Macintosh® and Windows™

Adobe Illustrator® version 9.0

Printing and Exporting Artwork (rev. 1.0)

Illustrator 9.0 provides the control you need to achieve the highest quality output.

Adobe® Illustrator® 9.0 sets new standards for vector graphics creation software. With flexible, versatile transparency capabilities, live object and layer effects, and an overprint preview mode, it provides compelling benefits to graphics professionals and service providers alike. Graphics created with Illustrator 9.0 will print to existing Adobe PostScript® Level 2 and higher printers, and they can be placed in existing applications, such as Adobe InDesign™, Adobe FrameMaker®, and QuarkXPress™.

This document gives you the information you need to produce consistent high-quality output when you print or export the artwork for use in other applications. It details the ways specific settings will affect transparency output—you'll see that experimenting with just a few settings can make a big difference in your results. The document explains what you can gain from the Overprint Preview mode, and how Illustrator works with live effects that must be rasterized. Consider this document a useful supplement to your User Guide, because it includes information that wasn't available when that guide went to print.

At the end of this document, we've included a glossary of terms and an index to potential issues discussed in this paper. This paper is frequently updated; visit http://www.adobe.com/products/illustrator/main.html for the latest information.

Illustrator 9.0 flattens artwork that contains transparency before exporting it into a non-native format. However, if you save the artwork in a native format (that is, as an Illustrator 9 file or a PDF 1.4 file), Illustrator does not flatten the artwork. Illustrator 9 EPS files include both flattened and native data.

Printing and exporting objects with transparency

With Illustrator 9.0, you can apply transparency settings to any layer, group, or object, including raster images, type, and spot colors, so that other objects can show through. Using the transparency technology, you can change the opacity of objects against other objects or against a background, apply blending modes to your artwork to create special color effects, or create opacity masks or knockouts in the artwork. To print or export artwork with transparency effects, Illustrator flattens transparent objects into component objects based on the settings you choose in the Document Setup dialog box. Whether components remain vectors or are rasterized is primarily determined by the setting you choose on the Quality/Speed slider in the Document Setup dialog box. A higher percentage of vector components results in longer, more memory-intensive processing, but usually produces higher quality printed results. The slider position affects the way Illustrator flattens different kinds of objects (e.g., text, strokes, and embedded images).

Overview of flattening

Before printing or exporting artwork that contains objects with transparency effects, Illustrator 9.0 flattens overlapping transparent objects. That is, Illustrator divides transparent artwork into its individual compo-

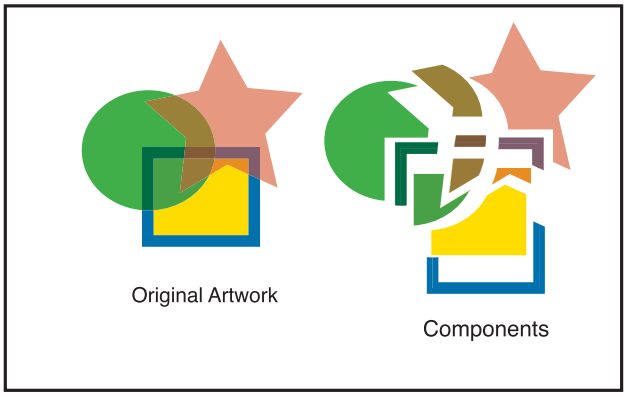


Figure 1
To print or export artwork with transparency, Illustrator flattens the artwork so that overlapping transparent regions are represented by discrete components.

Adobe

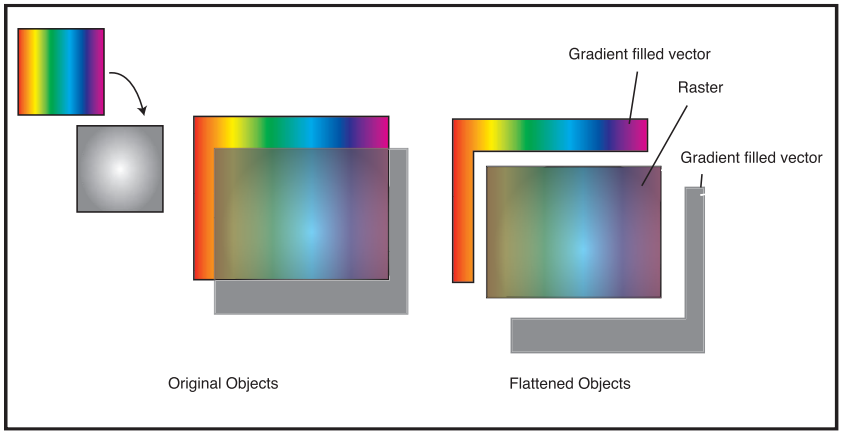
Illustrator 9.0 only supports printing to Adobe PostScript Language Level 2 and PostScript 3 devices.

nents so that overlapping transparent regions are represented by distinct pieces (Figure 1). The result is similar to using the Pathfinder command on an object to break it down into its component pieces. Illustrator provides this flattened data to PostScript and non-PostScript printers, which can then print the artwork so that it appears transparent.

