

Preparing Adobe® PDF files for high-resolution printing

Today's prepress workflow works, but it doesn't really flow

Commercial printers and service providers are working hard to improve their ability to produce reliable, consistent, and predictable output on increasingly tight schedules. The current digital prepress process works, but it's fraught with problems that challenge this goal. Most commercial printers and service providers receive files in their native file format. These handoffs invariably have problems: missing components (fonts or graphics), missed deliveries (problems with modem or other electronic deliveries), accidental changes, unpredictable PostScript® language files (created from native applications), and enormous file sizes. In addition, service providers have to maintain different versions of many different applications to support the range of requests they get from you and other customers—a requirement that adds training and software/hardware compatibility issues to the mix. What they need is a more streamlined, PostScript-based process that's robust enough to meet their high quality standards.

Adobe Systems has a solution that addresses this fundamental problem. The solution is based on two core technologies: Adobe Acrobat® 3.0 software with its Portable Document Format (PDF) files and Adobe PostScript® 3™ printing technology. We developed these solutions by working with service providers and customers like you to identify how to streamline the printing process. The result is a portable, device-independent solution that overcomes many of the problems encountered in the old process. Here's how it works:

- ▶ **Step One:** You develop your illustrations or publications using your favorite software.
- ▶ **Step Two:** Before handing off to your commercial printer or service provider, you use Adobe Acrobat Distiller® 3.0x to create a PDF file. This PDF file contains all of the font, graphic, and other layout information necessary to print a high-resolution version of your document.

Note: You either create a composite or pre-separated PDF file, depending on the content of your document. A composite PDF file contains all the information necessary for printing separations, but the actual separation occurs at the RIP your service provider uses. A pre-separated PDF contains a page for each of the separations required by your document. For example, if you create a pre-separated PDF file for a two-page, CMYK print job, the PDF file would contain eight pages—one for each separation required. (For additional information see page 11, "Using a pre-separated PostScript/PDF workflow.")

- ▶ **Step 3:** You hand off the PDF file to your service provider.

PDF files streamline the printing process, while providing more consistent and reliable results. In particular, they reduce or eliminate delays from missing components or unstable files, better communication between you and your printer, and much smaller rework costs. Why? Because the PDF file format offers so many distinct benefits. PDF files are:

- ▶ **Complete**—They contain all the fonts, graphics, and page layout information necessary to display and print the file exactly as you laid it out.
- ▶ **Compact**—PDF supports a variety of compression methods (both lossy and lossless compression), creating smaller files that are easier to transmit and faster to print than the native application files.
- ▶ **Portable**—One of the key benefits of a PDF file is its page, platform, application, and device independence. You can print high-resolution PDF files on any Adobe PostScript 3 output device with the same high-quality results from each. This gives you greater flexibility than in a PostScript workflow.
- ▶ **Reliable**—Acrobat Distiller interprets the original PostScript file, creating cleaner, more reliable PostScript for final output.

- ▶ **Editable**—If you create composite PDF files, you maintain editing control over the final file. You or your service provider can do simple late-stage text and graphic editing in Acrobat Exchange® software using third-party plug-ins. PDF files are page independent—allowing you to sort, extract, insert pages without returning to the native application file.
- ▶ **Extensible**—You can add third-party plug-ins to your Acrobat toolkit to perform a number of supplementary tasks. (For details, visit the Adobe Web site at this URL: <http://www.pluginsource.com/>.)

In addition, your service provider will benefit from the following:

- ▶ **Adobe PostScript® 3™**—providing in-RIP technologies (e.g., separations and trapping) enabling a smaller, more efficient composite PostScript workflow as opposed to a larger, less efficient “host-based” color separated workflow.
- ▶ **Direct PDF Printing**—printing PDF files without having to select a print command through an application increases workflow productivity. Direct PDF printing also decreases operator errors by creating drop or hot folders defined with specific printing parameters and job specifications. (Check with your service provider or printing device manufacturer whether the direct PDF printing feature is supported. Not all Adobe PostScript 3 printing devices include the Direct PDF printing feature because it requires an actual hard disk for file storage.)

This document guides you through the basic steps of producing high-quality PDF files for high-resolution output. It focuses mainly on the composite PDF workflow, but it also provides some basic information about the pros and cons of a pre-separated PDF workflow. It explains the importance of producing good PostScript files for distilling (creating PDF files) and describes how to do this. The document also walks you through key Job Options in Acrobat Distiller, and offers some baseline recommendations that will ensure optimal PDF files. We recommend working closely with your service provider to develop a smooth PDF-based workflow that works for all of you.

