

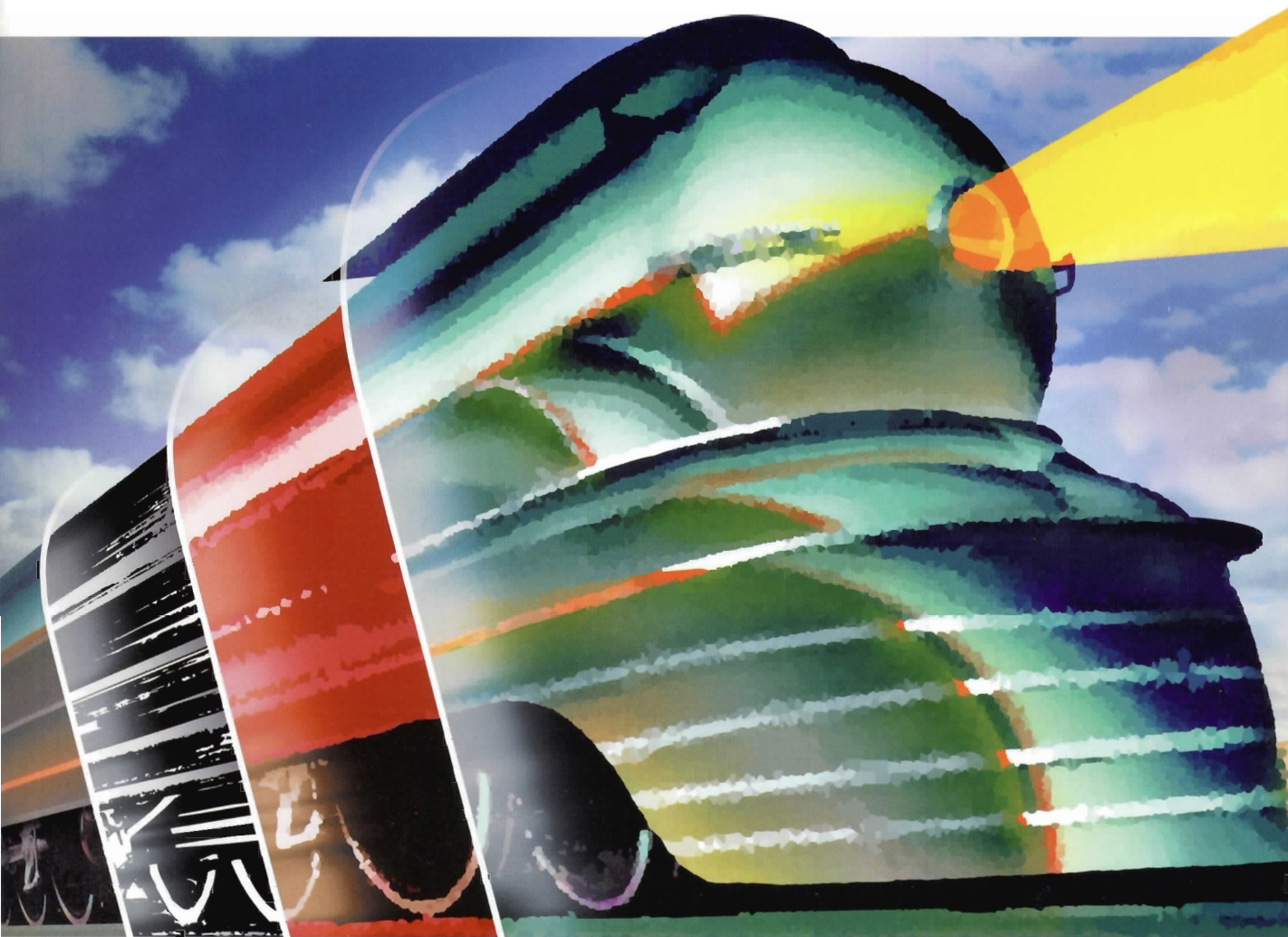


User Guide

Adobe® Streamline™

version

4.0



Windows® 95
Windows NT® 4.0



Macintosh



User Guide

Adobe Streamline version 4.0

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Adobe Streamline 4.0 User Guide for Macintosh and Windows

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Getting Started

Welcome to Adobe Streamline™ 4.0, a computer graphics tool that literally streamlines the production process by converting bitmap images into high-quality PostScript™ language images. You can use the program to convert black-and-white line-art, as well as color and grayscale images, into different line art formats such as Adobe Illustrator™, PICT (Macintosh), PCX (Windows) or DXF. You can also convert a single image at a time or quickly convert a batch of images.

Whether you want to apply custom colors to a corporate logo, create a line drawing from a scanned photograph, or produce a business form for editing, Adobe Streamline gives you quick, top-quality artwork—saving you hours of tracing and copying by hand. In addition, images you convert using Streamline usually are much smaller in file size than are their bitmap counterparts, which makes Streamline images convenient for archiving and printing. Smaller file sizes also make the placing of artwork into page layout applications more manageable.



Bitmap image



*PostScript language image
produced by Adobe Streamline*

Adobe Streamline offers editing tools that let you change the original image as well as the converted image. For even more flexibility in editing a converted image, you can use Adobe Illustrator, Adobe Photoshop™, Macromedia FreeHand™, or other illustration and image-editing programs.

What's new in Adobe Streamline 4.0

New features added to Adobe Streamline 4.0 include the following:

Multiple conversion option. You can convert separate areas of an image using different conversion settings for each area. Adobe Streamline combines the separate areas into one converted image.

Expanded color options. You can posterize an image using a set of predefined custom colors and generate tints of each color used. You can posterize with an unlimited number of colors. You can also control how finely Adobe Streamline distinguishes between color regions, and you can control the use of color averaging to protect against muddled colors.

Improved path matching. When you choose color posterization or the Separate Shapes conversion option, Adobe Streamline ensures that the two paths along adjoining regions match exactly. Path matching is also preserved as far as possible when points are deleted in post-conversion editing.

Interactive line thinning. You can control the number of times lines are thinned in Centerline conversion, and you can edit an image during conversion to correct lines that were shortened too much during thinning.

Smooth direction points. You can convert corner points to smooth points in a converted image, using the Smooth Direction Points function at one of three tolerance levels.

Smooth paths. You can eliminate unnecessary anchor points to smooth paths after conversion (New to Windows).

Convert to Circle/Oval/Square/Rectangle. Convert irregular paths to standard geometric shapes.

Cleanup tools. Adobe Streamline provides a variety of tools for editing paths and anchor points in converted images. You can add and delete anchor points, move segments, and convert curves to straight lines and straight lines to curves.

Color import and export. You can selectively import custom colors from Adobe Illustrator files and selectively export custom colors from Adobe Streamline to compatible drawing applications. You can also create a default custom colors palette to be used each time you open Adobe Streamline.

Paint Styles pop-up menu. A pop-up menu in the Paint Styles palette makes it easy to apply changes in color style to converted images. You can use the pop-up menu to add, edit, tag, import, export, and delete custom colors to preserve tints in color changes, and selectively to apply color changes.

Thumbnail preview. You can preview files in the Open File dialog box using the Show Thumbnail option.

Scratch disk selection. Adobe Streamline allows you to choose which disk will be used for image conversion, rather than default to the startup disk.

Using Adobe Streamline with Adobe Photoshop

Adobe Streamline contains features for transporting images or converted paths to and from Adobe Photoshop 2.5 and later. You can acquire selected images from Adobe Photoshop using the Copy and Paste as New commands. You can also transport an image between Adobe Streamline and Adobe Photoshop by dragging it from one application and dropping it into the active image window of the destination application. (See Chapter 2, “Basic Concepts,” for detailed instructions on how to import and export artwork in Adobe Streamline.)

Users of Adobe Photoshop 2.5 and later will find that Streamline greatly enhances the editing of bit-map images and streamlines the creation of special effects. For example, Streamline can be used to outline an object and transport the resulting path to Photoshop as a clipping path. A clipping path can be edited in Photoshop or used to create a mask—that is, an object used to isolate part of an image—in an Photoshop document.

About this guide

Before you begin using the Adobe Streamline program, be sure to read this chapter for installation instructions and other important information. This guide is organized into the following chapters:

- Chapter 1, “Overview and Tutorial,” provides an overview of the Streamline program and shows how to convert a variety of images into PostScript language format.
- Chapter 2, “Basic Concepts,” describes how the Streamline application works and describes some of the program’s image-conversion options.
- Chapter 3, “Editing a Bitmap Image,” describes how you can edit an image and change its colors before converting it.
- Chapter 4, “Setting Conversion Options,” describes how to set the Streamline conversion options before converting the image.
- Chapter 5, “Working with Converted Art,” explains how you can modify a converted image using Streamline tools and color options.
- Appendix A, “Troubleshooting,” describes problems that could arise in using the Streamline program and offers possible solutions to those problems.
- Appendix B, “Sample Conversions,” contains sample illustrations comparing different conversion methods and options.
- Appendix C, “Sample Art Gallery,” contains a gallery of selected artwork created with the help of Adobe Streamline.

This manual assumes a basic familiarity with Macintosh or Windows operations and terminology. For complete instructions, see your Macintosh or Windows documentation.

The Adobe Streamline package

The Adobe Streamline package contains the following items:

- A CD-ROM disc containing the installer software program, the Adobe Streamline 4.0 program, a Plug-ins folder, a Tutorial folder, a Samples folder, and a ReadMe folder updating the latest information about the application
- The *Adobe Streamline User Guide*
- An order form for the Adobe Streamline program floppy disk
- A registration card

Macintosh System requirements

The Adobe Streamline program requires the following hardware and software:

- An Apple® Macintosh® computer with a 68030 or faster processor, or a Power Macintosh or Power PC
- Apple system software 7.5 or later
- A minimum of 8 MB of random-access memory (RAM)
- A minimum of 4 MB of RAM allocated to Adobe Streamline
- A hard drive with at least 20 MB of free space

- A CD-ROM drive for application installation (Adobe Streamline floppy disk sold separately for systems with no CD-ROM drive)
- To print Streamline files: Adobe Illustrator or other drawing application that imports Adobe Illustrator or EPS files

Streamline performance improves with more RAM, faster CPUs, and faster and larger hard disk drives.

Windows System Requirements

To use Adobe Streamline 4.0, you need the following hardware and software:

- A PC with an 80486 or faster processor
- Microsoft® Windows 95® or Intel-based Windows NT™ version 4.0 or later
- At least 16 MB of random-access memory (RAM)
- A hard drive with at least 20 MB of free space
- A CD-ROM drive for application installation (Adobe Streamline floppy disk sold separately for systems with no CD-ROM drive)
- To print Streamline files: Adobe Illustrator or other drawing application that imports Adobe Illustrator or EPS files

Streamline performance improves with more RAM, faster CPUs, and faster and larger hard disk drives.

Registration

We are confident you will find that Adobe Streamline greatly increases your productivity. So that we can continue to provide you with the highest quality software, offer technical support, and keep you informed about new Adobe Streamline software developments, please return the enclosed warranty registration card.

Installing and starting the Adobe Streamline program

Use the following procedure to install the Adobe Streamline program files from the CD-ROM. You must install the program onto your hard disk; you cannot run Adobe Streamline from the CD-ROM.

To install and start the Adobe Streamline program on Macintosh:

- 1 Turn off or remove any virus-protection software and restart your system.
- 2 Insert the Adobe Streamline CD-ROM disc into your CD-ROM drive.
- 3 Double-click the Adobe Streamline Installer icon. The installation notice appears.
- 4 Click Continue. The Installer dialog box appears.
- 5 To install the Streamline program to a hard disk other than your system startup disk, choose a disk from the Install Location scroll list or click Switch Disk to scroll through the list.
- 6 Choose Select Folder from the Install Location scroll list, and select a folder in which to install the Adobe Streamline program folder.

7 From the pop-up menu in the top left of the Installer dialog box, choose one of two options:

- Choose Easy Install to install everything from the CD-ROM onto your hard disk.
- Choose Custom Install to select individual items for installation. If you use the Custom Install option, be sure to install the Plug-Ins folder to ensure access to plug-in features.

8 Click Install.

A message appears indicating that the installation recommends restarting your computer after installation and that all open applications will be closed if you continue.

9 Click Continue.

10 Click Restart to exit the installer and restart your system.

11 Double-click the Adobe Streamline program icon to launch the application. The Streamline program desktop appears, with the toolbox on the left side of the screen. You are ready to open a document and start working.

To install and start the Adobe Streamline program on Windows:

1 Insert the Adobe Streamline CD-ROM disc into your CD-ROM drive.

2 Double-click the Setup.Exe file. The Installer dialog box appears.

3 Click Next.

4 Follow the on-screen instructions, entering your name, company name, and serial number.

5 Click Next, and then click Yes to confirm your registration information.

6 Choose the installation type you prefer from the following options:

- Typical for the most common options.
- Compact for the minimum required options.
- Custom to choose the options you want to install. The installer displays the amount of disk space required to install each set of program files, the total amount of disk space required for the selected files, and the amount of available disk space. Select the desired files, and click Next.

7 If necessary, use the Browse button to locate and select a directory and a drive for the installation.

8 Create a program folder, or select an existing one for the application.

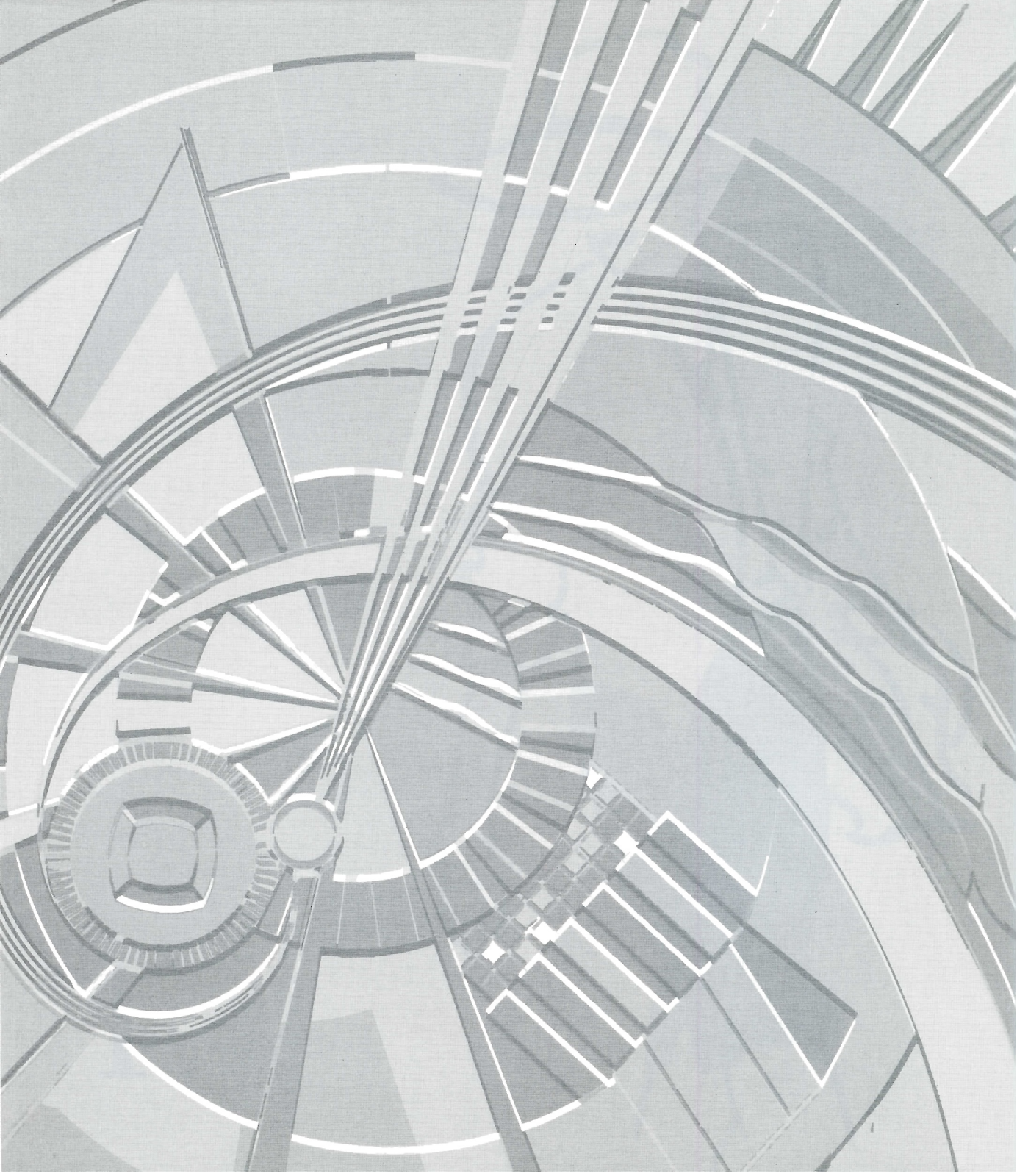
9 Click Next to confirm your selection and begin the installation, following the on-screen instructions. A message appears when installation is complete.

10 If prompted, close all other applications so the installer can restart Windows.

11 Double-click the Adobe Streamline program icon to launch the application. The Streamline program desktop appears, with the toolbox on the left side of the screen. You are ready to open a document and start working.



1



Chapter 1: Overview and Tutorial

This chapter gives an overview of Adobe Streamline and provides a short tutorial on how to open a file, edit an image before conversion, convert a bitmap image to vector artwork, and edit the converted image. (To learn more about conversion, selection, and editing options, see Chapters 2 through 4.)

Overview of using Adobe Streamline

The following steps outline the basic procedure for converting images, using Adobe Streamline:

- 1 Obtain an image for conversion by creating or acquiring an image in the PICT (Macintosh), PCX (Windows), TIFF, MacPaint®, or Adobe Photoshop format. You can create an image in an image-processing application and import it, import an image from a clip-art collection, or acquire an image by using a scanner or video digitizer. The quality and resolution of the original file determines the quality of the converted image. (A resolution between 300 dots per inch (dpi) and 600 dpi is recommended.)
- 2 Start Streamline, open an image, and then edit the image by using the selection and painting tools. For more extensive editing, you can use a paint or image-processing program, such as Adobe Photoshop, to touch up or alter the image before converting it.
- 3 Set the program options you want. If desired, save the options for later use with similar images. Program options include General Preferences options; the conversion method; color/black-and-white setup options; custom colors; dialog box placement; and pencil, line, and eraser thicknesses.
- 4 Convert the image, or convert a batch of images.
- 5 Modify the converted artwork in Streamline, using the selection tools and the Paint Style dialog box. You can also edit paths in the converted artwork by using the add-anchor-point and delete-anchor-point tools, the adjust-curve and adjust-line tools, and the Smooth Path and Smooth Direction Points commands.
- 6 Import or place the final image into an illustration or image-processing program for further modification, or export the image to a page-layout or word-processing program. You can export Streamline artwork to other applications by using the Copy and Paste commands, by dragging and dropping the image, or by using the Save Art As command. (For more information on placing an image into another application, see the application's documentation.)

Tutorial

In this tutorial you will learn how to select an image, add to or delete from the image, convert the image to PostScript language line art, and edit the converted image.

Select an image

The first step in using Adobe Streamline is to obtain an image for conversion. You can select an image in two ways: by scanning the image directly into Streamline using the Acquire command in the File menu, or by opening an existing image using the Open command in the File menu. (See “Acquiring images directly from a scanner” on page 26 for more information about the Acquire command.) In the following example, you will select an image saved in the TIFF format.

- 1 Start Adobe Streamline.
- 2 Choose File > Open.
- 3 Open the Tutorial Images folder, select the file ladyb&w.psd, and click OK.

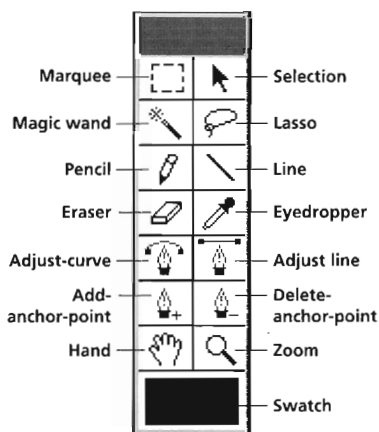
A line drawing of a woman appears, scaled to fit into the Streamline window.



Edit an image before conversion

Before converting an image to PostScript line art, you can edit it using Streamline's palette of editing tools. The toolbox automatically appears when

you first open an image in Streamline; however, only some of the tools are available for use before conversion:

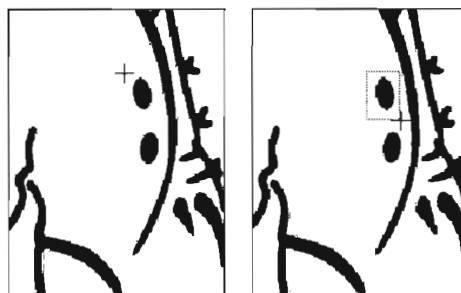


You can use these tools to select specific colors, to delete unwanted details from the image, or to select a part of the image and change its color. In this example, you will edit the black-and-white ladyb&w.psd image that you just opened.

First you will select and delete a button on the woman's coat, and then you will erase the remaining button.

1 With the ladyb&w.psd image open in the window, select the marquee tool (☐).

2 Position the marquee tool at the upper left edge of the top button on the woman's coat.



Drag the marquee

to select part of the image.

3 Hold down the mouse button, drag to select the button, and then release the mouse button. The selected part of the image is highlighted with a marquee.

4 To delete what you have just selected, choose Edit > Clear or press Delete (Macintosh) or Back Space (Windows).

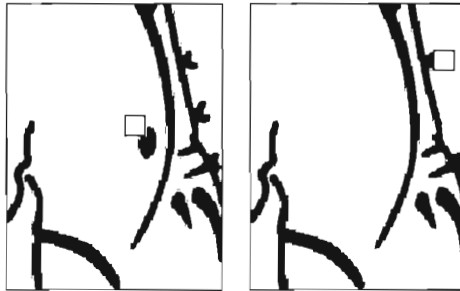
5 Select the eraser tool (🧽) by clicking the eraser icon in the toolbox.

You can change the width of the eraser tool by double-clicking the eraser tool icon and selecting from the palette of choices. Note that the sizes of the pencil tool and line tool also change when you resize the eraser tool.

6 Position the eraser tool over the remaining button on the woman's coat.

7 Drag to erase the button.

8 Move the eraser tool over the button holes on the left side of the jacket, and erase by dragging.



Drag the eraser tool

to erase.

You can use the pencil tool and the line tool to add to the image. In this example, you will fill a gap in a hat band.

9 Select the pencil tool (ρ) by clicking the pencil icon in the toolbox.

You can change the width of the pencil tool by first double-clicking the pencil tool icon and then selecting from the palette of choices. Note that the sizes of the eraser tool and line tool also change when you resize the pencil tool.

10 Position the tip of the pencil over the gap in the hat band.



Drag the pencil tool

to draw on the image.

