

Platform: PC/Mac

Level of Difficulty: Beginner-Advanced

This document will introduce you to the basic operations of Adobe Photoshop as well as the program's most frequently used advanced features.

Introduction

Adobe Photoshop provides the tools you need to create and edit graphics, photos, and scanned images. Photoshop presents a broad range of features that appeal to the novice and professional designer alike. Equipped with a wealth of powerful tools for special effects and lighting capabilities, as well as support for most graphic file formats, it is a versatile program in the realm of digital images.

Opening the Program

...on a PC

Click on the Start Button located in the bottom left corner of the Desktop. The Start Menu will appear. Point to **Programs** and then to **Adobe**. Click on the **Adobe Photoshop 7.0**. The program will open in a new window.

...on a Macintosh

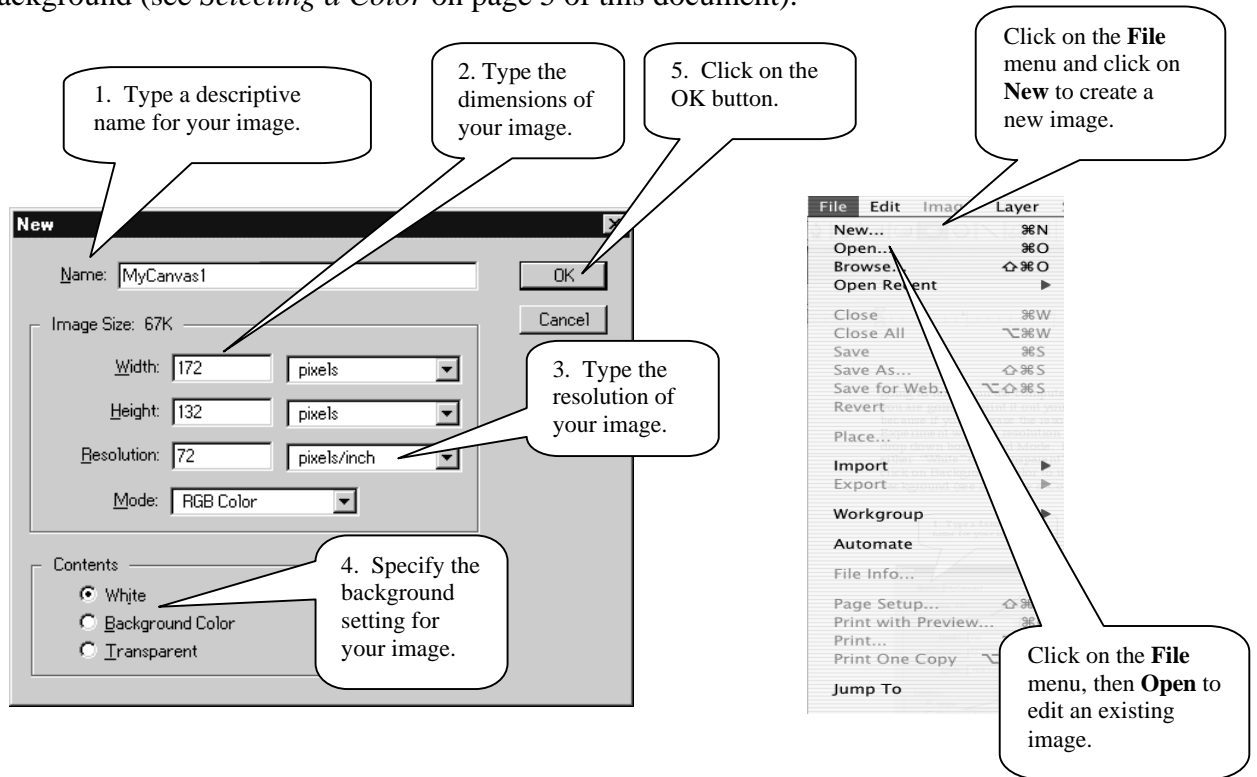
Double-click on the **Applications** icon on the Desktop. Double-click on the **Adobe Photoshop 7.0** folder, then the **Adobe Photoshop** icon. The program will appear on the screen. You can also open the Photoshop program by clicking on the **Photoshop** Icon on the dock.