Composite versus pre-separated PDF files

The first step in producing a high-resolution PDF file from your document is to decide whether to create a composite or pre-separated PDF file. As a rule, we recommend choosing a composite PDF workflow because it offers these key benefits:

- ▶ **On-screen viewing (or soft proofing)**—You and your service provider can review the file in its final form until it’s output. You can double-check graphic placement, wording, and other file details. That way, you can catch problems before going to press and avoid costly rework.
- ▶ **Simple text and graphics editing**—You or your service provider can edit the PDF file if you find a problem or have an eleventh-hour change.
- ▶ **Faster, more efficient file transfers**—Composite PDF files are tiny by comparison to typical, high-resolution PostScript files. A typical PostScript file with an 8-up imposition with embedded high-resolution images can consume anywhere between 600 MB and 1 GB of disk space. In addition, your service provider has to transfer it over their network multiple times—once for each separation. A PDF file offers a compact, one-shot transfer—making it simpler for everyone.
- ▶ **The right use of in-RIP functionality**—Your service provider can perform trapping, separations, and late binding and file editing, all at the RIP. Furthermore, page independence in PDF files supports the Adobe PostScript Extreme workflow. (For details on Adobe PostScript Extreme™, see the Adobe Web site at this URL: <http://www.adobe.com/print/main.html>.)

If you choose a pre-separated PDF workflow, you’ll create larger files and lose the viewing, and editing capabilities. However, you must use a pre-separated PDF workflow for documents that contain certain graphic file formats or features—specifically, duotone EPS files, colorized TIFF files, DCS images, and spot-color-to-spot-color gradients. These were designed to support a pre-separated PostScript workflow, and don’t include the information necessary to color separate them from a composite PostScript file.

Adobe is working with its industry partners to resolve this issue in the near future. In the meantime, using a pre-separated PDF workflow offers you a more reliable and portable (device-independent) prepress process than you’ve had in the past. For details about creating pre-separated files, see “Using a pre-separated PostScript/PDF workflow” on page 11 of this document.

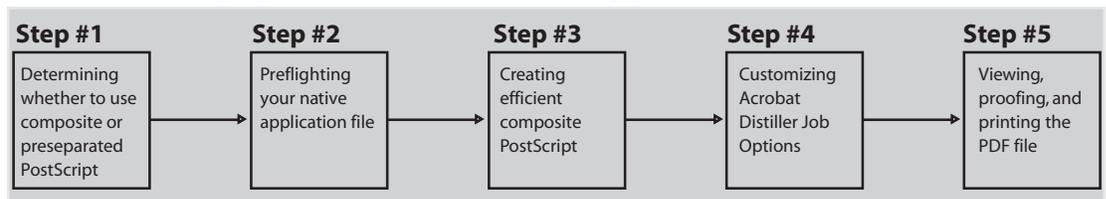
Retaining high quality printing information in Adobe PDF files

One of the challenges you face is understanding how to consistently create PDF files that retain the necessary information (e.g., fonts, color, links to high-resolution images, and overprint settings) for high-resolution printing. The key is understanding the relationship between PostScript and Acrobat Distiller, and how this relationship affects the resulting PDF files. The PostScript imaging model is the heart of Adobe Portable Document Format (PDF) files. After all, Acrobat Distiller 3.0x only accepts PostScript or Encapsulated PostScript (EPS) files. You need to know what variables affect this relationship and how to handle them quickly and efficiently.

Like a PostScript printing device, Acrobat Distiller interprets PostScript code. However, instead of creating printed output from that code on paper, film, or a printing plate, as a PostScript printing device would, Distiller creates a PDF file. Just as a document printed from a PostScript printing device is an exact representation of the original electronic document, so too is a PDF file. While Acrobat Distiller 3.0x is an Adobe PostScript Level 2 interpreter, Distiller does not actually “raster” the file, so it is not a PostScript raster image processor (RIP).

As the *Portable Document Reference Manual* notes on page 8: “PDF files represent text and graphics using the imaging model of the PostScript language. Like a PostScript language program, a PDF page description draws a page by placing ‘paint’ on selected areas.” The quality of the page description drawing process is directly related to the quality of the PostScript file that Distiller interprets. If, for example, the PostScript does not include required fonts, proper paper sizes, or custom/spot color information, neither will the resulting PDF file.

Producing quality PostScript files, and therefore quality PDF files, involves planning. A complete workflow for creating high-resolution PDF files is a five-step process:



Preflighting

Prior to creating a PostScript file for distilling, you must start with a “print-ready” native application file. What do we mean by print-ready? This is a file that adheres to your service provider’s specifications for high-resolution printing. For example, the file:

- ▶ doesn’t include any RGB images or colors in a four-color process job
- ▶ maintains links to placed graphics and images
- ▶ contains only high-resolution image data (no 72 dpi images)

Preflighting is the industry-standard name for this process. Ignoring this step in the process can result in missed deadlines or unexpected charges for rework. We recommend you ask your service provider which software they recommend for preflighting files. This will ensure consistency throughout the production process. Make sure the recommended software opens your native application files, as well as PostScript, EPS, and PDF files. You’ll find the initial investment worthwhile—saving you valuable time and money.