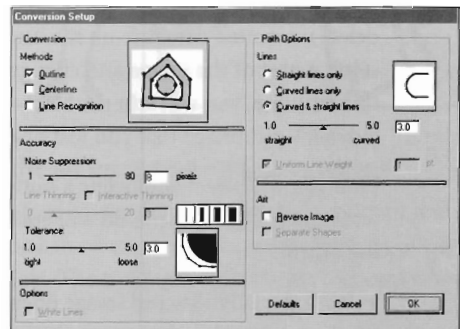
11 Hold down the mouse button, and begin dragging to fill in the hat band. Release the mouse button when you have finished filling the gap.

Select a conversion method

Once you have edited an image, you need to select conversion options that are appropriate for the type of image you are converting. (See Chapter 4, “Setting Conversion Options,” for information on the types of conversion methods available in Streamline.)

You can manually select conversion options using the Conversion Setup dialog box. In this example, you’ll use the outline method of conversion to convert the line drawing of the woman.

1 Choose Options > Conversion Setup.



2 In the Methods section of the Conversion box, select the Outline option.

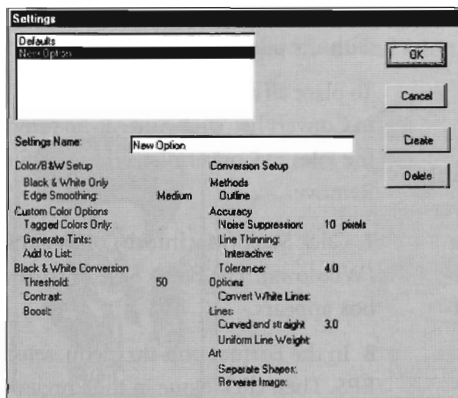
3 In the Accuracy section of the Conversion box, set Noise Suppression to 10 pixels and Tolerance to 4.0, either by dragging the sliders or entering the correct value in the text fields.

4 In the Lines section of the Path Options box, select the Curved and Straight Lines option, and move the slider to 3.0 or enter 3.0 in the text field.

5 Click OK.

You can save specific conversion options and settings—or choose from a list of preset options—using the Settings dialog box. In this example, you will assign a name for the black-and-white outlining conversion method you just set in the preceding section.

6 Choose Options > Settings.



A list of preset conversion options appears in the Conversion Settings scroll box in the upper left of the dialog box. A list of the current conversion settings appears at the bottom of the dialog box.

7 In the Settings Name text box, enter **Outline Black/White**.

8 Click OK.

You can now retrieve these settings at any time by clicking Outline Black/White in the Conversion Settings scroll box.

Convert a single image

Once you have selected the appropriate conversion options for the image, you can then convert it to line art.

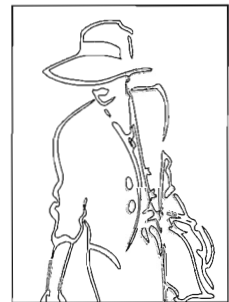
Choose File > Convert. The image is automatically converted using the current conversion settings.

As the conversion progresses, the progress bar displays the conversion method, the conversion percentage completed, and the number of paths created.

Once the conversion is complete, the converted image appears. To view the image as an outline artwork image, choose View > Artwork. In Artwork view, straight paths appear green and curved paths appear red.



Converted image



Artwork view

The bitmap image no longer appears on-screen. You can return to the bitmap image by choosing Raster Image from the Image Mode pop-up menu

in the upper left corner of the image window. You can view the converted image superimposed over the original bitmap image by choosing Art & Raster from the Image Mode pop-up menu.

The converted file has also been renamed (in this case, the ladyb&w.psd file has been renamed lady.ai) to prevent overwriting the original bitmap image file. The title bar at the top of the document window shows the filename of the original image and the new name of the converted art.

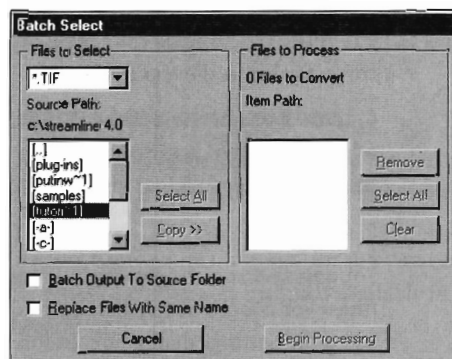
You can edit the converted image using Streamline. After you save the converted image, you can import it and edit it in a drawing program such as Adobe Illustrator or you can place the artwork into a page-layout application without changes. For information on editing converted images, see Chapter 5, “Working With Converted Art.”

Convert a batch of images

Adobe Streamline lets you select multiple files from various drives or folders and convert them as a group. (If you plan to use the Centerline conversion method, all images converted together in a directory should be scanned at the same resolution. For more information, see Chapter 4, “Setting Conversion Options.”)

- 1 Close the ladyb&w.psd and lady.ai images without saving your changes.
- 2 Choose Options > Settings.
- 3 Select the Defaults setting in the scroll box at the upper left of the dialog box, and click OK.

- 4 Choose File > Batch Select.



- 5 Open the Tutorial Images folder from the scrolling list in the Batch Select dialog box.
 - 6 Click the zebra.psd file to select it, and click Add to add it to the Files to Convert list. Do the same with the pilot.psd and ladyb&w.psd files.
- To place all available files in the folder into the File to Convert list, click Add All. To remove a file from the Files to Convert list, select the file and click Remove.
- 7 Click Start (Macintosh) or Begin Processing (Windows). The Batch Save Format dialog box appears.
 - 8 In the Format pop-up menu, select Illustrator EPS. Then click None in the Preview dialog box. Converted images will be automatically named by appending the filename with the filename extension for the file format you select.

9 Choose the Tutorial Images folder by selecting it from the scroll box (Macintosh) or by highlighting it (Windows) to select it as the output folder for the converted images.

10 Click the Select Tutorial Images button (Macintosh) or click Continue (Windows) to convert the batch of images.

Make multiple conversions on a single image

Some images can be most effectively converted by using different conversion methods for different areas. Adobe Streamline allows you to select separate areas of a bitmap image and convert them individually. The separate areas are combined in a single converted image.

1 Open the Tutorial Images folder, and select the announcer.psd file.



2 Click the lasso tool (⌘) to select it. The pointer becomes a lasso when you point inside the image area.

3 Drag to draw an outline around the announcer and the microphone.

4 Choose Options > Color/B&W Setup.

5 In the Posterization pop-up menu, choose Black & White Only. Then click OK.

6 Choose Options > Conversion Setup.

7 In the Methods section, select the Outline option. Then click OK.

8 Choose File > Convert.



9 Choose Raster Image from the Image Mode pop-up menu in the upper left corner of the image window to return to the original image.

10 Select the magic wand tool (⌘). The pointer becomes a wand when you point in the image area.

11 Click the dark gray border of the "hello" balloon, above the announcer's head, to select it.

12 Choose Options > Conversion Setup.

13 In the Methods section, select the Centerline option and deselect the Outline option. Then click OK.

14 Choose File > Convert.



15 Choose Raster Image from the Image Mode pop-up menu to return to the original image.

16 Select the magic wand tool (*\).



17 Click a corner of the image border to select it.

18 Choose Options > Conversion Setup.

19 In the Methods section, select the Line Recognition option and deselect the Centerline option. Then click OK.

20 Choose File > Convert.



21 Close the image without saving your changes.

Convert a color image

One of Adobe Streamline's most powerful features is the ability to convert color drawings or photographs into PostScript language artwork. You can use these features to create special effects, such as a posterization effect on a color photographic image.

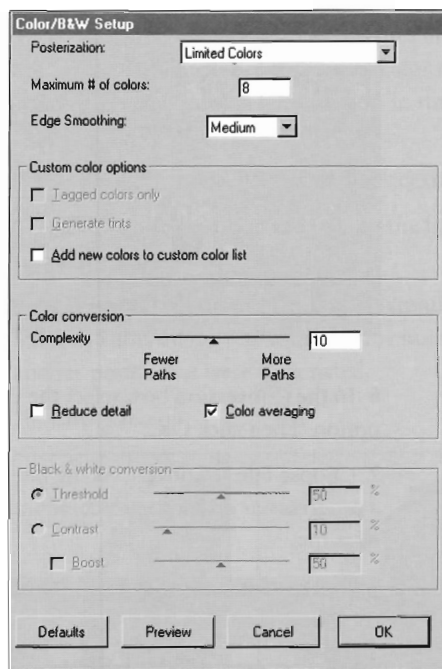
The color conversion process is similar to that of converting a black-and-white image, but color conversion includes additional choices in the Color/B&W Setup and Conversion Setup dialog boxes.

The following example shows how to convert an eight-color drawing using the Outline conversion method.

1 Open the Tutorial Images folder, and select the ladycolor.psd file. The color image appears, scaled to fit the Streamline window.



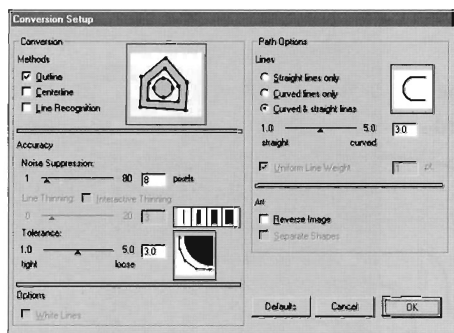
2 Choose Options > Color/B&W Setup.



3 Choose Limited Colors in the Posterization pop-up menu.

4 Enter a value of 8 in the Maximum # of Colors text box. Click OK.

5 Choose Options > Conversion Setup.



6 In the Conversion box, select the Outline option. Then click OK.

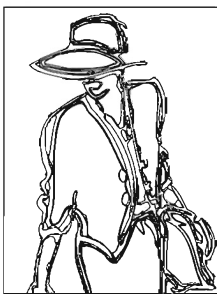
7 Choose File > Convert. As the file is converted, a progress bar displays each color and the number of paths.



8 Choose View > Artwork to see the converted artwork in an outline format.



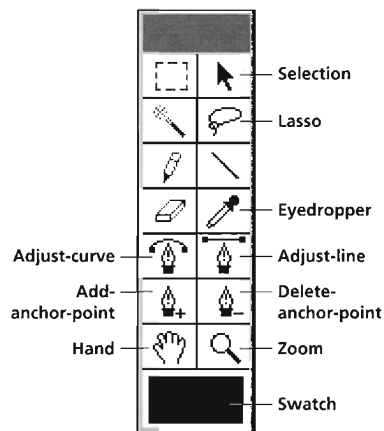
Preview



Artwork view

Edit an image after conversion

You can edit a converted image using the Adobe Streamline editing tools, menu commands, and Paint Style palette. After you convert an image, the toolbox changes slightly. Some tools are available only for pre-conversion editing and some only for post-conversion editing.



You can use the post-conversion tools to add, delete, and convert anchor points on the artwork, to move or convert path segments, to select a part of the artwork, and to change the color of selected areas. In this example, you will change the color of a path using the Paint Style palette, smooth a path using the Smooth Paths command, and delete anchor points with the delete-anchor-point tool.

1 Choose View > Preview.

2 Click the selection tool (⌘) in the toolbox to select it.

- 3 Click the red section of the woman's hat to select it.

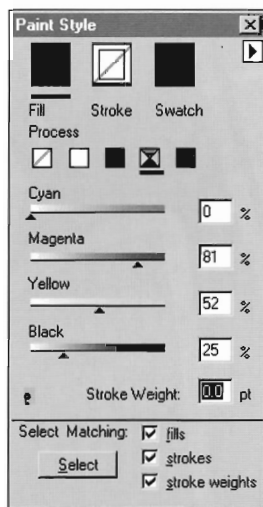


Click directly on an area to select it



Result

- 4 Choose Options > Paint Style.



- 5 Click the Fill box at the top left of the dialog box. Notice that the Fill box is the same red color as the selected object.

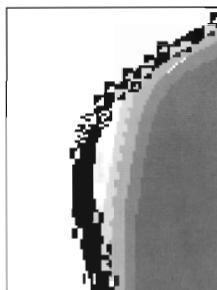
- 6 To change the red color to purple, enter a value of 70% in the Cyan text box, enter a value of 100% in the Magenta text box and enter values of 0% in the Yellow and Black text boxes. The color of the selected object automatically changes to the new color.

- 7 Choose Edit > Select None to deselect the hat.

- 8 Click the outline along the edge of the lady's right arm to select it.

- 9 Choose Edit > Smooth Paths > Maximum. The Smooth Paths dialog box indicates the number of anchor points that were eliminated.

- 10 Click OK.



Path selected



Maximum smoothing applied

- 11 Choose Edit > Select None to deselect the left arm.

- 12 Select the zoom tool (Q), and click two or three times on the lady's mouth to magnify it.

- 13 Click the lady's mouth to select it.

- 14 Click the delete-anchor-point tool (⦶) in the toolbox. The pointer changes to a pen tip with a minus sign.

- 15 Click several points on the lady's mouth to delete them.



Path selected



Anchor points deleted

- 16 Choose Edit > Select None to deselect the mouth.
- 17 Choose View > Artwork to see the artwork in outline form.

- 18 Click the selection tool (⌘) in the toolbox to select it.

- 19 Click a curved (red) path on the lady's jacket to select it.

- 20 Click the adjust-line tool (↔) in the toolbox to select it.

- 21 Click a curved segment to convert it to a straight (green) line.

Note: Because Adobe Streamline performs Outline conversions by layering filled paths over one another, the segment you convert may lie in the same path as another curved segment. Then the converted segment still appears red.

- 22 Close the image without saving your changes.



2



Chapter 2: Basic Concepts

This chapter describes some of the image requirements and conversion guidelines for Adobe Streamline, as well as preference and plug-in filter options. The chapter also reviews basic concepts such as importing and exporting files to and from Streamline, getting information about images, saving images, and changing your view of an image while editing.

Bitmap images and vector artwork

Adobe Streamline provides a versatile tool for converting bitmap images to vector artwork. Understanding the difference between these two types of computer-generated images will help you achieve more effective conversions.

Bitmap images

Bitmap images, also called *raster images*, use a grid, or *raster*, of small squares known as *pixels* to represent graphics. (A pixel, from *picture element*, is the smallest visual element on a computer screen.) Each pixel in a bitmap image has a specific location and color value assigned to it. For example, a 1-inch circle in the lower left corner of the page is made up of the collection of pixels in that location, colored to give the appearance of a circle. When working with bitmap images, you edit groups of pixels rather than objects or shapes.

Bitmap images are resolution dependent — that is, they represent a fixed number of pixels. As a result, they can appear jagged and lose detail if they are scaled on-screen or if they are printed at a resolution higher than they were created for. Images you open or acquire in Adobe Streamline are bitmap images.

Vector artwork

Vector artwork consists of lines and curves defined by mathematical objects called *vectors*. Vectors describe graphics according to their geometric characteristics. For example, when you draw a 1-inch circle in a vector-based program, the program creates the circle based on its shape and size. You can then move, resize, or change the color of the circle without losing the quality of the artwork. Images converted in Adobe Streamline are vector artwork.

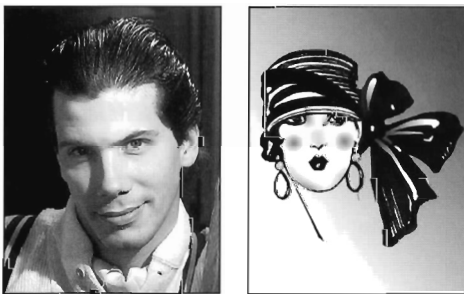
Image requirements

Adobe Streamline is designed to convert black-and-white (1-bit-per-pixel) images as well as color or grayscale (multiple-bits-per-pixel) images.

- Black-and-white bitmap images are those that have been scanned from original line art or created using a program such as Adobe Photoshop. Black-and-white images consist of only black or white pixels.



- Color or grayscale images are those that have been scanned from original continuous-tone photographs, or illustrations, or that have been created using a program that can save color or grayscale information (with more than 1 bit per pixel).



Images that you plan to convert using the Adobe Streamline program should meet the following requirements:

- Images should not contain type at sizes smaller than 36 points. If you plan to convert an image that contains small type, you can rescan the image at a larger size or erase the type before you convert the image. (For more information about erasing, see “Using the eraser tool” on page 42.)

- Images should not be halftones. Computer programs create halftones by converting an image to different-size collections or patterns of dots. If you use Adobe Streamline to convert a halftone image, the program generates a path for each halftone dot. The result is too many paths for efficient conversion or printing. You should always use the original (that is, the non-halftone) image.

- Images you want to convert must be saved in TIFF (Tagged-Image File Format), TIFF compressed, PICT (Macintosh), MacPaint (Macintosh), PCX (Windows), or Adobe Photoshop format.

Note: Adobe Streamline expands TIFF formats in memory during conversion, so the file size in memory is larger than the file on the disk. The exact increase depends on the image, but an increase of about one-third is common.

- For best results, an image that you plan to convert should be saved at a minimum resolution of 300 dots per inch (dpi) (up to a maximum of 600 dpi). Although Streamline supports low-resolution images (72 dpi), a low resolution limits the quality of the converted artwork. In general, the higher the resolution of the original image, the better is the converted artwork. However, the higher an image’s resolution, the larger the file size. Your computer must have enough memory to convert the image.



Original image



Results using image scanned at 72 dpi



Results using image scanned at 150 dpi



Results using image scanned at 300 dpi

- The quality of the converted artwork depends largely on the quality of the original image. If you start with a poor-quality original, imperfections are picked up by the scanner and included in the bitmap image. Streamline traces whatever information is contained in the bitmap image. You can edit out imperfections, such as stray dots, in a bitmap image, as described in Chapter 3, “Editing a Bitmap Image.”

Scanning guidelines

The following scanning guidelines will help you create the best possible bitmap images for conversion with Adobe Streamline.

Note: Adobe Systems Incorporated strongly recommends that you observe the rights of the original artist or publisher of the images you scan. If you plan to use a previously published image, contact the artist or publisher for information on obtaining permission.

- Make sure that the original image is square on the scanning bed before scanning (unless the scanner adjusts the alignment for you). Most scanners have guides to line up the image correctly. If the image is slightly rotated, straight lines within the scanned image may appear broken or jagged. (You can use the Line Recognition option to straighten horizontal and vertical lines that are slightly skewed. If necessary, you may be able to correct jagged lines in converted artwork by rotating the entire image in Adobe Illustrator.)
- The larger the image that you scan, the better the bitmap image (and the larger the image file). If you enlarge the image as you scan, you can often achieve better results than with a much smaller original.
- If the lines of your bitmap image appear too thin (less than 1 point), increase the contrast of the scanner to make the lines appear thicker.

- If you are scanning small letterforms or logos, enlarge the bitmap image to fill at least half an 8-1/2-inch by 11-inch page. After you have scanned the image, crop any unneeded areas from the image to reduce the file size.
- Scan at a resolution of 300 dpi or higher (up to 600 dpi). A high-resolution bitmap image provides more pixel information than does a low-resolution image, and generally results in more accurate converted artwork.
- Scan black-and-white line art using the line art setting on the scanner, and scan continuous-tone photographic images using the grayscale or color setting.
- If necessary, adjust the contrast to create a sharper scanned image.
- For special effects, try scanning a black-and-white image using the grayscale setting on the scanner. The grayscale setting lets you use the Color/B&W Setup dialog box to adjust gray shades and achieve a variety of interesting effects in Streamline.

Using plug-in filters

Plug-in filters are software programs developed by third-party vendors in conjunction with Adobe Systems to extend the capabilities of Adobe Streamline. Streamline includes several plug-in filters for acquiring images from scanners and other input devices. The plug-ins are located in the Plug-ins folder in the Adobe Streamline folder. You must select the Adobe Streamline Plug-ins folder the first time you use the plug-ins. You can select a Plug-ins folder from another application installed

on your system, such as Adobe Photoshop, to use those plug-ins. You can also install additional plug-in filters in Streamline. Additional plug-in filters should be obtained from the scanner or input-device manufacturer.

To select a plug-ins folder:

- 1 Choose File > Preferences > Plug-Ins.
- 2 Select the Plug-Ins folder inside the Adobe Streamline folder on your system's hard disk drive, or select the Plug-Ins folder from another application installed on your system, such as Adobe Photoshop.
- 3 Click Select.

To install additional plug-in filters in Adobe Streamline:

- 1 Drag the desired plug-in filters to the Adobe Streamlines Plug-ins folder.
- 2 Quit Streamline, then relaunch it to enable the new plug-in filters.

Acquiring images directly from a scanner

You can use the Acquire command, along with plug-in filters included with Adobe Streamline, to scan images directly from a scanner into Streamline. To use plug-in filters, you must first locate the folder in which the plug-in filters are placed. (For more information on locating the plug-in folder, see the preceding section, "Using Plug-In Filters.")

To scan an image directly into Adobe Streamline:

- 1 Choose File > Acquire.
- 2 Select a plug-in filter from the submenu.
- 3 Set any options for the selected plug-in filter.

Setting options for a TWAIN plug-in filter

TWAIN is a cross-platform interface for acquiring images captured by certain scanners and frame grabbers. The manufacturer of the TWAIN device must provide a source manager and TWAIN data source for your device, or the filter will not work.

The first time you use a TWAIN device, choose TWAIN Acquire and select the device you're using. You do not need to repeat this step for subsequent use of the TWAIN module unless you switch devices.

If more than one TWAIN device is connected to your system and you want to switch devices, use the TWAIN Select Source command to select the device.

Selecting general preferences options

The General Preferences options determine how Adobe Streamline functions in certain situations and allow you to control what options are retained when you quit the program. It is a good idea to set General Preferences options when you start Streamline; you can then easily change the options or revert to the default options later.

To select General Preferences options:

- 1 Choose File > Preferences > General.
- 2 Select any of the following options:
 - Beep After Conversion to turn on the beep sound that occurs when each image conversion is complete.
 - Restore Selected Settings on Startup to retain the current conversion settings—conversion method, accuracy options, and so on—and display these settings when you restart Adobe Streamline.
 - Save Dialog Box and Window Positions to retain the last position of all dialog boxes and windows when you quit Streamline. When you restart Streamline, the dialog boxes and windows are in the same positions as when you last quit the program.
 - Eliminate Hidden Paths to delete paths in converted areas that are obscured by subsequently converted areas in images involving multiple conversions.
- 3 Click OK.

Selecting a scratch disk

Adobe Streamline allows you to select the scratch disk or storage disk to be used during conversion of an image. By default, Streamline uses the startup disk as the scratch disk. By choosing another scratch disk, you can avoid running out of space on a full startup disk.

To select a scratch disk:

- 1 Choose File > Preferences > Scratch Disk.
- 2 Choose a scratch disk from the pop-up menu. Then click OK.

Note: Any change you make in scratch disk selection will not take effect until you relaunch Adobe Streamline.

Opening documents

Adobe Streamline can open TIFF, TIFF compressed, PICT (Macintosh), PCX (Windows), MacPaint (Macintosh), and Adobe Photoshop (2.0 and later) file formats. You can open only one document at a time.

If you are opening a very large color or grayscale document, you can decrease the size of the document by selecting the Downsample Color and Grayscale 2:1 option. With this option selected, Streamline retrieves every other pixel in the image, decreasing the total size of the image to one-fourth of the original. Reducing the image size makes the image easier to work with, reduces memory requirements, and decreases the time it takes for Streamline to redraw the image on-screen; however, it also reduces the resolution of the image, resulting in less detail.

