

[Figures are not included in this sample chapter]

# Inside Adobe Photoshop 5, Limited Edition

## - 3 -

# Customizing Photoshop 5

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*One key to creating a successful product is to feature customization. Imagine buying a car without adjustable seats, for example--no one would even take it out for a test drive! Adobe Systems realizes that Photoshop users think and work differently, and wants to allow you, the creative individual, to make Photoshop your personal imaging environment.*

*Placed throughout the program, you will find numerous options you can set to your liking. Some of these options are on palettes, and others are tucked away in flyout menus, but the majority of optional settings can be found under Preferences. Our first stop in customizing Photoshop 5 is the Preferences dialog box(es).*

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## The Preferences Dialog Box

Press Ctrl(,)+K (File, Preferences) to display the Preferences dialog box. This is the place to start when you are prepared to make Photoshop your *own* work environment. From this dialog box, shown in Figure 3.1, you can specify what cursors look like, which colors represent transparent areas, the color and divisions of the gridlines, location of scratch disks, and so on. Each set of preferences can be accessed by pressing Ctrl(,)+1, 2, 3, and so on, or you can go sequentially through the list (as you read this chapter) by pressing N. First on the menu is the set of General preferences.

**FIGURE 3.1** *The Preferences dialog box is where most of the global settings are located.*

## Setting the General Preferences

General preferences is where you specify how the clipboard holds information, how color sliders are displayed, what type of color picker you want to use in Photoshop, and what type of *interpolation*--the reassigning of pixels in an image--you want to use.

### Color Picker

If you use Windows, you want Photoshop's Color Picker, plain and simple. With the Photoshop Color Picker, you can select from the entire color spectrum, based on four color models, and choose from several custom color matching systems, such as TRUMATCH and PANTONE. In contrast, the Windows color picker features only basic colors, allowing 16 custom colors based on two color models.

On the Macintosh, System 8 has six color pickers, including one for the Web. The dialog box and four of the color pickers can be seen in Figure 3.2. Although the Macintosh system color picker offers more selections, the author recommends sticking with Photoshop's Color Picker, for the simple

reason that PANTONE and other electronic color-matching specifications exist in Photoshop's Color Picker system, and not in the Macintosh color picker selections.

**FIGURE 3.2** *The Macintosh user can select from six color pickers, including one for the Web.*

## Interpolation

When you change the number of pixels in an image by using the Image Size or Layer Transform command, Photoshop creates or deletes pixels based on the *interpolation* (interpretation) method you have chosen.

Nearest Neighbor, as mentioned in Chapter 1, "Getting Acquainted with Computer Graphics and Terms," is the lowest quality of the three choices. This method gives modified selections a jagged appearance.

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Any changes you make to the Preferences settings are saved *only* when you exit Photoshop (crashes excluded). These settings are written to the Preferences folder in the System Folder on the Macintosh, and to the PHOTOS40.PSP file in the Prefs subdirectory in the Photoshop directory in Windows. If you want to reset all preferences to their defaults, delete your Preferences file.

Also, if you should run into problems launching Photoshop at any time, those problems probably occur because the Preferences file is corrupted. Trash this file, restart Photoshop (your preferences will be lost), and then rebuild your preferences.

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Bilinear interpolation is a trade-off between speed and quality. Many applications use bilinear interpolation when they resize images, and although the process is good, it is not the most aesthetically pleasing nor accurate method of reassigning pixels.

Bicubic interpolation is the most precise form of interpolation. Though the slowest of the choices, tonal gradations are the smoothest. Refer to Chapter 1 for a graphical representation of the bicubic interpolation process.

## Anti-Alias Postscript

To remove the aliased outlines from a pasted or placed selection from EPS files, leave this box checked. If you work with line art, you might want to turn off this feature to maintain the line's hard edges as the line art is rasterized.

## Export Clipboard

With Export Clipboard checked, anything copied to the system clipboard will remain there when you close Photoshop. This feature is a welcome one if your system doesn't have the RAM needed to run both Photoshop and a host application for the contents of the clipboard. You can close Photoshop, freeing up system resources; the image is still on the clipboard, and you can then paste the image into PageMaker or QuarkXPress, for example.

On the other hand, with Export Clipboard *unchecked*, the clipboard contents will be purged when Photoshop is closed, thus freeing up system resources.

## Short Pantone Names

Some applications, such as Adobe PageMaker, cannot read *long* PANTONE names. Checking Short Pantone Names ensures that PANTONE color names will match the naming conventions in other applications, and you can work with the same colors as those specified in Photoshop. This feature is particularly handy if you're exporting Duotones or EPS files that contain a PANTONE spot color.

## Show Tool Tips

When Show Tool Tips is checked, a short description will appear when you hover the cursor over a tool or palette element. For toolbox items, the keyboard shortcut is given after the name. This feature is especially handy for the new Photoshop user.

## Beep When Done

Photoshop can sound a beep when it finishes performing a task. The beep is useful if you are away from your system during the task. If beeping simply isn't your thing, Photoshop has two visual indicators of task progress: the hourglass (Macintosh: the wristwatch) and the progress bar, located on the status bar in Windows.

## Dynamic Color Sliders

When this box is checked, the slider colors on the Color palette change as you drag. The only time you want this feature turned off is when you want to manually enter the color's values and improve Photoshop's performance by an imperceptible amount.

## Save Palette Locations

With Save Palette Locations unchecked, Photoshop will open with all palettes in default positions. If you break apart a grouped palette, create a new palette group, hide or show only certain palettes, and want Photoshop to open with this view, be sure to check this option.

## Reset Palette Locations to Default

Clicking this button will do exactly what the title implies--it returns all palettes to their default locations. This is useful if you work on a multiuser machine or have "lost" some palettes. This button affects only palette locations, not settings you've entered in those palettes.

## Setting the File-Saving Preferences

Figure 3.3 shows the Macintosh Preferences for Saving Files. PC users should note that this dialog is available on the Macintosh only.

**FIGURE 3.3** *The Preferences choices for Saving Files on the Macintosh.*

## Image Previews

Image Previews are the thumbnails in the Open dialog box or icons on the desktop (Macintosh). They

are useful for quickly identifying a file by sight. The choices are Never Save, Always Save, and Ask When Saving.