Creating composite PostScript files

Creating efficient, composite PostScript files for high-resolution printing is not as simple as deselecting color separations in your native application’s Print dialog box. Here is a list of variables you need to consider:

- ▶ Printer driver and PPD selection
- ▶ Paper size
- ▶ Font inclusion
- ▶ Spot-color information
- ▶ Trapping information
- ▶ OPI comments

Selecting a printer driver and PPD

For optimal results, we recommend using the Adobe PostScript printer driver (AdobePS™) and the Acrobat Distiller PostScript Printer Description (PPD) file. This will ensure you're creating consistent, device-independent PDF files—after all, your PDF file may be printed on more than one device. When you create PostScript files for distilling, make sure you're using the latest version of the AdobePS driver (version 8.51 for the Macintosh, version 4.2.3 for Windows 95, and version 5.0 for Windows NT® 4.0). You can download the latest versions of the AdobePS printer drivers from the Adobe Web site at the following URLs:

Macintosh:

<http://www.adobe.com/supportservice/custsupport/LIBRARY/4cea.htm>

Windows 95:

<http://www.adobe.com/supportservice/custsupport/LIBRARY/4cee.htm>

Windows NT 4.0:

<http://www.adobe.com/supportservice/custsupport/LIBRARY/4f06.htm>

The Acrobat Distiller PPD file is included with the Acrobat Distiller 3.0x software and is installed in the Xtras folder in the Adobe Acrobat 3.0x folder (Macintosh) or Acrobat3 > Distillr folder (Windows). This PPD does not write device-specific information in the resulting PostScript file, so you'll still be able to select certain high-end controls, such as custom paper sizes, for oversized jobs. The Acrobat Distiller PPD was originally written to create PDF files for on-screen viewing, so we recommend making the following modifications to ensure consistent, reliable results:

- ▶ Change the DefaultColorSpace value from RGB to CMYK
- ▶ Change the DefaultResolution value from 600 dpi to 1200 or 2400 dpi (based on your final output device)

To edit the PPD, perform these steps:

1. Open the Acrobat Distiller PPD in a text editor and locate these lines of text near the beginning of the file:

```
*% ==== Device Capabilities =====
*ColorDevice: True
*DefaultColorSpace: RGB
```

2. Change the DefaultColorSpace value from RGB to CMYK as noted below:

```
*DefaultColorSpace: CMYK
```

3. Locate these lines of text further on in the file:

```
*% Multiple Resolution support for Distiller 3.0 =====
*OpenUI *Resolution: PickOne
*OrderDependency: 50 AnySetup *Resolution
*DefaultResolution: 600dpi
```

4. Change the DefaultResolution value as noted below (or set the value to 1200 dpi):

```
*DefaultResolution: 2400dpi
```

5. Locate these lines of text near the beginning of the file:

```
*PCFileName: "ADISTILL.PPD"
*ShortNickName: "Acrobat Distiller"
```

6. Edit the text to read as follows:

```
*PCFileName: "CMYKDIST.PPD"
*ShortNickName: "Acrobat Distiller CMYK"
```

7. Save the edited PPD file in text-only (ASCII) format to the same location, using the file name CMYKDIST.PPD so that you can easily distinguish the edited PPD from the original.

Specifying the appropriate paper size

If your document's page size (usually specified in an application's Document Setup dialog box) does not account for image-bleeds or printer marks, you'll want to create a custom paper size using your application's Print dialog box. The Acrobat Distiller PPD, like an imagesetter PPD, supports custom paper sizes. So, specify a paper size that is large enough to accommodate the document's page size, as well as any image-bleeds, printer's marks, or printer information you want. As a general rule, increase paper size by one inch when printing with crop marks.

Note: If you choose the Export Adobe PDF command in Adobe PageMaker® 6.5x software (File > Export > AdobePDF) to create the PDF file, you may also need to customize the Printer Style you select. (For additional information see page 415 in the *Adobe PageMaker 6.5 User Guide*.)

Including all your document fonts

When you create a PostScript file for distilling, make sure you include all PostScript Type 1 and TrueType fonts. This will ensure that the fonts will be available for viewing and printing. Unlike Type 1 fonts, Acrobat Distiller 3.0x can only embed TrueType fonts in a PDF file if they're included in the original PostScript file. (See “Renaming the Acrobat Distiller font database file” on page 9 for additional information.)

If you are considering using TrueType fonts for high-resolution printing, we recommend you discuss this with your service provider. They may have printing devices or post-processing applications that do not contain a TrueType rasterizer which is required for printing these fonts—resulting in your document fonts printing in Courier.

Note: QuarkXPress® 4.0x and earlier do not include the document fonts when you save pages as EPS files (as opposed to printing a file to disk as a PostScript file).