Flattening artwork creates many smaller regions, so the resulting file contains more vector data than the original transparent document. However, the unflattened artwork remains in the Illustrator 9 EPS or AI file so you can return to the original artwork to edit it.

Whenever possible, flattened components are represented as vector objects, filled with solid colors (as in Figure 1) or with a gradient or gradient mesh (for example, when a gradient overlaps a transparent solid-colored object). If Illustrator cannot represent the flattened components as vector objects, it rasterizes them. For example, the flattened components may need to be rasterized if two gradients were blended together (Figure 2).

Figure 2
If two gradients are blended together, Illustrator cannot represent their flattened components as vector objects, so it rasterizes them.



Controlling whether flattened artwork is rasterized

Transparency effects will print differently if components are rasterized than if they are vectors. Though rasterized artwork is usually faster to process, vector artwork usually results in a cleaner, higher quality printout. The pages that follow can help you consider when and how to change the defaults. Note that there are some objects that Illustrator must rasterize, no matter what settings you select.

You can affect the degree to which the flattened artwork is rasterized—that is, you can adjust the percentage of artwork that remains vector artwork to the percentage that will be rasterized—by adjusting the Quality/Speed slider in the Transparency panel of the Document Setup dialog box (Figure 3). (Choose File > Document Setup, and then choose Transparency from the pop-up menu.) Consider the nature of the artwork, the resources available on your system, and the speed with which you want to process the file as you decide how to adjust the slider.

You should experiment with the slider positions to find the best result for your printing environment.

Figure 3 on the next page shows the Quality/Speed slider and its positions. The Quality/Speed slider positions determine how Illustrator flattens artwork that contains transparency. Higher positions on the Quality/Speed slider (those closest to the Higher/Slower end) result in a higher percentage of vector components and will generally produce higher quality printouts. However, a higher percentage of vector components results in longer, more memory-intensive processing, and a combination of rasterized and vector components may result in color stitching effects (see "Avoiding Color Stitching" on page 7). Selecting position 1 or 2 does not necessarily result in poor image quality when you print; the printing quality at these positions depends on the artwork you're printing because the slider positions affect different kinds of objects differently. Furthermore, even if you select position 5 all the time, Illustrator may not be able to represent all objects as vectors. For example, if gradient-filled objects overlap and the top object is transparent, the result cannot be reduced to a reasonably sized set of vector objects so Illustrator must rasterize the flattened version. Your settings, therefore, wouldn't affect this region of the graphic, though they'd still apply elsewhere.

Overview of the Quality/Speed slider in the Transparency panel of the Document Setup dialog box

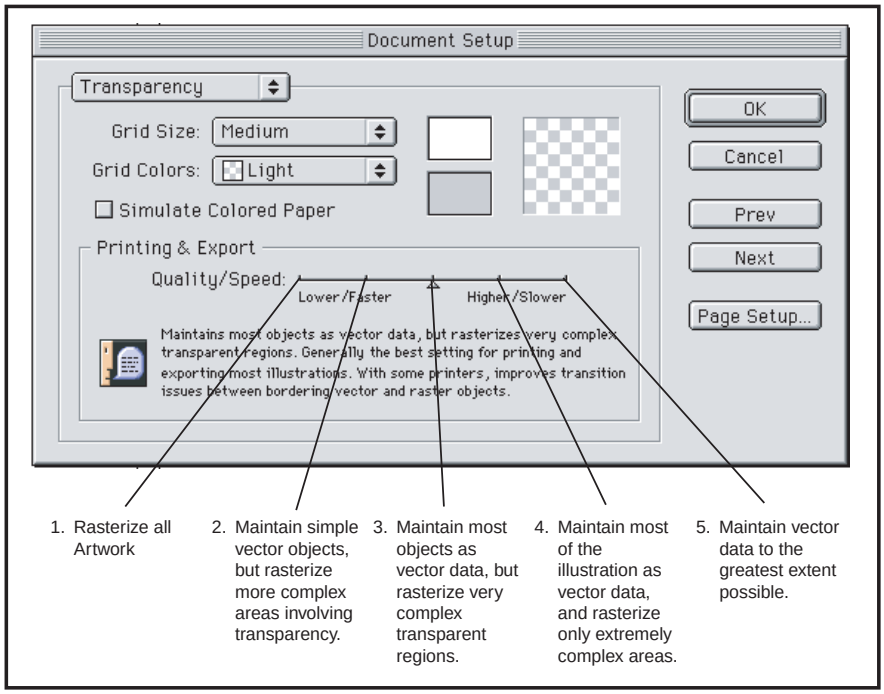


Figure 3
The Quality/Speed slider in the Document Setup dialog box plays a critical role in determining the way Illustrator flattens artwork; positions in the slider are mentioned frequently in the sections that follow. To learn about the other options in the dialog box, see chapter 8 of your User Guide.

