Acrobat Reader) about the structure of the document, including what constitutes a paragraph. For instance, if you turn this option on, open the resulting PDF file in Acrobat 5, and then save it as an RTF (Rich Text Format) file, you can see that each paragraph is preserved. If you turn off Include eBook Tags, your final RTF file ends up with each line as a separate paragraph. After all, without structuring tags, Acrobat can't possibly know what constitutes a paragraph.

While there is hardly ever a need for these tags in documents that are simply being printed, they don't affect file size or export time much, so we typically just leave this option turned on.

Include Hyperlinks. You can use the Hyperlinks palette to add as many hyperlinks to your document as you want, but unless you turn on this checkbox they won't appear in your PDF file. When you turn this option on, InDesign also creates hyperlinks in your table of contents and indexes . Of course, it's not really appropriate to include hyperlinks when sending off a PDF for high-resolution printing.

Include Bookmarks. If you've used the table of contents feature , you can tell InDesign to automatically build bookmarks for your PDF file based on the table of contents. Just turn on the Include Bookmarks checkbox. Again, this is a feature suitable for PDFs destined for on-screen viewing, not prepress.

Export Non-printing Objects. Ordinarily, non-printing objects (items on your page for which you've turned on the Non-printing checkbox in the Attributes palette) won't appear in exported PDF files. However, you can force them to export (overriding the Attributes palette) by turning on the Export Non-printing Objects checkbox in the Export PDF dialog box.

Export Visible Guides and Baseline Grids. If you turn on this export option, InDesign exports all visible guides (margins, ruler guides, baseline guides, and so on), which may be helpful for designers who are collaborating on a project. The only guide type that doesn't export is the document grid (even if it's visible).

The options in the Compression panel define the compression and/or sampling changes applied to the images in your publication as it's exported as a PDF (see Figure 2). Compression is almost always a good thing, but you need to choose your compression options carefully, depending on where your PDF is headed. PDFs for on-screen viewing can handle more compression, and those destined for the Web typically *need* a lot of compression to keep file sizes down. A PDF file that you're sending to a printer for high-resolution output requires very little compression, if any (unless you have to e-mail the file or it won't otherwise fit on a disk for transport).

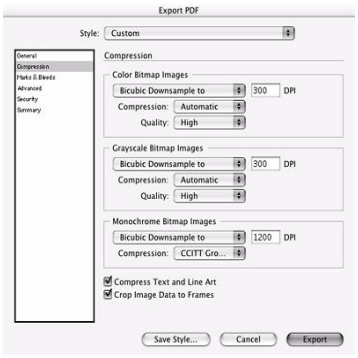

Figure 2: Export PDF Options, Compression Panel

Bitmapped images are almost always the largest part of a document, so PDF's compression techniques focus on them. InDesign has two methods of making your files smaller: lowering the resolution of the images and encoding the image data in clever ways.

Resampling. If you place a 300 dpi CMYK image into your document and scale it down 50 percent, the effective resolution is 600 dpi (because twice as many pixels fit in the same amount of space). When you export your PDF, you can ask InDesign to resample the image to a more reasonable resolution. If your final output is to a desktop inkjet printer, you rarely need more than 300 or 400 dpi. Printing on a laser printer or imagesetter (or any device that uses halftone screens) requires no more than 1.5 to 2.0 times the halftone screen frequency—a 150 lpi halftone rarely needs more than 225 dpi of data to print beautifully. Web PDFs can get away with 72 or 96 dpi, unless you want the viewer to be able to zoom in on the image and not see pixelation.

Monochrome (or bi-level) bitmapped images do not have halftone screens applied to them by the printer, and, therefore, are not subject to the same rules that govern grayscale and color images. In a monochrome image, you never need more resolution than the resolution of the printer. If your final output is your 600 dpi laser printer, you certainly never need more than 600 dpi monochrome images. Imagesetter output rarely requires more than 1200 dpi (though for a sheetfed art book, we might bump this up to 1500 dpi). Printing on uncoated stock requires less resolution because of halftone spots spreading; you can easily get away with 800 dpi for newsprint.

InDesign only downsamples when exporting PDF files. That is, it throws away data to lower image resolution (it won't add resolution). Downsampling works by turning an area of pixels into a single, larger pixel, so the method you use to get that larger pixel is crucial. When you *downsample* an image, InDesign takes the average color or gray value of all of the pixels in the area to set the color or gray value of the larger pixel. When you *subsample* an image, on the other hand, InDesign uses the color or gray value of a single pixel in the middle of the area. This means that subsampling is a much less accurate resampling method than downsampling, and shouldn't be used for anything other than proofing (see Figure 3). We rarely use Downsample or Subsample; instead, the best option is Bicubic Downsample, which provides the smoothest sampling algorithm.