Spot-color information

The ability to preserve spot-color information in your composite PostScript file depends on the software applications and graphic file formats you use. Page layout applications such as Adobe PageMaker and QuarkXPress do preserve spot colors applied to their native elements. However, if you're using other page-layout applications or certain graphic files containing spot colors, they may not color separate properly from the resulting composite PDF file. For additional information on these file formats, see page 11.

Including trapping information

It is essential to include trapping information in the composite PostScript file for Acrobat Distiller to preserve it in the resulting PDF file. The page layout application you are using determines what document trapping information you can include in the composite PostScript file. (By “document trapping,” we are not referring to line art created in a graphics application and placed in a page layout application. Instead, we're referring to trapping applied to native application elements, such as text and drawn elements.)

QuarkXPress 4.0x and earlier include document trapping information only when creating pre-separated PostScript files. On the other hand, Adobe PageMaker 6.01 and later include document trapping information in both composite and pre-separated PostScript files. Therefore, if you are using QuarkXPress, you may need to modify your workflow (e.g., use a pre-separated workflow, use a post-processing application to trap the file, or use an output device that supports in-RIP trapping). You can also download the Adobe In-RIP Trapping plug-in for Adobe PageMaker 6.52 for Macintosh and Windows from the Adobe Web site.

Note: Some raster-based prepress workflows ignore application trapping information, so check with your service provider about trapping.

Preserving OPI comments

You can specify that Acrobat Distiller 3.0x read and preserve Open Prepress Interface (OPI) 1.3 comments. Acrobat Distiller 3.0x does not read OPI 2.0 comments because it was released before the OPI 2.0 specification was finalized. However, we plan to include support for OPI 2.0 comments in a future version of Acrobat.

If you or your service provider uses an OPI server that reads and writes OPI 2.0 comments, you will need to create “fat” PostScript files prior to distilling. This means that all the high-resolution image data is included in the composite or pre-separated PostScript file. Fat PostScript files produce larger PDF files, but ensure that Distiller uses the high-resolution image data, and not the sampled or low-resolution placeholder.

Customizing Acrobat Distiller Job Options for high-resolution printing

We've covered the variables associated with creating optimized, composite PostScript files. The next step in the process is to customize the Acrobat Distiller 3.0x Job Options. To access these settings, start Acrobat Distiller 3.0x, (choose Distiller > Job Options), or press Command + J (Macintosh) or Control + J (Windows). A dialog box appears with four tabs: General, Compression, Font Embedding, and Advanced.

The selections you make affect how Distiller interprets PostScript files. For example, whether the document

fonts will be embedded, how graphics and images will be compressed and/or sampled, and whether the resulting PDF includes high-end printing information such as OPI 1.3 comments.

This section describes the Distiller Job Option settings and outlines our recommendations for a typical high-resolution printing press (2400 dpi/150 lpi). You may need to adjust these settings to suit your workflow processes and equipment. These recommendations are intended to give you a baseline from which to work—as opposed to the application default settings that are intended to create PDF files for on-screen viewing. These settings may differ from the researched, documented settings your service provider uses. Therefore, we recommend you work closely with your service provider to identify what your settings should be before creating high-resolution PDF files for final output.

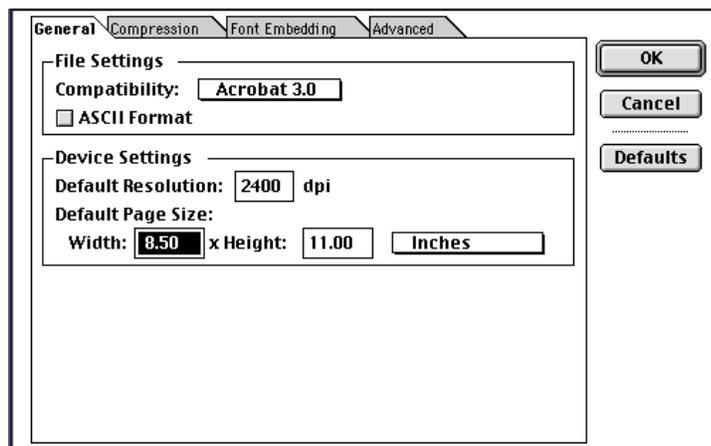
Note: When you create PDF files for high-resolution printing, you should always use Acrobat Distiller and not the Acrobat PDFWriter. PDFWriter enables you to convert documents to PDF files quickly, but it uses the on-screen display (QuickDraw commands on the Macintosh or GDI commands in Windows) to make this conversion. Acrobat Distiller, on the other hand, supports PostScript technology-based applications. It converts a document's PostScript file, including its high-resolution printing and color information, into a PDF file.