To open a document:

- 1 Choose File > Open.
- 2 Select the name of the artwork file you want to open. If the file is in a format that Streamline can open, the file format appears in the File Format text field.
- 3 If desired, click the Show Thumbnail option to select it (Macintosh only).
- 4 If desired, click the Downsample Color and Grayscale 2:1 option to select it.
- 5 Click Open.

Importing images using the Copy and Paste commands

You can quickly import images into Adobe Streamline using the Copy and Paste commands.

To import an image using the Copy and Paste commands:

- 1 Use a scanner or application program to create an image.
- 2 Use one of the selection tools to select an image to copy, and press Command+C (Macintosh) or Ctrl+C (Windows).
- 3 Start Adobe Streamline.
- 4 Paste the image by pressing Command+V (Macintosh) or Ctrl+V (Windows).

Importing images by dragging and dropping

You can import images into Adobe Streamline by dragging and dropping selected images from other applications that use the PostScript language.

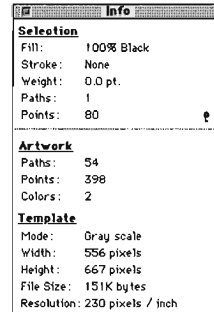
To import an image by dragging and dropping:

- 1 Open a document in the source application, and select an image to be imported.
- 2 Start Adobe Streamline, and open a file. You must have a file open to import a dragged image.
- 3 Drag the selected image from the source application into Streamline. Then release the mouse button.

If the open file in Streamline is an unconverted image, the file is closed without being saved and a new window appears with the dropped image. If the open file in Streamline is a converted image, a dialog box allows you to save the artwork before closing the file. A new window appears with the dropped image.

Getting information about an image

Use the View > Show Info command to view the Info palette with information about the open image.



The Info palette includes information on the current selection, the bitmap image before conversion (called the *raster image*), and the vector image after conversion (the *artwork*). Information about the current selection appears in the top section of the palette. Information about the raster image and artwork appears in the bottom two sections of the palette and can be concealed or displayed by clicking the lever icon in the Selection section.

The Info palette includes the following information:

- The fill and stroke color values
- The line weight of the selected stroke, in points
- The number of paths selected
- The number of anchor points in the selection
- The number of paths in the converted artwork

- The total number of anchor points in the converted artwork
- The number of colors in the converted artwork
- The image file mode: Bitmap, Grayscale, RGB Color, or CMYK Color
- The width and height of the image, in pixels
- The image file size, in bytes
- The image resolution, in units of pixels per inch

To view information on the active image:

Choose View > Show Info. If only Selection information appears, click the lever—the palette display control—at the lower right of the Info palette to view the raster image and artwork information.

Saving images

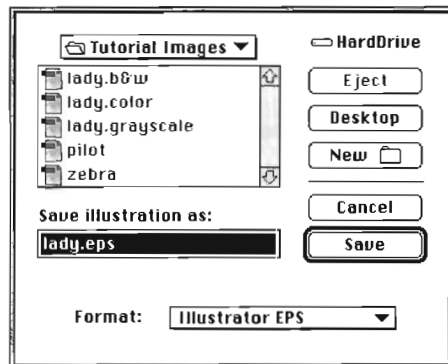
You can save a converted image in any of several file formats: Adobe Illustrator, Adobe Illustrator EPS, DXF, PICT (Macintosh), and Metafile (Windows). You can also save the bitmap image, before or after you perform a conversion.

To save a converted image:

Choose one of two options:

- To save a converted image under its original file name with the filename extension of the selected file format, choose File > Save Art.
- To save artwork under a different name or in a different file format, choose File > Save Art As. Select the folder in which you want to save the

artwork, and enter the file name you want to use for the artwork. See the following sections for information on your options for saving files.



Saving in the Adobe Illustrator format

Select an Adobe Illustrator file format if you want the converted image to be saved as a PostScript language file that you can open, preview, edit, and print from the corresponding version of Adobe Illustrator.

If you save your artwork in one of the Adobe Illustrator file formats, you can include a screen-resolution preview of the original image with the converted artwork file. All of the preview options automatically save the document with an Encapsulated PostScript Format (EPSF) header, enabling you to import and print your document from applications that support the EPS format.

The Preview options are the following:

None This format saves the document as an Adobe Illustrator file but does not provide a preview image of the artwork. The EPSF header

allows the file to be recognized and printed by any software application that supports the EPS format.

Color Macintosh (Macintosh only) (This format saves a preview version of the image in a color Macintosh QuickDraw®, PICT format.

Black-and-White Macintosh (Macintosh only) This format saves a preview image in a black-and-white Macintosh QuickDraw format.

Color IBM PC (Windows only) This format provides a color preview image that can be viewed on IBM PC-compatible computers.

Black and White IBM PC (Windows only) This format provides a black-and-white preview image that can be viewed on IBM PC-compatible computers.

Saving in the DXF format

Select DXF as the file format to preview, edit, and print a converted image in computer-aided design (CAD) programs such as AutoCad™, VersaCad™, or any other application that accepts the DXF Drawing Interchange file format.

Saving in the PICT format (Macintosh only)

Select PICT to save the file in a PostScript language PICT format. The PostScript language PICT format is recognized by many drawing programs, desktop publishing programs, and word-processing programs and can be used as an intermediary file format for transferring documents between applications.

Artwork that is saved in the PostScript language PICT format can also be opened by programs that recognize bitmap PICT format images; however, when opened as a bitmap PICT image, the artwork will be converted from PostScript language format to a bitmap format and will lose the editability and compactness of a PostScript language file.

Saving in the Metafile format (Windows only)

Select Metafile to save the file in the Enhanced Metafile format. The Metafile format is the native internal file format of Windows 95 and Windows NT. Most Windows 95 applications and the Windows Clipboard support Metafile format.

Saving a bitmap image

You can save the bitmap image before or after you convert it. You can save the image in Adobe Photoshop 2.0 (Macintosh only), Adobe Photoshop, PICT (Macintosh), PCX (Windows), or TIF.

To save a bitmap image:

- 1 Choose File > Save Raster Image As.
- 2 Select a folder in which to save the bitmap image, or click New Folder.
- 3 From the File Format pop-up menu, choose a file format in which to save the file.
- 4 In the Save Raster Image As text box, type the name of the file.
- 5 Click Save.

Copying images to other applications

You can copy converted artwork or a selection of a converted artwork file by using the Copy and Paste commands. Once a converted image has been copied, it can be pasted into an application that recognizes PostScript language files, such as Adobe Illustrator. You can copy a path to Adobe Photoshop 3.0 or later by using the Copy and Paste as Paths commands.

You can also copy artwork by dragging it from Adobe Streamline and dropping it into the active window of a destination application that recognizes PostScript language, such as Adobe Illustrator, Photoshop, or Dimensions.

To copy a PostScript image to the Clipboard and export it to another application:

- 1 Use Adobe Streamline to convert an image into PostScript line art. (For more information about converting images into line art, see Chapter 4, “Setting Conversion Options,” or Chapter 5, “Working With Converted Art.”)
- 2 Select the PostScript image or a part of it, and choose Edit > Copy or press Command+C (Macintosh) or Ctrl+C (Windows) to copy the selection.
- 3 Start Adobe Illustrator (or another application that recognizes PostScript language files), and open a document.
- 4 In the destination application, choose Edit > Paste or press Command+V (Macintosh) or Ctrl+V (Windows) to paste the selection.

To copy a path to Adobe Photoshop 3.0 or later:

- 1 Use Adobe Streamline to convert an image into PostScript line art. (For more information about converting images into line art, see Chapter 4, “Setting Conversion Options,” or Chapter 5, “Working With Converted Art.”)
- 2 Select a path or paths in the artwork, and choose Edit > Copy or press Command+C (Macintosh) or Ctrl+C (Windows) to copy the selection.
- 3 Start Adobe Photoshop, and open a document.
- 4 Choose Edit > Paste as Paths to paste the selected path or paths into Adobe Photoshop.

To copy a PostScript image to another application by dragging and dropping:

- 1 Use Adobe Streamline to convert an image into PostScript line art. (For more information about converting images into line art, see Chapter 4, “Setting Conversion Options,” or Chapter 5, “Working With Converted Art.”)
- 2 Use the selection tool (⌘) or the lasso tool (⌘) to select an image or part of an image.
- 3 Start Adobe Illustrator (or another application that recognizes PostScript language files), and open a document.
- 4 Use the selection tool to drag the selected image or part of an image into the document window of the destination application.

Changing your view of an image

You can change the placement and viewing scale of an open image in several ways, as described in the following sections.

Scrolling with the hand tool

If an image extends beyond the edges of the Adobe Streamline window (indicated by the appearance of active scroll bars), you can use the hand tool to drag the image around the window and view the concealed portions.

To scroll an image with the hand tool:

1 Do one of the following:

- Select the hand tool (🖐️).
- With any other tool selected, hold the Spacebar.

The pointer becomes a hand when positioned anywhere inside the active window.

2 Hold the mouse button and drag the hand in the direction you want the image to scroll.

Magnifying and reducing the image

Adobe Streamline provides several methods of magnifying and reducing an image. You can resize the image while keeping the window the same size, or you can resize the image and window together.

To resize the image:

Do one of the following:

- Select the zoom tool (🔍). To zoom in, position the pointer in the image window and click the mouse button. To zoom out, hold Option (Macintosh) or Alt (Windows) and click the mouse button.
- With another tool selected, hold down Command+Spacebar (Macintosh) or Ctrl+Spacebar (Windows) to magnify, or Command+Option+Spacebar (Macintosh) or Ctrl+Alt+Spacebar (Windows) to reduce, and click in the image window.

The pointer becomes a magnifying glass with a plus sign (+) or minus sign (-) inside the lens when you use these options to resize the image. The area beneath the pointer is centered in the new view. If you need to zoom more than once, click again to move to the new view. You do not need to wait until the image has been completely repainted in the window before you zoom again.

The plus or minus sign disappears when you've magnified or reduced the image to the greatest extent possible.

To resize the image and window together:

- Choose View > Zoom In to magnify or View > Zoom Out to reduce.
- With any tool selected, position the pointer inside the image window and press Command+[+] (Macintosh) or Ctrl+[+] (Windows) to magnify, or Command+[-] (Macintosh) or Ctrl+[-] (Windows) to reduce.

To magnify or reduce using a selection marquee:

- 1 Select the zoom tool (Q).
- 2 Drag a marquee around the part of the image that you want to magnify or that is the size you want the image to fit into.

If you are magnifying the image, the area you select fills the window as closely as possible. If you are reducing the image, the image is reduced as much as possible to fit inside the marquee. The magnification or reduction factor is determined by the size of the selection.



Area selected by dragging zoom-in tool



Enlarged view

Fitting an image into the window and restoring the image to actual size

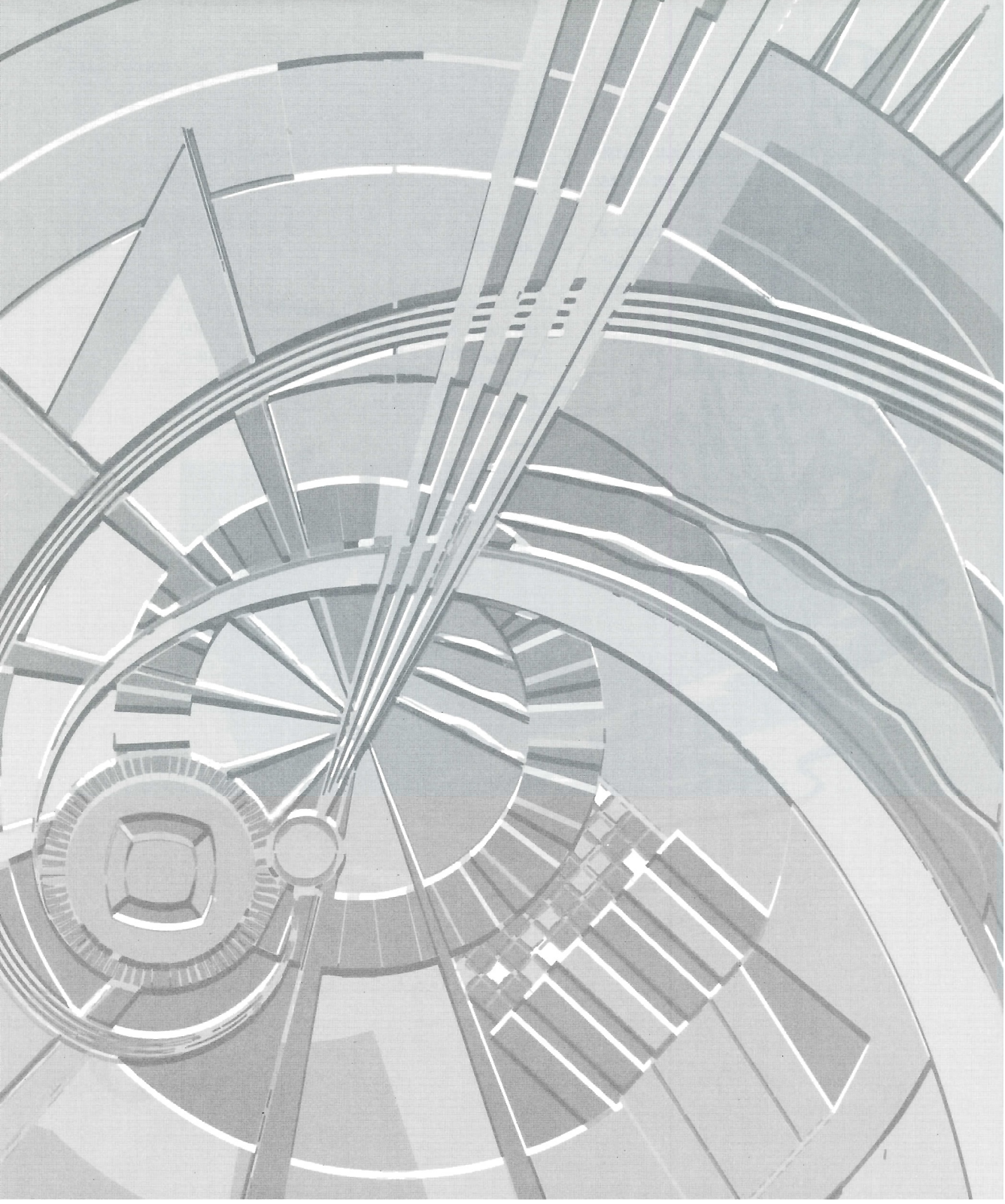
To display the entire image in the active window:

Choose View > Fit In Window, or double-click the hand tool (H).

To restore an image to its actual size:

Choose View > Actual Size.





Chapter 3: Editing a Bitmap Image

Before converting a bitmap image, you can edit it using the Adobe Streamline tools and commands.

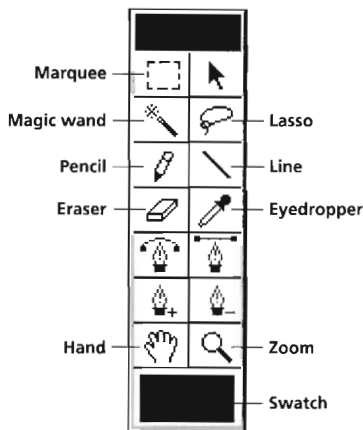
This chapter describes how to use the various tools to select, erase, redraw, and apply color to parts of a bitmap image.

Using the toolbox to edit the original bitmap image

The first time you open an image, the toolbox appears on the left of the active Adobe Streamline window. After you convert the image, the available tools change so that you can edit the converted image, as explained in Chapter 5, “Working With Converted Art.”

To display or hide the toolbox:

Choose View > Show Tools or View > Hide Tools.



The following tools are available for working on unconverted bitmap images:

The marquee tool (☐) Lets you make rectangular selections. For more information, see “Using the marquee tool” on page 38.

The magic wand tool (☞) Lets you select image areas based on the color similarities of adjacent pixels. This tool can be useful when you want to select part of an image (for example, a red flower) without tracing the outline with the lasso tool. For more information, see “Using the magic wand tool” on page 39.

The lasso tool (☞) Lets you select by drawing free-hand boundaries. For more information, see “Using the lasso tool on unconverted images” on page 38.

The pencil tool (☞) Lets you paint freehand lines in the color displayed in the toolbox swatch. For more information, see “Using the pencil tool” on page 41.

The line tool (☞) Lets you paint constrained or unconstrained straight lines. For more information, see “Using the line tool” on page 42.

The eraser tool (☞) Lets you change the color values of pixels (“erase” them) to white. For more information, see “Using the eraser tool” on page 42.

The eyedropper tool (☞) Lets you select a color from a bitmap image, and displays the selected color in the color swatch. For more information, see “Applying color to a bitmap image” on page 44.

The zoom tool (🔍) Allows you to magnify and reduce the image display. For more information, see “Magnifying and reducing the image” on page 33.

The hand tool (🖱️) Lets you scroll through an image that is too large for the window. For more information, see “Scrolling with the hand tool” on page 33.

The color swatch Indicates the active color.

Making selections

You can make selections in a bitmap image using the lasso, marquee, and magic wand tools. You make selections to change the color of the selected area or to convert only the selected part of an image.

Selecting an area for conversion

If you are interested in converting only part of an image, you can select that part before converting the image; Adobe Streamline will then convert only the selected area. Converting just a selected area, especially with large or complex images, can significantly speed up the conversion process and reduce memory requirements.

Note: Using the *File > Convert Selection Edge* command creates paths around the selection edges of the object. This is useful for creating masks or outlining areas. For more information, see “Converting a selection edge” on page 73.

You can convert multiple areas of an original image using different conversion methods. The separate areas are combined in a single converted image. For more information, see “Converting multiple areas of an image” on page 73.

Using the lasso tool on unconverted images

The lasso tool lets you select any area of an image by drawing an outline around the area.

To select an area with the lasso tool:

- 1 Select the lasso tool (🔗). The pointer becomes a lasso when you point inside the image area.
- 2 Drag to draw an outline around the part of the image that you want to select. If you do not draw a closed shape, Streamline closes the selected area for you when you release the mouse button.

Using the marquee tool

The marquee tool lets you select rectangular areas of a bitmap image by dragging a marquee, or selection border, on the image.



Tip: To select a very small area, zoom in to an increased magnification before making the selection.

To make a rectangular selection:

- 1 Select the marquee tool (📏). The pointer becomes a cross hair when you point inside the active window.
- 2 Drag a marquee around the image part that you want to select.

Using the magic wand tool

The magic wand tool lets you select areas of a bitmap image based on the color or grayscale similarities of adjacent pixels.

To select with the magic wand tool:

- 1 Select the magic wand tool (W).
- 2 Click the colored area or shade of gray you want to select. The magic wand tool evaluates color values of adjacent pixels to determine if they are within the specified range, or *tolerance*. All pixels that fall within the specified tolerance are selected.

To select magic wand options:

- 1 Double-click the magic wand tool (W).
- 2 Do any of the following:
 - Enter a Tolerance value from 0 to 255, or drag the slider to change the value. Tolerance determines how similar pixels must be in color (or brightness, for grayscale images) to be included in a selection. A low number (called a *tight tolerance*) causes the magic wand to select pixels with very similar color or brightness values. A high number (called a *loose tolerance*) causes the magic wand to select a wider range of colors or brightness.



Tolerance: 32



Tolerance: 99

- Select the Expand Spread option to make the magic wand selection based on a 3-pixel spread surrounding the pixel you click with the magic wand tool. Adobe Streamline will then select pixels that fall within the tolerance range of any of the pixels in the spread.

Extending and reducing selections

You can extend or reduce your selection in many ways. You can select more than one area of an image at a time, or you can select the entire image. You can also extend and reduce selections by selecting the intersection of two or more selection borders.

To add to a selection:

- 1 Make your first selection using any of the selection tools.
- 2 Hold down the Shift key and select the area you want to add to the first one. The second selection is added to the first.



Extending selection
using the Shift key



Result

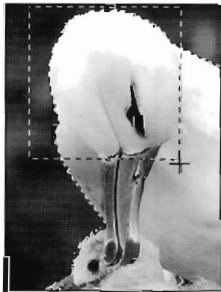
To subtract from a selection:

- 1 Once you have made a selection, click any of the selection tools.
- 2 Hold Command (Macintosh) or Ctrl (Windows) and select the area you want to subtract from the selection.

To select the intersection of selections:

- 1 Once you have made a selection, select any selection tool.
- 2 Hold Command+Shift (Macintosh) or Ctrl+Shift (Windows) and drag to define the area of intersection that you want to select. If you have selected the magic wand tool (W), hold Command+Shift (Macintosh) or Ctrl+Shift (Windows) and click to select pixels based on the color or grayscale similarities within the boundaries of the selection.

The areas of the selections that are within the new selection border are selected.



Selecting the intersection of selections by using the Command and Shift keys



Result

To select the entire image:

Choose Edit > Select All.

To select all objects not currently selected:

Choose Edit > Select Inverse. This action selects every object in the image that was *not* selected when the Select Inverse command was applied, and it deselects previously selected objects.

To deselect the entire image:

Choose Edit > Select None, or click anywhere inside the image area with the marquee selection pointer.

Extending a selection based on color or grayscale brightness

The Grow Selection and Select Similar commands allow you to expand a selection to include parts of the image that are similar in color (or in the case of grayscale images, similar in brightness) to the current selection. These commands use the tolerance specified in the Magic Wand Options dialog box to define the color range of pixels to be included in the expanded selection.

To extend a color-based or gray-based selection:

Choose one of these options:

- Choose Edit > Grow Selection to include pixels, adjacent to the selection, that fall within the specified tolerance range.
- Choose Edit > Select Similar to include pixels throughout the image, not just the ones next to the current selection, that fall within the specified range.

To increase the selection in increments, choose either command repeatedly.



Grow Selection command



Result



Select Similar command



Result

Drawing on and erasing a bitmap image

You can edit a bitmap image using the pencil, line, or eraser tool. The pencil and line tools let you draw in the bitmap image, using the current swatch color. (For information on selecting a swatch color, see “Applying color to a bitmap image” on page 44.) The eraser tool lets you remove colors or gray shades, leaving white where you click or drag.

You can undo the most recent editing action you have performed. For example, if you draw a line that isn't exactly the size you want, simply choose **Edit > Undo** to undo the line.

By default, the shape of the pencil, line, and eraser tools is square. You can change the thickness of these drawing tools using the **Draw Options** dialog box.

To change the thickness of the pencil, line, or eraser tool:

Double-click the pencil (ϕ), line ($\backslash$), or eraser tool (E). Select the thickness you want, and click **OK**.

Using the pencil tool

The pencil tool lets you draw freehand lines in the swatch color and selected pencil thickness. You can also edit an image pixel by pixel by zooming in on an area and clicking with the pencil.

To draw a freehand line:

- 1 Select the pencil tool (ϕ).

2 Drag to draw a line. To constrain the line to the nearest 90-degree angle, hold down the Shift key as you drag. To draw a line from anywhere on the image to the end of the last line drawn, hold down the Shift key and click.