On the Macintosh, you have four kinds of image previews to choose from:

- **Icon.** Saves a preview icon of the image for the desktop or file folder.
- **Macintosh Thumbnail.** Creates a thumbnail for preview in the Open dialog box on the Mac platform.
- **Windows Thumbnail.** Check this box if the image will be used cross-platform and you want a preview in the Windows Open dialog box. Adding a Windows thumbnail will also add about 50 KB to the file size.
- **Full Size.** This preview is for other applications that open Photoshop images for placement at 72 pixels/inch. This is not an option for EPS files.

### File Extension

On the Mac, this is called Append File Extension. You can choose to add the three-character file extension that denotes the file's format. This is useful if you use the file on a Windows system.

In Windows, you can choose whether the file extension is upper- or lowercase. Lowercase file extensions are usually easier to read than uppercase.

### File Compatibility

Checking File Compatibility will allow your image to be opened by applications that support only Photoshop 2.5 files. If you know you will not need this feature, turn it off. Otherwise, you will needlessly add to the saved file size.

## Setting Display & Cursors Preferences

The display and cursor preferences for both the Mac and the PC are the same, and we cover these options in the following sections.

### Display

There are four items in the Display field:

- **Color Channels in Color.** Allows you to view the color channel in its respective color rather than in black and white. The color view is more memory intensive, so check this only if you are proofing problem areas (such as saturation and coverage) in CMYK mode images.
- **Use System Palette.** Unless your video card displays a maximum of 256 different colors at one time, leave this option *unchecked*. Using the system palette with a video card whose memory is 512 KB RAM or less (which is virtually impossible to find in 1998) causes the displayed image in Photoshop to use only system palette colors, and colors the video system cannot reproduce will be dithered.

- **Use Diffusion Dither.** Diffusion Dither minimizes dither patterns you would see onscreen when working with a 256-color video card. Leave this unchecked if your card supports more than 256 colors.
- **Video LUT Animation.** You want to check Video Lookup Table Animation; the only situation in which you'd want this turned off is with a card (a very old card) that does not support LUT Animation. LUT Animation allows instant viewing of any color or contrast changes you make to an image. Otherwise, you would not see the change you made in the Hue command, for example, until you clicked OK.

## Cursors

If you are new to Photoshop or easily forget which tool you are using, choose Standard as a reminder. Standard displays the symbol for the tool--a paintbrush for the Paintbrush tool, for example. Many Photoshop users find greater accuracy with Precise or Brush Size selected. Precise gives you a cross-hair cursor, and Brush Size shows a circle that indicates the actual size of any painting tool (regardless of zoom factor!). You can see the Display & Cursors dialog box in Figure 3.4.

**FIGURE 3.4** *From Display & Cursors, you can determine the appearance of your mouse cursor.*

## Setting the Transparency & Gamut Preferences

*Transparency* refers to what you see in an image window of a layer image when you've erased part of the background. *Gamut* refers to the color space you're working with. If, for example, your image is in CMYK mode, there can be colors you'll use in the image that will be "out of gamut"; they fall outside the range of colors that can be expressed in the given color space.

### Transparency Settings

From the Transparency Settings field, shown in Figure 3.5, you can change the color and grid size of the transparent areas in an image that has layers. The default gray-and-white checkerboard is useful in most design situations, unless you are editing an image with lots of small black-and-white areas. If you're editing a gray-and-white checkered tablecloth image, for example, you would want to choose different transparency colors and the Photoshop grid to contrast against the colors in your image.

**FIGURE 3.5** *The Transparency & Gamut Preferences dialog box.*

### Gamut Warning

*Gamut* is the range of colors in a color system that can be displayed or printed. The purpose of a gamut warning is to notify you of a color that is visible onscreen but cannot print in the CMYK model because there is no equivalent color. This warning feature is valuable if you want to replace out-of-gamut color with the color of your choice. Otherwise, when you convert the image to CMYK, Photoshop will bring out-of-gamut colors into gamut, and you might not like Photoshop's choice. To check for any out-of-gamut colors (you might need to change the default gray to a color that contrasts with colors in your image), choose View, Gamut Warning. To bring these areas back into gamut, you might try the Sponge tool in Desaturate mode; go over the highlighted out-of-gamut areas until the out-of-gamut preview color goes away.

## Setting Units & Rulers Preferences

The Units & Rulers Preferences enable you to change the ruler's unit of measurement and specify the width of columns and gutters.

### Rulers

Six units of measurement are available: pixels, inches, cm, points, picas, and percent. You can make the Rulers display along the edges of an image window by pressing Ctrl(,)+R, or choose View, Show Rulers. The rulers appear along the left and top of the image window. To call up the Units & Rulers Preferences box shown in Figure 3.6 directly from the workspace, double-click anywhere on the rulers. If you select Show Rulers in one image, all subsequent images you open will also show rulers until you choose Hide Rulers.

**FIGURE 3.6** *Units & Rulers offer six units of measurement for the rulers.*

### Column Size

A rarely used feature for the average Photoshop practitioner, unless you work for a publisher who requires you to size your images according to columns, is the Column Size feature. As an example of when you would use the Column Size option, say that your publisher wants an image that's two columns wide; each column is 12 picas wide, with a gutter of 3 picas, so you enter those values here. Now, the image you are preparing to send must fit these dimensions. From the Image Size dialog box, choose Columns from the Width drop-down menu and enter **2** for the width. Click OK, and the image is sized to your publisher's specifications.

### Point/Pica Size

If you work with points and picas, and output to either a PostScript or traditional device, you need to specify which kind of output you will use. The author recommends that you click the PostScript button, which specifies that there are 72 points to an inch, because fewer and fewer commercial presses use physical layouts and the traditional physical unit specification of 72.27 points to the inch.

## Setting the Guides & Grid Preferences

Guides and a grid can be used to help you position elements in your image. Figure 3.7 shows four guides and a grid placed over an image; Figure 3.8 shows the dialog box.

**FIGURE 3.7** *The grid and guides help you to place objects in precise locations.*

**FIGURE 3.8** *The color and style of guides and grid are specified in this Preferences box.*

### Guides

*Guides* are lines you drag from the rulers into the document window. Guides do not become part of the image, nor do they print. You can move, remove, and lock guides from the View menu. You can also assign any color to guides and choose between solid or dashed lines.

