Adobe Photoshop™

Introduction

CLASSROOM IN A BOX™

Student Workbook

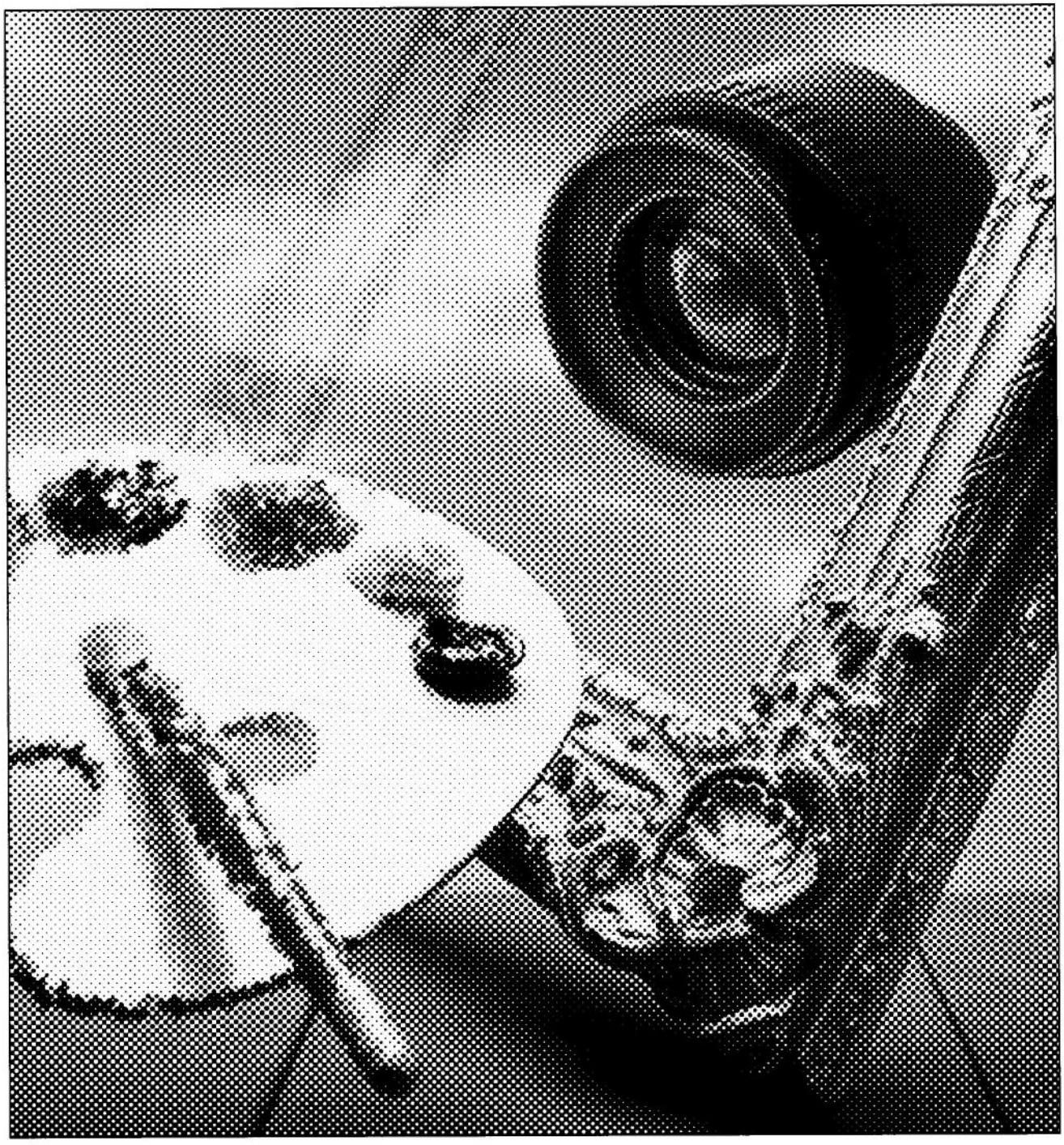
Macintosh Version 2

Part Number 0199 3426 10/91

Adobe Photoshop

Introduction

CLASSROOM IN A BOX



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Adobe Photoshop CLASSROOM IN A BOX Student Workbook, Version 2.0: November 1991

Part No. 0199 3426

Contents

Introduction

Welcome to the Adobe Photoshop® program.

The Adobe Photoshop program is a sophisticated graphics application designed to allow graphic artists, photographers, desktop publishers, and other people who work with graphic images to create and manipulate digital images. You can use Adobe Photoshop tools and commands to paint new images or retouch existing digital images that were created by a scanner, video capture equipment, or some other software program.

With the Adobe Photoshop program, you work with bitmapped images that are composed of a series of dots or picture elements ("pixels"). When you "paint" in a pixel-oriented program like Adobe Photoshop, you change the colors of pixels. The number of colors you can work with at a time depends on the amount of color information available for each pixel. On an 8-bit color system, a maximum of 256 different colors can be displayed simultaneously. On a 24- or 32-bit color system, more than 16 million different colors can be displayed at one time.

The Adobe Photoshop software supports several image types, including bitmapped, gray-scale, indexed color, RGB (red, green, blue), CMYK (cyan, magenta, yellow, black), HSB (hue, saturation, brightness), HSL (hue, saturation, luminance), and multichannel images.

The program also supports a variety of image formats, including the default Photoshop and Raw formats, CompuServe® GIF, EPS, MacPaint®, PICT, PixelPaint®, TIFF, PIXAR, Scitex, Amiga, Targa®, and Thunderscan® formats.

- The Photoshop format is the default file format for saving newly created images.
- The Raw format is a flexible file format for transferring documents between different applications and computer platforms.
- The Amiga Interchange File Format (IFF)/Interlaced Bitmap (ILBM) format is used to transfer documents to and from Commodore Amiga computers.

NOTES

- The CompuServe Graphics Interchange Format (GIF) is commonly used to upload documents to the CompuServe Information Service, and to pass documents between other types of computers.

- The Encapsulated PostScript® (EPS) file format is used by graphics applications.

- The MacPaint format is commonly used to transfer bitmapped images between Macintosh® applications. You can only save Adobe Photoshop images that are in the Bitmap image type in the MacPaint format.

- The PICT format is widely used among Macintosh graphics and page layout applications as an intermediary file format used to transfer documents between applications.

- The PIXAR format is used with PIXAR workstations, which are designed for high-end graphics applications, such as work involving three-dimensional images and animation.

- The PixelPaint format allows documents to be opened in the PixelPaint and PixelPaint Professional graphics applications.

- The Scitex Continuous Tone (CT) format is available for CMYK color images and gray-scale images. Scitex computers are used for high-end image processing.

- The TGA format is designed for use on systems that use TrueVision® video boards, and is commonly supported by MS-DOS® color applications. The format is also known as "Targa," in reference to the TARGA videographics board manufactured by TrueVision.

- The Thunderscan format is for use with the ThunderScan hardware and software package.

- The Tagged-Image File Format (TIFF) is used to exchange documents between applications and computer platforms.

NOTES

The Adobe Photoshop program stores images in channels. A channel is equivalent to a layer of an image. The layers fit together to form a complete image. Some image types have only one channel, while others have several. Bitmapped, gray-scale, and indexed color images have only one channel; RGB, HSB, and HSL images have three channels; CMYK images have four channels.

NOTES

Getting Started

The first time you open the Adobe Photoshop program, you will need to set up a preferences file. The preferences file is called PS Prefs by default.

To start the Adobe Photoshop program:

1. Double-click the Adobe Photoshop program icon.

   The first time you start the program, a dialog box appears, asking where your preferences file is.

2. Click New to create a new preferences file.

   A dialog box appears, asking where you want to store your PS Prefs file.

   NOTE: It is recommended that you store the Adobe Photoshop program and the PS Prefs file in the same folder. The location of the preferences file governs which hard drive the Adobe Photoshop program uses for virtual memory. If your system does not have enough random-access memory (RAM) to store large documents, the Adobe Photoshop program uses virtual memory to write and read image data automatically to and from your hard disk.

3. Click Save.

   Your preferences file is saved as PS Prefs.

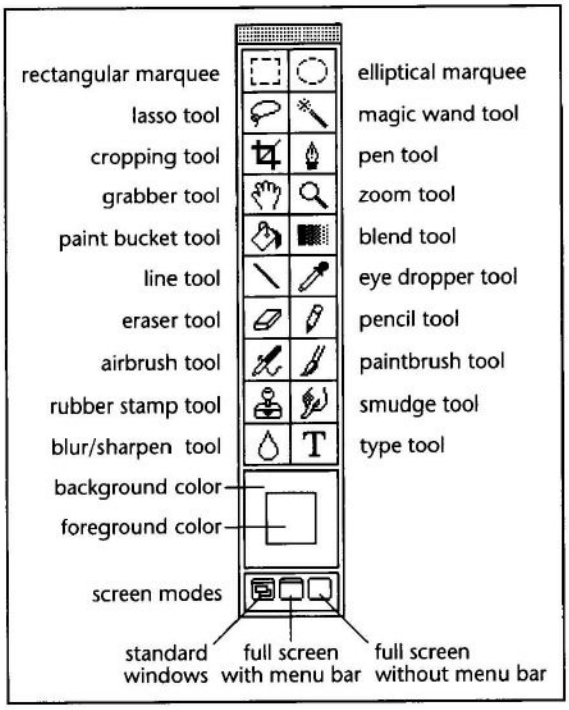
4. Click Cancel to return to the Adobe Photoshop program.

   The program desktop appears, with the toolbox on the left side of the screen.

NOTES

Using the toolbox

The toolbox contains tools that let you select, paint, edit, and view images. Each tool is represented by an icon.



- The Rectangular Marquee tool makes rectangular or square selections.
- The Elliptical Marquee tool makes elliptical or round selections.
- The Lasso tool is a freehand selection tool that lets you trace the outline of a selection.
- The Magic Wand tool makes selections 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 its outline with the lasso tool.
- The Cropping tool selects part of an image and discards the unselected portion.

NOTES

- The Pen tool allows you to make precise selections using curves known as *bezier* curves. You can also save Pen tool paths as clipping paths that can be exported to other illustration or page-layout programs.

- The Grabber tool (hand) lets you scroll through an image that is too big to fit in the active window.

- The Zoom tool allows you to magnify areas of an image when you are performing close, detailed work.

- The Paint Bucket tool fills areas with the foreground color. The Paint Bucket tool fills pixels that are similar in color, in a similar way to the Magic Wand tool.

- The Blend tool creates a gradient fill, a gradual transition from the foreground to the background color.

- The Line tool creates straight lines.

- The Eyedropper tool selects the current foreground and background colors from colors in an image.

- The Eraser tool changes pixels to the background color. You can also use the Eraser tool to restore part of the image to the last version you saved.

- The Pencil tool paints freehand or straight, hard-edged lines.

- The Airbrush tool lays down a diffused spray of the foreground color on an image.

- The Paint Brush tool paints a soft-edged stroke on an image.

- The Rubber Stamp tool takes a sample of an entire image and places an exact copy of the selection elsewhere in the same image or in another image. It also lets you sample textures, restore parts of images, or create an impressionist effect.

- The Smudge tool simulates the effect of dragging a finger through wet paint.

- The Blur/Sharpen tool alows you to blur or sharpen part of an image.

- The Type tool enters bitmapped type on an image.

NOTES

- The foreground color is the color you use with the painting tools (Pencil, Line, Airbrush, Paint Bucket, and Paint Brush tools).

- The background color is the color that appears when you use the Eraser or the Blend tool, or when a selection is moved.

Opening a file

You are ready to open the first document and start using the program.

1. Choose Open from the File menu.
2. Drag to highlight the file Horse.
3. Click Open.

NOTES

Lesson 1: *Using the Painting and Editing Tools*

This lesson is designed to get you acquainted with the painting and editing tools. You will have a chance to experiment with the various tools.

The lesson covers

- Selecting a painting color with the Eyedropper tool
- Painting with the Paint Brush tool
- Painting with the Pencil tool
- Using the Eraser tool
- Using the Revert command
- Painting with the Airbrush tool
- Using a custom brush
- Using the Smudge tool
- Using the Zoom tool
- Using the Grabber tool
- Using the Blur/Sharpen tool
- Using the Rubber Stamp tool

Previewing the page size and layout

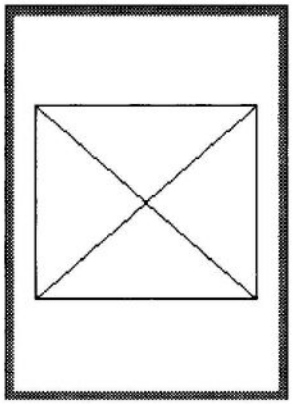
To preview the size of an image and to see how it will appear when printed, you use the size box in the lower-left corner of the window.

To preview a page:

1. Position the pointer on the lower-left corner of the screen where the image's size is displayed.
2. Press and hold down the mouse button.

NOTES

The page preview box appears.



3. Release the mouse button when you have finished previewing the page.

You can determine the size and resolution of your image using the size box.

To check the size of an image:

1. Position the pointer on the lower-left corner of the screen where the image's size is displayed.
2. While pressing the Option key, hold down the mouse button.

   A size box displays the image's width, height, number of channels, and resolution.
3. Release the Option key and the mouse button when you have finished viewing the size information.

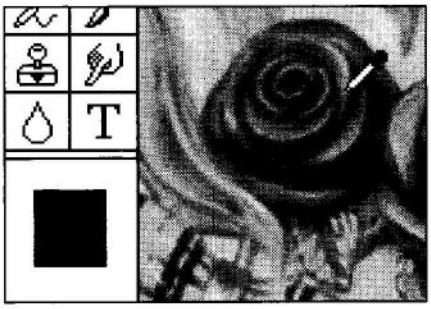
Selecting a paint color with the Eyedropper tool

To paint, you use the foreground color. The default foreground color is black; the default background color is white. The simplest way to change the foreground or background color is to use the Eyedropper tool.

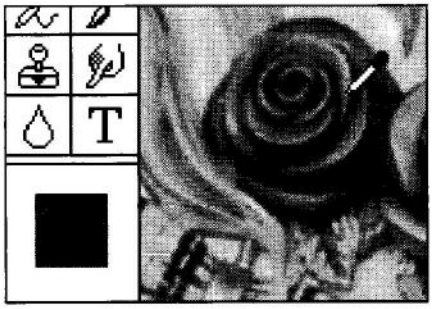
1. Select the Eyedropper tool.

NOTES

2. Position the Eyedropper pointer on the red rose.



3. Click and release the mouse button.



Tip:

You can use the Eyedropper tool to take a sample of a color from another file.

Notice that the foreground color in the toolbox changes from black to the red of the rose. You can now use this color with the painting tools to paint on the image.

4. Hold down the Option key and position the Eyedropper tool on the blue rose.

5. Click the mouse button. Notice that the background color in the toolbox changes from white to the blue of the rose.

Tip:

If you make a mistake while using one of the tools, you can use the Undo command in the Edit menu (Command-Z) to undo the most recent operation.

Painting with the Paint Brush tool

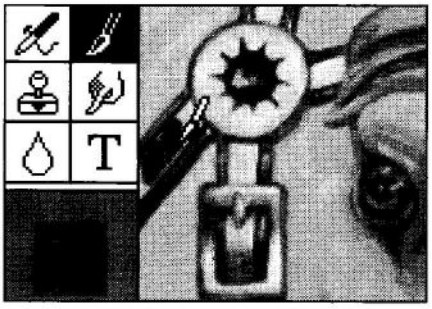
The Paint Brush tool can be used to lay down a soft-edged layer of paint. In this section, you will paint the horse's bridle red.

1. Select the Paint Brush tool.

2. Position the Paint Brush pointer on the horse's bridle.

NOTES

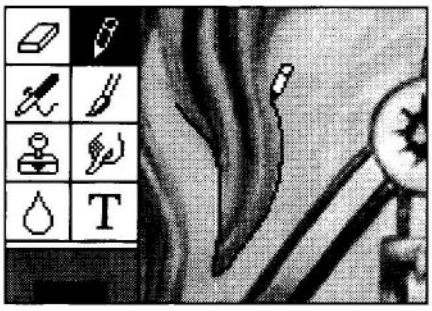
3. Press the mouse button and drag to lay down a brush stroke.



Painting with the Pencil tool

You can use the Pencil tool to create freehand lines. The Pencil tool is the only painting tool that creates hard-edged lines. The other tools paint with a soft edge.

1. Select the Pencil tool.
2. Position the Pencil pointer on the horse's mane.
3. Press the mouse button and drag to paint with the Pencil tool.



4. Release the mouse button when you have finished painting.
5. Hold down the Option key.

   The Pencil pointer turns into the Eyedropper pointer.
6. Click the image to sample a new painting color.
7. Release the Option key.

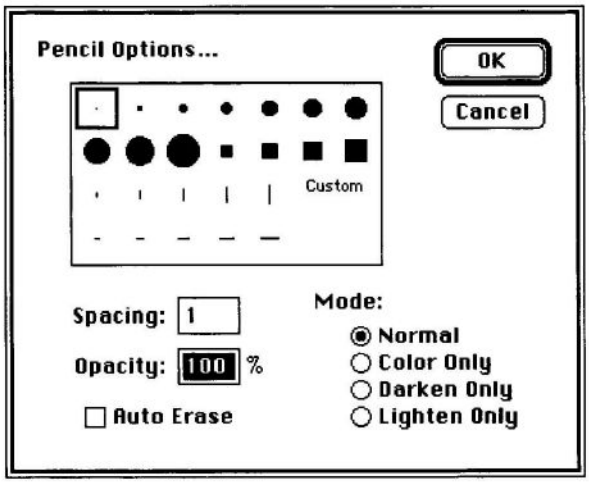
NOTES

8. Draw another line with the new color.

To specify Pencil tool options:

1. Double-click the Pencil tool.

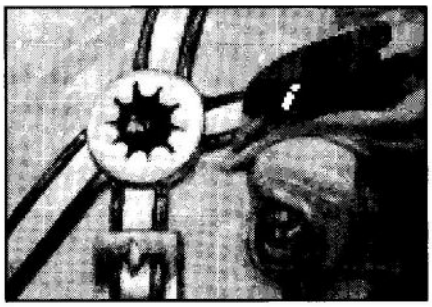
   The Pencil Tool dialog box appears.



2. Select the third brush from the left in the second row.
3. Enter **50** in the Opacity text box.
4. Click OK.

To continue painting with the Pencil tool:

1. Position the Pencil pointer on the horse's mane.
2. Press the mouse button and drag to paint.



NOTES

3. Release the mouse button when you have finished painting.
4. Double-click the Eyedropper tool in the toolbox to reset the foreground and background colors to the defaults of black and white, respectively.

Using the Eraser tool

In this section, you will use the Eraser tool to expose the background color, and use the Magic Eraser to restore the area.

NOTE: Do not double-click the Eraser tool; doing so will erase the entire screen. If you inadvertently double-click the Eraser tool, choose Undo from the Edit menu (Command-Z).

1. Select the Eraser tool.
2. Position the Eraser pointer on a spot in the black background.
3. Press the mouse button, and drag through the area to erase.

Notice the white background color showing. If you had chosen a different background color, it would now be exposed.

To restore the area with the Magic Eraser:

1. Position the Eraser pointer on the area you just erased.
2. Hold down the Option key.

The Eraser pointer changes into the Magic Eraser pointer.

3. While pressing the Option key and the mouse button, drag through the area you want to restore.
4. When you have finished restoring the area, release the Option key and the mouse button.

Using the Revert command

At this point, you will use the Revert command to restore the original version of the image.

1. Choose Revert from the File menu.

NOTES

An alert box appears, asking if you want to revert to the last saved version.

2. Click OK.

You are back to the most recently saved version of the image.

NOTE: When you use the Revert command, the foreground and background colors do not return to their defaults of black and white.

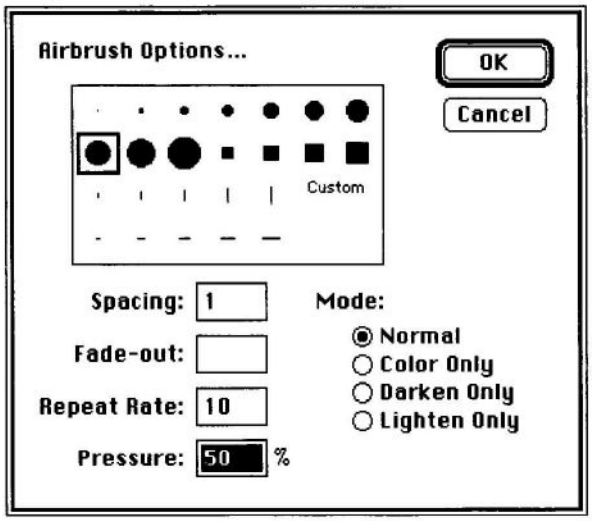
Painting with the Airbrush tool

In this section, you will use the Airbrush tool to paint on the image.

To specify options for the Airbrush tool:

1. Double-click the Airbrush tool.

The Airbrush Options dialog box appears.



2. Click the largest square brush.
3. Enter **20** for Spacing. The range for spacing values is from 1 to 999.
4. Enter **90** for Pressure. The range for pressure values is from 1 to 100 percent.
5. Click OK.

NOTES

6. Sample the white from the horse's neck with the Eyedropper tool by holding down the Option key and clicking on the horse's neck.

To paint with the Airbrush tool:

1. Position the Airbrush pointer on the black background.
2. Press the mouse button and drag to apply paint.

3. Release the mouse button when you have finished airbrushing.

Using a custom brush

Now you will use a few custom brushes with the painting tools.

Defining a custom brush

Shortcut:

Press Command-O to open an existing file.

1. Choose Open from the File menu.
2. Click to highlight the Custom Brushes file.
3. Click Open.
4. Select the Rectangular Marquee tool.
5. Position the Rectangular Marquee pointer above and to the left of the snowflake.
6. Press the mouse button, and drag to enclose the snowflake in the marquee.
7. Choose Define Brush from the Edit menu.

NOTES

Painting with a custom brush

You will use the snowflake brush to paint in the black background of the Horse image.

1. Click the Horse image to make its window active.
2. Double-click the Airbrush tool.

   The Airbrush Options dialog box appears.
3. Click to highlight the custom brush you just defined.
4. Enter **10** for Fade-out. The range for Fade-out values is from -999 to 999.
5. Click OK.
6. Position the Airbrush pointer on the black background.
7. Press the mouse button, and drag to paint white snowflakes in the background.

Defining another custom brush

Now you will define a new custom brush.

1. Choose Custom Brushes from the Window menu.
2. Select the Rectangular Marquee tool.
3. Position the Rectangular Marquee pointer above and to the left of the triangle.
4. Press the mouse button, and drag down and to the right to enclose the triangle.
5. Choose Define Brush from the Edit menu.

Painting with another custom brush

Now you will use the triangle brush to paint on the horse.

1. Click the Horse image to make it the active window.
2. Choose Revert from the File menu and click OK.
3. Double-click the Airbrush tool.

   The Airbrush Options dialog box appears.

NOTES

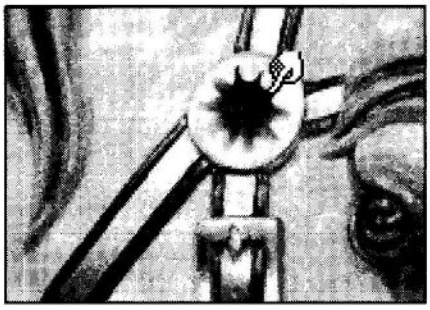
4. Enter **1** in the Spacing text box.
5. Enter **0** in the Fade-Out text box.
6. Enter **10** for Repeat Rate.
7. Enter **30** in the Pressure text box.
8. Click OK.
9. Hold down the Option key to access the Eyedropper tool.
10. Position the Eyedropper pointer on the red rose, and click the mouse button.
11. Release the Option key.
12. Position the Airbrush pointer on the horse's body. Press the mouse button, and drag to paint with the triangle brush.

    Spend some time experimenting with the other custom brushes. Try using them with some of the other painting tools, such as the Paint Brush and the Pencil tools.
13. Choose Revert from the File menu and click OK.

Using the Smudge tool

The Smudge tool lets you simulate the action of dragging a finger through wet paint.

1. Select the Smudge tool.
2. Position the Smudge pointer on the concha on the horse's bridle. The concha is the round, silver ornament on the horse's bridle.
3. Press the mouse button, and drag through the area to create a smudge.



NOTES

4. Release the mouse button when you have finished smudging the image.

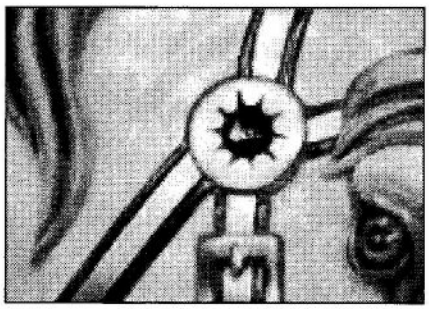
Using the Zoom tool

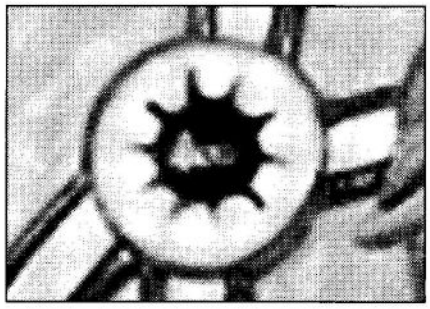
The Zoom tool lets you magnify any area of an image to take a closer look at detail.

1. Choose Revert from the File menu and click OK.

2. Select the Zoom tool.
3. Position the Zoom pointer on the concha on the horse's bridle. The concha is the round, silver ornament on the horse's bridle.
4. Click the mouse button once.

   The area is magnified by two times its original size. Each time you click the mouse button, the magnification doubles (2:1, 4:1, 8:1, and so on). The magnification factor is displayed at the top of the image, after the file name.





Scrolling through a magnified image

Shortcut:

Press the Space bar to access the Grabber tool while you are using another tool.

The Grabber tool lets you move the image in any direction when the image is too large to fit in the window.

Make sure that the image is zoomed in by at least 2:1, or the scroll will not work.

1. Select the Grabber (hand) tool.
2. Press the mouse button and drag in the direction you want to move. You can scroll in any direction.

NOTES

Shortcut:

When you are using another tool, you can zoom in by holding down the Command key and the Space bar, and clicking the mouse button; you zoom out by holding down the Option key and the Space bar and clicking the mouse button.

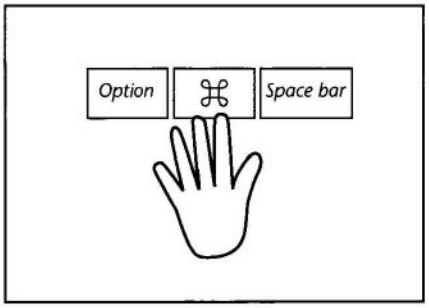
3. Double-click the Zoom tool to zoom out to the original size.

Using the Zoom-out tool

1. Hold down the Option key and click once on the concha to reduce the image view to 1:2.
2. Double-click the Zoom tool to zoom out to the original size 1:1.

Three-finger shortcut

1. With the Smudge tool selected, place the ring, middle, and index fingers on the Option key, the Command key, and the Space bar, respectively. Hold down all three keys at the same time.



2. Release the Option key.
3. Release all the keys.

4. Hold down, then release the Space bar.

Common shortcuts:

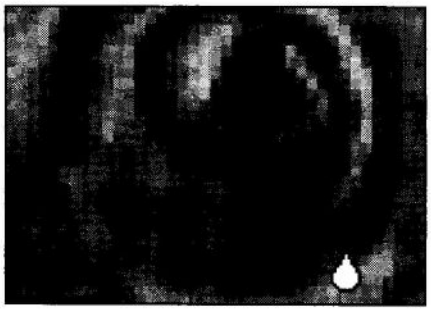
- Space bar: Hand tool
- Command key and Space bar: Zoom-in tool
- Command key, Space bar, and Option key: Zoom-out tool

NOTES

Using the Blur tool

You can blur parts of an image with the Blur tool. The blur effect is often hard to observe unless the image is magnified; once you have blurred the image, zoom in with the Zoom tool to take a closer look at the blurred area.

1. Select the Blur tool.
2. Position the Blur pointer on the blue rose.
3. Press the mouse button and drag through the blue rose. You may need to use several strokes.



4. Release the mouse button when you have finished blurring the area.

Shortcut:

Press the Command key and the Space bar to access the Zoom tool.

5. Select the Zoom tool.
6. Position the Zoom pointer on the area you blurred, and click to magnify the area.

Using the Sharpen tool

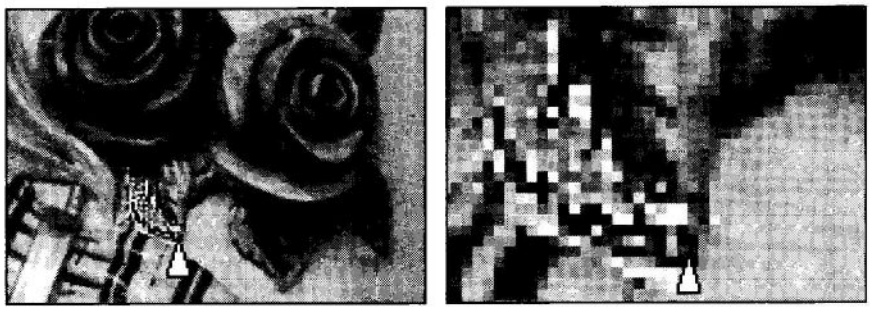
You can sharpen parts of an image, just as you can blur them.

1. Double-click the Zoom tool to return the image to its actual size.
2. Double-click the Blur/Sharpen tool.

3. Click the Sharpen option and click OK.
4. Position the Sharpen pointer on one of the leaves of the rose.

NOTES

5. Press the mouse button and drag through the area of the leaf below the red rose. You may need to use several strokes.



6. Release the mouse button when you have finished sharpening the area.

Shortcut:

Press the Command key and the Space bar to access the Zoom tool.

7. Select the Zoom tool.
8. Position the Zoom pointer on the area you sharpened. Press the mouse button to drag a marquee around that area; then release the mouse button to magnify the area.
9. Double-click the Zoom tool to return the image to its actual size.

Using the Rubber Stamp tool

The Rubber Stamp tool has a number of options. In this section, you will try using three of these options.

Using the Clone option

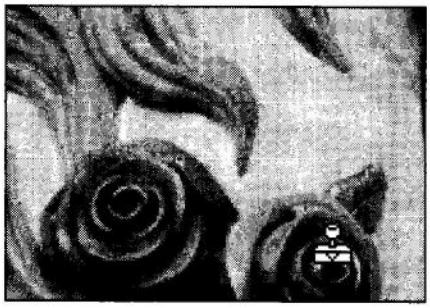
The first feature of the Rubber Stamp tool you will use is the Clone option, the tool's default. You first take a sample of the object you want to clone and then paint a clone of that object elsewhere. In this exercise, you will clone the blue rose.

To sample the blue rose with the Rubber Stamp tool:

1. Select the Rubber Stamp tool.
2. Position the Rubber Stamp pointer on the blue rose.

NOTES

3. Press the Option key and click the mouse button to take a sample of the place in the image you will clone from.



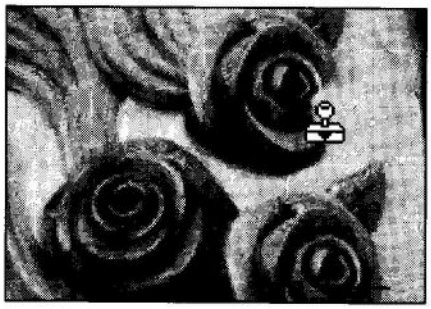
You have now taken a sample of the blue rose and can clone another blue rose elsewhere.

To paint another blue rose in the image:

1. Position the Rubber Stamp pointer above the original blue rose.
2. Press the mouse button, and drag through the area to clone a new rose.
3. Release the mouse button when you have finished cloning the rose.

Tip:

As you clone the rose, you will see a crosshair pointer moving through the original rose. This pointer shows you the area you are duplicating.



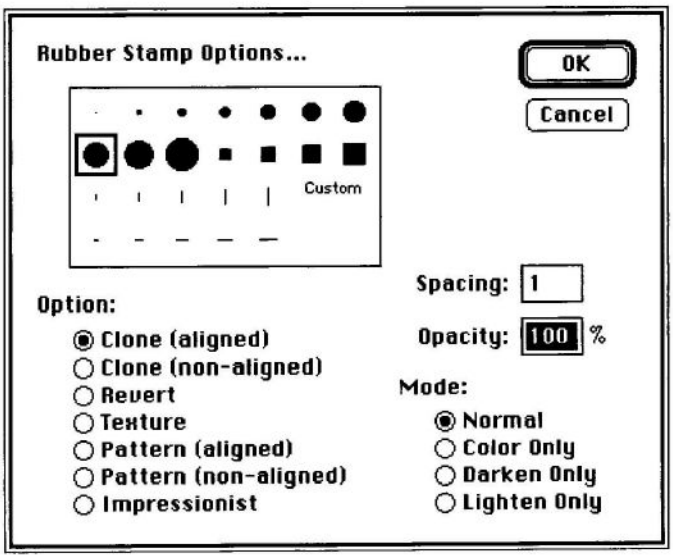
Using the Revert option

The Revert option in the Rubber Stamp Options dialog box lets you restore areas of an image to the most recently saved version of the image. For this exercise, you will restore an area that you have altered in the previous sections.

NOTES

1. Double-click the Rubber Stamp tool.

   The Rubber Stamp Options dialog box appears.



2. Click the Revert option.
3. Click OK.
4. Press the mouse button and drag through the rose you just cloned.
5. Release the mouse button when you have finished restoring the area.

Using the Impressionist option

1. Double-click the Rubber Stamp tool.

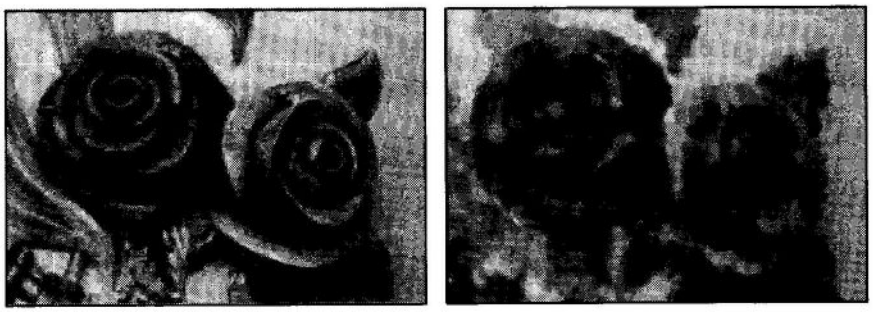
   The Rubber Stamp Options dialog box appears.

2. Click the third brush from the right on the top row.
3. Click the Impressionist option.
4. Click OK.
5. Position the Rubber Stamp pointer on one of the roses.
6. Press the mouse button. (The wristwatch icon may appear as the program reads the image in from its last saved version.)

NOTES

7. While pressing the mouse button, drag through the area using several quick, short brush strokes. Each time you finish a brush stroke, release the mouse button.

8. Release the mouse button when you have finished painting.



Reverting to the last saved version of a file

Now that you have tried using the painting and editing tools, you will revert to the original version of the file.

1. Choose Revert from the File menu.

   An alert box appears, asking if you want to revert to the last saved version of the file.

2. Click OK.

NOTES

Lesson 2: *Making and Manipulating Selections*

You may decide to modify only parts of an image at a time while leaving the rest of the image unchanged. The Adobe Photoshop selection tools let you isolate an area of an image. When an area is selected, any editing you do will affect only the selected area. In this section, you will try using all of the selection tools and will make changes to the selected areas.

The lesson covers

- Making selections with the Lasso tool
- Filling selections with color
- Using alpha channels to store selections
- Adjusting the hue and saturation of a selection
- Using the Elliptical and Rectangular Marquee tools
- Using the Pen tool to make a selection
- Adjusting the brightness and contrast of a selection
- Making selections with the Magic Wand tool
- Feathering selections

Using the Caps Lock key

Tip:

Press the Caps Lock key to access the crosshair pointer. This will help you use the Lasso tool with greater precision.

When the Caps Lock key is in the down position, the pointers for many of the tools in the Adobe Photoshop program become more accurate. In the up position, they change back to the same pointer as the tool in the toolbox.

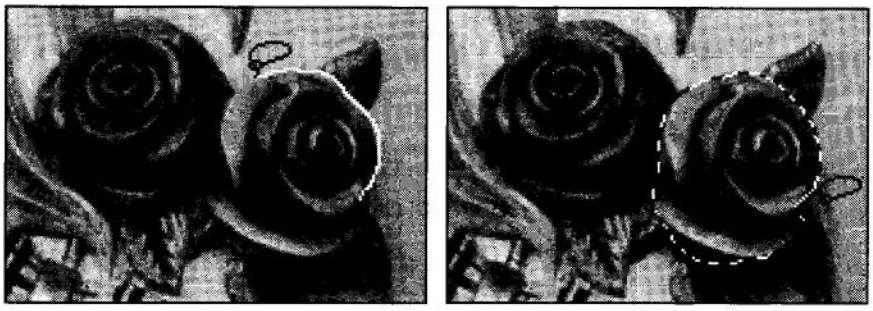
Selecting part of an image with the Lasso tool

The Lasso tool is a freehand tool that lets you trace the outline of an arbitrary area that you want to select. In this exercise, you will select the blue rose and change its color using the Fill command.

NOTES

1. Select the Zoom tool and click once on the blue rose.

2. Select the Lasso tool.
3. Position the Lasso pointer on the edge of the blue rose.
4. Press the mouse button and drag to trace the outline of the entire blue rose.



Once you make your selection, you may find that you have not selected the rose perfectly.

To add to a selected area:

1. Press the Shift key and continue to hold it as you press the mouse button.

> *NOTE: If you click the mouse button without first pressing the Shift key, you will lose the first selection. If you lose the selection, you can get it back by choosing Undo from the Edit menu immediately after you deselect the selection. The menu command will read "Undo Deselect."*

2. Drag to trace the three leaves attached to the blue rose to add these areas to the selection.
3. Release the Shift key and the mouse button. A new lasso appears around the modified selection.

You may have selected an area bigger than the rose.

To subtract from a selected area:

1. Press the Command key and press the mouse button.

NOTES

2. Trace the outline of the three leaves to delete them from the selection.

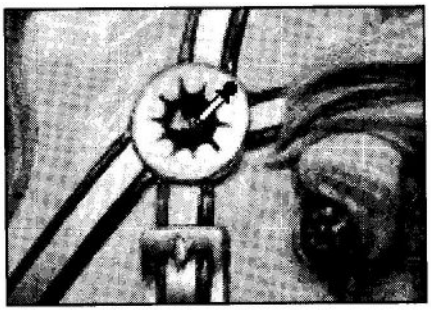
> *NOTE: Make sure that you completely surround the area you want to remove from the selection. If you do not connect the endpoints of the lasso, you will bisect the lasso into two separate lassoed selections.*

3. Release the Command key and the mouse button. The reduced lasso appears around the rose.
4. Double-click the Zoom tool to go back to actual size.

Filling a selection with color

In this section, you will fill the blue rose you just selected with the orange from the center of the concha.

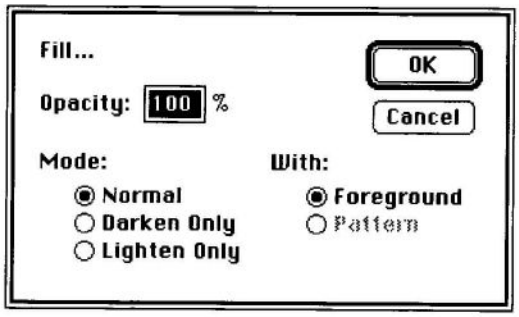
1. Select they Eyedropper tool.
2. Click the mouse button in the center of the concha to sample an orange color.



3. Choose Fill from the Edit menu.

NOTES

The Fill dialog box appears.



4. Click the Color Only option. This option fills the selection with color and leaves the underlying lightness and darkness showing.
5. Click OK.

   The blue rose fills with orange.

Shortcut:

Press Command-D to deselect a selected area.

6. Choose None from the Select menu to deselect the rose. You can also click outside of the selection to deselect it.

Retrieving a selection stored in an alpha channel

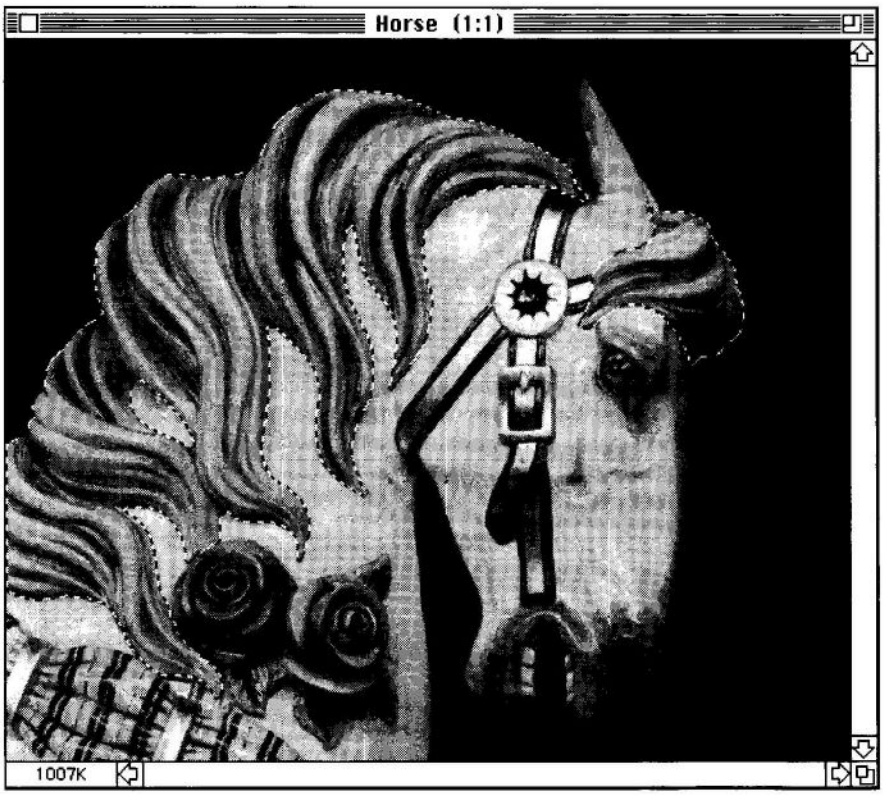
The file you are using has an alpha channel that was previously created to store the selection of the horse's mane. In this section, you will retrieve the mask of the horse's mane from the alpha channel stored with the document.

To retrieve the selection mask from the alpha channel:

1. Choose Load Selection from the Select menu.

NOTES

The alpha channel containing the mask of the horse's mane appears.



The selection mask appears around the horse's mane on the RGB image. Now you can make adjustments to the horse's mane without affecting the rest of the image.

Changing the color of a selection

In this section, you will use the Hue/Saturation commands, found in the Adjust submenu of the Image menu to change the color of the horse's mane.

Hue is color. It is the main attribute of a color that distinguishes it from other colors.

Saturation refers to the purity of a color and the amount of gray in a color. More gray in a color means lower saturation. Less gray in a color means higher saturation.

NOTES

When you use the Hue control, you are reproducing the effect of rotating the colors around a color wheel.

To view the color wheel:

Shortcut:

Press Command-K to open the General Preferences dialog box.

1. Choose Preferences from the File menu and General from the submenu.
2. Select Apple from the Color Picker text box, then click OK.
3. Click the foreground color indicator in the toolbox.

   The Color Wheel dialog box appears. If the current foreground color is black, the entire color wheel is black.
4. Position the pointer on the vertical slider on the right side of the dialog box.
5. Press the mouse button, and drag the slider to a different position. Drag upwards to increase the brightness; drag downwards to decrease the brightness.
6. Now position the pointer inside the color wheel, press the mouse button, and move the pointer around the wheel.

   When you drag towards the center of the circle, you decrease the saturation; when you drag outwards, you increase the saturation. Dragging around the circle changes the hue.
7. Click Cancel.

To return to the Photoshop colorpicker:

8. Choose Preferences from the File menu and General from the submenu.
9. Select Photoshop from the Color Picker text box, then click OK.

To adjust the hue and saturation of the selection:

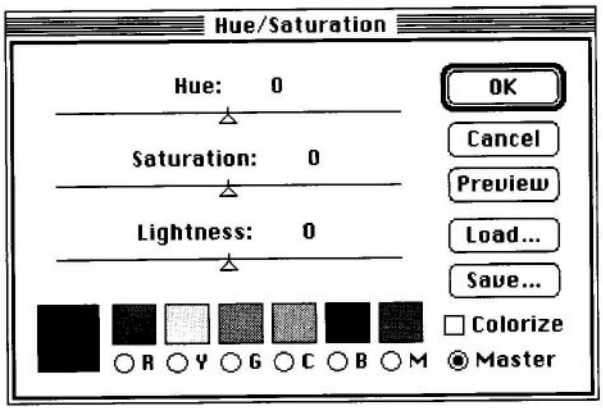
Shortcut:

Press Command-U to access the Hue and Saturation dialog box.

1. Choose Adjust from the Image menu and choose Hue/Saturation from the submenu.

NOTES

The Hue/Saturation dialog box appears.



2. Position the pointer on the title bar of the dialog box, and drag it to the lower-right corner of the screen.
3. Position the pointer on the Hue triangle, and drag it to the right to +160 to obtain a bright blue color.
4. Release the mouse button.
5. To preview the change, click Preview.
6. Position the pointer on the Saturation triangle and drag it to the left to -75 to decrease the saturation.
7. Click preview to view the change.
8. Click OK.

   The horse's mane changes to the hue and saturation you have specified.

Tip:

To see how the new color will look with the surrounding area, you can hide the selection border without losing the selection. Simply choose Hide Edges from the Select menu.