Before

After

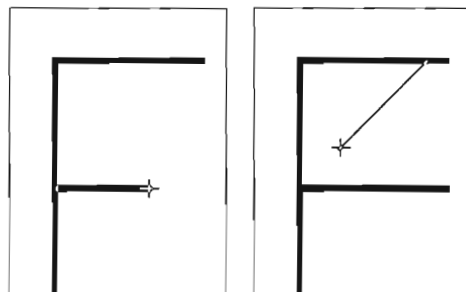
Using the line tool

The line tool lets you draw straight, hard-edged lines in the swatch color and selected line thickness.

To draw a straight line:

- 1 Select the line tool (\).
- 2 Drag from one point to another in the image area.

To constrain the line to the nearest 45-degree angle, hold down the Shift key as you drag.



A horizontally constrained line

A diagonal line constrained to a 45-degree axis by holding down the Shift key

Using the eraser tool

The eraser tool allows you to “erase” pixels in a bit-map image by painting in white where you click or drag. This tool is especially useful for removing stray dots from a scanned image or for removing very small type that would not convert usefully. The eraser tool is unaffected by the toolbox color swatch.

To erase part of an image:

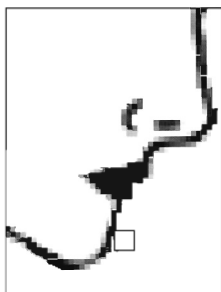
- 1 Select the eraser tool (E).
- 2 Click or drag to erase the pixels beneath the eraser pointer.

Use the zoom tool to help you erase more efficiently and more precisely. For example, to erase a large part of an image, reduce the view using the

zoom-out tool; then erase most of the area, avoiding the edges. When you finish, enlarge the view using the zoom-in tool, and erase the edges.



Erasing an image



Erasing single pixels in a magnified image

Adjusting brightness, contrast, and gamma levels

You can adjust the brightness and contrast of a color or grayscale image by using the Adjust Levels dialog box. You can also use the Adjust Levels dialog box to adjust the *gamma* in the image. Gamma measures the contrast that affects the mid-level grays (the midtones) of an image.

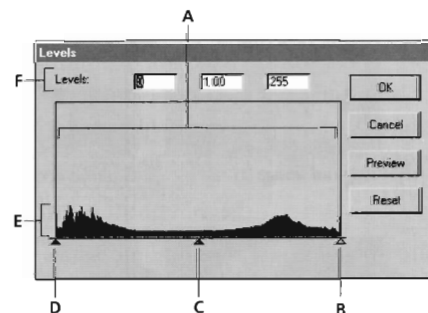
Adjusting the gamma lets you change the brightness values of the middle range of gray tones without dramatically changing the shadows (very dark pixels) and highlights (very light pixels).

Adjusting gamma is an easy way to change the contrast of an image. You can quickly fine-tune the contrast of your image before conversion by adjusting the gamma slider and using the Preview button to check the result.

Note: A white background often appears gray in a scanned image. You can change the gray background back to white by adjusting the gamma level in the Adjust Levels dialog box.

To use the Adjust Levels dialog box:

1 Choose Edit > Adjust Levels. The Adjust Levels dialog box appears, displaying a histogram of the image.



A. Brightness values B. Highlights C. Gamma (midtones)
D. Shadows E. Number of pixels F. Level boxes

The histogram plots the brightness values versus the number of pixels at each level. The darkest pixels appear at the left; the brightest pixels appear at the right.

2 Adjust the contrast by using the slider controls below the histogram. The black triangle controls the shadows, the white triangle controls the high-

lights, and the gray slider controls the gamma. You can also enter values directly into the Levels text boxes.

- 3 Do any of the following:
 - Preview to see how the changes in contrast and gamma will appear on-screen before conversion.
 - Reset to return to the original values.
 - Cancel to return to the main window.
 - Click OK to apply the new values to the image.



Original image



*Gamma decreased
(midtones lightened)*



*Image with gamma
increased (midtones
darkened)*



*Shadows and highlights
increased*

Applying color to a bitmap image

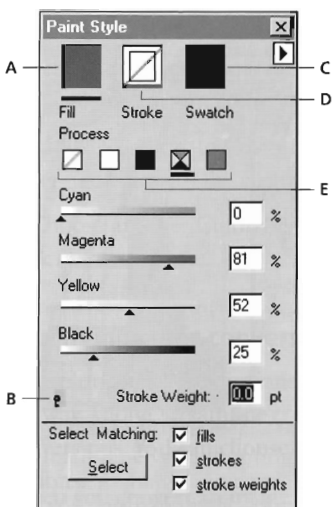
The toolbox swatch color indicates the color of lines drawn with the pencil or line tool. You can change the swatch color in two ways: selecting a color from the bitmap image by using the eyedropper tool, or applying a new color to the swatch by selecting a color in the Paint Style palette. You can then select an area of the image and apply the swatch color to that area.

To change the swatch color with the eyedropper:

- 1 Select the eyedropper tool (.
- 2 Position the eyedropper over the color you want to select, and click the mouse button.

To change the swatch color using the Paint Style palette:

1 Choose Option > Paint Style, or double-click the swatch in the toolbox.



A. Fill B. Palette display control C. Swatch
D. Stroke E. Color selection options (None, White, Black, CMYK, Custom)

2 Select the color type you want from the color selection options. (Only some of the color selection options are available before conversion. For a detailed description of all the color selection options, see “Using the Paint Style palette” on page 85.)

- Click the Black or White box, and specify a percentage of black or white for the swatch color.
- Click the Process Color box, and specify a percentage of C (cyan), M (magenta), Y (yellow), and K (black) for the swatch color.

- Click the Custom Color box, and select a custom color from the list; then specify a Tint value for the swatch color. (For more information about custom colors, see “Working with colors” on page 85.)

Note: If you assign a custom color to a bitmap image, Adobe Streamline retains the CMYK color values after conversion but removes the association with the custom color name. Therefore, it is often preferable to apply custom colors to images after conversion.

To apply a swatch color to the image:

- 1 Select the part of the image you want to color using a selection tool.
- 2 Change the swatch color as described in the preceding procedure.
- 3 Choose Edit > Fill or press Command+F (Macintosh) or Ctrl+F (Windows) to apply the new swatch color.



Area selected



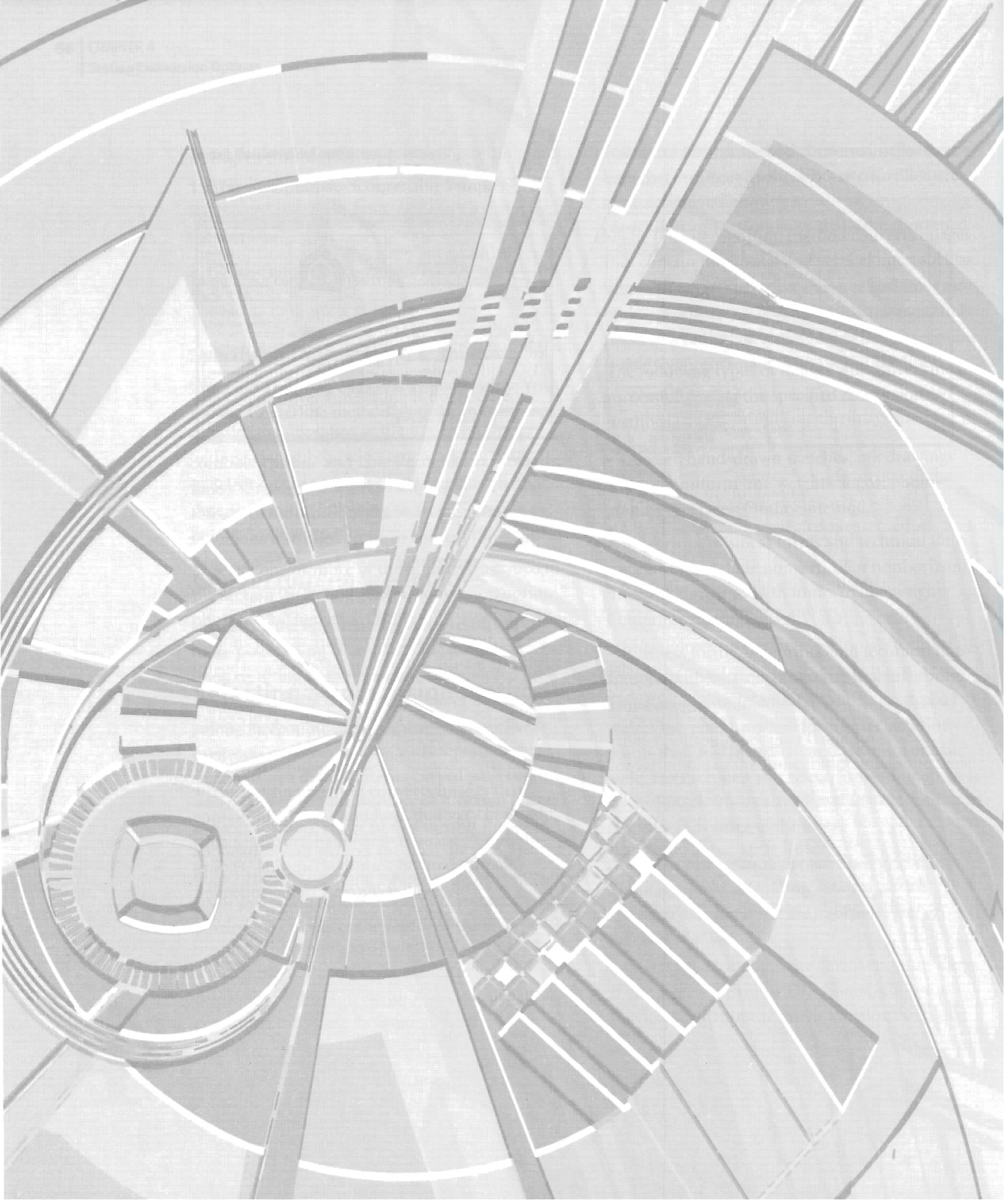
With color changed

To restore the previous swatch color to the selected image:

Choose Edit > Undo.



4



Chapter 4: Setting Conversion Options

This chapter describes how to select conversion settings and options for converting black-and-white, grayscale, and color bitmap images into PostScript line art. This chapter also describes how to save a set of conversion settings under a given name, for easy retrieval.

Converting images

When you convert an image in Adobe Streamline, you use the Color/B&W Setup dialog box and the Conversion Setup dialog box to determine the properties of the converted artwork.

To convert an image:

- 1 Do one of the following:
 - For black-and-white images, proceed to step 2.
 - For color or grayscale images, choose Options > Color/B&W Setup. Select a Posterization option. Then select Custom Color options, Color Conversion options, or Black & White Conversion options. For more information, see “Selecting Color/B&W Setup options” on page 50.
- 2 Choose Options > Conversion Setup.
- 3 Select a Conversion Method. For more information, see “Selecting a conversion method” on page 56.
- 4 Select general conversion options. For more information, see “Selecting general conversion options” on page 62.

Conversion guidelines

The following guidelines will help you obtain maximum clarity in your converted images:

- In general, images with high contrast between the dark and light areas are better candidates for conversion than are those with low contrast.
- If a color or grayscale image appears completely white or black when converted using Black & White Only posterization, adjust the Threshold, Contrast, and Boost options in the Color/B&W Setup dialog box.
- To include the most information when converting a continuous-tone picture, select Unlimited Colors in the Color/B&W Setup dialog box. Keep in mind that using more colors increases the file size and the conversion time. If you don’t want such a large file, select Limited Colors and enter a value for Maximum Number of Colors in the Color/B&W Setup dialog box.
- If you are outlining an image that contains gradient shades or colors, set the Edge Smoothing option in the Color/B&W Setup dialog box to Maximum.
- If your original image has many stray pixels, erase the pixels before converting the image, using the eraser tool.
- To capture small details of a bitmap image, scan the image at a high resolution; then in the Conversion Setup dialog box, reduce the Noise Suppression setting, increase the Tolerance, or both. If your original image is small (for example, only a

few inches square), either enlarge the image before scanning it, scan the image at a larger size, or scan it at a resolution higher than 300 dpi (up to 600 dpi).

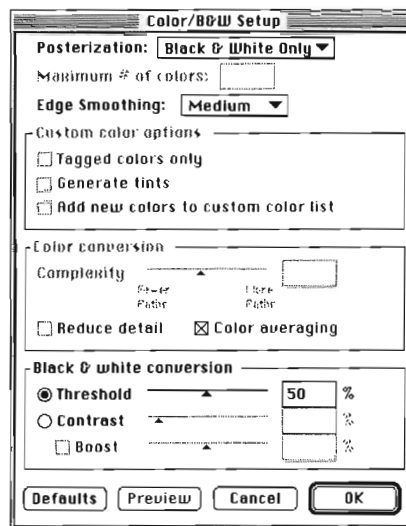
- If your image contains areas that would benefit from conversions using different methods, convert selected areas separately. For example, if you want to convert a business form that includes a company logo, you can select just the form and convert it using the Line Recognition method, and then select the logo and convert it using the Outline method. Adobe Streamline will combine separately converted areas into a single converted image.
- If the horizontal or vertical lines in your image are slightly skewed, use the Line Recognition method along with the Centerline or Outline method to correct the skewing.
- If the original image contains lines with more than one line weight and the lines intersect, convert the image using the Centerline conversion method with the Uniform Line Weight option. Then change the line weights in the Paint Style palette.

Selecting Color/B&W Setup options

If your original bitmap image is color or grayscale, you use the Color/B&W Setup dialog box to select color, grayscale, or black-and-white options for the converted artwork.

To Select Color/B&W options:

1 Choose Options > Color/B&W Setup.



2 To control the number and style of colors that Adobe Streamline uses in converting an image, choose one of the following options from the Posterization pop-up menu:

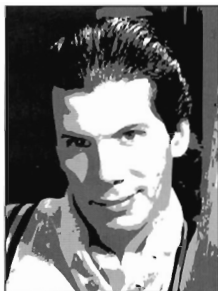
- **Limited Colors** lets you specify the maximum number of colors or grayscale levels to use in converting an image. In the Maximum Number of Colors text box, enter a number between 2 and the maximum number of colors available on your system for color images; enter a number between 2 and 255 for grayscale images.

If more colors exist in the image than in the palette or if colors are similar, Adobe Streamline converts the colors that occur less frequently in the image to

the closest color in the palette. As the image is converted, a progress bar displays each color as it is processed.



Original 8-bit, 16-level grayscale image



Converted artwork with Number of Colors: 4



Converted artwork with Number of Colors: 8



With Number of Colors: 16

- Unlimited Colors lets Streamline generate an unlimited number of colors in converting an image. The number of colors is determined by the original image and by the Complexity level you choose. For more information on using the Complexity option, see “Specifying color conversion options” on page 53.

- Use Custom Colors uses colors in the current custom color list in converting an image.

Note: When you choose Limited Colors or Unlimited Colors, Adobe Streamline chooses which colors to use in the conversion. When you choose Custom Colors, you can choose which colors to use by selecting a custom color list and tagging custom colors within the list.

- Black & White Only generates a two-color, black-and-white converted image.

3 Select one or more of the Color/B&W options described in the following sections.

4 To see how the Color/B&W Setup settings affect an image before you convert the image, click Preview. If the results are not what you expect, adjust the settings and preview the image again. When the results are what you want, click OK.

Limiting anti-aliasing in the original bitmap image

The Edge Smoothing option allows you to control the level of edge smoothing in the converted image by limiting *anti-aliasing* in the original image. Anti-aliasing converts jagged edges in a bitmap image into clean edges. Edge Smoothing allows you to suppress the effects of anti-aliasing and create smoother paths in the converted image.

Edge Smoothing sharpens the fuzzy or blurred edges created by anti-aliasing and reduces the number of anchor points in the converted image. The higher the level of Edge Smoothing, the fewer anchor points and the smoother are the paths in the converted image. If areas in the original image are clearly defined, as in a checkerboard, you may

not need to smooth edges. Smoothing edges more than is necessary can remove too many anchor points, resulting in distorted paths.

Note: Once an image has been converted, you can use the *Smooth Path* command or the anchor-point-deletion tool to reduce the number of anchor points in the image. For information on using these features, see Chapter 5, “Working with Converted Art.”



Original image



Edge Smoothing: None



Edge Smoothing: Medium



Edge Smoothing:
Maximum

To specify the amount of edge smoothing:

- 1 In the Color/B&W Setup dialog box, choose None, Minimum, or Maximum from the Edge Smoothing pop-up menu.
- 2 Choose another Color/B&W option, or click OK.

Specifying custom color options

Custom color options let you choose how you want to use or add custom colors in the conversion process. You can use one or more of these custom color options:

- **Tagged Colors Only** lets Streamline use only custom colors already tagged in the Paint Style palette or in the Custom Color dialog box. This option is available when you choose Custom Colors in Posterization. For more information on tagging custom colors, see “Using the Paint Style palette” on page 85.
- **Generate Tints** generates up to 10 tints of the available custom colors used in a conversion. Adobe Streamline generates tints in 10% increments of the original color. This option is available when you choose Custom Colors in Posterization. When you select Generate Tints, the lower limit for Maximum Number of Colors is one, rather than two.
- **Add New Colors to Custom Color List** adds colors generated during conversion to the list of custom colors. The added colors can then be used in editing converted images. This option is available when you choose Limited Colors in Posterization.

To specify custom color options:

1 In the Color/B&W Setup dialog box, choose any of the following options:

- Tagged Colors Only to use custom colors that were tagged in the Paint Style palette
- Generate Tints to generate up to 10 tints of the available custom colors
- Add New Colors to Custom Color List to add generated colors to the custom color list

2 Choose another Color/B&W option, or click OK.

Specifying color conversion options

The color conversion options allow you to control the way Adobe Streamline creates paths in color conversions. You can choose from the following options:

- Complexity defines how closely Streamline looks at adjacent colors in an image to determine whether they require separate paths. A higher Complexity setting creates more paths and more color variation in the converted image. Complexity is enabled when you choose Limited Colors, Unlimited Colors, or Custom Colors in Posterization.

- Reduce Detail reduces the level of detail that Adobe Streamline creates in a converted image. When Reduce Detail is disabled, Streamline doubles the resolution of an image before conversion. When Reduce Detail is enabled, image resolution is not doubled. This option is available when you choose Limited Colors, Unlimited Colors, or Custom Colors in Posterization.

- Color Averaging controls how Adobe Streamline assigns colors to paths in a converted image. When Color Averaging is enabled, Streamline assigns a color to a path by averaging all the colors in that area of the unconverted image. When Color Averaging is disabled, Streamline assigns a color to a path by choosing the most common color in that area of the unconverted image.

Color Averaging is best used with bitmap images consisting of solid areas of color. Color Averaging should be disabled when converting continuous-tone images such as photographs or when performing multiple conversions with overlapping selections. Color Averaging is available when you choose Limited Colors or Unlimited Colors in Posterization.



Original



Complexity: 12



Reduce Detail On



Color Averaging On

To specify color conversion options:

- 1 In the Color/B&W Setup dialog box, do any of the following:
 - Drag the Complexity slider, or enter a value between 2 and 20. The default is 10.
 - Select the Reduce Detail option.
 - Select the Color Averaging option.
- 2 Choose another Color/B&W option, or click OK.

Specifying black-and-white conversion options

Black and white conversion options let you control the way Adobe Streamline converts color and grayscale images to black and white.

Note: Black-and-white conversion options cannot be used with black-and-white bitmap images. When you open a black-and-white bitmap image in Streamline, Black & White Only posterization is selected by default, and other Color/B&W Setup options are unavailable.

- Threshold lets you specify as a percentage the gray level above which Streamline will convert a pixel to black. For example, an 8-bit grayscale image has 256 levels of gray, numbered 0 (black) to 255 (white). A threshold of 50% causes all pixels with gray-level values above 128 (50% of 256) to be converted to black and all pixels with gray-level values below 128 to remain white. The higher the percentage, the lower is the number of black pixels that remain. The default threshold value is 50%.



Original 8-bit grayscale image



Converted artwork with Threshold 15%



Converted image with Threshold 30%



With Threshold 85%

- Contrast lets you specify as a percentage the contrast level above which Adobe Streamline will convert a pixel to black. With the Contrast option selected, Streamline compares how much each pixel contrasts with its neighboring pixels. Pixels exceeding the specified percentage are converted to black, thereby creating an edge.

For example, if you specify a contrast level of 20%, only pixels that contrast more than 20% with their neighboring pixels will be converted to black. This means that with an 8-bit gray-level image containing 256 gray levels, any contrast greater than 51.2 levels (20% of 256) will cause the pixel to

be converted to black. As with the Threshold option, the higher the percentage specified, the smaller is the resulting number of black pixels. The default value for the Contrast option is 10%.



Original 8-bit grayscale image



Converted artwork with Contrast 3%



Converted artwork with Contrast 20%



With Contrast 80%

- Boost is available when you select the Contrast option. The Boost option lets you artificially bring out details in the light or dark areas; this option is useful when you convert color or grayscale images in which the stroke contrast is not pronounced. To increase details in lighter areas, select the Boost option and drag the Boost slider toward a lower percentage; to increase details in darker areas, drag the slider toward a higher percentage. The default Boost level is 50%.

To specify black-and-white conversion options:

1 In the Color/B&W Setup dialog box, do one of the following:

- Select the Threshold option, and drag the slider, or enter a value between 0% and 100%.
- Select the Contrast option and drag the slider or enter a value between 0% and 100%. Then, optionally, select the Boost option, and drag the slider, or enter a value between 0% and 100%.

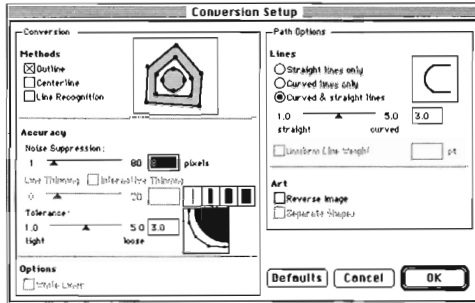
2 Choose another Color/B&W option, or click OK.

Setting up a conversion

The Conversion Setup dialog box lets you choose conversion methods, set various line options, or reverse the bitmap image. Unless you plan to use the default conversion settings (the Outline conversion method with the Noise Suppression set to 8 pixels), you should set your conversion options before beginning the conversion. You can then save the conversion settings, along with the Color/B&W Setup options, by using the Settings dialog box.

To set conversion options:

- 1 Choose Options > Conversion Setup.



- 2 Select one or more of the conversion methods described in the following section “Selecting a conversion method.”
- 3 Select one or more of the options described in the section “Selecting general conversion options” on page 62. Then click OK.

Selecting a conversion method

Adobe Streamline provides three conversion methods:

- The Outline method converts images that contain filled areas and lines that vary in weight, such as clip art, hand-drawn images, or photographs. This method must be used for color images or grayscale conversions.

- The Centerline method converts images that contain consistent line weights and no filled areas, such as schematics.

- The Line Recognition method converts images that contain horizontal and vertical lines, such as forms, charts, and graphs. This method recognizes and converts only straight lines that are within 5% of the vertical or horizontal axis.