Slider positions, from left to right:

Position 1 – Lower/Faster

What it does: Rasterizes all artwork. The speed with which the artwork is processed depends upon the Rasterization Resolution setting in the Printing & Export panel of the Document Setup dialog box. At low resolutions, rasterized artwork will be processed quickly; at high resolutions, it will be processed slowly.

When to use it: To print or export very complex artwork with many transparent objects. Use it with a low resolution to proof complex illustrations that include many transparent regions; for higher quality results, print at higher resolutions.

Note: At higher resolutions, the size of saved files or print spool files may be large. For more information about setting resolution values, see “Setting transparency resolution when rasterization is necessary" on page 4.

Position 2 – between Lower/Faster and the mid-point

What it does: Maintains simple vector objects, but rasterizes more complex areas involving transparency.

When to use it: To print artwork containing only a few transparent objects, or when you are working on a system with low memory.

Note: Some printing devices may produce color stitching—rough transitions between bordering vector and raster objects—and make hairlines (lines that are a device pixel wide) appear thicker. For more information on color stitching, see “Avoiding color stitching" on page 7.

Position 3 – midpoint between Lower/Faster and Higher/Slower

What it does: Maintains most objects as vector data, but rasterizes very complex transparent regions.

When to use it: To achieve a balance between the speed of the flattening process and the number of regions that are rasterized.

Note: This is the default position. For some printers, this position reduces color stitching and hairline weight issues.

Position 4 – between Higher/Slower and the midpoint

What it does: Maintains most of the illustration as vector data, and rasterizes only extremely complex areas. To minimize any color stitching artifacts, such rasterized areas are clipped along objects' paths (unless the resulting clip would be too complex).

When to use it: To achieve a higher quality scalable output.

Note: The processing time required increases with each transparent region in the artwork. This position reduces stitching and hairline weight issues for some printing devices.

Position 5 – Higher/Slower

What it does: Maintains vector data to the greatest extent possible.

When to use it: To achieve the highest quality resolution-independent output and least image degradation.

Note: This setting is extremely time- and memory-intensive for processing complex illustrations.

To determine what resolution was used for rasterization, open the file and look in the Printing & Exporting panel of the Document Setup dialog box.

If you are using an AI9 EPS, you can increase these values, resave the file, and then print.

Setting transparency resolution when rasterization is necessary

By default, Illustrator rasterizes flattened artwork at a resolution of 300 ppi. This provides good quality printing for most artwork. However, you may want to lower the resolution to speed the printing on a quick proof, or you may want to raise the resolution to improve the print quality of some artwork, especially if it contains text that will be flattened.

You can modify the resolution of rasterized areas in the Rasterization Resolution field in the Printing & Export panel of the Document Setup dialog box (Figure 4). (Choose File > Document Setup and then choose Printing & Export from the pop-up menu.) For best results, use the formula *line screen * 2* to determine the output resolution in dpi for rasterized objects, but keep in mind that some transparency areas, such as large areas with mixed gradients or gradient mesh, require only one-half to two-thirds of the conventional resolution. On the other hand, type usually requires 600 ppi for optimal results.