Creating a New Image

To create a new image, click on the **File** menu and click on **New**. The New dialogue box will appear in which you must provide information pertaining to the new image's creation. Click on the field labeled **Name** and type a descriptive name for your new image. Below the **Name** field, find the fields labeled **Width** and **Height**. Enter the desired dimensions of your new image in these fields. Click on the drop down boxes beside each field if you wish to specify the size of the image using a different unit of measurement. Below the fields specifying dimension is a field labeled **Resolution**. The resolution of an image depends on what the image is going to be used for. If the image is

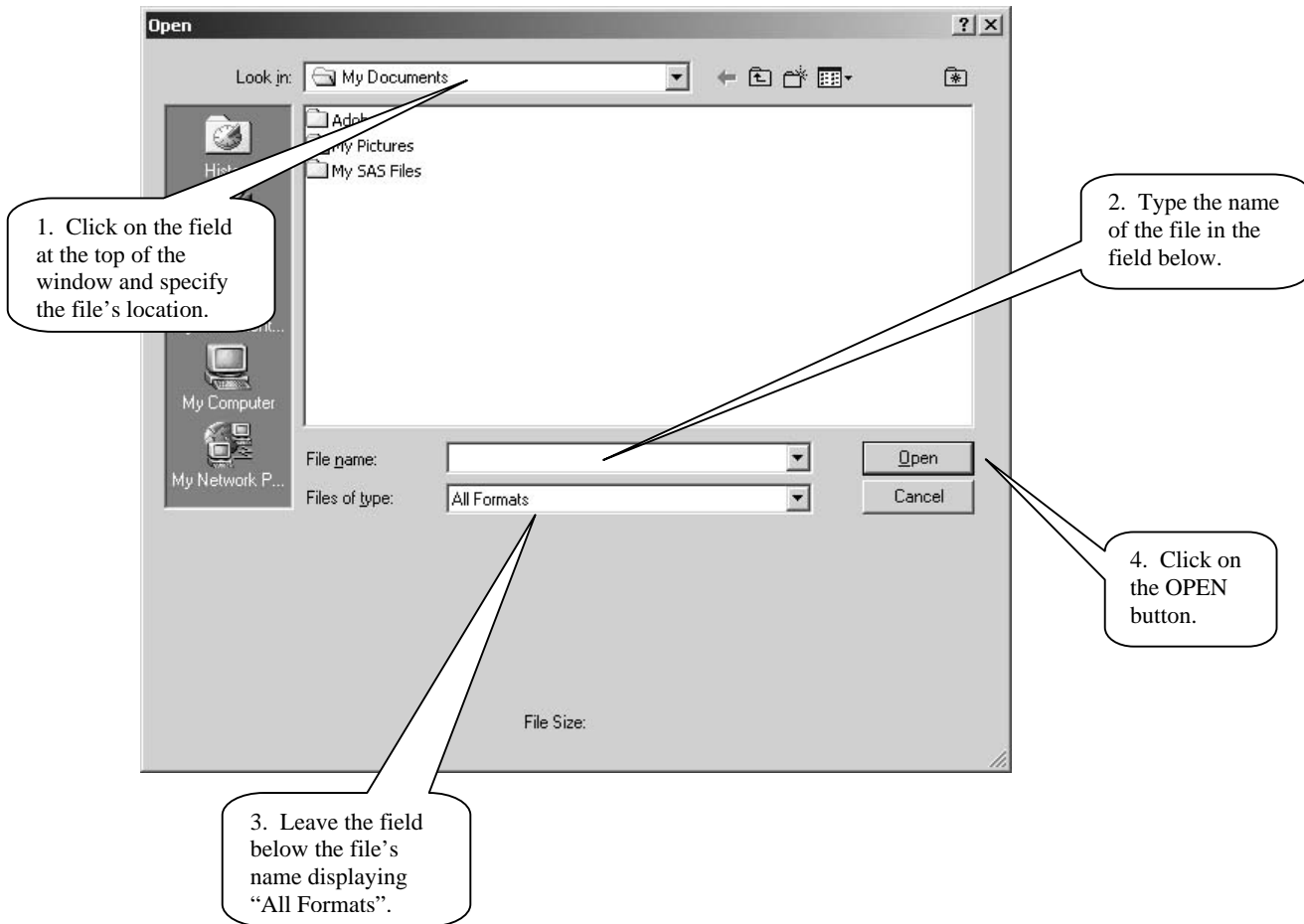
going to remain on the computer, you can leave the resolution at its default level of 72. If you are going to print it out you might want to increase the resolution. It is a little tricky because if you increase the resolution by too much it might distort the picture.

Experiment with the resolution level to get your desired look for your image. Skip the drop down box labeled Mode. Finally, at the bottom of the New dialogue box click on either “White” or “Transparent” for the background setting for your image. You can also click on Background Color to use the current background color for the new image’s background (see *Selecting a Color* on page 5 of this document).