The following types of images will convert most successfully using the specified conversion method:

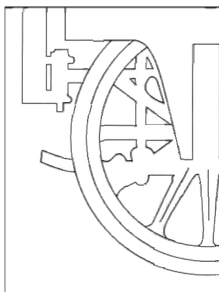
- Clip art; hand-drawn sketches; ink drawings with nonuniform line weights; logos; photographs; typefaces: Outline method.
- Blueprints, business forms and technical illustrations that include nonvertical or nonhorizontal lines; ink drawings with uniform line weight: Centerline method.
- Business forms, blueprints, and technical illustrations with vertical and horizontal lines only: Line Recognition method.



Black-and-white image suited for Outline conversion



Photograph suited for Outline conversion



Drawing suited for Centerline conversion

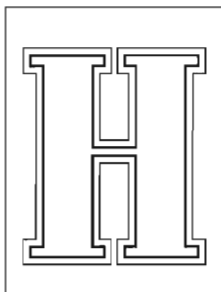


Image suited for Line Recognition conversion

You can combine any two conversion methods or all three methods for images that include features suited for more than one method. Combining conversion methods increases the options available in the Conversion Setup dialog box, including Accuracy and Path Options settings.

You can combine the Outline and Centerline methods to convert images that have a mix of consistent line weights and filled areas; or you can combine the Centerline and Line Recognition methods to convert images with horizontal, vertical, slanted, and curved lines. For more information, see “Converting images by combining the

Outline and Centerline methods” and “Converting images by combining the Centerline and Line Recognition methods” later in this chapter.

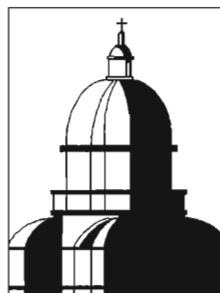


Image suited for Outline and Centerline conversion



Image suited for Centerline and Line Recognition conversion

Determining path types

When Streamline converts a bitmap image, the type of path Streamline creates in the converted artwork depends on the conversion method. The Centerline and Line Recognition methods create only stroked paths. The Outline method creates filled and stroked paths. However, the stroke color in an Outline conversion is set to None by default, and stroked paths will not appear unless you change the stroke color in the Paint Style palette.

Stroked paths precisely follow an object’s border and can be painted with color. **Filled** paths enclose an area and can be painted (“filled”) with color.

You get the following path types when using the specified conversion methods:

Filled paths When you use the Outline conversion method.

Stroked paths When you use Centerline, Line Recognition, or Outline method. (Stroked paths created with the Outline method are initially colored with None.)

Uniform line weight When you use the Line Recognition or Centerline method and select the Uniform Line Weight option.

(For more information on painting a stroked path or a filled path, see “Working with colors” on page 85.)

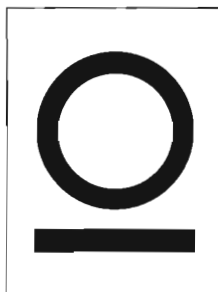
Converting images using the Outline method

The Outline conversion method is designed to convert images that contain more than two colors or inconsistent line weights and filled areas, such as illustrative, graphic design, and nontechnical line art images. The Outline method converts images by tracing an outline of each element in the image and filling it with black, white, a color, or some value or tint specified in the Paint Style palette.

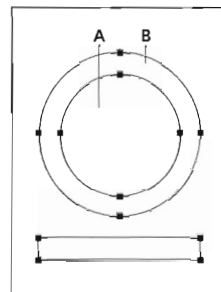


Images suited for Outline conversion

With the Outline method, lines are converted as stroked and filled paths, with stroke color initially set to None. Closed paths such as circles are converted as filled areas placed on top of each other. To edit an image converted with the Outline method, select the image or a portion of the image to highlight the anchor points.



Artwork converted using Outline method in Preview view



*Artwork view
A. White fill B. Black fill*

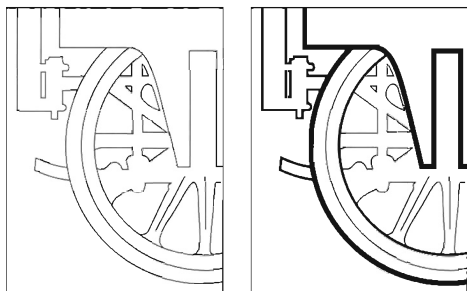
To convert the image using the Outline method:

- 1 In the Conversion Setup dialog box, select the Outline option.
- 2 Choose one or more options described in the section “Selecting general conversion options” on page 62, or click OK.

Converting images using the Centerline method

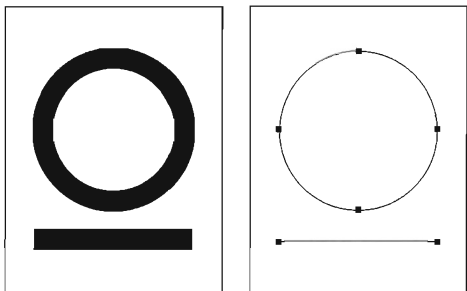
The Centerline conversion method affects only black-and-white (not grayscale) images and is designed to convert technical images and other images that contain consistent line weights and no

filled areas. The Centerline method converts bitmap images by locating the center of each line and creating a stroked path.



Images suited for Centerline conversion

Images converted using the Centerline method contain only stroked paths. For example, a circle converted with the Centerline method has a single path, stroked with an appropriate line weight.



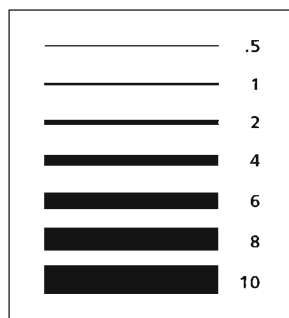
Preview view

Artwork view

The following guidelines apply to using the Centerline method:

- Bitmap images with lines less than 6 points in weight are suitable for converting with the Centerline conversion method.

- If an image contains lines heavier than 6 points, combine the Centerline and Outline conversion methods. See “Converting images by combining the Outline and Centerline methods” on page 61.
- If you do not have a copy of the original scanned image, you should print the bitmap image to measure the heaviest line weight. Use the scale that follows to measure line weight
- Very thin lines may not print at their true weights, depending on the resolution of the printer.



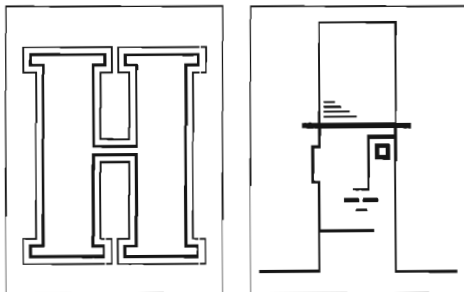
Scale for measuring point sizes

To convert the image using the Centerline method:

- 1 In the Conversion Setup dialog box, select the Centerline option.
- 2 Choose one or more options described in the section “Selecting general conversion options” on page 62, or click OK.

Converting images using the Line Recognition method

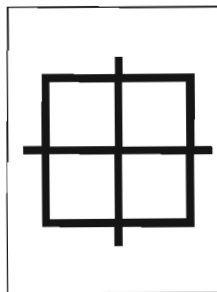
The Line Recognition conversion method is designed to convert images such as forms, charts, graphs, or any image containing horizontal and vertical lines. Line Recognition is available only with Black & White Only posterization. Because it is practically impossible to place an image perfectly straight into a scanner, vertical and horizontal lines usually appear slightly skewed in the resulting bitmap image. The Line Recognition option straightens horizontal and vertical lines that are skewed less than 5 degrees. No other lines in the image are converted (unless you are combining Line Recognition with the Centerline or Outline conversion method).



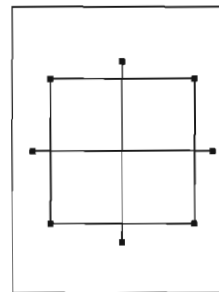
Images suited for Line Recognition conversion

Images converted using the Line Recognition method contain only stroked paths. Rather than locate the center of each line as does the Centerline

method, the Line Recognition method uses pattern recognition between endpoints to create stroked paths.



Converted artwork using the Line Recognition method in Preview view



Artwork view with all paths selected

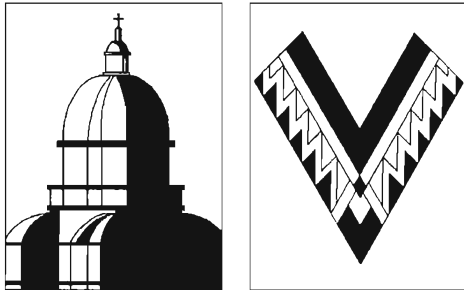
The Line Recognition method ignores lines in the image that are shorter than 1/4 inch. In addition, the Line Recognition method ignores any lines in the original image that are thicker than 1/2 inch.

To convert the image using the Line Recognition method:

- 1 In the Conversion Setup dialog box, select the Line Recognition option.
- 2 Choose one or more options described in the section “Selecting general conversion options” on page 62, or click OK.

Converting images by combining the Outline and Centerline methods

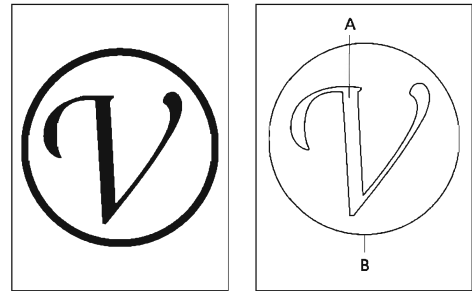
You can combine the Outline and Centerline conversion methods to convert images that use both filled areas and consistent line weights. Keep in mind that the Centerline method always converts images to black and white.



Images suited for Centerline and Outline conversion

When you convert an image combining the Outline and Centerline methods, the Outline method is used to convert any lines that are heavier than the setting in the Line Thinning option, as well as all filled areas. The Centerline method is used to convert lines that are lighter than the setting in the Line Thinning option. For more information, see “Specifying the level of line thinning”

on page 64. For example, a circle would be converted to a stroked, unfilled path, and a letter would be converted to a filled path.



Converted artwork using the Outline and Centerline methods in Preview view

*Artwork view
A. Fill B. Stroke*

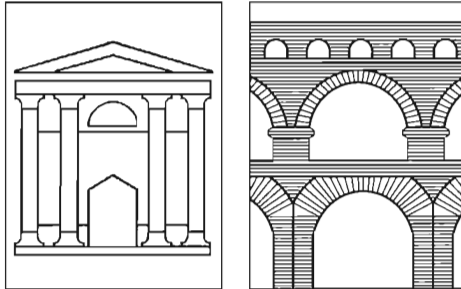
You can set options for both the Outline and Centerline conversion methods when combining the two methods.

To convert the image by combining the Outline and Centerline methods:

- 1 In the Conversion Setup dialog box, select the Outline and Centerline options, and deselect the Line Recognition option.
- 2 Choose one or more options described in the section “Selecting general conversion options” on page 62, or click OK.

Converting images by combining the Centerline and Line Recognition methods

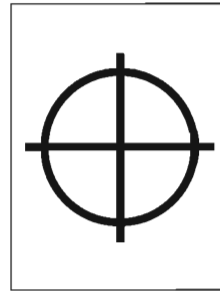
You can combine the Centerline and Line Recognition conversion methods to convert horizontal, vertical, slanted, and curved lines in images into stroked lines.



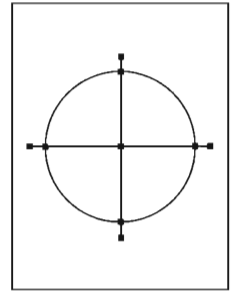
Images suited for Centerline and Line Recognition conversion

When you convert an image combining the Centerline and Line Recognition methods, the Line Recognition method first converts horizontal and vertical lines and the Centerline method then converts curved lines.

You can use the options for both the Centerline and Line Recognition conversion methods when combining the two methods.



Artwork converted using the Centerline and Line Recognition methods in Preview view



Artwork view with all paths selected

To convert the image by combining the Centerline and Line Recognition methods:

- 1 In the Conversion Setup dialog box, select the Centerline and Line Recognition options, and deselect the Outline option.
- 2 Choose one or more options described in the following section, “Selecting general conversion options,” or click OK.

Selecting general conversion options

The following sections describe the general options available in the Conversion Setup dialog box. Unless noted, these options apply to any conversion method you choose.

Specifying the level of noise suppression

The Noise Suppression option is available only when you select the Outline conversion method. Use this option to eliminate the stray pixels (noise) introduced by scanning a poor-quality original. If you combine the Outline method with the Centerline or Line Recognition method, the Noise Suppression setting applies only to the areas that will be outlined.

***Note:** To eliminate noise outside of the image area, use the eraser tool to erase stray pixels before converting the image, or select the pixels with any selection tool and choose **Edit > Clear**. You can also edit the image using the pencil or line tool before converting the image. For more information about these tools, see Chapter 3, “Editing a Bitmap Image.”*

You can select a Noise Suppression setting between 1 and 80; the default setting is 8. Areas that are smaller than the Noise Suppression setting are ignored when the image is converted. For example, if the Noise Suppression is set at 8, Streamline ignores any elements of an image with a diameter of 8 or fewer pixels.

Increase Noise Suppression if you want Streamline to ignore larger pixel areas, or decrease the setting to capture all of the small details of a bitmap

image. For very small images, reduce the Noise Suppression setting to retain the details of the image.



Original image



With Noise suppression: 1 pixel



Converted image with Noise suppression: 40 pixels



With Noise suppression: 80 pixels

To set the level of noise suppression:

- 1 In the Conversion Setup dialog box, drag the Noise Suppression slider or enter a value in the text box.
- 2 Choose another general conversion option, or click OK.

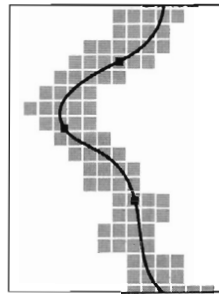
Specifying the level of line thinning

The Line Thinning option is available when you use the Centerline method alone or in combination with one or both other methods, or when you combine Outline and Line Recognition methods. Line Thinning changes the way Adobe Streamline calculates the center of the line when it converts the line to a stroked path. To convert the small details of a bitmap line, it's best to use the minimum required line thinning.

Increasing the line thinning value results in more pixels being “shaved off” of variable-weight lines, resulting in more accurately rendered artwork and a reduction in the number of *junction points* (anchor points where two or more lines intersect) or *corner points* (anchor points where segments in a discontinuous curved path connect). Decreasing the number of junction points makes the image easier to edit in your graphics application and reduces the final file size. The higher the line thinning you specify, the more layers of pixels will be shaved off or eliminated when Streamline calculates the center of the line.

Specifying too many steps, however, will shorten lines that don't meet other lines or objects. You can use Interactive Thinning to edit an image during conversion and restore lines that were shortened too much.

The following illustration shows traced lines as they appear with a template behind them in Adobe Illustrator (enlarged view). Notice how Streamline is able to approximate the center of the lines.



Finding the center of a line

To approximate the center of lines, use the Line Thinning option to create lines that are 1 pixel wide. One-pixel lines will have fewer junction points than will lines that are 2 or more pixels wide. For each step you select, Streamline strips a layer of pixels from each edge of lines in the image to locate the center of the lines.

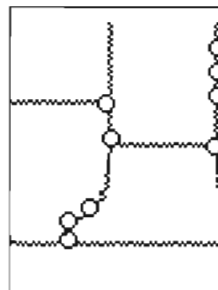
Note: The pixel width approximated by the Line Thinning option affects only how the path is drawn; it does not affect the final point size of the converted line.

For the best results, try converting your bitmap image at various settings until you find the most appropriate.

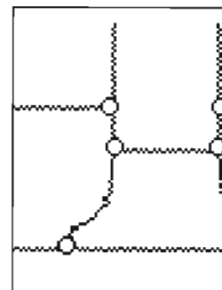
Suggested Line Thinning Settings			
Bitmap Resolution	Line Weight		
	3 pts	4 pts	5 pts
72 dpi	1	2	3
150 dpi	2	3	4
300 dpi	3	4	5
400 dpi	4	5	6
600 dpi	4-5	5-6	6-7
☐ default settings			

During the conversion process, Streamline displays small circles at all junction points (that is, the anchor points where two or more lines intersect). If the number of circles seems excessive, appearing in places other than true junction points, try increasing the line thinning until circles appear only at true junction points. You can also use the delete-anchor-point tool or the Smooth Path com-

mand to reduce the number of anchor points in the converted image, as described in Chapter 5, “Working with Converted Art.”



*Junction circles with
Line Thinning = 1*



*Junction circles with Line
Thinning = 3*

The recommended Line Thinning setting depends on the resolution of the original bitmap image and the point size of the heaviest line in the image. The line thinning you select should be equal to or greater than the point size of the heaviest line in the bitmap image. Such a value calculates the center of all lines in the image as if they were 1 pixel wide. For example, if the heaviest line in a 300 dpi image is 3 points, set the line thinning to at least 3 (the default).

If your bitmap image contains lines heavier than 6 points, combine the Centerline and Outline conversion methods and set the Line Thinning option to 6. By combining these two methods, lines that are less than or equal to 6 points will be converted into stroked paths by the Centerline method and lines that are greater than 6 points will be converted into filled areas by the Outline method.

You can adjust the level of line thinning during the conversion process by choosing interactive thinning. Interactive thinning allows you to preview the results of line thinning as it is performed and to continue line thinning until desired results are achieved.

Note: *Because image resolution influences the way line thinning affects an image during conversion, make sure all images have the same resolution if you use Line Thinning when converting a batch of images.*

To set the level of line thinning:

- 1 In the Conversion Setup dialog box, drag the Line Thinning slider or enter a value in the text box.
- 2 Choose another general conversion option, or click OK.

To use interactive thinning:

- 1 In the Conversion Setup dialog box, drag the Line Thinning slider or enter a value in the text box.
- 2 Click the Interactive Thinning option.
- 3 Choose another general conversion option, or click OK.
- 4 Select File > Convert.
- 5 When Adobe Streamline has thinned the designated number of times, the Interactive Thinning dialog box appears. Do one of the following:

- Use the pencil tool () (selected by default) to restore lines that were shortened too much during thinning. You can also use the line tool () and the eraser tool ()
- Click Thin More to continue thinning, as many times as needed.
- Click Done to discontinue thinning and complete the image conversion.



Line thinning performed



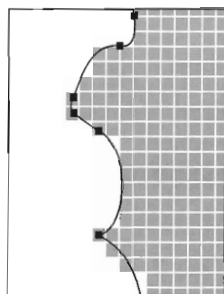
Lines restored with pencil tool

Setting the level of tolerance

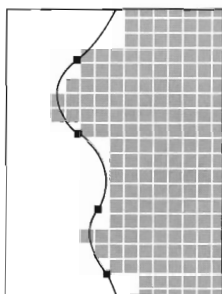
The Tolerance option allows you to adjust how closely Streamline converts paths that follow curved and straight lines in the original image. The tolerance setting can range from 1.0 (tight) to 5.0 (loose). The default setting is 3.0 and is adequate for most image conversions. A loose tolerance setting creates longer line segments and fewer anchor points, resulting in a smaller converted image file.

Compare the following illustrations of tight and loose tolerance settings. If you want to maintain the exact detail of the original image, use a tight

tolerance setting; if you want to reduce the jagged edges or flaws of the image, use a loose tolerance setting.



Tight tolerance setting



Loose tolerance setting

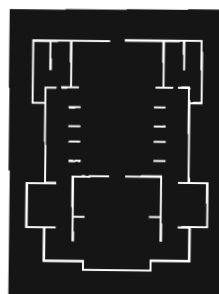
To set the level of tolerance:

- 1 In the Conversion Setup dialog box, drag the Tolerance slider or enter a value between 1 and 5 in the text box.
- 2 Choose another general conversion option, or click OK.

Converting white lines on a black background

Normally, Adobe Streamline recognizes only black lines on a white background. If you want to convert an image that uses white lines on a black background (for example, a blueprint), select the White Lines option. When you select this option,

Streamline reverses the white lines to black, converts the image, and then reverses the lines to white before saving the converted image.



Blueprint image with white lines

To convert white lines on a black background:

- 1 In the Conversion Setup dialog box, select the Centerline or Line Recognition conversion method.
- 2 Select the White Lines option.
- 3 Choose another general conversion option, or click OK.

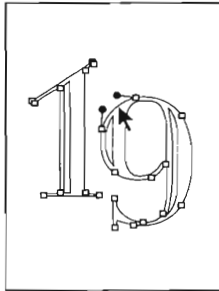
Converting curved and straight lines

The Lines options allow you to select the tolerance at which a line segment becomes straight or curved between anchor points in the converted image. You can also choose to create only straight lines or only curved lines in the converted image.

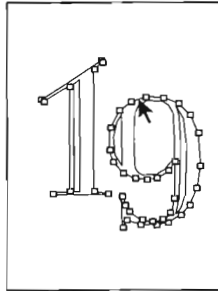
When you convert an image with curved lines, anchor points on the curve contain *direction lines*. Direction lines are used in illustration programs such as Adobe Illustrator to change the direction and shape of the curve.

Note: You cannot see direction lines in Adobe Streamline; you can, however, do so once the converted image has been opened in Adobe Illustrator. For more information on anchor points and direction lines, see your Adobe Illustrator User Guide.

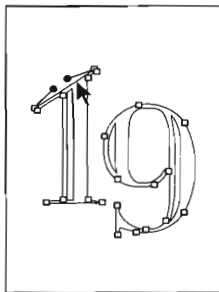
The following examples show the same image converted using the three Line options, and then opened in Adobe Illustrator. The anchor points are shown as solid black or hollow squares; the direction lines associated with the curved line anchor points are tangent to the curves.



Curved and straight lines



Straight lines only



Curved lines only

Note: If you plan to save the converted image in a file format that does not recognize direction lines (such as the DXF format), you should use the Straight Lines Only option to achieve the best results.

To convert curved and straight lines:

1 In the Conversion Setup dialog box, choose one of the following options:

- Straight Lines Only if the original image includes only straight lines.
- Curved Lines Only if the original image includes only curved lines.
- Curved and Straight Lines if the original image includes curved and straight lines. With this option, you can set the ratio of curved to straight lines in the converted artwork. Set the slider to 1.0 to create more straight line segments; set it to 5.0 to create more curved segments. The default setting is 3.0.

2 Choose another general conversion option, or click OK.

Specifying lines of a uniform weight

The Uniform Line Weight option lets you specify a line weight for all lines in the converted image. This option is available only if you are using the Line Recognition or Centerline conversion method. For example, if you combine the Centerline and Outline conversion methods, only lines

that are Centerline converted are affected. You can select a line weight of 0 points to 12 points; the default line weight is 1 point.