It is important to understand that the default Acrobat Distiller 3.0x Job Option settings are designed to create very small PDF files—ideal for on-screen viewing. However, these settings will not produce PDF files optimal for high-resolution printing. To show the importance of customizing the Distiller Job Options, here is a simple table showing what happens when you use the default settings to create PDF files for high-resolution printing:

<i>Acrobat Distiller 3.0x default Job Option settings</i>	<i>Actual printed results</i>
▶ Files are downsampled to 72 dots per inch	▶ Images are fuzzy, jagged, or blurred
▶ Colors are converted to the native color space of the monitor (RGB)	▶ Poor quality color output
▶ Specific font information may be missing	▶ Spot colors converted to RGB
▶ Trapping, OPI, halftone screens, and other prepress information is not preserved	▶ Incorrect or missing fonts
	▶ Unable to use for prepress production

General Job Options recommendations

The general tab includes file settings and device settings options. Here you'll specify compatibility, whether to use the ASCII format, default resolution, and the default page size.



Compatibility—Select Acrobat 3.0 from the Compatibility popup menu, so your PDF file supports spot colors and other Acrobat 3.0x features, such as ZIP compression.

ASCII Format—Leave the ASCII format option deselected so that Distiller saves the PDF file in binary format, creating a smaller file.

Default Resolution—Enter the resolution (dpi) of the PDF file's final output device in the Default Resolution text box. The value you enter here affects only vector (object-oriented) EPS files. For example, Distiller may use this value to determine the appropriate number of steps for a blend in an EPS file.

Default Page Size—If the PostScript file you’re distilling includes paper size information (and most do), you can ignore the Default Page Size option. On the other hand, if you’re distilling an EPS file, enter a page size for the EPS file. (EPS files include a bounding box size, but not a paper size.) Distiller uses the values you enter in these text boxes when a PostScript file, such as an EPS file, doesn’t include a paper size.

Compression Job Options discussion and recommendations

The Compression tab includes compression options for text and line art elements. It also includes the downsampling and subsampling options, as well as the automatic and manual compression options for images. For color, grayscale, and monochrome bitmap images, you can choose whether Distiller samples or compresses your images. Selecting these options results in smaller files, but may affect the quality of your images.

Acrobat Distiller 3.0x can subsample or downsample bitmap images. When Distiller subsamples an image, it records a pixel in the center of the sample area and replaces the entire area with that pixel; when Distiller downsamples an image, it averages the pixels in the sample area and replaces it with the average pixel color at the specified resolution.

Downsampling reduces the amount of information in the image so that only the image data that the printer can use is included. We recommend using downsampling to create a baseline—catching those bitmap image files that have been scanned at a specific resolution, then scaled smaller in a layout or graphic application, unnecessarily increasing the image resolution, and sometimes causing printing problems. Acrobat Distiller determines how much image data to include based on the dpi value you enter. If the images in the PostScript file already include the appropriate amount of image data for the final output device, you don’t need to select a sampling option.

You should, however, downsample your images when they contain more image data than your final output device can use. Higher image resolution is not always the better choice when you’re working with images. If your printing device can’t use the information, the extra resolution only increases the time it takes the printer to process the image. Smaller PDF files are easier to transmit, take less time to RIP, and less space to archive. To determine how much image information is appropriate for your printer (or how much the printer can use), follow the guidelines we include here. The downsampling resolution you calculate using these formulas is the dpi value you enter for the Downsample To option in the Job Options dialog box.

Downsample a color or grayscale image to 1.5 to 2.0 times the line screen ruling at which it will be printed. (Images that contain no straight lines or geometric or repeating patterns won’t be affected by a lower resolution.) This table includes common printer types and their resolution measured in dots per inch (dpi), their default screen ruling measured in lines per inch (lpi), and a downsampling resolution for color or grayscale images measured in pixels per inch (ppi):

Printer resolution	Default line screen	Image resolution
300 dpi (laser printer)	60 lpi	120 ppi
600 dpi (laser printer)	85 lpi	170 ppi
1200 dpi (imagesetter)	90 lpi	180 ppi
2400 dpi (imagesetter)	150 lpi	300 ppi

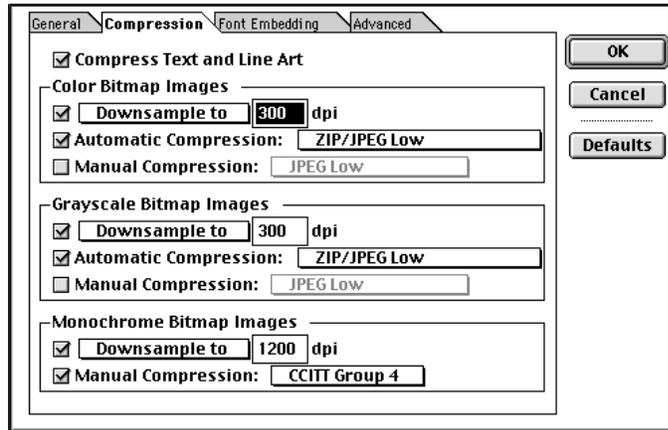
When working with monochrome images, downsample it so that the resolution matches that of the output device but doesn’t exceed 1500 ppi. (Saving a monochrome image at a resolution higher than 1500 ppi increases its file size, but not its printed quality.)