Making selections with the Elliptical and Rectangular Marquee tools

The Adobe Photoshop program has tools that let you make rectangular or elliptical selections. In this section, you will learn how to use both tools, in conjunction with the Lasso tool, as you select the area of the horse's bridle that starts with the silver concha and goes down to the end of the strap.

NOTES

Making a selection with the Elliptical Marquee tool

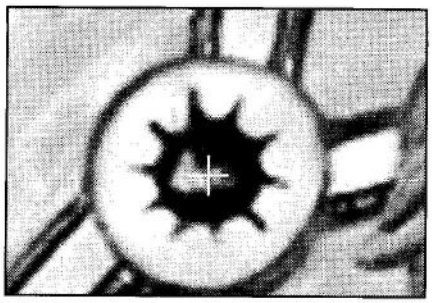
First, you will select the silver concha with the Elliptical Marquee tool.

Shortcut:

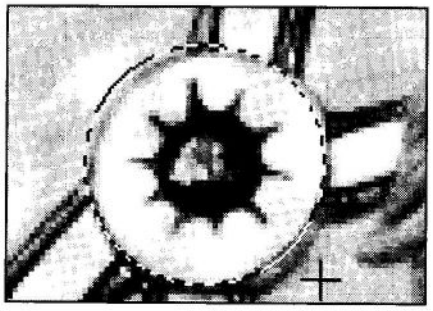
Press Command-D to deselect a selected area.

1. Choose None from the Select menu to deselect the horse's mane.
2. Select the Zoom tool and click once on the horse's concha. This magnifies the image so that you can make a selection more easily.

3. Select the Elliptical Marquee tool.
4. Position the pointer slightly above and to the left of the concha's edge.
5. Press the mouse button and drag to enclose the concha in the selection ellipse.
6. Click once outside of the selection to deselect the concha.
7. Position the pointer in the center of the concha.



8. Press the Option key and the mouse button, and drag outward from the center to the edge of the concha.



NOTES

The concha should be fully selected.

9. Before you release the Option key and the mouse button, press the Shift key to constrain the ellipse.

10. If the Elliptical Marquee tool isn't perfectly aligned with the concha's border, you can move it by positioning the pointer inside the selection border, holding down the Command and Option keys, and dragging the selection border into position.

Tip:

You can move a selection using the arrow keys. Keep in mind, however, that moving a selection will expose the background color. If you want to move the selection marquee, hold down the Command key and the Option key, and use the arrow keys to adjust the position of the selection marquee.

Next, you will add to the selection using the Rectangular Marquee tool.

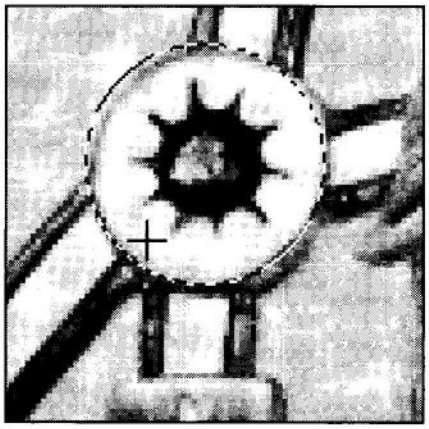
Making a selection with the Rectangular Marquee tool

You will add the strap and the buckle to the selection using the Rectangular Marquee tool. When you are adding to a selection, you need to press the Shift key as you make the selection.

Now you will add the part of the strap between the concha and the buckle.

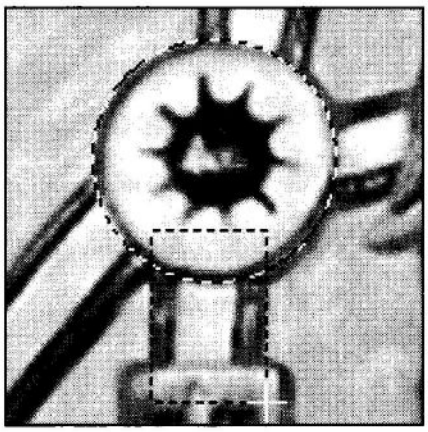
1. Select the Rectangular Marquee tool.

2. Position the pointer above the upper-left corner of the strap, inside the concha.



NOTES

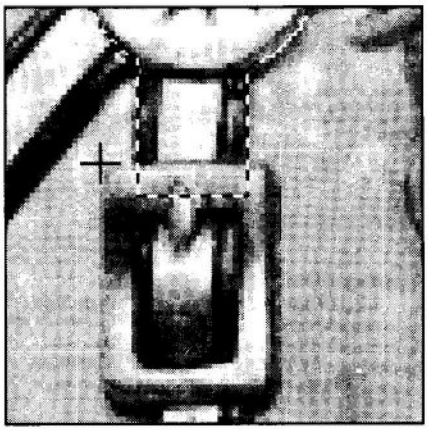
3. Press the Shift key and the mouse button, and drag down and to the right to enclose the strap portion.



4. Release the Shift key and the mouse button.

To select the buckle with the Rectangular Marquee tool:

1. Position the pointer on the upper-left corner of the buckle.

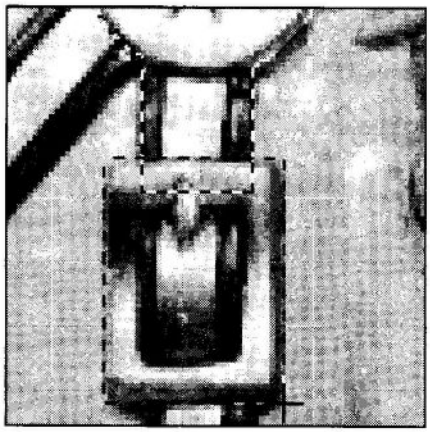


2. Press the Shift key and the mouse button, and drag down and to the right to enclose the buckle.

NOTE: Be sure to continue pressing the Shift key, or you will lose the first selection.

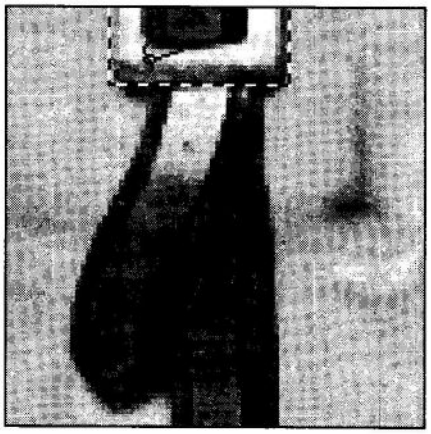
NOTES

3. Release the Shift key and the mouse button.



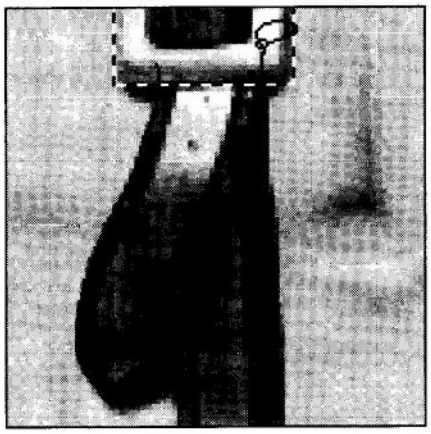
Finally, you will add the bottom part of the strap to the selection with the Lasso tool.

1. Select the Lasso tool.
2. Position the Lasso pointer above the end part of the strap, just within the buckle.

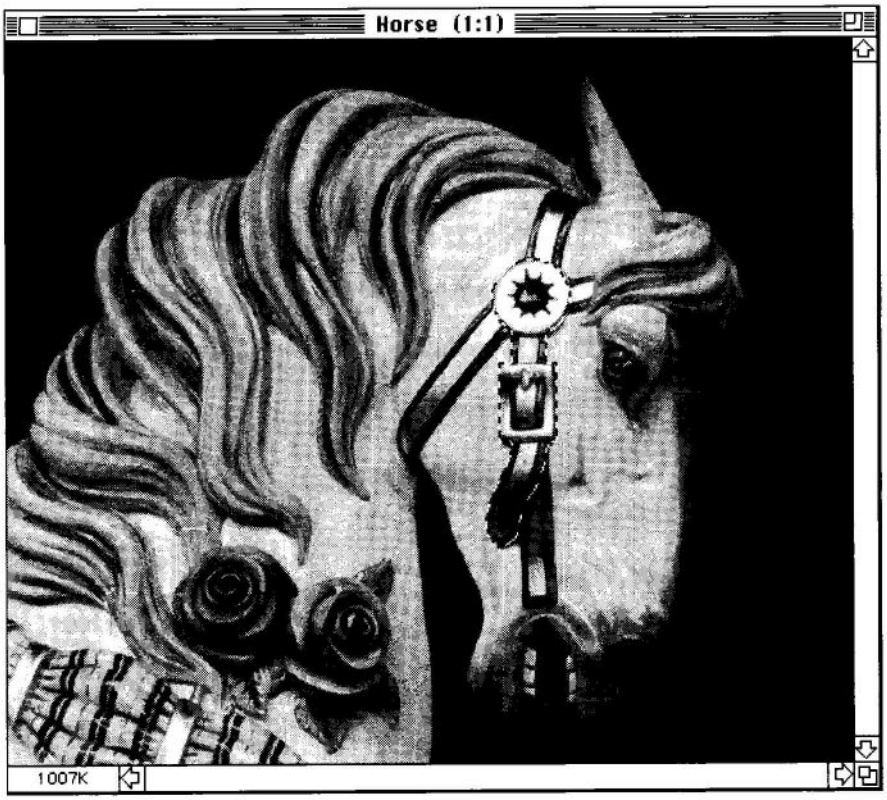


NOTES

3. Press the Shift key and the mouse button, and drag to draw a freehand selection around the bottom of the strap.



4. Release the Shift key and the mouse button. The whole are should be selected.



NOTES

Adjusting the brightness and contrast of the selected area

Now you will adjust the brightness and contrast of the area you just selected.

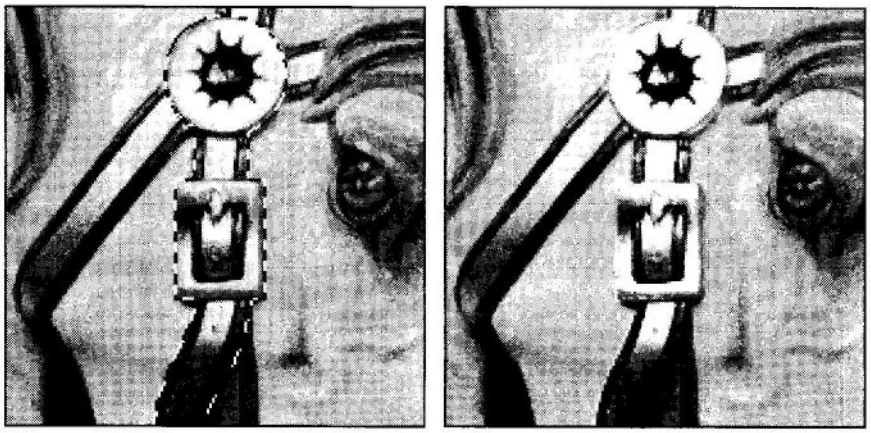
Shortcut:

Press Command-B to select Brightness from the Adjust submenu of the Image menu.

1. Choose Adjust from the Image menu and Brightness/Contrast from the submenu.

   The Brightness/Contrast dialog box appears.

2. Position the pointer on the top edge of the dialog box, and drag it to the bottom of the screen so that you can clearly view the image.
3. Position the pointer on the Brightness triangle and drag it to the right to +15.
4. Position the pointer on the Contrast triangle, and drag it to the right to +30.
5. Click Preview.
6. Click OK.



Making a selection with the Magic Wand tool

In this section, you will use the Magic Wand tool to select the entire background of the image.

To select the background with the Magic Wand tool:

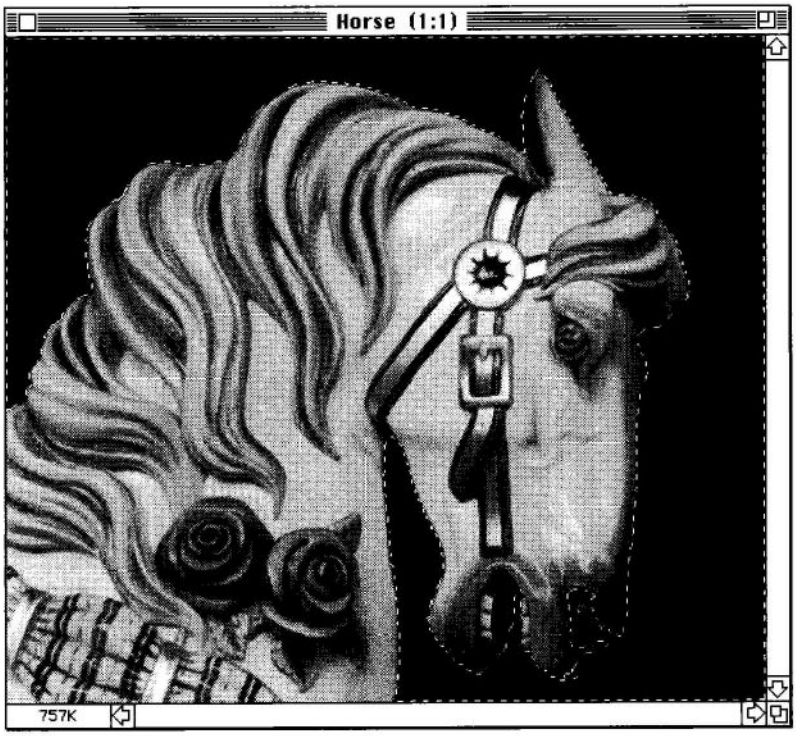
NOTES

Shortcut:

Press Command-D to deselect a selected area.

1. Choose None from the Select menu.
2. Double-click the Zoom tool to return to the image's actual size.
3. Select the Magic Wand tool.
4. Position the Magic Wand pointer anywhere on the black background.
5. Click the mouse button.

   The background is selected.

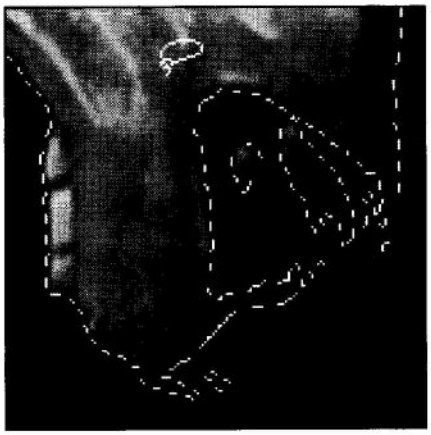


To clean up the selection border around the horse's nose:

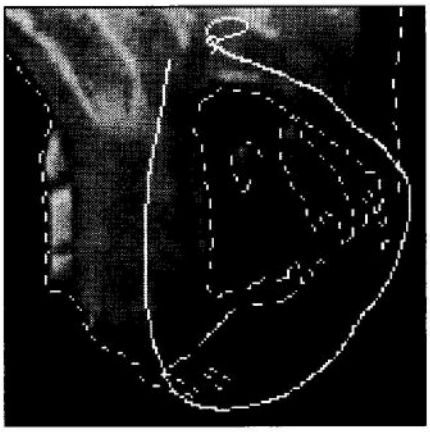
1. Select the Zoom tool.
2. Zoom in once in the area of the horse's nose.
3. Select the Lasso tool.

NOTES

4. Position the Lasso pointer above the horse's nostril.



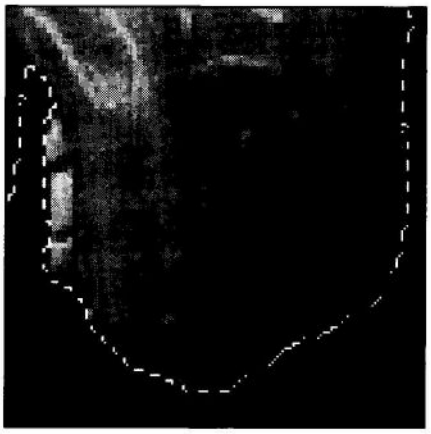
5. While holding down the Command key, press the mouse button and drag to enclose the area you want to remove from the selection.



6. Release both the Command key and the mouse button.

NOTES

The background should be perfectly selected. Now you can use the Inverse command to select everything except the background.



7. Double-click the Zoom tool to return to the image's actual size.
8. Choose Inverse from the Select menu.

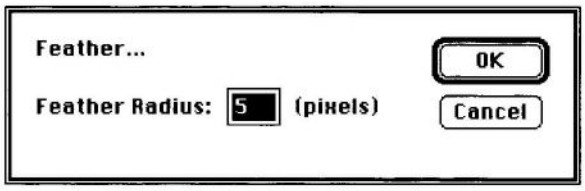
   The horse's head is selected.

Feathering a selection

In this section, you will use the Feather command to soften the edge of the horse's head.

1. Choose Feather from the Select menu.

   The Feather dialog box appears.



2. Enter 1 in the Feather box.
3. Click OK.

NOTES

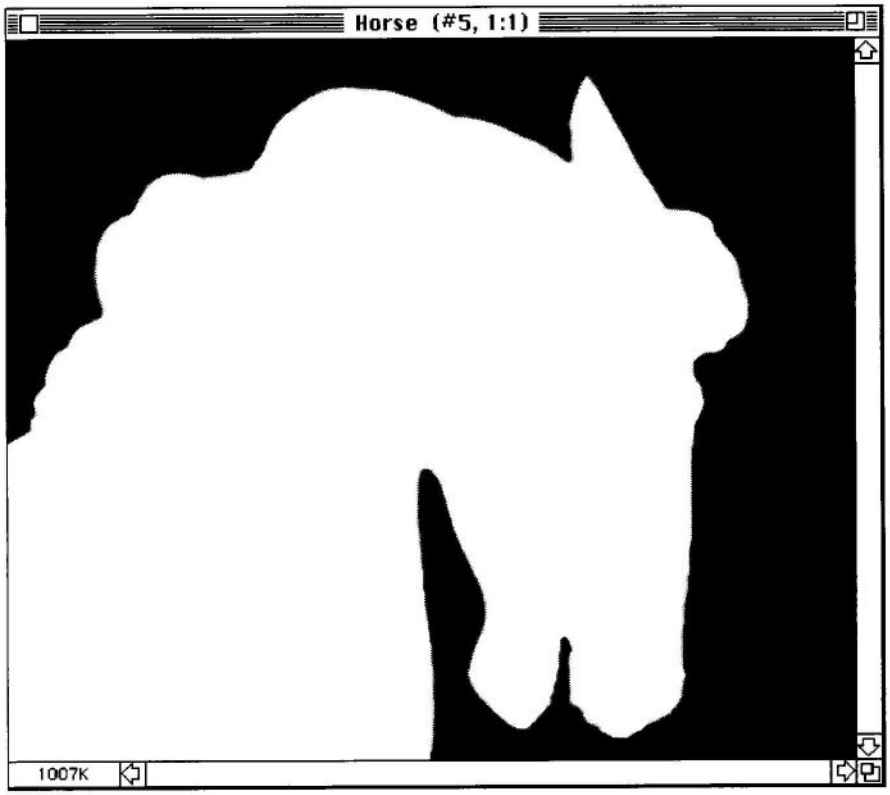
Creating an alpha channel to store a selection

In this section, you will store the selection of the horse's head in an alpha channel so that you can retrieve it later if you decide to make further adjustments.

To store the selection in an alpha channel:

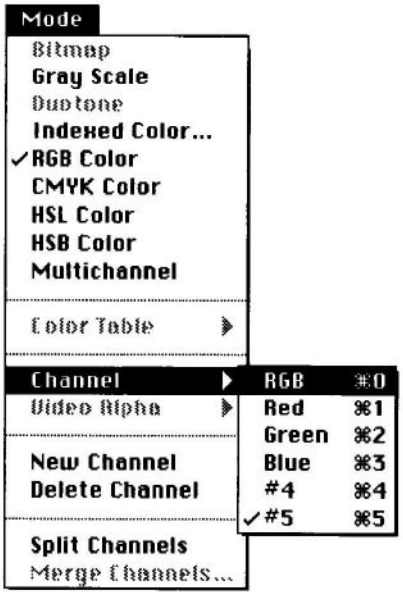
1. Choose Save Selection from the Select menu and New from the submenu.

   The selection appears in an alpha channel labeled #5.



NOTES

2. Choose Channel from the Mode menu and RGB from the submenu.



The full RGB image reappears. Notice the horse's head is no longer selected. You can easily retrieve the selection.

To retrieve the horse's head selection mask:

Shortcut:

Press Command-5 to select alpha channel #5 from the Channel submenu of the Mode menu.

1. Choose Load Selection from the Select menu and #5 from the submenu.

   The horse's head is the current selection in the RGB image.

2. Choose Save As from the File menu.

   The Save As dialog box appears.

3. Type **Student Horse**.

4. Click Save.

5. Choose None from the Select menu.

NOTES

Using the Pen tool

The Pen tool lets you draw smooth-edged selection paths with precision. You can use the Pen tool to create very straight lines or smooth, flowing curves. As soon as you click in the workspace with the Pen tool, the menu bar at the top of the window changes to display the Pen menu. This menu lets you save, load, delete, and select Pen tool paths. Choosing Exit from the Pen menu at any time will delete the current Pen tool path and redisplay the Adobe Photoshop menu bar.

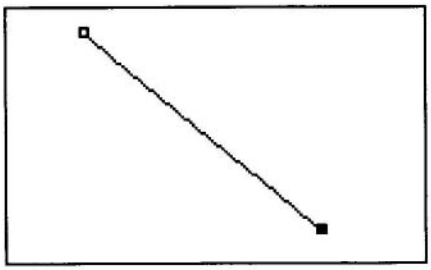
The Pen tool in Adobe Photoshop works just like the Pen tool in Adobe Illustrator. You create a path by clicking to set *anchor points;* you adjust the shape of the path by dragging the *direction lines* associated with each anchor point.

Drawing a triangular selection

1. Select the Pen tool.
2. Choose New from the File menu.

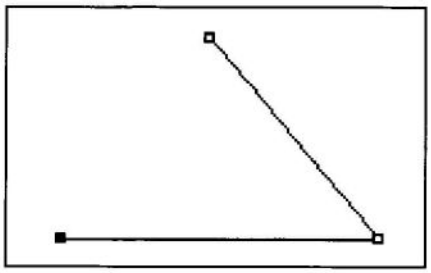
   The New File dialog box appears.
3. Click OK to accept the defaults.
4. With the Pen tool selected, position the Pen tool pointer in the center of the blank window.
5. Click the mouse button.

   You have just created an anchor point.
6. Position the pointer down and to the right, about 1 inch from the first anchor point.
7. Click the mouse button.



NOTES

8. Position the pointer 2 inches to the left of the second anchor point, and click.

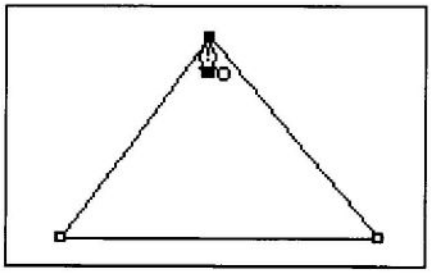


To close the path:

1. Position the pointer on the first anchor point you drew.

   Notice that a small loop appears next to the pointer when you place it on the first anchor point.

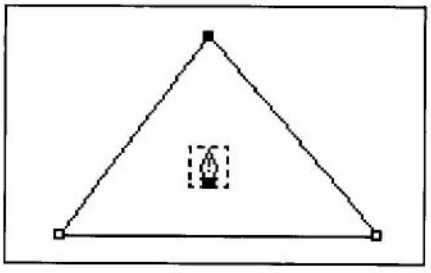
2. Click the mouse button to close the path.



To turn the path into a selection marquee:

1. Position the pointer inside the shape.

   Notice the pointer has a marquee around it.



NOTES

2. Click the mouse button inside the shape.

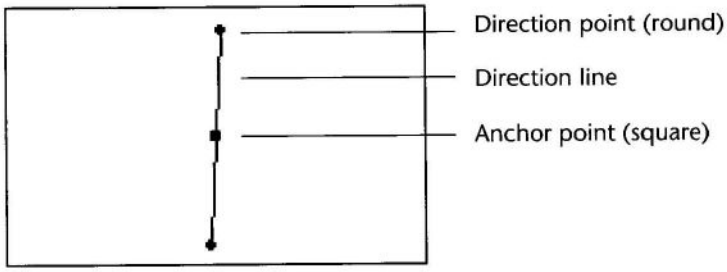
   The shape turns into a selection marquee.

3. Choose None from the Select menu to deselect the marquee.

Drawing an oval

1. Position the Pen tool pointer in the blank window.
2. Press the mouse button and drag the pointer up one inch (in the direction you want the curve to go); then release the mouse button.

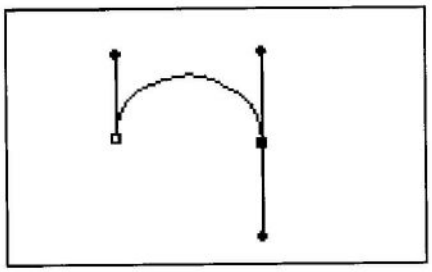
   You have just created an anchor point and a direction point. The anchor point determines where the curve begins and ends, while the direction point determines how much it curves and in which direction.



Tip:

When attempting to draw curves, new users frequently click without dragging. Remember that to create a curve, you must press and hold down the mouse button, and then move the mouse until the direction point is in the desired location.

3. Position the pointer 1 inch to the right of the anchor point.
4. Press the mouse button, and drag the direction point down 1 inch to create a curve; then release the mouse.



NOTES

5. To draw the lower curve and close the circle, click the first anchor point.

Editing direction points and anchor points

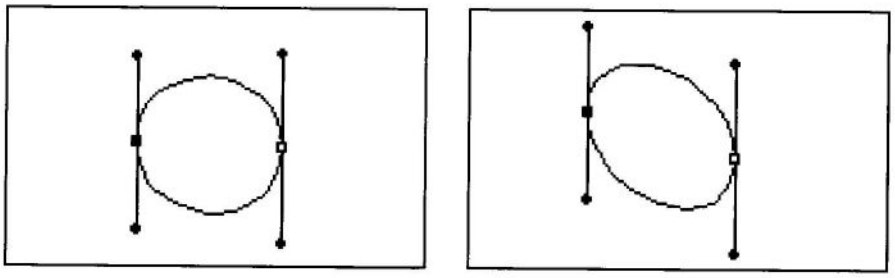
You can edit a path in several ways: by adjusting its anchor points, its direction points, or even its curves. You use the arrow to edit the path and points. Notice that both endpoints (anchor points) of the curve appear as small, hollow squares. Also notice that a direction line and direction points are connected to the anchor points on either side of the curve segments.

1. With the Pen tool selected, press the mouse button to select the left anchor point.

Tip:

While editing the curve, make sure you can see a selection arrow and not the Pen tool icon before you press the mouse button and drag.

2. Move the anchor point up and down, then left and right.



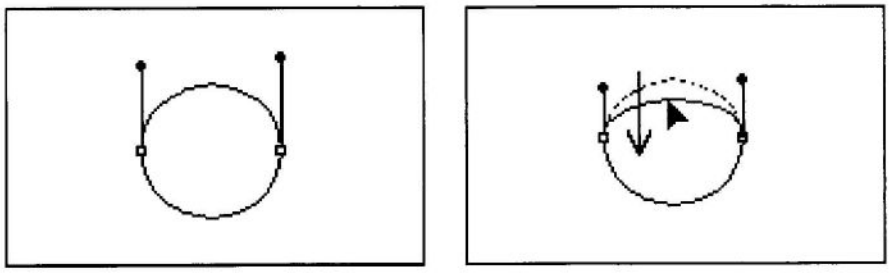
Editing curve segments

With this technique, you can edit two direction points at once.

1. Hold down the Command key and click away from the artwork to deselect everything.
2. Position the selection arrow on the top of the curve.

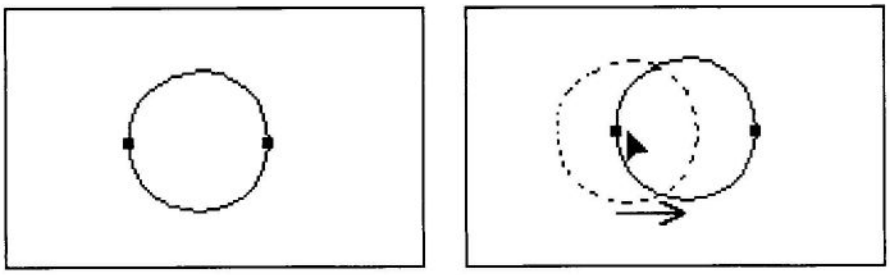
NOTES

3. Press the mouse button and move the top of the curve up and down. Notice that you can't move the curve left or right across an anchor point.



Moving a whole path

1. Hold down the Command key and drag a marquee across the path. This selects the whole path.



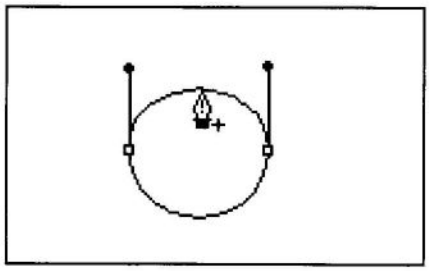
2. Position the pointer on one of the anchor points, and drag the anchor point to move the whole curve.

Adding anchor points to a path

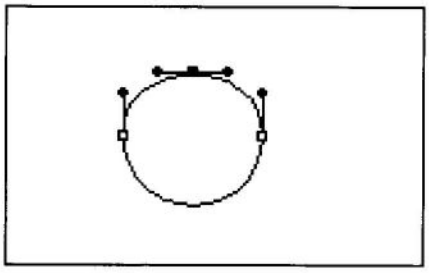
1. Position the pointer on the line segment in the center of the top curve.
2. Press the Option and Command keys.

NOTES

Notice that a plus sign appears next to the pointer.



3. Click the mouse button to add an anchor point.



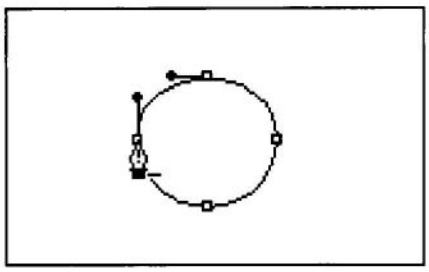
4. Position the pointer on the center of the line segment at the bottom of the circle.
5. Press the Option and Command keys.
6. Click the mouse button to add an anchor point.
7. Press the mouse button when the selection arrow appears, and drag any of the anchor points or direction points to change the shape of the oval.

Deleting anchor points

1. Position the icon over the leftmost anchor point.
2. Press the Option and Command keys.

NOTES

Notice that a minus sign appears next to the pointer.

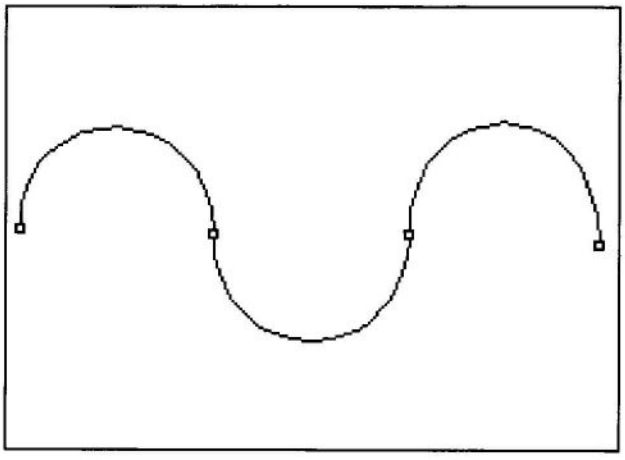


3. Click the mouse button to delete the anchor point.
4. Position the Pen tool over the rightmost anchor point.
5. Press the Option and Command keys.
6. Click the mouse button to delete the anchor point.
7. Repeat steps 1 through 3 until the last two anchor points are deleted.

Your screen should be blank.

Drawing multiple curves

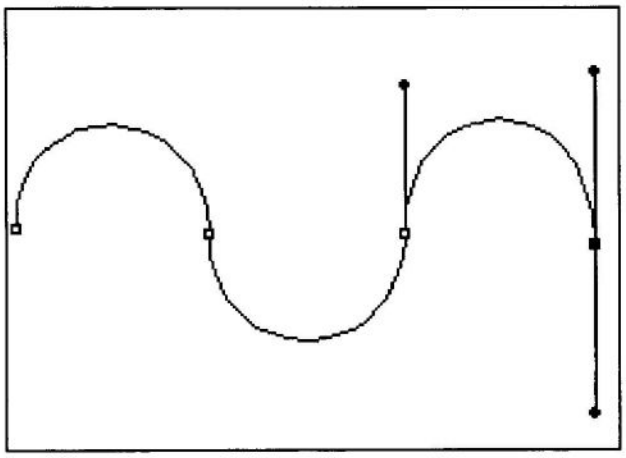
In this section, you will draw the following curve:



1. Select the Pen tool.
2. Position the cursor in the blank window, just inside the left edge.

NOTES

3. Press the mouse button and drag the direction point up one inch. Release the mouse button.
4. Position the Pen tool to the right, one inch away from the first anchor point.
5. Press the mouse button and drag the direction point down. Release the mouse button.
6. Position the pointer to the right, about one inch from the second anchor point.
7. Press the mouse button and drag the direction point up one inch. Release the mouse button.
8. Position the pointer to the right, about one inch away from the third anchor point.
9. Press the mouse button, and drag the direction point down one inch. Release the mouse button.

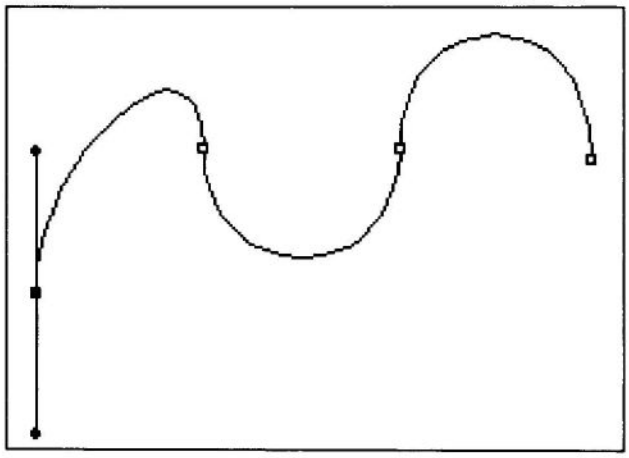


To edit the shape:

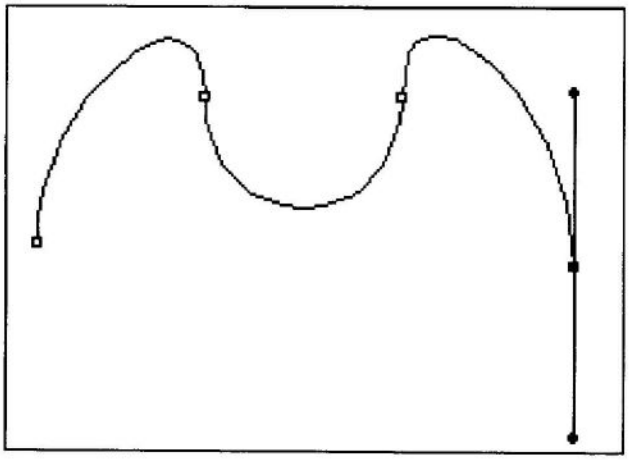
1. Press the Command key to access the arrow.

NOTES

2. Position the pointer on the first anchor point and drag down one inch.

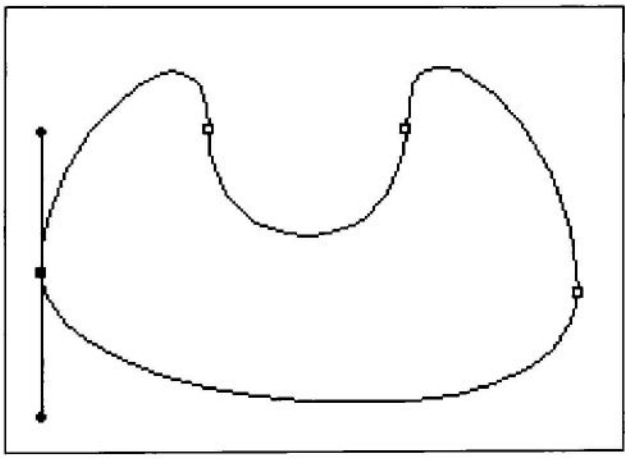


3. Still holding the Command key, position the pointer on the last anchor point and drag down one inch.



NOTES

4. Position the pointer on the first anchor point and click to close the path.



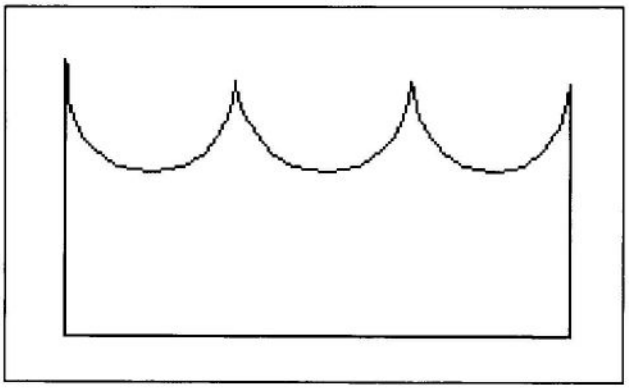
5. With the Pen tool selected, click in the center of the shape to select it.
6. Choose None from the Select menu.

Drawing a complex path

When you draw a simple curve, half of the second direction line completes the definition of your curve; the other half of the line establishes the slope and direction of the next segment of your path. You can modify the two halves of a direction line independently by changing the anchor point from a "smooth point" to a "corner point." This lets you change the direction of a curve or switch between a curve and a straight line in the middle of a path.

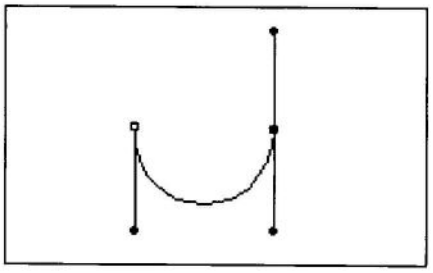
NOTES

In this section, you will draw the following curve:



To draw the first curve segment:

1. Position the pointer in the left side of the blank window.
2. Press the mouse button, and drag down 1 inch; then release the mouse button.
3. Position the pointer 1 inch to the right of the first anchor point.
4. Press the mouse button and drag up 1 inch; then release the mouse button.

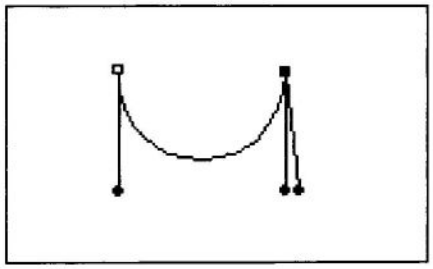


To change the direction of a curve segment:

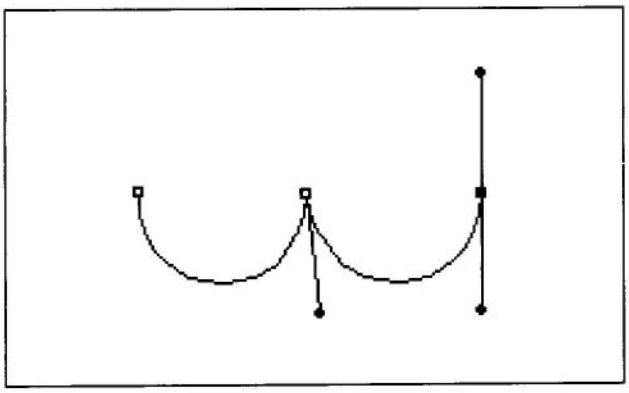
1. Position the Pen tool on the last anchor point you drew.

NOTES

2. Press the Option key and the mouse button, and drag the direction line down 1 inch; then release the Option key and the mouse button.



3. Position the pointer 1 inch to the right of the second anchor point.
4. Press the mouse button and drag up 1 inch.



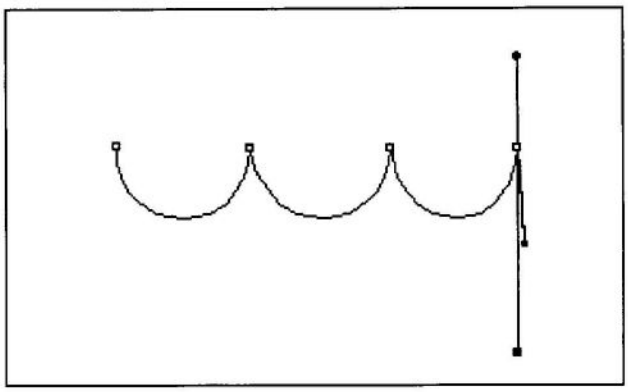
5. Repeat steps 1 through 4 to draw a third curve segment.

To complete the path:

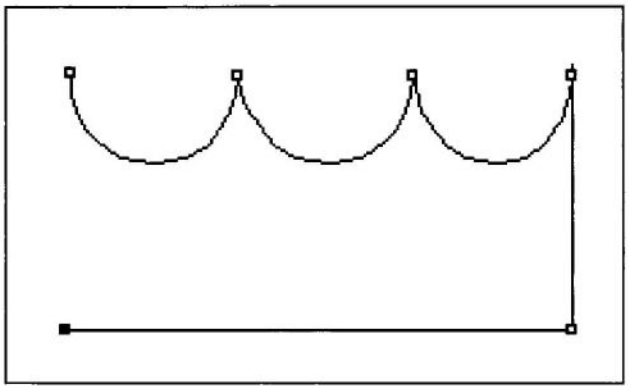
1. Position the pointer 2 inches down from the last anchor point.

NOTES

2. Press the Shift key and click the mouse button (the Shift key will constrain to a horizontal or a vertical direction).



3. Position the pointer about 2 inches to the left (under the first anchor point).
4. Press the Shift key and click the mouse button.



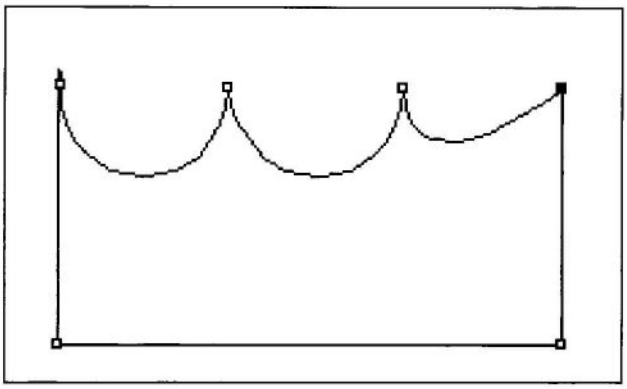
5. Position the pointer on the first anchor point.
6. Click the mouse button to close the path.

To change the shape of a curve after it has been drawn:

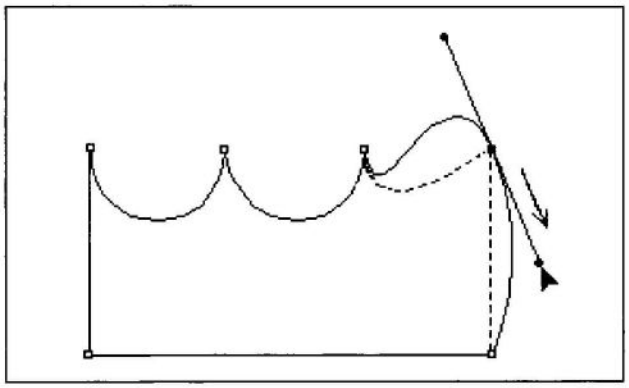
1. Position the pointer on the rightmost anchor point.

NOTES

2. Press the Control and Command keys, and click the mouse button.



3. Still holding the Control and Command keys, drag until the direction lines appear.



4. Move the direction line around to see how it affects the curve shape.

To change the shape of half the curve:

1. Press the Command and Control keys, and click the anchor point a second time — or click either direction point.
2. Move the half of the direction line associated with the part of the curve you want to change.

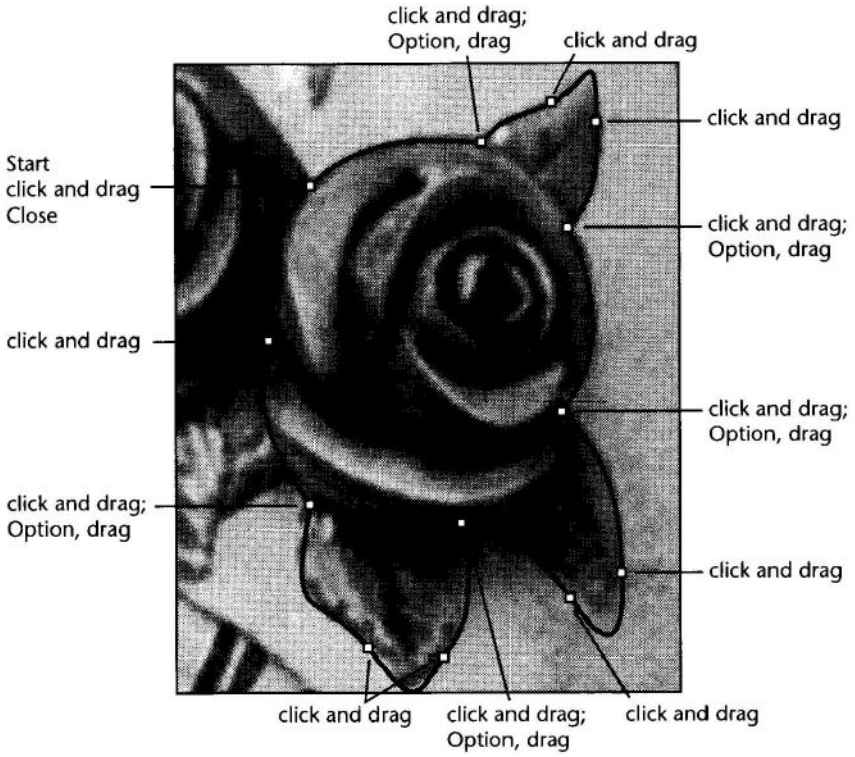
NOTES

To close the file:

1. Choose Exit from the Pen menu.
2. Choose Close from the File menu, and close the file without saving changes.

Creating a path around the rose

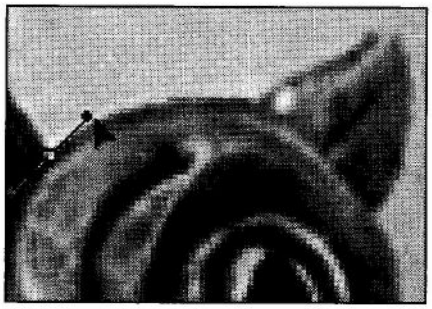
Now you will use the Pen tool to select the rose on the horse's head.