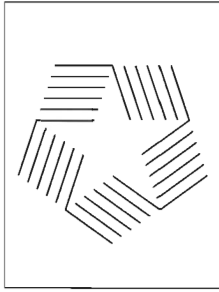


Image suited for Centerline conversion with Uniform Line Weight turned on



Image suited for Centerline conversion with Uniform Line Weight turned off

Follow these guidelines in deciding how to use the Uniform Line Weight option:

- If your bitmap image contains lines of varying weights, deselect the Uniform Line Weight option to reproduce results as close to the original as possible. When the Uniform Line Weight option is deselected, Streamline measures the line weight of each line segment and averages the line weight over the entire path. If lines with different weights intersect or connect, Streamline may average the two line weights together and convert both lines to a single line weight.
- If your bitmap image contains lines with varying line weights and the lines intersect, you may want to convert the image by using the Uniform Line Weight option and then change the stroke weight in the Paint Style palette after converting the

image. For more information about changing the stroke weight, see “Using the Paint Style palette” on page 85.

- If you use the Uniform Line Weight option and the lines of the bitmap image vary in weight by more than 1 point, set the Line Thinning option to match the point size of the heaviest line.

To specify lines of a uniform weight:

- 1 In the Conversion Setup dialog box, select the Uniform Line Weight option and enter a value between 0 and 12 points in the text box.
- 2 Choose another general conversion option, or click OK.

Reversing the black-and-white areas of an image

The Reverse Image option lets you reverse the black-and-white areas of an image before it is converted.



Original image



Reversed image

If a reversed image includes white lines and you plan to convert it using the Centerline conversion method, you must also select the White Lines option. If you select both the Reverse Image and White Lines options, the resulting image will show white lines against a black background.

To reverse the image before converting it:

- 1 In the Conversion Setup dialog box, select the Reverse Image option.
- 2 Choose another general conversion option, or click OK.

Creating separate shapes

The Separate Shapes option (available when using the Centerline method) determines how Adobe Streamline constructs paths surrounding adjacent areas. If you choose this option, Streamline will create a unique path for each area in the bit-map image that is completely surrounded by a stroked line. If a single line separates two enclosed areas, the line will be converted twice—once for each path.

Using the Separate Shapes option lets you edit an individual shape in an image without disturbing its surrounding shapes. Creating separate shapes

can be particularly helpful if you want to move the enclosed paths in the image by using the Adobe Illustrator program.



Converted image

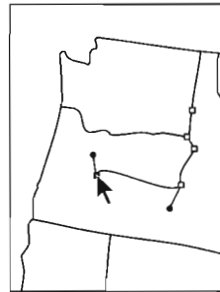


Image with Separate Shapes off

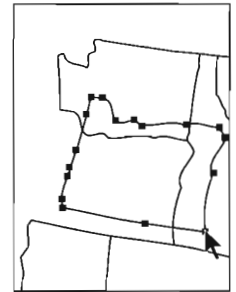


Image with Separate Shapes on

To create separate shapes:

- 1 In the Conversion Setup dialog box, select the Separate Shapes option.
- 2 Choose another general conversion option, or click OK.

Saving and applying sets of conversion options

You can use the Settings dialog box to save all of the current conversion settings in the Color/B&W Setup and Conversion Setup dialog boxes. This provides a quick and easy way to retrieve a particular combination of conversion options that you may use frequently.

The following settings are available for the specified conversion methods:

Noise Suppression Outline method.

Line Thinning Centerline method.

Tolerance Outline method, Centerline method.

White Lines Centerline method, Line Recognition method.

Straight lines only Outline method, Centerline method.

Curved lines only Outline method, Centerline method.

Curved & straight lines Outline method, Centerline method.

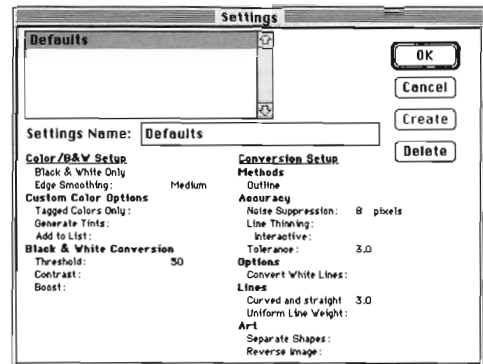
Uniform Line Weight Centerline method, Line Recognition method.

Reverse Image Outline method, Centerline method, Line Recognition method.

Separate Shapes Centerline method.

To save conversion settings:

1 Choose Options > Settings.



A list of the current conversion and Color/B&W settings is displayed in the Conversion Settings box. (If you want to change the conversion or Color/B&W settings, click Cancel and change the settings in the respective dialog boxes.)

2 Enter a name for your settings in the Settings Name text box. Click OK.

Settings are saved in the System Folder, in the Preferences folder, in the Streamline Settings folder (Macintosh), or in the Streamline folder, in the SI.set folder (Windows).

To retrieve conversion settings:

1 Choose Options > Settings.

2 Select a setting name from the scroll box at the upper left of the Settings dialog box. (The settings represented by the setting name are displayed in the Conversion Setup box.)

3 Click OK. The selected conversion settings are automatically updated in the Conversion Setup dialog box and in the Color/B&W Setup dialog box.

To delete a conversion setting:

- 1 Choose Options > Settings.
- 2 Select a setting name from the scroll box at the upper left of the Settings dialog box. Click Delete. The saved conversion setting is now deleted.
- 3 From the scroll box at the upper left of the Settings dialog box, select a new setting name. Click OK. (The OK button is not active until you choose a new setting name.)

Converting entire images

Once you have selected the appropriate conversion options for the image, you can then convert the image to a vector image. Adobe Streamline also lets you select multiple files from various drives or folders and convert them as a group.

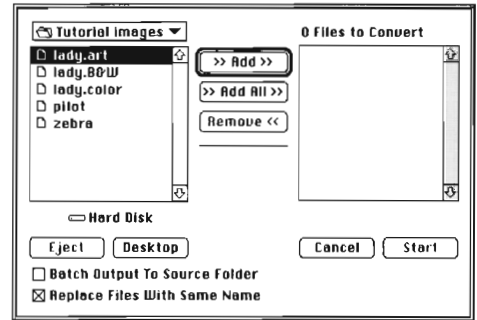
To convert a single image:

Choose File > Convert.

As the conversion progresses, the progress bar displays the conversion method, the conversion percentage completed, and the number of paths created.

To convert a batch of images:

- 1 Choose File > Batch Select.



- 2 Do any of the following:

- Click Add to add a selected file to the Files to Convert list.
- Click Add All to place all available files in the folder into the Files to Convert list.
- Click Remove to remove a selected file from the Files to Convert list.

- 3 If desired, select one of two output options:

- Batch Output to Source Folder to save a converted file in the same folder as its source file
- Replace Files with Same Name option to save the converted file and overwrite any file with the identical name in the same folder

- 4 Click Start (Macintosh) or Begin Processing (Windows). The Batch Select Format dialog box appears.

- 5 Select a file format in the Format pop-up menu. If you select Illustrator EPS format, choose a Preview format in the Preview dialog box.

6 If you did not select the Batch Output to Source Folder option, select a folder in which to save the converted images.

7 Click the Select Folder Name button (where Folder Name is the output folder you selected) (Macintosh) or click Continue (Windows) to convert the batch of images.

The converted images are automatically named by appending the filename with the filename extension for the file format you selected in the Batch Select dialog box.

Converting multiple areas of an image

Some images can be most successfully converted using a number of different conversion settings for different areas of the image. Adobe Streamline allows you to select areas of an unconverted image and convert each area with different conversion settings. This lets you build up a final converted artwork from successive traces.

To convert areas of an image using different conversion settings:

- 1 Use the lasso (⌘), marquee (□), or magic wand (⌘) tool to select an area of the image.
- 2 Select conversion settings for the selected area. Then choose File > Convert.
- 3 Choose Raster Image from the View Mode pop-up window. The converted area of the image is still selected.

4 Use one of the selection tools to select another area of the image, or choose Edit > Select Inverse to select the entire image minus the previously converted area.

5 Select conversion settings for the selected area. Then choose File > Convert.

6 Repeat steps 3 through 5 for each area you want to convert.

Note: If selected areas for separate conversions overlap, the last area to be converted will appear topmost in the converted image. Choose File > Preferences > Delete Hidden Paths to delete paths that are concealed beneath other converted areas. If borders between overlapping selections appear muddy, turn off Color Averaging and reconvert the image.

Converting a selection edge

The File > Convert Selection Edge option allows you to convert a selected area as a filled or stroked path. When the Outline conversion method is selected, the selection edge is converted as a filled path. When the Centerline conversion method is selected, the selection edge is converted as a stroked path. If Centerline and Outline methods are both selected, the selection edge is converted as a stroked path. (Convert Selection Edge will not operate effectively with the Line Recognition conversion method.)

You can use the Convert Selection Edge option with other conversion options when you convert different areas of an image separately. You can change the Paint Style attributes of a converted selection edge in the same way as you do any path in a converted image. For more information, see “Using the Paint Style palette” on page 85.

To convert a selection edge:

- 1 Use the lasso () , marquee () , or magic wand () tool to select an area of the image.
- 2 Choose Options > Conversion Setup, and select Outline or Centerline Conversion Method. Then click OK.
- 3 Choose File > Convert Selection Edge.





Chapter 5: Working with Converted Art

After you convert an image, Adobe Streamline displays the converted art. The converted art contains anchor points that determine the shape of curved and straight paths. By default, each path is assigned a stroke color, a fill color, or both.

You can use Streamline's post-conversion editing tools and commands to edit the artwork and the eyedropper tool to select colors from the template. This chapter describes how to view, select, and edit the artwork, including how to work with colors in the bitmap image and converted art and how to smooth paths.

Displaying converted art

After an image is converted, you can use commands in the View menu or the Image Mode and View Mode menus at the top of the image window to control how the image is displayed. You can view the converted art, the original bitmap image, or the converted art superimposed on the bitmap image. You can also view a selection or paths only. The default image and view modes after you convert an image are Converted Art and Preview respectively.

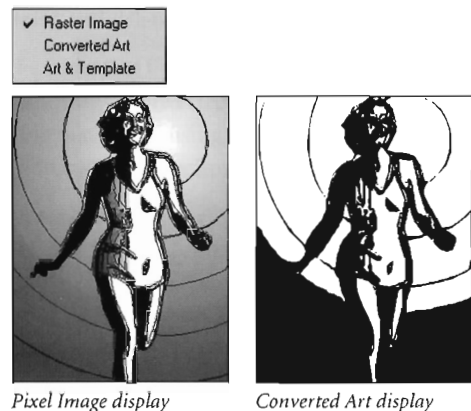
Note: To adjust the placement of an image in the window, you can use the hand, zoom, and selection tools. You can fit the image into the window (as it

appears when you first open an image) and restore the image to its actual size. For more information about changing your view of an image, see “Changing your view of an image” on page 33.

To change the image mode of the displayed image:

Choose one of the viewing commands from the Image Mode menu in the upper left corner of the image window:

- Raster Image displays the original bitmap image.
- Converted Art displays the converted artwork.
- Art & Raster displays the converted artwork superimposed on the bitmap image. (Only the converted artwork can be edited in this mode.)



Pixel Image display

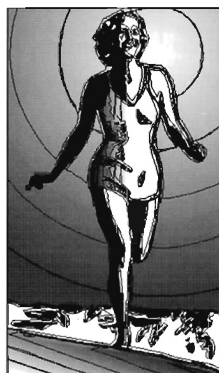
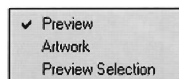
Converted Art display

To change the view mode of the displayed image:

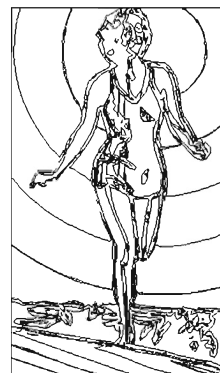
Choose one of the viewing commands from the View menu or the View Mode menu:

- Preview displays what your artwork will look like when it's printed. Preview view displays all colors and printing images so that you can see how editing changes that you make on the image will affect the printed illustration. You can interactively edit the artwork in Preview view, just as you can in Artwork view.
- Artwork displays the paths that make up the image. In Artwork view, the image does not display color or printing effects.
- Preview Selection lets you select part of the image to preview, while leaving other parts of the image in Artwork view. In Preview Selection view, the entire image remains in Artwork view; you can then use any selection tool to select parts of the image to display in Preview view. Using Preview

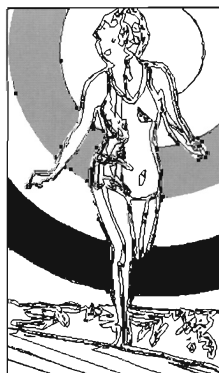
Selection can speed up the editing process by reducing the time it takes Streamline to redraw the screen while editing.



Artwork view with Art & Template mode



Artwork view with Converted Art mode



Preview Selection view



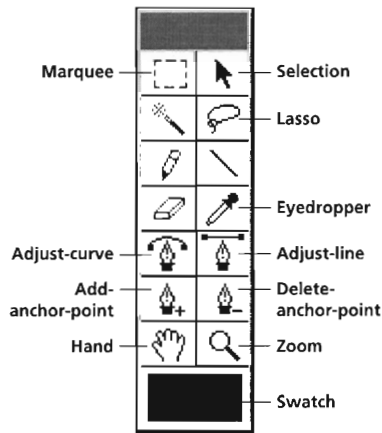
Preview view

Using the toolbox to edit the converted artwork

After you convert an image, the toolbox changes to offer tools for editing the artwork and selecting colors from the template.

To display or hide the toolbox:

Choose View > Show Tools or View > Hide Tools.



The following tools are available for editing converted artwork:

The selection tool (⬮) Lets you select one or more paths. For more information, see “Using the selection tool” on page 80.

The lasso tool (⌯) Lets you select entire paths, but not individual anchor points. For more information, see “Using the lasso tool with converted art” on page 80.

The eyedropper tool (⬮) Lets you select a swatch color from the template. For more information about using the eyedropper tool with converted art, see “Changing the swatch color” on page 86.

The adjust-curve tool (⌯) Lets you move curved segments or points within curved segments, adjust the arc of curved segments, and convert straight segments to curves. For more information, see “Using the adjust-curve tool” on page 80.

The adjust-line tool (⌯) Lets you move straight line segments or points within straight lines, and convert curved segments to straight lines. For more information, see “Using the adjust-line tool” on page 81.

The add-anchor-point tool (⬮) Lets you add one or more anchor points to a selected path. For more information, see “Using the add-anchor-point and delete-anchor-point tools” on page 82.

The delete-anchor-point tool (⬮) Lets you remove one or more anchor points from a selected path. For more information, see “Using the add-anchor-point and delete-anchor-point tools” on page 82.

The zoom tool (⌯) and **hand tool** (⌯) Work the same way in converted art as in bitmap images. For information on using these tools, see Chapter 3, “Editing a Bitmap Image.”

Note: The marquee (⬮), magic wand (⬮), pencil (⬮), line (⬮), and eraser (⬮) tools are not available after an image has been converted.

Using the selection tool

The selection tool lets you select one or more paths in the artwork. You can also extend or reduce a path selection.

To select a single path:

- 1 Select the selection tool (⌘).
- 2 Click the path you want to select (in Artwork view), or click inside a filled path (in Preview view). In Artwork view, all the anchor points on the path are displayed as solid squares. Straight segments are displayed as green, and curved segments are displayed as red.

To select multiple paths:

- 1 Choose the selection tool (⌘).
- 2 Drag the marquee across the paths you want to select. When you release the mouse button, every path that crosses the selection border is selected.

To extend a path selection:

- 1 Select one or more paths.
- 2 Hold down the Shift key while clicking or dragging a marquee to select one or more additional paths. Repeat this step until you have finished extending the selection.

To deselect paths:

Hold down the Shift key while clicking or dragging the marquee pointer to deselect one or more of the selected paths. Repeat this step until you finish deselecting paths. You can also deselect all paths by choosing Edit > Select None.

Using the lasso tool with converted art

The lasso tool lets you select any paths in an image by drawing an outline around the paths. You can select only entire paths with the lasso tool in converted art, not individual segments or points. If you draw a lasso around part of a path, Adobe Streamline will select the entire path.

To select paths with the lasso tool:

- 1 Select the lasso tool (⌘). The pointer becomes a lasso when you point inside the image area.
- 2 Drag to draw an outline around the part of the image that you want to select. If you do not draw a closed shape, Streamline closes the selected area for you when you release the mouse button.

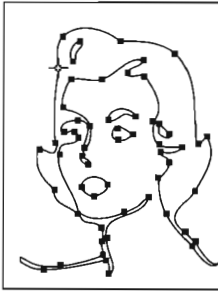
Using the adjust-curve tool

The adjust-curve tool lets you adjust curved segments and convert straight segments to curves.

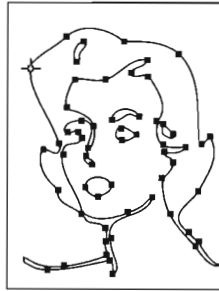
To move a point on a curved segment:

- 1 Select the adjust-curve tool (⌘). The pointer becomes a cross-hair when you point inside the image area.

- 2 Click an anchor point and drag.



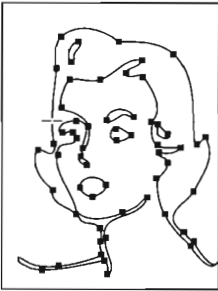
Click anchor point



Drag to move point

To adjust a curved segment:

- 1 Select the adjust-curve tool (⌘). The pointer becomes a cross-hair when you point inside the image area.
- 2 Click anywhere on a curved segment between anchor points and drag. The segment's anchor points remain in place as the segment is reshaped. Hold Shift as you click and drag to constrain the segment to a circular arc.



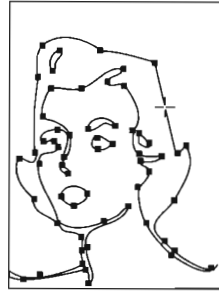
Click curved segment



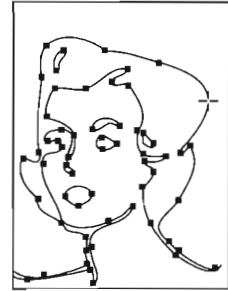
Drag to adjust curve

To convert a straight line segment to a curve:

- 1 Select the adjust-curve tool (⌘). The pointer becomes a cross-hair when you point inside the image area.
- 2 Click a straight segment.



Click straight segment



Drag to convert to curve

To switch between the adjust-curve tool and the adjust-line tool:

With the adjust-curve tool selected, hold Option (Macintosh) or Alt (Windows) to switch the adjust-curve tool to the adjust-line tool.

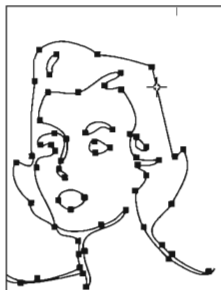
Using the adjust-line tool

The adjust-line tool lets you adjust straight line segments and convert curved segments to straight lines.

To move a point on a straight line segment:

- 1 Select the adjust-line tool (⌘). The pointer becomes a crosshair when you point inside the image area.

- 2 Click an anchor point and drag.



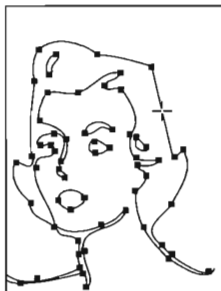
Click anchor point



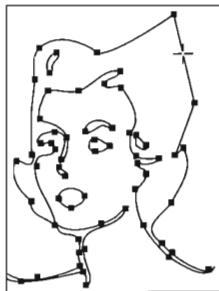
Drag to move point

To adjust a straight line segment:

- 1 Select the adjust-line tool () . The pointer becomes a cross-hair when you point inside the image area.
- 2 Click anywhere on a straight line segment between anchor points and drag. The segment's anchor points are duplicated and move along with the segment. New segments connect the original anchor points and the new anchor points of the repositioned segment. Hold Shift and drag a straight line segment to constrain the segment to be horizontal, vertical, or at a 45-degree angle. (Adobe Streamline chooses whatever orientation is closest to the segment's current position.)



Click straight segment



Drag to adjust line

To convert a curved segment to a straight line:

- 1 Select the adjust-line tool () . The pointer becomes a cross-hair when you point inside the image area.
- 2 Click a curved segment.



Click curved segment



Converted segment

To switch between the adjust-line tool and the adjust-curve tool:

With the adjust-line tool selected, hold Option (Macintosh) or Alt (Windows) to switch the adjust-line tool to the adjust-curve tool.

Using the add-anchor-point and delete-anchor-point tools

Anchor points are represented by solid black squares on the path. The add-anchor-point and delete-anchor-point tools let you selectively add and remove anchor points.

Adding anchor points can give you more control over the path shape. Deleting anchor points can make the artwork easier to work with in Adobe Illustrator; it can also result in smaller, more effi-

cient files. When you delete an anchor point, the path is completed using the remaining anchor points.

Note: To smooth paths by reducing the number of anchor points while retaining the overall shape of objects, you can also use the Smooth Path commands described in “Smoothing paths” on page 84 later in this chapter.

To add an anchor point:

- 1 Select one or more paths. The existing anchor points become visible when you select a path.
- 2 Select the add-anchor-point tool (⦿).
- 3 Click a path segment where you want to add an anchor point.

To delete one or more anchor points:

- 1 Select one or more paths containing anchor points you want to delete. The anchor points become visible when you select a path.
- 2 Select the delete-anchor-point tool (⦿).
- 3 Choose one of two options:
 - To delete a single anchor point, click the anchor point you want to delete. You can repeat this step to remove more anchor points one at a time. You may want to do this to see the path that results after deleting each anchor point.
 - To delete multiple anchor points, use the delete-anchor-point tool to drag a selection marquee around the anchor points you want to delete.

Note: Hold Option (Macintosh) or Alt (Windows) with the add-anchor-point or delete-anchor-point tool selected to toggle between the two tools.

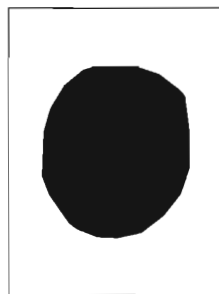
Converting paths to geometric shapes

With the Edit > Convert To commands, Adobe Streamline enables you to convert any closed path to a precise geometric shape. This is useful for cleaning up paths that were converted as irregular shapes.

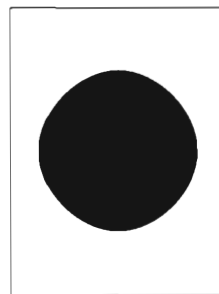
To convert closed paths to geometric shapes:

- 1 Use the selection tool (⌘) to select a path.
- 2 Choose Edit > Convert To, and choose Circle, Oval, Square, or Rectangle.

Note: If you select more than one closed path, each path will be converted to a separate geometric shape.



Selected path



Converted to circle

Smoothing paths

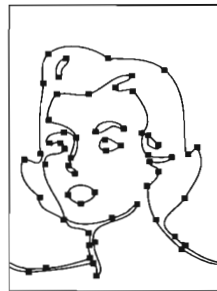
The Smooth Paths commands smooth a selected path by reducing the number of anchor points. When you use the Smooth Paths commands, Streamline attempts to retain the original shape of the path while removing anchor points from the path. If the shape is not what you want, you can edit it using the tools described earlier in “Using the toolbox to edit the converted artwork” on page 79.