Figure 3: Sampling Methods Compared
Normal (left), Downsampled to 300 pixels per inch (center), and Subsampled to 300 pixels per inch (right)

Ultimately, however, we much prefer to just get the resolution right in Photoshop before placing the image, rather than relying on InDesign to downsample it. That way, we can see the result of resampling on the screen, and undo the change if necessary. Otherwise, we won't see the result until we view the PDF.

Encoding. The PDF specification supports both ZIP and JPEG encoding for grayscale and color bitmapped images; and CCITT Group 3, CCITT Group 4, ZIP, and Run Length encodings for monochrome bitmapped images. It's enough to make your head spin! Which method should you use? Again, it depends on where the PDF is going and what kind of images you've got.

Scanned images generally compress better with JPEG and synthetic images (such as screen captures that have a lot of solid colors and sharp edges) compress better with ZIP. However, JPEG compression, even at its highest quality setting, removes data from an image file (it's "lossy"). Most designers find that some JPEG compression for scanned photographs is an acceptable compromise, as it results in dramatically smaller file sizes. But when we don't need to worry about file size, we prefer to use ZIP for everything because ZIP compression does not discard image data (it's "lossless"). You never know when you might need that image data!

When making on-screen PDFs (either for the Web or for proofing), we almost always leave the color and grayscale Compression pop-up menus set to Automatic, so that InDesign decides between ZIP and JPEG for us on a per-image basis. We then make a choice from the Quality pop-up menu: You get the best compression with Minimum quality, but who wants to look at the results? Unfortunately, the only good way to choose from among the Quality options is to save two or three to disk, look at them in Acrobat, and compare their file sizes.

Exporting PDF files for print is easier: We usually just choose ZIP for both color and grayscale images, and then specify 8-bit from the Quality pop-up menu (4-bit describes fewer colors, so it's half the size but lousy quality). However, if you need to save some disk space (again, like if you're e-mailing the file to your output provider), it's usually reasonable to use Automatic compression with the Quality pop-up menu set to Maximum quality—the resulting JPEG images are usually indistinguishable from uncompressed images.

As for monochrome image encoding, it's rare to see much of a difference among the choices (they're all lossless and provide reasonable compression). We usually use Run Length or ZIP encoding, but only because we don't like the sound of CCITT.

Compress Text and Line Art. The Compress Text and Line Art option applies to text and paths you've drawn in InDesign—we cannot think of any reason you should turn this option off.

Crop Image Data to Frames. When you turn this option on, InDesign sends only the visible parts of the images in the publication. This sounds reasonable, and can result in a much smaller file for publications that contain cropped images. But it also means you won't have access to the image data if you edit the image in the PDF. Most of the time, this isn't a problem, but you might want to turn this option off if your PDF includes images that bleed (so that you or your service provider can later increase the bleed area, if necessary).

In a desperate attempt at reducing the redundancy in our overly complex lives, we're going to skip a detailed analysis of the Marks & Bleeds panel of the Export PDF dialog box and instead point out that these features are exactly the same as the features in the Print dialog box.

There's nothing particularly "advanced" about any of the options in this panel, and while you probably won't spend much time messing with these settings, it is important to understand what they do and why you'd want to change them (see Figure 4).

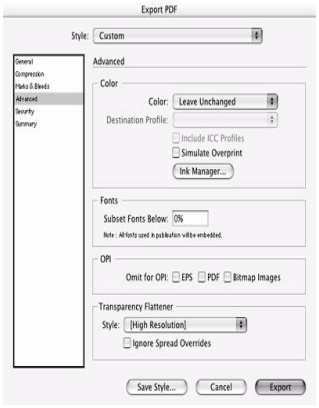

Figure 4: Export PDF Options, Advanced Pane

Color. Choose CMYK from the Color pop-up menu to convert any RGB images or RGB colors to CMYK in the exported PDF. If you've assigned a color profile to an image, InDesign uses that profile to create separations of the image. If you have not turned on color management for the image, InDesign uses its internal RGB to CMYK conversion method (the default CMYK space is based on SWOP inks; the default RGB space is AdobeRGB). When color management is enabled in the Color Settings dialog box, you can choose a destination profile for the conversion in the (surprise!) Destination Profile pop-up menu (see Chapter 10, "Color," for more on color management).