Guide placement and visibility are specific to each image--if you place a vertical guide at 2", this guide will not appear in the next image you open.

## Grid

A grid lies on top of your entire image and is helpful when you need precision while you're working with multiple elements. You can choose any color for the grid and make it appear as Lines, Dashed Lines, or Dots. With the Gridline every and Subdivisions boxes, you determine the frequency of lines in the grid. You can show or hide the grid from the View menu. Similar to Rulers, if you select Show Grid in one image, all subsequent images you open will also show the grid until you choose View Hide Grid, whose keyboard shortcut is Ctrl(,,)+" (quotation marks). Although this option is not in the dialog box, you can also choose Snap to Grid--a time-saving way of aligning objects across layers--by pressing Shift+Ctrl(,,)+" (quotation marks) anytime you are working in the Photoshop workspace.

## Setting the Plug-Ins & Scratch Disks Preferences

The Plug-Ins & Scratch Disks options enable you to specify the location of these items, as shown in Figure 3.9.

**FIGURE 3.9** *Photoshop 5 offers four locations for scratch disks.*

### Plug-Ins

Plug-ins are filters, developed by Adobe and third-party vendors, that work within the Photoshop environment. By default, most third-party plug-in filters are installed in Photoshop's Plug-Ins folder (all native filters are located here also). If you prefer to keep a folder containing your plug-ins elsewhere on your hard disk, you can use Choose to tell Photoshop where to look for that folder. The author recommends keeping with the default of the Photoshop Plug-Ins folder. If you move third-party filters, you must also move Photoshop's native plug-ins (which makes no sense unless you're running out of hard disk space); Photoshop cannot load plug-in filters from two different locations in one session.

### Scratch Disks

When you exceed the available RAM on your machine, Photoshop will write to the *scratch disk*, which is a temporary space defined on your hard disk(s). This feature enables you to continue working in Photoshop without crashing your machine, although there will be an obvious decrease in performance. RAM speed and hard disk speed are a magnitude of difference in speed--RAM's much faster at reading and writing.

New in Photoshop 5 is the option to assign four locations for scratch disks (one reason Adobe created this option is the memory-intensive History palette). When you exceed the allocated RAM during a Photoshop session, information is written to the first scratch disk. When the first scratch disk is full, Photoshop writes to the second scratch disk, and so on. You want to assign the disk with the most space (uncompressed and defragmented!) to the First field. Work your way down to Fourth, if your system has a third or fourth hard disk location, assigning First to the disk with the most free space, and Fourth (last) to the disk with the least amount of free space. Be sure to have more scratch disk space allocated than RAM, measured in megabytes. Photoshop will use only the amount of RAM

equal to the amount that you have in scratch disk space. For example, if you have 128 MB RAM, yet only 30 MB scratch disk space, Photoshop will use only 30 MB of RAM. And in this scenario, you are severely (and needlessly) impinging on Photoshop's performance.

You can monitor whether your scratch disks are being used by clicking on the Document Sizes flyout menu button, located on the status bar, and choosing Efficiency. On the Macintosh, the Document Sizes field is at the bottom of the scroll bar in each image window. To the left of the flyout icon is a percentage of the amount of RAM Photoshop is using. At 100%, Photoshop is using only RAM to perform the operations. A display under 100% indicates that Photoshop is using the scratch disks.

## Setting the Memory & Image Cache Preferences

Proper settings for memory are imperative for optimum performance in Photoshop. Figure 3.10 shows the Windows version of the Memory & Image Cache preferences.

**FIGURE 3.10** *The Windows Memory & Image Cache Preferences dialog box.*

### Cache Settings

Photoshop uses image caching to speed the screen redraw during editing. Image caching holds several copies of the document in memory to update the screen quickly when operations such as applying color adjustments and Layer Transform are performed. Cache Settings of 2 or 3 are best for a file under 10 MB, and 4 is good for images of around 10 MB. The maximum setting is 8, and you'll want to experiment with the settings if you work with files larger than 10 MB. Be aware that the higher you set the cache, the more it will drain your system resources.

The Use cache for histograms option is best left unchecked for complete and consistent histogram readings. When checked, the zoom ratio and any previous histograms during that session will influence the histogram.

### Physical Memory Usage

The amount you enter for Physical Memory Usage will affect Photoshop's performance more than the scratch disk and cache settings. Macintosh and Windows each have a different method for specifying memory usage.

On the Macintosh, click on the Photoshop icon and then choose File, Get Info from the Apple menu to view the Info box, shown in Figure 3.11. The Suggested Size is the amount of RAM Photoshop needs. The Preferred Size field is where you can enter a specific amount of RAM to dedicate to Photoshop. How much can you allocate to Photoshop? Follow these steps:

## DEFINING PHOTOSHOP MEMORY ON THE MACINTOSH

1. Open all applications that you must use at the same time as Photoshop. Be aware that the more you open, the less RAM you'll have for Photoshop.
2. Choose About This Computer from the Apple menu.
3. Notice the value in Largest Unused Block. This is the amount of memory currently available and

you can allocate no more than 90% of this value to Photoshop. Do the math and proceed to step 4.

4. With Photoshop closed, click once on the Photoshop icon. Press **⌘+I** to bring up the Info box and enter the amount from step 4 in the Preferred Size field.

5. Close the Info window.

**FIGURE 3.11** *To specify the amount of RAM for Photoshop on the Macintosh, use the program's Info palette.*

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Even if you think you'll never need an application running outside of Photoshop, you cannot allocate 100% of Physical Memory Usage to Windows 98, 95, or NT. The Windows operating system prohibits an application from stealing all system resources. So you can type 100% in this box, but all the memory that will be allocated to Photoshop will actually be about 85%.

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On the Windows platform and in the Physical Memory Usage field, you can enter the amount of RAM you want to dedicate to Photoshop. The default setting of 50% is a good trade-off between draining your system by yielding all resources to Photoshop and not yielding enough. During Photoshop sessions, if the Efficiency readout (as described under Cache Settings) rarely or never drops below 100%, you can increase the percentage in the Physical Memory Usage field.