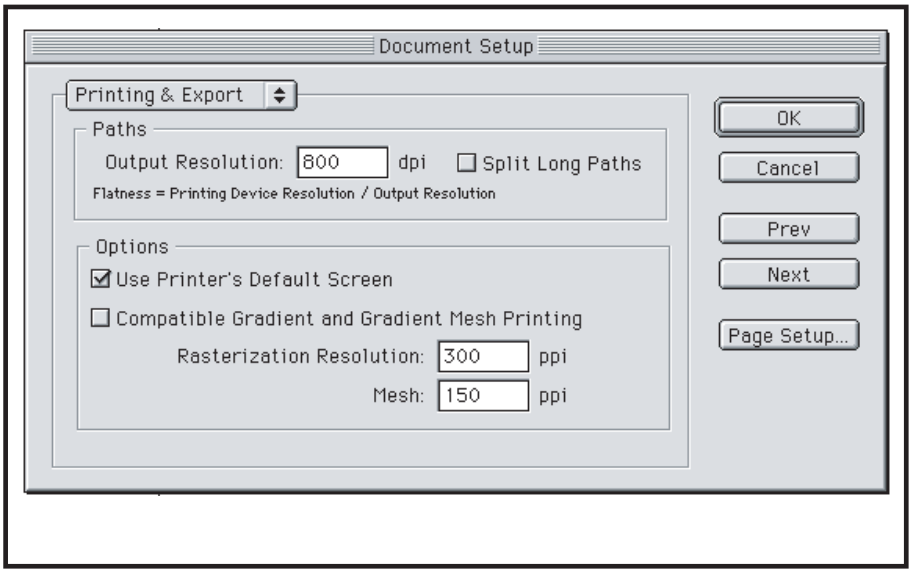


Figure 4
Illustrator uses the Rasterization Resolution value in the Document Setup dialog box when it rasterizes flattened artwork.
For information about the other features in the Printing & Export panel of the Document Setup dialog box, see your User Guide.

Effect of the Quality/Speed slider positions on different objects

Illustrator uses different processes to break different types of artwork into components. The following sections describe how Illustrator will flatten the objects in an illustration based on the position of the Quality/Speed slider, and how you can obtain the best results printing them.

Flattening strokes

To flatten a stroke, Illustrator must convert it into a filled object. Whether Illustrator flattens a stroke, and thus converts it to a filled object, or rasterizes it, depends on the Quality/Speed slider position in the Transparency panel of the Document Setup dialog box.

When the slider is at position 1, all strokes will be rasterized and image integrity depends on the value in the Rasterization Resolution field in the Printing & Export panel of the Document Setup dialog box.

When the slider is at position 2 or 3, any stroke that overlaps a transparent object, or that has transparency applied to it, will be converted to a filled object. Very thin strokes may change weight, causing these strokes to appear different from identical strokes that do not interact with transparency. This effect is most apparent on low resolution printers. Any paths that are converted will result in an increase in the number of paths in the file.

At positions 4 and 5, all strokes will be converted to filled objects in a document that contains transparency effects, whether or not the strokes directly interact with transparency. This prevents visual discrepancies in stroke weights, but it does increase the number of paths in the file.

Converting artwork that includes transparency effects from the Illustrator 8.0 plug-in
Transparency effects you created in Illustrator 8.0x using Hot Door's Transparency plug-in are retained when you open an Illustrator 8.0 document in Illustrator 9.0. However, if you plan to create new transparent objects in Illustrator 9.0, remove the transparency that you created with the plug-in and then reapply transparency using the Illustrator 9.0 Transparency palette. To remove transparency that was created with the plug-in,click Release in the Transparency palette. (The Release button will only appear if Hot Door's Transparency plug-in is installed.)

Flattening text

When Illustrator flattens text with transparency effects, it preserves the text as text objects, but clips and masks it as necessary to create the effect. However, if the text is stroked, used as a clip, or contains a pattern fill, Illustrator will convert it to outlines and treat each character as an individual vector object. (Illustrator will also convert text to outlines if it is in a very complex region of the artwork and the Quality/Speed slider in the Document Setup dialog box is at position 4 or lower.)

For example, if a transparent object overlaps a text object, Illustrator clips the portion of text that interacts with the transparent region. By comparison, if text overlaps a transparent object filled with a hatch pattern, Illustrator converts the text to outlines and treats it as vector objects, rather than clipping the text to each of the hatch paths and creating a very large number of clipped text regions.

If Illustrator is unable to convert such text to outlines because the outline information is not available (e.g., it's a bitmap font; a "partial" bitmap font; or a protected, outline-restricted font), Illustrator rasterizes the text that intersects with transparent objects.

If strokes are converted to fills when Illustrator converts text to outlines, the fills will be wider than the original text by 1 or 2 device pixels. This conversion may make text appear thicker on low-resolution output devices, such as inkjet printers. To prevent the thicker strokes, do one of the following:

- Adjust the Quality/Speed slider to the right. When the slider is at position 5, for example, text won't appear thicker.
- Move the Quality/Speed slider to position 1 so that all the artwork, including the text, will be rasterized.
- Specify a higher value in the Rasterization Resolution field in the Printing & Export panel of the Document Setup dialog box—600ppi or greater should give good results.

When you save a document that contains transparency as an Illustrator 9 EPS file, a native Illustrator 9 file, or a PDF 1.4 file (Adobe Acrobat® 5.0 format), the text remains text objects. However, If you save artwork that contains transparency (including opacity, masks, or blend modes) to EPS 8.0, PDF 1.3 (Acrobat 4.0x), or AI 8.0 or earlier format, all the text will be converted to outlines or rasterized. To preserve the text editability , you can save the file as an AI 9.0 EPS file and then use Acrobat Distiller to convert it to PDF 1.3 (Acrobat 4.0x) format. Alternatively, you can flatten the objects that are affected by transparency (assuming text is not affected by transparency) before saving the file in PDF 1.3 (Acrobat 4.0x) format or Illustrator 8.0 or earlier format.