While compression decreases the file size of images and produces smaller PDF files, it may also cause an image’s quality to decrease. The ZIP compression method is lossless (that is, it doesn’t eliminate data to reduce the file size and thus doesn’t affect the image’s quality), while the JPEG compression method is lossy (that is, it does eliminate image data and so may decrease the image’s quality). Because it’s eliminating image data, JPEG compression achieves smaller file sizes than ZIP compression.

The JPEG compression options range from low to high. Higher compression options create smaller files, but affect image quality. The compression methods for monochrome images included in Distiller are lossless, so these compressed images retain their quality.

Note: The JPEG settings in Acrobat Distiller are the opposite of those in Adobe Photoshop® software—where JPEG High means “high quality” and JPEG Low means “low quality.”

For color and grayscale images, Distiller includes automatic and manual compression options. If you select the Automatic Compression option, Distiller uses JPEG compression for images with smooth color changes and ZIP compression for images with sharp color changes. If you select the Manual Compression option, you can specify the compression method you want Distiller to use.



Compress Text and Line Art—Make sure the Compress Text And Line Art option is selected (it’s selected by default). The compression method Distiller uses for text and line art, such as vector EPS graphics, is lossless, so it doesn’t affect the quality of these elements in your PDF file.

Color Bitmap Images—If you want Distiller to downsample color images, select the Downsample To option and specify the appropriate dpi value. If you enter a value as we have done (300 dpi), Distiller doesn’t downsample the image until its resolution exceeds two times the value specified here. If all your images contain the appropriate amount of image data and the images have not been scaled smaller, deselect the downsample option. For compression, we recommend using automatic compression method set to (ZIP/JPEG Low).

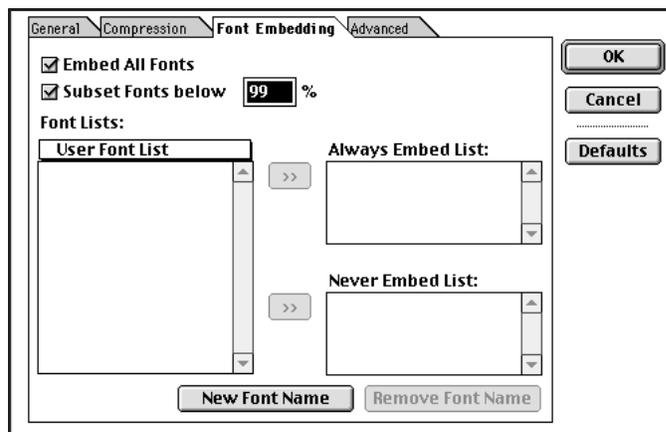
Grayscale Bitmap Images—If you want Distiller to downsample grayscale images, select the Downsample To option and specify the appropriate dpi value. If you enter a value as we have done (300 dpi), Distiller doesn’t downsample the image until its resolution exceeds two times the value specified here. If all your images contain the appropriate amount of image data and the images have not been scaled smaller, deselect the downsample option. For compression, we recommend using automatic compression method set to (ZIP/JPEG Low).

Monochrome Bitmap Images—Select the downsample option and enter the resolution of the final output device. Then, select Manual Compression and choose CCITT Group 4 for the greatest compression.

Font Embedding Options recommendations

In the Font Embedding tab, you can specify which fonts you want embedded in the PDF file to prevent font substitution at print time. Distiller never embeds the ITC Zapf Dingbats® and Base 13 fonts (Helvetica®, Times™, Courier, and Symbol font families) because these fonts are included in all PostScript devices. When you select the Subset Fonts Below option, Distiller embeds only the font characters (glyphs) used in the document and ensures your fonts and font metrics are used at print time. (Subsetting fonts may limit your ability to do late-stage editing. However, you can use the EnFocus PitStop plug-in version 1.5, to add font characters for late-stage editing as long as the font is installed in your system.) For details, visit the Adobe Web site at this URL: <http://www.pluginsource.com/>.

The value you enter for the Subset Fonts Below option determines the point at which Distiller will include the entire font. For example, if you specify Subset Fonts Below 25%, and more than 25% of a font's characters are used in the document, Distiller will embed the entire font. If you want to subset fonts whenever possible, enter a higher value.



Embed All Fonts—Select this option to prevent font substitution at print time. (Distiller embeds all PostScript fonts used in the document and all TrueType fonts included in the PostScript file.) This option also enables Distiller to subset fonts.