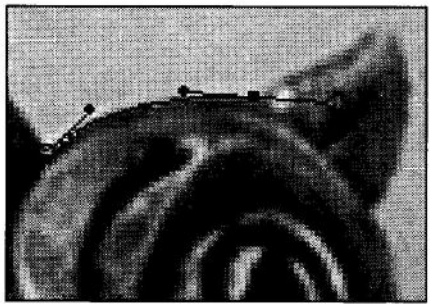
1. Select the Zoom tool and click the rose on the right.
2. Select the Pen tool.

NOTES

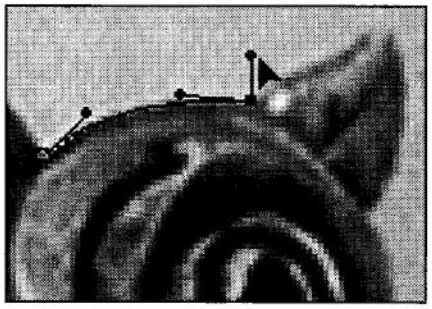
3. To set the first anchor point, press the mouse button and drag up and to the right of the anchor point, about half an inch.



4. Position the pointer near the edge of the leaf, press the mouse button, and drag to the right to make the curve conform to the shape of the rose.

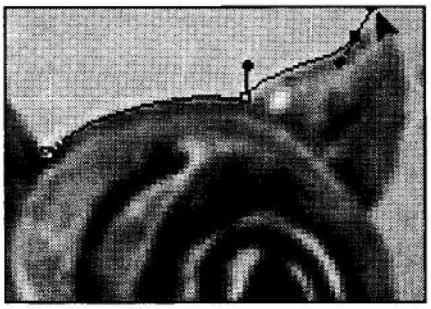


5. To change the direction of the next curve, position the pointer on the second anchor point, press the Option key, and drag upwards.

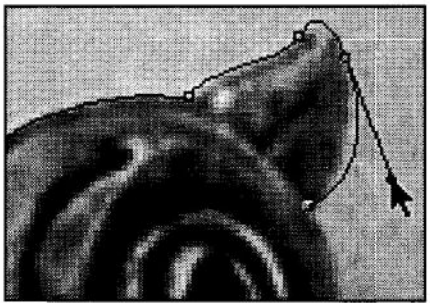


NOTES

6. Press the mouse button to set a third point near the top of the leaf and drag upwards and to the right to make the curve follow the leaf.



7. Click and drag to draw the next two curve segments. To adjust the position of a curve or anchor point, hold down the Command key and drag the point or curve segment into position.



8. Continue drawing in this way around the rose and leaves until you reach the starting point.
9. Click the starting point to close the path.

Saving Pen tool paths

You save Pen tool paths much as you save selections in alpha channels. Pen tool paths require less memory than alpha channels; in addition, you can save an unlimited number of Pen tool paths, while you cannot save a total of more than 16 channels, including alpha channels.

1. Choose Save Path from the Pen menu.

NOTES

2. Enter **Rose path** and click OK. This saves the path in case you want to reuse it later on.

Turning Pen tool paths into selection borders

1. Move the pointer inside the path and click. This turns the path into a selection border and exits Pen mode.
2. Choose None from the Select menu to deselect the path.

Shortcut:

Press Command-D to deselect everything.

Loading Pen tool paths

1. With the Pen tool selected, click anywhere in the image to bring up the Pen menu.
2. Choose Load Path from the Pen menu and Rose Path from the submenu. This loads the path you just saved.
3. Choose Exit from the Pen menu to erase the path and exit Pen mode.

Shortcut:

Press Command-D to erase a path and exit Pen mode.

You can also turn a selection border into a Pen tool path. In the next section, you'll see how you can use this feature.

Creating a clipping path

Now you will use the selection you stored in the alpha channel earlier in this lesson to create a "clipping path."

To retrieve the horse's head selection mask:

1. Double-click the Zoom tool to return to actual size.
2. Choose Load Selection from the Select menu and #5 from the submenu.

Shortcut:

Press Command-5 to select alpha channel #5 from the Channel submenu under the Mode menu.

The horse's head is the current selection in the RGB image.

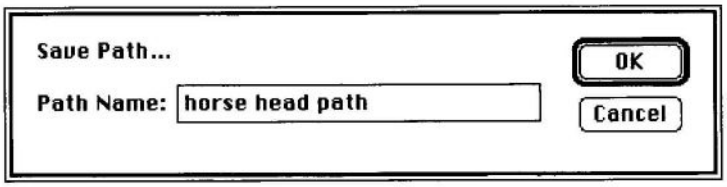
Converting a selection to a clipping path

1. Choose Make Path from the Select menu.

   The selection changes to a Pen tool path.
2. Choose Save Path from the Pen menu and New from the submenu.

NOTES

3. The Save Path dialog box appears. Name the path **horse head path**. Click OK.



Shortcut:

Press Command-D to exit Pen mode.

4. Choose Exit from the Pen menu.

Saving a file

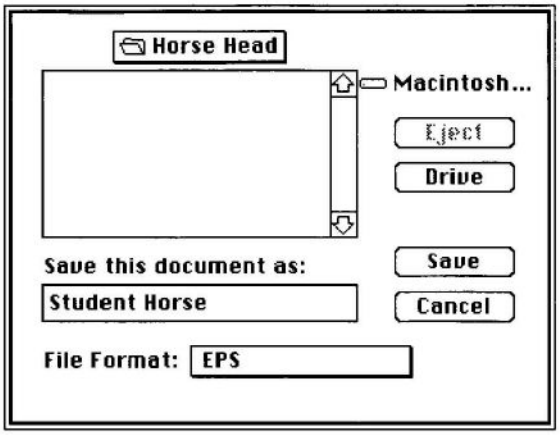
Get in the habit of saving your files when you make significant changes.

Saving a file in EPS format

To use the clipping path as a mask in another application, such as Adobe Illustrator, you will need to save a version of the file in EPS format and specify the path name you wish to include with the file. EPS files are unique in that alpha channels are not included with the file; therefore, it's important to keep an original copy of the file in addition to the EPS version.

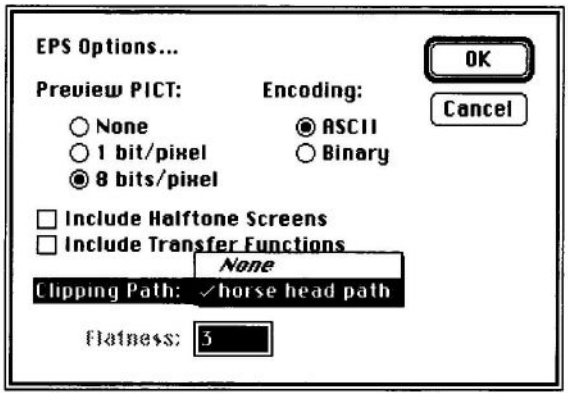
1. Choose Save As from the File menu.

   The Save As dialog box appears.



NOTES

2. Name the file **Student Horse.eps**.
3. Select the File Format box and choose EPS from the submenu.
4. Click Save.
5. Select the Clipping Path box and choose horse head.path from the submenu.



6. Click OK.
7. Choose Close from the File menu.

NOTES

When you place the EPS file into an illustration or page-layout program, the clipping path will be treated as a mask. This means that only the area of the horse within the clipping path will be displayed. The background will be invisible, letting you place the horse's head on top of other objects or background textures and colors without "knocking them out."

NOTES

Lesson 3: *Using Filters*

In this section, you will use some of the filters on the horse's head. After each filter, you will use the Undo command (Command-Z) so that you can clearly see each filter's effect separately.

The lesson covers

- Using the Diffuse filter
- Using the Find Edges filter
- Using the Fragment filter
- Using the Sharpen filter

You will also have the chance to experiment with the other filters.

Using the Diffuse filter

The first filter you will use is the Diffuse filter.

Shortcut:

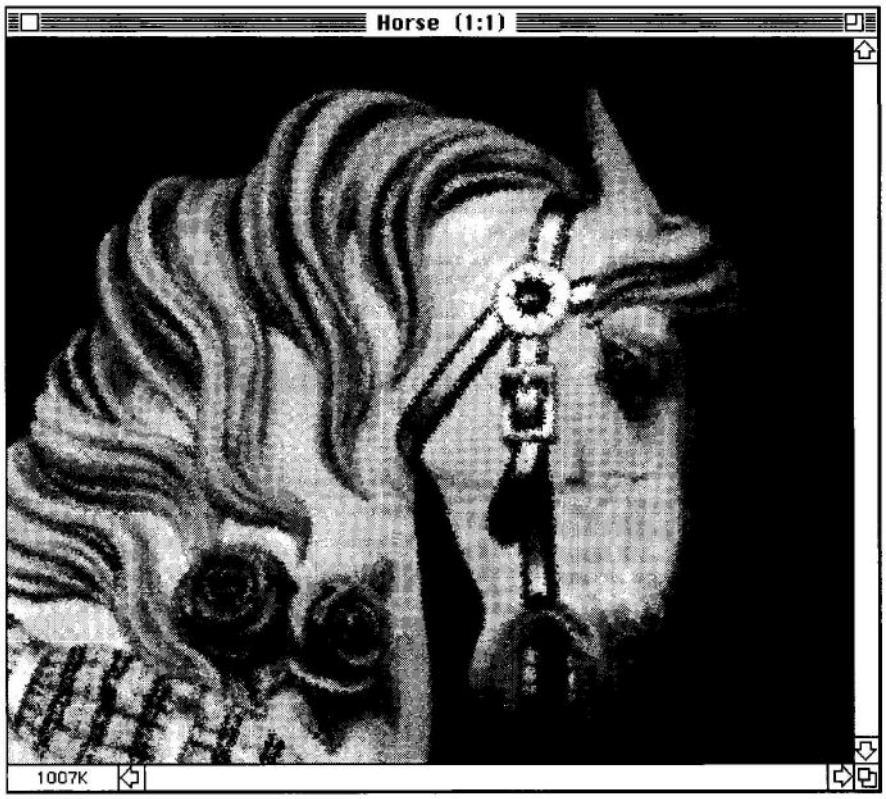
Press Command-O to open a selected file.

1. Choose Open from the File menu.
2. Choose Horse and click Open.
3. Choose Stylize from the Filter menu and Diffuse from the submenu.

   The Diffuse dialog box appears.

NOTES

4. Click OK to accept the default values.



Shortcut:

Press Command-Z to undo the last command or move.

5. Choose Undo from the Edit menu.

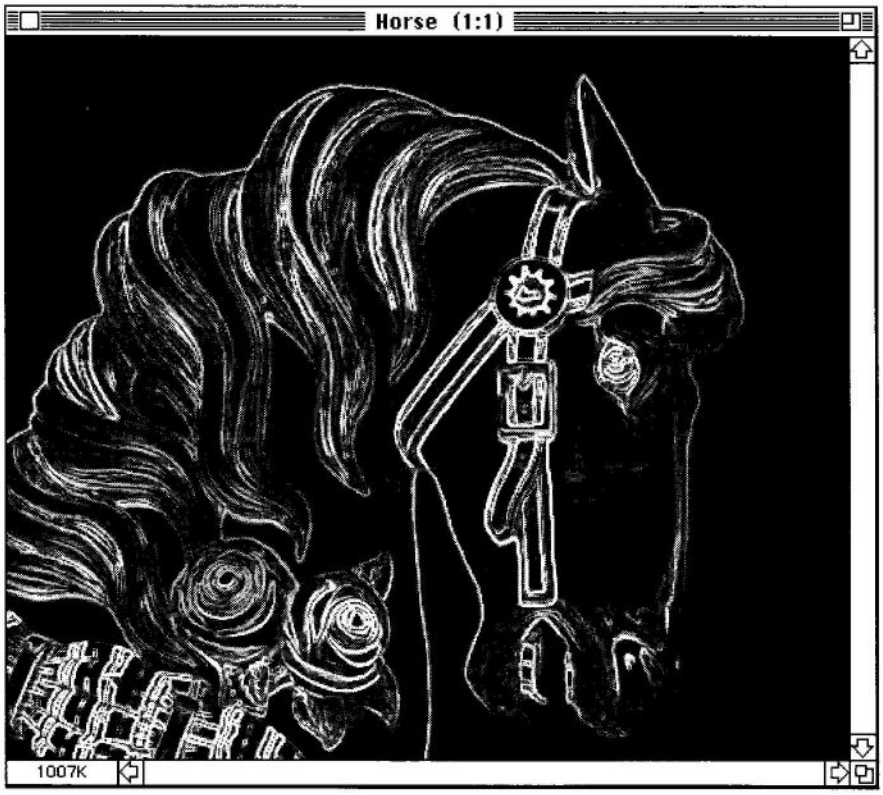
Using the Find Edges filter

Now you will try using the Find Edges filter.

1. Choose Stylize from the Filter menu and Find Edges from the submenu.

NOTES

A progress bar may appear while the selection is filtered.



Shortcut:

Press Command-Z to undo the last command or move.

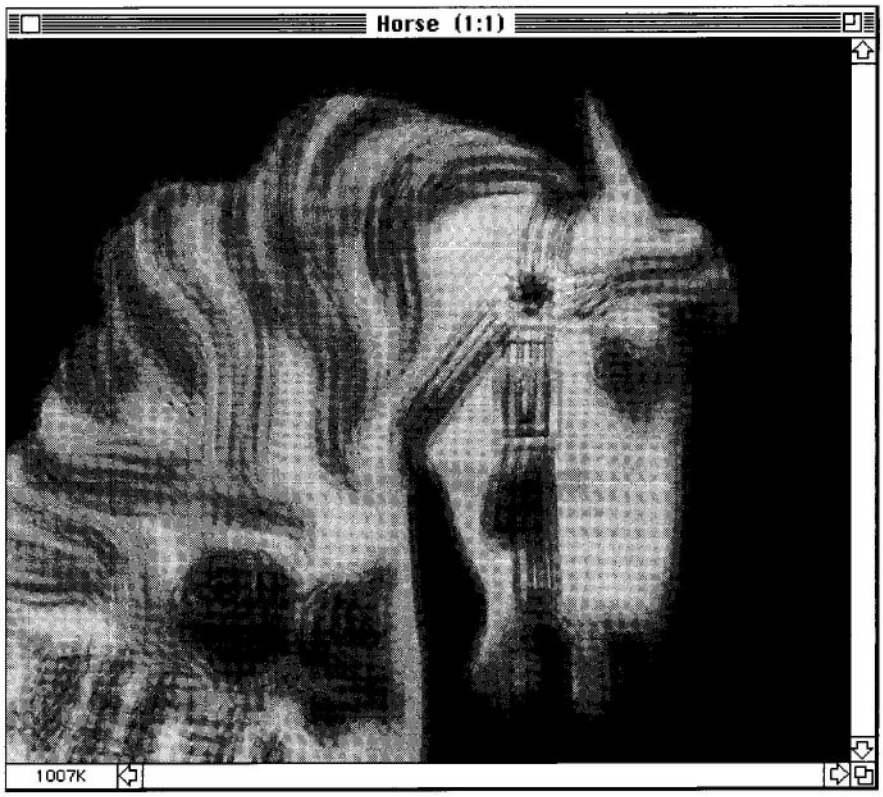
2. Choose Undo from the Edit menu.

Using the Fragment filter

Now you will use the Fragment filter.

NOTES

1. Choose Stylize from the Filter menu and Fragment from the submenu.



Shortcut:

Press Command-Z to undo the last command or move.

2. Choose Undo from the Edit menu.

Using the Sharpen filter

Now you will try using the Sharpen filter on a small part of the image. You will first need to make a selection of the area around the horse's eye.

To select the area to be sharpened:

1. Click the Rectangular Marquee tool.
2. Position the pointer to the left of the horse's eye.
3. Press the mouse button and drag to enclose the area around the eye.

NOTES

4. Try using some of the other filters.
5. Choose Undo from the Edit menu after you apply a filter, and then try another.

Shortcut:

Press Command-Z to undo the last command or move.

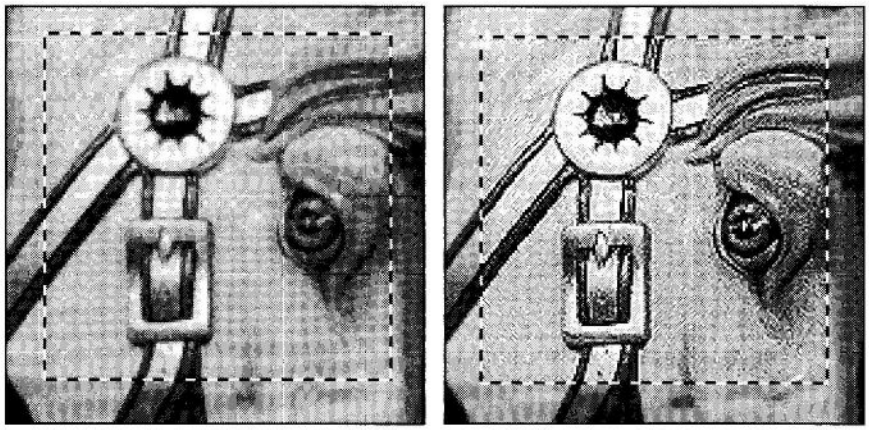
To use the Sharpen filter on the selection:

1. Choose Sharpen from the Filter menu, then choose Sharpen from the submenu.
2. Choose Sharpen from the Filter menu to reapply the Sharpen filter.

Shortcut:

Press Command-F to reapply the last filter used.

3. Choose Sharpen again for more dramatic results.



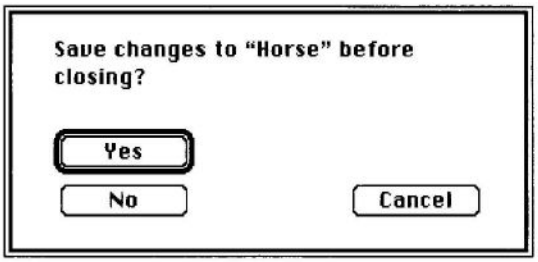
Closing a file

1. Choose Close from the File menu.

   A dialog box appears, asking if you want to save changes to the file.

Shortcut:

Press Command-W to close the current file.



2. Click No.

NOTES

Lesson 4: *Color Correction*

In this section, you will experiment with color correction. There are several different ways to color-correct images in Photoshop:

- Adjusting the brightness and contrast (also called the "levels")
- Changing the hue (the actual color) and the saturation (the purity of the color)
- Adjusting the color balance: the relative amounts of red, green, and blue

For the first of these processes, adjusting the brightness and contrast, you can use four different Photoshop tools: the Brightness/Contrast dialog box, the Levels dialog box, the Curves dialog box, or the Arbitrary Map dialog box. Although these four dialog boxes all perform the same function, they offer different methods of making adjustments with varying degrees of precision.

Adjusting the levels

Now you will use the Levels dialog box to experiment with adjusting the brightness and contrast in an image.

Shortcut:

Press Command-O to open a selected file.

1. Choose Open from the File menu.
2. Click the file Flowers and click Open.

   The Flowers image appears on the screen.
3. Choose Show Info from the Window menu.

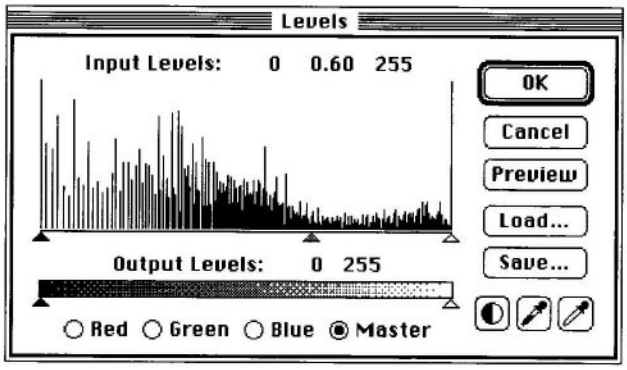
   The Show Info window gives you information about the position and color values of the pixel directly beneath the pointer.

NOTES

Shortcut:

Press Command-L to select Levels from the Adjust submenu of the Image menu.

4. Choose Adjust from the Image menu and Levels from the submenu.



5. Slide the two input levels sliders towards the center of the bar to increase the contrast. Click Preview.
6. Slide the two output levels sliders towards the center of the bar to decrease the contrast. Click Preview.
7. Slide the middle gray input levels slider to the right to darken the midtones in the image. Click Preview.
8. Click Cancel to close the dialog box without applying the changes to the image.

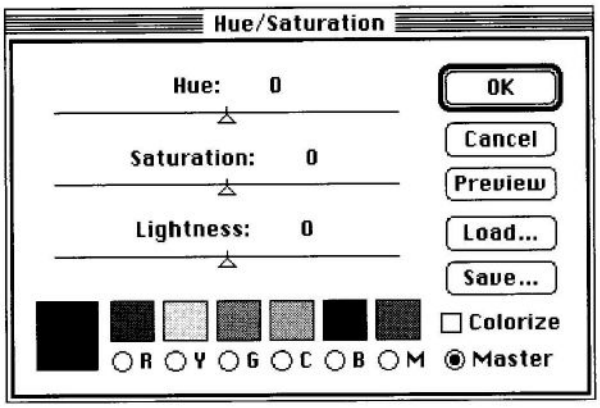
Adjusting the hue and saturation

Now you will use the Hue/Saturation command to experiment with these controls.

1. Choose Adjust from the Image menu and Hue/Saturation from the submenu.

NOTES

The Hue/Saturation dialog box appears.



2. Drag the Saturation slider to the right until the value reads 50. Click preview.
3. Now drag the Saturation slider to the left until the value reads -100.
4. Click the Preview button.
5. Click Cancel to exit the dialog box without applying the changes to the image.

Adjusting the color balance

In this section, you will use two versions of the same image; one of the versions has already been color-corrected, while the other has not. You will use the Color Balance command to adjust the uncorrected version to match the corrected version.

1. Select the Zoom tool.
2. While holding down the Option key, click the Flowers image.

   The file is now displayed at 50 percent of its original dimensions (1:2).
3. Click the resize box in the upper right corner of the image to resize the document window.

NOTES

Shortcut:

Press Command-O to open a file.

4. Choose Open from the File menu.
5. Click the file Bad Flowers and click Open.
6. Select the Zoom tool.
7. While holding down the Option key, click the image.
8. Click the resize box in the upper right corner of the image to resize the document window.
9. Drag the files by their title bars so that they are side-by-side on the screen. This will make it easy to compare the two files.

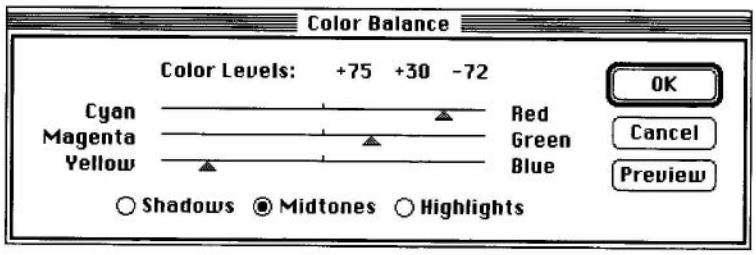
Shortcut:

Press Command-Y to select Color Balance from the Adjust submenu of the Image menu.

10. With the Bad Flowers file selected, choose Adjust from the Image menu and Color Balance from the submenu.

    The Color Balance dialog box appears.

11. Position the pointer on the Cyan/Red triangle, and drag it to the right to +75. You are increasing the level of red in the image and decreasing the amount of cyan.
12. Click Preview.
13. Position the pointer on the Magenta/Green triangle and drag it to the right to +30. You are increasing the level of green in the image and decreasing the amount of magenta.
14. Click Preview.
15. Position the pointer on the Yellow/Blue triangle, and drag it to the left to -72. You are decreasing the level of blue in the image and increasing the amount of yellow.



16. Click Preview, then click OK.

NOTES

Closing the images

Now that you have matched the two files, you can close images.

1. Click the Bad Flowers image to make its window active.
2. Choose Close from the File menu.

   A dialog box appears, asking if you want to save changes to the file.
3. Click No.
4. Click the Flowers image to make its window active.
5. Choose Close from the File menu.
6. Choose Hide Info from the Window menu.

Shortcut:

Press Command-W to close the currently active window.

NOTES

Lesson 5: *Converting Images*

Lesson 5 is an instructor-led lesson; wait for instructor information before continuing to the next step. In this lesson, you will learn about the different image types in Adobe Photoshop and how to convert from one image type to another.

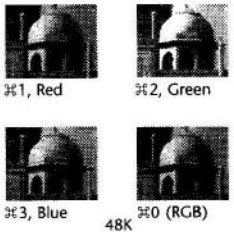
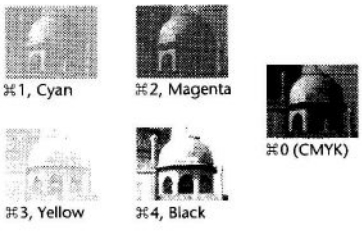
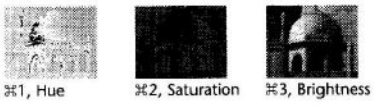
Adobe Photoshop contains nine image type options, also called image "modes": Bitmap, Gray Scale, Duotone, Indexed Color, RGB Color, CMYK Color, HSL Color, HSB Color, and Multichannel. The most commonly used image modes are Gray Scale, for black-and-white images; RGB, for working with color images on-screen; and CMYK, for preparing color images for standard process printing. All of the Adobe Photoshop image types are described in detail in the following chart.

NOTES

IMAGE TYPES AND THEIR CHANNELS		
Mode	**Bits/pixels per Channel**	**Channels**
Bitmap Bitmapped images are made up of 1 bit of color (black or white) per pixel, so they require the least amount of memory. Because few editing options are available in this mode, it is usually best to convert the image to Gray Scale mode, and then back to Bitmap mode if necessary for export.	**1**	 Bitmap 2K
Gray Scale Gray-scale images are made up of 8 bits of information per pixel and use 0-255 shades of gray to simulate gradations in color. This is a single-channel mode for converting high-quality black-and-white images to and from color images.	**8**	 Gray Scale 16K
Duotone Duotone mode is used for monotones, duotones, tritones, and quadtones. These images are gray-scale images that reproduce gray levels using one non-black ink (monotones), two inks (duotones), three inks (tritones), or four inks (quadtones). Because they are still essentially gray-scale images, they are single-channel images (8 bits per pixel); a transfer function is used to distribute the inks. Duotone mode is normally used to increase the tonal range of gray-scale images.	**8**	  Monotone Duotone   Tritone Quadtone 16K
Indexed Color Indexed color images are single-channel images (8 bits per pixel) that use a color lookup table containing 256 colors. These images are useful when editing the color table is desired or when a limited color palette is required for export, such as, for multimedia applications. Limited editing is available in this mode; for extensive editing, convert temporarily to RGB mode.	**8**	 Indexed Color 16K

NOTES

IMAGE TYPES AND THEIR CHANNELS

Mode	Bits/pixels per Channel	Channels
RGB Color RGB images use three colors to reproduce up to 16.7 million colors on-screen. This is the color mode used by most images and scanners, and is generally the mode used for color editing and painting. RGB images are three-channel images, so they contain 24 (8 x 3) bits per pixel.	**24**	
CMYK Color CMYK images consist of the four colors used to print color separations. These are four-channel images, containing 32 (8 x 4) bits per pixel. This mode allows you to work directly with CMYK images that have been scanned or imported from high-end systems. Because this mode uses the most memory, it is generally slower for image editing, but is useful for certain types of adjustments such as gradient fills.	**8**	
HSL Color HSL Color images use three channels: hue, saturation, and lightness. Unlike RGB and CMYK modes, there is no composite display for these images. HSL images are generally used for scientific applications.	**8**	
HSB Color HSB Color images use three channels: hue, saturation, and brightness. Unlike RGB and CMYK modes, there is no composite display for these images. Like HSL images, HSB images are generally used for scientific applications.	**8**	
Multichannel Adding a channel to a gray-scale image, or deleting a channel from an RGB, CMYK, HSL, or HSB image creates a Multichannel image. Color images converted to Multichannel mode become gray-scale images.	**8**	

NOTES

Working with RGB and CMYK images

Both the RGB and the CMYK image types let you work on-screen with a composite of the various image channels. However, computer monitors are RGB devices; this means that CMYK colors must be converted to RGB "on-the-fly" to be displayed on-screen. For this reason, it is usually faster to edit images in RGB mode. On the other hand, if you are working with images from a CMYK source, such as images imported from Adobe Illustrator or from a Scitex system, you will usually want to import the images directly in CMYK mode. This lets you keep the initial color information in the image intact without ever having to convert between RGB and CMYK.

Working with images in CMYK mode also has the advantage that you never need to worry about RGB colors that are "out of gamut," that is, RGB colors that have no CMYK equivalent and so cannot be printed. For this reason, you should use CMYK mode to calibrate your system for color separations and to do final color corrections to an image. In addition, when possible, use CMYK mode for gradient fills created with the blend tool, since it generally produces smoother blends. Always make sure that you save a version of your RGB image under a different name from the CMYK version so that you can re-separate the image if necessary.

In general, it is not a good idea to convert between RGB and CMYK mode multiple times, since each time the image is converted, the color values must be recalculated. How Adobe Photoshop converts images to CMYK mode is described in detail in the Photoshop user guide.

Converting an image from RGB to CMYK

Changing the image type changes the number and/or type of channels that Adobe Photoshop uses to display color information. For example, when you convert an RGB image to a CMYK image, which is essential to producing color separations, the red, green, and blue channels are converted to cyan, magenta, yellow, and black channels.

NOTES

To view the RGB channels:

1. Choose Open from the File menu.
2. Choose the Flower file and click Open.
3. Choose Channel from the Mode menu and Red from the submenu.
4. Choose Preferences from the File menu and General from the submenu.
5. Check Display Color Channels in Color, and click OK.
6. Choose Channel from the Mode menu and Green from the submenu.
7. Choose Channel from the Mode menu and Blue from the submenu.
8. Choose Channel from the Mode menu and RGB from the submenu.

Shortcut:

Press Command-1 to view the Red channel, Command-2 to view the Green channel, Command-3 to view the Blue channel, and Command-0 to view the RGB channel.

To convert the image:

Choose CMYK Color from the Mode menu.

The mode change progression bar appears.

To view the CMYK channels:

1. Choose Channel from the Mode menu and Cyan from the submenu.
2. Choose Channel from the Mode menu and Magenta from the submenu.
3. Choose Channel from the Mode menu and Yellow from the submenu.
4. Choose Channel from the Mode menu and Black from the submenu.
5. Choose Channel from the Mode menu and CMYK from the submenu.

Shortcut:

Press Command-1 to view the Cyan channel, Command-2 to view the Magenta channel, Command-3 to view the Yellow channel, Command-4 to view the Black channel, and Command-0 (zero) to view the CMYK channel.

To revert back to the RGB image:

1. Choose Undo Mode Change from the Edit menu.

NOTES

Lesson 6: *Copying and Pasting*

In this lesson, you will copy the horse's head into a new image and manipulate the copied image in a number of ways.

The lesson covers

- Using the Copy command
- Using the Paste command
- Flipping a floating selection
- Changing the size of a pasted selection
- Using the Defringe command
- Using Paste Controls

Copying a selection

Before you make a copy of the horse's head, first retrieve the selection from the alpha channel you created.

Shortcut:

Press Command-O to open a selected file.

1. Choose Open from the File menu.
2. Choose the Student Horse file and click Open.
3. Choose Load Selection from the Select menu and #5 from the submenu.

   The horse's head is the current selection in the RGB image.

Shortcut:

Press Command-C to copy a selection to the Clipboard.

Press Command-W to close the active window.

4. Choose Copy from the Edit menu.
5. Choose Close from the File menu.

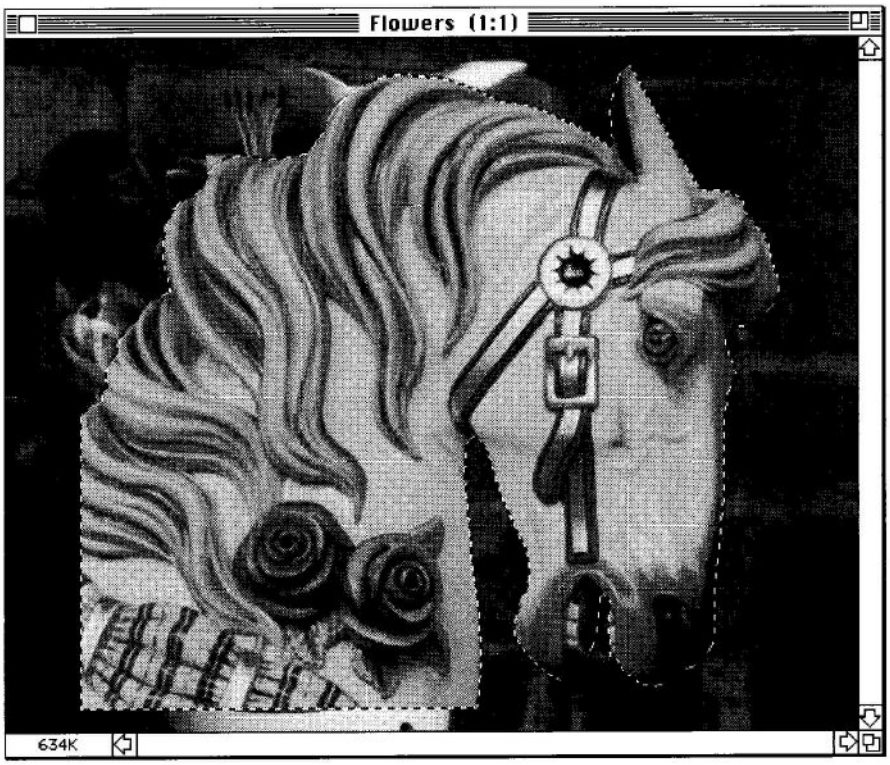
NOTES

Pasting a selection

Now you will paste the horse's head into the Flowers file.

6. Choose Paste from the Edit menu.

The horse's head appears in the Flowers image.

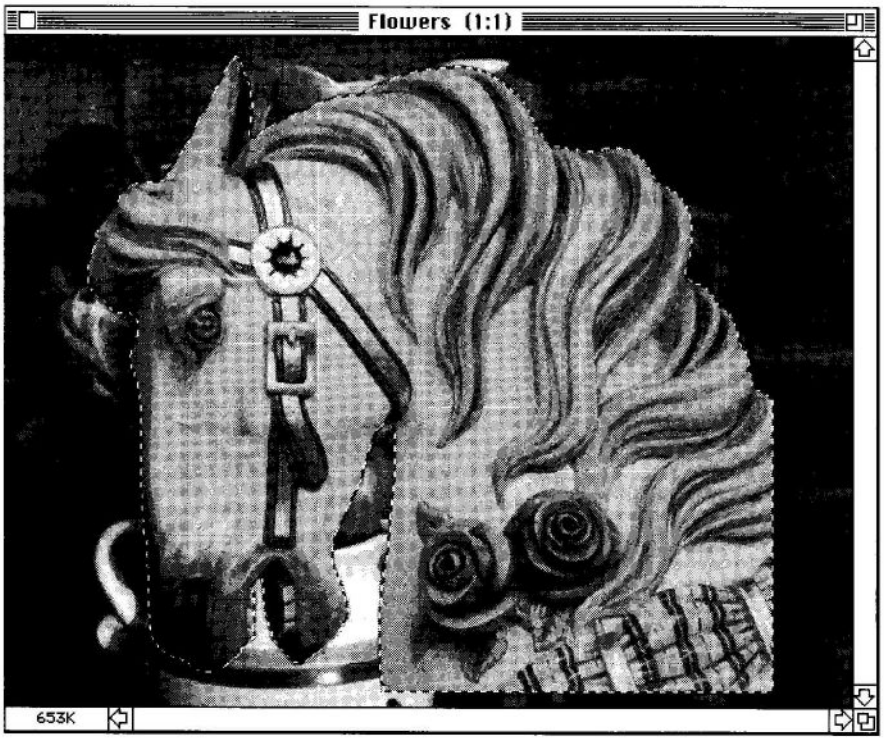


Flipping a floating selection

Now you will flip the horse's head so it faces left, into the image.

NOTES

7. Choose Flip from the Image menu and Horizontal from the submenu.



Repositioning a pasted selection

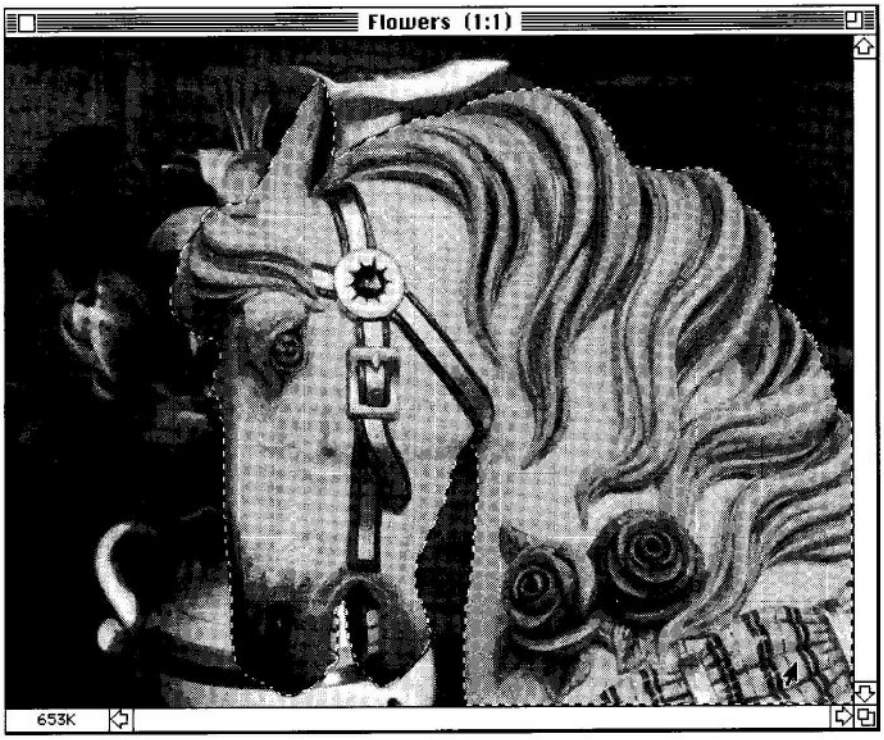
The horse's head would look better in the lower-right corner of the image. You can drag a pasted selection anywhere in the image.

To drag the selection:

1. Select the Rectangular Marquee tool.
2. Position the pointer inside the selection border (on the horse).

NOTES

3. Press the mouse button, and drag the horse's head into the lower-right corner of the window.



4. Release the mouse button.

Changing the size of a pasted selection

In this section, you will resize the horse's head so that it fits better in the Flowers image.

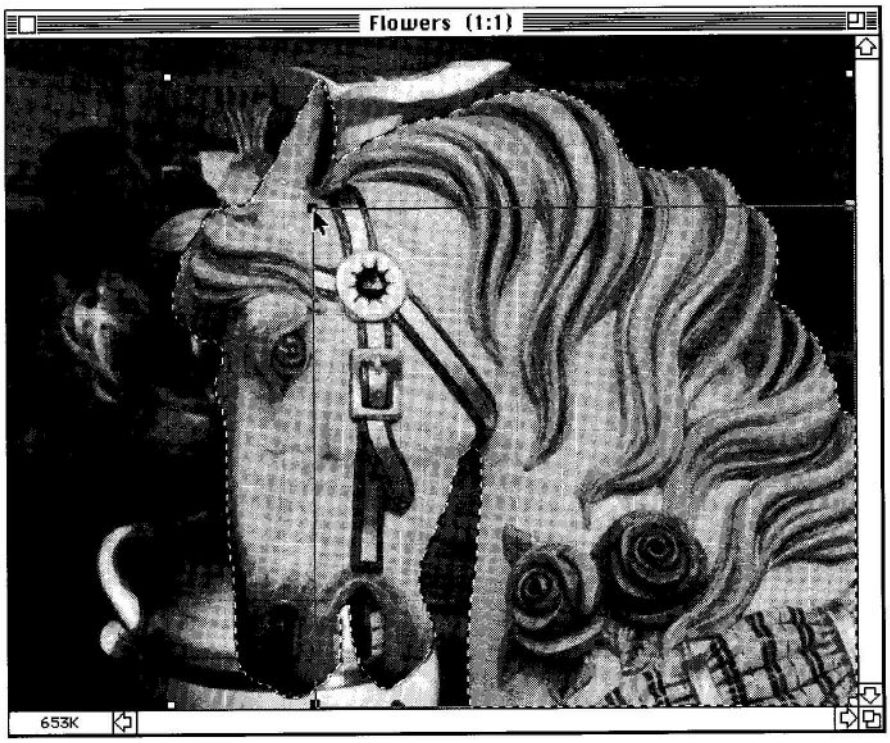
To shrink the selection:

1. Choose Effects from the Image menu and Scale from the submenu.

   Four handles appear around the selection.

NOTES

2. Position the pointer on the upper-left handle.

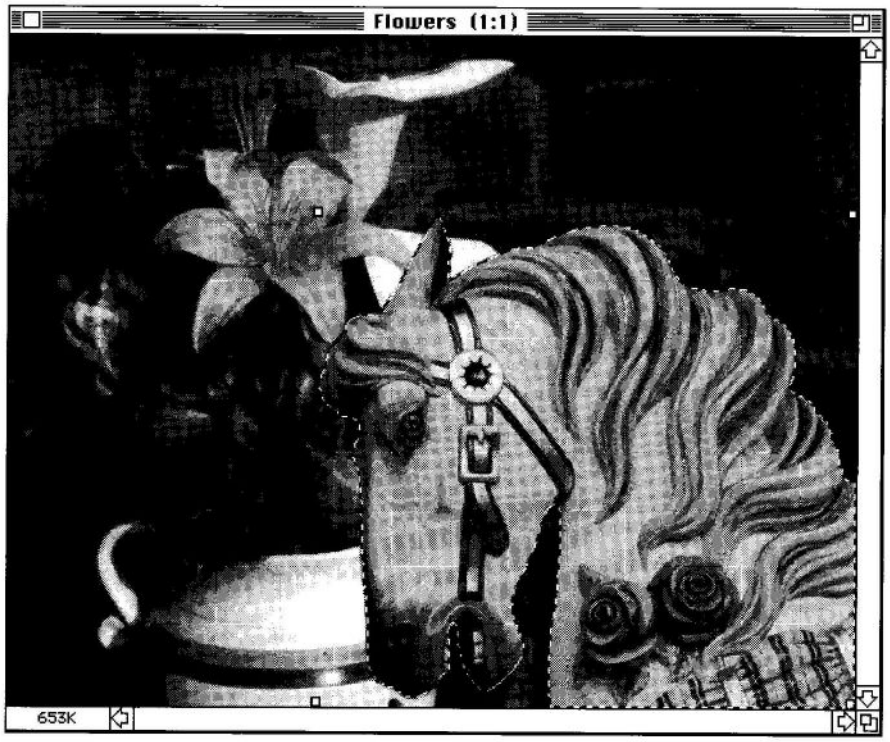


When the pointer appears;

3. Press the Shift key to maintain the selection's proportions, and drag the handle down and to the right to reduce the size of the selection by approximately 25 percent.

NOTES

4. Release both the Shift key and the mouse button when the selection is the desired size.



Eliminating the harsh edge around a selection

In this section, you will use the Defringe command to eliminate the dark edge around the horse's head.

1. Use the Zoom tool to zoom in once on the horse.

Shortcut:

Press Command-H for Hide Edges.

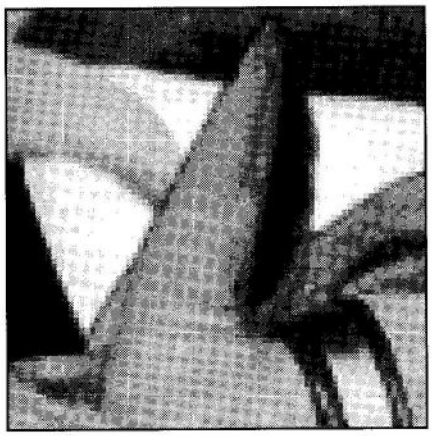
2. Choose Hide Edges from the Select menu to hide the selection border so that you can view the whole image.
3. Choose Defringe from the Select menu to eliminate the dark edge around the selection.

   The Defringe dialog box appears.

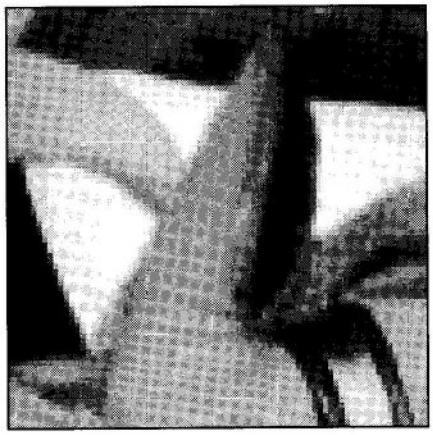
4. Enter 2 for the width.