## Photoshop's New Color Management Features

In order to accommodate all Photoshop users (who have a broad range of production needs), the simple File/Color Settings/Monitor Setup command is gone. Color management in Photoshop now consists of three related entities: Gamma control, color settings for different types of color spaces, and ICC profiles. This is clearly going to take a little learning if you're new to Photoshop, and it's going to require some rethinking to get the best output if you're a seasoned Photoshop user. We *strongly* recommend that you read the following sections carefully; if you don't, you risk ruining the data in an image file, and you'll be working with an onscreen image that's darker or lighter than you want.

### Late-Breaking News on Version 5.0.2

As you are reading this, Adobe has already released a patch, version 5.0.2, for version 5. Aside from a number of fixes to the Type tool, layer effects improvements, and support for Illustrator version 8 data, Adobe has made it easier for novices and professionals alike to ensure accurate screen representation of images and faithful output.

The following sections walk you through setting up color management in version 5.0.2. Because the authors are working with an early prototype of version 5.0.2, the information was accurate at the time of this writing, but might not be when you attempt this. Please check out our Web site at <http://www.TheBoutons.com/updates/> for the most current information on Photoshop 5.0.2, and if you don't already have the upgrade to 5.0.2, check Adobe's site at <http://www.adobe.com> to learn how you can get the update.

### The Adobe Gamma Control Panel

When using the Adobe Gamma control panel, you should define a Gamma for your monitor based upon what your eyes tell you, and not the presets the program offers. First of all, "what is Gamma?" might be a good question to ask yourself before engaging in the Gamma utility's wizard (the Assistant on the Macintosh). Gamma is the *non-linearity of signal to brightness*; all monitors have their particular characteristics, but generally, as voltage increases through the video circuitry to the monitor, there will be a falloff in the monitor's brightness, especially noticeable in the midtones of what you're viewing. This voltage versus brightness curve is called the *Gamma curve*, and to compensate for the non-linearity of voltage versus brightness, everyone has a different Gamma displayed on their monitors. Typically, the Macintosh has a Gamma of 1.8, and Windows machines display a Gamma of 2.0. Regardless of what you might read in online Photoshop documentation, these are the values for the respective operating platforms; if you trust the author on this one, you'll have a much easier time calibrating your system to match different outputs. It is the author's advice to avoid using the Gamma control panel unless you feel that all your images in all your applications are displaying too light or too dark. There are things you want to do first to calibrate the tonal scheme of images displayed in Photoshop and other applications:

- Wipe the monitor screen with a damp cloth to remove particles from the air that have been attracted by static electricity.
- Adjust the room lighting. If you're in an office environment, try to explain your need to your boss; if she says "No can do," get on a ladder and unscrew the fluorescent tubes in the ceiling fixture. It's important to have some ambient, indirect lighting where you work, but indirect lighting on your screen. You should not, for example, see the lights in your room reflected in the monitor.
- Adjust the Brightness/Contrast controls on your monitor. Rule number 1 in professional imaging is to avoid changing the image data; change your viewing conditions instead. The reason for this rule is that lighting and monitor contrast can be changed, and then changed back again. But once you change the appearance of, for example, a TIFF file, you can never change its tones or colors to their original state again. Changes made to bitmap images are progressive changes--you can only make changes on top of changes, on top of changes, on...

If none of the recommendations improves the tonal balance of an image, then by all means run Adobe Gamma. If you're unhappy with the results of Adobe Gamma, the saved setting is a file (in Windows with the \*.icm extension) in the System Color folder; you can delete the file, and your default monitor settings will be restored. Similarly on the Macintosh, at the end of the Adobe Gamma setup, you're asked to name the saved settings, and the file can be found in the System/Preferences/ColorSync folder.

## Running the Adobe Gamma Control Panel

The Adobe Control Panel can be found under the Start menu, Settings, Control Panel on Windows 95. The Adobe Gamma control panel in Windows NT is located under Photoshop/Goodies/Calibration/Adobe Gamma.cpl. Double-click this file to open the step-by-step Gamma Control dialog boxes. On the Macintosh, you choose the Apple menu, Control Panels, Adobe Gamma.

In Figure 3.12, you can see the opening screen for the Adobe Gamma utility.

**FIGURE 3.12** *Monitor and Gamma settings adjustments are performed in the Adobe Gamma Control Panel.*

On the opening screen, you have your choice of Step By Step mode of calibration or going directly to the Control Panel to perform tonal corrections. Click the Control Panel button and then click Next.

You can see in Figure 3.13 that if there is a specific color profile you want to use, you click Load in the ICC Profile field and locate the profile. Otherwise, use the default Adobe Monitor Settings.icm (default System Profile on the Macintosh). All the settings you enter will write to this profile.

Brightness and Contrast settings are performed by adjusting screen elements in this dialog box via your monitor's dials (or buttons). First you need to adjust the contrast of your monitor to the highest setting, which is the easiest part of performing a Gamma calibration. Next turn the brightness level all the way up, and then turn it down until the gray boxes (located between the black boxes) become as dark as possible, keeping the white area (immediately below the gray and black squares) as white as possible. A word of caution: The longer you look at the white box, the more your eyes will adjust and the harder it will be to notice if the white is still as bright as it should be. Perform this step within a few seconds and don't hesitate to move the brightness back to the highest settings and start again.

**FIGURE 3.13** *Monitor and Gamma settings are entered in the Adobe Gamma dialog box.*

The phosphors that make up the red, green, and blue of your monitor's picture can vary with each manufacturer. Check the documentation that came with your monitor and select the appropriate phosphor from the Phosphors drop-down menu. If you are unsure of the phosphors used on your screen, you might as well choose Trinitron; Trinitron tubes and their equivalents are used in most monitors today.

Adjusting the Gamma slider can be as tricky as working in the Brightness and Contrast field--your eyes can adjust quickly, making the correct setting difficult to notice. Move the slider back and forth until the center box fades into the immediate background. A solid color will obviously not fade into a stripe pattern, but what you are looking for is the point where the box is least noticeable within the background. Squinting at the box helps you evaluate a match. You can uncheck View Single Gamma Only and individually adjust each of the RGB colors. A Gamma of 1.8 is the default on the Macintosh, 2.0 is the Windows 95 default. As mentioned earlier in this chapter, these default settings might look wrong when your monitor is displaying images--if it looks wrong, it is wrong. In this case, skip the default setting and use what your eyes tell you is correct while adjusting the Gamma control (s).