Note: If you are saving the artwork in a file format that recognizes only straight lines (such as the DXF format), do not use the Smooth Paths command.

To smooth the selected path:

- 1 Select the path you want to smooth. (If no path is selected, Adobe Streamline will smooth all paths in the image within the range of tolerance you select in step 2.)
- 2 Choose one of the following commands:
 - Edit > Smooth Paths > Minimum to remove one-tenth of the anchor points.
 - Edit > Smooth Paths > Normal to remove one-fifth of the anchor points.
 - Edit > Smooth Paths > Maximum to remove one-third of the anchor points.

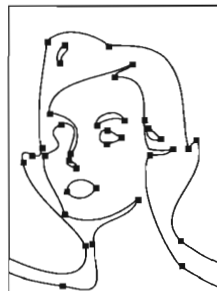
- 3 Repeat step 2 as many times as needed until you reduce the anchor points for the desired effect.



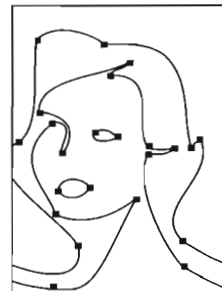
Unsmoothed path



With Minimum smoothing applied



Converted artwork with Medium smoothing applied



Maximum smoothing applied

Smoothing direction points

Adobe Streamline initially creates most points in converted art as corner points; however, smooth points can be easier than corner points to work with in editing converted art. The Smooth Direction Points command allows you to smooth selected paths by converting corner points to smooth points. When you use the Smooth Direction Points command, Streamline attempts to

retain the original shape of the paths while converting points. Three tolerance levels allow you to control the level of smoothing.

To smooth direction points in selected paths:

1 Select the paths you want to smooth. (If no paths are selected, Adobe Streamline will convert points in all paths in the image within the range of tolerance you select in step 2.)

2 Choose one of the following commands:

- Edit > Smooth Direction Points > Minimum to convert corner points that form angles 15 degrees or less from the tangent.
- Edit > Smooth Direction Points > Medium to convert points that form angles 30 degrees or less from the tangent.
- Edit > Smooth Direction Points > Maximum to convert points that form angles 45 degrees or less from the tangent.

Working with colors

You can use Adobe Streamline's color editing capabilities to change the fill and stroke colors of paths in the converted art. *Filling* a path paints the area that is enclosed by the path. *Stroking* a path paints a line that is centered on the object's outline.

It helps to understand the following about fills and strokes:

- With the Outline conversion method, the stroke is the surrounding edge of the area and the fill is the space surrounded by the stroke. Stroke color is initially set to None, but it can be changed.
- Setting the fill and stroke to the same color in an Outline conversion is similar to setting the stroke to None because there will be no visible border around the area. The difference between the two is that with the fill and stroke set to the same color, the image area will be larger because the stroke adds width to the path.
- With the Centerline and Line Recognition conversion methods, there are no fills, only strokes. Stroke color is initially set to black. You can change stroke color in a Centerline conversion. You can add a color to the black stroke in a Line Recognition conversion, but you cannot eliminate the black stroke.
- You can select paths based on their stroke colors, fill colors, or both stroke and fill colors. When applying a color, you can specify a tint, or process color, or you can define a new custom color using the Custom Color dialog box.

Using the Paint Style palette

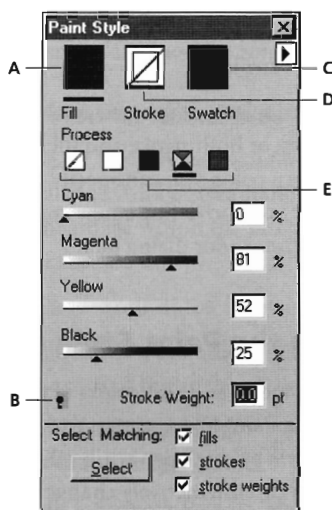
You can locate and edit colors in the converted art using the Paint Style palette. You can keep the Paint Style palette open while editing an image so that you can interactively change colors, preview the change, and then reapply new colors as needed. You can also use the Paint Style palette to select matching fills, strokes, or stroke weights.

With the pop-up menu in the upper right corner of the Paint Style palette, you can add, edit, and delete colors in the custom colors palette, and you can preserve tint levels of original colors when you change fill or stroke colors. You can also tag custom colors to use in future conversions, block

changes made in the Paint Style palette from being applied to selected objects, import custom colors from Adobe Illustrator files, and export Adobe Streamline custom colors to use in Illustrator or another compatible drawing application.

To set paint attributes:

- 1 Select one or more paths whose paint attributes you want to change.
- 2 Choose Options > Paint Style, or double-click the color swatch in the toolbox.



A. Fill B. Palette display control C. Swatch
D. Stroke E. Color selection options (None, White, Black, CMYK, Custom)

- 3 Select Auto Apply from the menu if you want the Paint Style settings to be automatically applied to all selected objects in the artwork. Deselect this option if you want to apply the Paint Style settings manually. (Auto Apply is on by default.)

- 4 Select the Fill box to set the fill attributes, the Stroke box to set the stroke attributes, or the Swatch box to change the color of the toolbox swatch.

- 5 Choose a fill or stroke color using one of the following procedures:

- Choose a color selection option—None, White, Black, Process, or Custom—from the choices directly below the Fill, Stroke, and Swatch boxes. The color selection options are described in detail later in this chapter.
- Drag a color from the Swatch box directly to the Fill or Stroke box.

- 6 If you select Auto Apply, the paint attributes are applied automatically. If Auto Apply is not selected, you can apply the selected paint attributes by pressing Return.

Changing the swatch color

As with bitmap images, you can change the swatch color using the eyedropper tool or the Paint Style palette. Any change you make in the swatch color is reflected in the swatch in the toolbox and in the swatch in the Paint Style palette.

To select a swatch color from the template using the eyedropper tool:

- 1 Select the eyedropper tool ().
- 2 Click the color you want to select in the bitmap image.

Note: The eyedropper tool can select colors only from the bitmap image, regardless of the displayed view. This feature is useful if you have been experimenting with colors in the artwork and decide to revert to a

color that is available only in the original image. It is also a good way to create a custom color from the original image colors.

To select a swatch color using the Paint Style palette:

- 1 Make sure that no paths are selected. (You should see no anchor points.)
- 2 Choose Options > Paint Style, or double-click the swatch.
- 3 Click the Swatch box in the Paint Style palette.
- 4 Select the color you want from one of the color selection options. The Swatch box is automatically changed with each color selection.

To save a swatch color to the Custom Color scroll list:

- 1 Select Save Color from the Paint Style menu.
- 2 Enter a name for the color in the Change name to: text box. (By default, a new color is named *New Color 1.*) Then click OK.

Adding color to the strokes and fills of a black-and-white or grayscale image

You can add color to the paths of a converted black-and-white or grayscale image using the Paint Style palette. You can also assign a custom color name to each gray level in a grayscale image, using the Add New Colors to Custom Color List option in the Color/B&W Setup dialog box; you can change all instances of a gray level to a different color using the Custom Color dialog box. (For an example of this procedure, see Appendix B, “Sample Conversions.”)

To add color to a stroke or fill:

- 1 Select a path to color in converted art using any selection tool.
- 2 Choose Option > Paint Style.
- 3 Select the Fill box to set the fill color, or select the Stroke box to set the stroke color.
- 4 Do either of the following to specify a fill or stroke color:
 - Select a color selection option—None, White, Black, Process, or Custom—from the choices directly below the Fill, Stroke, and Swatch boxes.
 - Drag a color from the Swatch box directly to the Fill or Stroke box.
- 5 If Auto Apply is turned off, press Return (Macintosh) or Enter (Windows) to apply paint attributes.



Black-and-white image



Custom color assigned to closed paths

To add color to a gray level in a grayscale image:

- 1 Select a grayscale image to convert, and choose Options > Color/B&W Setup.
- 2 Select Limited Colors from the Posterization pop-up menu.

- 3 Enter a value of 3 or more in the Maximum Number of Colors text box. (Enter higher values for images that contain more colors or gray levels.)
- 4 Select the Add New Colors to Custom Colors List option.
- 5 Choose File > Convert.
- 6 After the conversion is complete, choose Options > Custom Color.
- 7 Scroll down to the bottom of the scroll list to find the new custom colors generated by Adobe Streamline (Auto Color 1, Auto Color 2, and so on). Each new custom color represents a distinct gray level in converted art.
- 8 Select a custom color by clicking the name. (The shade of gray represented by the custom color name appears in the Swatch box.)
- 9 Change the color by moving the sliders for the C, M, Y, and K colors, or enter a value in the text box associated with each slider.
- 10 Click OK.

Selecting matching colors or stroke weights

You can select matching fill colors, stroke colors, or stroke weights using the Paint Style palette. This feature is useful for selecting all instances of a particular fill or stroke and changing the color to a new process color or custom color.

The Select Matching box is located at the bottom of the Paint Style palette; if the box is hidden, click the lever—the palette display control—at the lower left of the Paint Style palette.

To select matching fills, strokes, or line weights:

- 1 Select a path whose fill, stroke, or stroke weight (or any combination of those properties) you want to match.
 - 2 Choose Options > Paint Style.
 - 3 Select any combination of the Fill, Stroke, and Stroke Weight options to indicate the kind of match you are looking for. If you select Stroke or Fill, Streamline will find all colors in the image that match the fill or stroke colors of the selected object. If you select Stroke Weight, Streamline will find all stroked paths that match the stroke weight of the selected object.
- Streamline will not find a match if a stroke or fill color is a slightly different shade from that used in other paths.
- 4 Click Select.

Note: The Paint Style palette Select Matching commands choose colors based on the colors displayed in the Fill and Stroke boxes. If you change these colors after selecting the path you want to match, Streamline will match the colors in the Paint Style palette, and not the colors of the selected path.

Changing the stroke weight of selected paths

You can change the stroke weight for the selected path with accuracy up to hundredths of points. The following illustration shows how changing the stroke weight affects a grayscale image:



Image with stroke set to None



Stroke weight of .75 points

To change the stroke weight:

- 1 Select the paths whose stroke weight you want to change. For information on selecting paths with the same stroke weight, see “Selecting matching colors or stroke weights” on page 88.
- 2 Choose Options > Paint Style.
- 3 Enter the desired stroke weight in points. If you enter 0 points for the weight, Streamline draws a line with the minimum line weight available for PostScript devices. If you want no line weight, select a stroke color of None.
- 4 Click Apply.

Using custom colors

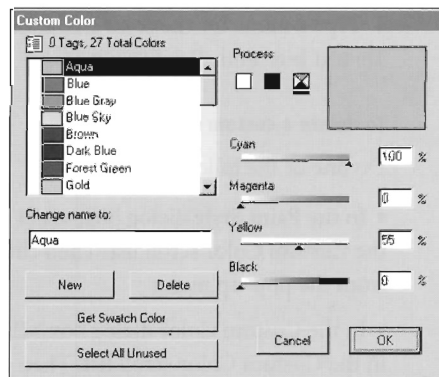
Custom colors in Adobe Streamline are process colors defined by name so that you can easily select or change them later. You can globally change all instances of a custom color by changing its color value in Streamline. When you change a custom color, the change takes effect on all areas currently using that custom color.

You can define your own custom colors and edit existing colors at any time by using CMYK values. Defining or editing a custom color using CMYK percentages is similar to defining a process color in the Paint Style palette.

When an image that was converted in Streamline using custom colors is saved in an Adobe Illustrator file format and then opened in Illustrator, the custom colors named in the image will be correctly displayed.

To set custom color options:

- 1 Choose Options > Custom Color.



2 Select a custom color from the scroll list.

If desired, you can create new custom colors by selecting one of the custom color options:

- **New** allows you to define a new name for a custom color, as described in the following section.
- **Get Swatch Color** places the color currently displayed in the toolbox swatch into the Custom Color dialog box swatch.
- **Select All Unused** selects all custom colors that are not currently used in the image. This option is convenient for selecting custom colors to delete from the Custom Color scroll list.

To define a new custom color or edit an existing color:

- 1 Choose **Options > Custom Color**.
- 2 Click **New** to create a new custom color, or select a color you want to edit from the list.
- 3 Enter the CMYK percentages for the color you want, or move the sliders to change the CMYK percentages.
- 4 Type a name for the color in the **Change Name To:** text box, and click **OK**.

To delete a custom color:

Do one of the following:

- In the **Paint Style** dialog box, select the color in the Custom Color scroll list. Then choose **Delete** from the pop-up menu.
- In the Custom Color dialog box, select the color in the Custom Color scroll list. Then click **Delete**.

If you delete a custom color that is in use in the current artwork, Streamline automatically changes the custom color to the equivalent value of a process color.

Tagging custom colors

You can tag custom colors in the Custom Color scroll list to be used for future conversions or exported to Adobe Illustrator or another drawing application. When you select **Tagged Colors Only** in the **Color/B&W Setup** dialog box, the tagged custom colors will be used to create the converted art.

To use custom color tagging:

- 1 Do one of the following:
 - In the Custom Color scroll box, click the column to the left of a custom color. A bullet appears to indicate that the color is tagged.
 - Click a color to select it, and choose **Tag** from the **Paint Style** pop-up menu.

To untag a custom color:

Click the bullet next to the color in the Custom Color scroll list, or click the color in the Custom Color scroll list to select it and choose **Untag** from the **Paint Style** pop-up menu.

To display tagged colors only:

Click the **Tagged Colors** icon above the Custom Color scroll list to display tagged colors only. Click the icon again to display all custom colors.

Importing and exporting custom colors

You can import custom colors from Adobe Illustrator files into Adobe Streamline, and you can export custom colors from Streamline for use in Adobe Illustrator or compatible drawing applications.

To import custom colors:

- 1 Click the Custom Color icon in the Paint Style dialog box.
- 2 Choose Import from the pop-up menu. In the File Open dialog box, select an Adobe Illustrator file from which you want to import custom colors, and click Open.
- 3 In the Selective Color Import dialog box, do one of the following:
 - Click a color you want to import from the source colors scroll list. Then click Add. Repeat for each color you want to add.
 - Click Add All to add all colors from the source list.

When you click Add or Add All, the selected colors move from the source colors scroll list to the colors to import scroll list.

- Click Remove to return added colors to the source colors scroll list.
 - Click Clear to return all colors to the source colors scroll list.
 - Check Tag Imported Colors to tag imported colors in the Custom Colors scroll list. This makes it easy to identify and use colors that have been imported.
- 4 Click Import. The Selective Color Import dialog box closes, and the imported colors appear in the Custom Color scroll list for the current image.

To export custom colors:

- 1 Click the Custom Color icon in the Paint Style dialog box.
- 2 Choose Export from the pop-up menu.
- 3 In the File Save dialog box, select or create a folder in which to place the exported colors. Then name the file in which the colors will be exported. Select the Export Tagged Colors Only option to export only tagged colors from the Custom Colors scroll list.
- 4 Click Save.





Appendix A: Troubleshooting

This appendix contains common solutions to problems you may encounter when using the Adobe Streamline program. Also see the Read Me file installed with the program for last-minute information not included in this user guide.

When you register your product purchase, you are eligible for free technical support from a technician for one issue regarding your product. To get the phone number for your product, visit the Adobe web site at <http://www.adobe.com> or call 800 879-3219. When your complimentary telephone support expires, Adobe offers a variety of options in the United States through the Adobe CustomerFirst™ program; for information, call 800-685-3652. Outside the United States and Canada, terms may vary. Contact your local subsidiary or distributor for details.

See “Additional technical support resources” on page 96 for information on automated technical support information.

Before you call Adobe technical support

There are several steps you can take before calling technical support to receive assistance. Performing these steps can solve many problems and often eliminates the need for telephone assistance:

Reinstall Adobe Streamline If you are experiencing installation problems, delete all of your Streamline application files, including the preferences file

(located in the System Folder/Preferences folder on the Macintosh and in the Streamline folder on Windows), and then try the following:

- If you are installing from the CD, copy the entire set of program folders to your hard disk, and then install from the hard disk after following the instructions in the next paragraphs.
- On the Macintosh, hold down the Shift key and restart to turn off all extensions; then reinstall Adobe Streamline.
- On Windows, remove all items from the Startup Group and remark out the load/run lines in the win.ini file. Then restart in Safemode (Windows 95), with the Microsoft VGA driver (earlier versions of Windows), or in VGA mode (Windows NT). See your Windows documentation for instructions on deactivating startup software and changing restart options. Reinstall Streamline, and then restart Windows again in its normal mode. (Streamline does not run in Safemode, VGA mode, or with the VGA driver.)

Check for new software or setting conflicts Very often, problems with Adobe Streamline can be traced to the recent installation of new software or utilities that are running at the same time as Streamline. If you have recently installed new software or changed other system configuration settings, such as your monitor setting, try deinstalling the software or restoring your original settings. (If you deinstall software, you must also reinstall Streamline, following the instructions in the previous section. This will ensure that any Streamline

files that might have been damaged by your new software installation are restored.) If the problem disappears, you can try reinstalling the problem software or system utility, or you can contact the manufacturer for a new version and for compatibility information.

Check for a utility conflict On the Macintosh, hold down the Shift key and restart the computer to restart with extensions off. In Windows, remove all items from the startup group and remark out the load/run lines in the win.ini file. (See your Macintosh or Windows documentation for more information on deactivating startup software.) If the problem disappears after restarting Streamline, try restarting your computer with selected startup items reactivated until you have identified the problem software. You can then try reinstalling the software, or you can remove the software and contact the software manufacturer for a new version and for compatibility information.

Deactivate the preferences file To check whether your problem is caused by a corrupted preferences file, quit Adobe Streamline, deactivate the preferences file, and restart Streamline. To deactivate the preferences file on the Macintosh, drag the Adobe Streamline Prefs file (located in the Preferences folder in your System Folder) to the Trash. To deactivate the preferences file in Windows, rename the Streamline4.prf file (located in your Streamline directory). If the problem disappears, delete the preferences. If the problem persists, restore the preferences file to its original location (Macintosh) or name (Windows) to preserve your preferences settings.

Check SCSI device connections Make sure that the devices you are using are securely and fully connected to your computer and that device cords are not damaged. The cause of the problem could be a bad connection.

Important: *Be sure to turn off your computer and SCSI devices before checking cord connections. Failure to do so can damage your hardware.*

Optimize and defragment your hard disk Use a disk tool utility, such as Norton Utilities or Scandisk, to check whether your hard disk contains bad sectors that may be causing the crashes. You can then use the Norton Speed Disk or Defrag utility to optimize and defragment the hard drive. (Defragmenting cleans up any leftover file fragments and orders data contiguously so that it can be accessed quickly.) For instructions, see the utility's documentation.

Additional technical support resources

Adobe Systems provides several forms of automated technical support free of charge:

- See the Read Me file installed with the program for last-minute information not included in this user guide.
- Use forums on CompuServe and America Online, extensive customer support information on the Adobe Home Page on the World Wide Web, or Adobe's own technical support bulletin board system. To open the Adobe Home Page, use the URL <http://www.adobe.com> once you're on the

World Wide Web. To use the Adobe bulletin board, call 206-623-6984. Forums and availability may vary by country.

- Call Adobe FaxYT, a free fax-on-demand system that can fax you any of over 1400 technical and customer-service documents on Streamline and other Adobe products. Call 206-628-5737 from a push-button phone, and follow the recorded instructions.
- Browse through the Adobe Technical Library on the application CD-ROM for additional technical and troubleshooting information.

Problems with artwork appearance

When you convert a color image to color artwork using Limited Colors, the colors do not match the original image.

Adobe Streamline will match only as many colors as are listed in the Maximum Number of Colors text box in the Color/B&W Setup dialog box. To match the original artwork's colors as closely as possible, increase the Maximum Number of Colors value. If colors in the converted art appear muddy, deselect Color Averaging in the Color/B&W Setup dialog box. (It may not always be possible for Streamline to match the original artwork's colors exactly.)

There are too many points in the converted artwork.

You can decrease the size of the image by reopening it in Adobe Streamline, by changing conversion settings and reconverting the image, or by editing anchor points and paths in the converted artwork. To decrease the size of a color or grayscale image by reopening it, check Downsample Color and Grayscale 2:1 in the File > Open dialog box.

To change the conversion settings and reconvert, try any of these options: In the Color/B&W Setup dialog box, increase Edge Smoothing, decrease Complexity, or check Color Averaging (if using Limited Colors or Unlimited Colors); in the Conversion Setup dialog box, increase Tolerance or increase Curved Lines.

To edit anchor points in converted artwork, use the delete-anchor-points tool, the Smooth Paths command, or the Convert To commands.

The file you want to open does not appear in the Open dialog box.

The file is not in a format that is recognized by Adobe Streamline. The file must be in the TIFF, PICT (Macintosh), PCX (Windows), MacPaint, or Adobe Photoshop (2.0 or later) format to be opened by Streamline.

The lines of your bitmap image appear too light (less than 1 point).

Your scanner is not scanning at a high enough contrast. Increase the contrast of the scanner to make the lines heavier. You can also scan the image at a higher resolution or a larger size.

The converted artwork has jagged edges.

The resolution of the original image may not be high enough. The quality of the converted image is directly related to the quality of the original. The higher the resolution of the original image, the better is the converted image. A minimum resolution of 300 dpi is recommended.

You can rescan the image at a higher resolution or a larger size. You can also change the conversion settings in any of the following ways: In the Color/B&W Setup dialog box, increase Edge Smoothing, check Color Averaging, or uncheck Reduce Detail; in the Conversion Setup dialog box, increase Tolerance or increase Curved Lines. After the image is converted, you can apply the Smooth Paths command to the converted artwork.

The converted artwork does not accurately match the outline of the original image.

A number of options can be changed to convert the image more accurately. You can decrease Tolerance or Edge Smoothing in the Color/B&W Setup dialog box, or you can increase Line Thinning in the Conversion Setup dialog box. You can also scan the image at a higher resolution or a larger size.

When you use the Centerline method, the lines of the converted image appear to have extra points extending at an angle from the ends.

Increase the number of line thinning steps in the Conversion Setup dialog box, and reconvert the image.

You have converted an image with distinct color edges by using the Outline method, and the lines in the image are skewed or make gradients of color.

Set Edge Smoothing to None in the Color/B&W Setup dialog box, and reconvert the image.

When you use the Centerline method, the converted artwork shows anchor points in the middle of long, straight lines.

Use the delete-anchor-point tool to delete selected anchor points or the Smooth Paths command to reduce the number of anchor points for the selected paths. If you plan to convert the image again, you can also increase the number of line thinning steps in the Conversion Setup dialog box to create fewer anchor points.

Appendix B: Sample Conversions

To help you achieve the results you want, this appendix shows a selection of sample images that have been converted using the Settings, Color/B&W Setup, and Conversion Setup dialog boxes.