Flattening complex artwork

Maintaining vector data when flattening an area that contains thousands of paths and intersections—as would happen if a transparent object overlaps an object filled with a hatch pattern—requires creating thousands of individual component pieces, some only the size of a single pixel. When the Quality/Speed slider is at position 5, Illustrator will maintain the vector data, but when it is at any other position, Illustrator will rasterize such a dense area.

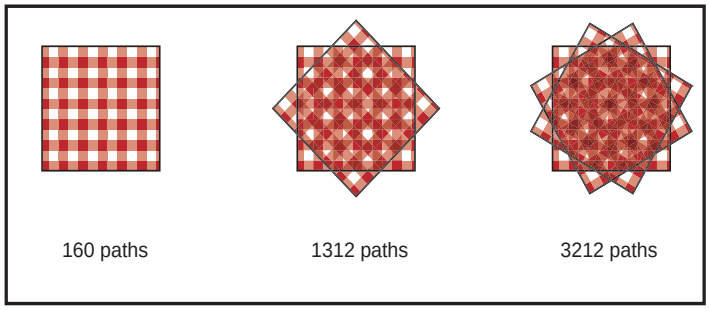


Figure 5
Here, a rectangle containing a transparent pattern is rotated and duplicated, resulting in a large number of discrete regions in the flattened artwork. When the Quality/Speed slider is at position 5, Illustrator may be able to maintain the vector data; at all other positions, Illustrator will rasterize the artwork.

Flattening gradient mesh objects

Illustrator uses the Smooth Shade operator in PostScript 3 to create gradient mesh objects, so it prints them to PostScript 3 printers as native vector objects. If it cannot represent a gradient mesh object with overlaid transparency effects as native vector objects, it will rasterize the gradient mesh object. To PostScript Level 2 printers or to an EPS with PostScript Level 2 compatibility, Illustrator includes gradient mesh data as both a native vector object and as a rasterized object that is converted to a JPEG. In Illustrator 8.0, the JPEG has a resolution of 150 ppi, but in Illustrator 9.0, you can specify a resolution in the Mesh field in the Printing & Export dialog box. (Choose File > Document Setup > Printing & Export.)

Saving artwork in earlier formats
When you save artwork that includes transparency in Illustrator 8-compatible formats, Illustrator converts all spot colors to CMYK values. If you need the file in an earlier format, save the artwork as an Illustrator 9 EPS file and then use Acrobat Distiller to convert it to PDF 1.3 (Acrobat 4.0x) format.

Flattening placed or embedded bitmap images

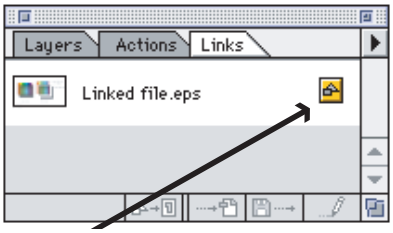
As with other objects, Illustrator flattens embedded bitmap images differently depending on the position of the Quality/Speed slider in the Document Setup dialog box. When the slider is at position 2, Illustrator will rasterize the portions of the bitmap image that overlap an object with transparency. This area will be redrawn at the resolution set in the Rasterization Resolution field in the Printing & Export panel of the Document Setup dialog box. If the resolution set in that field is lower than the original resolution of the image, you may see color stitching where the regions join.

If the slider is at position 3, 4, or 5, Illustrator rasterizes the entire image at the resolution set in the Rasterization Resolution field, preventing stitching effects. Note that the image will be redrawn at a lower resolution if the resolution specified in the Rasterization Resolution field is lower than the original image resolution.

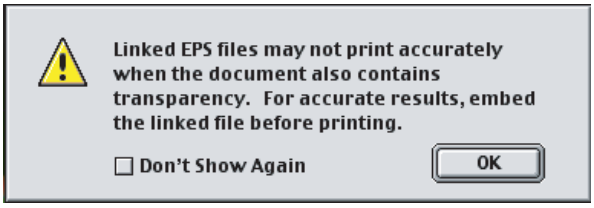
Flattening placed or linked EPS files

If an EPS graphic is involved in a transparency effect, embed the graphic into the document using the Embed Image command in the Links palette. (See Figure 6.) If you do not embed the EPS graphic, Illustrator will display a warning when you place the graphic into a document that contains transparency effects and

Figure 6
If a linked EPS file interacts with transparency...