NOTES

5. Click OK.
6. Double-click the Zoom tool to return to the image's actual size.



Before defringe



After defringe

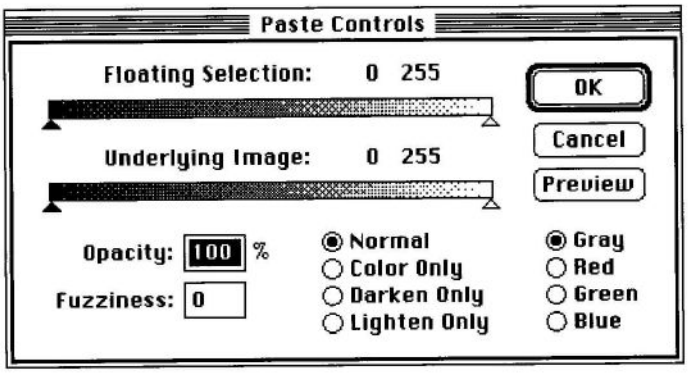
The dark edge around the horse's head disappears, and the horse fits into the image more naturally.

Using paste controls

Now you will use the Paste Controls command to alter the appearance of the pasted selection.

1. Choose Paste Controls from the Edit menu.

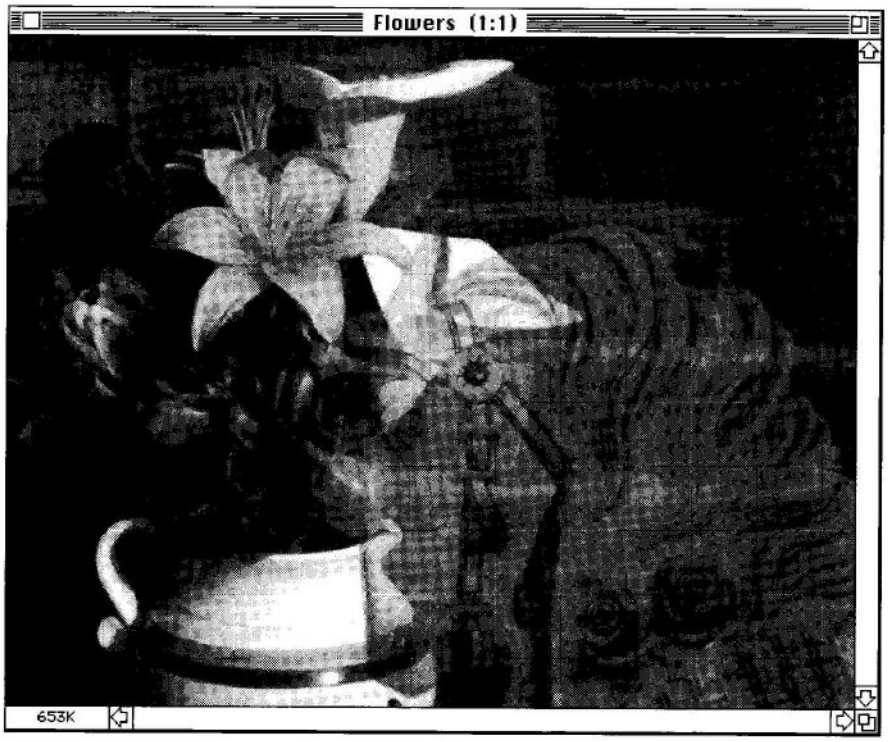
   The Paste Controls dialog box appears.



NOTES

2. Enter **50** in the Opacity box.
3. Click Preview.

   The horse's head becomes partially transparent.



4. Enter **100** in the Opacity box.
5. Enter **70** in the Fuzziness box.
6. Drag the white triangle under Floating Selection to the left to 200.
7. Click Preview.

   NOTE: As you experiment with the controls, always click Preview. Do not click OK. If you inadvertently click OK, choose Undo from the Edit menu (Command-Z).

8. Continue to move the slider a few times, and preview the changes.
9. Drag the white triangle under Floating Selection to 180.
10. Click Preview.

NOTES

The lighter colors in the horse's head no longer appear.

11. Click OK to apply these changes.
12. Choose None from the Select menu.

    The horse's head is pasted into the image.

Shortcut:

Press Command-D to deselect the currently selected area.

NOTES

Lesson 7: *Adding Type to an Image*

In this section, you will add your initials to the image, using the type tool.

The lesson covers

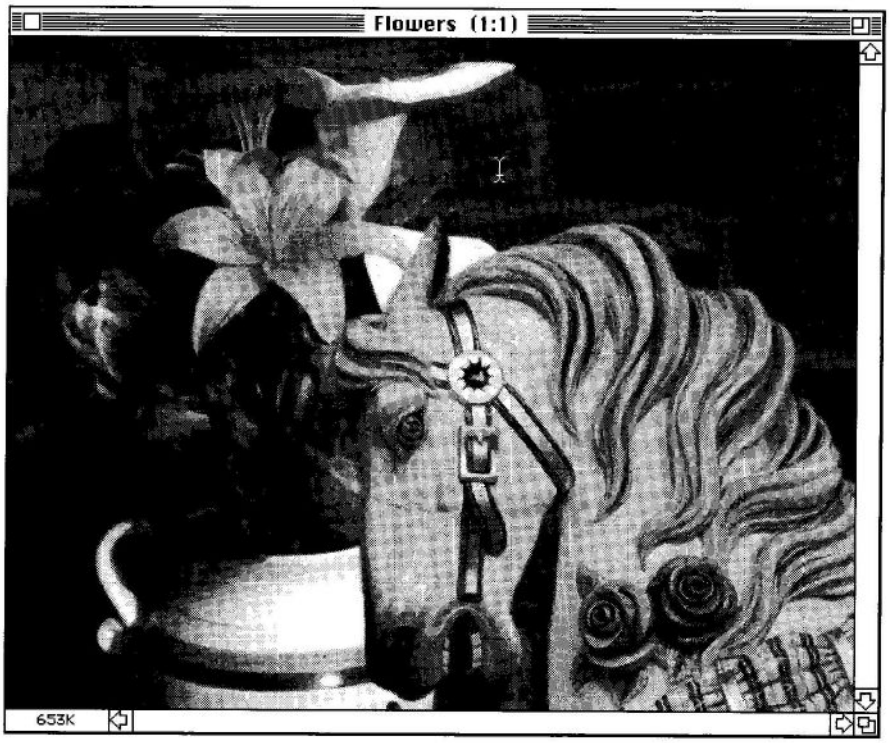
- Using the Type tool
- Specifying type options
- Creating a shadow effect with type

NOTES

Using the Type tool

1. Use the Eyedropper tool to sample the dark blue from the stripe on the vase. This will be the color of the type you add to the image.

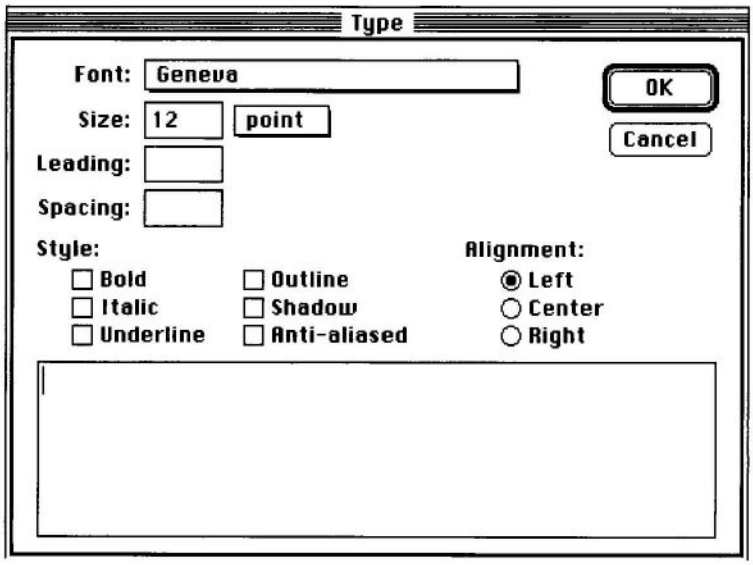
2. Select the Type tool.
3. Position the pointer in the upper-right area of the image (just to the right of the white cala lily).



NOTES

4. Click the mouse button.

   The Type dialog box appears.



Specifying type options

1. Drag to highlight Times Bold.
2. Enter **180** as the point size.
3. Click Anti-aliased under Style.
4. Click in the text box and type your first and last initials.
5. Click OK.

   Your initials appear as the current selection in the image.

NOTES

6. If they are not positioned where you would like them to be, position the pointer inside the type, press the mouse button, and drag the selected type ro a new position.

NOTE: Do not click anywhere in the image. Doing so will deselect the text, and you will no longer be able to edit it. If you accidentally deselect the text, choose Undo from the Edit menu (Command-Z) to reselect it.

NOTES

Creating a shadow effect with type

In this section, you will create a copy of your initials, paste the copy behind the original, use the arrow keys to nudge the copy a few pixels to the left and down, and use paste controls to make the bottom copy partially transparent. This will create a subtle shadow behind the type.

To make a copy of the type and paste it behind the original type:

Shortcut:

Press Command-C to copy the selected area to the Clipboard.

1. Choose Copy from the Edit menu.
2. Choose Paste Behind from the Edit menu.

   A copy is pasted behind the selected type but is invisible.

To move the pasted copy:

Shortcut:

Press Command-H for Hide Edges.

1. Choose Hide Edges from the Select menu to view the type without the selection border.
2. Click the left arrow key on the keyboard five times to move the copy 5 pixels to the left.

NOTES

3. Click the down arrow key on the keyboard five times to move the copy 5 pixels downward.

You should be able to see the copy, slightly offset from the original type.

Now you will use paste controls to make the copy slightly transparent.

To use paste controls:

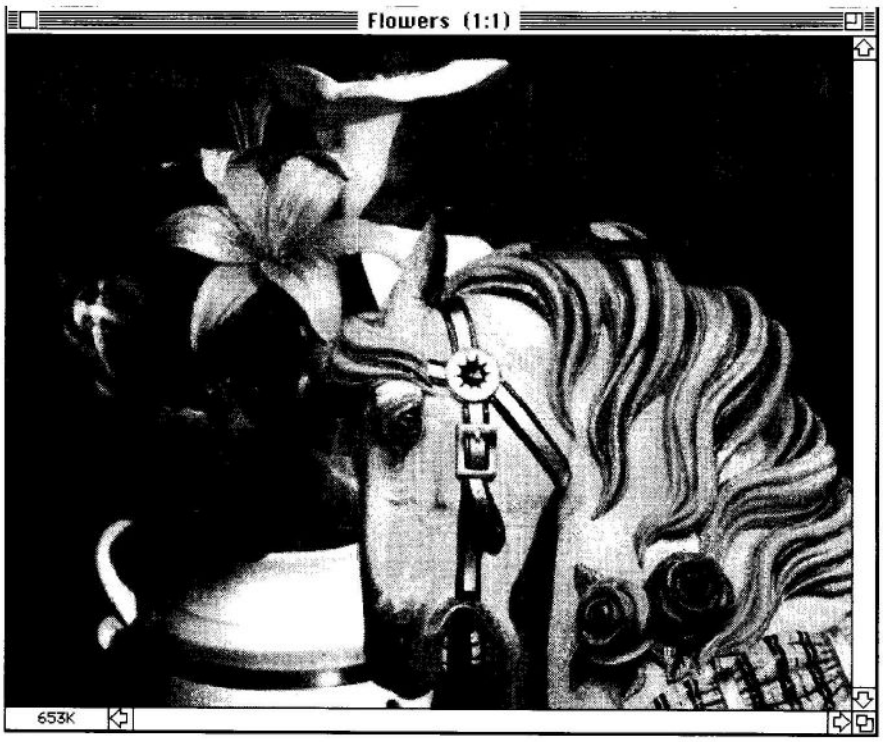
1. Choose Paste Controls from the Edit menu.

   The Paste Controls dialog box appears.

2. Enter **50** for Opacity, and click Preview.

NOTES

3. Click OK.



The bottom copy should be partially transparent and creates a shadow effect.

Shortcut:

Press Command-D to deselect a selected area.

4. Choose None from the Select menu. The type is now deselected and can no longer be edited.
5. Choose Save As from the File menu.
6. Type **Horseflowers.RGB** for the new file name.
7. Click Save.

Shortcut:

Press Command-W to close the file.

8. Choose Close from the File menu.
9. Double-click the Eyedropper tool to set the colors back to the default settings.

NOTES

Lesson 8: *Special Project: Marble Horse*

In this lesson, you will use a number of commands, tools, and techniques to transform the carousel horse so that its body looks like marble.

The steps you will follow to create this effect are

- Using the Magic Wand tool to select the horse's body
- Saving the horse's body selection in an alpha channel
- Using the Rectangular Marquee tool to select part of the horse's mane
- Copying the mane selection to a new file
- Adjusting the color of the selection using the Hue/Saturation command
- Resizing the selection
- Using the Wave filter to create a marble pattern
- Defining the pattern
- Filling the selection of the horse's body with the marble pattern

Starting the lesson

Shortcut:

Press Command-O to open a selected file.

1. Choose Open from the File menu.
2. Click the Horse file.
3. Click Open.

NOTES

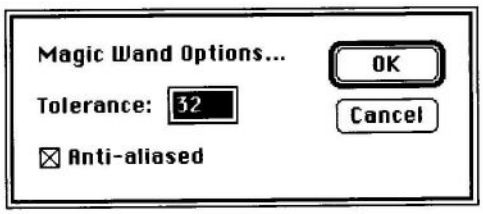
Selecting the horse's body with the Magic Wand tool

You will use the Magic Wand tool to select only the horse's body. First, you need to specify the range of colors (tolerance) for a selection.

To specify the tolerance for the Magic Wand tool:

1. Double-click the Magic Wand tool.

   The Magic Wand Options dialog box appears.



2. Enter **20** in the Tolerance box.
3. Click OK.

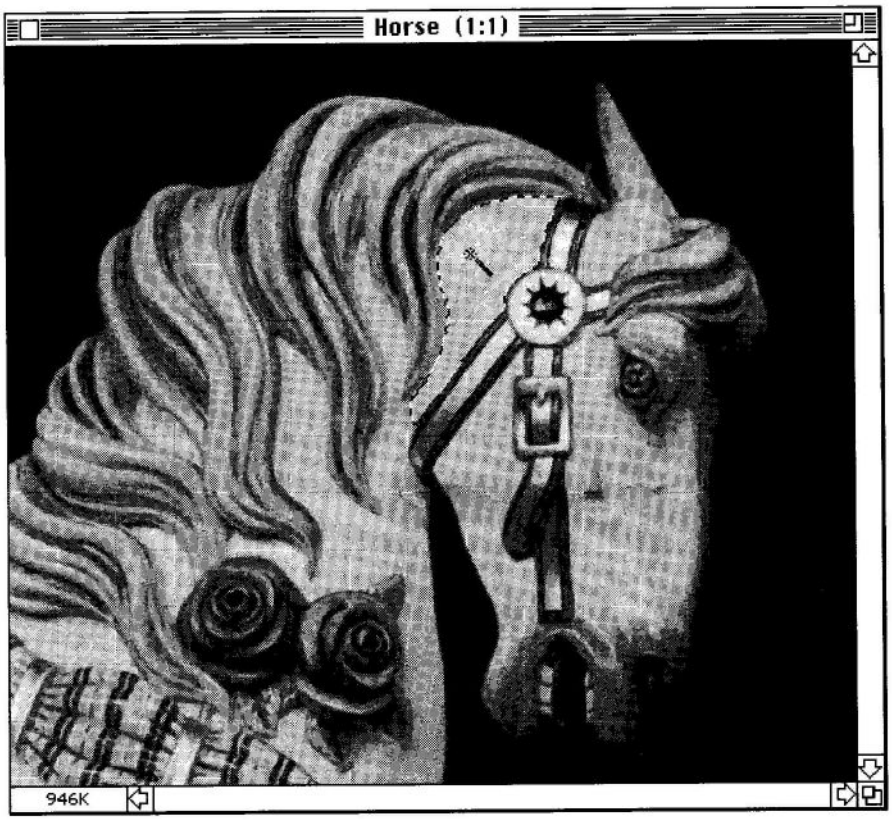
   Now that you have set the tolerance, you are ready to make your selection.

To select the horse's body with the Magic Wand tool:

1. Position the pointer on the white of the horse's body above the concha.

NOTES

2. Click the mouse button.



An area of the horse is selected. You can add to the selection.

3. Press the Shift key, and click another area of the horse's body.

This area is added to the selection.

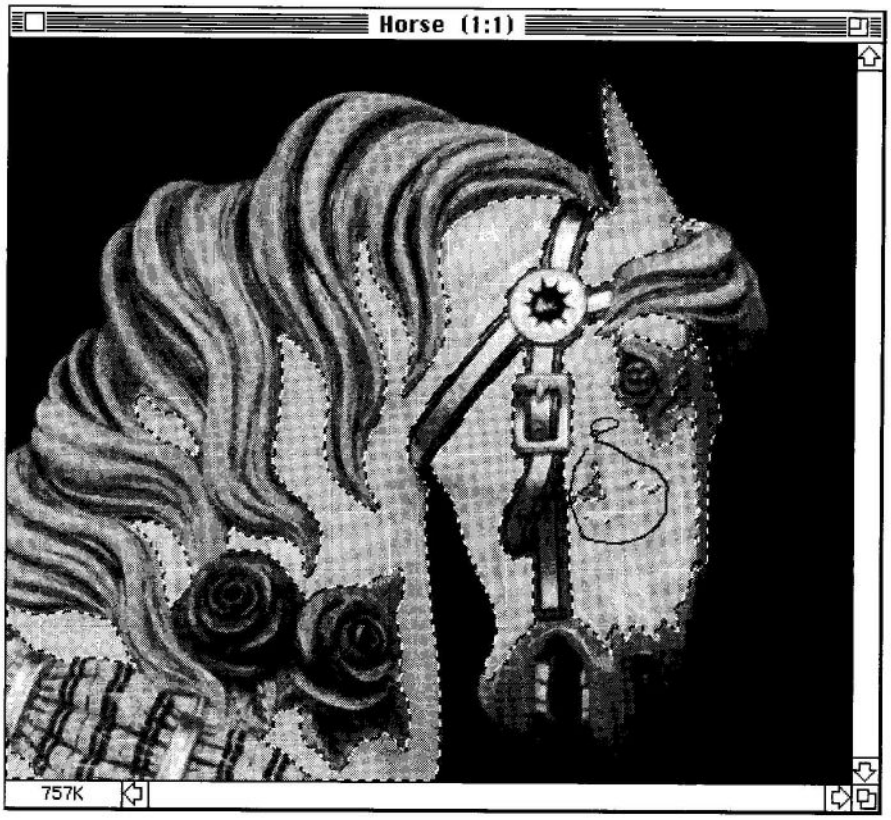
4. Continue to click all areas of the horse's body until all of its body is selected. Do not include the mane or bridle.

If there are small dots of unselected areas, you can add them to the selection using the Lasso tool.

NOTES

To add to the selection with the Lasso tool:

1. Select the Lasso tool.
2. While holding down both the Shift key and the mouse button, drag to enclose the unselected areas.



3. Release the Shift key and the mouse button.

   If there are areas included in the selection that are not part of the horse's body, you can eliminate them with the Lasso tool.

NOTES

To subtract from the selection with the Lasso tool:

1. While holding down both the Command key and the mouse button, drag to enclose the areas you want to deselect.
2. Release both the Command key and the mouse button.

Feathering the selection

Now that you have selected all areas of the horse's body, you will feather the selection by 2 pixels to soften the transition between the selection and the rest of the image.

To feather the selection:

1. Choose Feather from the Select menu.

   The Feather dialog box appears.

2. Enter **2** in the Radius box.

NOTES

3. Click OK.

Saving the selection in an alpha channel

It is very easy to deselect a selection inadvertently. To avoid having to reselect the area, store the selection in an alpha channel.

To store the selection in an alpha channel:

1. Choose Save Selection from the Select menu and New from the submenu.

The horse's body is masked in alpha channel #5.

Shortcut:

Press Command-0 (zero) to choose RGB from the Channel submenu of the Mode menu.

2. Choose Channel from the Mode menu and RGB from the submenu, to return to the RGB image.
3. Choose Save As from the File menu.
4. Type **Marble Horse** for the file name.

NOTES

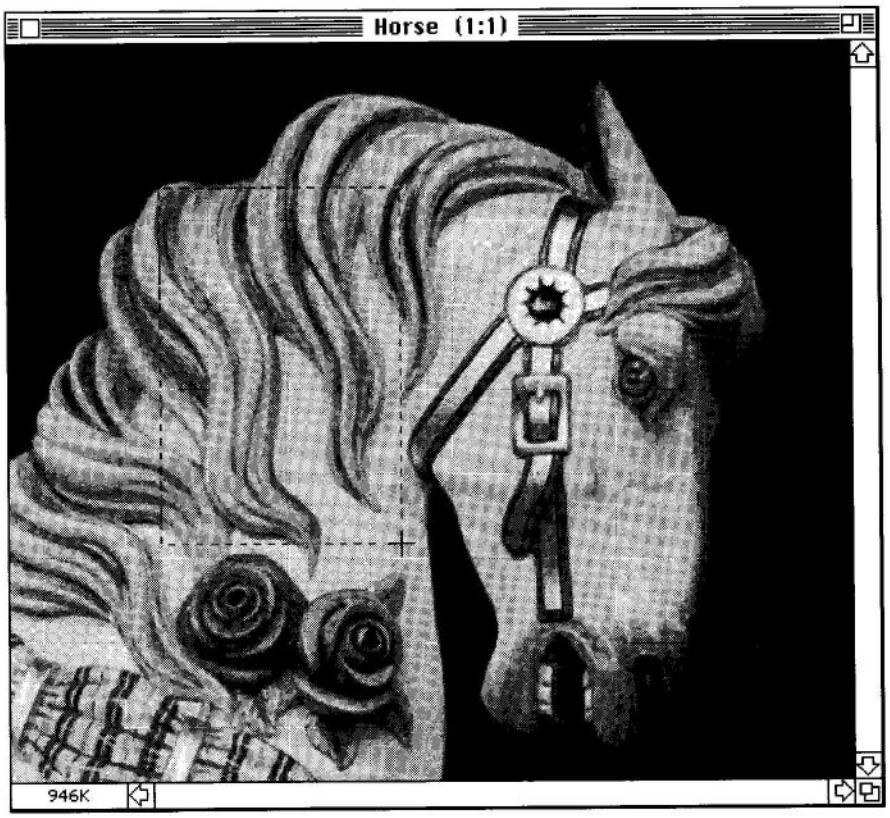
5. Click Save.

Creating the marble pattern

The first step in creating the marble pattern is to select a portion of the horse's mane. This will become part of the marble pattern.

To select the main element of the marble pattern:

1. Select the Rectangular Marquee tool.
2. Position the pointer on the horse's mane.
3. Press the mouse button, and drag to enclose the section of the mane shown in the following illustration.



Shortcut:

Press Command-C to copy the selected area to the Clipboard.

4. Choose Copy from the Edit menu.

NOTES

Moving the selection to a new file

You will now create a new file and paste the selection of the portion of the horse's mane into the new file.

To move the selection to a new file:

Shortcut:

Press Command-N to open a new file.

1. Choose New from the File menu.

   A dialog box appears, asking for the dimensions of the new image. The dimensions displayed in the dialog box are those of whatever is currently on the Clipboard. Because you have just copied the portion of the horse's mane to the Clipboard, its dimensions are displayed in the dialog box.

2. Click OK.

   A blank window appears.

Shortcut:

Press Command-V to paste the contents of the Clipboard.

3. Choose Paste from the Edit menu.

NOTES

Changing the color of the selection

Now you will use the Hue/Saturation command to adjust the color of the mane so that it resembles the pink often found in marble.

To adjust the hue and saturation of the selection:

Shortcut:

Press Command-U to choose Hue/Saturation from the Adjust submenu.

1. Choose Adjust from the Image menu and Hue/Saturation from the submenu.
2. Position the pointer on the Hue triangle, and drag it to the left to -34.
3. Position the pointer on the Saturation triangle, and drag it to the left to -40.
4. Click Preview to examine your changes.
5. Click OK.

   The selection is now pink.

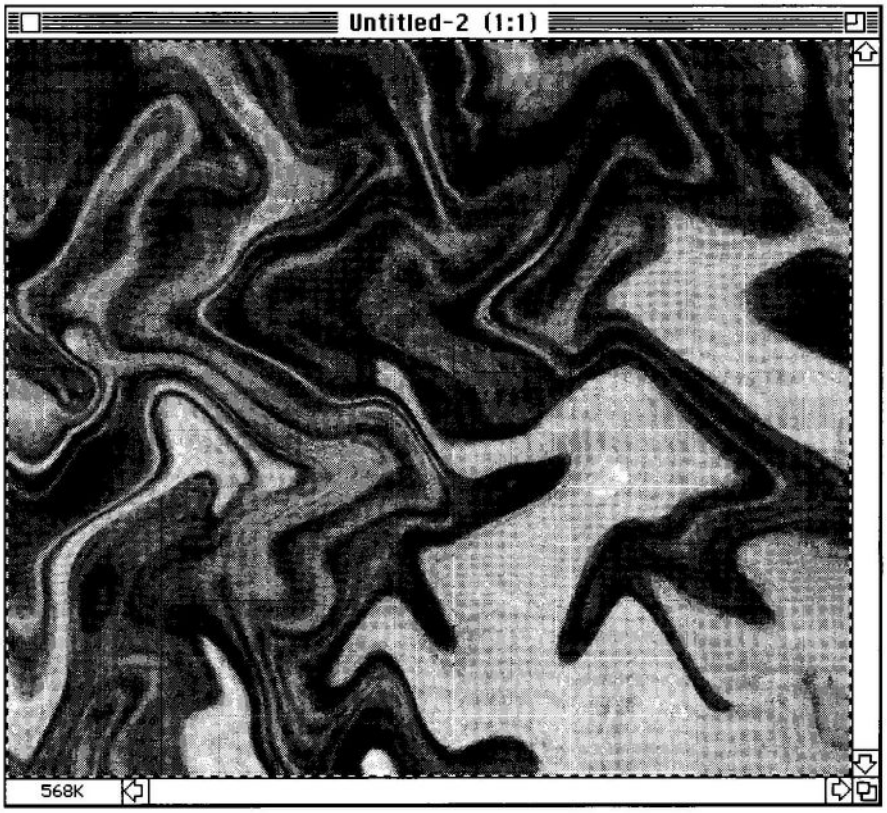
Using the Wave filter to create a marble effect

The Wave filter will create the effect of marble on the pink mane. It does not create this effect on all images, however; the shapes and curves in the horse's mane lend themselves well to this filter.

1. Choose Distort from the Filter menu and Wave from the submenu.

NOTES

2. Click OK to accept the defaults.



The image is filtered and takes on the appearance of marble. You may want to reapply the filter for greater effect.

Shortcut:

Press Command-F to reapply the last filter.

3. Choose Wave from the Filter menu.

NOTES

Resizing the image

In this next section, you will resize the image containing the pink mane by 400 percent. You will be using the image to create a marble pattern. you will then fill the horse's body with the marble pattern. When you fill a selection with a pattern, the pattern will *tile*, or repeat, if it is smaller than the selection. A small pattern must repeat several times, and thus the pattern creates the impression of tiles. However, if you make the pattern bigger than the selection, it will not tile.

1. Choose Image Size from the Image menu.

   The Image Size dialog box appears.

2. Click the File Size checkbox to turn this option off.

3. Select the units of measurement box next to Width, and choose (percent) from the pop-up menu.

4. Select the same units of measurement for Height.

Defining a pattern

Shortcut:

Press Command-A to select all.

1. Choose All from the Select menu to select the entire image.

2. Choose Define Pattern from the Edit menu.

Filling the horse's body with the marble pattern

You will now return to the Horse image and use the pattern you created to fill the horse's body.

To retrieve the selection of the horse's body:

1. Choose Marble Horse from the Window menu.

Shortcut:

Press Command-D to deselect the selected area.

2. Choose None from the Select menu to deselect the marqueed selection of the horse's mane.

3. Choose Load Selection from the Select menu and #5 from the submenu.

   The horse's body appears as the current selection.

To fill the selection with the marble pattern:

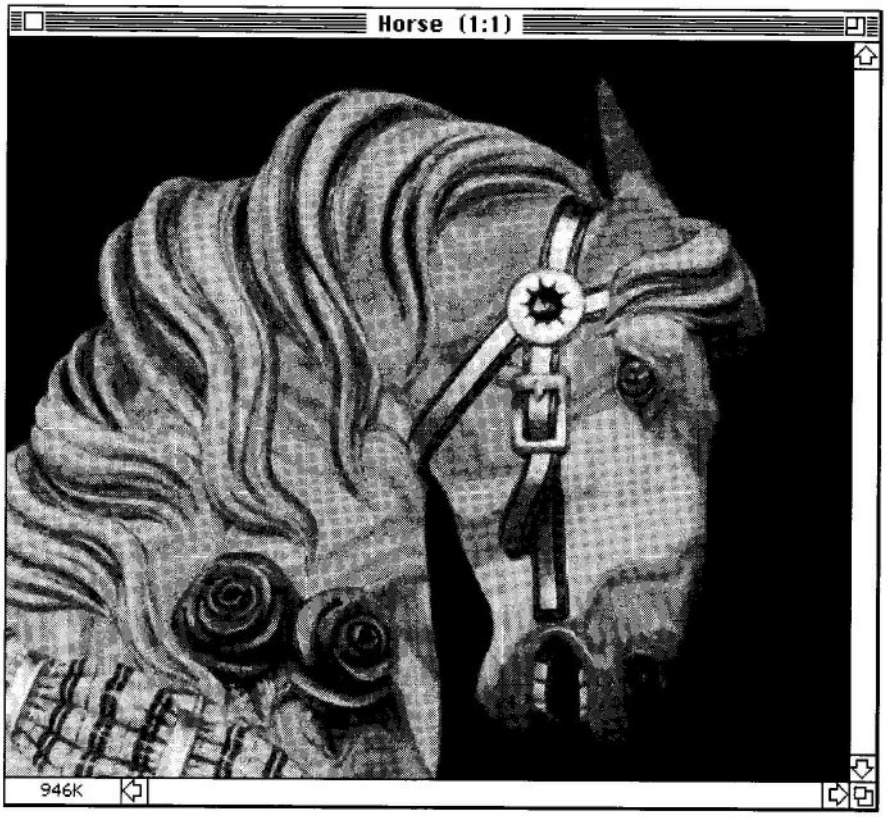
1. Choose Fill from the Edit menu.

NOTES

The Fill dialog box appears.

2. Click the Pattern option.
3. Enter **50** in the Opacity box.
4. Click Normal under Mode.
5. Click OK.

The horse's body fills with the pink marble pattern.



To end the lesson:

Shortcut:

Press Command-S to save the file on disk.

Press Command-W to close the file.

1. Choose Save from the File menu.
2. Choose Close from the File menu to close the Horse file.
3. Choose Close from the File menu to close the Untitled-1 file.
4. Click No; do not save changes.

NOTES

Lesson 9: *Resizing an Image*

In this lesson, you will learn the different ways to resize an image. There are several ways to resize an image, and you will have the chance to try using the different methods.

The lesson covers

- An explanation of resolution
- Previewing the page size and layout of a file
- Cropping an image
- Using the Image Size command
- Using the Canvas Size command

Resolution

In many cases, when you resize an image, you change the resolution of the image. It is, therefore, extremely important to understand the basic concepts of resolution before you attempt to resize images.

There are four types of resolution that are important in the Adobe Photoshop program: bit resolution, screen resolution (also called screen ruling), device resolution, and image resolution.

Bit resolution measures the number of bits of information per pixel. This resolution determines how many colors can be displayed at one time on-screen (i.e., 8-bit, 24-bit, or 32-bit color).

Screen resolution refers to the number of dots per inch in the halftone screen or screens used to produce a color separation. In general, the dots are arranged in lines on the screen, and this resolution is measured in lines per inch.

Device resolution refers to the number of dots per inch (dpi) that the output device (such as an imagesetter or a laser printer) can produce. This resolution is measured in dpi.

NOTES

Image resolution represents the density of information within a given file. The information is measured in pixels per inch (ppi). The image resolution affects the size of the document stored on disk and in memory, as well as the quality of the output. The higher the image resolution, the more space on disk the image requires and the more time it takes to print.

As an example of how image resolution affects file size, a 3.2-inch-by-2.5-inch RGB image with an image resolution of 72 pixels per inch occupies about 200K in memory and on disk. The same image at a resolution of 300 pixels per inch takes up approximately 3,469K of space.

If you have too much information in an image, the image may occupy an excessive amount of space in memory and on disk, and may take too long to print. You can reduce the image resolution (or increase the resolution) through a process called *resampling*.

It is important to understand how resampling affects image resolution. Resampling allows you to change the resolution of an image to fit your disk space and memory, and to conserve memory while outputting the best-quality results. To conserve memory and speed up printing, you can reduce the image resolution by resampling down. Keep in mind, however, that you want to avoid compromising the quality of your output.

NOTES

It is also possible to increase the image resolution by resampling up. When you increase the original image resolution, however, the Adobe Photoshop program must create pixels to achieve higher resolution. To do so, the program interpolates where it must create new pixels, and adds that information to your image. Resampling up often results in less than desirable output because when the program creates new pixels, the image is not as sharp as it would be if it had been scanned at the same high resolution.

Determining the best resolution for the printed output

The best resolution for the printed output is dependent upon the quality of output that you need as well as the resolution of your printer. If you are printing to a high-resolution imagesetter, you will need a higher image resolution than if you are printing to a low-resolution device. Low-resolution devices use fewer halftone dots per inch—that is, larger halftone dots. This means that fewer screen pixels are needed to create the halftone dots, so you don't need as high a resolution.

As a general rule, to produce a high-quality image, the image resolution should be twice the screen resolution of the halftone screen that you will use to print. For example, to print a high-quality image using a 133-line-per-inch screen, you would need an image resolution of approximately 266 pixels per inch. In addition, if you are unsure of the appropriate resolution for the resized image, you can have Adobe Photoshop suggest a resolution for resampling.

NOTE: If your image resolution is more than 2-1/2 times the screen ruling, you will get an alert message informing you that your image resolution is too high. This means that your image resolution is higher than your printer can accommodate, and is therefore unnecessarily increasing the file size and print time. Use the Image Size command to lower the resolution, and save a copy of the high-resolution file if necessary.

NOTES

If you are working with scanned images, be sure to scan images in the resolution required by your printer. If this is not possible, you can use the Image Size command to change the resolution of your image. If you are resampling down, or decreasing the resolution, the program will delete information from the image to achieve the desired resolution. If you are resampling up, or increasing the resolution, Adobe Photoshop will create new pixel information based on the existing color values.

If you resample down (decrease the resolution), and then resample up to the original resolution, the image will change. This change occurs because once an image is resampled down, the original color information is irretrievably lost as pixels are deleted. During the resampling up process, Adobe Photoshop will do its best to reconstruct the original file based on the current color information; however, keep in mind that the new image is only an approximation of the original image and will not be as sharp as the original.

Selecting an interpolation method

When you increase the overall file size of an image, Adobe Photoshop must create new color values for pixels that are added. Adobe Photoshop evaluates color through the process of interpolation, which determines the color of a pixel that is inserted between two other pixels. This procedure applies when you increase the overall file size of an image, as well as when you transform an image by rotating it at an arbitrary angle, or by using such special effects as skew or perspective.

You can choose the interpolation method you want to use: Nearest Neighbor, Bilinear, or Bicubic. Each option involves a trade-off between speed and precision: Bicubic is the most precise method; Nearest Neighbor is the fastest.

To select the interpolation method you want:

1. Choose Preferences from the File menu and General from the submenu.
2. In the General Preferences dialog box, select the option you want from the Interpolation pop-up menu. For our purpose, click OK to accept the default, Bicubic.

NOTES

Previewing the page size and layout

Before you change the size of an image, you may want to preview it to see how it will appear when you print it.

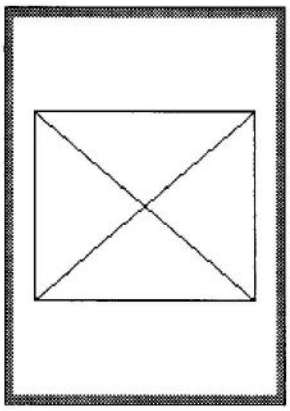
To preview a page:

Shortcut:

Press Command-O to open a selected file.

1. Choose Open from the File menu.
2. Click the Flowers file and click Open.
3. Position the pointer in the lower-left corner of the screen where the image's size is displayed.
4. Press and hold down the mouse button.

   The page preview box appears.



5. Release the mouse button when you have finished previewing the page.

   You can determine the size and resolution of your image using the size box.

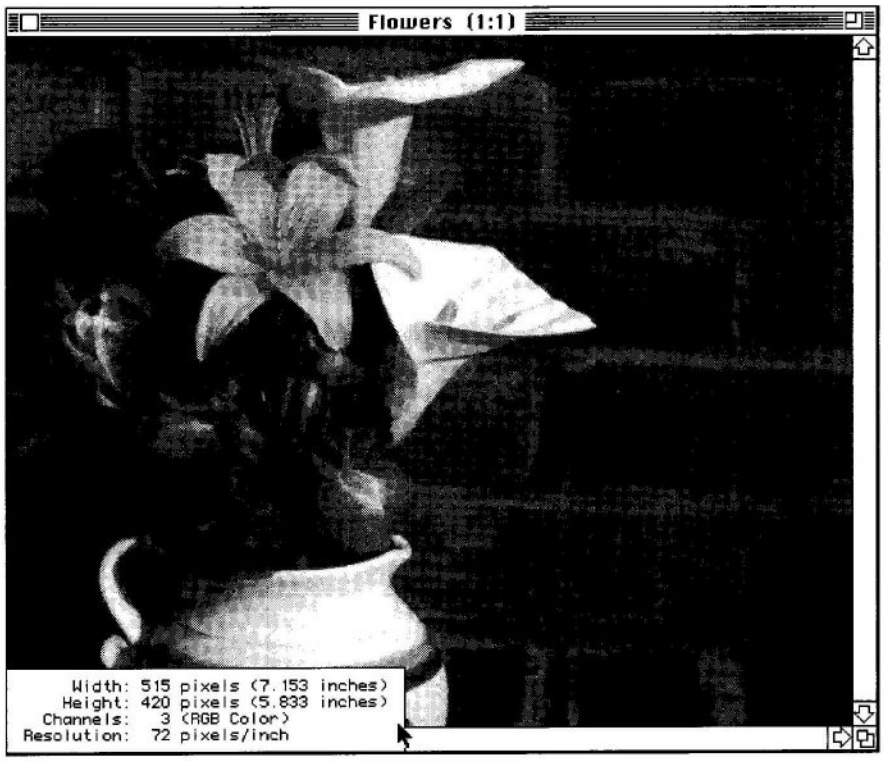
6. Choose Page Setup from the File menu.
7. Click Labels, Crop Marks, Calibration Bars, and Registration Marks, and click OK.
8. Repeat steps 3 and 4.

NOTES

To check the size of an image:

1. Position the pointer in the lower-left corner of the screen where the image's size is displayed.
2. While pressing the Option key, hold down the mouse button.

   A size box displays the image's width, height, number of channels, and resolution.



3. Release both the Option key and the mouse button when you have finished viewing the size information.

NOTES

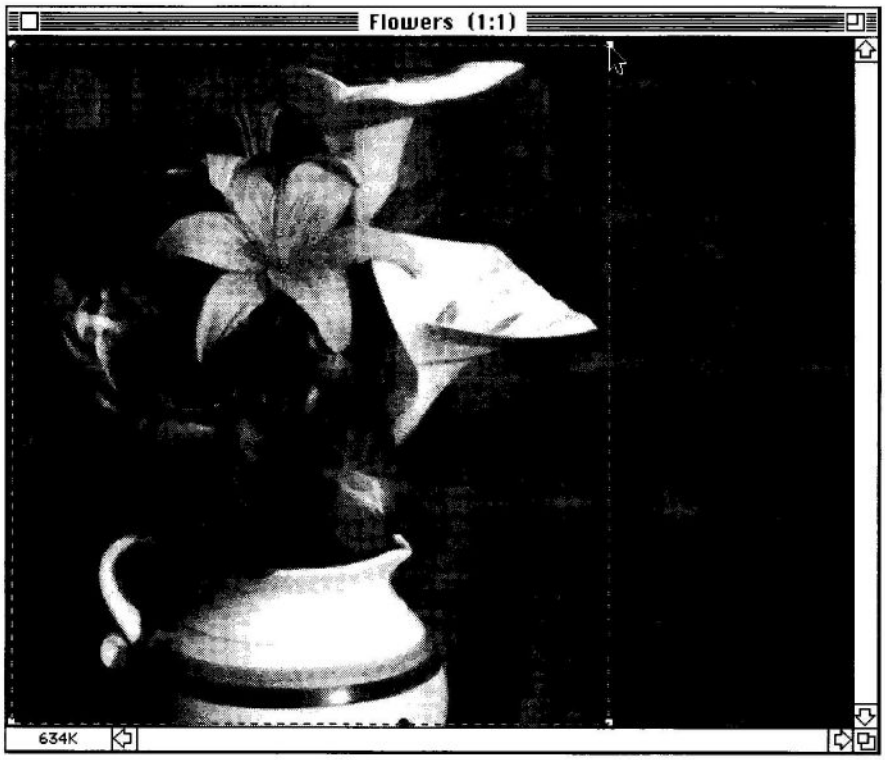
Cropping an image

In this section, you will use the Cropping tool to eliminate the area of brick on the right side of the image and isolate the vase of flowers.

To crop the image:

1. Select the Cropping tool.
2. Position the pointer in the upper-left corner of the image, almost to the left-most edge.
3. Press the mouse button, and drag down and to the right to enclose the vase of flowers.

   Make sure that you have enclosed all of the flowers (including the cala lily on the right side of the vase). If you have not defined the area to your satisfaction, you can extend or reduce the area.



NOTES

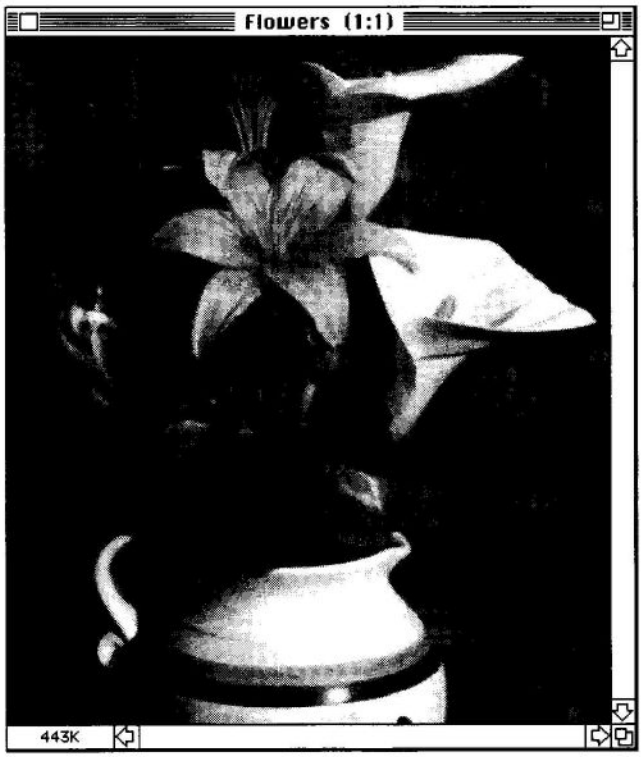
Now that you have defined the area to be cropped, you are ready to crop the image.

4. Position the pointer inside the selected area.

   The pointer becomes a Scissors pointer. This is an indication that if you click the mouse button, you will crop the image to that size. If you click the mouse button outside the selected area, the area is deselected.

5. Click the mouse button inside the selected area.

   You have cropped the image but have not changed its resolution.



To verify the new dimensions and resolution of the image:

1. Position the pointer on the size box in the lower-left corner of the screen.
2. While pressing the Option key, hold down the mouse button.

NOTES

The dimensions of the resized image are displayed.

3. Choose Save As from the File menu.
4. Type **Flowers.crop** for the file name.
5. Click Save.
6. Choose Show Rulers from the Window menu.

Using the Image Size command

The Image Size command in the Image menu allows you to resize an image while controlling the image resolution. When you change the resolution of an image, you change the amount of information used in the image. This does not affect the screen display of the image, which is normally 72 dpi, but it does affect the image when it is printed.

In general, it is inadvisable to decrease the resolution of an image for a low-resolution device, such as a 300-dpi laser printer, if you intend to increase the resolution later. This is because when you decrease the resolution, you delete some of the original color information in your image. If you later increase the resolution, interpolation is used to add the additional information. The resulting image is therefore not as sharp as the original, high-resolution image.

To change the image dimensions without changing the overall file size:

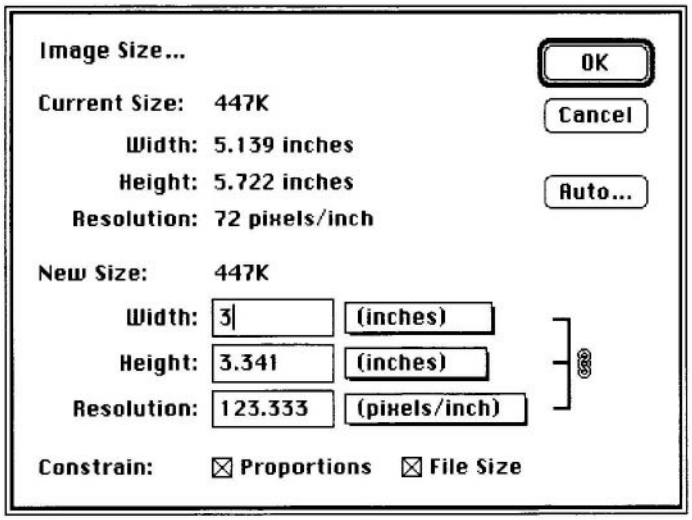
1. Choose Image Size from the Image menu.

   The Image Size dialog box appears.