Opening an Existing Image

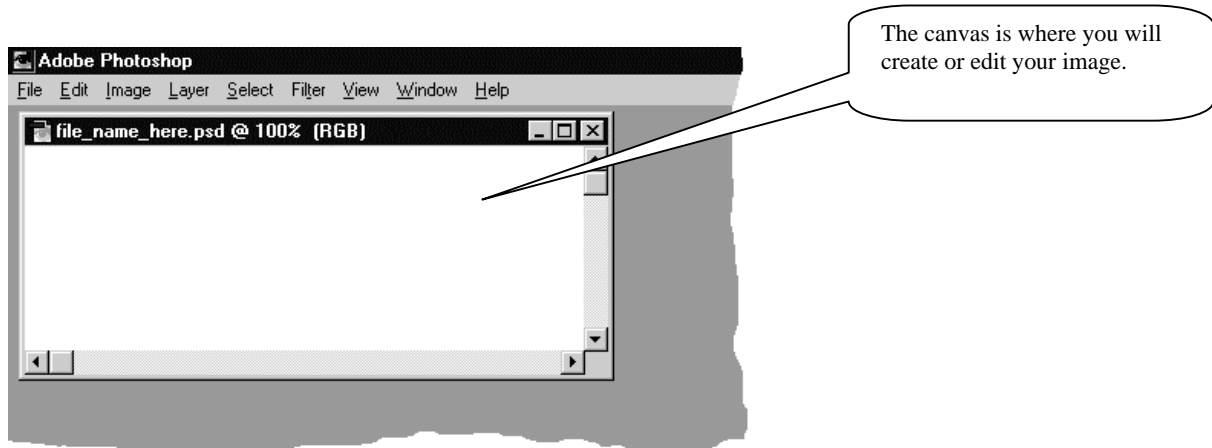
To open an existing image using Adobe Photoshop, click on the **File** menu and click on **Open**. The Open dialogue box will appear. Click on the field at the top of the box and specify the location of the file you would like to open. Directing Photoshop to the location of a file will vary between platforms. For example, on a Macintosh a recently scanned file might be located on the desktop while on PC it might be located in the **C: drive** under **Temp**. Once you have found the file location click on the field labeled **Filename** and type the name of the file you would like to open. Click on the name of the file you wish to open on a Macintosh. Leave the field referring to the “File Type” or “Format” alone so that it displays **All Formats**. Finally, click on the OPEN button and Photoshop will display the image.



Adobe Photoshop Components



When you first open the Adobe Photoshop program, you will notice particular features. Some of these features are common to other programs you have seen while others are unique to Photoshop. At the top of the screen you will find the **menu bar**.



Clicking on an item on the Menubar will access its respective menu. For example, if you click on **Layer** the Layer Menu will appear.

Below the menu bar you will find the Canvas. This is the area where you will create or edit your image. If you have created a new image, this area will appear blank; if you have opened an existing image, it will appear here. On the left side of the screen you will find the **Toolbox**. The Toolbox contains various tools you can use to manipulate your image. Palettes appear on the right side of the screen. By default, three windows appear containing the palette tabs. Palettes contain information about your image but can also change the way a particular tool works. To use a particular palette, bring it to the fore by clicking on the palette tab. Certain palette names may change depending on what tool you are working with. This provides an efficient way to change certain aspects of a given tool.

Before beginning, it is important to understand the basic concepts that underlie Adobe Photoshop. In order to begin creating or editing your image, consider yourself a real world artist. Before you begin, you need to mix the colors you wish to use. After your colors are ready, you will need to select a brush or tool to apply it with. Applying this metaphor to Photoshop relates to two components, the **Color Picker** where you will “mix” your colors, and the Toolbox, where your painting tools are kept.

Undo, Undo, Undo!

While creating or editing your image, you may find that you have made a mistake. Worse yet, you may find that you have made many mistakes with a number of different tools or palettes. If you do not like the last change you made to your image, click on the **Edit** menu and then on **Undo <Last Tool Used>**. This will undo the last change that you performed. If you have more than one change you would like to undo, find the **History Palette** tab on the right side of the screen. Click on the History Palette tab and



you will find the changes you have made listed. Click on the change or changes you would like to undo, then hit the **Delete** key. Your image will revert to the state before those changes were made.

Using the Mouse

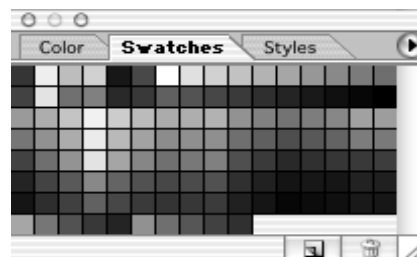
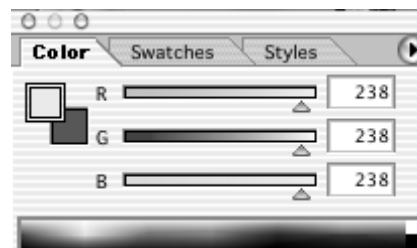
To apply an “Art” or “Effects” Tool, you may be required to drag the mouse. Dragging the mouse entails positioning it over one point within the “Image Area,” holding the mouse button down, moving the mouse over the image area, then letting go of the mouse button. The area covered by the mouse movement will be altered depending on the tool that you use. Other tools only use a single click on the image area to apply their function. This is by and large intuitive; for tools applied over an area of an image, dragging is required. For tools applied irrespective of location in the Image Area, only a single click is needed.