Click Measure if you know the setting for Hardware is incorrect in the White Point field. An alert box with directions appears--be sure to read and understand those directions before clicking OK (Next) to continue. For your next step, the screen will go black, displaying three gray squares. You should be able to click the square that contains the most neutral gray within the first few seconds. Again, the longer you look at the screen, the more your eyes will adjust, thus making an objective choice more difficult. Press Esc when you think you've chosen the most neutral color box.

Finally, you are probably best off leaving the Adjusted options at their default of Same as Hardware. In Windows, click OK to finalize your Gamma corrections and to close the Control Panel; click Save in the attention box that appears after clicking OK; you're finished. On the Macintosh, click the Close

box, click the Save button in the attention box, and you're finished.

## Color Space

Adobe has taken the position, and rightly so, that color space as saved within an image file is not the same as the color space your monitor and video card are capable of displaying. In fact, colors saved to an image file can have a greater *gamut*--an expressible number of unique colors--than your monitor can display. For this reason, Adobe has created a number of RGB settings that you can customize to define Photoshop's display of color space, for any particular image, that works best for you.

### Using the Color Management Wizard

When you open an image for the first time in Photoshop 5.0.2, you are presented with a Color Management Wizard--a step-by-step series of dialog boxes that guides you through specifying the color setting that Photoshop uses when displaying an image in the workspace. After experimenting with the same image, using five different machines (and monitors and video cards), the authors believe there are two reasonable options in the Color Management system: Use Default Settings (5.0.2) and Imitate Photoshop 4.0 Color Handling. Figure 3.14 shows the second dialog box you'll reach after pressing Next when the Color Management Wizard starts; this is where you make a choice.

**FIGURE 3.14** *These two options result in onscreen images that are consistent with previous versions of Photoshop and the display of the images in other applications.*

If you choose the Photoshop 4.0 settings, images opened in Photoshop display the same color space as when they were created in Photoshop 4.0 (or in other programs). If you choose this option, you are presented with a long string of subsequent dialog boxes that warn you that you are choosing to disable certain color-management features of version 5.0.2, most notably, the ICC Profile feature (which you get to shortly). This option is for users who never deal with CMYK conversions (for pre-press work) and want to work with Photoshop's new features without adjusting the tonal and color controls in Photoshop, and whose work is either for the Web or for film recorders. The monitor color space on the Macintosh varies depending on what type of monitor you use; in Windows, the color space, oddly, is Apple RGB (but this is actually a good option for Windows users).

If you choose Use Default Settings (5.0.2) in the Color Management Wizard, the next dialog box features the Finish button--and images you open in Photoshop 5.0.2 basically appear the same as if you were using the Photoshop 4.0 color settings. The big difference is that by choosing this option, you can now use Photoshop's ICC color profiles in your work.

You can go back to the Color Management Wizard at any time by choosing Color Management from the Help menu and then change your options.

## RGB Color Settings

If you choose to go with the Photoshop 4.0 Color Settings, Windows users can get right to work in version 5.0.2. In Figure 3.15, you can see the settings that are entered in the File, Color Settings, RGB Setup dialog box, and unless your images look drastically wrong in Photoshop's workspace, you do not need to change the settings in this box.

**FIGURE 3.15** *These are the RGB color settings if you choose to use Photoshop 4.0's method of color handling.*

However, if you choose Photoshop's 5.0.2 default color settings, there are some tweaks that you will want to perform in the RGB Color Setup box. To better understand what you're getting yourself into, let's briefly describe a couple of the profiles that are used in the RGB Color Setup box.

By default, the workspace color space is sRGB ("*standard*" or "*simplified*" RGB). This breadth of color expression is close to, but a little smaller than, your monitor and video circuitry's capability to display color. Why cheat yourself out of the extra color space that can be shown? Let's straighten out all these options so you have both an accurately calibrated monitor and the opportunity to embed ICC Profiles should you want to in the future.

### **Color Settings for Windows**

The monitor Gamma you use has already been defined earlier in this section, and it can be any name you choose. We recommend the Adobe RGB (1998) as the RGB choice in RGB Setup, a Gamma of anywhere from 1.8 to 2.0, a White Point color temperature of between 5500° and 6500° Kelvin, and Adobe RGB (1998) in the Primaries field.

### **Color Settings for the Macintosh**

When you use the Gamma Control Panel on the Macintosh, the Apple 13" RGB Standard is a very easy choice for the ICC profile--you can choose this by clicking Load, which is to the right of the ICC Profile field. This does not mean that you have to use a 13" monitor--the name of this file comes from the first standard display offered by Apple Computers, so the filename is in fact a misnomer. This profile is compatible with Photoshop's environment and should display accurate consistent color onscreen. Once you're done with the Gamma Control and are back in Photoshop, the following choices should be made in the RGB Setup box:

- **RGB**--Choose Adobe RGB (1998). This used to be called "SMPTE-240M," and the color space is much more broad than a monitor can display. The reasoning here is that you might be proofing CMYK images or acquiring scans that are in excess of 24 bits/pixel. If you're not doing either one of these things, it still doesn't hurt to have an application color space that's wider than your computer's video circuitry can display. In this way, no visual data is "simplified"; it's displayed, as the sRGB setting does.
- **Gamma**--2.0. This is a good baseline to work from, and unless images are printing darker or lighter than you see onscreen, you'll probably decide to keep the Gamma at 2.0. If your screen images don't even come close to output, try adjusting the Gamma anywhere from 1.9 to 2.2.
- **White Point**--Anywhere from 5500° to 6500° Kelvin should provide a neutral color cast in your images. Again, this is something you can come back and experiment with if your output is color casting toward excessively colder or warmer colors.
- **Primaries**--Again, Adobe RGB (1998) is the logical choice. You might notice that your images' midtones are a little more open when compared to the original file opened in an application other than Photoshop, but this can be corrected by adjusting the Gamma to a higher value.

Is this a lot of tweaking? Yes, but once you have your color accuracy down, you can, with confidence, edit images that display consistently across all applications. Do not forget to click the Save button in the RGB Setup dialog box and save this calibration work as a file to a safe place on your hard disk.