2. Check to make sure both the Proportions and the File size options are checked.

NOTES

3. Enter **3** in the Width box.



NOTE: If you wish to change the dimensions or resolution of the image without changing the overall file size of the image, click File Size. When you enter new dimensions or a new resolution, the program automatically adjusts the other parameters so that no information is added to or deleted from the image file. This means that with the File Size option checked, the program will not resample the image.

4. Click OK.

5. Press the Option key and position the pointer in the lower left corner of the screen where the image size is displayed.

   Notice the change in size and resolution.

Shortcut:

Press Command-Z to undo the last command.

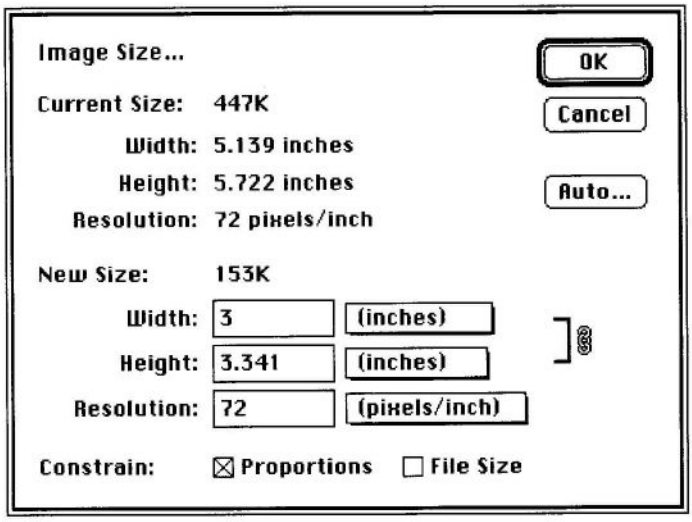
6. Choose Undo Image Size from the Edit menu.

To change the image dimension without changing the resolution:

1. Choose Image Size from the Image menu.
2. Click the File Size box to uncheck it.
3. Enter **3** in the Width box.

NOTES

Notice the current size and the new size.



4. Click OK.
5. Position the pointer in the lower left corner of the screen where the image is displayed.

   Notice the change in size and resolution.

Shortcut:

Press Command-Z to undo the last command.

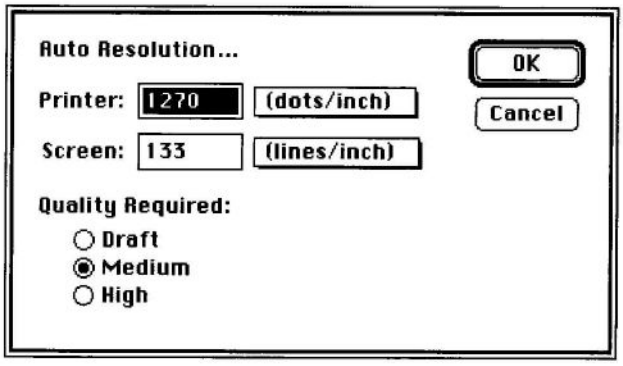
6. Choose Undo Image Size from the Edit menu.

To determine a suggested resolution automatically:

1. Choose Image Size from the Image menu, and make sure the File Size option is unchecked.
2. Click Auto to have the program suggest the appropriate resolution for the image.

NOTES

The Auto Resolution dialog box appears.



3. Enter **300** in the Printer box.
4. Enter **60** in the Screen box.
5. Click Medium, click OK, and examine the resolution box.
6. Click Auto.
7. Type **2500** in the Printer box.
8. Type **150** in the Screen box, click Cancel.
9. Click High under Quality Required, and click OK. Note the new resolution in the Image Size dialog box.
10. Click Cancel

NOTES

Using the Canvas Size command

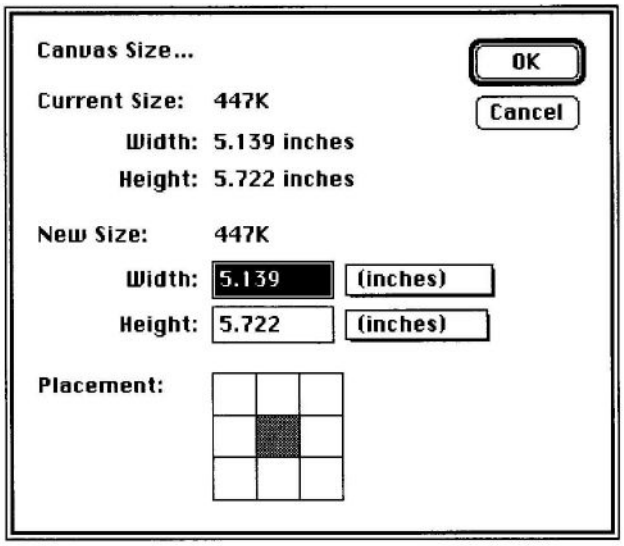
In the section, you will use the Canvas size command to add blank space around the cropped Flowers image. The Canvas Size command lets you enlarge the canvas around the existing image without affecting the size of the cropped flowers.

NOTE: The canvas area you add will be filled with the background color. For this exercise, the background color should be white (the default background color). If white is not the current background color, double-click the Eyedropper tool to retrieve the default background and foreground colors.

To enlarge the canvas area around the image:

1. Press the Option key, and click the size box in the lower left corner of the image. Notice the width and height.
2. Choose Canvas Size from the Image menu.

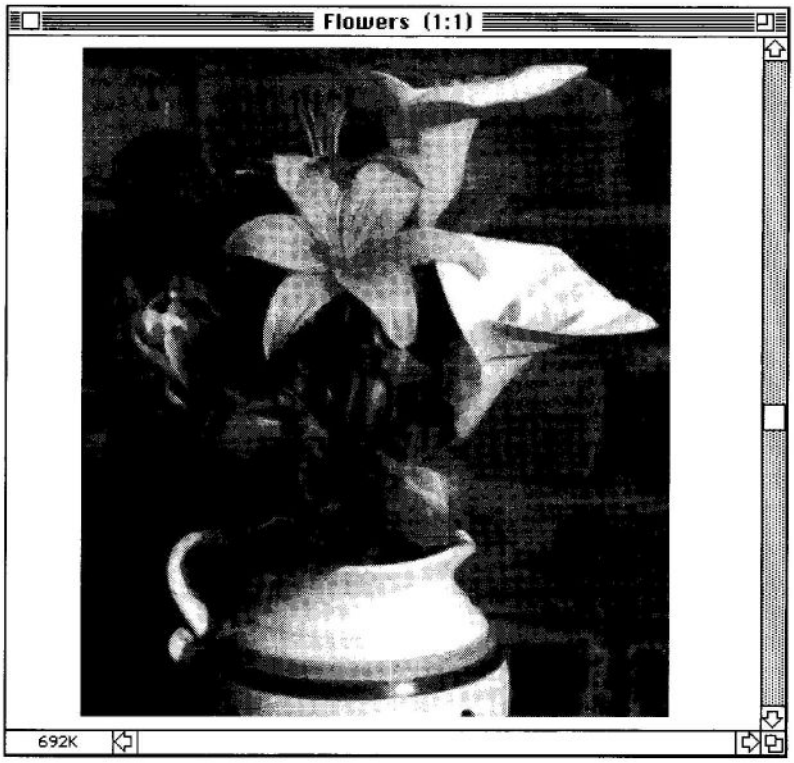
   The Canvas Size dialog box appears.



3. Select the units of measurement box, next to Width, and choose (percent) from the pop-up menu.
4. Choose the same units of measurement for Height.

NOTES

5. Enter **125** for Width, press Tab, enter **125** for Height, and click OK.



The dimensions of the image remain the same; the 25-percent extra area you specified is placed around the image and is filled with the background color.

6. Hold down the Option key and click the size box in the lower left corner of the image to view the image's new size.

7. Choose Close from the File menu, and close the file without saving changes.

NOTES

Lesson 10: *Working with Duotones*

In this lesson, you will learn how to use the Adobe Photoshop Duotone feature to create a monotone and duotone.

About Monotones, Duotones, Tritones, and Quadtones

Adobe Photoshop 2.0 provides the ability to create monotones, duotones, tritones, and quadtones. Monotones are gray-scale images printed with a single, non-black ink. Duotones, tritones, and quadtones are gray-scale images printed with two, three, and four inks, respectively. In these types of images, different colored inks are used to reproduce different levels of gray, rather than to reproduce different colors.

Duotones, tritones, and quadtones have been used for years by designers to increase the tonal range of gray-scale images. While a gray-scale photographic reproduction can reproduce up to 256 levels of gray, a single plate on a printing press can reproduce only about 50 levels of gray. The use of two, three, or four inks to print a gray-scale image, therefore, significantly increases the number of gray levels that can be reproduced. The results are a dramatic improvement in the reproduction of subtle detail and in the overall quality of the image.

Creating a monotone

In this section, you will convert a gray-scale file to a monotone.

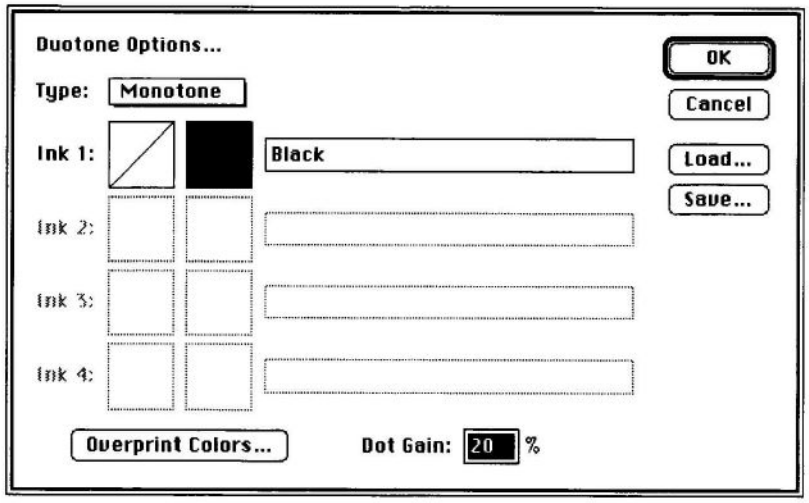
Shortcut:

Press Command-O to open a file.

1. Choose Open from the File menu.
2. Click the Duck file.
3. Click Open.
4. Choose Duotone from the Mode menu.

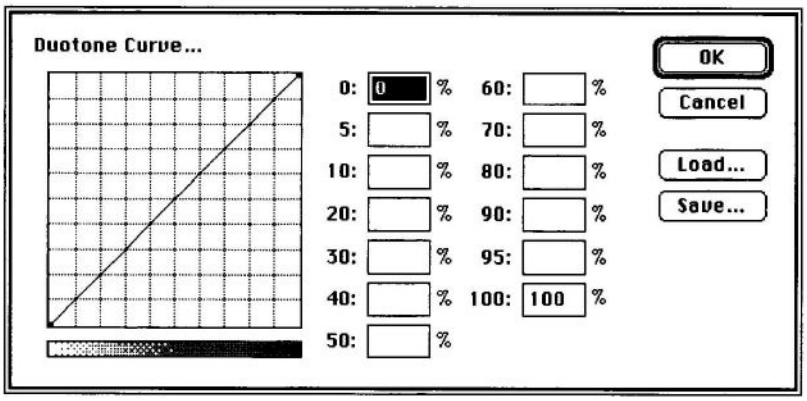
NOTES

The Duotone Options dialog box appears.



5. Select the Type box (if it's not already selected), and choose Monotone from the pop-up menu that looks like a small graph.
6. Click the curve box next to Ink 1.

   The Duotone Curve dialog box appears.

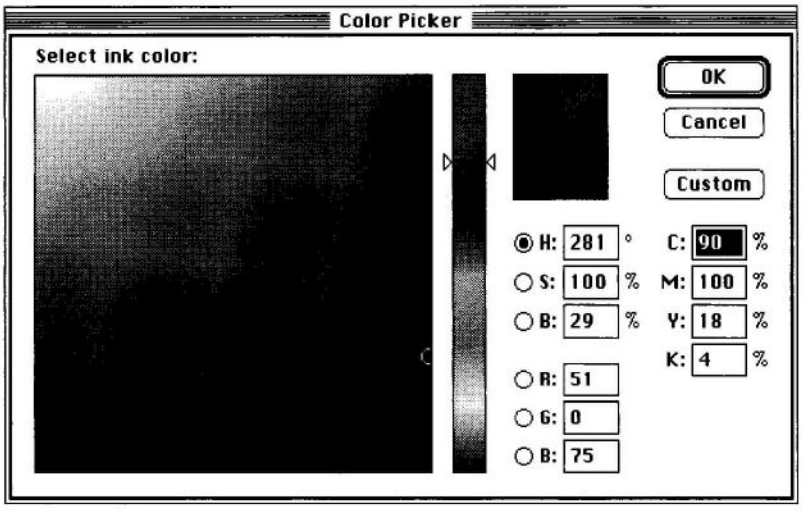


7. If not already entered, enter **0** (zero) in the first box (the one labeled 0).
8. If not already entered, enter **100** in the last box (the one labeled 100).

NOTES

9. Make sure there are no numbers in the other boxes, and click OK to return to the Duotone Options dialog box.
10. Now click the small color patch next to Ink 1.

    The Photoshop Color Picker dialog box appears.



11. To specify a dark purple color, enter the following CMYK values: **61** for C, **75** for M, **0** for Y, and **13** for K.
12. Click OK.
13. Type **Purple** in the text box to correspond with the new color you've chosen. Click OK.

Creating a duotone

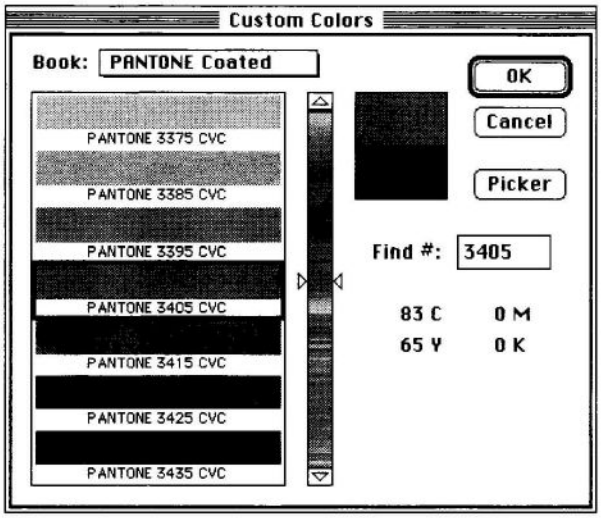
Now you will create a duotone using the same image.

1. Choose Duotone from the Mode menu, then choose Duotone from the Type pop-up menu.
2. Click the color swatch next to Ink 1.
3. To change the ink color back to black, enter **0** (zero) for the R, G, and B values.
4. Click OK.

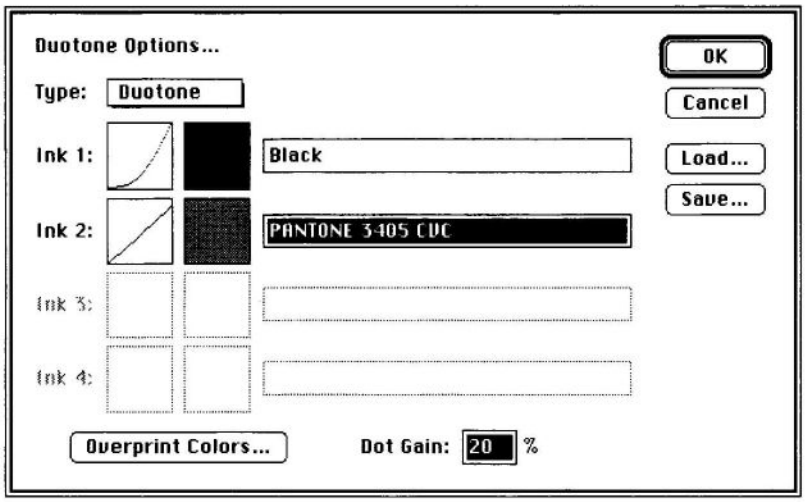
NOTES

5. Click the color swatch next to Ink 2.

   The custom color picker appears.



6. Type **3405** in the Find # box for Pantone Coated. Click OK.



   This will give you a little less green in the midtones and shadows.

7. Click the small graph next to Ink 2.

NOTES

The Duotone Curve dialog box appears.

8. Enter **45** in the 50% box, and **90** in the 100% box. Click OK.
9. Click the small graph next to Ink 1.
10. Enter 35 in the 50% box, and click OK.
11. Click OK to return to the Duotone Options dialog box. Click OK to view the changes.

Saving custom duotone settings

1. Choose Duotone from the Mode menu, and click the Save button in the Duotone Options dialog box.
2. Type **Green duotone #3405** and click Save.
3. Click OK.
4. Choose Close from the File menu, and close without saving changes.

Shortcut:

Press Command-W to close the Duck file.

Creating tritones and quadtones

You use the same procedure to create tritone and quadtones. Each additional ink gives you a richer image with more subtle detail. A typical quadtone, for example, is composed of three grays in addition to black. This type of quadtone is often used to print a black-and-white photograph with rich blacks and an extensive tonal range.

Specifying overprint colors

The Overprint Colors feature allows you to tell Photoshop exactly what colors result when the various combination of custom inks are overlayed, so that the program can accurately display the image. To do this, you select the color you want to change from the Overprint Colors dialog box, and adjust the color values until the color looks as you think it will look when printed. Note that this adjustment affects only your screen display, not your final output.

NOTES

About printing duotones

A final consideration when creating duotones is that both the order in which the inks are printed and the screen angles you use will have a dramatic affect on your final output. In general, to ensure the most fully saturated colors, darker inks should be printed before lighter inks. For selecting the optimal screen angles, a good rule of thumb is to set the screen angles 30 degrees apart; if you are printing a quadtone, the final (lightest) ink should be offset at 15 degrees. Depending on your artwork and your output device, you may need to experiment further with different angles to get the best results.

If you are using Adobe Photoshop 2.0, change the default screen angle for Ink 2 so that it is offset 30 degrees from Ink 1. For example, the angles for a quadtone should be Ink 1: 45°, Ink 2: 108.4° (105° if you are using Accurate Screens), Ink 3: 161.6° (165° if you are using Accurate Screens), and Ink 4: 90°.

NOTE: If you are using Adobe Photoshop 2.0.1 or a later version, the default screen angles will produce optimal results.

NOTES

Lesson 11: *Black-and-White Photo-Retouching*

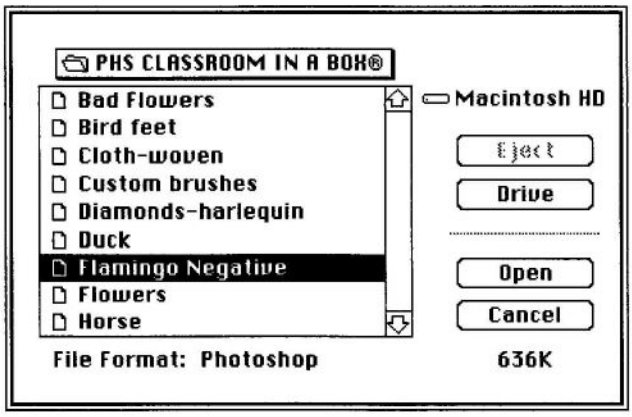
This lesson is designed to demonstrate some of the possibilities of using the Adobe Photoshop program to perform photo-retouching tasks. In the following lesson, you will work with a negative that has been damaged with a severe scratch. In addition to repairing the scratch across the image, you will remove some of the distracting, unneeded elements from the background. After the image has been improved in black-and-white form, you will select a main element of the image and colorize it to mimic the look of hand coloring.

Opening the file

Shortcut:

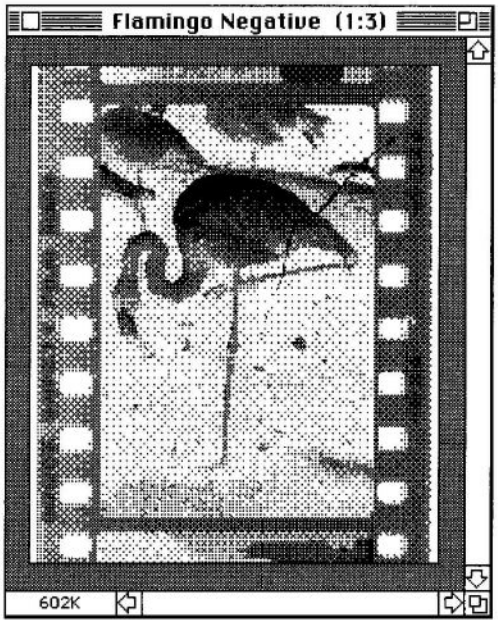
Press Command-O to open a selected file.

1. Choose Open from the File menu.
2. Choose the file Flamingo Negative and click Open.



NOTES

3. Resize the window larger so that you can see all edges of the image.



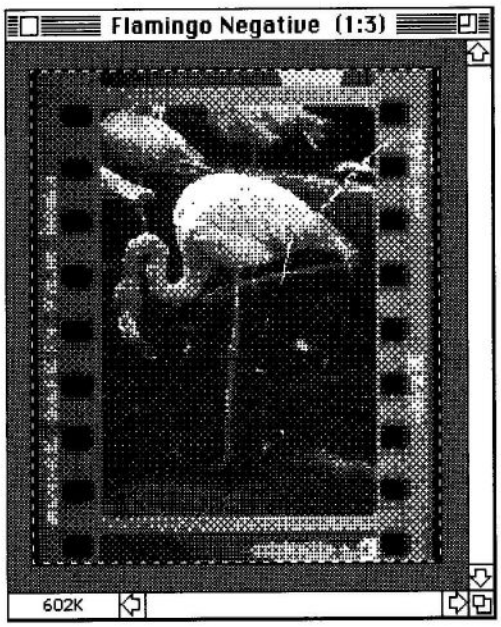
NOTES

Changing the negative to a positive

Shortcut:

Press Command-I to invert the image.

Choose Map from the Image menu and Invert from the submenu.

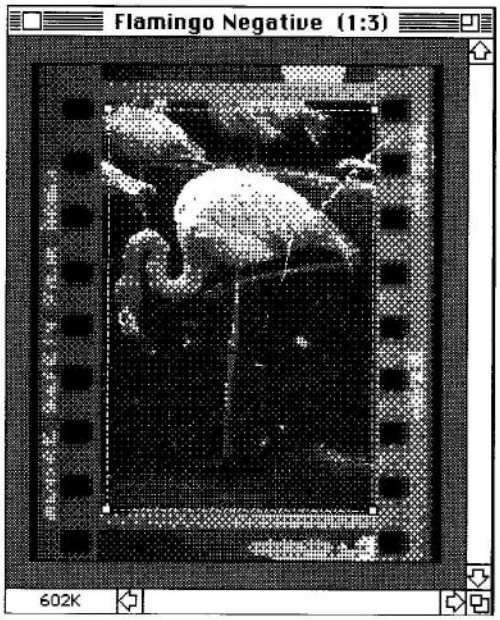


Cropping the image

1. Select the Cropping tool.
2. Position the Cropping tool pointer in the upper-left corner of the image of the flamingo.

NOTES

3. Click the mouse button and drag to thelower right corner of the image of the flamingo.

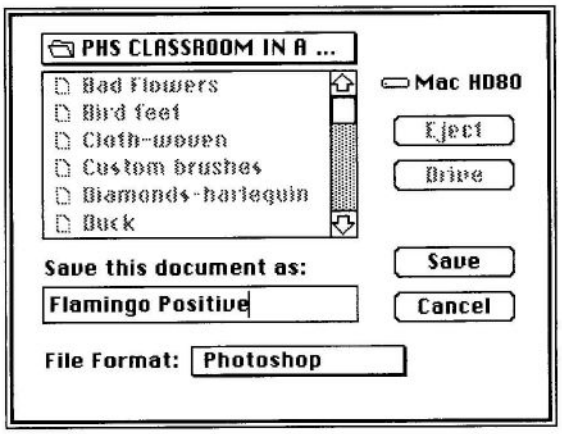


4. Release the mouse button.
5. Adjust the size of the crop selection box, if necessary, by dragging the corner handles so that none of the frame around the image is selected.
6. Move the pointer into the center of the crop area. The pointer changes to a scissors pointer.
7. Click the center of the selected area to crop it.

   The window automatically resizes to the new dimensions of the image.

NOTES

8. Choose Save As from the File menu. Type **Flamingo Positive** for the name and click Save.



Repairing the scratch

1. Click the Zoom tool.

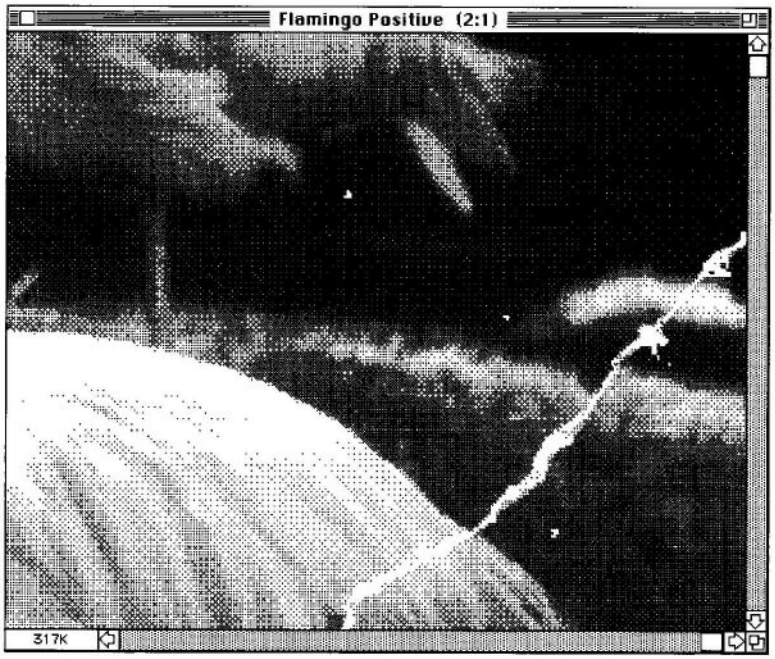
Shortcut:

When you are using another tool, you can zoom in by holding down the Command key and the Space bar, and clicking the mouse button.

2. Zoom in twice (2:1) into the upper right portion of the image where the scratch begins.

NOTES

3. Click the Resize box in the upper right corner to fill the screen.

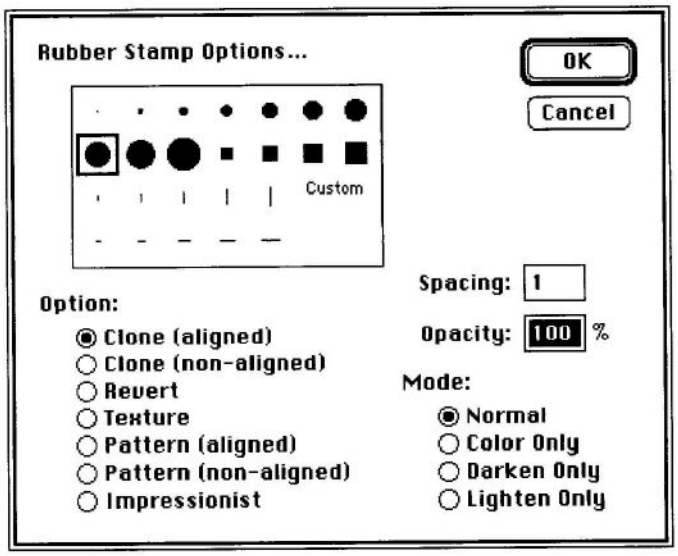


4. Double-click the Rubber Stamp tool. The Rubber Stamp Options dialog box appears.

5. Click the second brush from the right on the top row.

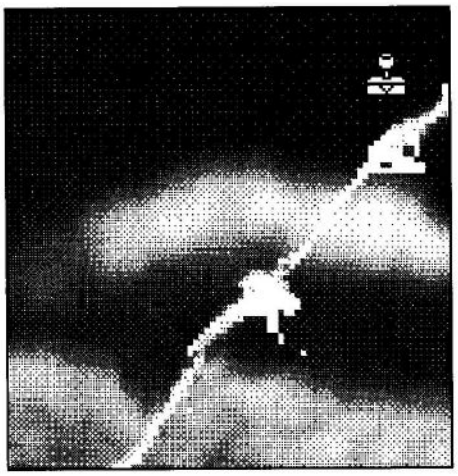
NOTES

6. Click the Clone (aligned) option if it is not already selected.



7. Click OK.

8. Hold down the Option key and click the Rubber Stamp pointer on a spot about a half-inch to the left of the scratch.

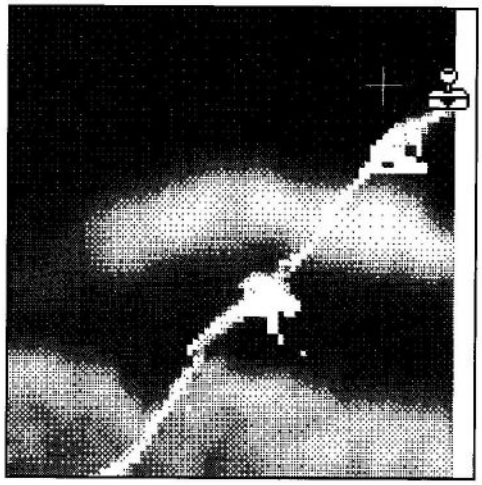


NOTES

Shortcut:

Press the Space bar to get the Grabber tool.

9. Release the Option key and click the Rubber Stamp pointer on the beginning of the scratch. Continue to click again and again, and look to see if the texture from the source area is being transferred correctly. If it is, continue to paint in the texture, working your way down the scratch until you reach the flamingo's back. If it is not, repeat step 8 close to the area you are trying to repair.



10. Select a new source area for the flamingo's back and repair the texture, working down to the left until you reach the next place where the direction of the lines in the texture changes. Repeat this process while you work down the length of the scratch.

Shortcut:

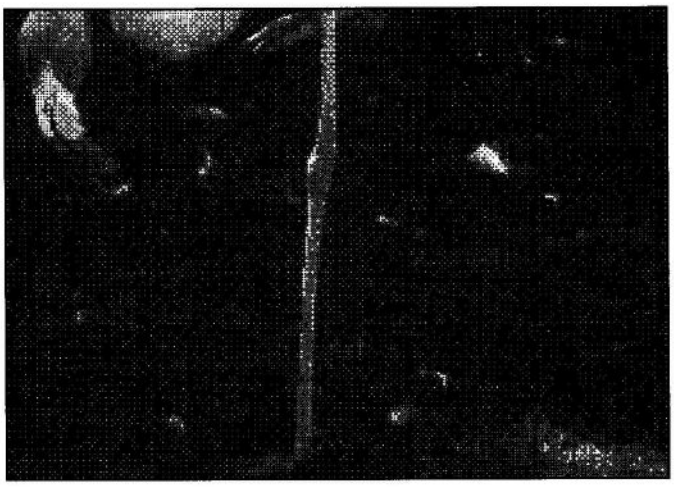
Press Command-S to save the file.

11. Choose Save from the File menu to save the image.

NOTES

Retouching the feathers

1. Use the Rubber Stamp tool and repeat this process of Option clicking a source area close to a defective area and then clicking on the defective area to remove the feathers on the lawn. Be sure you are close enough to the feather to match the lawn texture but far enough away so that you don't accidentally "clone" another feather onto the lawn.



2. Double-click the Grabber tool (hand) to zoom out the window so that it fits on-screen.
3. Choose Save from the File menu to save the image.

Shortcut:

Press Command-S to save the file.

Adjusting the brightness and contrast

1. Choose Adjust from the Image menu and Brightness/Contrast from the submenu.
2. Position the pointer on the Brightness triangle, and move it to the right to -20 (minus).
3. Position the pointer on the Contrast triangle, and move it to the right to +13.
4. Click Preview to examine your changes. Click OK.

NOTES

Changing the mode to RGB

1. Choose RGB Color from the Mode menu.
2. Choose Save from the File menu to save the image.

Shortcut:

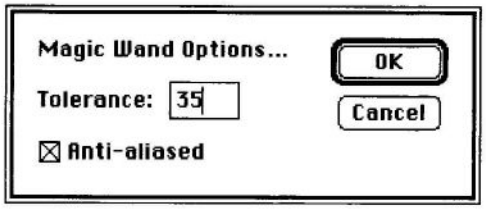
Press Command-S to save the file.

Selecting the flamingo

1. Double-click the Magic Wand tool in the toolbox.

   The Magic Wand Options dialog box appears.

2. Type **35** for Tolerance. Click OK.



3. With the Magic Wand tool still selected, click the flamingo's wing. An area will be selected, but probably not the whole flamingo.
4. Select the Zoom tool, and zoom in a few times over the selected area.
5. Hold down the Shift key; then one at a time, click the areas of the flamingo that did not become selected. Do this until most of the bird is selected.
6. Using the Pen, Lasso, Rectangular Marquee, and Elliptical Marquee tools, manually select any remaining areas of the flamingo that the Magic Wand tool may have missed.

   You can add and subtract areas from the selection with the following steps:

   - To add to the selected area, hold down the Shift key, and use any of the selection tools to select additional areas.

NOTES

■ To subtract from the selected area, hold down the Command key, and use any of the selection tools to select the areas you want to remove from the selection.

7. When you have carefully edited your selection so that it includes the entire flamingo and none of the background, double-click the Grabber tool (hand) to return the view so that the image fits the screen.
8. Choose Feather from the Select menu.
9. Type **2** for Radius and click OK.
10. Choose Save Selection from the Select menu.
11. Choose Channel from the Mode menu and RGB from the submenu.
12. Choose Load Selection from the Select menu.
13. Choose Save from the File menu.

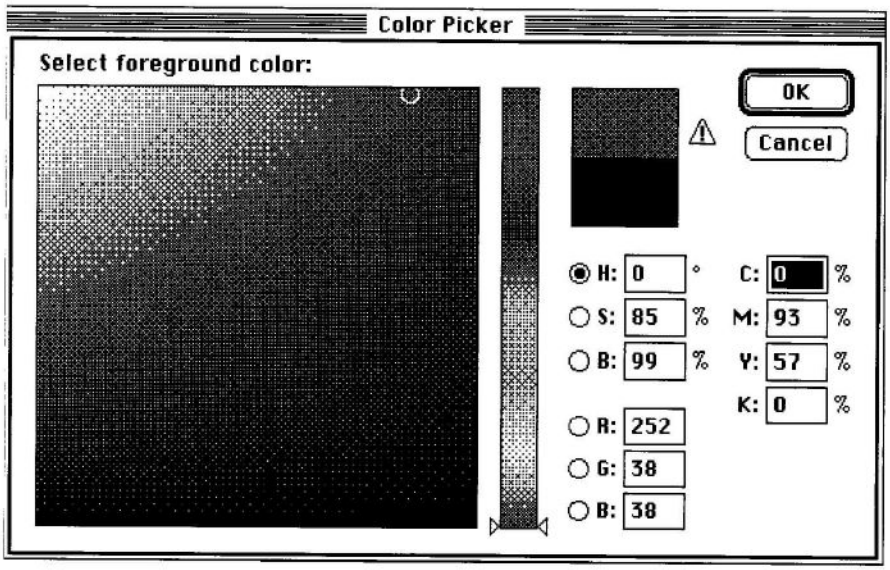
Shortcut:

Press Command-0 (zero) to view the RGB channel.

NOTES

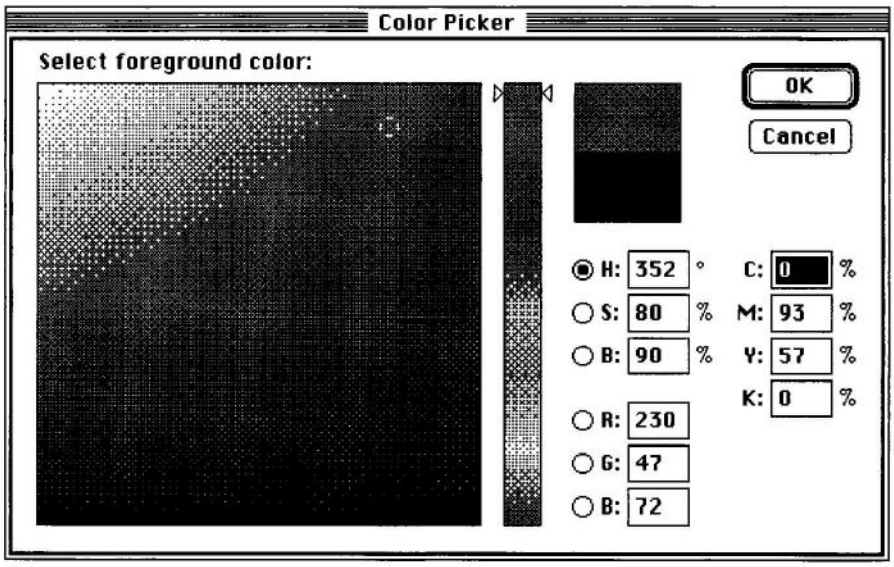
Tinting the flamingo pink

1. With the flamingo still selected, click the foreground color box to display the Color Picker dialog box.
2. Change the color to bright pink by clicking near the pink you wish to select and dragging around to change the selected color.

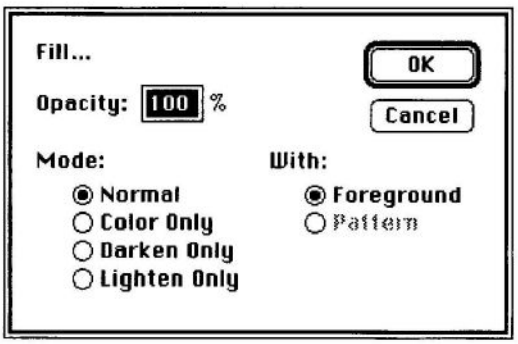


NOTES

3. If the alert triangle appears, click it.



4. Click OK.
5. Choose Fill from the Edit menu. The Fill dialog box appears.
6. Click the Color Only option.
7. Enter **80** in the Opacity box and click OK.



NOTES

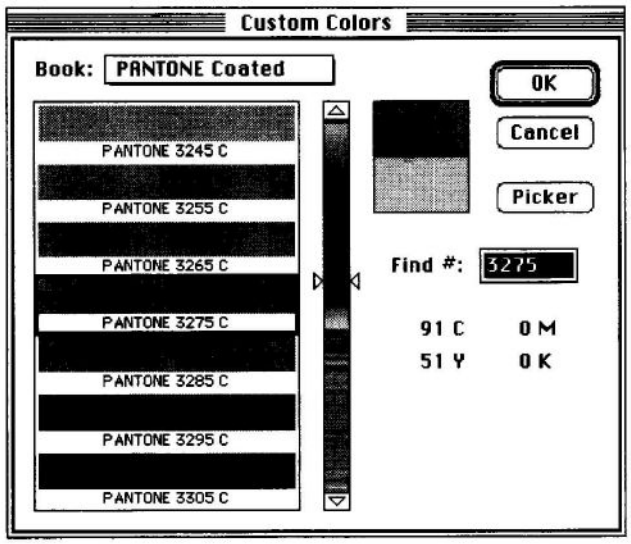
Shortcut:

Command-H toggles between Hide Edges and Show Edges.

8. Choose Hide Edges from the Select menu to temporarily hide the selection marquee. This lets you see the results of your last step without deselecting the area. Notice the flamingo has been changed to pink in color.

Using the custom color picker

1. Click the foreground color box to open the Color Picker dialog box.
2. Click the Custom button in the Color Picker dialog box. The custom color picker appears.



3. Move the slider up and down to view some different ranges of custom colors.
4. Click the color bar that reads Pantone 178 CV C, and click OK.

   The color appears in the foreground color box.

Shortcut:

Press Command-Z to Undo.

5. Choose Undo Fill from the Edit menu.
6. Choose Load Selection from the Select menu.
7. Choose Fill from the Edit menu.
8. Click OK.

NOTES

Shortcut:

Press Command-S to save the file.

Press Command-P to print.

Press Command-W to close the file.

9. Choose Hide Edges from the Select menu.
10. Choose Save from the File menu.
11. Choose Print from the File menu.
12. Choose Close from the File menu.

NOTES

Lesson 12: *Special Project: Seed Packet Label*

This lesson, along with Lessons 13 and 14, is designed as a directed study project. The lessons were designed to give you an opportunity to work on your own with the instructor available to assist you. Do not hesitate to ask for individual assistance. The goal of these projects is for you to have time to apply the tools and techniques you have learned so far in the class. Be sure to experiment with various dialog box and slider settings as you work through the project. There is no "right answer." This is your chance to be creative.

This lesson should take approximately one hour.

In this lesson, you will create a mock-up for a project. The project is a label for flower bulbs. You will start by using the file you saved as Flowers.crop.

The steps you will follow to create this project are

- Converting the Flowers.crop image to gray scale
- Inverting its colors so that it looks like a drawing
- Converting it back to RGB so that you can add color to it
- Selecting painting colors with the color palette and the color picker
- Making selections with the Lasso tool and filling them with color
- Resizing the image
- Creating a border around the image
- Copying a flower and pasting it into the image
- Using the Line tool to add a colored border
- Adding type to the image
- Using the Blend tool to alter the type

NOTES

The plan for the bulb label is that the center of the label will contain a watercolor drawing of flowers. In the upper-left corner of the label, there will be a photograph of a yellow tiger lily. Finally, the word "Bulbs" will appear in the upper-right corner of the image.

You will be able to do this entire project using the existing Flowers and Flowers.crop images. The end result will be a mock-up of the label. This is not meant to be perfect, final output, so do not worry about everything being exact as you work through this lesson.

Editing the cropped image

The first step in the project is to open and edit the cropped Flowers file.

Shortcut:

Press Command-O to open a file.

1. Choose Open from the File menu.
2. Click the Flowers.crop file.
3. Click Open.

Now you will use the Find Edges filter on the image. The Find Edges filter automatically outlines the edges of an image where sharp color transitions occur.

NOTES

4. Choose Stylize from the Filter menu and Find Edges from the submenu.

Converting the image to gray scale and inverting its colors

Converting the image to gray scale is the first step in the process of creating what looks like a drawing, and eventually a watercolor.

Once you have converted the image to gray scale, you will use the Invert command to create a negative of the image. Do not confuse the Invert command with the Inverse command. Remember that the Inverse command, found in the Select menu, selects everything except the current selection. The Invert command is found in the Map submenu of the Image menu and inverts colors to their exact opposite (creating a negative).

To convert the RGB image to gray scale:

1. Choose Gray Scale from the Mode menu.

NOTES

An alert box appears, asking if you want to discard color information.

2. Click OK.

   The image is converted to gray scale.

Shortcut:

Press Command-I to choose Invert from the Map submenu of the Image menu.

3. Choose Map from the Image menu and Invert from the submenu. This creates a negative of the image.

Creating a watercolor effect

Now that you have a gray-scale image that looks like a drawing, you will convert it back to RGB and add color to it.

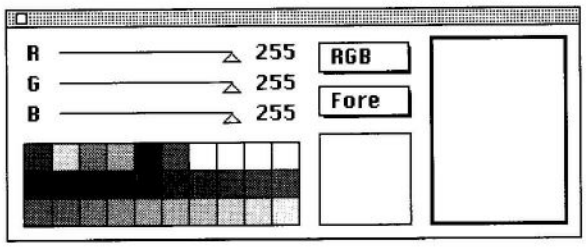
1. Choose RGB Color from the Mode menu.

NOTES

Notice that when you convert the gray-scale image back to RGB, it does not reappear as a color image. This is because you actually discarded all color information in the image when you converted it to gray scale. However, in RGB mode you can add color to the image, which you could not do if you left it in gray-scale mode.

2. Choose Show Palette from the Window menu.

   The color palette appears.



Using the color palette to select colors

You can use the color palette to select the current foreground and background colors. The color palette is a floating window that you can display on-screen. You can move the color palette to a more convenient place on-screen, and you can hide it when you have finished using it.

First, you will use one of the color swatches in the color palette to select a foreground color.

1. Position the pointer on the red color swatch in the color palette. Notice that the pointer turns into the Eyedropper pointer when you position it on a color swatch.

2. Click the mouse button.

   Red is the new foreground color. Notice that the foreground color changes in the toolbox and in the color palette.

NOTES

Selecting flowers and filling them with color

In this section, you will use the Lasso tool to select a flower. Don't worry about selecting the flowers perfectly. Remember that this project is not meant to be an end product, and the watercolor effect does not demand extreme precision. Your work doesn't need to be precise because the effect you create will be a color wash.

1. Double-click the Lasso tool.

   The Lasso Options dialog box appears.

2. Enter **3** in the Feather Radius dialog box.

3. Click OK.

   You used the Lasso Options dialog box to specify a feather edge. By doing this, you don't have to use the Feather command each time you make a selection. Remember that when you enter a value for the feather edge in the Lasso Options dialog box, all selections you make with the Lasso tool will have the same feather edge until you change the value again.

Tip:

Press the Caps Lock key to use the crosshair pointer for greater precision in making a selection.

4. Position the Lasso pointer on one of the flowers.

5. Press the mouse button, and drag to trace the outline of one of the flowers.

NOTES

To fill the flower:

1. Choose Fill from the Edit menu.

   The Fill dialog box appears.

2. Click the Color Only radio button from the Mode options, if it is not already selected.

3. Enter **50** in the Opacity box.

4. Click OK.

   The flower fills with a wash of the color you have chosen.

Shortcut:

Press Command-D to deselect the area currently selected.

5. Click elsewhere in the image to deselect the flower, or choose None from the Select menu.

   Next you will select a new color using the slider controls in the color palette. The slider controls in the color palette let you specify colors by their levels of red, green, and blue. Right now, the sliders are in the position of the red you selected. Experiment with the controls until you find a color you like.

NOTES

To use the slider controls in the color palette:

1. Position the pointer on the triangle beneath the red control, and drag the triangle to a new position.

   Notice that the color you have specified appears in the foreground color indicator.