Selecting a Color



At the bottom of the **Toolbar** you will find the **Color Picker**. Using the Color Picker you can specify both the foreground and background colors you would like to work with. In order to select the foreground color, double-click on the colored box in the upper left corner. To set the background color, double-click on the colored box in the lower right corner. The Color Picker dialogue box will appear in which you can click on the color you wish to use. After you have done so, click on the **OK** button.

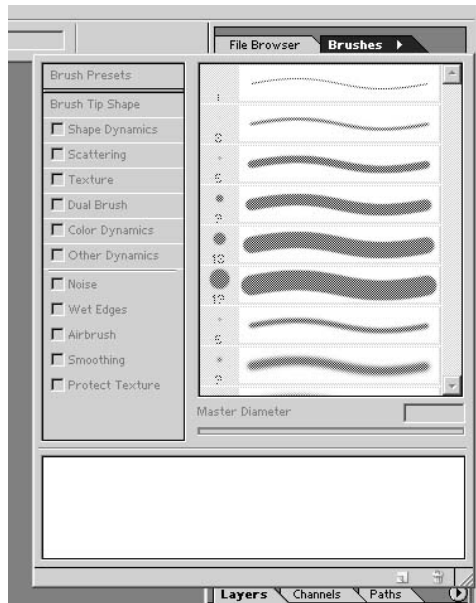
The **Color Palette** and the **Swatches Palette** provide a way to quickly and easily change the current color without using the Color Picker. Using the Color Palette you can drag the sliders to adjust the amount of red, green and blue used in your current color. The Swatches Palette provides a sampling of colors used in the current image. Click on a colored box on the Swatches Palette to make it your current foreground color.



The background color will always appear underneath the foreground color. If you were to draw using a blue foreground color and yellow background color, the background would go unnoticed. However, if you were to erase that drawing, the yellow background would show through.

Certain images contain a limited amount of colors depending on their **File Format** (see *Graphic File Formats* on page 14 of this document). The Color Picker dialogue box might not display all of the colors that you wish to work with. In order to increase or

decrease the number of colors available for use in your image, click on the **Image** menu on the menu bar.



Defining the Brush

Before applying either the Art or Effects Tools you may wish to change the size of the tool's "brush". The brush size is the amount of image area a tool edits or paints to at any one time. To modify the size of your brush, click on the **Brushes Palette** tab on the right side of the screen. Click on a larger or smaller brush by selecting from the range given.

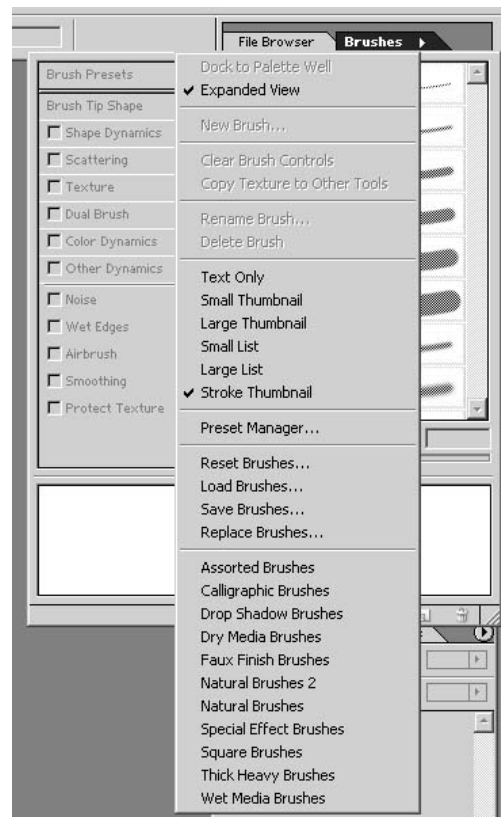
If you do not see a brush that you want to use, other brush types are available under the **Brushes Palette**.

The Art Tools

In Adobe Photoshop, the Art tools are the tools that you use to paint, draw or erase. After clicking on the desired tool, position the mouse over the image. If a tool refers to drawing or erasing, you need to drag your mouse. If a tool refers to inserting or filling, you simply need to click once on the image.

The Paintbrush and Pencil Tools

The **Paintbrush** and **Pencil** tools all allow you to draw freehand lines on the Canvas. Clicking on either one of these tools and dragging the mouse across the canvas will generate different types of freehand lines. The Paintbrush simulates a paintbrush and the Pencil simulates a pencil. Clicking on each tool also changes a palette displayed on the right side of the Photoshop window. The Options bar, located under the menu bar, changes depending on what tool you happen to be using. It can be used to change the opacity, the fade or the pressure of a given brush.