Illustrator displays a warning when you print the artwork.
If you print the document without embedding the EPS graphic, the document may not print correctly.



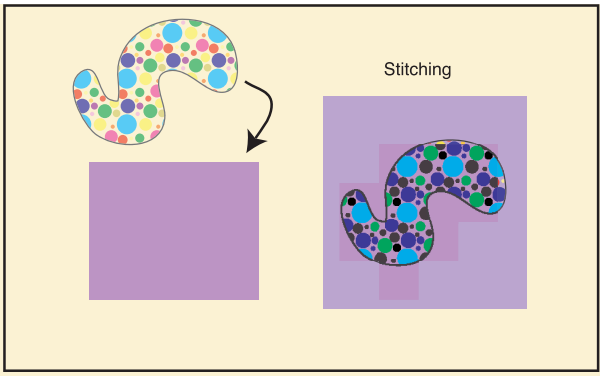
when you print the document. If you print the document without embedding the EPS graphic, the EPS graphic will print first, under the other objects on the page, usually resulting in incorrect output.

As in Illustrator 8, DCS, duotone, tritone, and quadtone files are only compatible in a linked workflow within Illustrator. If you embed these images, they will be converted to grayscale images. Therefore, these images are generally not compatible with transparency.

Printing spot colors in artwork that includes transparency

Improvements in Illustrator's overprint preview and color management technology result in composite printout color values that more closely match the spot colors printed on press. However, the color values are more accurate only if there is transparency or overprinting in the document; if there is no transparency or overprinting in the document, spot colors will print as they do from earlier versions of Illustrator. (Note that you can indirectly include transparency in the document through using a style or a brush that includes transparency, using a blending mode, or setting an object to overprint.)

Avoiding color stitching



Color stitching is the visible transition between rasterized images and vector objects that are adjacent to each other. Color stitching occurs when a printer driver processes solid colors and images differently. The likelihood of color stitching when you print an object with transparency from Illustrator is highest when the Quality/Speed slider in the Document Setup dialog box is at position 2 and the likelihood of stitching decreases for positions 3 and 4. It is not likely to be visible at position 5.

If you see color stitching in your printed artwork, do one of the following:

- Disable color optimization in your printer driver, by deselecting the Vivid Color, Intelligent Color, or similar option in the printer driver's Properties dialog box. (Choose Print Setup > Properties.) This removes the color stitching while maintaining the quality of your printed artwork.
- Adjust the slider to the next position (that is, from position 2 to 3, from 3 to 4, or from 4 to 5). This reduces the number of rasterized areas in an image, reducing the chance that a rasterized area abuts a vector area.
- Move the slider to position 1. This rasterizes all areas of the illustration that contain transparency, so no vector areas abut rasterized areas.

Color stitching effects may appear on screen if you preview flattened artwork with anti-aliasing on, but such effects will not print or export. For an accurate preview of flattened artwork, turn anti-aliasing off by choosing Edit > Preferences > General, and then deselecting Anti-Aliasing Artwork.

When you save artwork that includes transparency to PDF 1.3 (Acrobat 4.0x), Illustrator 8, or other earlier formats, Illustrator converts all spot colors in the artwork to CMYK values to avoid color stitching in flattened regions. However, spot colors are preserved when you save the artwork as an Illustrator 9 EPS file, native Illustrator file, or PDF 1.4 (Acrobat 5) format file. If you need the file in an earlier format, you can preserve the spot colors by saving the artwork as an Illustrator 9 EPS file and then using Acrobat Distiller to convert it to PDF 1.3 (Acrobat 4.0x) format. (The composite view of the document may not appear accurate on-screen in Acrobat 4.0x, but the document will separate correctly.)

Color management uses the working space to change the CMYK equivalents of a spot color into equivalent values for a device-independent color, which is managed using the printer profile. If you save the artwork in PDF 1.3 (Acrobat 4.0x) format, the document profile is used as both the source and the destination profiles. If you don't want the color values to change, convert the spot colors to process colors before printing or saving as an Acrobat 4.0-compatible PDF file (PDF 1.3 format).

When you blend non-opaque artwork against Illustrator's artboard, you may see some color shifting on screen. This will not affect printing.

Blending modes

The transparency technology in Illustrator 9.0 makes it possible to blend the colors of objects with the colors of underlying objects, using many of the same blending modes you use in Adobe Photoshop®.

The blending modes you use will determine what the resulting color will be and which color plates will print. For example, using the Hue blending mode between a Cyan object and a Magenta object could result in a color that can only be represented using all four separations (CMYK). To ensure accurate printing, Illustrator will create all CMYK plates when you use Difference, Exclusion, Luminosity, Color, Hue, or Saturation blending modes in a document.