2. Continue to adjust the other sliders until you find a color you like.

3. Use the Lasso tool to select another flower.

4. Choose Fill from the Edit menu, specify a 50-percent opacity, and click OK.

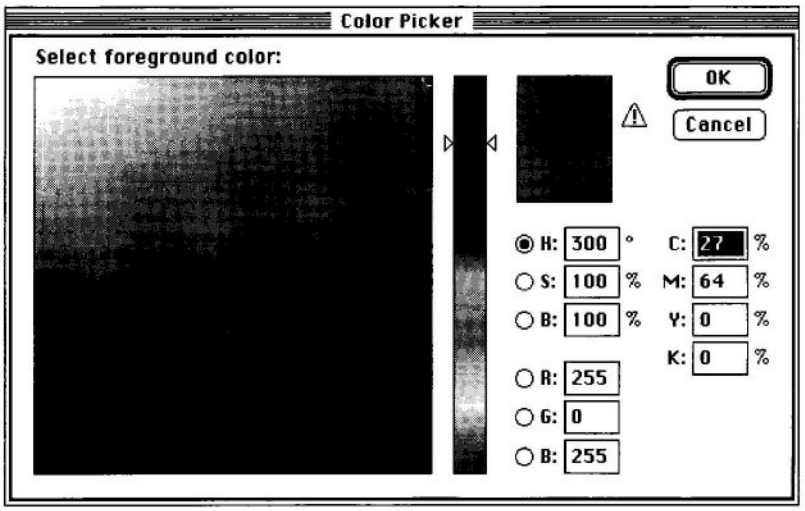
Selecting color with the color picker

You can also select color with the color picker.

To use the color picker:

1. Click either the color sample box in the color palette or the foreground color in the toolbox.

   The Color Picker dialog box appears.



NOTES

2. You can use the slider controls in the color picker to specify a color visually. Or, if you know how to specify colors by the percentages of CMYK, HSB or RGB, you can enter the appropriate values in the corresponding boxes.
3. Position the pointer on one of the triangles on the slider control, and move it to pick a new color.

   If an exclamation point appears next to the color sample box, you have selected an unprintable color. Click the exclamation point. The program locates the closest printable color.
4. Choose a new color, using the color palette or the color picker.
5. Use the Lasso tool to select a new flower. Don't worry about perfectly selecting each flower.
6. Choose Fill from the Edit menu and type **50** for Opacity.
7. Click OK.
8. Repeat steps 3 through 8 for several more flowers.

Resizing the image

Next, you will use the Image Size command to reduce the size of the flowers, and add blank space around them for the rest of the label.

To reduce the size of the flowers:

1. Double-click the Zoom tool to return the image to actual size.
2. Choose Image Size from the Image menu.

   The Image Size dialog box appears.
3. Select the units of measurement box next to Width, and choose (percent) from the pop-up menu.
4. Choose the same units of measurement for Height.
5. Enter **50** in the Percentage box next to Width to make the flowers half their original size.
6. Be sure the Proportions checkbox is checked and the File Size checkbox is not, then click OK.

NOTES

The image is resized by 50 percent. Now you will use the same command to add white space around the flowers.

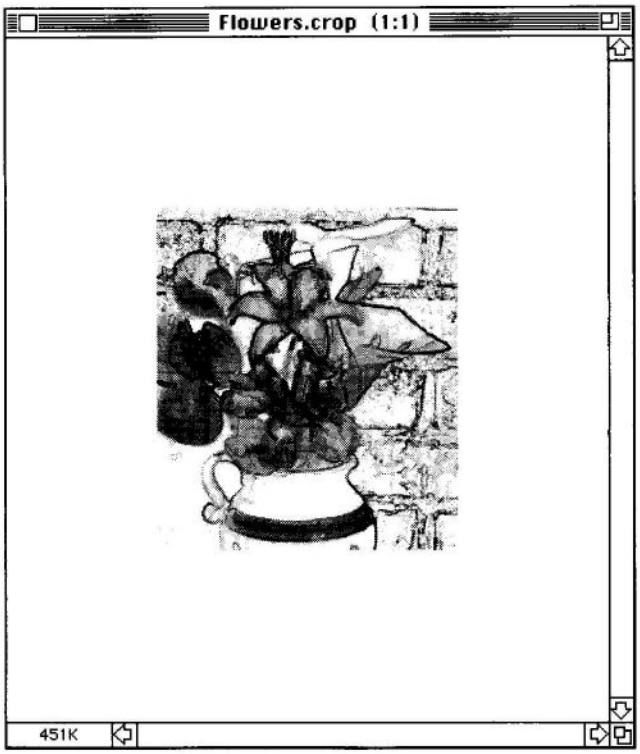
7. Double-click the Eyedropper tool to restore the default background and foreground colors.
8. Choose Canvas Size from the Image menu.

   The Canvas Size dialog box appears.
9. Select the units of measurement box next to Width, and choose (percent) from the pop-up menu.
10. Choose the same units of measurement for Height.
11. Enter **200** for Width, press Tab, and enter **200** for Height.
12. Click OK.

    The overall image is resized, with white canvas added around the flowers. The flowers remain the same size.
13. Choose Save As from the File menu.
14. Type **Bulb Package** as the new file name.

NOTES

15. Click Save.



Selecting a fixed-size area with the Rectangular Marquee tool

In this section, you will use the Rectangular Marquee tool to select an area that is the precise size of the label.

One of the options of the Rectangular Marquee tool is the Fixed Size option. It lets you select a precisely measured area. Suppose that you know that the dimensions for the label are 4 inches by 5 inches. The Fixed Size option will let you select an area that is the exact size of the label.

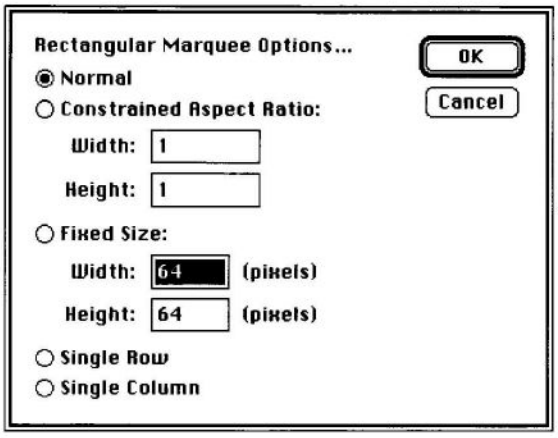
Keep in mind, however, that you need to specify the marquee's measurements in pixels. To calculate the dimensions in pixels, you multiply the dimensions by the number of pixels per inch in the image. In this case, the image is at 72 pixels per inch. The dimensions for the label have been calculated to be 280 pixels by 350 pixels.

NOTES

To select a fixed-size area:

1. Double-click the Rectangular Marquee tool.

   The Rectangular Marquee Options dialog box appears.



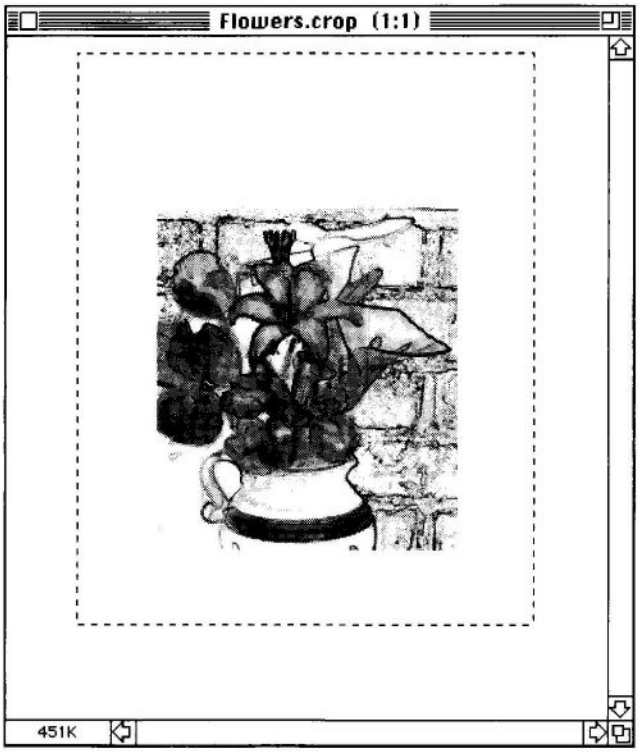
2. Click the Fixed Size option.
3. Enter **280** in the Width box.
4. Enter **350** in the Height box.
5. Click OK.
6. Position the pointer in the lower right corner of the image, and hold down the mouse button.

   The fixed-size marquee appears.

> *NOTE: Do not release the mouse button as you move the selection marquee into place. If you do release the mouse button, press the Command key and the Option key simultaneously as you drag the marquee to a new location. Dragging the selection without pressing the Command and Option keys will move the selection and leave the background showing.*

NOTES

7. Continue to hold down the mouse button, and move the selection marquee to enclose the label area. Try to align the selection marquee so that the space on the bottom edge and on the sides are approximately the same sizes. Leave extra space at the top. Do not deselect the area yet.



NOTES

Creating a black border around a selection

In this section, you will use the Fill command to create a border around the label area. Make sure that the default colors are displayed in the toolbox, because you will use the black foreground color to create the border.

1. Choose Stroke from the Edit menu.

   The Stroke dialog box appears.

2. Enter **2** in the Width box.

3. Click OK.

   The selection is painted with a 2-pixel black border (1 pixel on either side of the marquee).

Shortcut:

Press Command-D to deselect the currently selected area.

4. Deselect the area by choosing None from the Select menu.

5. Choose Save from the File menu.

Copying and pasting from one image to another

Next, you will copy one of the flowers from the original Flowers image into the Bulb Label image. You will add it to the upper left part of the label.

To copy the flower:

Shortcut:

Press Command-O to open a file.

1. Choose Open from the File menu.

   The Open dialog box appears.

2. Click to highlight the Flowers file and click Open.

   Notice that you do not have to close one file before opening another .

3. Double-click the Zoom tool to make sure that the image is actual size.

4. Double-click the Magic Wand tool.

5. Enter **32** in the Tolerance box.

6. Click OK.

7. Position the Magic Wand pointer inside the large, yellow tiger lily.

NOTES

8. Click the mouse button.

Tip:

If the Magic Wand tool has left part of the lily out of the selection, you can use the Lasso tool to add to the selection. Click the Lasso tool. Hold down the Shift key and the mouse button, and drag to enclose the area.

9. If the entire lily isn't selected, hold down the Shift key and click the mouse button again. This will add to the selection.

   If you need to Edit the selection further, double-click the Lasso tool. Set the Feather Radius to 1, and click OK.

10. Choose Copy from the Edit menu.

    A copy of the tiger lily is in the Clipboard and can be pasted into the Bulb Package image.

11. Choose Close from the File menu, or click the close box in the upper left corner of the window to close the Flowers file.

Pasting a selection into another image

In this section, you will use the Paste and the Paste Into commands to compare the results of the two commands. The Paste Into command automatically crops the pasted selection so that it fits inside the target image. The target image is the image into which you paste a selection. In this case, you will place the yellow tiger lily so that it appears inside the black border of the bulb label.

First, you will use the Paste command.

Shortcut:

Press Command-V to paste a selection from the Clipboard.

1. Choose Paste from the Edit menu.

   The flower is pasted into the center of the label.

2. Position the pointer inside the tiger lily.

3. Press the mouse button, and drag the tiger lily into the upper-left corner of the border. Let some of the petals overlap the black border.

   Notice how the overlapping petals cover the black border. Now you will cut the pasted selection, and use the Paste Into command.

Shortcut:

Press Command-X to cut a selected area and place it on the Clipboard.

4. Choose Cut from the Edit menu.

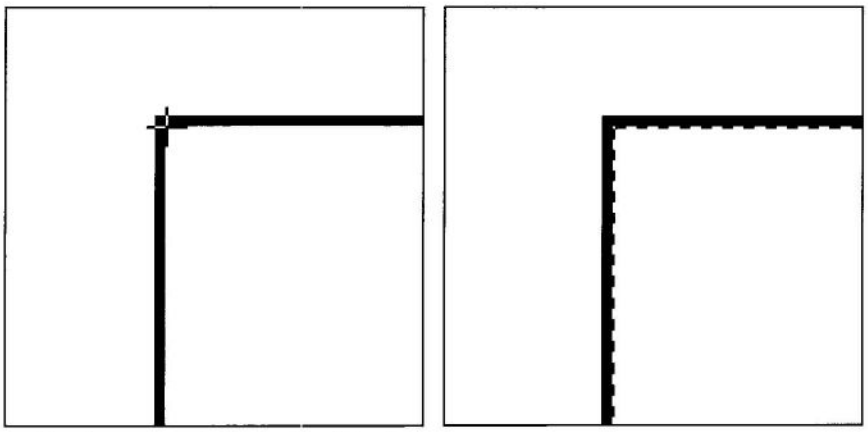
   Now you will use the Paste Into command. First, you need to use the Rectangular Marquee tool to select the area of the label inside the black border. This will define the area into which you paste the tiger lily.

1. Double-click the Rectangular Marquee tool.

NOTES

The Marquee Tool Options dialog box appears.

2. Click the Normal button.
3. Click OK.
4. Press the Command key and the Space bar, and click the mouse button in the upper left corner to zoom in once on the image.
5. Position the pointer just inside the black border in the upper left corner of the image. Make sure that the pointer is inside the border.



Position the pointer inside the black border

6. Press the mouse button, and drag to enclose an area inside the black border about 2 inches by 3 inches.
7. Double-click the Zoom tool to zoom out.

Now that you have defined the area with the selection marquee, you can paste the tiger lily into the image.

NOTES

To paste the tiger lily into the label:

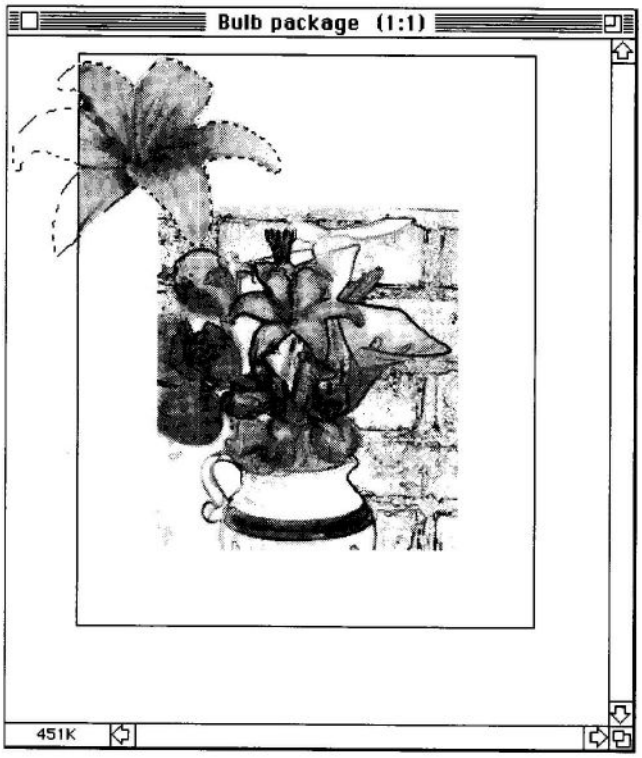
1. Choose Paste Into from the Edit menu.

   The flower is pasted into the center of the selection.

2. Select the Lasso tool.

3. Position the pointer inside the tiger lily.

4. Press the mouse button, and drag the tiger lily into the upper left corner of the border. Let some of the petals overlap the black border.



   Notice that when you pasted into the selection, the petals that were overlapping the border of the label were cropped.

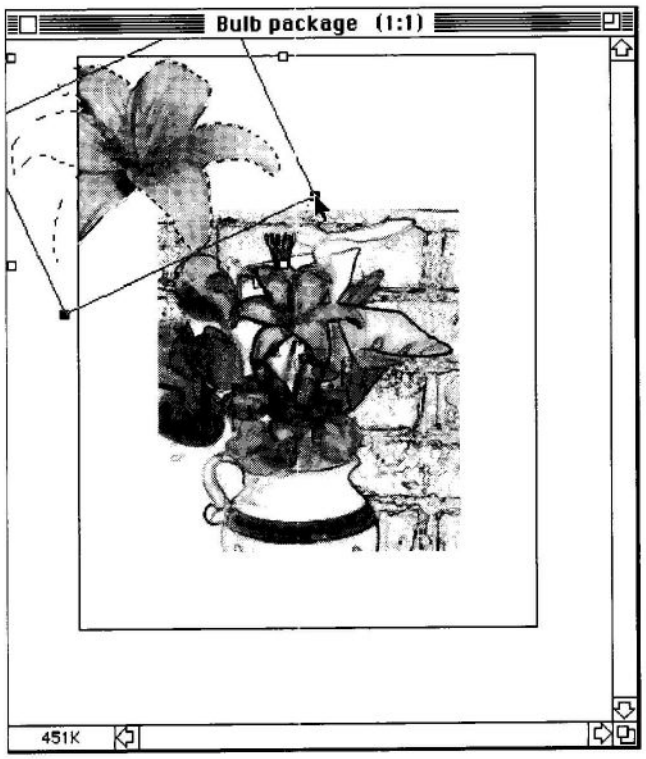
5. Choose Rotate from the Image menu, and choose Free from the submenu.

   Four handles appear around the lily.

6. Position the pointer on the handle in the lower right corner.

NOTES

7. When the selection arrow appears, press the mouse button, and drag the selection slightly counterclockwise.



8. Release the mouse button.

   Notice that when you pasted into the selection, the petals that were overlapping the border of the label were cropped.

9. Choose Defringe from the Select menu.

   When you make a selection, some of the surrounding pixels are included. The Defringe command eliminates these excess pixels, called *fringe*, from the selection (floating selection).

   The Defringe dialog box appears.

10. Enter **2** in the Width box.

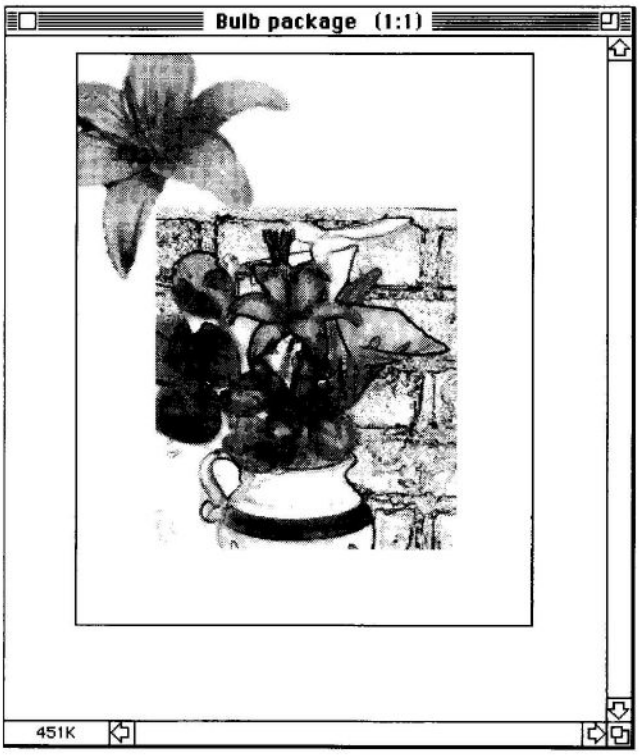
11. Click OK.

NOTES

Shortcut:

Press Command-D to deselect the currently selected area.

12. Choose None from the Select menu to deselect the tiger lily.



Drawing a border using the Line tool

Now you will use the Line tool to draw a multi-colored border around the watercolor flowers in the center of the label.

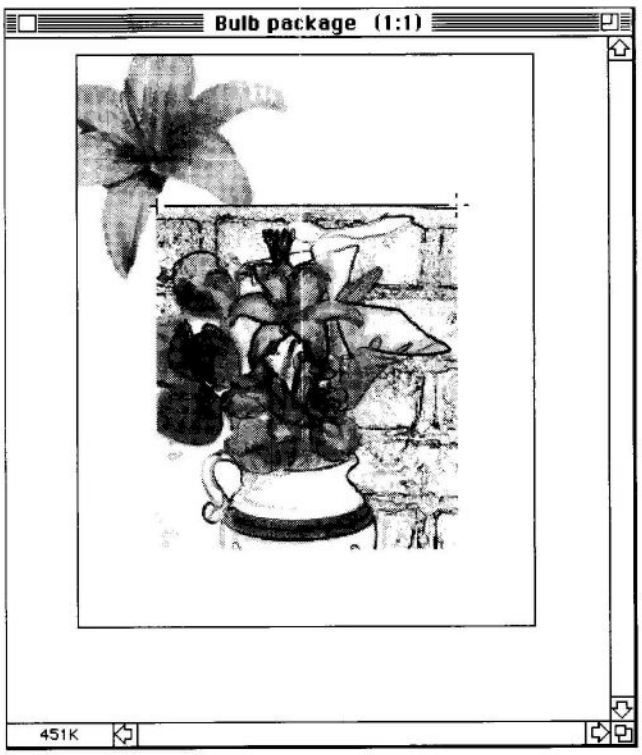
To draw a border with the Line tool:

1. Double-click the Line tool.
2. Type **3** for Width and click OK.
3. Press the Option key to access the Eyedropper tool. Click to sample a color from the flowers to use with the Line tool.
4. Release the Option key. You are ready to draw a line with the new foreground color.
5. Position the pointer above the flowers illustration where you want to place the multi-colored border.

NOTES

6. Press the Shift key. This will constrain the Line tool so that you can draw perfectly horizontal or vertical lines.

7. While holding the Shift key, press the mouse button, and drag to draw the first line of the border, from the upper-left edge of the box to the upper-right edge.



8. Release the Shift key and the mouse button when you have drawn the first line.

9. Press the Option key to access the Eyedropper tool. Click to sample a new color for the second line.

   Repeat steps 3 through 8 to enclose the flowers in a multi-colored border.

Shortcut:

Press Command-S to save the file.

10. Choose Save from the File menu.

11. Double-click the Eyedropper tool to restore the default foreground and background colors.

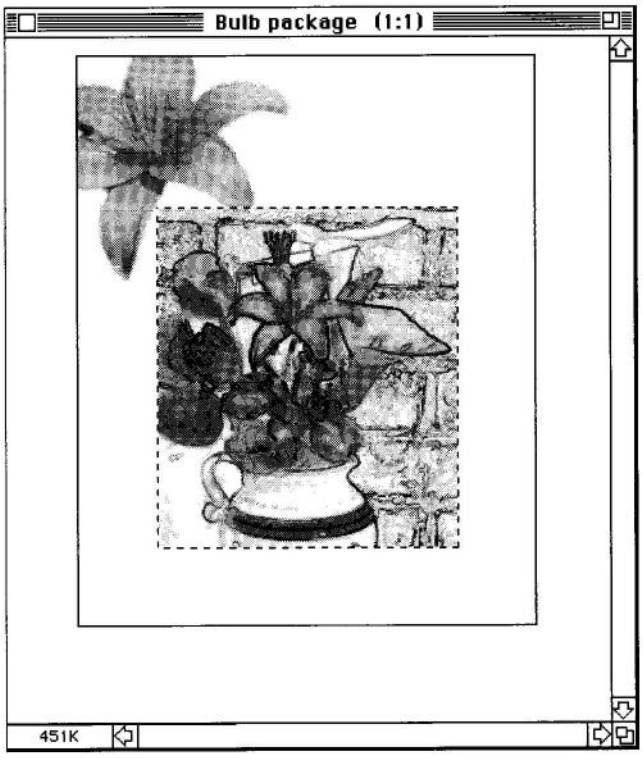
NOTES

Adding type to the label

The final step in creating a mock-up of the label is to add the word "Bulbs" to the upper-right side of the label. You will create the type in an alpha channel. Transferring the selection of the flowers illustration to an alpha channel will help you position the type in relation to the illustration.

To make a selection and transter it to an alpha channel:

1. Click the Eyedropper tool.
2. Position the pointer on the white background, and click the mouse button to sample white as the new foreground color.
3. Select the Rectangular Marquee tool.
4. Position the pointer on the upper-left corner of the flowers illlustration, as shown in the following illustration. Press the mouse button, and drag down and to the right to enclose the illustration.



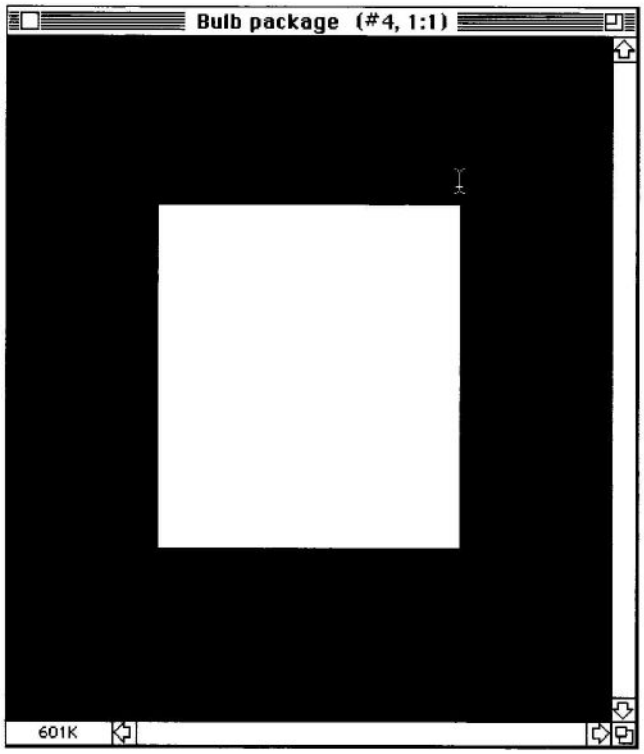
NOTES

5. Choose Save Selection from the Select menu.

   The area you selected appears in white.

To add type:

1. Select the Type tool.
2. Position the I-beam pointer above the top-right corner of the white box.



3. Click the mouse button.

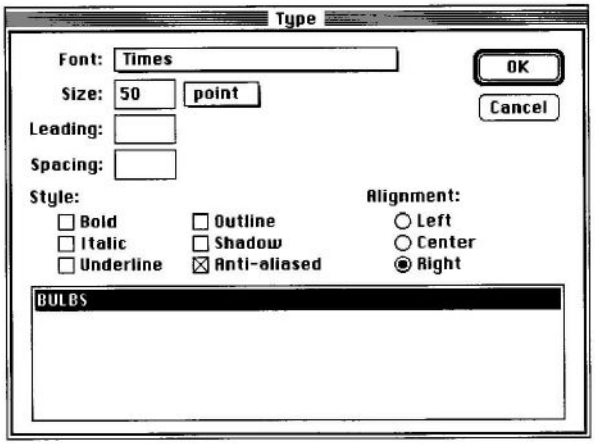
   The Type dialog box appears.

4. Position the pointer in the Font box, and press the mouse button.

   A list of available fonts appears.

NOTES

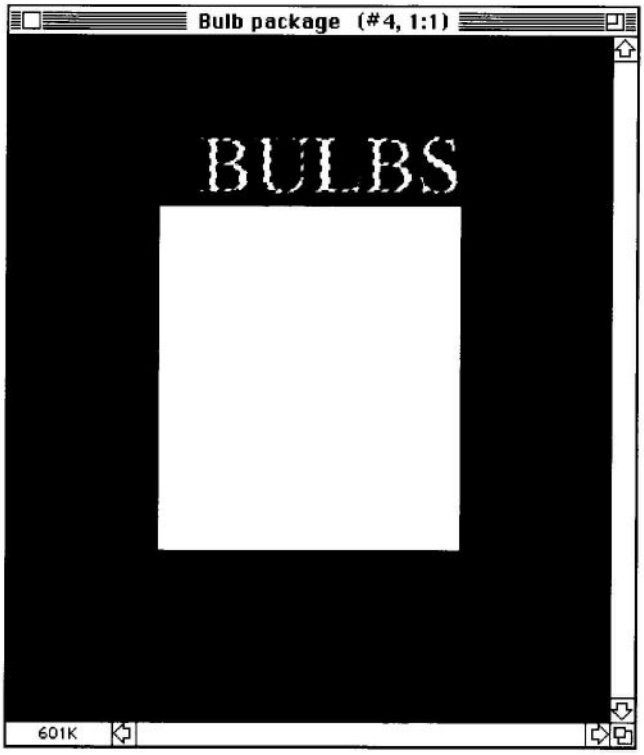
5. While pressing the mouse button, drag through the list of fonts to highlight Times. If Adobe Type Reunion is installed, be sure to choose Times Roman.
6. Enter **50** in the Size text box.
7. Click Right for the Alignment option so that the type will appear flush with the right border, where you positioned the pointer.
8. Click the Anti-aliased option to smooth the edges of the type so that the type will blend into the image.
9. Type the word **BULBS** (all uppercase) in the text box.



10. Click OK.

NOTES

The type appears in the alpha channel. If it is too far to the left or right, you can use the arrow keys to move the type in 1-point increments.



11. When you are satisfied with the type's position, deselect it by clicking outside the text.

    Now you will fill the white rectangle with black so that only the type is masked in the alpha channel.

1. Double-click the Eyedropper tool to restore the default colors.

2. Click the Paint Bucket tool.
3. Position the pointer in the white rectangle, and click the mouse button.

   The rectangle is filled with black. The type remains white.

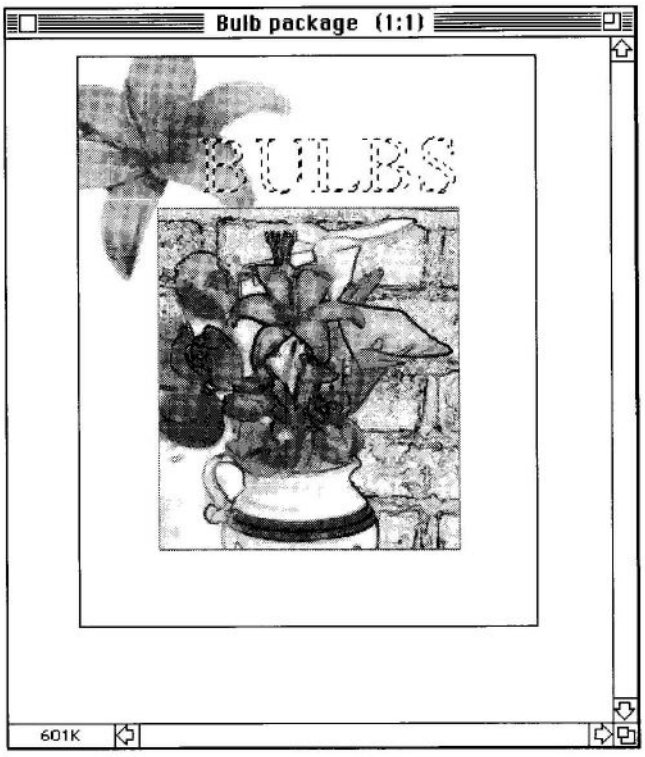
NOTES

Shortcut:

Press Command-0 (zero) to return to the RGB channel.

4. Choose Channel from the Mode menu and RGB from the submenu.
5. Choose Save from the File menu.
6. Choose Load Selection from the Select menu.

   The type is the current selection in the RGB image.



Using the Blend tool to fill the type

Now you will use the Blend tool to fill the type with color. The Blend tool creates a gradient fill. The selection is filled with color that begins with the foreground color and ends with the background color. For this exercise, select two contrasting colors for the foreground and background colors.

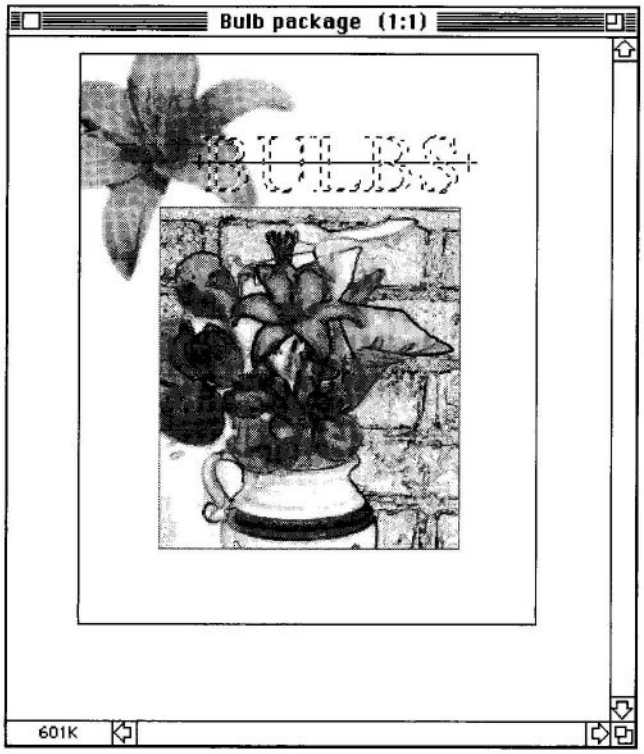
1. Click the Eyedropper tool.
2. Position the pointer on the color you want for the foreground color, and click the mouse button.

NOTES

3. Position the pointer on the color you want for the background color. Hold down the Option key and click the mouse button.

4. Click the Blend tool.

5. Position the pointer on the left side of the type. Hold down the Shift key to constrain the Blend tool. Hold down the mouse button, and drag across the type.



6. Release the mouse button.

   The type is filled with color. Now you will use two other options of the Blend tool.

1. Double-click the Blend tool.

   The Blend Tool Options dialog box opens.

2. Click the HSB-CW option under Color Space.

3. Click OK.

NOTES

With the HSB-CW option, the hues between the foreground and the background color are derived by moving around the color wheel in a clockwise direction. This creates a rainbow effect.

4. Position the pointer on the left side of the type. Hold down the Shift key to constrain the Blend tool. Hold down the mouse button, and drag across the type.
5. Release the mouse button.
6. Double-click the Blend tool.

   The Blend Tool Options dialog box opens.
7. Click the HSB-CCW option under Color Space.
8. Click OK.

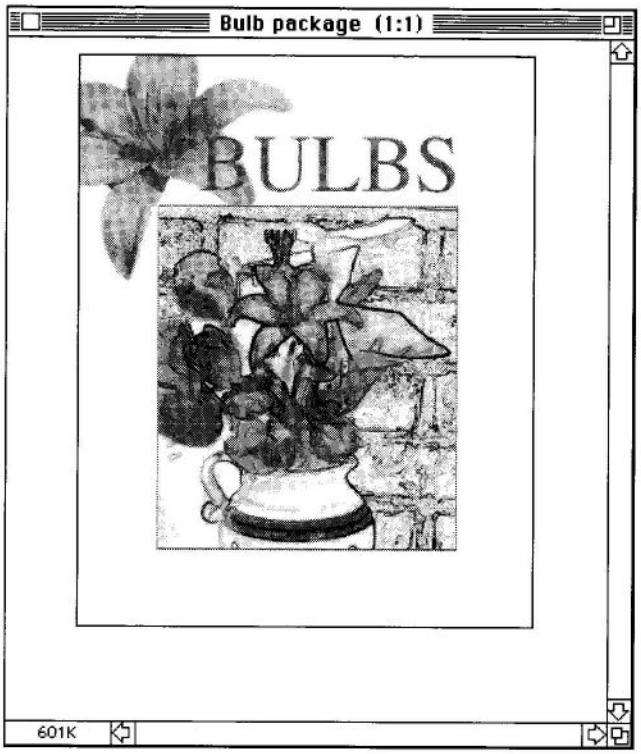
   With the HSB-CCW option, the hues between the foreground and the background color are derived by moving around the color wheel in a counterclockwise direction.
9. Position the pointer on the left side of the type. Hold down the Shift key to constrain the Blend tool. Hold down the mouse button, and drag across the type.
10. Double-click the Blend tool.
11. Click the RGB/CMYK option under Color Space.
12. Click OK.
13. Position the pointer on the left side of the type. Hold down the Shift key to constrain the Blend tool. Hold down the mouse button, and drag across the type.

NOTES

Shortcut:

Press Command-D to deselect the currently selected area.

14. Choose None from the Select menu.



15. Double-click the Eyedropper tool.
16. Choose the Type tool, and type in your name so it appears in the lower right corner of your composition.
17. Choose Print from the File menu.

Shortcut:

Press Command-W to close the active window.

18. Choose Close from the File menu to close the Bulb Package file.
19. Click Yes to save your changes.

NOTES

Lesson 13: *Special Project: Postage Stamp*

This lesson, along with Lessons 12 and 14, is designed as a directed study project. The lessons were designed to give you an opportunity to work on your own with the instructor available to assist you. Do not hesitate to ask for individual assistance. The goal of these projects is for you to have time to apply the tools and techniques you have learned in the first eight lessons on these three projects. Be sure to experiment with various dialog box and slider settings as you work through the project. There is no "right answer." This is your chance to be creative.

This lesson should take approximately one hour.

In this project, you will create a prototype for a postage stamp. You start with a gray-scale image of a duck. You will add two different textures to the image. The textures that you will use come from the Adobe Collector's Edition: Patterns and Textures software.

The steps you will follow to create the stamp are

- Converting a gray-scale image to a bitmapped image using a custom pattern
- Converting a gray-scale image to RGB mode so that you can add color to it
- Using the Hue/Saturation command to create a sepia tone
- Pasting the bitmapped image into the colorized image
- Cropping and resizing the image
- Adding a cloth pattern as a border for the stamp
- Using the Paint Bucket tool to change the color of the pattern
- Adding a border
- Using the Pencil tool to create a scalloped edge around the stamp
- Adding type to the stamp

NOTES

Starting the lesson

Shortcut:

Press Command-O to open a selected file.

1. Choose Open from the File menu.
2. Click the Duck file.
3. Click Open.

To open the first texture file:

1. Choose Open from the File menu.
2. Click the Bird Feet file.
3. Click Open.

Defining a pattern

The Bird Feet file was created by opening the Bird Feet pattern in the Adobe Illustrator program. A file with dimensions slightly larger than those of the Duck file was created and filled with the Bird Feet pattern. The new Bird Feet file was saved as an Encapsulated PostScript (EPS) file and was then opened as an Adobe Photoshop document using the Open As command in the File menu of the Adobe Photoshop program.

Now you will use the Bird Feet file to define a pattern. You cannot use a bitmapped image to define a pattern. Therefore, you will first convert the file to gray scale.

To convert the image to gray scale:

1. Choose Gray Scale from the Mode menu.

   A dialog box appears.

2. Click OK to accept the default.

NOTES

To define the pattern:

Shortcut:

Press Command-A to select all.

1. Choose All from the Select menu.
2. Choose Define Pattern from the Edit menu.

Shortcut:

Command-W to close the current window.

3. Choose Close from the File menu.

   A dialog box appears asking if you want to save changes to the file.

4. Click No.

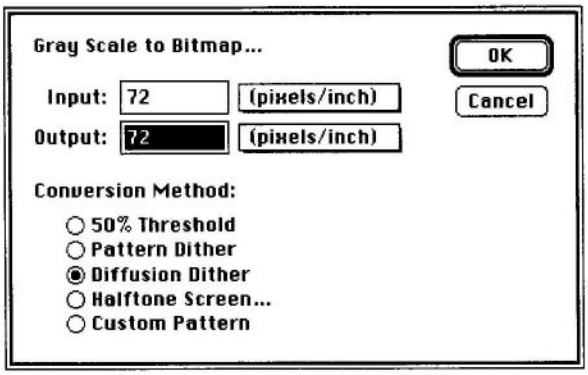
Converting a gray-scale image to a bitmapped image using a custom pattern

In this section, you will first convert the gray-scale Duck image to a bitmapped image. When you convert the gray-scale image to a bitmapped image, you will use the Custom Pattern option. This option simulates the effect of printing a gray-scale image through a custom halftone screen. This method allows you to apply a screen texture to an image. The screen used is the current pattern. In this case, the pattern is the bird feet.

You will use the Bird Feet pattern to create a bitmap of the duck image.

1. Choose Bitmap from the Mode menu.

   The Gray Scale to Bitmap dialog box appears.

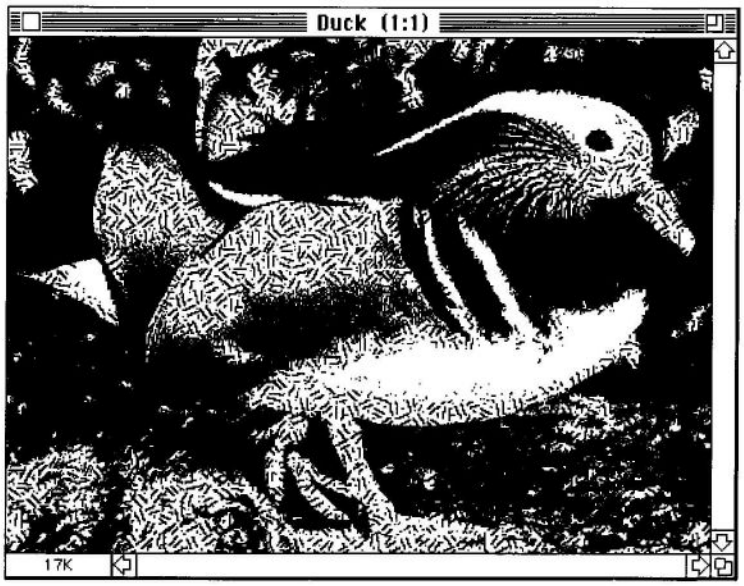


2. Click the Custom Pattern option.

NOTES

3. Click OK.

   The Bird Feet pattern is used to create a bitmapped image of the duck.



Now you will copy the bitmapped image to use later.

Shortcut:

Press Command-A to select all.

Press Command-C to copy the selection to the Clipboard.

4. Choose All from the Select menu.
5. Choose Copy from the Edit menu.

Creating a sepia tone from a gray-scale image

In this section, you will colorize the gray-scale duck image so that it resembles a sepia tone. A sepia tone is an image tinted with a yellowish-brown color. Generally, this effect is associated with old photographs.

1. Choose Revert from the File menu.

   A dialog box appears asking if you want to revert.

2. Click OK.

   You do not lose the Clipboard contents when you use the Revert command.

NOTES

3. Choose RGB Color from the Mode menu.

   To colorize a gray-scale image, you must first convert the image to RGB. The image does not change visually after the conversion, but you can now add color to it.

   Now you will colorize it to create the sepia tone effect.

Colorizing an image

Now you will use the Hue/Saturation controls to colorize the Duck image.

To adjust the hue and saturation:

Shortcut:

Press Command-U to choose Hue/Saturation from the Adjust submenu under the Image menu.

1. Choose Adjust from the Image menu and choose Hue/Saturation from the submenu.
2. Click the Colorize option.
3. Position the pointer on the Hue triangle and drag it to the right to 25.
4. Position the pointer on the Saturation triangle and drag it to the left to 50.
5. Click Preview.

   You can play with the hue and saturation controls, and click preview to view the effects, but use the values in steps 3 and 4 for the final adjustments.

6. Click OK.

Pasting the bitmapped image into the colorized image

Now you will retrieve the copy of the bitmapped image, and paste it over the colorized image. You will use paste controls to alter the appearance of the pasted image.

Shortcut:

Press Command-V to paste a selection from the Clipboard.

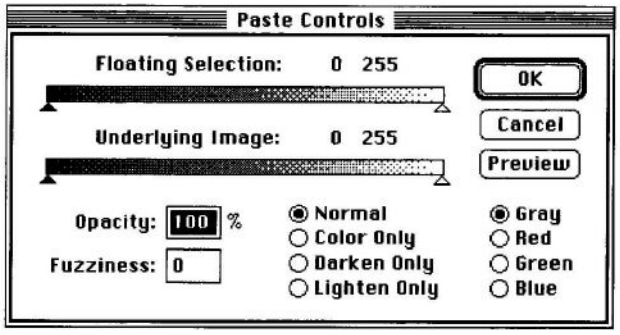
1. Choose Paste from the Edit menu.

   The bitmapped image fully covers the colorized image. Now you will use paste controls to change how much the bitmapped image covers the underlying image.

2. Choose Paste Controls from the Edit menu.

NOTES

The Paste Controls dialog box appears.



3. Position the pointer on the black triangle under the Floating Selection control and drag it to the right to 5.

   By making this adjustment, you have ensured that the darkest color values in the floating selection will not appear.

4. Position the pointer on the white triangle under the Floating Selection control and drag it to the left to 250.

   By making this adjustment, you have ensured that the lightest color values in the floating selection will not appear.

5. Enter **50** in the Fuzziness box.

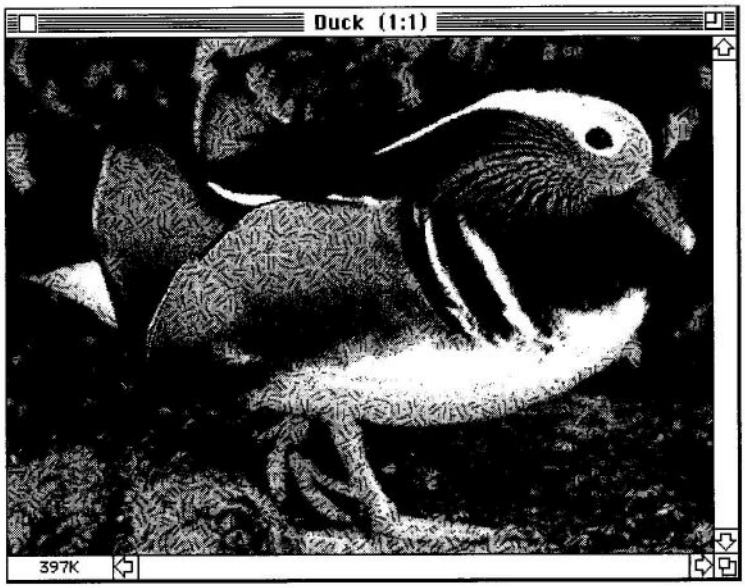
   This will make smooth transitions between the colors in the floating selection and the underlying image.

6. Click Preview.

   You can play with the hue and saturation controls, and click preview to view the effects, but use the values in steps 3 and 4 for the final adjustments.

NOTES

7. Click OK.



Shortcut:

Press Command-D to deselect the currently selected area.

8. Choose None from the Select menu.
9. Choose Save As from the File menu, type **Duck Stamp** for the file name and click Save.

Cropping and resizing an image

In this section, you will crop the duck image so that only a portion of the image remains. You will then resize the file to add white space around the duck.