If your final output is based on RGB (like either on-screen or an inkjet printer) you can also choose RGB to convert the images and colors in the publication to the RGB color model. Choose Leave Unchanged to export the images using their current color model. The options on the Color pop-up menu have no effect on spot colors you've defined in your publication or in images.

Include ICC Profiles. When you've enabled color management in the Color Settings dialog box, you can tell InDesign to embed ICC profiles into its PDF files by turning on this option. In a color managed workflow, it is important that you do include profiles, or else other programs (or InDesign, if you're re-importing the PDF into another InDesign document) cannot color manage the file. Turn this option off when exporting PDF files for the Web, since the Web isn't color managed and ICC Profiles increase file size.

Simulate Overprint. Acrobat 4 has no way to preview overprinting instructions, so if you need to use Acrobat 4 and you need to proof overprinting, you can turn on the Simulate Overprint option. Because everyone we know is using Acrobat 5, we never have to worry about this feature. Note that Simulate Overprint should not be used for final artwork, as it radically changes your document (spot colors are changed to process colors, for instance). It's just a proofing tool.

Ink Manager. Have a spot color that should be a process color? Or two different spot colors that really should be one? The Ink Manager handles these kinds of troubles.

Subset Fonts Below. InDesign always embeds font outline information in exported PDF files, so it doesn't matter whether the person you give the file to has the font. The exception to this is when the font manufacturer has specified that their font should not be embeddable. Many Asian fonts are not embeddable, for instance. This is a political and legal hot-potato that we're not going to touch, other than to say that if your fonts aren't embeddable, complain to your font developer, not Adobe (or us). Or, better yet, if there isn't a lot of text in that font, convert the text to outlines before printing or exporting.

Anyway, usually the question isn't whether to embed your fonts, but rather how much of the font you want to embed. The value you enter in the Subset Fonts Below field sets the threshold at which InDesign includes complete fonts in the PDF you're exporting. When you "subset" a font, you include only those characters that are used on the pages you're exporting, which keeps file size down. Enter 100 to force InDesign to always save a subset of the font's characters, or enter 0 to force InDesign to include the entire font (or fonts) in the PDF. You can also enter some other percentage value to strike a balance between the two extremes, but we generally find that either we want subsets or we don't.

One reason you might not want to subset your fonts is to maximize the potential for editing the PDF later. Let's say you subset your fonts, and later need your output provider to edit the PDF (perhaps to change a typo). If they need to change "karma" to "dharma" and you haven't used the letter "d" elsewhere in the document, they can't do it (unless they have the font installed on their system).

Another reason not to use font subsetting is if you expect users on a platform other than your own to view and print your exported PDFs. We know, it's supposed to work. In our experience, it doesn't. Platform-specific character encoding and printer driver issues always seem to cause problems when we subset fonts in a PDF. At least one of the authors (Ole!) feels strongly that font subsetting should always be avoided for this reason. The small amount of (cheap!) disk space you use to embed the entire font is a small price to pay, compared to (expensive!) last-minute print production problems.

Unfortunately, when you export PDF files from InDesign, the program embeds its fonts in a format called "CID" (which is usually reserved for Asian fonts). This wouldn't be so bad except that some laser printers (notably PostScript "emulators") cannot deal with CID fonts and so you can't print the PDF file from Acrobat. Fortunately, there's a workaround if you find yourself in

this sort of situation: Turn off the Optimize for Speed option in Acrobat's Print dialog box. This allows PDFs with CID fonts to print to these sorts of PostScript devices. You can also just write PostScript to disk and use Acrobat Distiller to create the PDF for you.

Transparency Flattener. While Acrobat 5 can handle InDesign's transparency effects, Acrobat 4 is clueless. So if you're exporting an Acrobat 4 file, InDesign must "flatten" all transparency effects. Suffice it to say that you can choose a flattener style here, as well as tell InDesign to ignore any flattener style spread overrides you may have made in the document (by turning on the Ignore Spread Overrides checkbox).

Omit for OPI. In an OPI workflow, the high-resolution image data is kept separate from your document until it's merged in at the last minute before printing. If you have an OPI server capable of processing PDF files with OPI comments, you can keep InDesign from including a certain type of imported graphic file in the PDF file by turning on the corresponding option in the Omit section (to omit placed EPS images, for example, turn on the EPS option).