Subset Fonts Below—Select the Subset Fonts Below option and specify 99% so that Distiller is most likely to embed only the font characters used in the document. Distiller renames subsetted fonts in a PDF file to prevent an available font with the same name from being used at print time. For example, if you've subsetted an older version of the Adobe Garamond® font in your document because you like the looser font metrics for letter and word spacing, but your service provider's PostScript RIP contains a newer version of the font with tighter font metrics, the subsetted font will always be used for viewing and printing.

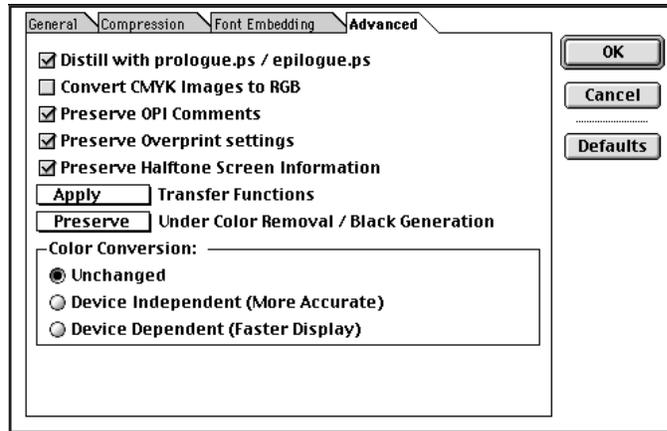
Renaming the Acrobat Distiller font database file

In Acrobat Distiller 3.0x, font substitutions can be managed through use of a font database (Superatm.db for the Macintosh and Distsadb.dos for Windows). These files list the font descriptions for several thousand commercially available fonts. Acrobat Distiller uses the font database to construct a document font that is not available when distilling the PostScript file. For low-resolution printing, the Distiller font database is useful; however, we recommend renaming these files (disabling them) if you are creating PDF files for high-resolution printing. The Superatm.db file (Macintosh) is in the Acrobat 3.0 > Fonts folder. The Distsadb.dos file (Windows) is in the Acrobat3 > Distillr > Data folder.

If Distiller cannot access the font database when it is interpreting a PostScript file with a missing font, Distiller will produce an error message, and will use Courier instead of the document font. We feel it is better to receive the message that a font is not available—displaying Courier on-screen—rather than letting Distiller create a substitute font on the fly without your immediate knowledge.

Advanced Job Options recommendations

Since the default options in the Advanced tab are tailored for creating PDF files that will be viewed on-screen, you'll want to make sure you select appropriate options for your printed document. These options affect the images in your document, whether you're distilling a document for on-screen viewing or for printing. Which options you select will depend on how the printing software is configured and which devices your service provider is using to print the PDF file. The settings we're recommending will create a more device-dependent PDF file. By selecting the Preserve Halftone Screen Information, Transfer Functions, and Under Color Removal/Black Generation (UCR/BG), you're assuming responsibility for certain press conditions that you should have firsthand experience with. We strongly recommend discussing these settings with your service provider before creating your PDF files.



Distill With prologue.ps/epilogue.ps—If the PostScript file includes spot colors and you are outputting to a separations device such as an imagesetter or platesetter, select the “Distill with prologue.ps/epilogue.ps” option. In UNIX, use the includebookends parameter. To select this option, you'll need to install the prologue.ps and epilogue.ps files (see instructions below). When you select this option, Distiller uses the prologue.ps and epilogue.ps files to include spot colors in the PDF file, instead of converting spot colors to process colors.

Note: It is difficult to achieve consistent, reliable color when printing spot colors to color composite proofing devices (digital color copiers) if these spot colors are converted to process by the printing device.

Installing the prologue.ps and epilogue.ps files:

Macintosh—Move the prologue.ps and epilogue.ps files from the Xtras > High_end folder to the folder containing the Acrobat Distiller 3.0 application, and then restart Distiller.

Windows—Move the prologue.ps and epilogue.ps files from the Distillr\Xtras\High_end folder to the folder containing the Acrobat Distiller 3.0 application, and then restart Distiller.

UNIX—Edit the Distill.upr file located in the Acrobat3/Distillr/Xtras directory to indicate the location of the prologue and epilogue files.

Convert CMYK Images to RGB—Deselect this option so that Distiller doesn't convert CMYK images to RGB images.

Preserve OPI Comments—If the PostScript file includes placeholder images for OPI replacement workflows, select the Preserve OPI Comments option. Distiller then includes OPI 1.3 comments in the PDF file.

Preserve Overprint Settings—If the PostScript file includes overprint settings and you want Distiller to include them in the PDF file, select this option. These settings will override any overprint settings you specify at print time. If you want to specify overprint settings at print time, select this option.