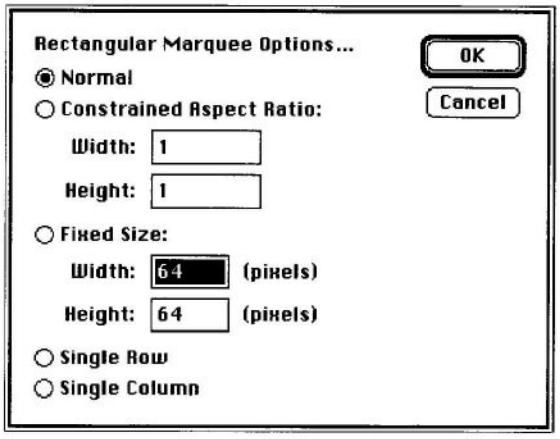
Cropping the image

You will need to crop the image to a specific size for creating the mock-up of the postage stamp. To crop an image to precise dimensions, it is easiest to define the area using the Fixed Size option of the Rectangular Marquee tool. Once you have defined the area, you can use the Crop command from the Edit menu.

NOTES

1. Double-click the Rectangular Marquee tool.

   The Rectangular Marquee Options dialog box appears.



2. Click the Fixed Size option.

   These dimensions are approximately 250 percent the size of a real postage stamp. If you were actually planning to print the final stamp, you could resize the file to actual size before printing. For this exercise, you will work with a larger image.

3. Enter **300** in the Width box.

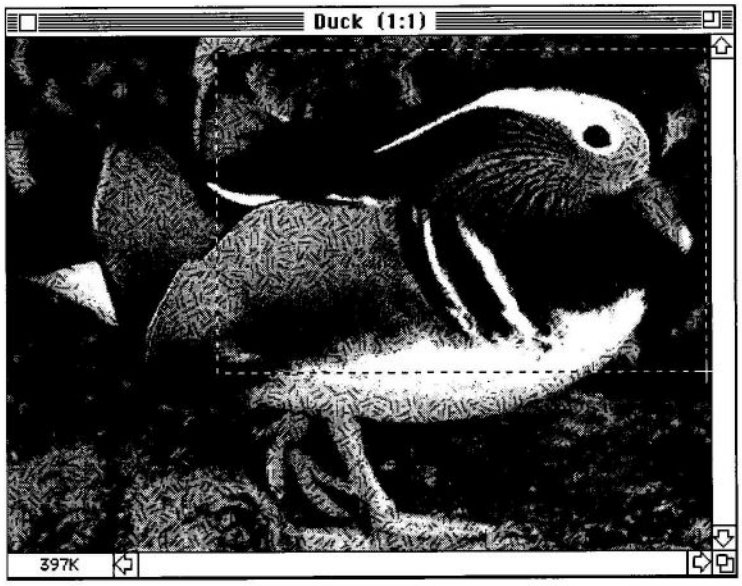
4. Enter **198** in the Height box.

5. Click OK.

NOTES

6. Position the pointer in the lower right corner of the image. Hold down the mouse button, and drag the fixed-size marquee to enclose the duck's head and upper body.

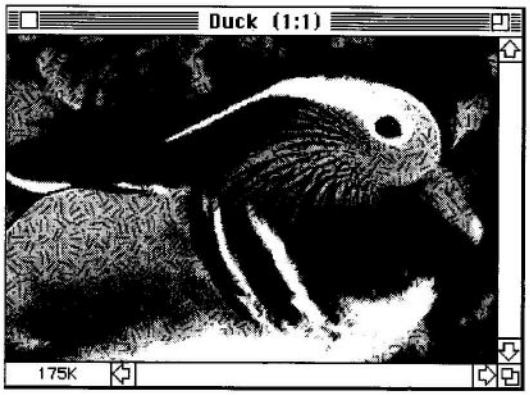
> *NOTE: Do not release the mouse button as you move the selection marquee into place. If you do release the mouse button, press the Command key and the Option key simultaneously as you drag the marquee to a new location. Dragging the selection without pressing the Command and Option keys will move the selection and leave the background showing.*



7. Release the mouse button when you have enclosed the area shown in the illustration above.

NOTES

8. Choose Crop from the Edit menu.

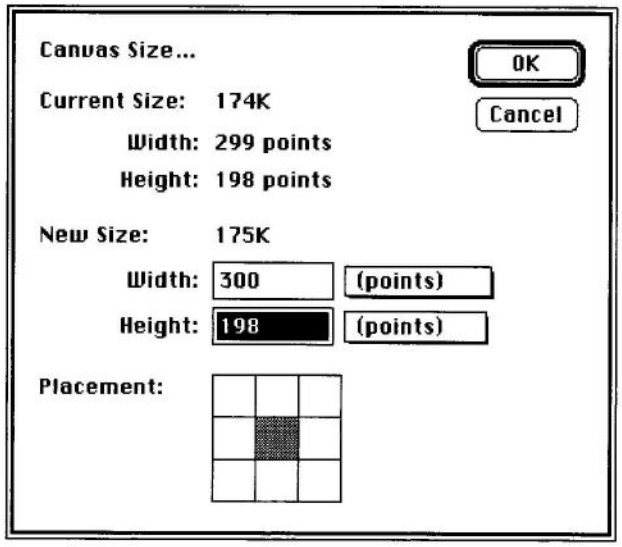


Resizing the image

Now you will use the Resize command to add white space around the duck image.

1. Choose Canvas Size from the Image menu.

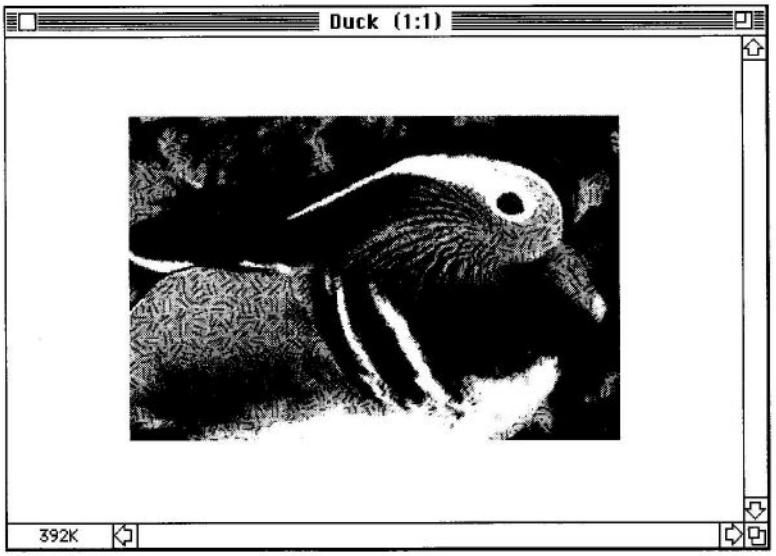
   The Canvas Size dialog box appears.



NOTES

2. Select the units of measurement box next to Width and choose percent from the pop-up menu. Do the same to change the units of measurement for Height.
3. Enter **150** in the Width box
4. Enter **150** in the Height box.

   When you resize the Width and Height by 150 percent, the program adds white space around the existing image. The white space adds another 50 percent to the image's size. Keep in mind that the duck itself is not resized.
5. Click OK.



6. Choose Save from the File menu.

Adding another pattern to the image

The next step is to fill the white canvas area with a new pattern.

Shortcut:

Press Command-O to open a selected file.

1. Choose Open from the File menu.
2. Click the Cloth-woven file.
3. Click Open.

NOTES

You will use this file to define a pattern. To use this image as a pattern, you must first convert the image to gray scale. Next, you will convert it to RGB so that you can add color to it.

4. Choose Gray Scale from the Mode menu.

   A dialog box appears.

5. Click OK to accept the default.

6. Choose RGB Color from the Mode menu.

7. Drag the Cloth-woven window to the side of the Duck window, so that at least part of the Duck window is visible.

Using the Paint Bucket tool

The Paint Bucket tool operates in a similar way to the Magic Wand tool. It selects areas of similar colors and fills them with color.

Now you will use the Paint Bucket tool to fill the black areas with the light brown from the colorized duck image. The white areas will not be filled.

1. Select the Paint Bucket tool.

2. Position the pointer on a light-brown area in the Duck image.

   The Duck image does not have to be the active window to sample a color from it.

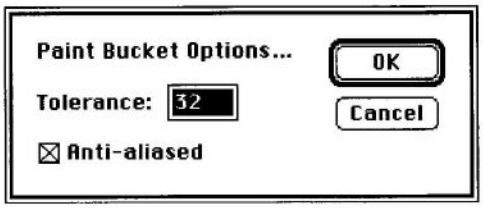
3. Hold down the Option key to access the Eyedropper tool, and click to sample the light-brown for the new foreground color.

   The Paint Bucket tool has options for tolerance and fuzziness. Tolerance controls how similar colors must be in order to be included in the fill. Fuzziness controls the transition between filled and unfilled areas.

4. Double-click the Paint Bucket tool.

NOTES

The Paint Bucket Options dialog box appears.



5. Enter **1** in the Tolerance box.

   The low tolerance value is to fill only the black pixels with a new color. The fuzziness is set at zero so that the transition between filled and unfilled areas is abrupt.

6. Click OK.

7. Position the pointer anywhere in the Cloth-woven image. Hold down the Command key and the Space bar, and click the mouse button to zoom in once.

8. Press the Caps Lock key to access the crosshair pointer.

9. Position the crosshair pointer anywhere in the black area of the cloth.

10. Click the mouse button.

    The black areas are filled with the new foreground color.

11. Double-click the Zoom tool to zoom back to actual size.

Defining a pattern

Now you will define a pattern from the light-brown cloth image.

Shortcut:

Press Command-A to select all.

1. Choose All from the Select menu.
2. Choose Define Pattern from the Edit menu.
3. Click the Duck image to make its window active.

NOTES

Creating a border around the image

The area you will fill with the cloth pattern is the white space around the duck. To make this selection, you will use the Fixed Size option of the Rectangular Marquee tool. You will first select the whole area, including the duck and the white space. Next, you will deselect the duck from the area. The remaining selection will be the white border.

To select the whole area:

1. Double-click the Rectangular Marquee tool.

   The Rectangular Marquee Options dialog box appears.

2. Click the Fixed Size option, if it is not already selected.

   These dimensions were calculated by adding 50 to each dimension of the cropped duck. Therefore, the border that you will fill will be 25 pixels wide all around.

3. Enter **350** in the Width box.

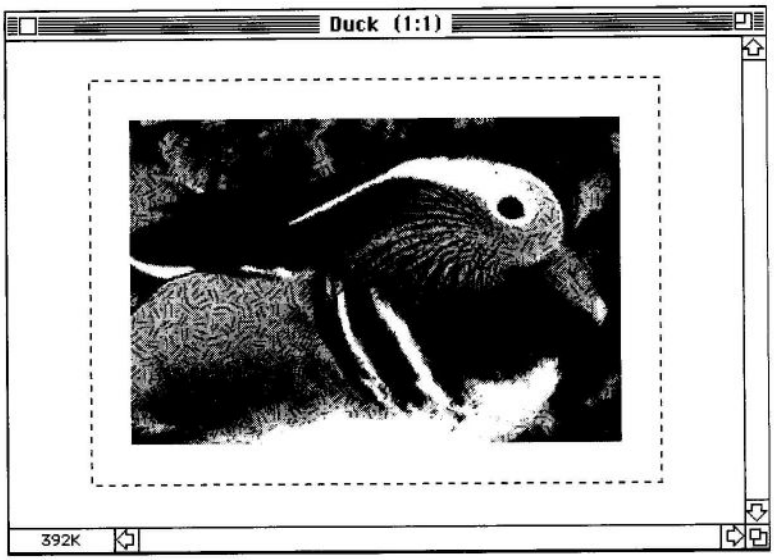
4. Enter **248** in the Height box.

5. Click OK.

NOTES

6. Position the pointer in the lower-right corner of the image. Hold down the mouse button, and drag the fixed-size marquee to enclose the duck's head and upper body.

NOTE: Do not release the mouse button as you move the selection marquee into place. If you do release the mouse button, press the Command key and the Option key simultaneously as you drag the marquee to a new location. Dragging the selection without pressing the Command and Option keys will move the selection and leave the background showing.



To deselect the duck only:

1. Double-click the Rectangular Marquee tool.

   The Rectangular Marquee Options dialog box appears.

2. Click the Fixed Size option, if it is not selected.

   These are the dimensions of the cropped duck. Therefore, the marquee will precisely surround the duck image and leave the white border.

3. Enter **300** in the Width box.

4. Enter **198** in the Height box.

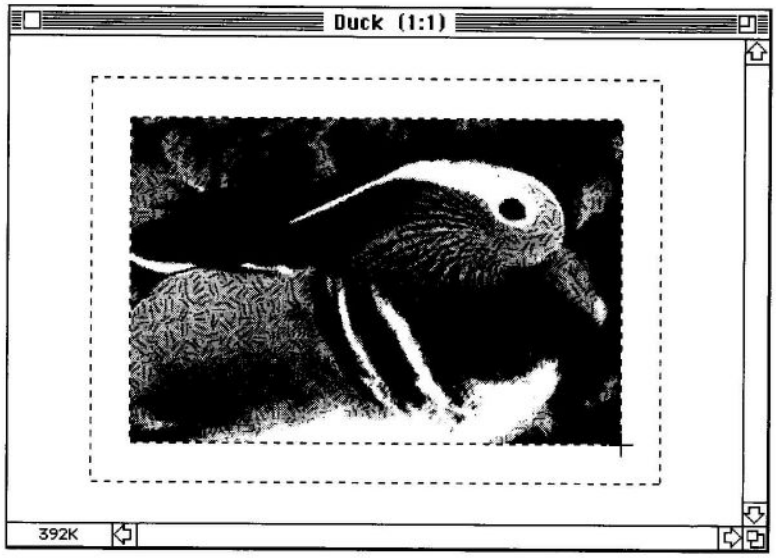
5. Click OK.

NOTES

6. Hold down the Command key to deselect the duck. Position the crosshair pointer on the lower-right corner of the duck image.

   Use the Command key to deselect the duck image from the white border. Remember to always use the Command key to subtract from a selection.

7. Continue to press the Command key, and hold down the mouse button. The marquee should be in perfect position around the duck image. If it is not, drag it into position while holding the mouse button.



8. Release the Command key and the mouse button. You have selected a white border around the image.

Filling the selection with the pattern

Now you will fill the white border with the light-brown cloth pattern.

1. Choose Fill from the Edit menu.

   The Fill dialog box appears.

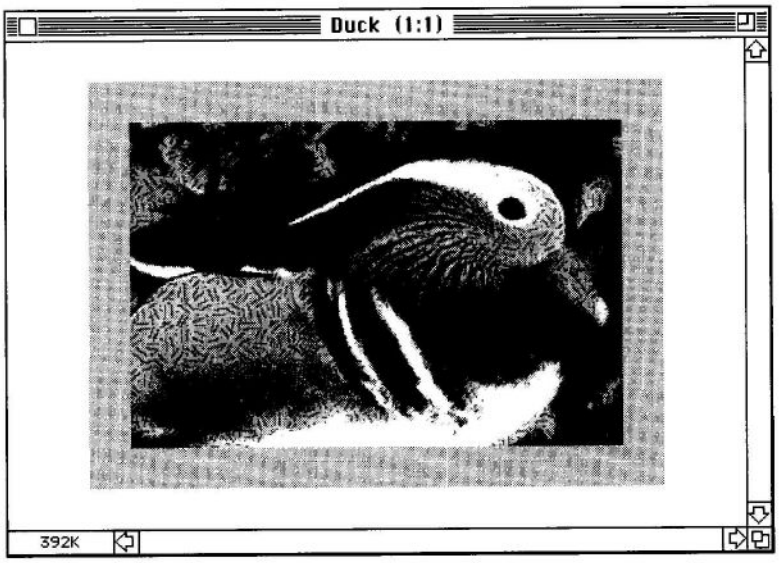
2. Type **50** for Opacity, click Normal for mode, and click the Pattern option.

3. Click OK.

NOTES

The white border is filled with the cloth pattern.

4. Click the border to deselect it.



5. Choose None from the Select menu.

6. Choose Save from the File menu.

Shortcut:

Press Command-S to save the file.

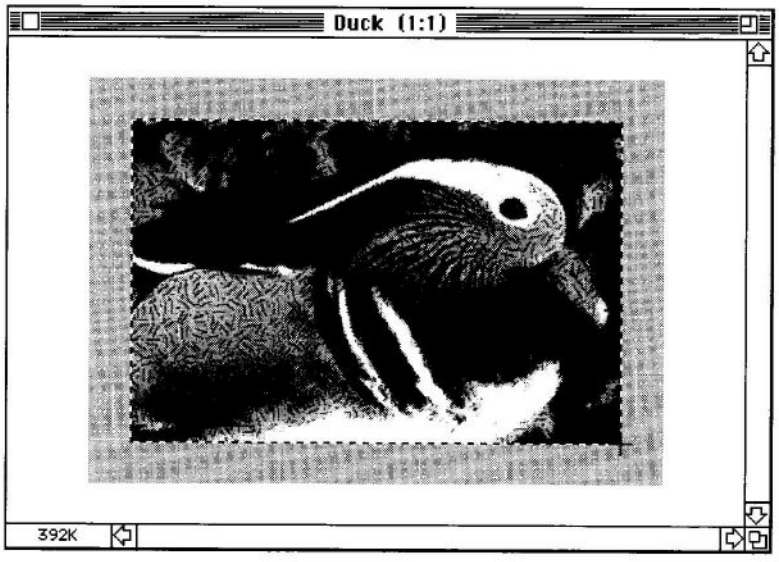
NOTES

Creating a dark border between the duck and the cloth

Now you will create a dark border between the duck and the light-brown cloth.

1. Release the Caps Lock key.
2. Click the Eyedropper tool.
3. Position the Eyedropper pointer on the dark brown in the duck image.
4. Click the mouse button.
5. Double-click the Rectangular Marquee tool.

   The Rectangular Marquee Options dialog box appears.
6. Verify that the Fixed Size option is clicked, that the width is 300, and that the height is 198.
7. Click OK.
8. Position the pointer in the lower right corner of the duck image (not the pattern frame).
9. Press the mouse button. The marquee should have selected the duck image perfectly. If it has not, drag the marquee into position while holding down the mouse button.



NOTES

10. Choose Stroke from the Edit menu.

    The Stroke dialog box appears.

11. Enter **2** in the Width box.

12. Click OK.

Shortcut:

Press Command-D to deselect the current selection.

13. Choose None from the Select menu.

Press Command-S to Save the file.

14. Choose Save from the File Menu.

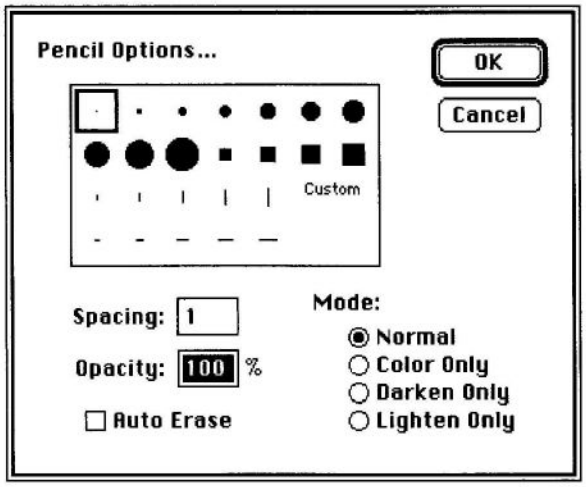
Adding a scalloped edge around the stamp

In this section, you will use the Pencil tool to create a scalloped edge around the stamp.

When you use the Pencil tool, you can draw straight lines. To create the scalloped edge, you will use the Pencil tool to draw straight lines around the four edges of the stamp. The white paint will appear as scalloping around the light-brown cloth border because the spacing is set at 20 and a large brush is selected.

1. Double-click the Pencil tool.

   The Pencil Options dialog box appears.



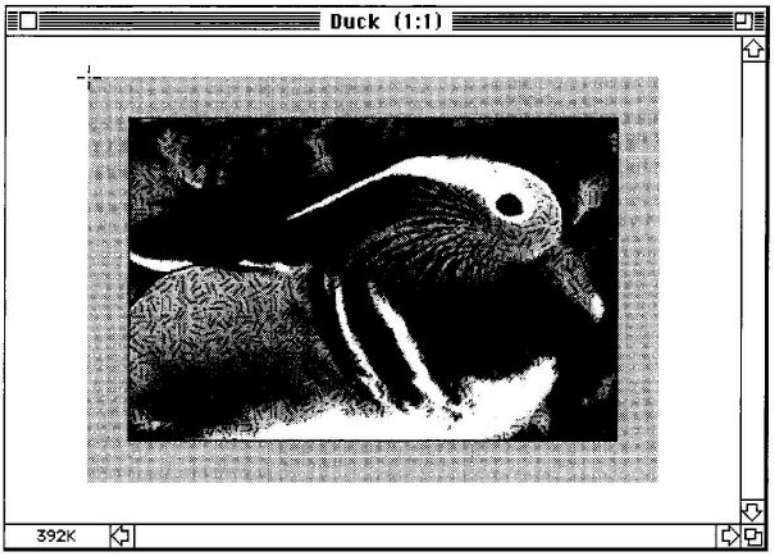
2. Click to select the second brush from the right in the top row.

3. Enter **20** in the Spacing box.

NOTES

The Spacing parameter controls how the paint is distributed on the image. A spacing value of 20 means that paint is applied every 20 pixels.

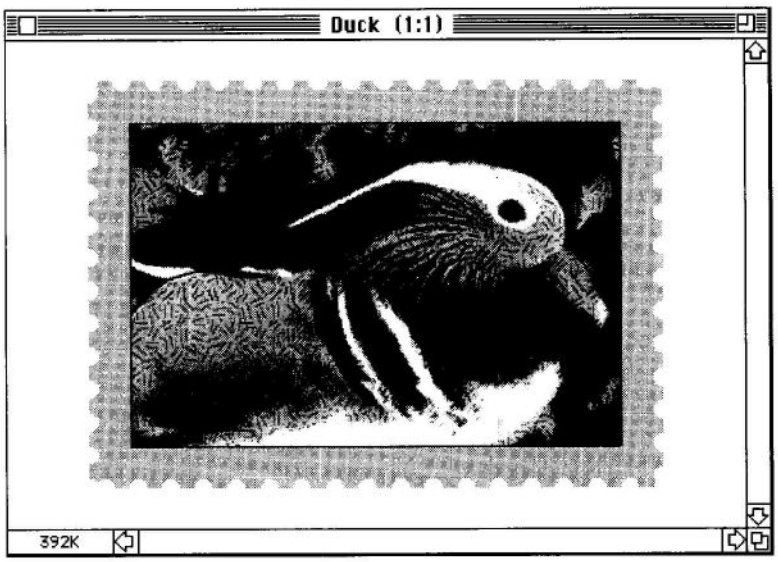
4. Click OK.
5. Hold down the Option key to access the Eyedropper tool.
6. Click in the white background and release the Option key.
7. Press the Caps Lock key.
8. Position the crosshair pointer on the upper-left corner of the cloth border, and press the mouse button to create the first mark.



9. Press the Shift key to constrain the Pencil tool to a straight line, hold down the mouse button, and drag across to the upper right corner of the cloth border. Release the mouse button.
10. Position the pointer on the upper right corner of the border, and press the mouse button to create one mark. Hold down the Shift key and the mouse button, and drag to the lower right corner of the border. Release the mouse button.

NOTES

11. Continue to paint straight lines along the other two edges of the border.



Adding type to the stamp

The last step in creating the postage stamp is adding type to it.

1. Select the Type tool.
2. Position the type pointer in the lower-left corner of the duck image part of the stamp, and click the mouse button.

   The Type dialog box appears.

   Choose Times for the Font.

   If Adobe Type Reunion is installed, choose Roman from the Times submenu.
3. Enter **100** in the Size box.
4. Type **29** in the text box.
5. Click anti-aliased to turn it on.
6. Click Left alignment.
7. Click OK.

NOTES

The type appears on the image.

8. If it is not in the location you want, use the arrow keys on the keyboard to move it.
9. Click outside the type to deselect it.

10. Choose Save from the File menu.
11. Double-click the Eyedropper tool.
12. Select the Type tool.
13. Position the pointer in the lower right corner, and click the mouse button.
14. Type your name, and click OK.

Shortcut:

Press Command-P to print the file.

15. Choose Print from the File menu.
16. Choose Close from the File menu to close the Duck Stamp file.
17. Choose Close from the File menu to close the Cloth-woven file. Do not save changes.

NOTES

Lesson 14: *Special Project: Playing Card*

This lesson, along with Lessons 12 and 13, is designed as a directed study project. The lessons were designed to give you an opportunity to work on your own with the instructor available to assist you. Do not hesitate to ask for individual assistance. The goal of these projects is for you to have time to apply the tools and techniques you have learned in the first eight lessons on these three projects. Be sure to experiment with various dialog box and slider settings as you work through the project. There is no "right answer." This is your chance to be creative.

This lesson should take approximately one hour.

In this lesson, you will use the Horse image to create a playing card. You will start with a blank image, and add elements to it from the Horse image as well as from the Adobe Collector's Edition: Patterns and Textures, and the Adobe Collector's Edition: Symbols, Borders and Letterforms software.

The steps you will follow to create the card are

- Filling a new file with a diamond pattern
- Adding type
- Using paste controls on the type
- Using the High Pass filter on part of the image
- Making a selection of the horse's head
- Using the Border command on the selection
- Adjusting the brightness and contrast on the fringe to create a glow effect
- Copying and pasting the horse's head into the card
- Using a custom brush to add diamonds to the card
- Using the Paint Bucket tool to fill the diamonds with color

NOTES

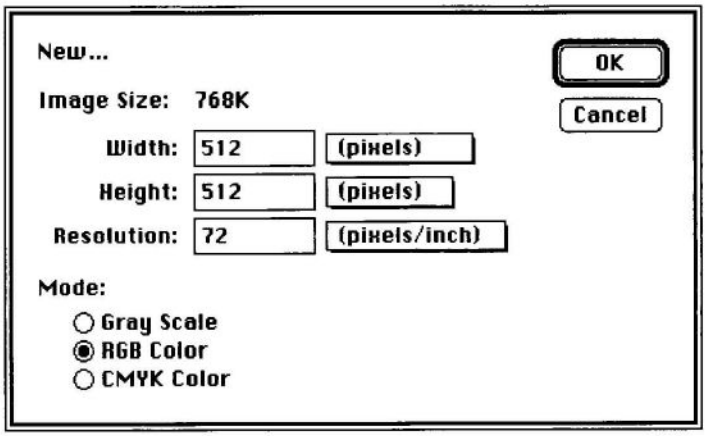
Starting the lesson

Shortcut:

Press Command-N to open a new file.

1. Choose New from the File menu.

   The New dialog box appears.



2. Enter **270** in the Width box.
3. Enter **385** in the Height box.

   These dimensions are approximately 150 percent the size of a normal playing card. If you print the final image, you can resize it before printing using the Page Setup dialog box.

4. Select RGB Color, if it's not already selected.
5. Click OK.

   The blank image appears.

Filling a selection with a pattern

Now you will use the Rectangular Marquee tool to define an area in the center of the image. You will fill that area with a diamond pattern.

Defining the selection

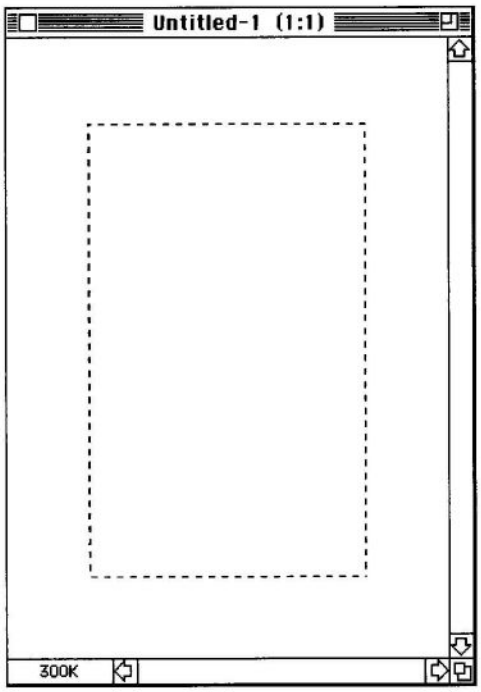
You will use the Fixed Size option of the Rectangular Marquee tool to select an area that you will fill with the diamond pattern.

1. Double-click the Rectangular Marquee tool.

NOTES

The Rectangular Marquee Options dialog box appears.

2. Click the Fixed Size option.
3. Enter **170** in the Width box.
4. Enter **278** in the Height box.
5. Click OK.
6. Position the pointer in the lower right corner of the image.
7. Hold down the mouse button, and drag the marquee so that it is in the center of the window.



Defining the pattern

You will use the Diamonds-harlequin file from the Adobe Collector's Edition: Patterns and Textures software to define a pattern.

Shortcut:

Press Command-O to open a file.

1. Choose Open from the File menu.
2. Click the Diamonds-harlequin file.

NOTES

3. Click Open.

   The bitmapped image opens. You cannot define a pattern from a bitmapped image. It needs to be converted to gray scale.

4. Choose Gray Scale from the Mode menu.

   A dialog box appears.

5. Click OK to accept the default.

Shortcut:

Press Command-A to select all.

6. Choose All from the Select menu.

7. Choose Define Pattern from the Edit menu.

8. Close the Diamonds-harlequin file by clicking the close box in the upper left corner of the window. Do not save changes.

Filling the selection with the pattern

Now you will use the Fill command to fill the rectangular selection with the diamond pattern.

1. Choose Fill from the Edit menu.

   The Fill dialog box appears.

2. Enter **100** in the Opacity text box.

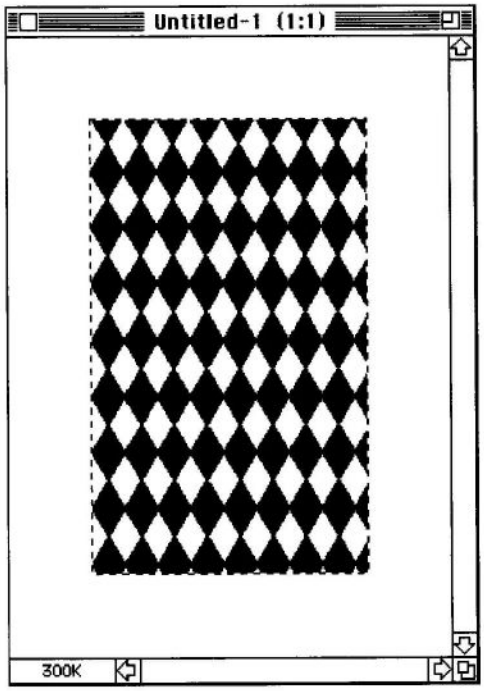
3. Click the Normal Mode option.

4. Click the Pattern option.

5. Click OK.

NOTES

The selection is filled with the pattern. Do not deselect it.



Filling the selection with new colors

Now you will open the Horse file and use the Eyedropper tool to sample colors. You will use the colors you sample to fill the diamond selection so that it is no longer black and white.

Shortcut:

Press Command-O to open a file.

1. Choose Open from the File menu.
2. Click the Horse file.
3. Click Open.
4. Hold down the Option key and the Space bar simultaneously, and click the mouse button to zoom out once to make the image smaller (1:2).
5. Click the resize box, in the upper right corner of the window.
6. Drag the Horse window to the side of the playing card window so that you can see both windows at once.

NOTES

To fill the diamonds with new colors:

1. Select the Eyedropper tool.
2. Position the pointer on the purple on the horse's mouth, and click the mouse button to sample this color for the new foreground color.
3. Click the title bar of the playing card window to make it the active window.
4. Choose Fill from the Edit menu.

   The Fill dialog box appears.
5. Click the Darken Only mode.

   In Darken Only mode, only the pixels that are lighter than the foreground color are filled. Therefore, the purple will fill the white diamonds.
6. Click the Foreground option.
7. Click OK.

   The Horse image does not have to be the active file to sample a color from it. Try to get the deepest blue of the rose. Do not sample from the lightest part of the flower.
8. Select the Eyedropper tool.
9. Position the Eyedropper pointer on the blue rose in the Horse file, and click the mouse button to sample this color for the new foreground color.
10. Choose Fill from the Edit menu.

    The Fill dialog box appears.
11. Click the Lighten Only mode.

    In Lighten Only mode, only the pixels that are darker than the foreground color are filled. Therefore, the blue will fill the black diamonds. This will not work properly if the blue is not darker than the purple you already used. (You will get a solid blue box if the blue you sampled is not dark enough.)
12. Click OK.

NOTES

Shortcut:

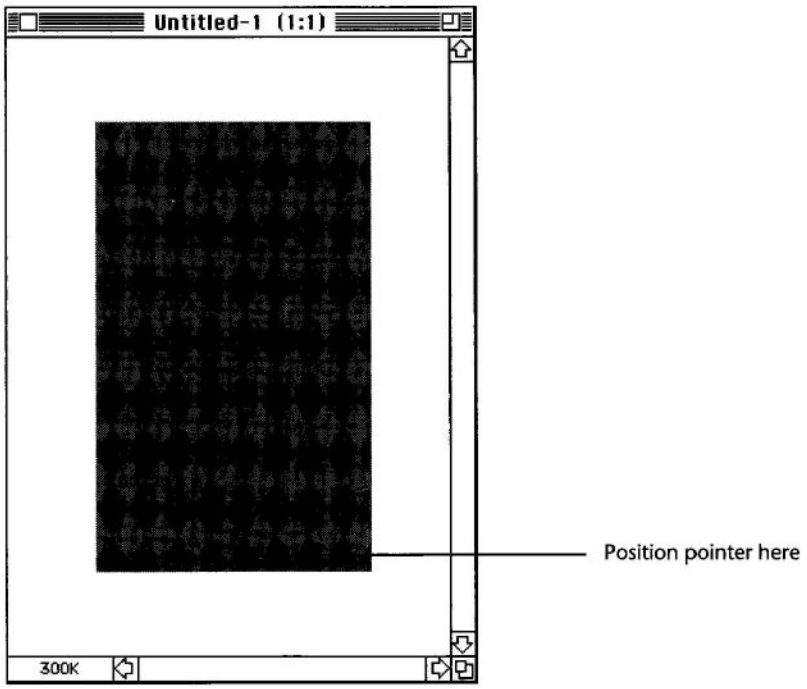
Press Command-D to deselect the currently selected area.

13. Choose None from the Select menu.
14. Choose Save As from the File menu.
15. Type **Horse Card** for the file name and click Save.

Adding type to the image

Next, you will add a large Q (for Queen) to the playing card.

1. Double-click the Eyedropper tool to restore the default foreground and background colors.
2. Click the Type tool.
3. Position the Type pointer at the bottom of the diamond rectangle, approximately at the center (see the graphic below).



4. Click the mouse button.

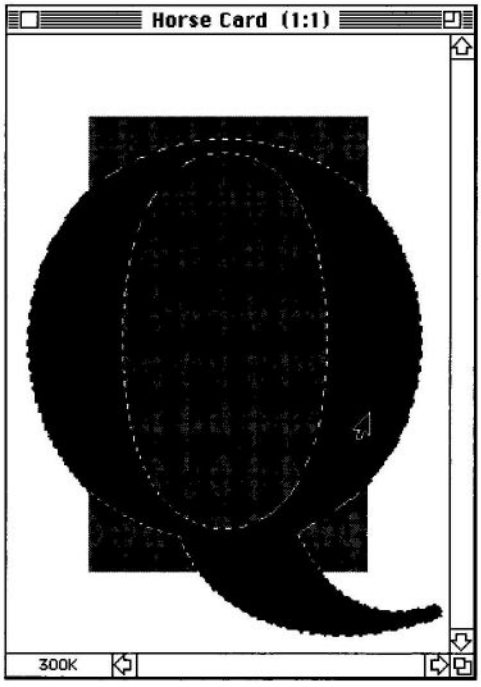
   The Type dialog box appears.

NOTES

5. Select Times for Font. If Adobe Type Reunion is installed, choose Roman from the Times submenu.
6. Enter **350** in the Size box.
7. Click the Bold option.
8. Click the Anti-aliased option.
9. Click the Center Alignment option.
10. Type **Q** in the text box.
11. Click OK.

    The Q appears as the current selection in the image.
12. Drag the Q into position as shown in the following illustration.

    Do not deselect the letter Q.



NOTES

Using Paste Controls on the type

Now you will use Paste Controls to make the type partially transparent.

1. Choose Hide Edges from the Select menu.
2. Choose Paste Controls from the Edit menu.

   The Paste Controls dialog box appears.
3. Enter **50** in the Opacity box.
4. Click Preview, then click OK.
5. Choose Save from the File menu.

Shortcut:

Press Command-S to save the file.

Creating an alpha channel to store the selected type

In this section, you will adjust the brightness and contrast on the inside of the Q. The easiest way to select the inside of the Q is to transfer the selection to an alpha channel, and use the Magic Wand tool to select the inside of the Q. Because its center is black, one touch of the Magic Wand tool will easily select it.

To create an alpha channel:

Shortcut:

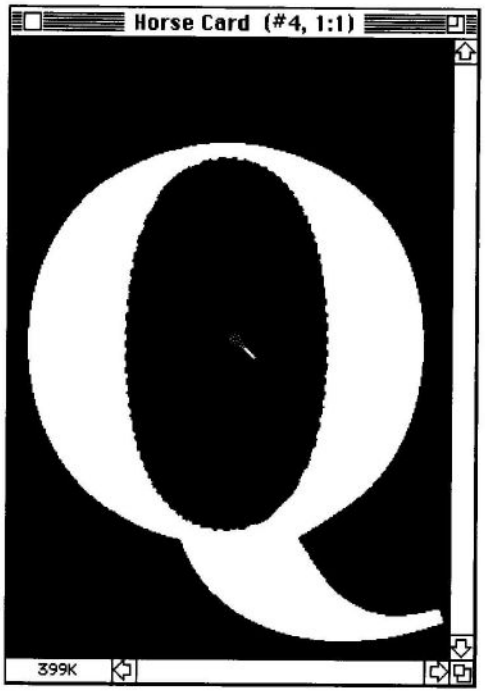
Press Command-H to show or hide the Selectio marquee.

1. Choose Show Edges from the Select menu.
2. Choose Save Selection from the Select menu.

   The Q appears in channel #4.
3. Select the Magic Wand tool.
4. Position the pointer in the center of the Q (i.e., the black oval), and click the mouse button.

NOTES

The inside of the Q is the current selection in the alpha channel.



5. Choose Save Selection from the Select menu and New from the submenu.

Shortcut:

Press Command-0 (zero) to choose the RGB channel.

6. Choose Channel from the Mode menu and RGB from the submenu.
7. Choose Load Selection from the Select menu and #5 from the submenu.

   The center of the Q is the current selection in the RGB image.

Shortcut:

Press Command-S to save the file.

8. Choose Save from the File menu.

NOTES

Using the High Pass filter on the selection

Now you will use the High Pass filter on the center of the Q. The High Pass filter retains the high-frequency areas of a selection and suppresses the low-frequency areas. High-frequency areas coincide with sharp transitions that generally occur around the edges of distinct parts of an image. Low-frequency areas occur where there are smooth, gradual transitions.

1. Choose Other from the Filter menu and High Pass from the submenu.

   The High Pass filter dialog box appears.

2. Click OK to accept the default.

Shortcut:

Press Command-S to save the file.

3. Choose Save from the File menu.

Editing the Horse file

In this section, you will make changes to the Horse file. Later, you will paste the horse's head into the playing card.

1. Click the Horse to make it the active window.
2. Double-click the Zoom tool to restore the image to its full size (1:1).

Shortcut:

Press Command-J to posterize the selected area.

3. Choose Map from the Image menu and Posterize from the submenu.

   The Posterize dialog box appears.

4. Click OK to accept the default.

   The Posterize command flattens the colors in an image. This gives the effect of an image painted with poster paints. In the Posterize dialog box, you specify the number of levels. The range of levels is from 1 to 255. The lower the number of levels, the more dramatic the contrast in the image.

5. Choose Stylize from the Filter menu and Facet from the submenu.

NOTES

The Facet filter clumps pixels into blocks.

Selecting the horse's head

Now you will select the horse's head and save it in an alpha channel so that you will later be able to paste it into the playing card. Just as you did in Lesson 2, you will use the Magic Wand tool to select the black background. Next, you will use the Inverse command to select the horse's head (everything except the black background).

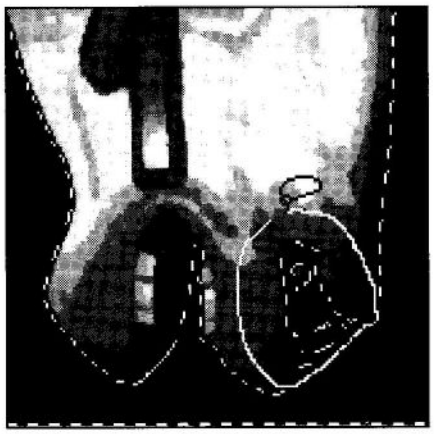
1. Release the Caps Lock key.
2. Select the Magic Wand tool.
3. Position the Magic Wand pointer on the black background, and click the mouse button to select the background.

   The selection picks up some of the horse's nose. You can use the Lasso tool to eliminate this area from the selection.

4. Select the Lasso tool.

NOTES

5. Hold down the Command key and the mouse button, and drag to enclose the area on the horse's nose that has been included in the selection.



6. Choose Inverse from the Select menu to select all that is not selected and deselect all that is selected. The horse's head is now selected.
7. Choose Feather from the Select menu.
8. Enter 1 in the Feather box.
9. Click OK.
10. Choose Save Selection from the Select menu and New from the submenu.

    The horse's head mask is stored in channel #5. This file already has an alpha channel containing the horse's mane mask, channel #4.
11. Choose Channel from the Mode menu and RGB from the submenu.
12. Choose Load Selection from the Select menu and #5 from the submenu.

    The horse's head is the current selection.

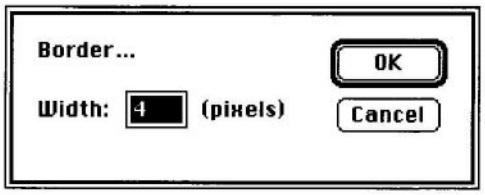
Using the Border command

In this section, you will select the border around the horse's head, and adjust the brightness and contrast in the fringe area. This will give a glowing effect to the edges of the horse's head.

NOTES

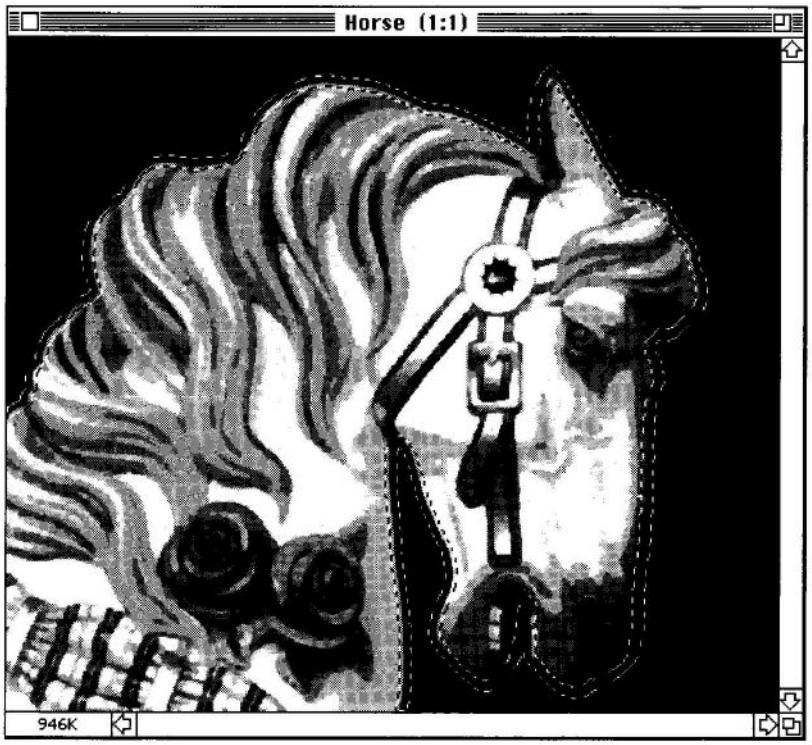
1. Choose Border from the Select menu.

   The Border dialog box appears.



2. Enter **8** in the Width box.
3. Click OK.

   You should see a double marquee 8 pixels apart.



Shortcut:

Press Command-H to show or hide the selection marquee.

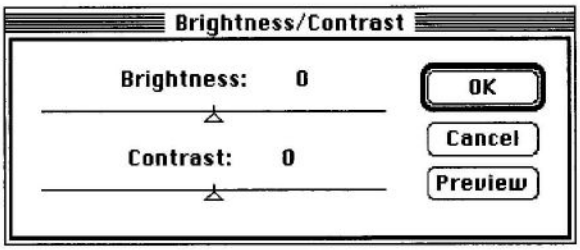
Press Command-B to select Brightness/Contrast.

4. Choose Hide Edges from the Select menu.

NOTES

5. Choose Adjust from the Image menu and Brightness/Contrast from the submenu.

   The Brightness/Contrast dialog box appears.



6. Drag the dialog box to the upper left corner of the screen so that you can see the horse clearly.
7. Drag the Contrast triangle to the right to +50.

   You will notice a glowing effect on the edges of the horse's head.
8. Click Preview.
9. Click OK.
10. Choose None from the Select menu.

Shortcut:

Press Command-D to deselect the currently selected area.

Resizing the horse image

Now you will resize the image so that it will fit into the playing card.

1. Choose Image Size from the Image menu.

   The Image Size dialog box appears.
2. Select the units of measurement box next to Width, and choose percent from the pop-up menu.
3. Choose percent from the units of measurement pop-up menu next to Height.
4. Enter **50** in the Width box.
5. Enter **50** in the Height box.
6. Make sure that the File Size option is not checked.
7. Click OK.