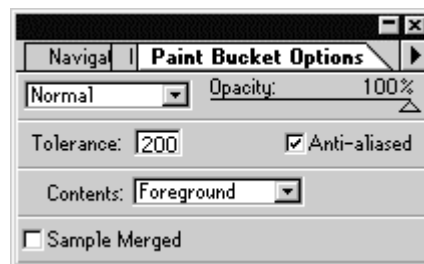
The Line Tool

The **Line tool** is used to draw straight lines on the canvas. Simply choose the Line tool from the Toolbox, click once on the canvas to specify the beginning point of your line and then drag the mouse to define the line extending from the starting point. Once again, the Options bar can be used to change the opacity and other aspects of the line. The line tool defaults to a line with an arrowhead: to remove the arrowhead, click on the Geometry options.



The Paint Bucket Tool

To use the **Paint Bucket tool**, click on the pouring paint bucket icon in the Toolbox. The Paint Bucket will fill areas of the canvas with the color specified in the foreground color box. To change the way which the Paint Bucket tool works use the **Options Palette**. The Options Palette appears once you have clicked on the Paint Bucket tool. The Options Palette allows you to modify the Contents and Tolerance values of the Paint Bucket tool. Essentially, “Contents” and “Tolerance” affects how broadly the Paint Bucket will fill. If set to a high tolerance, the tool will fill all shades of a color whereas if it is set low it will fill less shades.



The Eye Dropper Tool

The **Eye Dropper tool** is used to pick up a color in use on the canvas. This is a very useful tool because you may want to switch to a color used in an existing image. To select a color already on your canvas, click on the Eyedropper tool. Position the mouse over the color where it appears on the canvas. Click on the color and your current foreground color will change to the color selected.

The Eraser Tool

The **Eraser tool** is used to delete an area of the canvas. To delete an area of the canvas, click on the Eraser tool and then click on the area while holding the mouse button down. Dragging the mouse across the canvas will erase anything in its path. The color currently selected as your background color will show through the erased area.

The Text Tool

To place text based images in your canvas you need only select the **Text tool** from the **Toolbox** and click on the canvas in the area you want the text to appear. When you do so, the **Text dialog box** will appear. The features of the text tool are analogous to that of any word processor located in the labs. You can manipulate fonts, sizes, and colors, choose different languages and styles, all to your preference. For example, click on the field labeled “Font” and select the font you wish to use. Click on the field labeled “Size” and type the size of the text you wish to create. Specify the style and alignment by clicking on the given options. When you have finished selecting the options for your text, click on the blank white area at the bottom of the dialogue box. Type your text here. When you have finished typing your text, click on the OK button.



The Effects Tools

The **Effects tools** are tools that you can use to perform complex changes quickly and easily. Each Effects tool is applied by clicking on the respective **Toolbar tool**, then dragging the mouse across the image.

The Smudge Tool

The **Smudge tool** is used to smear paint already present on the canvas. Click on the Smudge tool on the Toolbar then click on the canvas. While holding the mouse button down, drag the mouse over the area you would like to smudge.

The Blur Tool

The **Blur tool** blurs the portion of the image it is applied to. The Blur tool can also be changed to a **Sharpen tool** that sharpens the portion of the image it is applied to. To change to the Sharpen tool, click on the **Blur tool** and hold the mouse button down. To use either tool, drag the mouse across the portion of the canvas you care to apply it to.

The Clone Tool

The **Clone tool** has a set of unique controls because of its powerful capabilities. The Rubber Stamp tool takes a snapshot of a particular region of your image and replicates that region at another location. To apply the **Clone tool** click on the tool on the Toolbar. Find a point on your image you wish to replicate and position the mouse over it. On an IBM, hold down the “Alt” Key and click on that point. On a Macintosh, hold down the “Option” Key and click on that point. Now position the mouse over the image area where you would like the snapshot to reappear. Drag the mouse over that area and the Rubber Stamp will begin replicating.

The Selection Tools

Selection tools are the tools that you can use to select a specific portion of your image. By selecting a specific portion of your image, you can work exclusively with that portion. Working exclusively with a portion protects the remainder of the image from any changes or effects you may apply. If the Selection tools do not achieve the desired effect, related operations are located on the **Select** menu.

The Marquee Tool

The **Marquee tool** is used to draw selections based on geometric shapes. Specifically, the marquee tool allows you to draw rectangular and elliptical selections. The default geometric shape is a rectangle. Clicking and holding down the mouse button over the Marquee tool will allow you to change to an ellipse. To form the selection using either shape simply click the mouse button and drag it across the desired area.

The Lasso Tool

The **Lasso tool** is used to draw a freehand selection area around a portion of the canvas. Click on the Lasso tool and drag the mouse over the canvas. If you do not wish to draw a freehand selection area, the Lasso tool can be changed to draw selection lines. Click and hold the mouse button down while positioned over the Lasso tool. This will allow you to change the Lasso tool to a selection tool that draws lines. Position the mouse over the Image Area and draw the selection lines by dragging.