Preserve Halftone Screen Information—If the PostScript file includes halftone screen information and you want Distiller to include it in the PDF file, select the Preserve Halftone Screen Information option. The halftone screen information will override any halftone screens you specify at print time. If you want to specify halftone screens at print time, select this option.

Transfer Function—If the PostScript file includes transfer functions, you can apply, remove, or preserve them in the PDF file by choosing the Transfer Function option you want.

Under Color Removal/Black Generation. If the PostScript file includes Under Color Removal (UCR) or Black Generation information, you can remove or preserve this information in the PDF file by choosing the Under Color Removal/Black Generation option you want.

Color Conversion—Select Unchanged for color conversion so that no color conversion takes place.

Using a pre-separated PostScript/PDF workflow

If you use certain graphic file formats, such as duotone EPS files, colorized TIFF files, DCS images, or spot-to-spot color gradients in your workflow, the document's PostScript file must be pre-separated prior to distilling. We still recommend using PDF files with a pre-separated workflow because of the basic benefits the PDF 1.2 file format offers:

- ▶ Font embedding
- ▶ Downsampling and compression
- ▶ Preserving advanced printing options

However, a pre-separated workflow does not allow you to:

- ▶ Soft proof your document on-screen
- ▶ Late-stage editing of your PDF files

Working with multitonned EPS files or colorized TIFF files

Multitonned images and colorized TIFF files will not color separate properly when included in a document printed to disk as a composite PostScript file. These images contain additional spot color components that are not supported by PostScript Level 1 or Level 2 language files in composite mode.

Multitonned images, such as duotones, tritones, and quadtones, represent the use of a single gray image to paint multiple color components. For example, in a duotone a single gray image might be used to paint the black component as well as a spot-colored component (the tone reproduction is different for the two color components). Because these additional spot-colored components are not supported in composite PostScript language Level 1 or language Level 2 files, they will not color separate properly.

Adobe PostScript 3, however, does support these multitonned images in composite PostScript files. Support for these images is provided by the color space operator, "DeviceN," which enables a single colorant which is used to paint the multiple color components. Keep in mind, though, the application you use to create the multitonned images must support this new color space operator; otherwise they will not color separate properly.

Note: In order to display on-screen and print pre-separated multitonned images and colorized TIFF images, you must select the "Apply" option for Transfer Functions in the Advanced Distiller Job Options.

DCS files

DCS files, by nature, are not intended to be used for final output in a composite PostScript workflow. Instead, DCS files will print the low-resolution composite placeholder EPS on the black plate. Here are your options for handling most DCS files:

- ▶ Create a pre-separated "fat" PostScript file that contains all the image data separated into the four process-color channels prior to distilling.

Or: If you want to retain a composite PostScript workflow with your DCS, images do one or more of the following:

- ▶ Open the DCS file in an image-editing program such as Adobe Photoshop and save it as a CMYK TIFF or EPS file. Then, link the new image to your document. This will allow you to maintain a composite PostScript workflow.
- ▶ In QuarkXPress 4.0x and earlier, use the SmartXT Xtension from Total Integration (<http://www.totalint.com>) to recombine the DCS file into a single file when creating a composite PostScript file. You can then maintain a composite PostScript workflow. There is no similar plug-in for PageMaker at this time. <http://www.totalint.com>

- ▶ Check with your service provider to see if their OPI server software can handle the picture replacement of a five file DCS 1.0 image in a composite PostScript workflow. (It is not clear if these OPI vendors have a similar solution for DCS 2.0 files.)

Working with vector graphics containing custom color gradients or blends

Much like the multitone images mentioned earlier, vector EPS files containing gradients or blends of two custom/spot colors will be converted to process colors when you create a composite PostScript file and will be separated at the RIP.

Conclusion

We've presented a lot of information in this document to help you produce efficient, high-quality, composite PostScript files for converting to PDF. There are a number of benefits to a composite PDF workflow that do not exist in a native application, pre-separated PostScript workflow. Many designers and service providers are creating and receiving PDF files for high-resolution printing. These Adobe technologies are saving time and money while adding flexibility to an often inflexible process.

We've also provided a "baseline" set of Acrobat Distiller 3.0x Job Options customized for a typical high-resolution print-production workflow. Remember that these settings are only recommendations and may actually differ slightly from the Job Options settings your service provider uses. Therefore, we encourage you to contact your service provider to ensure you follow their recommendations.

While composite PostScript files create smaller PDF files than pre-separated PostScript files, not all graphic file formats will color separate properly from a composite PostScript/PDF workflow. This is something Adobe Systems is working very hard to correct. Adobe PostScript 3 will help solve some of these problems, while others need to be addressed on an application level. As new information becomes available, we will keep you up-to-date.

For more information

For more information about Adobe PostScript and high-end PDF workflows, see the Adobe PostScript and Printing Technologies page on the Adobe Web site at this URL:

<http://www.adobe.com/print/>

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