Figure 3.16 shows what both the Macintosh and Windows color settings should look like if you chose to accept Photoshop 5.0.2's settings in the Color Management utility.

**FIGURE 3.16** *These settings should closely match the display of images in other applications, and by choosing 3.0.5's color system, you have enabled profile embedding within saved images.*

## ICC Profiles

A lot of Photoshop 5.0.2's color-accuracy features revolve around the use of ICC profiles: You save RGB Setup parameters to an ICC file (the Windows extension is \*.icm), you use ICC profiles when importing a PhotoCD image, and you can also elect to use ICC profiles when saving an RGB or CMYK image. The ICC standards define color space that can be expressed by a specific device. In theory, embedding ICC color profiles in an image can ensure color accuracy--what you see onscreen, for example, will look identical on someone else's monitor running the same ICC profile. The image will also print approximately to the same tones and colors when it's rendered to a high-resolution imagesetting device--if you've defined the correct profile to be embedded.

Ah, but if the designer's life were that simple! At present's best the universal implementation of ICC profiles is quite limited to bleeding-edge commercial printers. Unless you live in an urban hub, chances are that your local print shop will not be using the embedded information that's been tagged within an image you might send to them. Embedding an ICC profile adds to an image's overall size, and unless you're a whiz at pre-press, you are not going to use this feature correctly...and your printing results will be a disappointment.

Photoshop 5.0.2's File\Color Settings\Profile Setup is where you specify an ICC profile for an image that you open and save. By default, all Assumed Profiles are set to None, and for good reason. It keeps users with little or no experience with pre-press and the CMYK mode of images out of trouble! Do not touch the controls, as shown in Figure 3.17, unless you've spoken with your service bureau or commercial printer first and found out the exact specifications for the ICC profile to use (and save along with your image). If your work is entirely for onscreen presentations or for the Web, *absolutely do not* embed color profiles in images! Doing this increases file size, and some browsers and programs will not be able to read the color information correctly.

If you go ahead and start saving images with specific ICC profiles embedded in them, you're likely to see a warning box like that shown in Figure 3.18. Our advice is to click Don't Convert, let the image open, do not save the file, and reset your Profiles Setup to None for all types of images.

Photoshop does not change the data in a file that's opened and converted to the current screen color space, but it makes it very hard to edit an image when the picture is too light or the color-casting is off. Again, image color space and monitor color space are two different things, and you owe it to yourself to make sure that what you see onscreen is being saved to the same color space.

**FIGURE 3.17** *The Profile Setup dialog box in Photoshop.*

**FIGURE 3.18** *Photoshop 5.0.2 handles profiles that do not match your color setup quite elegantly, but it is better not to have profiles set up for any type of image unless you know what you're doing with color profiles.*

To summarize, there are two things we'd like to stress to ensure that your adventures in image editing in Photoshop will contain consistent colors among other applications, systems, and other devices:

1. ICC profiles are a great idea whose proper implementation and wide acceptance have yet to come. ICC profiles, however, are extremely useful when opening a PhotoCD image, and this is covered in Chapter 2.

2. Gamma calibration, as the Adobe Gamma utility offers, is better than no calibration at all for your monitor. If your output more or less matches your screen, using the Gamma utility is like taking an aspirin when you don't have a headache. However, you should use the Adobe Gamma Control Panel if you feel that the tones in images you saved a few years ago don't look right today and that the age of your monitor has thrown the signal to brightness off.

## Palettes

Before discussing the options of each individual palette, the customizing of palette groups should be mentioned. You can tear a palette out of its group and combine palettes from different groups to create a custom group. For example, by default, the Navigator, Info, and Options palettes are one group. If you regularly use the painting tools, you would save screen space by combining the Brushes and Options palettes, then hiding the remaining palettes. Combining Brushes with Options is the author's recommendation, as you'll see in figures throughout this book.

Each palette has a drop-down menu icon located just below the Close (X) icon in Windows, and below the Zoom box on the Macintosh. In the drop-down menu, there are options specific to that palette.

Some palettes, Layers for example, have icons at the bottom for additional functions pertaining to that palette. In this book, when we recommend, say, creating a new layer, the quickest way to perform this is by clicking on the Create New Layer icon--you can easily discover what the icons mean if you leave ToolTips on and hover your cursor above an icon. You can also choose identical functions from the drop-down menu.

### Info Palette

A single click on the Eyedropper icons on this palette will bring out a selection of modes you can choose from, as you can see in Figure 3.19 (this figure was edited for illustration purposes; you can't really have two cursors on the same screen). A click on the + will give you a choice of measurement units for your cursor coordinates.

The First Color Readout and the Second Color Readout in the Info Palette Options set the modes for the top left and top right readouts in the Info palette, respectively. There are eight choices in each of the Mode fields. Three of the modes are:

- Actual Color--Displays values at the pointer's location in the current color mode of the image.
- Total Ink--Displays the total percentage of all CMYK ink based on the values set in the Separation Setup dialog box.
- Opacity--Displays the opacity of the current *layer* (not background) at the pointer's location.

**FIGURE 3.19** *The Info palette provides options for color readings, cursor position, distance specified using the Measure tool, and other handy statistics.*

The Info palette measures colors like a densitometer, provides measurements of a selection, the degree of a rotated layer, the exact position of the cursor, the results from the Measure tool, and much more. If your work relies a lot on precise measurements, you'll want to make full use of this palette. To quickly display the palette onscreen, press F8.

### **The New Color Sampler Tool and the Info Palette**

The Eyedropper tool in version 5 has some company on the toolbox; if you drag in the Eyedropper tool to reveal the drop down, you can choose the Color Sampler tool.

Suppose you want to pinpoint a color in an image, not to sample the color, but to see what the point's color values are, and what they will become when you apply changes to the area where the point is located in the image? For example, suppose you want to compare the RGB color of an area with the color of the same area when you apply the Hue/Saturation command to the entire image. Or suppose you want to compare the "before and after" tone of an area in an image when using the Levels command?