The Magic Wand Tool

The **Magic Wand tool** is particularly useful when you have an object pictured that is too detailed to draw a selection area around. Use the Magic Wand tool to automate the selection process; Adobe Photoshop will estimate where a particular object begins and ends to draw a selection area around it. Click on the Magic Wand tool then position the mouse over the canvas. Click once on the border of the portion you wish to select.

The Move Tool

The **Move tool** will move a particular selection from one point on the canvas to another. After selecting a given area, click on the Move tool. Position the mouse over the selection and click and drag the selection to the desired location.

The Zoom Tool

The **Zoom tool** zooms in on a particular region of the canvas. Click on the Zoom tool and position the mouse over the canvas. Click once and the current view of the image will be magnified. Hold down the “Option” or “Alt” Key and click on the canvas and the current view of the image will be reduced.



Duplicating a Selection

One of the advantages of selecting a portion of your image is that you can take a snapshot of a selection and paste it into a new image or anywhere else within the same image. To duplicate a selection, click on the **Edit** menu and click on “Copy”. Open the new image or select another region within the same image. When you are ready to insert the duplicated selection, click on the Edit menu and click on “Paste”.

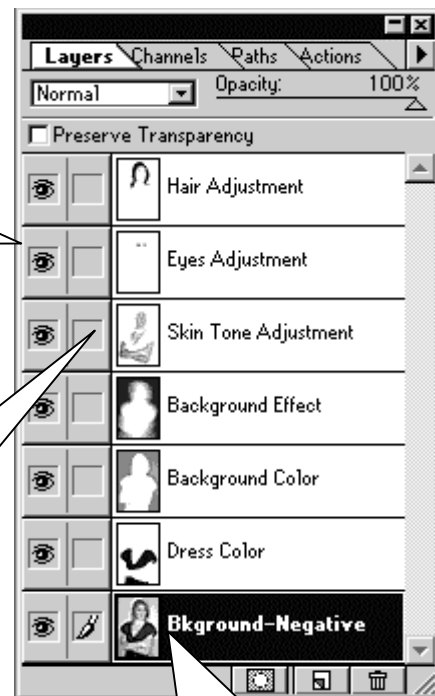
Duplicating an Image however, is much less complicated. Simply click on the **Image** menu then on “Duplicate”. Your image will appear in a new window.

Layers

Layers are the most powerful and advantageous feature of Adobe Photoshop. In order to understand the concept of Layers you might want to think of them as transparencies. Now imagine a stack of transparencies, one on top of the other. Suppose you were to take these transparencies out of the stack and paint on each one individually. If you placed the transparencies back into the stack and viewed it from the top, you would have a complete picture. In Adobe Photoshop you are able to do just that. Each layer acts as a transparency, and you can work with each one individually.

Click on the “Eye” Icon to toggle viewing a particular layer.

Click on the space in between the “Eye” Icon and layer name to link a layer to the currently active one.



Click on the name of the layer you wish to delete, then click on the “Trash” Icon.

These virtual transparencies, or Layers, are displayed in the **Layers Palette** to the right of the canvas. Each layer is labeled with a unique name. Change a layer’s name at any time by double clicking on the existing name. Create a new layer by clicking on the **New Layer** icon at the bottom of the Layers Palette. To delete a layer,

click on the layer's name and then click the **Trash** icon at the bottom of the Layers Palette.

The **Brush** icon next to a layer indicates that it is the active layer. The Toolbox tools affect the active layer. A layer with an **Eye** icon next to it is visible. Click on the Eye icon to add or remove a particular layer's visibility. You can link two layers together so two or more are affected by the Toolbox tools by clicking on the space reserved for the Brush icon. A **Chain** icon will appear, binding the two together. Clicking on the Chain icon again will unbind two or more layers. Linked layers can be merged, moved in unison, and are affected by all joint action. To merge two layers into one, link them, then click on the Layers menu and click on Merge Layers.

Layers are only preserved in Adobe Photoshop files. If you wish to save your file in a different file format, you will need to discard the Layers and **Flatten** the image (see *Graphic File Formats* on page 14 of this document). To Flatten an image, click on the Layers menu and click on **Flatten**. By flattening the image you will also be reducing the file size as well. You must be sure, however that you are done working on the individual layers of the image because once you flatten an image you can not unflatten it and consequently, you will not be able to work on the individual layers.

Filters

Photoshop 4 provides you with a number of image filters, or tools that automate certain image effects. If you are not sure how or where to begin editing your image, click on the **Filter** menu. A very effective way to learn about the Adobe Photoshop Filters is to play with them. Start with a few that sound like the effect you are looking for. Click on the item on the Filter menu and the filter will be applied to the entire image or current selection. If you do not like the effect the particular filter has generated, click on the **Edit** menu and click the **Undo** item to undo the changes the filter has made.