Photoshop 5.5 and earlier treats Soft Light, Color Dodge, and Color Burn in a non-standard way when the base (the object you are blending against) has less than 100% alpha. Illustrator uses the standard blending method even for these modes, so whenever you use them against an empty page (which is 0% opaque) or against artwork that is less than 100% opaque, your document will look different in Photoshop. Future versions of Photoshop will use standard blending for all modes, so artwork using these blending modes will appear the same in Illustrator and Photoshop.

Exporting artwork with transparency effects for use in other applications

Illustrator 9.0 transparency effects are unique; the transparency technology does not yet exist in Adobe InDesign, Adobe FrameMaker, QuarkXPress, or other released publishing applications. To use Illustrator 9.0 artwork that contains transparency effects in these applications, save the Illustrator 9.0 document as an AI9

EPS file and then place or link it into the application. The EPS file will print with the expected transparency effects because Illustrator flattens the transparent artwork when it saves the EPS file the same way it does when you print directly from Illustrator. However, because the transparent objects are flattened, you cannot place an EPS file with transparency over another object in a publishing application and expect to see the other object through it.

When Illustrator saves the EPS file, it includes its original data in the file, so you can open the EPS file in Illustrator and change settings, save the EPS again, and replace it in your application. Documents saved as EPS files will separate correctly and print as composite correctly directly from Illustrator.

EPS files that include Illustrator 9.0 transparency effects may not separate correctly from other applications if you do not print all the spot color plates. For example, if you place an illustration that contains transparency effects and four spot colors (CMYK, plus spot colors 1, 2, 3, and 4) in another application and then convert all but one of the spot colors to CMYK, so that only one of the spot color plates will print (CMYK and spot color 2 only), the illustration may not separate correctly. If you want to reduce the number of spot colors that will print from an EPS file, open the original artwork in Illustrator, convert any spot color to a global process color, and then resave the document.

Effects that require rasterization
Artistic
Blur
Brush Strokes
Distort
Pixelate
Sharpen
Sketch
Stylize
Texture
Video
Drop Shadow (if blurred)
Inner Glow
Outer Glow
Feather

Working with live effects that require rasterization

Powerful object and layer effects in Illustrator 9.0 let you apply transformations, filters, distortions, and more to any object, group, or layer as a series of "live" effects. That is, these effects change only the appearance of the selected object, not the selection itself, so you can edit the underlying object or any step in a series of effects you've applied without having to redo the others.

Some of these effects require rasterization (see the sidebar). By default, Illustrator 9.0 rasterizes objects with these effects applied at 72 ppi, so the artwork will print at a low resolution. You can change the resolution in the Rasterize Effects Settings dialog box. (Choose Effects > Rasterize > Rasterize Effects Settings.) The resolution that you choose affects all objects with rasterized effects in the document.

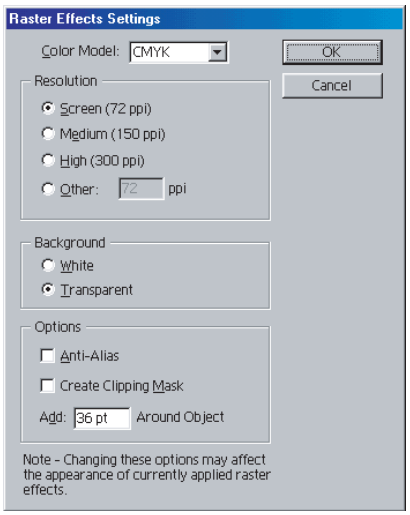


Figure 7
The Resolution value you enter in the Raster Effects Settings dialog box determines the resolution Illustrator uses to rasterize effects. By default, this value is 72ppi.

Specifying higher resolutions will increase processing time, so you may find it easiest to leave the resolution at 72 ppi while you're working in the file and increase the resolution just before printing or exporting the file. If you're a service provider and you receive a file with a low resolution setting, you can open the file, change the resolution in the Rasterize Effects Settings dialog box, and resave the file before printing. The resolution setting also influences the effect that resolution-dependent filters (such as Crystallize and Pointillize) have on objects.

Overprinting Preview

Overprinting is the application of one ink on top of another on a printing press, usually including one or more spot color inks. You can use this technique to achieve different colors, apply translucent varnishes, or increase the intensity of a color. You can specify that an object should overprint through the Overprint Stroke/Fill options in the Attribute palette; overprinting may also occur when you define spot-to-process and spot-to-spot blends.Traditionally, it has been impossible to simulate overprinting on screen or when printing to a composite printer—only the top ink layer has been displayed or printed. Because there was no way to accurately preview overprinting effects, overprinting could provide unpredictable results.