The solution is a simple one. You choose the Color Sampler tool, and you can click in up to four different areas in the image, leaving a color marker where you clicked. The Info palette will then extend and show a new field, with numbers 1 through 4, showing the color values underneath the markers in the image. The markers can be moved by the Color Sampler tool, and the Info palette will record the changes in color. When you make changes (or propose to make changes, while in a dialog box), the Info palette will change its bottom field to display the current color under a marker, followed by a forward slash, and to the right you'll see the proposed color change. Try placing a color marker or two in an image with the Info palette open. Then, press Ctrl(,)+L to display the Levels command. Change the midpoint slider's position, and you'll see how the Info palette reports changes for pixels beneath the color markers you placed in the image. In Figure 3.20, you can see the Color Selector tool and the Info palette in action. The figure does not show the Levels command, but the Levels command is being used on the image in this figure to change the midpoint in the image. Notice the before and after readings on the Info palette.

**FIGURE 3.20** *The Info palette in version 5 now can record and save the values of pixels that have a Color Sampler tool marker placed on them.*

Perhaps the most useful implementation of the Color Sampler tool is in combination with the Color/Swatches palette. You can quickly and accurately define new colors based on the values shown on the Info palette by entering the numbers shown on the Info palette into the fields on the Color palette. You can then add these colors to the Swatches palette by clicking on an empty area of the

Swatches palette.

The Color Sampler tool's markers are a persistent part of an image; they will stay where you placed them even after closing and then reopening a file. To remove color markers from an image, hold Alt (Opt), and then click on the marker(s).

## Options Palette

The Options palette is where you can customize the use of all the tools on the toolbox, except the Hand and Type tools. Figure 3.21 shows the drop-down menu for all the tools: Reset Tool and Reset All Tools. Reset Tool will reset the brushes and options to the default of only the current tool. Reset All Tools will set every tool and option back to its factory default.

**FIGURE 3.21** *All painting tools have the same options: Reset Tool and Reset All Tools.*

Let's take a look at tool and palette options.

### Rubber Stamp Options: Use all Layers, Aligned

The Use All Layers option is better described as Use All *visible* Layers. With Use All Layers checked, as shown in Figure 3.21, the Rubber Stamp clones from all layers with the uppermost layer in the image (shown on the Layers palette) being sampled first. When Use All Layers is unchecked, the Rubber Stamp samples only from the active layer. This is a useful feature, especially when there are many layers in your image.

A check in the Aligned box makes the sample point follow the Rubber Stamp on subsequent strokes. After the first stroke, if you move the cursor 2" to the right, the sample point will also move 2" to the right. With Aligned unchecked, the Rubber Stamp will sample from the original area until you set a new sample area.

### Move Options: Pixel Doubling, Auto Select Layer

When you move layer contents, the screen redraw is best described as jerky. To minimize this effect, you can choose Pixel Doubling as shown in Figure 3.22. To achieve this smoother movement, the layer contents become far less sharp in appearance during the move.

**FIGURE 3.22** *Pixel Doubling and Auto Select Layer are available when the Move tool is active.*

Auto Select Layer is a new feature that enables you to click on a layer's contents and move it, regardless of which layer is currently active. In previous versions of Photoshop, you had to make the layer active before the Move tool could be used.

### Brushes: New Brush, Load, Replace, and Save Brushes, Changing Brush Size

All the painting tools (third through sixth row on the toolbox) have the same drop-down menu options on the Brushes (*not* Options) palette, as shown in Figure 3.23. Any changes you make from this menu affect the brushes for all the painting tools.

**FIGURE 3.23** *The Brushes palette.*

New Brush allows you to design a brush tip (see Figure 3.24).

**FIGURE 3.24** *In the New Brush dialog box you can **conFIGURE** a new brush for the Brushes palette.*

The diameter can be as small as 1 pixel and as large as 999 pixels. The range of Hardness is from the softest at 0% to the hardest at 100%. Spacing is the distance between brush marks in a stroke. For example, the Pencil with 100% spacing will place a mark each time the stroke moves 100% of the Pencil's current brush diameter. This effect and other Spacing settings are shown in Figure 3.25. If you prefer the smoothest spacing setting, uncheck the box to the left of Spacing. The last item in the New Brush dialog box is where you can design the shape and angle of a brush. You can drag on the anchor points to flatten the circle, and you can drag within the box to rotate the brush. The Angle and Roundness can also be entered manually. A preview of your new brush is shown in the lower right.

**FIGURE 3.25** *Spacing and the shape and angle of a brush are performed in Brush Options.*

Delete Brush will delete the brush that is currently selected.

The Brush Options dialog box is identical to New Brush if the active brush is circular. Otherwise, a smaller box appears with Spacing and Anti-aliased as your options. Brush Options can also be chosen directly from a right-click on the brush.

Reset Brushes will return the brush selection to the default setting.

Load Brushes allows you to load from disk a premade set of brushes. In Photoshop's Brushes folder you will find three sets of brushes: Assorted, Shadows, and Square. Figure 3.26 shows the Brushes palette loaded with all three sets of brushes.

**FIGURE 3.26** *A partial view of the Assorted, Shadows, and Square brush sets loaded in the Brushes palette.*

Define Brush is an interesting option you might want to choose. This option is how all the weird custom brushes were created. To create a custom brush, follow these steps:

### **CREATING A CUSTOM BRUSH**

1. Create a new small image whose background is white. A 1"×1" image at 72dpi in Grayscale mode is fine.
2. Make a squiggle with the Paintbrush tool.
3. With the Rectangular Marquee tool, select the squiggle.
4. Click on the Brushes palette's drop-down menu, and then choose Define Brush. The brush tip is added to your current set of tips at the end of the palette, and you can use it at any time now. Your only option for further modifying the custom brush tip is Spacing, and you can specify this in the Brush Options box, which is displayed when you double-click the custom tip.

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You can delete non-essential History moves by dragging them into the trash icon if you've specified Non-Linear History. Say, for example, you have specified 14 as the maximum number of History States, and you're coming up on number 14. Before you make an editing move, scroll through the History list. Do you have a Rectangular Marquee, or several Deselects on the list? Dump them, you don't need them in your imaging work, and you pick up a few extra History States.

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## History Options

History Options is located at the bottom of the History palette's drop-down menu, shown in Figure 3.27. In the Maximum History States field, you can enter any value between 1 and 100. In other words, Photoshop has 100 levels of undos! If you enter **14**, the History palette will remember the *last* 14 edits in your image. The higher the number you enter, the further back you can go in your session to remove an edit. Also, note that a higher number will use more system memory than a lower number.