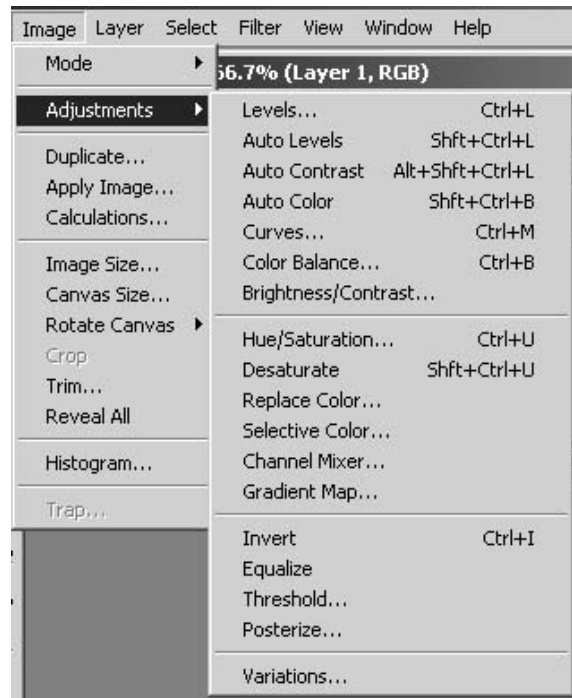
Understanding Image Modes

Before finishing your work, it is important to specify the image mode. A mode is the way Photoshop defines color for an image. If you click on the **Image** menu you will find an item called **Modes**. Point to the **Modes** item and you will find the various color modes that you can choose from. Before changing the color mode of an image you should have some idea as to the differences between modes. First, realize that the "Bitmap" Mode can only display black and white while the "Grayscale" Mode uses 256 shades of gray to display an image. If you have ever seen a black and white image with one or more colors added in, you have seen an image in a "Duotone" Mode. The

“Indexed Color” Mode is used for images on the World Wide Web, “RGB” for those to be displayed on a computer screen, and “CMYK” for those intended for print. The **Lab Color** and **Multichannel** Modes are ones that you will not encounter.

Adjusting an Image

Adobe Photoshop offers a number of ways for you to adjust different aspects of your image. You may find that an existing image’s contrast, brightness, or color balance should be adjusted. In order to change these aspects of an image or selection, click on the **Image** menu and point to the **Adjust** item. Listed are the various ways in which you can alter the balance of an image’s color. Each item is one to be explored with the **Undo** feature in mind. A particularly useful option is the **Variation** item. Click on this item and the **Variation** dialogue box will appear. The Variation dialogue box presents you with of a number of “improved” versions of your image on screen at once. From this suggested presentation you can choose the version of your image that looks the best.



Resizing an Image or Canvas

You can resize an image in Photoshop to any two dimensions. However, this is different from resizing a canvas, which will leave the image displayed at its original dimensions while increasing the canvas space around the image.

To resize an entire image, click on the **Image** menu and click on the **Image Size** item. A dialogue box will appear. Click on the fields labeled “Width” and “Height” and type the dimensions you want to resize your image to. You can click on the drop down boxes next to the “Width” and “Height” Fields to change the unit of measure. As you type one dimension you may notice the other dimension changes automatically for you. Photoshop adjusts the ratio between the two in order to prevent warping the image. If you need you image to conform to specific dimensions and you do not care about warping, click on the “Maintain Ratio” check box at the bottom of the “Resize” Dialogue Box. When you click on the check box you will notice that the check mark disappears. This means that the ratio between the original dimensions will not be preserved. When you are finished, click on the OK button.

To resize your canvas area and leave the size of your image alone, click on the **Image** menu then click on the **Canvas Size** item. Click on the fields labeled “Width” and “Height” and type the dimensions you want to resize your canvas to. When you are finished, click on the OK Button.