SETTINGS OPTIONS



Original image



Default



Original image



Logo&Typefaces



Original image



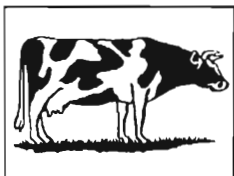
Hand-Drawn Sketches



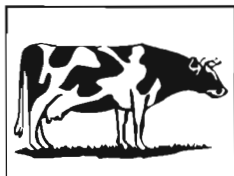
Original image



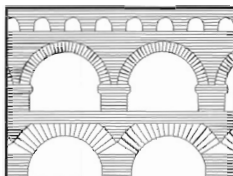
Inked Drawings



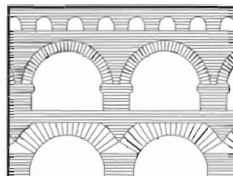
Original image



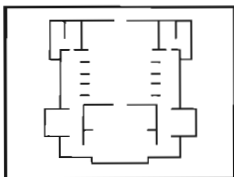
Clip Art



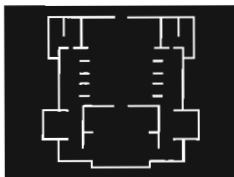
Original image



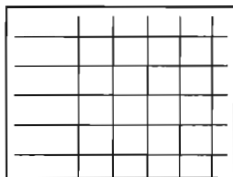
Technical Drawing



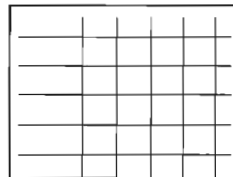
Original image



Blueprint Setting



Original image



Business Forms



Original image



8-Color Posterization



16-Color Posterization



64-Color Posterization

COLOR/B&W SETUP OPTIONS



Original image



Number of colors: 8



Number of colors: 16



Number of colors: 256



Original image



Number of colors: 8



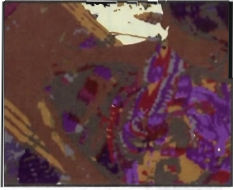
Number of colors: 16



Number of colors: 256



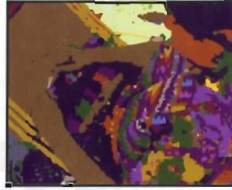
Original image



16 Colors



Unlimited Colors



Custom Colors



Original image



Smoothing: None



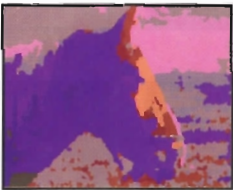
Smoothing: Medium



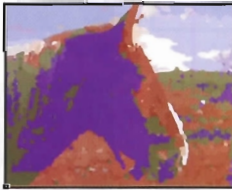
Smoothing: Maximum



Original image



Generate Tints: On



Generate Tints: Off

COLOR/B&W SETUP OPTIONS



Original image



Complexity: 5



Complexity: 10



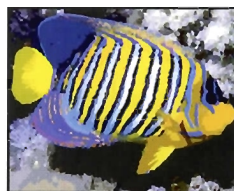
Complexity: 20



Original image



Reduce Detail: On



Reduce Detail: Off



Color Averaging: On



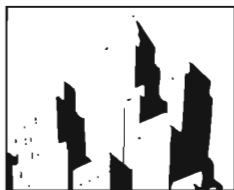
Original image



Threshold: 15%



Threshold: 30%



Threshold: 85%



Original image



Contrast: 3%



Contrast: 20%



Contrast: 80%



Original image



Boost: 10%



Boost: 50%



Boost: 80%

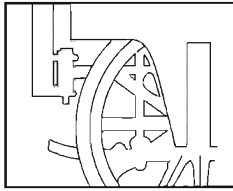
CONVERSION SETUP OPTIONS



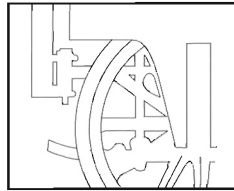
Original image



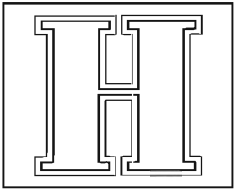
Outline



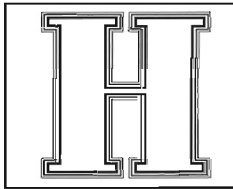
Original image



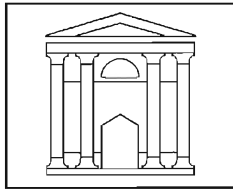
Centerline



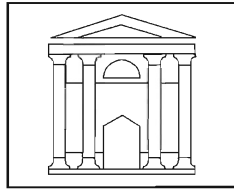
Original image



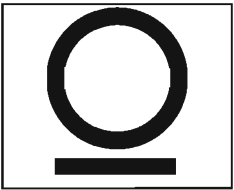
Line Recognition



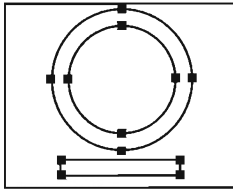
Original image



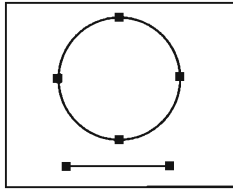
Outline and Line



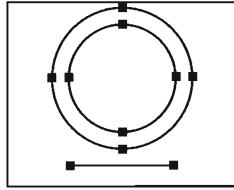
Original image



Outline



Centerline



Outline & Centerline



Original image



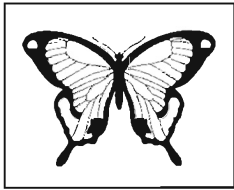
Noise Suppression on 1p



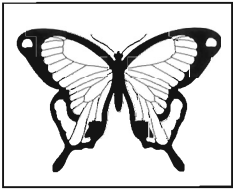
Noise Suppression on 40p



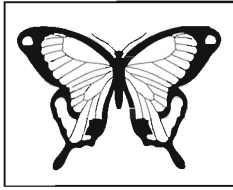
Noise Suppression on 80p



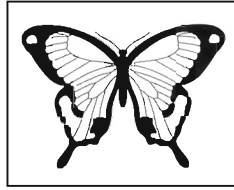
Original image



Line Thinning: 3

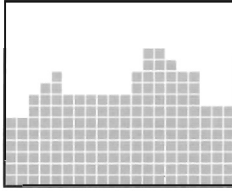
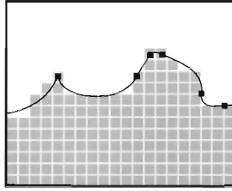
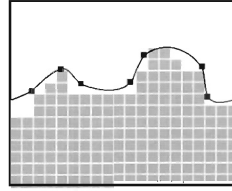
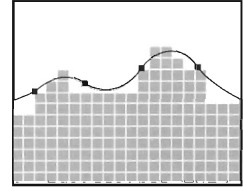
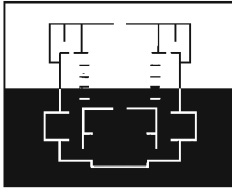
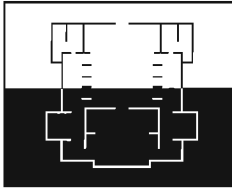
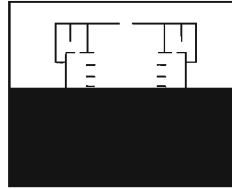
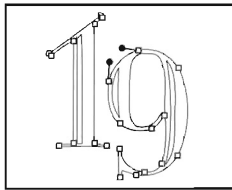
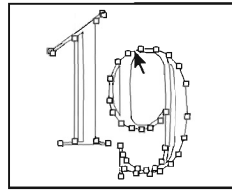
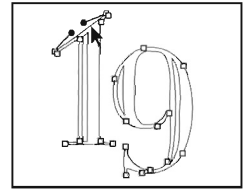
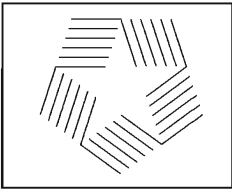
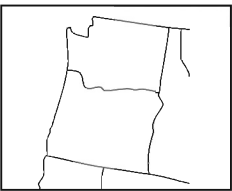
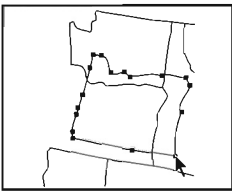


Line Thinning: 8



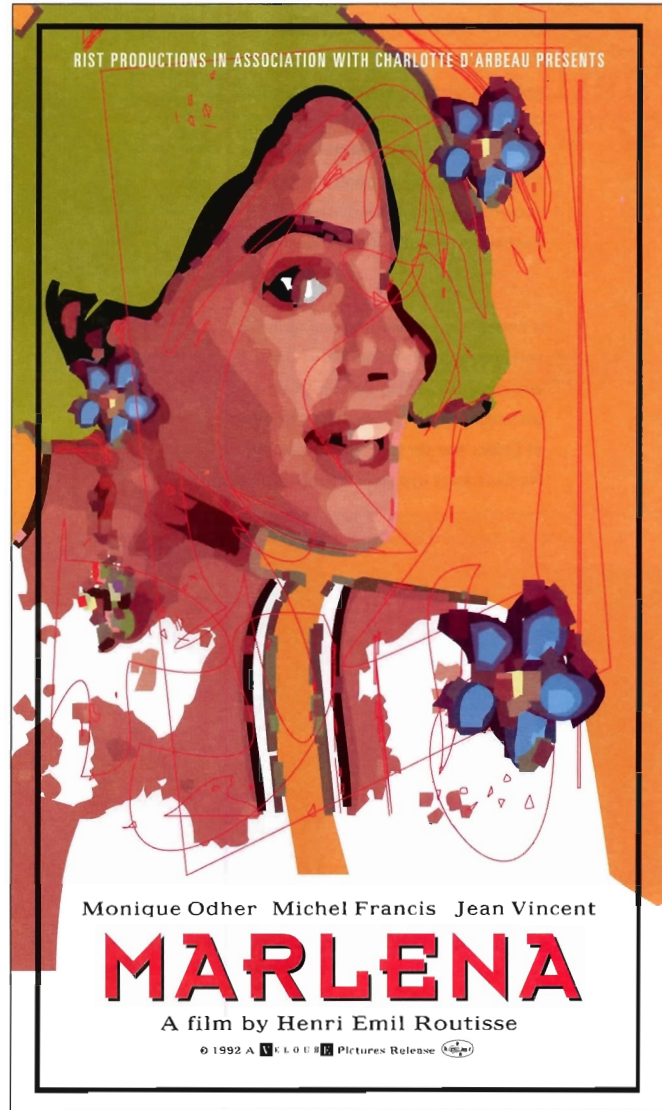
Line Thinning: 12

CONVERSION SETUP OPTIONS

*Original image**Tolerance: 1**Tolerance: 3**Tolerance: 12**Original image**White Lines: On**White Lines: Off**Original image**Curved Only**Straight Only**Straight and Curved**Uniform Line Weight: On**Centerlines and Uniform Line Weight: Off**Original image**Reversed image**Separate Shapes: Off**Separate Shapes: On*

Appendix C: Sample Art Gallery

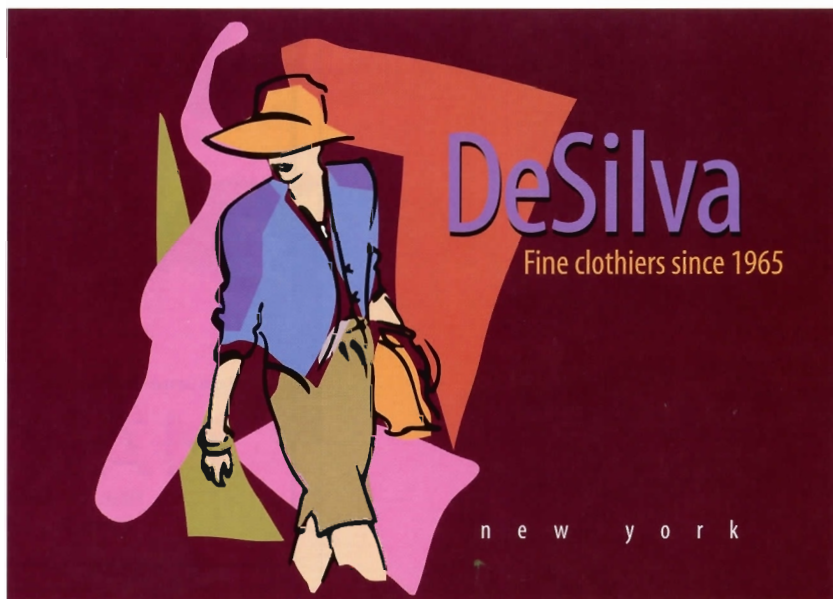
This poster was created by scanning a 35 mm slide and converting it using the Outline method. Different paths were selected, and custom colors were applied. Other paths were selected and deleted to break up the image. All paths were then selected and assigned a stroke weight of 1 point. The image was combined with type and a border in Adobe Illustrator.



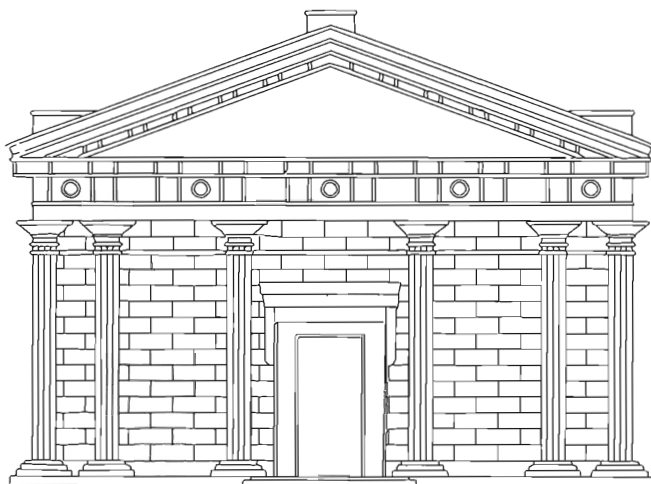
This sticker was created using the Taj Mahal image as three separate duotones. Each image was converted using the Outline method with four colors. The pencil and eraser tools were used to manipulate the type, which was created using Adobe Type Align. The type was converted using the Outline method with a tight Tolerance setting and the Straight Lines Only option turned on. These images were combined and further enhanced in Adobe Illustrator.



A line-art figure drawing was scanned and brought into Adobe Streamline. It was converted using default Outline conversion settings; Maximum Number of Colors was set to 2. The remaining features were drawn in Adobe Illustrator.



This image was created by scanning the original line-art image and converting it using the Centerline method. Although the image was a good candidate for the Line Recognition method, this method was not used in order to retain the “organic” look of real bricks. If an architectural look had been desired, the Line Recognition method would have been used, along with the Centerline method.



This announcement was created by scanning a 35mm color slide of the flowers. The image was opened in Streamline, where the background was selected and then dropped out. The default Outline conversion settings were used; Maximum Number of Colors was set to 4. The image was converted and then placed into the layout.



This form was created by scanning an original form and then converting it using the Line Recognition method. The suitcases were scanned and then converted using the Centerline method. Colors were assigned using the Paint Style palette. Files were combined and type was added using Adobe Illustrator.

COAST \ COAST TRAVEL

Invoice No. _____
Section No. _____
Code No. _____

Passenger Information

NAME _____

ADDRESS _____

CITY _____

COUNTRY _____

PHONE _____

STATION _____

Flight Itinerary

AIRLINE DATE _____

FLIGHT TICKET _____

Cruise Itinerary

CRUISELINE DATE _____

SHIP TICKET _____

Invoice No. _____
Section No. _____
Code No. _____

Travel

NAME _____

STATION _____

REFERRAL _____

TRAVEL CODE

☐ HAWAII

☐ ALASKA

☐ ROYAL

☐ OFFER

☐ BOMBE

☐ PLANE

☐ BOAT

☐ TRUCK

☐ OTHER

Passenger Information	
NAME	_____
ADDRESS	_____
CITY	_____
COUNTRY	_____
PHONE	_____
STATION	_____

Flight Itinerary	
AIRLINE	_____
FLIGHT	_____
DATE	_____
DEPARTING FROM	_____
ARRIVING IN	_____
DEPARTURE TIME	_____
ARRIVAL TIME	_____

Cruise Itinerary	
CRUISELINE	_____
SHIP	_____
DATE	_____
DEPARTING FROM	_____
ARRIVING IN	_____
DEPARTURE TIME	_____
ARRIVAL TIME	_____

Travel Information	
NAME	_____
STATION	_____
REFERRAL	_____

Travel Information									
DATE	TIME	FROM	TO	FARE	TAXES	GRATUITY	OTHER	TOTAL	REMARKS
SCHEDULE 1									
SCHEDULE 2									
SCHEDULE 3									
SCHEDULE 4									

Checked Luggage	
ITEM NO.	DESCRIPTION
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Miscellaneous Details	
ITEM NO.	DESCRIPTION
1	☐ BAGGAGE TAGS
2	☐ BAGGAGE TAGS
3	☐ BAGGAGE TAGS
4	☐ BAGGAGE TAGS
5	☐ BAGGAGE TAGS
6	☐ BAGGAGE TAGS
7	☐ BAGGAGE TAGS
8	☐ BAGGAGE TAGS
9	☐ BAGGAGE TAGS
10	☐ BAGGAGE TAGS



This logo was created by scanning the original line art and then converting it using the Outline conversion method. Colors were assigned using the Paint Style palette; the illustration was then edited and type was added in Adobe Illustrator.

This newsletter cover contains four images. The faint star in the background and in the title bar were scanned and edited in Adobe Streamline. The building image at the bottom of the page was converted using default Outline conversion method settings. The architectural drawing of the doorway was converted using the Centerline method. The grayscale column next to the doorway was converted using the Outline method, and the white was filled with a custom color. All images were combined in Adobe Illustrator.

BLUE LAGOON

TRAVEL CLASSICS

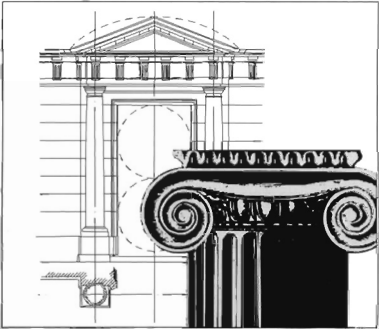
December 1, 1990 Volume 34:9



Architectural Classics Cruise

*"Always keep Ithaca fixed in your mind,
To arrive there is your ultimate goal.
But do not hurry the voyage at all.
It is better to let it last for long years;
and even to anchor at the tide when you are old,
risk with all that you have gained on the way,
not expecting that Ithaca will offer you riches.
Ithaca has given you the beautiful voyage."*

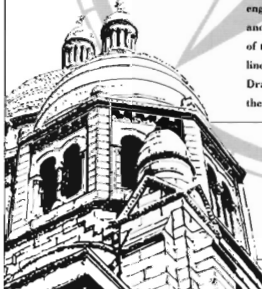
from Ithaca by C. P. Cavafy



Floating Academy

From Corinthian columns to gold-plated cupolas, admire first-hand the engineering and craftsmanship of classical architectural achievements in and around the ports of Greece and Italy. Our three week survey of some of the world's finest structural design begins in Venice aboard the luxury liner Anactoria after a guided tour of the piazza San Marco by Maureen Draper, chairman of the McCarthy Antiquities Society. Ports of call on the cruise include Palermo, Naples, Athens, Rhodes and Rhodes.

On days when your ship is enroute to the next port, itineraries include lectures by noted architectural archaeologist Constantos Pratt and classical historian Bradley Conant. Susanne Sparks presents lecture demonstrations on building materials of the classical era.



Four images—the nautilus shell, coral, fish, and line—were scanned and converted using the Outline method. Colors were assigned using the Paint Style palette. Images were combined and type was added in Adobe Illustrator.



This stamp block was created by scanning real leaves and converting the image using the Outline method; Maximum Number of Colors was set to 64 colors in the Color/Grayscale dialog box. In Adobe Illustrator, mustard backgrounds were drawn and placed between the leaves and background.

The motif design next to the stamp value was hand drawn, scanned, and converted with the Outline method. Custom colors were applied in Adobe Streamline.

Finally, a block of stamps was scanned. The stamp outline was selected with the magic wand tool and converted using the Convert Selection Edge option in the Color/Grayscale Setup dialog box. The stamps were filled with white. The images were combined and type was added in Adobe Illustrator.



A grayscale photo was scanned and saved in the Adobe Photoshop file format. The file was then opened in Adobe Streamline.

The photo was posterized by setting the Maximum Number of Colors to 4 in the Color/Grayscale Setup dialog box. The Generate Custom Colors option was selected, and the image was converted using the Outline method. The grayscale custom colors were selected and assigned process color values in the Custom Color dialog box.

The headline type was created in Adobe Photoshop, and the Diffuse filter was used to create rough edges on the letters. The type was then converted in Streamline using the Outline method.

The posterized photo and the headline type were combined in an Adobe Illustrator document. Smaller type was added in Adobe Illustrator to create the final design.



This illustration was created by scanning a line-art drawing, which was then converted in Adobe Streamline using the Outline method. The blends were then added in Adobe Illustrator.

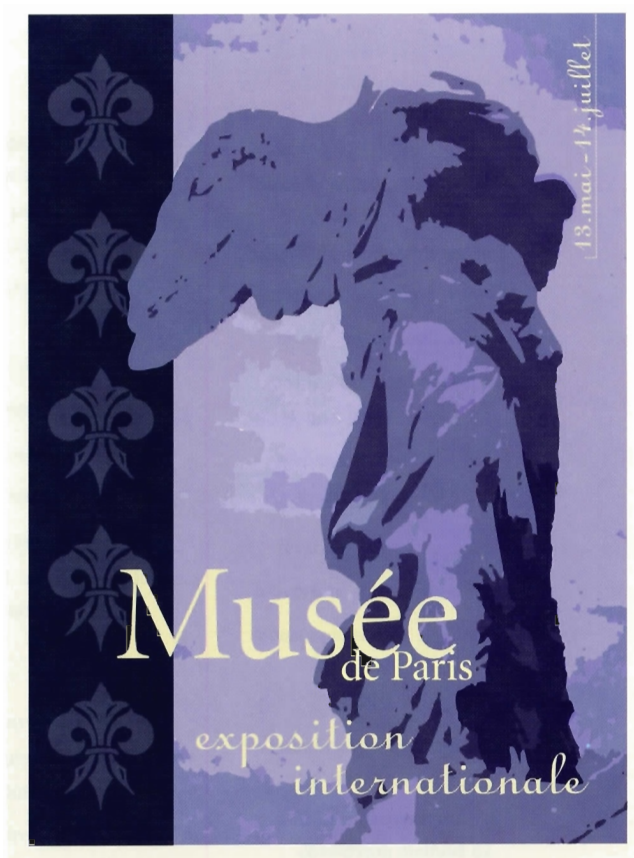


A 35mm slide of the statue was scanned and saved in the Adobe Photoshop file format, and then opened in Adobe Streamline.

Custom colors for the simulated duotone were tagged in the Custom Color dialog box. Use Custom Colors, Tagged Colors Only, and Generate Tints were selected in the Color/B&W Setup dialog box. Then the statue image was converted using the Outline conversion method, and the converted artwork was saved in Adobe Illustrator file format.

The fleur-de-lis line art was opened in Adobe Streamline and converted using the Outline conversion method (with black-and-white default posterization). The converted artwork was saved in Adobe Illustrator file format.

The converted statue artwork was opened in Adobe Illustrator. The converted fleur-de-lis artwork and type were then added in the Adobe Illustrator file.



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PRODUCTION NOTES

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