**FIGURE 3.27** *New in Photoshop 5 is up to 100 levels of Undo!*

To enable the History Brush tool to work, there must be a snapshot to read from. Photoshop can make a snapshot of your image as soon as the image is opened if you place a check in the Automatically Create First Snapshot box. Otherwise, you will need to click the Create New Snapshot icon at the bottom of the History palette.

Non-linear and linear history cause different effects on the History palette when you delete a History level. Say you have 14 edits in the History palette and drag the seventh edit to the Delete Current State icon. The Allow Non-linear History option allows the deletion of only the seventh history level. Linear history deletes the seventh level and all those proceeding it--first through the sixth.

## Actions Options and Playback Options

Accessible from the Actions drop-down menu in non-button mode, the Action Options allow you to edit the name, function key, and color of existing actions, as you can see in Figure 3.28. If you regularly use a specific action, you might want to assign it to a function key to save the time of scrolling through the Actions palette.

**FIGURE 3.28** *You can edit an existing action's palette properties in Action Options.*

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There are some actions you can perform using the Actions list to record them that can need user intervention. For example, suppose you want to batch feather a dozen images, but you want each image to have a different feathering amount. Before you play back your action, check the tiny menu icon to the right of the checkbox, to the left of the action title. Each time you run the action now, the action will stop and display the Feather dialog box, in this example, waiting for you to type in a unique value. Also, if you want to eliminate a step from an action you've programmed, uncheck the checkbox to the left of the step before running the action. For example, if you've defined a Hue/Saturation shift as part of an action, but now want to use the action without changing Hue/Saturation, uncheck this title box, and the action, when run, will skip over

this step.

---

Playback Options control the performance of a running action (see Figure 3.29). Accelerated will run the action from start to finish. Step by Step will highlight the action in the Actions palette as it occurs. The Pause For field will highlight the action just like Step by Step, but will also add a pause between each step. The length of the pause can be anywhere between 1 and 60 seconds.

**FIGURE 3.29** *The manner of a running action is set in the Playback Options dialog box.*

### Layers, Channels, and Paths Palette Options

The choice in all of the Layers, Channels, and Paths Palette Options is the Thumbnail Size. The larger the thumbnail, the easier it is to recognize that layer's contents. The tradeoff is memory--the larger the thumbnail, the more memory is required. The author remembers when RAM was \$65 per MB and as a result didn't have a lot of memory in his machine. While attempting to save a particularly large image, the error about being out of memory and scratch disk space appeared. The author selected None for the Thumbnail Size and freed up just enough memory to complete the save!

### Channel Options

The Channel Options box, as shown in Figure 3.30, is accessible from the Channel palette's drop-down menu (only if a channel is the current view) or when you double-click the title of a channel.

In the Channel Options dialog box, you can rename the channel to something more specific than Alpha x. The Color Indicates field allows you specify whether the selected area appears as white (Masked Areas) or black (Selected Areas). The author prefers Selected Areas because it is more natural to ignore white and notice black--like this page!

Spot Color (a color produced when printing a single ink) is used when working in CMYK mode. The color swatch at the bottom of the palette is where you choose the spot color. Generally, spot colors are used in addition to process color plates to visually emphasize an area. For example, a detergent box might be made of the four CMYK process colors, but there's a burst on the package that says "NEW!!!!" The client will most probably want the burst printed in a fluorescent spot color. What you do is create the "NEW!!!!" burst on a layer, painting only where the colored areas will go. You then Ctrl(,)+click on the layer to load it as a selection, save it to an alpha channel, and then specify in the Channel Options box that this alpha channel is to be used as a spot color. Then, when you delete the layer and convert the RGB image to CMYK and print separations, a fifth plate will kick out, and this will be the spot color plate.

**FIGURE 3.30** *Choosing to view a saved selection as white or black is performed in Channel Options.*

### Quick Mask Options (Toolbox)

Quick Mask Options, seen in Figure 3.31, is accessed by double-clicking on either the Edit in Standard Mode or the Edit in Quick Mask Mode icon in the toolbox.

The Color Indicates field allows you specify whether the selected area in Quick Mask mode is without color (Masked Areas) or contains color (Selected Areas). You can choose the color and

opacity for the Quick Mask in the Color field. This Color feature is indispensable when, for example, you are using Quick Mask on a photo of a fire truck. The default red would be nearly impossible to see. From the color swatch, you can change the Quick Mask color to something that contrasts against red, such as cyan.

Like the Channel Options, the author recommends that Quick Mask color indicate Selected Areas, not Masked Areas. It's much easier to subtract and add from a small selected area in an image than to perform massive editing work on the areas that are not selected. We use this Color Indicates: Selected Areas several times in this book.

**FIGURE 3.31** *In Quick Mask Options, you can set the color in Quick Mask to indicate Masked or Selected Areas.*

## Personal Working Preference

Photoshop is quite versatile--there are at least two ways to accomplish the same basic function. For example, to move from the Background layer to Layer 1, you can click on Layer 1 in the Layers palette or press Ctrl(,)+] (even Alt(Opt)+] performs the same function!). Finding your style of working in the Photoshop interface takes a little time and, to help you get started, let's discuss two styles.

The mousecentric user relies on clicks and double-clicks. Whenever a different tool is needed or a color adjustment dialog box must be called up, it's a click here, or two or three clicks there. This person is basically one handed. This is fine, but it slows progress.

The mouse and keyboard user takes advantage of Photoshop's keyboard shortcuts. Keyboard features include using the shortcut key to access items in the toolbox, the Spacebar to toggle to the Hand tool, keyboard (not keypad) number keys to set layer opacity or brush opacity, the [ and ] keys to select brush sizes, Ctrl(,) or Alt(Opt)+Spacebar for the Zoom tool, and so on. In effect, you can use two hands to speed the editing process.

## Summary

This chapter explores the many options and preferences Photoshop offers. The more comfortable you get in Photoshop, the more you will want to customize the environment, and your style of working will become *your* style. Now that you know how to make Photoshop more to your liking, adjusting the driver's seat so to speak, you will be more comfortable in your digital journeys.

In the next chapter, you will take your first ride with Photoshop and edit an image. You will find that Photoshop is both powerful and fun!