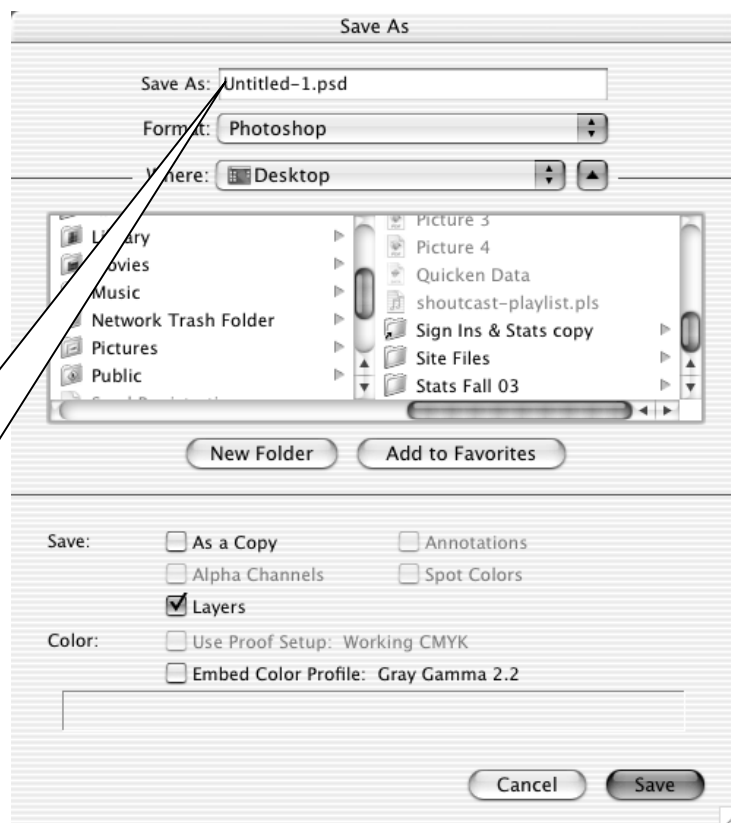
Printing an Image

To print an image using Photoshop, click on the **File** and click on the **Print** item. The print dialogue box will appear. Check to make sure the **Copies** field displays the number of copies you would like to print. After you have done so, click on the PRINT button. Your image will print true to its actual size. To check the size of your image, click on the **Image** menu and click on the **Canvas Size** item. A standard sheet of paper measures 8.5 X 11 inches. If your image exceeds this size, you are still able to print it. Either resize the image temporarily or print the image and expect some clipping.

Saving an Image

Click on the **Save** item found on the **File** menu. The **Save As** dialogue box will appear. You will need to follow three steps in order to save your document correctly. At the top of the box is a field labeled **Save In** on an IBM, **Where:** on a Macintosh. Click on the arrow icons and you will be presented with folders and disk drives in which you can save your work. When you have decided on the location, look for the box for the field named **File Name** on an IBM, **Save As** on a Macintosh. In this field, type a descriptive name for your work. Next, decide which file format to save your picture as by clicking on the field labeled **Format**. For now, leave this field alone so it displays **Photoshop**. Click on the SAVE button to save your file.

Click on the “File Name” field and type a descriptive name for your image.



Graphic File Formats

Adobe Photoshop saves your image in a file with a particular format. A file format is simply the way a file stores information. Some file formats are better at storing certain kinds of information than other formats. For this reason, different file formats are used depending on the file's intended use.

PSD: The PSD, or Photoshop Document, File Format is the default format that Photoshop uses to save your image. PSD files retain all layer information, making them incredibly useful. However, retaining that much information comes at a price. The PSD files are quite sizable and are usually not recognizable or displayable using other programs. PSD files are never found displayed on the World Wide Web. Saving your image as a PSD file usually makes sense if it is a work in progress or for your eyes only.

GIF: The GIF File Format is the format you most frequently see used on the Internet, specifically used for web pages. Files saved in the GIF Format tend to retain details very well and take up very little disk space, however they can only display 256 colors. Their use should be limited to web page graphics and less detailed charts and graphs.

JPEG: A file saved in the JPEG Format is technically similar to the Bitmap, but has two advantages. First, it takes up very little space, even when compared to the GIF Format. Second, it can hold up to 16.7 million colors. This makes it ideal for color photos, although it does sacrifice some of the detail to preserve its small size. But it is the relatively small amount of disk space that it takes up which makes it ideal for storing on floppy disks, sending it attached to email, or posting it to the Internet.

Converting between File Formats

For the purpose of example, you will be guided in the conversion of a PSD file to a JPEG. A JPEG file uses very little disk space and will preserve most of the clarity of the original PSD file.

There are three steps to converting your file. First, you need to open the file. To do so, click on **File** on the Menubar and click on **Open**. The Open dialogue box will appear. Specify the location of your file by clicking on the **Look In** field at the top of the box. Next, click on the file or folder that contains your scanned image. Finally, click on the **OPEN** button.

The next step in the conversion process is flattening the image. Flattening the image will discard all of the layer information. It is a good idea to retain a copy of the original PSD file if you still need to retain the layer information. In order to proceed with flattening your image, click on **Layers** on the menu bar and click on **Flatten Image**.

The final step in the conversion process is to save your file using its new format. Click on **File** on the menu bar and click on **SAVE AS**. The Save As dialogue box will appear. Specify the location you would like to save your file to by clicking on the field labeled

Save In at the top of the box. Your file should be small enough to fit on a floppy disk, so feel free to try to save it there. Next, type a descriptive name for your file in the field labeled **File Name**. Before clicking on the SAVE button, click on the **File Format** Field below the **File Name** field. Click on JPEG, then click on the SAVE Button.

Where to get more help

- The Adobe Photoshop Help Menu
- The Adobe Website (<http://www.adobe.com>)
- TheWebMachine Website (<http://www.thewebmachine.com>)
- A Consultant on Duty
- Adobe Photoshop 7.0 Classroom in a Book by Adobe Creative Team
- Photoshop in a Nutshell: A Desktop Quick Reference by Donnie O'Quinn