Illustrator 9.0 includes a new previewing mode that lets you proof your overprinting effects on-screen and see how spot color inks will look on a press. To preview overprinting attributes on-screen, choose View > Overprint Preview. You can also preview the overprinting effects in a composite printout. Note that the

accuracy of the overprinting preview depends on the colorants involved. For example, the overprinting preview cannot predict the effect of blends involving metallic or fluorescent inks.

If you use the Separator feature in Illustrator to perform color separation, Illustrator uses a non-zero overprinting method. Using the non-zero overprinting method, if a color component in a spot color has a value other than 0%, it will replace the corresponding color component of the objects beneath it; if it has a value of 0%, the corresponding color component in objects beneath it will be unchanged. You can see the effects of the non-zero overprinting method when you check Overprint Fill or Overprint Stroke in the Attributes palette.

Even when nothing is set to overprint in the document, the Overprint Preview mode can show you how transparency effects will print. In this mode, overprint blending is applied to all spot colors in a document when transparency is used anywhere in the page. Such blending prevents stitching effects and results in the expected color separations (e.g., spot colors remain spot colors). Overprint Preview blending is only applied on-screen, when printing to a composite PostScript or GDI device, and when saving artwork that contains transparency to a file format that requires transparency to be flattened (e.g., Illustrator 8.0 or Acrobat 4.0x-compatible PDF 1.3).

If you do not want overprinting information used when you print a composite, select Ignore Overprinting in Composite Output in the Illustrator Options panel of the Print dialog box. When you save documents in earlier Illustrator formats or as Acrobat 4.0x-compatible files, the composite will include overprinting attributes only in documents which contain transparency and need to be flattened—then the opaque representation of the overprinting attributes will appear.

See the Readme file for additional information to consider when you print or export artwork from Illustrator 9.0.

Saving Illustrator 9.0 artwork for use in other applications

Usually, your best option for using Illustrator 9.0 artwork in other applications is to save it as an Illustrator 9 EPS file. You can open an Illustrator 9 EPS file at any time to change the settings that affect how the artwork appears in other applications and then resave the EPS file. Such settings include:

- the Quality/Speed slider in the Transparency panel of the Document Setup dialog box
- the Rasterization Resolution value in the Printing & Export panel of the Document Setup dialog box
- the Resolution value and other options in the Rasterize Effects Settings dialog box

Recommendations for using Illustrator 9.0 artwork in specific applications follow.

Page layout applications (e.g., Adobe InDesign 1.5, Adobe FrameMaker, Adobe PageMaker, and QuarkXPress):

Save the artwork as an Illustrator 9 EPS file and place it into the application.

Adobe Acrobat 4.0x and Adobe Acrobat Distiller 4.0x

Save the file as an Illustrator 9.0 EPS and convert it to PDF 1.3 format using Acrobat Distiller.

Adobe GoLive™ 5

Place the native Illustrator 9.0 file.

Adobe LiveMotion™ 1.0

Save the file in Illustrator 8.0 format or as an EPS file, and then place the file into LiveMotion.

Adobe Premiere® 5.x and Adobe After Effects® 4.1

Save the file in Illustrator 8 format, and then place the file. Alternatively, you can copy the artwork from Illustrator and paste it into Premiere or After Effects. When you copy and paste artwork that includes transparency effects, make sure to select Preserve Appearance as the clipboard setting in the Illustrator Preferences dialog box. Note that transparent objects are flattened when you copy and paste them. (If Preserve Paths is selected, you can paste the paths, but you'll lose the transparency.)

Microsoft® Office products

Save the file in EMF or WMF format and then insert it into the document.

Glossary

Color stitching The visible transition between rasterized images and vector objects that are adjacent to each other

Dots per inch (dpi) Often used interchangeably with ppi (see below), but when used accurately, it refers to a printer's resolution, not screen resolution.

Flattening The process of dividing fully editable transparent objects into opaque, smaller, non-editable vectors or rasters.

Line screen Unit used to measure printed halftones. Dots from a printer combine to make lines per inch (lpi), commonly referred to as a line screen.

Pixels per inch (ppi) The number of horizontal pixels within one inch (also the number of vertical pixels in one inch).

Rasterization Conversion of vector objects to rasters (pixels), using resolution controls and masking to maintain the highest quality output and resolution independence to the greatest extent possible.

Rasters Also referred to as pixels. Small square units arranged in a grid formation to simulate imagery.

Vectors Lines that define shapes based on a coordinate system.

Troubleshooting Index

This document provides information you need to ensure the highest quality output from Adobe Illustrator 9.0. Understanding the way Illustrator applies transparency and other features that affect printing and exporting can help you avoid problems. To save you time, we've listed some of the issues addressed in the paper and the pages on which you can find information about them

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