NOTES

Making a copy of the horse's head

Now you will make a copy of the horse's head so that you can paste it into the playing card.

Shortcut:

Press Command-5 to select alpha channel #5.

1. Choose Load Selection from the Select menu and #5 from the submenu.

   The horse's head is the current selection.

Shortcut:

Press Command-C to copy the current selection to the Clipboard.

2. Choose Copy from the Edit menu.
3. Choose Horse Card from the Window menu to make it the active window.

Pasting the horse's head into the playing card

In this section, you will paste the horse's head into the playing card. You will make it seem that the horse is coming out of the center of the Q by using the Paste Into command. First, you will need to define the area into which you will paste the horse.

Shortcut:

Press Command-4 to select alpha channel #4.

1. If the center of the Q is not selected, select it by choosing Load Selection from the Select menu and #5 from the submenu.

   The center of the Q is the current selection.

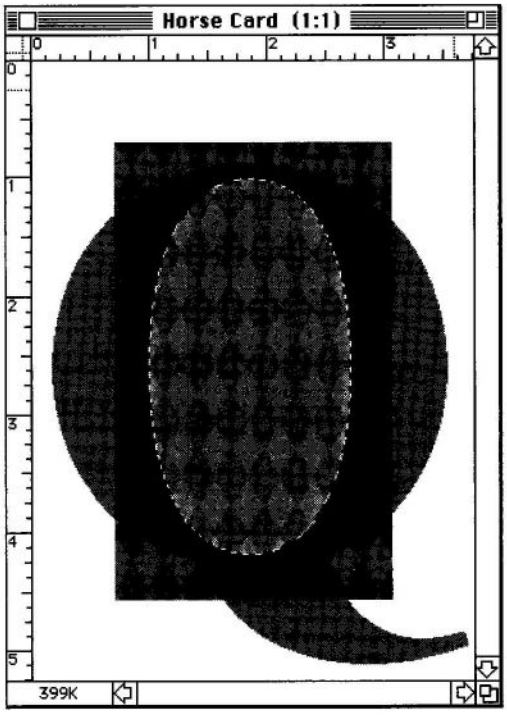
NOTES

Shortcut:

Press Command-R to show or hide the rulers.

2. Choose Show Rulers from the Window menu.

   You will use the rulers to make precise selections.



3. Choose Paste Into from the Edit menu.

NOTES

Notice that the horse is only partially visible. This is because the area into which you pasted the selection wasn't extensive enough. Now you will cut the pasted horse head, redefine the area into which you will paste, and paste the horse's head into the redefined area.

Shortcut:

Press Command-X to cut a selection to the Clipboard.

4. Choose Cut from the Edit menu.

To reselect the area:

Shortcut:

Press Command-5 to select alpha channel #5.

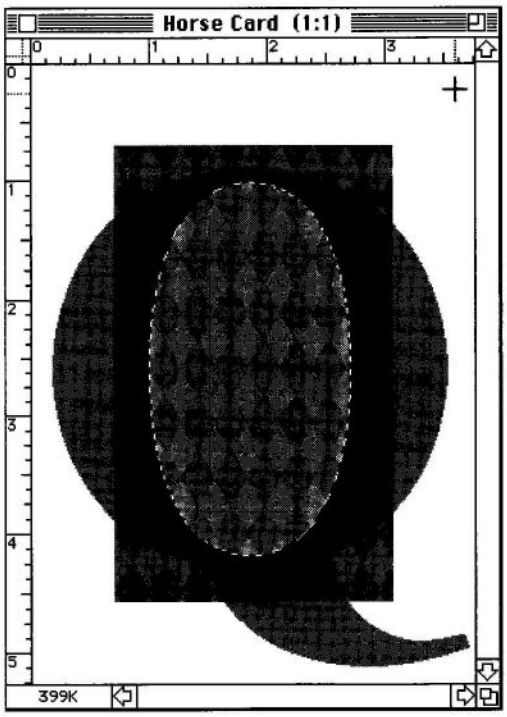
Choose Load Selection from the Select menu and #5 from the submenu.

NOTES

The center of the Q is the current selection in the RGB image.

To add to the selection:

1. Double-click the Rectangular Marquee tool, click the Normal button, and click OK.
2. Position the pointer in the upper right corner of the image, at 3-3/4 inches on the Horizontal ruler and 0 (zero) on the Vertical Ruler.

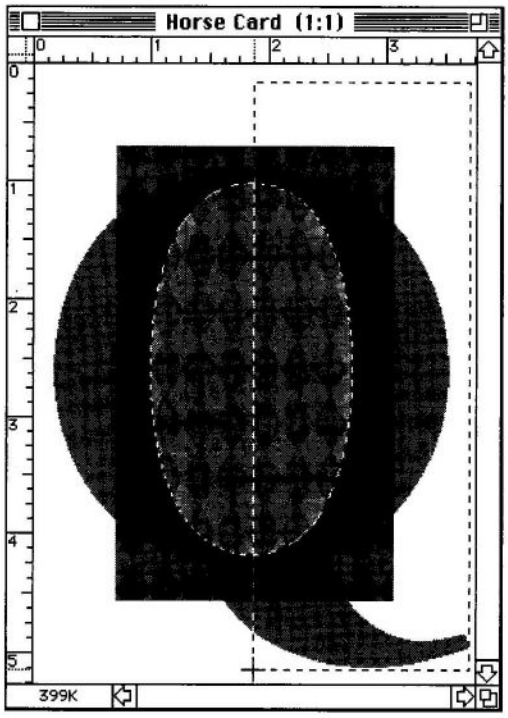


3. Hold down the Shift key, press the mouse button, and drag over to 2 inches on the Horizontal ruler and 5-1/4 inches on the Vertical ruler.

NOTES

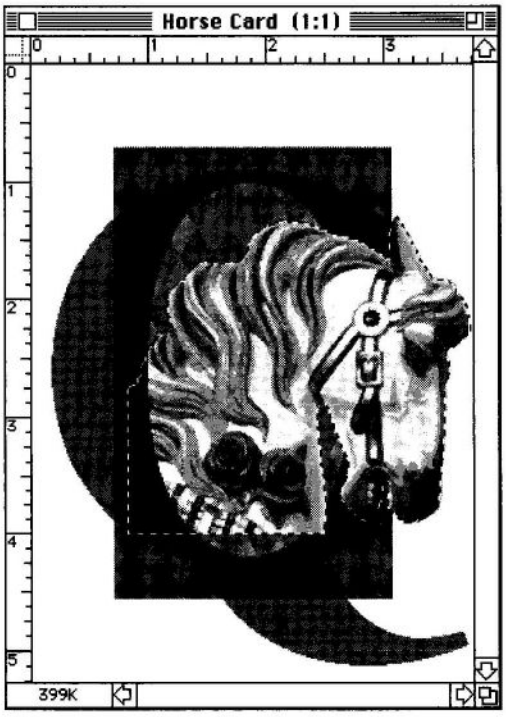
4. Release the Shift key and the mouse button.

   The right side of the image and the left side of the Q are added to the selection.



NOTES

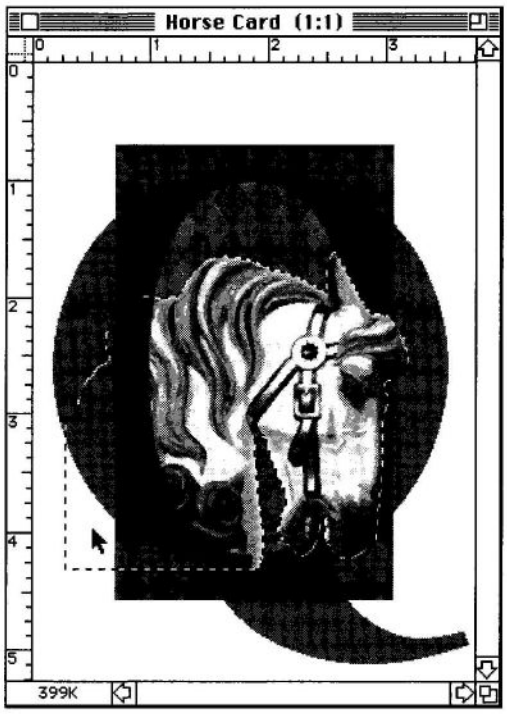
5. Choose Paste Into from the Edit menu.



The horse's head is pasted into the selection, but is positioned too high in the center of the Q.

NOTES

6. Position the pointer inside the horse's head selection. Press the mouse button, and drag the selection down and to the left, as shown in the following illustration.

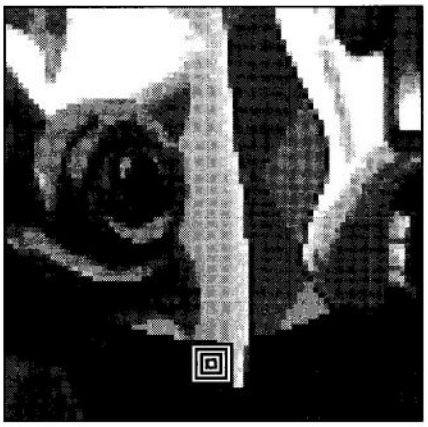


A small portion of the horse's neck extends over the Q.

7. Select the Zoom tool, and click the bottom of the horse for a closer look.
8. Double-click the Rubber Stamp tool. The Rubber Stamp Options dialog appears.
9. Click the Revert button under Option.
10. Click the third brush from the left in the top row.
11. Click OK.

NOTES

12. With the Rubber Stamp tool, drag over the part of the horse's neck extending into the Q.



Shortcut:

Press Command-D to select None.

13. Choose None from the Select menu to deselect the horse's head.
14. Double-click the Zoom tool to go back to actual size.
15. Choose Save from the File menu.

Using a custom brush

In this section, you will add a row of diamonds to the top of the card using a custom brush. You will create a custom brush with a file from the Adobe Collector's Edition: Symbols, Borders, and Letterforms.

To define a custom brush:

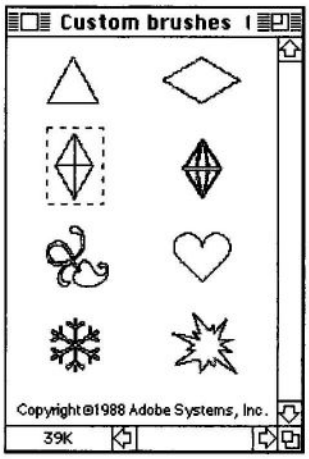
Shortcut:

Press Command-O to open a file.

1. Choose Open from the File menu.
2. Click the Custom Brushes file.
3. Click Open.
4. Select the Rectangular Marquee tool.

NOTES

5. Position the pointer above and to the left of the diamond shape on the left side of the window. Press the mouse button and drag to the right to enclose the diamond in a marquee.



6. Choose Define Brush from the Edit menu.
7. Choose Close from the File menu to close the Custom brushes file.

To paint with a custom brush:

1. Select the Eyedropper tool.
2. Position the pointer on one of the purple diamonds on the card, then click the mouse button.
3. Double-click the Pencil tool.

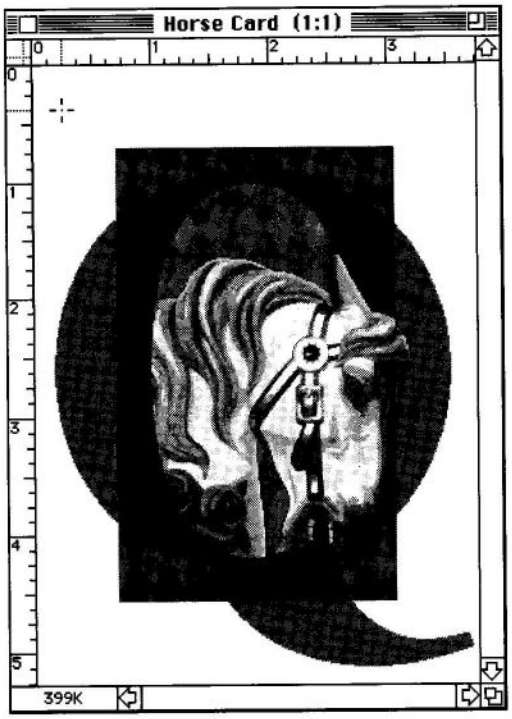
   The Pencil Options dialog box appears.

   The bottom of the custom brush in the Pencil Options dialog box is clipped off. This is only in this window. The full brush will be available when you paint with it.
4. Click the Custom brush.
5. Enter **26** in the Spacing box.
6. Click OK.

   The Pencil tool will lay down a brush stroke once every 26 pixels.

NOTES

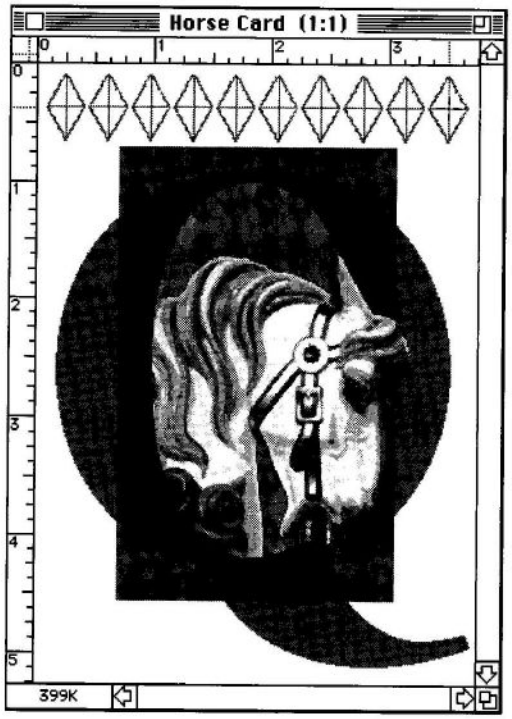
7. Press the Caps Lock key to access the crosshair pointer.
8. Position the crosshair pointer at the top of the card, approximately 1/4 inch over and 1/2 inch down.



9. Press the mouse button to create one diamond.
10. Hold down the Shift key and the mouse button, and drag across the top of the card. The Pencil tool lays down nine diamonds.

NOTES

The Shift key constrains the Pencil tool to a straight line.



Filling the diamonds with color

The last step in creating the playing card is to fill the diamonds with colors. You will use the Eyedropper tool to sample colors from the image and the Paint Bucket tool to fill the diamonds. The diamonds are divided into quarters. You will fill two of the quarters with one color, and two of the quarters with a second color. The diamonds will be two-tone.

1. Select the Zoom tool.
2. Zoom in once (2:1) into the upper portion of the image where the row of diamonds appears.
3. Select the Paint Bucket tool.
4. Position the Paint Bucket pointer in the upper left section of the first diamond, and click the mouse button. Click in thelower right section of the same diamond.

NOTES

5. Continue to click the other diamonds to fill them.
6. Press the Space bar and use the grabber to move to the diamonds to the right.

7. When you have finished filling the diamonds, press the Option key to access the Eyedropper tool.
8. Position the Eyedropper pointer on a blue diamond on the card and click the mouse button.
9. Position the Paint Bucket pointer in one of the unfilled parts of the rightmost diamonds, and click the mouse button.

NOTES

10. Continue to click in the other diamonds to fill the empty pieces.

11. Double-click the Zoom tool to go back to actual size.
12. Double-click the Eyedropper tool.

Shortcut:

Press Command-S to save the file.

13. Choose Save from the File menu.
14. Select the Type tool.
15. Postion the I-beam in the lower right corner, and click the mouse button.
16. Type your name, and click OK.

Shortcut:

Press Command-P to print the file.

17. Choose Print from the File menu.
18. Choose Close from the File menu to close the Horse Card file.
19. Choose Close from the File menu to close the Horse file. Do not save changes.

NOTES

Lesson 15: *Printing*

Lesson 15 is an instructor-led section; wait for instructor information.

In this section, you will print one of the images you have created in several ways.

This lesson covers

- Converting an RGB image to a gray-scale image
- Printing a halftone
- Printing a color composite
- Converting an RGB image to CMYK
- Printing options
- Printing a four-color separation
- Using PS Prefs file options

The Adobe Photoshop program allows you to print images in a number of ways. You can create a halftone from a gray-scale image. You can also create a color proof and color separations from color images using the four process colors. You have the option of printing halftones and color separations as negatives that an offset printer can use to print reproductions of your work.

When you print a gray-scale image on a 1-bit black and white PostScript printer, the image is printed as a halftone. A halftone is an image composed of a series of dots of varying sizes. The size and density of the dots vary to create the illusion of varying shades of gray.

You can print the three channels of an RGB image as a single, composite image; the three channels are printed as one on a single plate. You can also print the individual channels, one channel at a time on separate plates. By converting an RGB image to a CMYK image, you can print a color separation of the image consisting of cyan, magenta, yellow, and black plates.

NOTES

Converting an RGB image to a gray-scale image

The first step in this lesson is to convert one of your RGB images to a gray-scale image.

1. Choose Open from the File menu.
2. Click the Bulb Package file.
3. Click Open.

To convert the image to gray scale:

4. Choose Gray Scale from the Mode menu.

   An alert box appears asking if you want to discard the color information.

5. Click OK.
6. Choose Save As from the File menu.
7. Type **Bulb Package.gray** for the file name.
8. Click Save.

Printing a halftone

You will create a halftone screen to print a gray-scale image using the Halftone Screen option in the Page Setup dialog box. The results of setting the halftone screen will be apparent only on the printed copy, not on-screen. Your computer must be connected to a printer before you can set up the halftone screen.

You will be adjusting the screen frequencies and dot shapes in your image in this lesson. The screen frequency controls the density of dots on the screen. The dots are arranged in lines on the screen. The common measurement for screen frequency is lines per inch (lpi). The screen frequency you set depends primarily on the quality of the output device and the type of paper that will be used to print the image.

NOTES

The higher the screen frequency, the finer the image produced. Magazines tend to use fine screens of 133 lpi and higher because they are usually printed on coated paper stock on high-quality presses. Newspapers, which are usually printed on lower quality paper stock, tend to use lower screen frequencies, such as 85 lpi screens.

The screen angle used to create halftones of gray-scale images is generally 45 degrees.

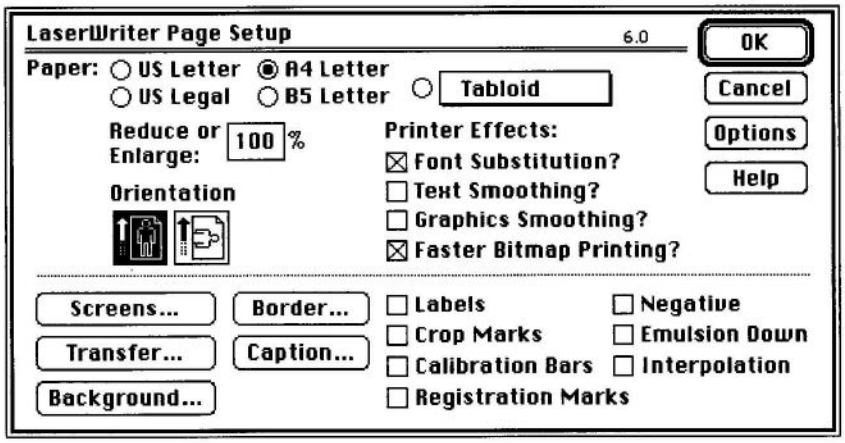
The dot shape also affects the printed halftone. Elliptical-shaped dots are most commonly used; however, you can also choose round, line, square, and cross-shaped dots.

Before you print a halftone, you set up the halftone screen.

To set up the halftone screen:

1. Choose Page Setup from the File menu.

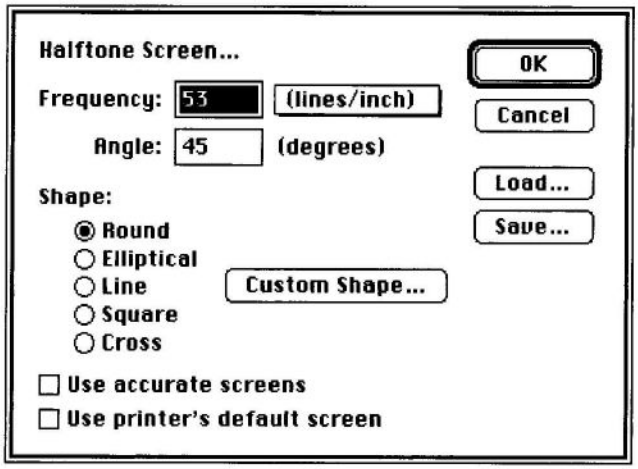
   The Page Setup dialog box appears.



2. Click the Screens button.

NOTES

The Halftone Screen dialog box appears.



3. To specify the screen frequency, enter **80** in the Frequency box.

   Do not change the screen angle default of 45.

4. Click the Elliptical button to select the dot shape of the screen.

5. Click OK.

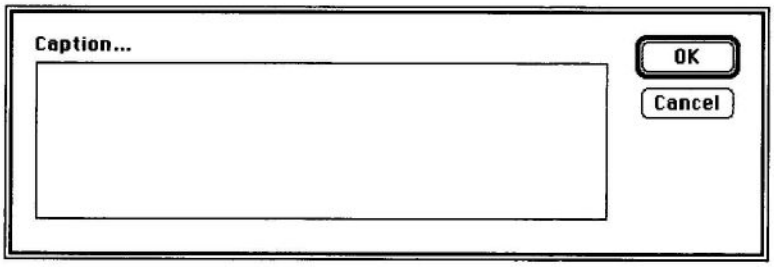
   The Page Setup dialog box reappears. You can use this dialog box to add a caption to the bottom of your image.

   Captions are used to label your printed output.

   To add a caption to an image:

1. Click the Caption button in the Page Setup dialog box.

   The Caption dialog box appears.



NOTES

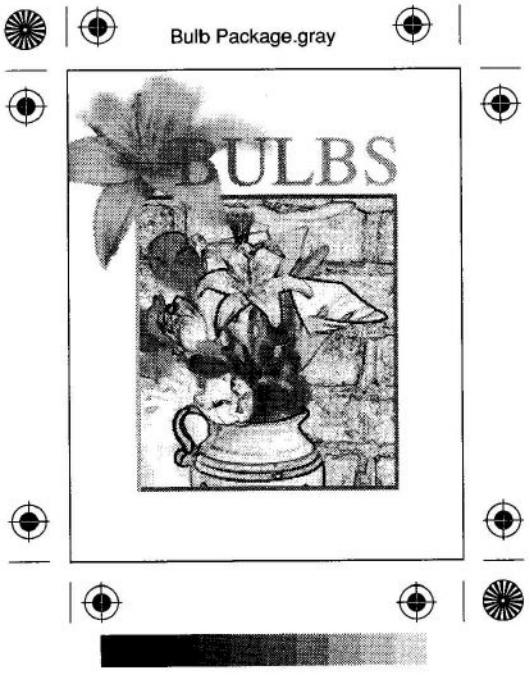
2. Type your name in the caption box.
3. Click OK.
4. Click Labels, Crop Marks, Calibration Bars, and Registration Marks.

   The Page Setup dialog box reappears.
5. Click OK.

   You are now ready to print your halftone.

To print a halftone:

1. Select Chooser from the Desk Accessories menu. Click LaserWriter and choose a printer if one is not already selected.
2. Choose Print from the File menu, and click OK in the Print dialog box.
3. When the image has printed, close the file by choosing Close from the File menu.
4. Click Yes to save changes to the image.



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NOTES

Printing a color composite

Normally, if you intend to print large quantities of an image on a conventional four-color press, you convert an RGB or indexed color image to a CMYK image, then print a color separation that consists of four plates. If you have a color output device, you can print a composite image. A color composite is a single print that superimposes the red, green, and blue channels.

While in most instances, the default settings in Adobe Photoshop will produce excellent results, for high-resolution printing it is important to make sure that your system is correctly calibrated. Calibrating for variations in monitors, printing inks, and output devices is described in the Adobe Photoshop User Guide.

When you print using a color printer, you must use the Print Using Color PostScript option in the Print dialog box. This tells the printer to produce color output. If you do not use this option, the file will print as a gray-scale image.

Also choose the Correct for Printing Colors option. When this option is used, the Adobe Photoshop program does an internal color separation of the image. This option adds processing time, but it produces truer colors than if the printer itself performs the separation. If you do not use this option, the printer will do the separation itself.

1. Choose Open from the File menu.
2. Click the Horse Card file.
3. Click Open.

Shortcut:

Press Command-K to open the General Preferences.

4. Choose Preferences from the File menu and General from the submenu.
5. Make sure the Display Color Channels in Color option is not checked. In general, for greater accuracy leave this option unchecked when working in individual channels.

Shortcut:

Press Command-1 for Red channel, Command-2 for Green channel, Command-3 for Blue channel

6. Click OK.
7. To view the red channel, choose Channel from the Mode menu and Red from the submenu.

NOTES

8. To view the green channel, choose Channel from the Mode menu and Green from the submenu.

9. To view the blue channel, choose Channel from the Mode menu and Blue from the submenu.

Shortcut:

Press Command-0 (zero) for the RGB Channel.

10. Choose Channel from the Mode menu and RGB from the submenu.

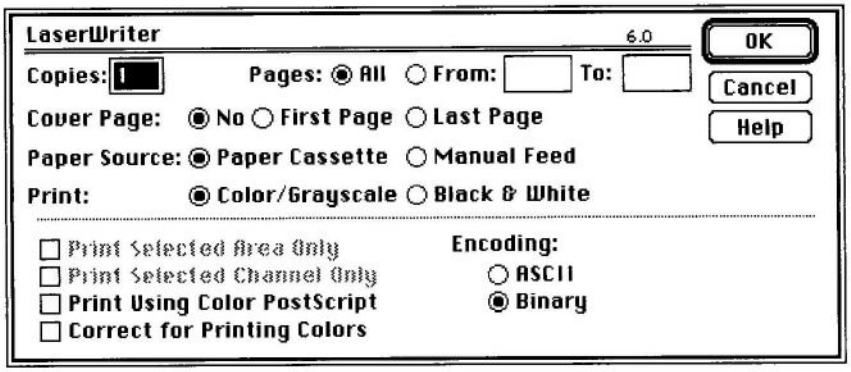
    Captions are used to label your printed output.

Shortcut:

Press Command-P to Print the file.

11. Choose Print from the File menu.

    The Print dialog box appears.



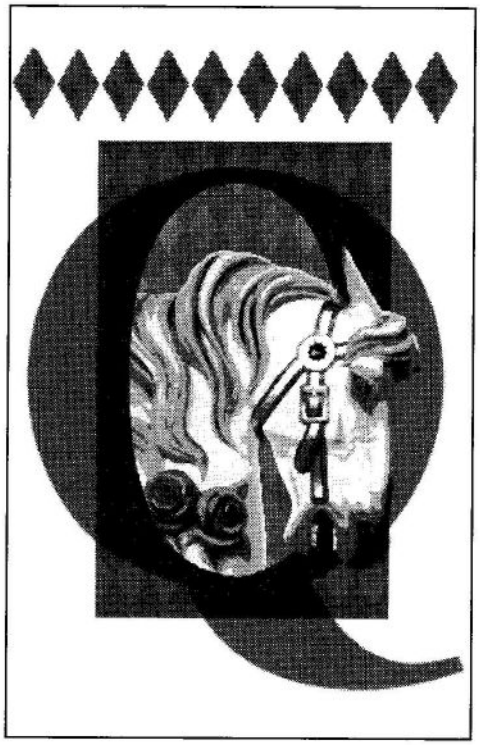
12. Click the Print Using Color PostScript option.

13. Click the Correct for Printing Colors option.

14. Click OK.

NOTES

■ *NOTE: This would appear in color from a color printer.*



Printing Individual Channels

By default, the Print Selected Channel Only option is selected when you print an RGB, HSL, HSB, or Multichannel image. To use this option with an RGB or CMYK image, one of the individual color channels must be active; the option is not available when the RGB or CMYK composite channel is active.

1. Choose Channel from the Mode menu and #4 from the submenu.

   The channel containing the letter Q appears.

2. Choose Page Setup from the File menu.

3. Click the Caption button in the Page Setup dialog box.

4. Type your name in the caption box. Click OK.

   The Page Setup dialog box reappears.

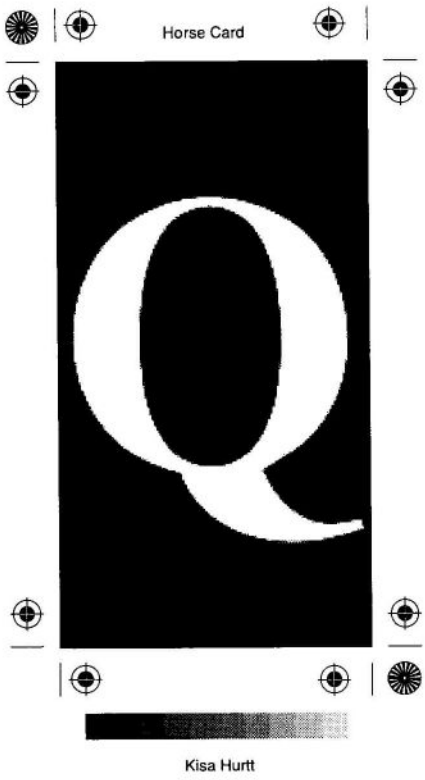
NOTES

5. Click Labels, Crop Marks, Calibration Bars, and Registration Marks.
6. Click OK.
7. Choose Print from the File menu, and click OK in the dialog box.

Shortcut:

Press Command-P to Print the file.

8. Choose Channel from the Mode menu and RGB from the submenu.



Producing and printing a color separation

In this section, you will convert your RGB image to CMYK. Traditional printing uses a four-color process employing cyan, magenta, yellow, and black plates. For printing, each RGB pixel must first be converted into a corresponding CMYK representation. Consequently, your three-channel image becomes a four-channel image, consisting of cyan, magenta, yellow, and black channels. In this case, the channels are analogous to individual plates in the printing process.

NOTES

To produce a color separation of an RGB image:

1. Choose CMYK from the Mode menu.

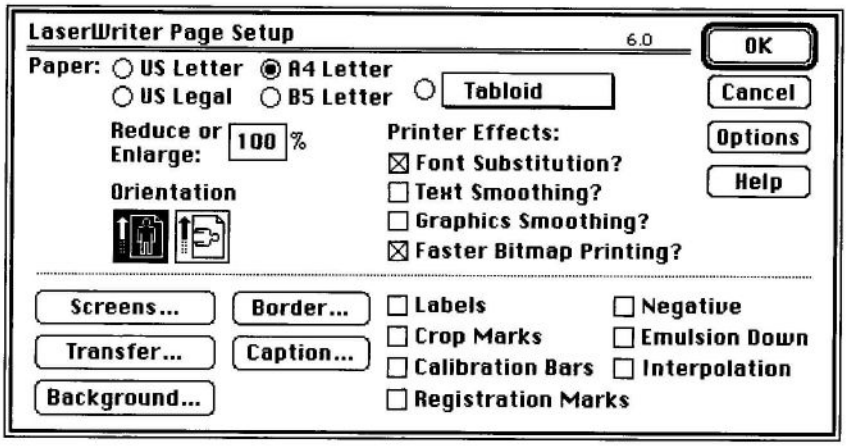
   The RGB image is converted to CMYK, and the composite channel is displayed.

Tip:

You can view the four channels individually using the Channel submenu in the Mode menu, or using the keyboard shortcuts: Command-1, -2, -3, or -4 (1 is the cyan channel, 2 is the magenta channel, 3 is the yellow channel, and 4 is the black channel).

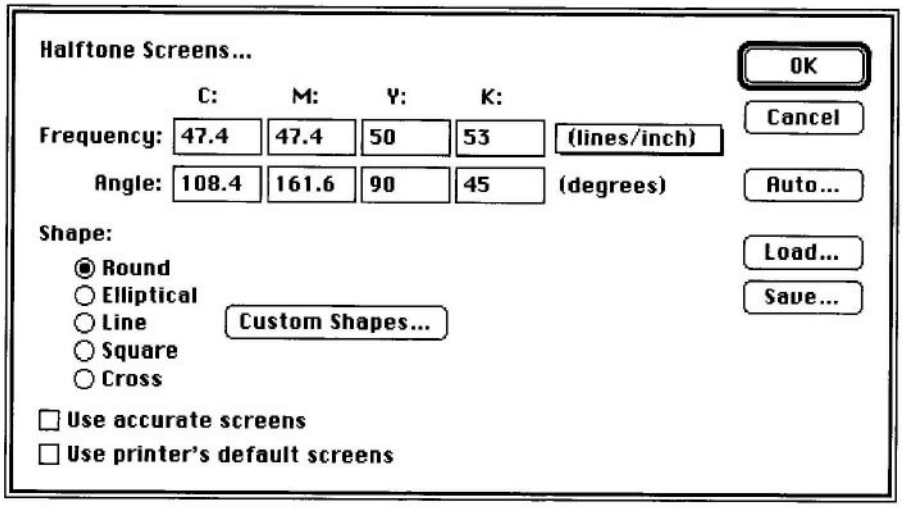
2. Choose Page Setup from the File menu.

   The Page Setup dialog box appears.



3. Click the Screens button.

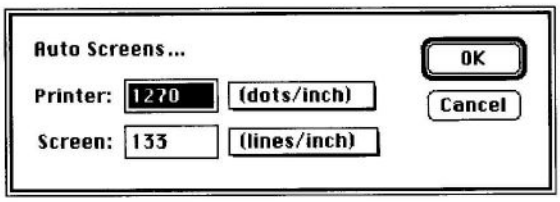
   The Halftone Screens dialog box appears.



NOTES

4. Click the Auto button.

   The Auto Screens dialog box appears.



5. Enter **2500** for the resolution of the output device you are using in the Printer box.

6. Enter **150** for the screen frequency you are using in the Screen box.

   NOTE: If you are using an output device equipped with PostScript Level 2 or an Emerald controller, make sure that the Use Accurate Screens option is checked. This lets the program access the exact angles and halftone screen frequencies recommended for high-resolution output. If your output device is not equipped with PostScript Level 2 or an Emerald controller, turn off the Use Accurate Screens option.

7. Click OK.

   The Adobe Photoshop program automatically determines the appropriate frequencies and angles for the four halftone screens.

8. Click the Elliptical button, and click OK.

Tip:

To save the halftone screen setting as the new defaults: Hold down the Option key, and click → default. To turn off downloading of the halftone screen specifications: Click the Use Printers's Default Screens checkbox. To Revert to the default settings: Hold down the Option key, and click ← default.

Printing options

The Page Setup dialog box offers several printing options. The following is a brief explanation of each option.

The *Labels* box prints the image's file name above the image.

The *Crop Marks* box prints marks indicating where trimming should occur.

The *Calibration Bars* button adds colored calibration bars at the sides of an image.

NOTES

The *Registration Marks* button prints registration marks around the edges of the image. This option also prints star targets on the image. Star targets are pinwheels that are used to measure image resolution and dot doubling, grain, and slurring during printing.

The *Negative* button prints an inverted version of the image. If you are printing separations directly to film, you will probably want a negative. If you are printing to paper, you will want a positive. Check with your print shop to determine whether the shop prefers a positive or negative of your image.

The *Emulsion down* button refers to the photosensitive layer on a piece of film or paper. Normally, images printed on paper are printed Emulsion Up, whereas images printed on film are printed Emulsion Down. Again, check with your print shop to determine in which direction the emulsion should read.

To specify printing options:

1. Select Crop Marks, Calibration Bars, Registration Marks, Negative, and Emulsion Down.
2. Click the Caption button and type your name in the caption box.
3. Click OK twice.

To print a separated image:

Shortcut:

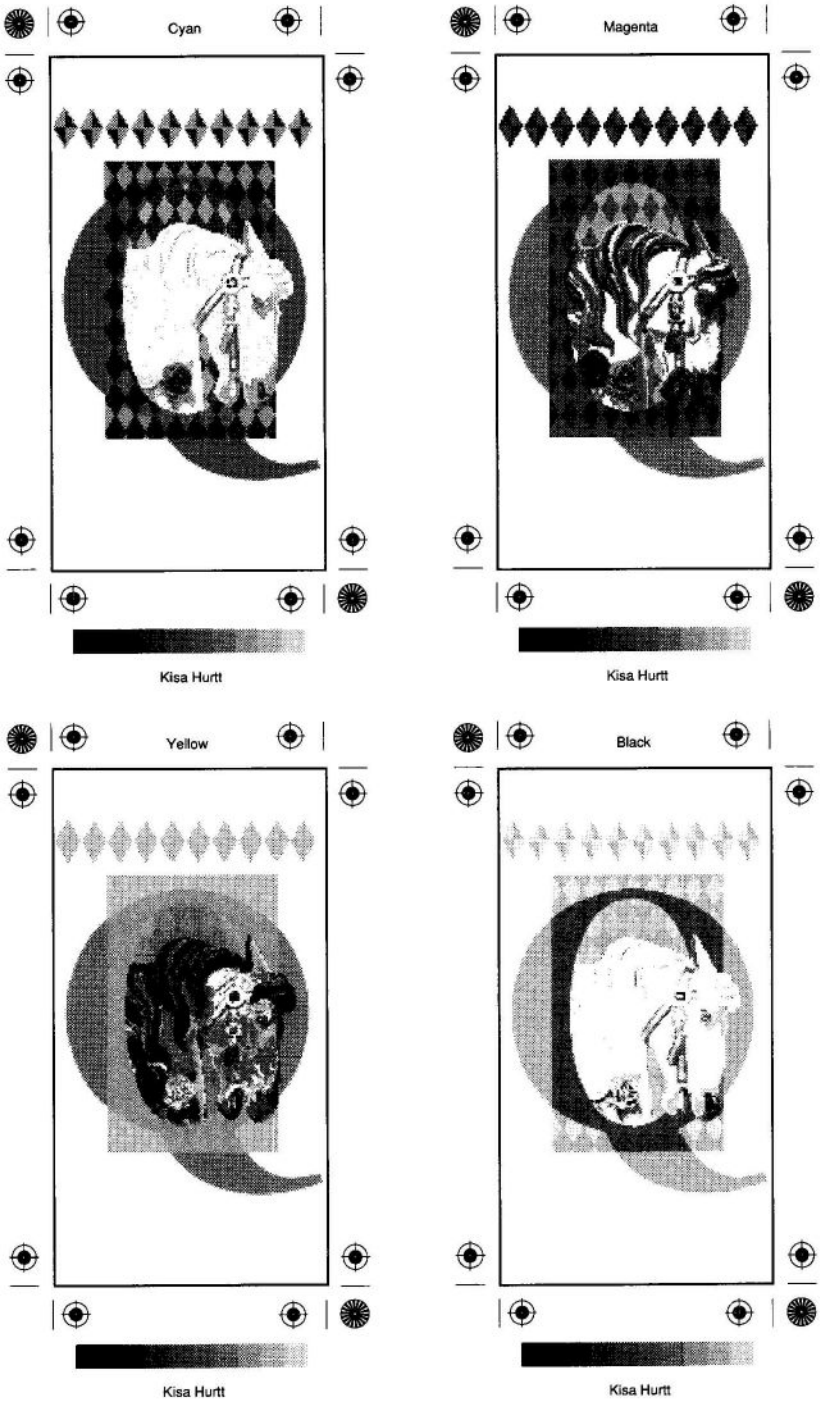
Press Command-P to display the Print dialog box.

1. Choose Print from the File menu.

   The Print dialog box appears.
2. Make sure that the Print Using Color PostScript option is NOT checked.
3. Click OK.

NOTES

The image prints as four separate pieces of paper or film.



NOTES

4. Choose Close from the File menu, and close the file without saving changes.

PS Prefs file options

When you first installed Adobe Photoshop, the program created a Photoshop preferences file, PS Prefs, which you placed in your Photoshop folder. This file stores separation setup information, calibration options, display options, tools options, ruler units, and options for exporting information from the Clipboard. Most of these options are set in dialog boxes that you open through the Preferences submenu of the File menu.

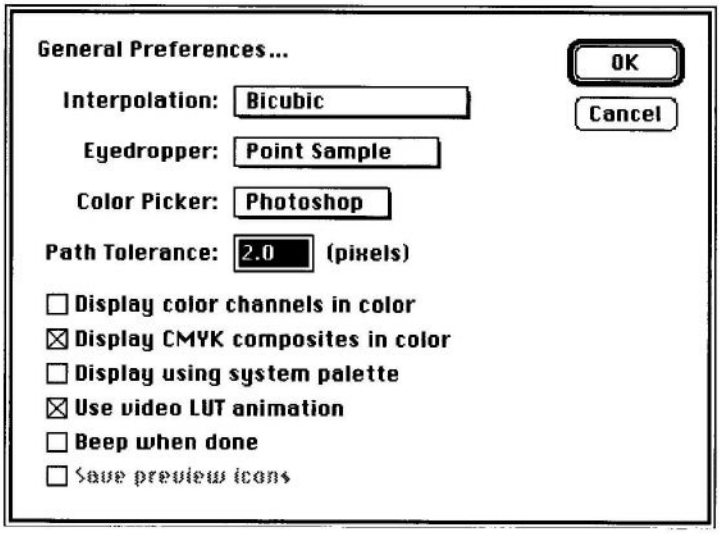
Adobe Photoshop contains four preferences dialog boxes: General Preferences, Units Preferences, Clipboard Preferences, and Virtual Memory Preferences.

General Preferences

Shortcut:

Press Command-K to open the General Preferences dialog box.

1. Choose Preferences from the File menu and General from the submenu.
2. Click OK.



The General Preferences dialog box contains the following options:

NOTES

- Interpolation: This option controls how the color values of new pixels are generated when a selection is transformed or resampled. This option was described in detail in Lesson 6.

- Eyedropper: The default Eyedropper option, Point Sample, causes the Eyedropper tool to read the color value of the individual pixel you click. You can also choose to have the Eyedropper read the average color value of a 3-pixel-by-3-pixel area or a 5-pixel-by-5-pixel area.

- Color Picker: This option lets you choose which color picker Adobe Photoshop uses: the Adobe Photoshop color picker or the Apple color wheel.

- Path Tolerance: This option controls how sensitive the Make Path command in the Select menu is to slight changes in the path shape. The higher the tolerance value, the fewer the number of anchor points used to draw the path and the smoother the path.

- Display color channels in color: This option displays the individual color channels in their respective colors, rather than as gray scales.

- Display CMYK composites in color: This option displays the composite CMYK channels in color and is on by default.

- Display using system palette: This option displays documents using the system's color lookup table, rather than the color table of the active document. This makes the color display of the active document slightly less accurate, but improves the accuracy of the color display of inactive documents.

- Use video LUT animation: This option affects how the Preview feature in the color correction dialog boxes works. Turn this option off if you are using a 24-bit or 32-bit video card.

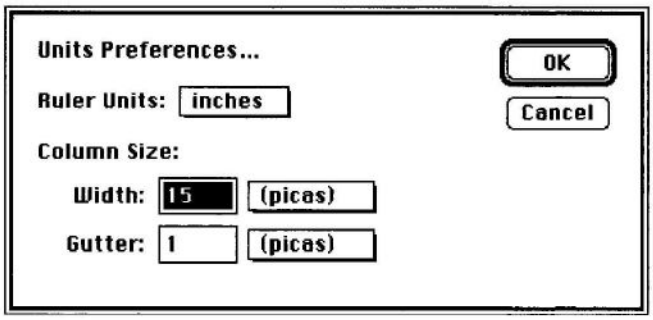
- Beep when done: This option tells Adobe Photoshop to sound a beep when the program finishes performing a task requiring a standard Macintosh thermometer dialog box.

- Save preview icons: This option lets you display your desktop icons as miniatures of the individual files. This option is only available with Apple System 7.

NOTES

Units Preferences

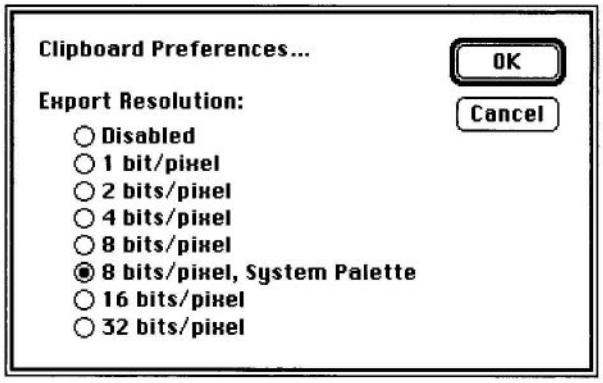
1. Choose Preferences from the File Menu and Units from the submenu.
2. Click OK.



The Units Preferences dialog box lets you change the units of measurement used in the ruler. The dialog box also lets you specify the column size that is used if you select the Column option when resizing a document with the Image Size command, the Canvas Size command, or the Cropping tool.

Clipboard Preferences

1. Choose Preferences from the File menu and Clipboard from the submenu.
2. Click OK.

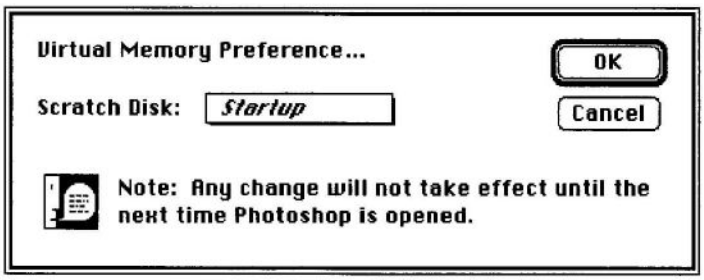


NOTES

The Clipboard Preferences dialog box lets you specify the resolution of information that is exported from the Clipboard.

Virtual Memory Preferences

1. Choose Preferences from the File menu and Virtual from the submenu.
2. Click OK.



The Virtual Memory Preference dialog box lets you specify the drive that is used for virtual memory. Virtual memory is temporary disk space used for storing data when the random-access memory (RAM) is insufficient.

Monitor Setup, Printing Inks Setup, and Separation Setup

The last three items in the Preferences submenu—Monitor Setup, Printing Inks Setup, and Separation Setup—are for calibrating your system for color separation and printing. These controls help ensure that what you see on the screen matches your printed output as closely as possible. Calibration is described in detail in the Adobe Photoshop User Guide.

NOTES